Shetland Islands Council

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Director of Corporate Services: Christine Ferguson

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If calling please ask for
Lynne Geddes
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Date: 15 January 2020

Dear Sir/Madam

You are invited to the following meeting:

Shetland Islands Council
Council Chamber, Town Hall, Lerwick
Wednesday 22 January 2020 at 10.00am

Apologies for absence should be notified to Lynne Geddes at the above number.

Yours faithfully

Executive Manager – Governance and Law

Convener: Malcolm Bell
Depute Convener: Cecil Smith

AGENDA

(a) Hold circular calling the meeting as read.

(b) Apologies for absence, if any.

(c) Declarations of Interest - Members are asked to consider whether they have an interest to declare in relation to any item on the agenda for this meeting. Any Member making a declaration of interest should indicate whether it is a financial or non-financial interest and include some information on the nature of the interest. Advice may be sought from Officers prior to the meeting taking place.

(d) Confirm the minutes of the meeting held on 6 November 2019 (enclosed).

e) Deputation – Shetland Climate Action

Items

1. Climate Change – Strategic Outline Programme
   ISD-01-20-D1

2. Winter Service Review 2020
   RD-01-20

3. Grounds Maintenance Provision, Burial Grounds & Amenity Areas
   EO-01-20

4. North Isles Fibre
   DV-03-20

5. Asset Investment Plan – Progress Report
   ACP-01

6. SIC Meetings Diary 2020/21
   GL-01

7. Appointment to the Pension Board
   GL-04

8. Statutory Review of Polling Districts and Places
   GL-03

9. Shetland Energy Hub Project
   ISD-02-20

10. Corporate Risk Register Report
    CRP-02-20

    *The following items contain **EXEMPT** information*

11. Confidential Corporate Risk Register
    CRP-03-20

12. Project Update – College Merger
    CRP-01-20

13. SVT – Clair Review: Progress and Next Steps
    ISD-04-20

14. Expansion of Early Learning and Childcare Funded Providers – Request to Transfer to Shetland Islands Council
    CS-04-20

15. Closure of Kid Zone After School Club and Holiday Club at Mossbank Primary School
CS-03-20

Shetland
Islands Council

MINUTES B - PUBLIC

Special Shetland Islands Council
Council Chamber, Town Hall, Lerwick
Wednesday 6 November 2019 at 10.00am

Present:

M Bell	P Campbell
A Cooper	A Duncan
A Hawick	S Leask
E Macdonald	A Manson
A Priest	I Scott
C Smith	G Smith
T Smith	R Thomson

Apologies:

S Coutts	J Fraser
C Hughson	R McGregor
D Sandison	D Simpson

In Attendance (Officers):
C Ferguson, Director – Corporate Services
N Grant, Director – Development Services
M Craigie, Executive Manager – Transport Planning
J Manson, Executive Manager - Finance
J Riise, Executive Manager – Governance and Law
R Barton, Transport Policy and Projects Officer
I Johnson, Senior Assistant Accountant
E Park, Transport Contracts & Operations Officer
L Geddes, Committee Officer

Also:
A Mackie, Peter Brett Associates
B Pinket, Peter Brett Associates

Chairperson
Mr Bell, Convener of the Council, presided.

Circular
The circular calling the meeting was held as read.

Declarations of Interest
None

In order to avoid the disclosure of exempt information, Mr Bell moved, Ms Macdonald seconded, and the Council RESOLVED to exclude the public in

terms of the relevant legislation during consideration of the following item of business.

60/19 **Public, School and Adult Social Care Bus Transport - Outline Business Case**

The Council considered a report by the Executive Manager – Transport Planning.

The Executive Manager – Transport Planning summarised the main terms of the report, and introduced Mr Mackie and Mr Pinket, Peter Brett Associates, who gave a PowerPoint presentation to the Council on the Outline Business Case (OBC) for Public Bus, School and Adult Social Care Transport.

The Executive Manager – Transport Planning and Transport Policy and Projects Officer then responded to questions from Members.

Following discussion by the Council, Mr Cooper moved that the Council approve the recommendations in the report, and Mr Leask seconded.

Decision:
The Council **RESOLVED** to:

- **APPROVE** that the options to be carried forward to Full Business Case are:

  - Option 1 – Reduced Network: August 2020 Introduction
  - Option 3 – Optimised Network: August 2020 Introduction

- **DELEGATE AUTHORITY** to the Director of Development Services, working with the Lead Officer of ZetTrans, to tender for the range of school transport services and Adult Social Care transport services that comply with the Council's current School, and Adult Social Care Transport Policies in conjunction with ZetTrans' tender for Public Bus Services, to contribute to the development of a Full Business Case to inform Council and ZetTrans decisions to be taken in February 2020 on the configuration of school, public bus and Adult Social Care transport networks to be implemented in August 2020.

The meeting concluded at 11.35am.

……
Convener

Shetland Islands Council

Agenda Item

1

Meeting(s):	**Environment & Transport Committee** **Policy & Resources Committee** **Shetland Islands Council**	**21 January 2020** **21 January 2020** **22 January 2020**
Report Title:	**Climate Change – Strategic Outline Programme**	
Reference Number:	**ISD-01-20-F**	
Author / Job Title:	**John R Smith** **Director Infrastructure Services**	

1.0 Decisions / Action required:

That the Environment and Transport Committee and the Policy and Resources Committee recommend that Shetland Islands Council:

1.1 **NOTES** the actions taken to date in respect of Shetland Islands Council's response to Climate Change, through the existing Carbon Management Plan, and associated activity.

1.2 **CONSIDERS** the information provided in the Climate Change, Strategic Outline Programme (Appendix 1) and the Climate Change Programme Initiation Documentation (Appendix 2) and **COMMENT** on any aspects of these documents.

1.3 **ENDORSES** the objectives and Critical Success Factors set out in the Strategic Outline Programme (Appendix 1) and Programme Initiation Documentation (Appendix 2), and in particular confirm:

1.3.1 The need for shared action across all levels of government, businesses, communities and individuals to address the risks presented by Climate Change;

1.3.2 That Shetland Islands Council will adopt a proactive and collaborative approach to Climate Change, emphasising planned partnership action, with the Council providing leadership on behalf of the Shetland community;

1.3.3 The critical need for all plans and actions to recognise current inequalities, which result in Shetland residents experiencing some of the highest levels of fuel poverty and transport costs in the United Kingdom; and to ensure Just Transition solutions address these energy affordability problems, as well as reducing emissions;

1.3.4 The significant number of jobs in Shetland involved in the energy sector; and the importance that Just Transition solutions also recognise the need for employment transition in communities such as ours, as well as reducing emissions;

1.4 **ENDORSES** the initial governance arrangements set out in that Strategic Outline Programme (Appendix 1) and Programme Initiation Document (Appendix 2); through the Chief Executive, the Council's Corporate Management Team and the Council's senior political office bearers.

1.5 **ENDORSES** that the continuing work of the Carbon Management Plan should be built upon through:

1.5.1 the continuation, and where possible, the acceleration of current energy efficiency, energy conversion, waste reduction and waste reuse initiatives, internally within the Council, and across the Shetland community;

1.5.2 the review and analysis of key Council and Partnership Plans and strategies for recommended critical path Climate Change actions;

1.5.3 the further development of an integrated Shetland Climate Change Action Plan which co-ordinates activity; and

1.5.4 the reporting of recommendations from the Shetland Climate Change Action Plan to Shetland Islands Council in line with the Scottish Government's Climate Change Plan which is anticipated in March / April 2020, and periodically thereafter.

1.6 **ENDORSES** a review of guidance for the Environmental Implications section of committee reports to clarify the need to report Climate Change implications clearly.

1.7 **APPROVES** the funding requirement at paragraph 6.5 from the Council's Change Fund and **ENDORSES** a review of the arrangements for the Council's Change Fund to understand how the Change Fund can best be utilised to support this matter.

1.8 **THANKS** Shetland Climate Action for their petition lodged with the Council on 3 October 2019 (pages 1 – 4 attached as Appendix 3 - full petition listing all signatories is available to Members upon request.). The Council has also had informal representations on this issue, particularly from young people and environmental groups, but also from individual constituents and community councils. The content of the petition, and other representations, align with much of the Climate Change work that the Council has embarked on, and the further actions recommended in this Strategic Outline Programme (Appendix 1). Further information on that alignment is set out in 4.12 – 4.17 of this report.

1.10 **NOTES** that local emission reduction targets, for the Council estate and services, and for Shetland as a whole, will be evaluated as an early activity within the Programme, and be reported to Shetland Islands Council. This review and establishment of local targets will fully involve agency, commercial and community partners.

2.0 High Level Summary:

2.1 The Climate Change Strategic Outline Programme (Appendix 1) is intended to provide an overview of the strategy, governance arrangements, target development and action planning required to address, adapt to, and mitigate,

Climate Change in Shetland and contribute to an effective Scotland, United Kingdom and international response.

2.2 The Climate Change Strategic Outline Programme (Appendix 1) will help inform the identification of issues and options and it will assist evidence based planning and decision-making. This will enable environmental, economic and social needs are recognised, balanced and met efficiently, effectively and economically to support key outcomes for Shetland and its residents.

2.3 The slides, Key Carbon Reduction Actions (Appendix 4) also provides a summary of the issues, themes and key actions described within this report.

3.0 Corporate Priorities and Joint Working:

3.1 Priorities relevant to Climate Change in Shetland Islands Council's Corporate Plan 2016-2020 are:

Community Strength

- Communities will be supported to find local solutions to issues they face.
- People in Shetland will be feeling more empowered, listened to and supported to take decisions on things that affect them, and to make positive changes in their lives and their communities.

Our 20 by 20

- We will have reduced the effect we have on the local environment, particularly reducing carbon emissions from our work and buildings.

3.2 Priorities relevant to Climate Change in Shetland's Partnership Plan 2018-2028 are:

Place

- All areas of Shetland will be benefitting from a more resilient low carbon economy underpinned by a culture of innovation, inclusion and skills development.
- Communities will be actively involved in shaping their own future resilience, creating positive places that are economically, socially and environmentally sustainable.

3.3 Climate Change and recent related legislation, creates very challenging adaption and mitigation duties which require the Council and its partners to provide comprehensive and rigorous responses. All priorities, key outcomes and objectives of the Council and partners are potentially affected by its implications. Shetland experiences particular risks both due to its vulnerability to climatic conditions as a remote oceanic island, a scattered rural and maritime community and by being at the far end of long infrastructure and service supply chain.

3.4 Undoubtedly adaption and mitigation will require significant investment over a prolonged period to achieve the changes required. Protecting community, business and individual needs, particularly those earning their living from energy jobs and those already struggling with fuel poverty, and high transport costs, will be critically important. Therefore, an effective response will only be secured through active partnership.

4.0 Key Issues:

4.1 Climate is a fundamental determinant of all aspects of wellbeing all across the world. In Shetland we are keenly aware of our environment and the day to day effects our climate has on our activities, social and economic opportunities, safety and lifestyles.

4.2 It is internationally accepted that we are now experiencing significant climate change and that significant steps need to be taken to prepare and deliver adaption and mitigation plans and actions to respond to those changes.

4.3 There is a growing evidence base available on what climate impacts will be. Fifteen Key Consequences were highlighted in the Scottish Climate Change Adaptation Programme (2014):

- The productivity of our agriculture and forests
- The occurrence of pests and diseases
- The quality of our soils
- The health of our natural environment
- The security of our food supply
- The availability and quality of water
- The increased risk of flooding
- The health of our marine environment
- The resilience of our businesses
- The health and wellbeing of our people
- Our cultural heritage and identity
- The security and efficiency of our energy supply
- The performance of our buildings
- Infrastructure – network connectivity and interdependencies

These consequences will be highly significant across a wide spectrum of the Shetland environment, economy and society.

4.4 All public bodies have duties and obligations under legislation to produce adaption plans to help cope with these changes, and to produce mitigation plans to reduce climate emissions against very challenging targets. These actions will require very significant resources and focus to deliver. They will require review and potential restructure of many aspects of social and economic organisation and service delivery. This planning and activity has to take place in Shetland as critically as anywhere.

4.6 Shetland Islands Council is obliged to act as part of its duties as a public body, as are all other Government agencies. Shetland Islands Council also understands its leadership role in the Shetland community. The Council has no doubt that there is a clear understanding and strong commitment across our community to play our part in addressing this global issue.

4.7 Shetland Islands Council also recognises that the fundamental actions which will be required to achieve such substantive change will require widespread partnership; they will be impossible for the Council to deliver in isolation. That partnership will be needed right across Shetland, and with the wider national and international community.

4.8 It will be very important to understand and communicate critical “Island Proofing” dimensions around particular issues and possible changes. This will be essential if

areas like Shetland are to avoid being left behind as general and national solutions are implemented outwards from the centre. We will have to work proactively to find solutions that address our local needs and issues. "One size" answers may generally work in most places, but they do not always work well here.

4.9 We have demonstrated our ability to find innovative approaches that match our circumstances and needs in the past. For example the Energy Recovery Plant/Shetland Heat Energy and Power, Lerwick District Heating Scheme delivers significant affordable, low emissions heating to many homes and public buildings in Lerwick. Given the abundance of renewable energy sources surrounding Shetland, it should be more than possible to generate other solutions that deliver affordable low carbon transport fuel and heating.

4.10 The scope of the challenge is however very wide. It means that all key service strategies and plans across the Council, and with our partners, need to be reviewed to ensure "Climate Change" implications are being considered. That must be an early and recurring activity in any overall response.

4.11 The Strategic Outline Programme (Appendix 1) is not trying to determine what specific changes might be required in those strategies or accompanying arrangements at this point, that detailed work needs to be carried out area by area.

However it does make initial suggestions:

- a core "Climate Change Programme" team should be established in addition to existing resources. That team would act to co-ordinate, facilitate and catalyse accelerated internal Council actions and support strategy and key plan review. It would also act to identify partnership activity and leverage additional external resources which would support wider Shetland activity;

- consideration should be given to a review of the Council's Change Fund to understand whether that is an appropriate route to contribute to any further funding implications arising from strategy and key plan review;

- the guidance for the "Environmental Implications" section of committee reports should be reviewed to clarify the need to consider and report "Climate Change" implications clearly.

4.12 The Council has recently received a "Climate Change Petition" (Appendix 3). The Council has also had previous representations on this issue, particularly from young people and environmental groups, but also from individual constituents and community councils.

4.13 The main issues raised in the petition are set out below. They closely align with the Climate Change,- Strategic Outline Programme (Appendix 1) proposals and recommendations:

4.13.1 "*Develop a Climate Emergency Action Plan*" – The Strategic Outline Programme (Appendix 1) recommends that a "Shetland Climate Change Plan" should to be developed in collaboration with partners and the community and reported to Council in alignment with the Scottish Government "Climate Change Plan", anticipated March / April 2020;

4.13.2 *"Set up a Climate Emergency Working Group*" – The Strategic Outline Programme (Appendix 1) recommends that the Chief Executive, supported by the Corporate Management team should function as the Council's "Climate Change Programme Board". This Programme Board should liaise regularly with Council Leader supported by Committee Chairs and the Policy and Resources Committee to provide programme governance and report plans and progress regularly to Council.

4.13.3 *"Set local emissions reductions targets to net zero / carbon neutral by 2030"* – The Strategic Outline Programme (Appendix 1) notes that the Council will have an obligation to set local emission reduction targets, bearing in mind the statutory targets legislated by the Scottish Government are for a 75% reduction in carbon emissions by 2030 and net-zero by 2045. The Strategic Outline Programme (Appendix 1) recommends that overall and sectoral local targets should be examined for early achievability, as part of the development of the "Shetland Climate Change Action Plan", with recommendations reported to Council when those targets can be more securely analysed for deliverability.

4.14 Meaningful and realistic local target setting will depend heavily on partnership working and shared commitments across agencies, governments, businesses and the community. Key issues that will require further clarity include:

4.14.1 green electricity availability, capacity and affordability depend critically on national policies, the actions of utility providers and decisions of regulators. Currently more than 80% of Shetland electricity generation is based on hydrocarbon sources. Until there is a clear understanding of when, how and what a "green" / "smart" / "resilient" / "robust" / "affordable" Shetland electricity distribution grid will look like then it is difficult to plan substantial electrification actions with confidence;

4.14.2 inter-island ferry fleet replacement with greener vessels is dependent on actions that can only be taken forward after full ferry funding agreement with the Scottish Government. Over 50% of current Council CO2 emissions come from internal ferry operations, and;

4.14.3 timescales for availability and affordability of any competitive replacement fuels for "Gas Oil" / "Red Diesel", which is used very heavily in Shetland by shipping, fisheries, aquaculture, commercial transport and construction, are currently very unclear. It is estimated that over 80% of overall Shetland CO2 emissions from business arise from the use of these fuels.

4.15 The overall request in the "Climate Change Petition" (Appendix 3) is that Shetland Islands Council should declare a "*Climate Emergency*" to promote the development and delivery of a sufficiently ambitious plan.

4.16 This report, and the accompanying Strategic Outline Programme (Appendix 1), seeks to recommend the overall arrangements to deliver an effective Shetland response to Climate Change based on objective "Business Case" analysis. It goes on to propose a proactive approach designed to systematically and realistically

tackle the issues alongside our partners, then and identify and deliver shared solutions together.

4.17 It is apparent that everyone across the world is likely to face significant environmental challenges arising from climate change. There is also a clear risk that systematic and structural problems, such as widespread fuel poverty and the very high transport costs, already experienced in Shetland, could be made worse as changes in energy sources and systems happen. Solutions that clearly recognise these existing inequalities, are actively designed to reduce them, and aim to deliver a "Just Transition" will be our most effective climate change response.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications:

6.1 Service Users, Patients and Communities:	Climate change will impact on everybody in Shetland and we will need to prepare to make adaptations. Significant changes will also have to be made effecting everybody in Shetland to mitigate future Climate change through the reduction of use of energy sources which emit greenhouse gases. These changes are likely to be substantial and need to be considered, planned and delivered with wide and effective engagement across the islands.
6.2 Human Resources and Organisational Development:	Climate Change adaption and mitigation is a very significant organisational development issue due to its wide-ranging impacts. Possible adjustments to staffing arrangements may well emerge over time from adaption and mitigation plans and actions. It will be very important to ensure staff are given a full opportunity in developing and implementing responses. At this stage, the Programme Initiation Document proposes the following additional support for the Programme: • two graduate project officers be sourced via the Council's Graduate established Project Officer Scheme; • and the use of secondments, which will be recruited to using the Council's Internal Secondment Policy.
6.3 Equality, Diversity and Human Rights:	Climate justice, Just Transition principles, human rights and Equalities obligations all feature significantly in the Climate Change (Scotland) bills. Great care will need to be taken to ensure that these rights, and the interests of those least able to cope with change, are protected through all activity. Inequalities around fuel poverty and high transport costs are already a serious issue in Shetland, plans and actions need to recognise this and build in improvements rather than make things worse. It is likely that specific considerations of how Climate Change, and the actions in response to it, could affect Equalities and vulnerable groups will need to be prioritised.

6.4 Legal:	The Council is the Local Authority for Shetland and has a duty as a public body to reduce greenhouse gas emissions and support Scotland's adaptation to a changing climate. Scottish Ministers, in turn, are legally required to provide guidance to Public Sector Bodies to help them with this. Public Sector Bodies, including the Council, are also legally required to report annually on their greenhouse gas emissions and what they are doing to help adapt to a changing climate. The Scottish Ministers must ensure that the net Scottish emissions account for the year— (a) 2020 is at least 56% lower than the 1990 baseline, (b) 2030 is at least 75% lower than the baseline, and (c) 2040 is at least 90% lower than the baseline. (d) 2045 is net zero It is understood that all sectors, as listed above, are expected to meet these targets. The 2045 scenario for net-zero has all sectors at zero, or virtually zero, emissions except for agriculture, some parts of industry, and international aviation. It is accepted by the Scottish Government that a lot of what individual Public Sector Bodies will be able to achieve in terms of reducing their emissions will be dependent on what progress is made in the rest of society. Within six months of the Climate Change (Emissions Reduction Targets) (Scotland) Bill receiving Royal Assent the Government will update the Climate Change Plan, setting out the pathway to decarbonisation for Scotland as a whole. We also expect that further clarity will emerge on a similar time frame about other obligations and duties in particular sectors, such as road vehicles, shipping and aviation, which inform around other targets or regulations. Following the update to the Climate Change Plan, the Scottish Government proposes that in their future annual reports, all Public Sector Bodies will report the date by which they intend to achieve zero direct emissions – those are the emissions that the bodies are directly responsible for. Local Authorities may not be required to "ensure" that targets for their overall geographical area are met, but it is anticipated they will be expected to lead the process of setting these targets, influence their delivery and play a significant role in annually reporting progress.
6.5 Finance:	It is anticipated that adaption and mitigation of Climate Change will have very significant financial implications, both direct and indirect. Council financial plans and strategies will have to understand the scale and timing of the costs which may have to be considered and factor those into future budget planning activity.

	There will be a wide range of Climate Change actions with varying financial implications proposed to address issues. It will be important to understand these financial questions, capital and revenue, the availability of external or partnership support, how far investments leverage community or private sector action and the timing of all investments. One of the recommendations of this report is that consideration should be given to a review of the arrangements for Council's Change Fund to understand how that can best support this critical matter. At this stage proposals for direct costs associated with the "Climate Change Programme" are estimated in the accompanying Programme Initiation Document (Appendix 2) totalling £250k over a three year period. These costs are proposed to be funded from the Council's Change Fund and relate to further research and analysis, project management and project support. These resources would provide core Council input to the wide range of actions proposed within the programme and would be expected to form part of a collaborative and proactive multi-agency, public / private / community response drawing in considerable additional resources. Costs directly associated with additional specific actions will be subject to normal budget setting and financial processes.
6.6 Assets and Property:	Future planning for Council assets and property will be a very important component of both adaption and mitigation planning. All asset plans and strategies will require review and update. It is likely that specific Climate Change targets and timescales will be developed for the management, maintenance and replacement of all Council assets and property. These targets will have to be explicitly factored into all asset and property decisions.
6.7 ICT and new technologies:	ICT will continue to provide opportunities to provide alternatives to some current behaviours, especially avoidable travel, which can help to mitigate Climate Change. It will be important to consider and develop these alternatives as part of planning activity. Any resource usage directly associated with ICT will also need to be evaluated carefully in that planning.
6.8 Environmental:	Climate Change is fundamentally an environmental matter and all adaption and mitigation activity will ultimately be intended to address environmental issues as effectively as possible. There will undoubtedly be a wide range of possible actions with differences in their specific environmental benefits. These choices will need to be well understood and managed effectively. It is one of the recommendations of this report that the guidance for the "Environmental Implications" section of committee reports should be reviewed to clarify the need to consider and report "Climate Change" implications clearly.

6.9 Risk Management:	A significant part of the initiation of the Climate Change programme will be the establishment of key risks register. Clearly, there are very material risks inherent in Climate Change itself, there will also be many financial and operational risks for the Council and partners in implementing adaption and mitigation measures. There are also likely to be risks for communities, individuals and businesses around national and local responses as actions or changes may have unintended problematic consequences. For example, previously key energy sources may become unavailable due to changes in legislation or their replacements could be hard to access in the islands, cannot perform as well or are very expensive. Identifying the risks, developing control measures and monitoring will all be very important. An initial risk register for the Programme is included in the Programme Initiation Document (Appendix 2).	
6.10 Policy and Delegated Authority:	In accordance with Section 2.3.1 of the Council's Scheme of Administration and Delegations the Council's Environment and Transport Committee has functional responsibility for the natural environment, transport and ferry services, planning, building services and environmental services. In accordance with Section 2.3.1 of the Council's Scheme of Administration and Delegations, functional committees have responsibilities to advise Policy and Resources Committee and the Council in the development of service objectives, policies and plans concerned with service delivery within its remit. Policy and Resources Committee has referred authority to advise the Council in the development of its strategic objectives, policies and priorities. The Council has reserved authority to determine and approve the overall goals, values and strategy framework documents. This report relates to the overall goals and strategic objectives of the Council.	
6.11 Previously considered by:	Council Committees have previously considered individual aspects of Climate Change, carbon management and associated issues over a number of years. There has not previously been a co-ordinated consideration of this issue. Information briefing to members was conducted during August and September 2019. Further information briefing to members was held during November 2019.	

Contact Details:

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Appendices:

Appendix 1 – Climate Change – Strategic Outline Programme
Appendix 2 – Climate Change – Programme Initiation Documentation
Appendix 3 – Climate Change Petition
Appendix 4 **-** Key Carbon Reduction Actions

Background Documents:

Shetland Partnership Plan
Climate Change Scotland Emissions Targets Bill 2019
Scottish Climate Change Adaption Programme

STRATEGIC OUTLINE PROGRAMME (SOP)

Project Title:

Climate Change

Version No: 1.1

Issue Date: 13th January 2020

Purpose of this document

This document provides a template for the Strategic Outline Programme (SOP), which should be used where there is a likelihood that the proposal will result in a number of related projects.

SOPs support the development and agreement of programmes in support of an agreed strategy/ strategies. The functional content of the programme may be scoped on either a national, regional or organisational basis.

Following agreement to the SOP, the projects comprising the programme must be subject to individual business cases.

Importantly, programmes are subject to choice in terms of their key components and critical paths – hence the need to address the available 'macro' options at the outset, thus minimising analysis at subsequent stages.

Please note that this template is for guidance only. Where the template does not allow you too adequately explain the case for change, or the impacts, additional sections should be included.

Best practice guidance on the management of programmes is available on the Office of Government Commerce's (OGC) website.

VERSION HISTORY

Version	Date Issued	Brief Summary of Change	Owner's Name
0.1	09.10.19	First Draft	John Smith
0.2	16.10.19	Workshop edit	John Smith
0.3	28.10.19	Pre-agenda management draft	John Smith
0.4	05.11.19	November Agenda Management Draft	John Smith
0.5	25.11.19	Members Sustainability Seminar Draft	John Smith
1.0	19.12.19	January Agenda Management Draft	John Smith
1.1	13.01.20	Cleared Committee Version	John Smith

OVERVIEW OF THE SOP PRODUCTION PROCESS

The table below shows the systematic approach to the preparation of the SOP development phase of the business case:

Stages	Development Process	Deliverables
Phase 0 –	**Determining strategic context**	
Step 1/ action1	**Ascertain strategic fit**	**Strategic context**
Output	***Strategic Outline Programme (SOP)***	
Outcome	***Strategic fit***	
Review point	***Gateway 0 – strategic fit***	

CONTENTS – STRATEGIC OUTLINE PROGRAMME

TEMPLATE AND SUPPORTING GUIDANCE

1. Executive summary

Please provide a concise and comprehensive overview of the SOP's content, key conclusions and principal recommendations.

The Climate Change Strategic Outline Programme is intended to provide an overview of the strategy, governance arrangements, target development and action planning required to address, adapt to, and mitigate, Climate Change in Shetland and contribute to an effective Scotland, United Kingdom and international response.

The Climate Change Strategic Outline Programme will help inform the identification of issues and options and it will assist evidence based planning and decision-making. This will enable environmental, economic and social needs are recognised, balanced and met efficiently, effectively and economically to support key outcomes for Shetland and its residents

Climate is a fundamental determinant of all aspects of wellbeing all across the world. In Shetland we are keenly aware of our environment and the day to day effects our climate has on our activities, social and economic opportunities, safety and lifestyles.

It is internationally accepted that we are now experiencing significant climate change and that significant steps need to be taken to prepare and deliver adaption and mitigation plans and actions to respond to those changes

There is a growing evidence base available on what climate impacts will be. Fifteen Key Consequences were highlighted in the Scottish Climate Change Adaptation Programme (2014):

- The productivity of our agriculture and forests
- The occurrence of pests and diseases
- The quality of our soils
- The health of our natural environment
- The security of our food supply
- The availability and quality of water
- The increased risk of flooding
- The health of our marine environment
- The resilience of our businesses
- The health and wellbeing of our people
- Our cultural heritage and identity
- The security and efficiency of our energy supply
- The performance of our buildings
- Infrastructure – network connectivity and interdependencies

These consequences will be highly significant across a wide spectrum of the Shetland environment, economy and society.

All public bodies have duties and obligations under legislation to produce adaption plans to help cope with these changes, and to produce mitigation plans to reduce climate emissions against very challenging targets. These actions will require very significant resources and focus to deliver. They will require review and potential restructure of many aspects of social and economic organisation and service delivery. This planning and activity has to take place in Shetland as critically as anywhere.

Shetland Islands Council is obliged to act as part of its duties as a public body, as are all other Government agencies. Shetland Islands Council also understands its leadership role in the Shetland community. The Council has no doubt that there is a clear understanding and strong commitment across our community to play our part in addressing this global issue.

Shetland Islands Council also recognises that the fundamental actions which will be required to achieve such substantive change will require widespread partnership; they will be impossible for the Council to deliver in isolation. That partnership will be needed right across Shetland, and with the wider national and international community.

It will be very important to understand and communicate critical "Island Proofing" dimensions around particular issues and possible changes. This will be essential if areas like Shetland are to avoid being left behind as general and national solutions are implemented outwards from the centre. We will have to work proactively to find solutions that address our local needs and issues. "One size" answers may generally work in most places, but they do not always work well here.

We have demonstrated our ability to find innovative approaches that match our circumstances and needs in the past. For example the Energy Recovery Plant/Shetland Heat Energy and Power, Lerwick District Heating Scheme delivers significant affordable, low emissions heating to many homes and public buildings in Lerwick. Given the abundance of renewable energy sources surrounding Shetland, it should be more than possible to generate other solutions that deliver affordable low carbon transport fuel and heating.

The scope of the challenge is however very wide. It means that all key service strategies and plans across the Council, and with our partners, need to be reviewed to ensure "Climate Change" implications are being considered. That must be an early and recurring activity in any overall response.

The Strategic Outline Programme is not trying to determine what specific changes might be required in those strategies or accompanying arrangements at this point, that detailed work needs to be carried out area by area.

However it does make initial reccomendations:

- a core "Climate Change Programme" team should be established in addition to existing resources. That team would act to co-ordinate, facilitate and catalyse accelerated internal Council actions and support strategy and key plan review. It would also act to identify partnership activity and leverage additional external resources which would support wider Shetland activity;

- consideration should be given to a review of the Council's Change Fund to understand whether that is an appropriate route to contribute to any further funding implications arising from strategy and key plan review;

- the guidance for the "Environmental Implications" section of committee reports should be reviewed to clarify the need to consider and report "Climate Change" implications clearly.

This Strategic Outline Programme, seeks to recommend the overall arrangements to deliver an effective Shetland response to Climate Change based on objective "Business Case" analysis. It goes on to propose a proactive approach designed to systematically and realistically tackle the issues alongside our partners, then and identify and deliver shared solutions together.

It is apparent that everyone across the world is likely to face significant environmental challenges arising from climate change. There is also a clear risk that systematic and structural problems, such as widespread fuel poverty and the very high transport costs, already experienced in Shetland, could be made worse as changes in energy sources and systems happen. Solutions that clearly recognise these existing inequalities, are actively designed to reduce them, and aim to deliver a "Just Transition" will be our most effective climate change response.

2. Purpose

Please state the programme, for which approval to proceed is being sought.

Please note that the primary purpose of the SOP is to:

- *facilitate strategic ('macro') and collaborative planning and the setting of associated budgets*
- *identify and cost key components of the strategy (programmes) and enabling deliverables (projects)*
- *provide the strategic context for subsequent investments*
- *facilitate the speedy production of subsequent business cases for related investment.*

The Climate Change Programme is intended to provide an overview of the strategy, governance arrangements, target development and action planning required to address the internationally recognised issues and responses required to adapt to, and mitigate, climate change in Shetland and contribute to an effective Scotland, UK and international response.

It will help inform the identification of issues and options and assist in evidence based planning and decision making so that environmental, economic and social needs are recognised, balanced and met efficiently, effectively and economically to support key outcomes for Shetland and it's residents.

3. Strategic case

Please describe the strategic drivers for this investment and associated strategies, programmes and plans.

State clearly how your application assists in the progression of Corporate Priorities and Business Transformation, including how it improves long-term outcomes.

Climate is a fundamental determinant of all aspects of well-being all across the world. In Shetland we are keenly aware of our environment and the day to day effects climate has on our activities, social and economic opportunities, safety and lifestyles.

It is internationally accepted that we are now experiencing significant climate change and that substantive steps need to be taken to prepare and deliver adaption and mitigation plans and actions.

This planning and activity has to take place in Shetland as critically as anywhere else. Shetland Islands Council is obliged to act as part of it's duties as a public body, as are all other Government agencies. Shetland Islands Council also understands its leadership role in the Shetland community and has no doubt that there is a clear understanding and strong commitment across our community to play our part in addressing this global issue.

Shetland Islands Council also recognises that the range of actions which will be required to achieve such a fundamental change will require widespread partnership. That will be needed right across Shetland and with the wider national and international community.

We also recognise that it will be very important to understand the Shetland dimensions around particular issues and possible changes to avoid being left behind as general and national solutions are implemented outwards from the centre.

We also understand that we will have to work actively to find solutions that meet Shetland needs and issues rather than just rely on centrally generated and sometimes inappropriate "one size" answers which may work elsewhere but not in Shetland.

The scope of this challenge is so wide that all key service strategies and plans across the Council, and those of our partners, will need to be revised to ensure that appropriate consideration of "Climate Change" implications is fully reflected in each as an early activity in our overall response.

Climate change is directly relevant to all local strategies and plans, including;

- The Shetland Partnership Plan,
- the Councils "Our Plan",
- the Shetland Transport Strategy,
- the Local Housing Strategy,

- the Local Development Plan and
- the 10 Year Plan.

Within each of these plans, and many others, the implications of Climate Change and the requirements for adaption and mitigation will have significant relevance and implications.

For example the shared vision and shared priorities articulated in the Shetland Partnership Plan are;

The Shetland Partnership Plan - Our shared vision

> *"Shetland is a place where everyone is able to thrive; living well in strong, resilient communities; and where people and communities are able to help plan and deliver solutions to future challenges"*

Shetland Partnership Plan - Our shared priorities

- Participation – People participate and influence decisions on services and use of resources
- People – Individuals and families thrive and reach their full potential
- Place – Shetland is an attractive place to live, work, study and invest
- Money – All Households can afford to have a good standard of living

Each of these will have to be evaluated carefully as the actions required to address climate change in Shetland are considered.

The challenge is considerable, but it should also be recognised that a challenge of this magnitude can create opportunities to address some of the structural issues associated with these priorities and outcomes in a transformational fashion, perhaps not otherwise achievable.

Fundamentally Shetland is a very energy rich community, we are still in the middle of the UK's substantial oil and gas production activity and surrounded by most of the UK's remaining hydrocarbon reserves.

While climate change mitigation plans are about phasing these out as emission sources, hydrocarbons will undoubtedly have a role to play in energy transition during that process.

There will also be emerging opportunities around decarbonisation, carbon capture and storage and other developments which could continue to utilise oil and gas infrastructure and skills.

Even if Hydrocarbons are ultimately phased out Shetland will still be in the middle of the UK's most productive wind, wave and tidal regimes and these rich renewable resources will have a critical role to play in every low carbon future. The renewables industry will also need much of the marine infrastructure, engineering skills and technical expertise which Shetland already possesses.

We must seek to combine the inevitable change that energy transition requires, with the opportunity that our underlying energy rich positioning continues to offer, to resolve a perplexing conundrum.

Despite the fact that Shetland provides energy supplies that power big cities and key industries, we endure the highest energy prices and some of the highest levels of fuel poverty in the whole of the UK.

The structural and systematic burdens of high energy costs for all transport, heating and business processes creates a constant downward drag on the economic and social sustainability of communities, families and individuals in Shetland.

These very high energy costs are most likely part of the explanation why Shetland's population is now persistently declining while the rest of Scotland and the UK is growing.

This decline in the midst of plenty does not have to be an inevitable predicament, but we will need to understand the issues, understand the ways to progress and spread that understanding across partners if we are to turn things around and find just solutions.

We will not, and cannot, develop and implement those solutions in isolation. This is a global problem and our neighbours and partners will also be working hard to find answers.

We will also be working within national and international frameworks which require us to develop our responses with due regard to sustainable development, climate justice, just transition principles, human rights and equalities obligations.

If we embed these essential principles in our solutions then we can develop an effective climate change response, and we can make substantial gains in areas of fuel poverty, rural isolation and exclusion, transport poverty and potentially other structural issues.

Finding the best approaches for Shetland, and remote and rural communities and islands generally, will be a challenge. It will be very important to ensure that national initiatives are "island proofed" when considering climate change responses and plans and strategies like the "National Islands Act" and the proposed "Islands Deal" also recognise and help address issues.

3.1 Organisation overview

Please provide a snapshot of the organisation or geographical area to which the proposed programme applies.

This programme has two associated and overlapping scopes;

- Firstly, issues and actions directly related with our own estate and operations, and;
- Secondly, issues and actions for the whole of Shetland, our Local Authority area.

At this stage it is not fully established what precise duties or obligations in terms of planning, target setting or delivery will be the formal duty of the Council.

These are the subject of the consultation on "The role of Public Sector Bodies in tackling climate change".

However, the requirements on the Council are likely to be unavoidably "direct" in respect of the first scope and we will be expected to at least "lead and influence" with respect to the second.

It is also inevitable that achievement in the first scope, the Council estate and services, will be heavily determined by progress on the wider front, e.g. development of locally available and affordable alternative fuel sources, distribution infrastructure and commercial availability of new propulsion and heating technologies.

Therefore, this overall programme is being designed to consider and address both scopes.

3.2 Strategy and programme investment aims

Please provide an overview of the strategy and its component programmes, together with the specific investment aims for the programme for which approval is being sought.

The investment objectives of the Climate Change programme are to ensure that the Council, and Shetland as far as we can influence that, meets its Climate Change targets and protects and where possible enhances outcomes for Shetland's people and places.

It is intended to ensure that significant actions or developments are considered in a planned fashion and that the information is identified and presented in a fashion that helps structured management and effective decision making.

Key investment objectives proposed for the Climate Change programme are;

- The Council has appropriate and robust;
    - Climate Change Adaption plans (sea level change, extreme weather events, global warming etc.) and
    - Climate Change Mitigation plans (Carbon and other greenhouse gas reduction)

  for its own estate and services; and provides leadership and positive influence in this area for the whole of Shetland. **(adaption and mitigation delivery actions)**

  These plans need to sustain, and where possible advance, key Shetland priorities and outcomes; (**integration with Shetland priority outcomes)**

    - Participation – People participate and influence decisions on services and use of resources

- People – Individuals and families thrive and reach their full potential
- Place – Shetland is an attractive place to live, work, study and invest
- Money – All Households can afford to have a good standard of living

These plans need to consider and address Climate Change across all sectors, the sector list below is the one used by the Scottish Government in the Climate Bill; (**whole system coverage**)

(a) energy supply,

(b) transport (including aviation and shipping),

(c) business and industrial process,

(d) residential and public buildings,

(e) waste management,

(f) land use, land use change and forestry,

(g) agriculture.

- There is wide understanding and awareness, inside organisations and across the whole of Shetland, about issues and opportunities to best promote a collaborative and sustainable solution**. (awareness and capacity building)**
- The Council has appropriate and robust support processes across administrative schemes, financial regulations, procurement and commissioning regulations, asset investment strategies, HR policies, ICT policies etc. and encourages other agencies and organisations to develop similar arrangements. **(organisational support arrangements)**

3.3 Existing arrangements

Please state what the existing arrangements are in relation to the programme for which approval is being sought.

Climate Change and carbon reduction has been recognised as an issue for a number of years and significant mitigations have been delivered locally and nationally over that period, however much remains to be done.

Reporting on Council energy use and emissions is provided periodically through the Carbon Management Plan. The 2018-19 update report is included as Appendix A. The Council also submits a statutory annual Climate Change Duties Report to the Scottish Government as required by the The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015 (secondary legislation to the Climate Change (Scotland) Act 2009).

The recent Climate Change (Emissions Reduction Targets) (Scotland) Bill has brought forward the obligation on public bodies to achieve “net Zero” carbon emissions and developed the responsibilities of local authorities in target setting, reporting and facilitating local arrangements.

The Council has a “Carbon Reduction” strategy for its own built estate and vehicle fleet with associated action plans. There are also substantive strategies and plans for waste management.

Other sectors, such as transport and land use have well developed strategies that include objectives around climate change and carbon reduction, the issue is also recognised in corporate strategies including procurement, finance and HR.

It is less clear how far some other sectors such as fisheries, aquaculture and agriculture have developed responses and plans at this point in time.

While much work has been done, individual workstreams are not fully co-ordinated to address the explicit duties, targets and timelines for Climate Change adaption and carbon reduction, which we will now be required to meet.

This Strategic Outline Programme is intended to collate the information that could help to address that integration issue and allow structured forward planning.

The format for future reporting will have to be integrated with public bodies reporting requirements currently being consulted on. That update will also be required to review targets, bearing in mind the emissions targets recently adopted by the Scottish Government.

That new reporting format will be implemented in the Shetland Climate Change Plan proposed as a key action from this programme. It is anticipated that the first revision of that plan will be reported in parallel with the publication of the updated Scottish Climate Change Plan, due March/ April 2020.

3.4 Business needs

Please state what the current and future business needs are in relation to the existing position within the proposed programme.

The Council is the Local Authority for Shetland and has a duty as a public body to reduce greenhouse gas emissions and support Scotland’s adaptation to a changing climate. Scottish Ministers, in turn, are legally required to provide guidance to Public Sector Bodies to help them with this.

Public Sector Bodies, including the Council, are also legally required to report annually on their greenhouse gas emissions and what they are doing to help adapt to a changing climate.

The Scottish Ministers must ensure that the net Scottish emissions account for the year—

(a) 2020 is at least 56% lower than the 1990 baseline,

(b) 2030 is at least 75% lower than the baseline, and

(c) 2040 is at least 90% lower than the baseline.

(d) 2045 is net zero

It is understood that all sectors, as listed above, are expected to meet these targets. The 2045 scenario for net-zero has all sectors at zero, or virtually zero, emissions except for agriculture, some parts of industry, and international aviation.

Remaining emissions from these sectors will need to be balanced, or outweighed, by negative emissions solutions such as tree planting and bioenergy with carbon capture and storage across the whole economy.

Currently there is no requirement for Public Sector Bodies to report on the year by which they intend to achieve zero greenhouse gas emissions, either from their own estate and operations (their direct emissions) or, in the case of Local Authorities, for their Local Authority area.

It is accepted by the Scottish Government that a lot of what individual Public Sector Bodies will be able to achieve in terms of reducing their emissions will be dependent on what progress is made in the rest of society.

Within 6 months of the Climate Change (Emissions Reduction Targets) (Scotland) Bill receiving Royal Assent the Government will update the Climate Change Plan, setting out the pathway to decarbonisation for Scotland as a whole.

We also expect that further clarity will emerge on a similar time frame about other obligations and duties in particular sectors, such as road vehicles, shipping and aviation, which inform around other targets or regulations.

Following the update to the Climate Change Plan, the Scottish Government propose that in their future annual reports, all Public Sector Bodies will report the date by which they intend to achieve zero direct emissions – those are the emissions that the bodies are directly responsible for.

While the specifics of how Public Bodies set their individual targets is being consulted on, it is expected that any discretion will be within the overall limits legislated for Scotland as a whole.

Local Authorities may not be required to “ensure” that targets for their overall geographical area are met, but it is anticipated they will be expected to lead the process of setting these targets, influence their delivery and play a significant role in annually reporting progress.

The targets that Public Sector Bodies set themselves are not expected to be legislative, and it is anticipated that targets set in the first year of reporting may need to be amended in subsequent years reporting when further information becomes available, as progress in other parts of society become apparent, or to align with future Climate Change Plans.

3.5 Potential scope and service requirements

In relation to the above needs, please outline the potential scope for the proposed programme and associated service needs.

This programme has two associated but overlapping scopes;

- Firstly, adaptations and mitigations of greenhouse gas emissions from our own estate and operations, and;
- Secondly, adaptations and mitigations for the whole of Shetland, our Local Authority area.

At this stage it is not fully established what precise duties or obligations in terms of planning, target setting or delivery will be the formal duty of the Council.

These are the subject of the current consultation on "The role of Public Sector Bodies in tackling climate change".

However it is likely to quite "direct" in respect of the first scope and we will be expected to at least "lead and influence" with respect to the second.

It is also inevitable that achievement in the narrow scope will be heavily determined by progress on the wider front, therefore the overall programme is being designed to address both.

3.6 Benefits, risks, dependencies and constraints

Please provide a résumé of the main benefits and risks associated with the delivery of the programme, together with any dependencies (between this programme and other components of the strategy) and constraints.

Benefits

Potential programme benefits have been considered in terms of beneficiaries

Direct public sector benefits (Council)

- Meet statutory obligations with respect to Climate Change
- Integrate organisational response to achieve best efficiency and protect services
- Better planning of spend, capital and revenue to manage financial implications
- Potential improvements to service organisation or efficiency

Indirect public sector benefits (Other public sector organisations)

- Support partners to meet statutory obligations with respect to Climate Change
- Integrate cross-organisational response to achieve best efficiency and protect services

- Better planning of potentially shared spend, capital and revenue to manage financial implications
- Potential Improvements to service organisation or efficiency

Wider benefits to communities, individuals and businesses

- Leadership and influence in planning and delivering an effective response to Climate Change that protects, and if possible enhances, key priorities and outcomes.

Risk Analysis and SWOT Analysis

The global risks associated with climate change have been widely discussed, however it is important to ensure that these are understood in a Shetland context as well as describing their wider significance.

The tables below are the output from workshops considerations these issues in general. These type of risk / SWOT exercises would be repeated during sectoral analysis as the Shetland Climate Change Plan is developed.

Strengths / Weaknesses / Opportunities / Threats (SWOT) Analysis

Shetland as a whole – (the Wide Scope)

Strengths

- Abundance of largely untapped renewable energy sources (wind, wave and tidal)
- Measurable progress in energy efficiency in buildings, vehicles and marine transport
- Successful SME participation in renewables (2 small scale windfarms, 1 tidal research project and 1 H2 specialist trading + 1 biofuel provider + other minor developments)
- One potential large scale windfarm at consented status
- Three medium to large scale windfarms at various stages of development
- Successful District Heating Scheme in Lerwick
- Private and social enterprise businesses eager to develop renewable energy projects if viable opportunities identified
- Public bodies eager to act on identifying climate change solutions
- Elected Members appearing keen to incorporate climate issues in debate
- Active engineering supply chain for renewable energy with capacity for development
- Public opinion favouring action to introduce climate change measures
- Some success and expertise in levering in external and Government funding for energy efficiency and carbon reduction works
- Good level of good practice success cases available to use as encouragement for others to follow suite in energy efficiency upgrades in the domestic sector
- Good practice and local knowledge cases available for food growing locally to expand that sector

- More Electric vehicle brands now available locally with back up service expertise to support uptake
- Expanding public EV Charge network available through Government grant funding and grants available for home chargers
- Award winning expertise available locally for expansion of peat restoration work
- New Government funded facilities available locally to support waste changes
- Reliable baseline and data available locally on bird mortality, sea level and flooding impacts on which to build plans
- Young people and a growing group of adults actively engaged in the matter

Weaknesses

- A very remote location unconnected to national grid, depending heavily on diesel generated power with no immediate operational alternative options
- Dependency on diesel generated fuel for majority of energy requirements including electric vehicle charging
- Limited range of domestic and commercial fuels, e.g. no mains gas limits choice and increases costs.
- Shetland grid at maximum capacity for renewable sourced energy
- Energy companies slow at grid strengthening to ease this problem
- Indecision on interconnector delays planning and development of next generation solutions
- Dependence on remote external decision making processes.
- No currently scalable sources of renewable energy other than wind generated electricity and green H2 derived from wind generated electricity
- Lack of an up to date Shetland wide baseline for energy consumption and carbon emission
- Too many energy inefficient buildings - domestic, public and commercial -resulting in much higher usage of energy than need be
- Public sector resource constraints unless actively levering in external funding to deliver works
- Proliferation of micro SME's unwilling to take on paper heavy accreditations needed for work in certain areas detracts from volume of work which could be carried out under grant funding
- High cost of local construction projects compared with mainland prices for similar works limit measures developable within given grant funding
- Little uptake of small scale renewables and limited self generation measures as confused with debate round large scale renewable projects
- Geographical position of Shetland lays it more open to transport disruption from increased storm events
- Geographical characteristics of Shetland lead to heavy reliance on motorised transport with car ownership significantly above the national average.
- Financially challenging to improve green performance of public transport when operators already reliant on public subsity.
- Increased problems will occur for import and export of food, aquaculture/livestock fuel stocks and materials
- Good number of important facilities directly adjacent to the sea so likely to be affected by storms and surge eg Tesco, Sumburgh airport, fire station , care homes

- Council internal ferry fleet in need of replacement
- No bridges or tunnels to use as alternative routes if ferry inoperable
- Layout and quantity of roads network which if blocked due to storms, flooding, landslide etc would cut areas off
- Likelihood of increased power outages due to increased storm events
- Little development of tree planting and agri green developments – possibly due to dispersed, small scale and part time nature of local crofting
- Limited experience of and appetite for trialling new ideas instead of following usual methods
- No joined up forum for considering Climate Change Shetland wide and its impacts
- Poor quality peatland not maximising carbon storage

Opportunities

- National Grid Interconnector to ensure security of supply
- One potential large scale windfarm at consented stage
- Abundant wind, wave and tidal resources for renewable electricity generation
- Opportunities for development of small and medium scale projects relating to specific localised demand
- Opportunities for mini local district heating networks at better energy cost to local property owners than current national network reliance supports local families and businesses and improves available income spend through reduced energy costs
- Growing availability of renewable technology solutions eg. Electric cars
- Projects emerging from increasing levels of community resilience
- Development of hydrogen economy from constrained wind
- Development of carbon capture and storage using Sullom Voe as a base with ease of access to exhausted oil/gas fields for storage facilities
- Development of tree planting
- Increased peatland restoration for biological carbon capture
- Development of local food growing networks – perhaps using polycrubs to increase local food resilience
- Improved domestic sector energy efficiency / energy affordability could improve health and well being
- Improved domestic energy efficiency leading to better homes and smaller bills makes moving to Shetland a more attractive package – especially when linked to green environment opportunities
- Longer warmer growing season enables agricultural diversification
- Longer warmer summers enable development of tourist businesses such as Outdoor Activity Centres offering canoeing/kayaking, wind surfing, orienteering similar to such centre in Lake District currently
- Longer warmer summers support more tourists and give greater access to outdoors for all – again business opportunities
- Longer warmer summers mean locals become more active and health improves saving on NHS budgets

- As summers improve staycation holidays in Shetland increase – business opportunity
- Change in ranges of animals makes holiday diversification opportunities eg more whale watching
- Energy Improvements particularly to lighting make Shetland able to become a Dark Sky Park with increased tourism in winter and longer tourist season
- Opportunities to take advantage of increased government funding and initiatives in support of active travel

Threats

- An increase in fuel poverty or transport costs leads to Shetland becoming much less attractive as a place to live, work, study etc.
- More expensive energy solutions divert limited public and private funds away from services
- Increased energy costs increase the cost of travel and make imports, exports and lifeline services more expensive and less available.
- Lack of effective alternative energy sources make some marginal businesses uncompetitive, perhaps fisheries and crofting.
- Not meeting climate change targets leaves Shetland with a reputation as an unclean place with severe consequences for exporting industries such as fisheries, attracting visitors and retaining oil industry business
- Failure to comply with Climate Change legislation leads to fines and inability to sell or let properties effecting commercial viability
- Failure to deliver on Public Bodies Duties leads to reduced Government funding as climate change viewed by Government as matter of public wellbeing – not just an environmental issue
- Increase in ill health due to cold wet homes adds a burden onto already pressured health service and care systems
- Food and energy security threatened as no plans in place for major and increased level of storm disruption affecting island communities
- Increased flooding risk due to more storms and sea level rise
- Increased landslip risk affecting roads and cutting off areas for periods affecting import and export of local goods
- Coastal erosion effects cultural assets eg graveyards, historical assets
- Increased disease risk for animals and humans
- Increased maintenance costs for property (houses, businesses premises, piers) due to climate effects
- Limited FE College courses to upskill locals for works needed
- Change in range of fish due to sea temperature rise (already noticed by fishermen) makes it more difficult to catch usual stock as fish move to cooler waters north
- Sea acidification impacts on productivity of shellfish market as acid sea damages shells and reduces quality and quantity of shellfish available
- Rise in sea temperature reduces productivity of salmon industry (salmon are a cold water fish) This is already noticed off Alaska
- Changes in sea water quality creates more diseases in fish stocks
- Floods and droughts in our external to Shetland food growing areas reduces availability of food for humans and animals requiring a greater level of self sufficiency on food production
- Storms take down electricity grid locally for prolonged period.

Shetland Islands Council - Estate and Services – (the Narrow Scope)

Strengths

- An established collaborative approach for providing public services
- Council staff with experience in implementing successful energy efficiency measures
- Proficient in achieving bespoke island solutions
- Ability to invest moderate sums in service renewable solutions
- Some plans already in place as basis for updating under Climate Change strategy eg Flood Prevention, Carbon Management
- Some Government funded trails already carried out on energy efficiency problems locally eg SEEP 1, SEEP 2, LHEES, Transition (Domestic and Commercial/SME) and good Government links
- Public bodies eager to act on identifying climate change solutions
- Success in co-ordinating and facilitating large scale energy public / private partnerships

Weaknesses

- Dependency on diesel generated fuel for majority of energy requirements
- Limited range of domestic and commercial fuels, e.g. no mains gas limits choice and increases costs.
- No whole life costing consideration before purchasing goods means buy cheap and pay more for use continues
- Failure to lever in existing external funding to assist in implementing better solutions means seed funding disappears, legislation hits and we are faced with full costs to comply with law
- Lack of a systematic approach to researching climate change measures and then sharing the information
- Lack of in-house body/board to discuss and share information on climate change
- Increased burden on Social Care/ Care in community budgets by increasing volume of needy clients due to health issues from living in cold homes
- Considerably increased maintenance cost across the board due to storm etc effects to buildings, plant and piers
- Increased costs for road repair due to erosion, flooding, landslides
- Failure of supply due to power outages effecting critical services
- Failure of goods/materials needed being available due to freight boat issues
- Lack of adequate stocks being maintained for goods
- Lack of fixed links means critical support services unable to access clients if ferry problems continue
- Many critical buildings/assets at risk of flood, inundation and damage eg beside sea, at near sea level just now
- Increased fuel oil energy costs following national legislation against use of fossil fuel will lead to oil industry contraction of supply and increasing costs to run within Council estate#
- Failure to maximise use of small scale renewables to self- generate on every available Council building

- Failure of Spend to Save criteria to understand that a payback of at least 10 years (instead of the very limited 7) is needed to ensure technology can be introduced. A ten year payback on a 30+ year asset is still a very good bargain.

Opportunities

- Make full use of existing and future Scottish and UK Government funding schemes to develop specific service outcome projects
- Use National Islands Plan to support cases for additional funding where required on grounds of 'island proofing'
- Identify and plan all those energy efficiency projects that can be implemented for use in the council based on current technology
- Rewrite/write all required service strategies/plans to take cognisance of climate change
- Include section in every Council report on carbon considerations to assist in appropriate decisions being taken
- Re-introduce programmes such as ECO Schools to assist families and pupils gain knowledge
- Implement measures of best practice developed in other places
- Growing availability of renewable technology solutions eg. Electric cars
- Revisit fixed link debate and possible end up with a mixed solution of some tunnels and fewer ferries to support area resilience
- Use Council owned land to build turbines and use sell the output to the advantage of the estate eg private wires
- Development of hydrogen economy using Council heating systems as base market
- Capacity to influence community to action by including carbon metrics in all tenders and grants/loans
- Capacity to use Council land for local food growing to support community resilience
- Ability to use small scale renewables in rural areas on public buildings will encourage other property owners in the area to make the change and help to reduce the overall Shetland footprint.
- Ability to reduce costs on rural schools/care homes by use of small scale self generation of energy (solar and small scale wind) increases resilience of rural community assets

Threats

- Failure to comply with national legislation leads to fines
- Replacement programmes (ferries, vehicles etc) become unmanageable due to delays caused by information on renewable technical developments
- Danger of putting in already redundant solutions (oil boilers into schools instead of heat pumps) and thus locking in energy inefficiency to the estate for a further 30+ years
- Silo mentality leads to important information not being shared and essential collaborative work being restricted
- Council reserves become depleted by preparing and developing Climate Change measures
- Reduced ability to recruit staff for providing essential services if living costs in Shetland continue to rise in comparison to the rest of the Country

- High cost of implementing Climate Change measures impacts on service delivery
- Speed of renewable energy development making capital investment in early solutions obsolete
- Loss of public support due to perception of Council inactivity
- Lack of public and wider stakeholder support on contentious issues such as large scale renewables and fixed links
- Reputational damage with Government and public alike
- Legislative requirement for action after all the available seed funding national pots are exhausted, leading to service reductions to meet these unavoidable costs

Programme Risk Analysis

It also important to identify the key risks that might stop this programme from achieving its objectives. These are likely to include risks associated with uncertain technical factors, the scale of resources which will have to be applied or redirected, legislative, regulatory and fiscal obstacles in developing locally appropriate solutions, the complexity and interdependency of actions, political disagreements on the right way forward etc.

General Risks	Description	Mitigating Actions
Operational and Performance	Increase in the cost of providing services and reduction in the volumes of service provided	Early planning for introduction of Climate Change measures across all services
Technology	Implementing sub-optimal technical solutions that are overtaken by transformational changes	Understanding the work being done in climate change technology and making a commitment to be an early adopter of proven technology
Funding	Constrained funding leads to delay/ reduction in scope of Climate Change measures	A planned programme of professionally scoped measures combined with full knowledge of external funding to augment Council budgets
Legal and Fiscal	Law changes mean that certain sources of energy become illegal or are subject to high taxation e.g. diesel	Need to be sighted on the legal and fiscal developments combined with an early understanding of what changes are likely
Policy	Government policy targets for reducing carbon emissions towards zero are accelerated in response to heightened public opinion and/ or new scientific evidence	Adoption of a full-scale approach for bringing in practical Climate Change measures as soon as resources permit

Specific Risks		
Ignorance	Lack of knowledge on the Council's use of energy, how energy efficient operations are, funding opportunities and global best practice in Climate Change measures	Coordinate staff and resources to provide the best up to date information possible so that project planning can be done based on a sound basis
Geographical	Dependence on mains electricity from diesel generated source with only localised project based alternatives available	Make representation to UK and Scottish Governments, Ofgem, SSE etc to stress that Shetland cannot meet Climate Change targets without a base renewable energy supply. We should also plan to be as energy self-sufficient as practicable.
Political	Shetland is at the end of the line as governments roll out Climate Change solutions from the main population centres	Making representation to Governments combined with identifying all the practical Climate Change measures that can be achieved internally
Population Loss	Shetland becomes a less attractive place to live and work as energy costs rise faster than in the rest of the UK. Demand for Council services fall and staff are more difficult to recruit	As above
Complacency	Not responding adequately and early to the challenges posed by Climate Change leads to severe future pressure to introduce rapid measures with very high costs	The Council needs to understand the scale of the task ahead and to plan measures early and well to avoid future operational and financial difficulties
Fuel Poverty	Increased energy costs causes fuel poverty levels to rise further with a greater demand on support services	Impacts on the less well-off members of the community need to be built into all Climate Change measures
Public Opinion	A perceived inadequate Council response to the Climate Change issue results in negative publicity and undermines the Council's role as a Community leader on the	Adopting the Climate Change Strategic Outline Programme and progressing with early achievable outcomes on an evidence led basis

	subject	
Option Confusion	Finding the more practical and deliverable solutions is made difficult by many different external and in-house approaches pushing particular interest focused options. Thus leading to delayed decision taking.	The Council has to be guided by established evidence based methods for option appraisal based on sound baseline information on energy use, emissions and Climate Change measures

Dependencies and Constraints

A programme of this complexity has many dependencies; these will include technology development, national and local decision making, choices between alternative approaches and uncertainty.

Competing priorities, available technology, financial and human resources, commercial developments and legal obligations and limitations are all likely to be significant constraints across this programme.

Understanding the relationships between potential adaption and mitigation actions and the constraints and dependencies which will affect them will be a very important part of the development of sectoral plans.

It will be crucial to understand how the sequence of activity can be best progressed in light of some very fundamental constraints around alternative energy sources and very material dependencies around the development of alternatives such as an interconnector or a substantive hydrogen infrastructure.

The information which emerges from these sectoral plans will then allow a better identification of the critical paths that will have to be followed to reach solutions that work for Climate Change, and work for and in Shetland. Perhaps the most critical component of this overarching programme will be the identification and management of these dependencies and constraints.

At this time the most significant constraint and dependency is how and when an alternative electricity grid supply solution is going to be implemented.

Resolution of the uncertainty around that would then allow a wide range of other activity to be planned with some confidence and address the wide range of very important but dependent matters.

4. Economic case

4.1 Critical success factors

Please list the criteria (critical success factors – CSFs) against which you will assess the successful delivery of the programme and the evaluation of options.

The critical success factors (CSFs) for this programme, and the individual projects which will be considered within it, are closely linked to the Shetland Partnership Agreement and Our Plan Key outcomes which also underwrite the key investment objectives;

- CSF1: business needs – how well the option satisfies the existing and future business needs of the organisation.
    - Will it help to deliver the Councils statutory duties and obligations?
    - Will it help with long term financial sustainability of the Council and for communities, families and individuals in Shetland?
- CSF2: strategic fit – how well the option provides holistic fit and synergy with other key elements of national, regional and local strategies e.g. : -
    - Alignment with national Climate Change strategies
    - Alignment with "Shetland Partnership Plan" outcome objectives
    - Alignment with Regional Transport Strategy
    - Alignment with National Transport Strategy
    - Alignment with Carbon Management Strategy
    - Alignment with Local Development Plan
    - Alignment with Housing Strategy
    - Etc.
- CSF3: benefits optimisation – how well the option optimises the potential return on expenditure – business outcomes and benefits (qualitative and quantitative, direct and indirect to the organisation) – and assists in improving overall VFM (economy, efficiency and effectiveness).
    - Best delivery on Climate Change progress, reduction in emissions etc, for the financial cost of that investment or action.
    - Sustains and/or promotes key Shetland Outcomes
    - Promotes long term sustainability

- CSF4: potential achievability – the organisation's ability to innovate, adapt, introduce, support and manage the required level of change, including the management of associated risks and the need for supporting skills (capacity and capability). Also the organisation's ability to engender acceptance by staff.
    - Technical feasibility, is the option or action technically achievable?
    - Organisational resource feasibility, could we / Shetland practically deliver that kind of change?
    - Cultural achievability, could the Council / Shetland enable the change?
- CSF5: supply side capacity and capability – the ability of the market place and potential suppliers to deliver the required services and deliverables.
    - Is there a technical solution available and is there a partner who would deliver?
    - Could we do a deal in the market for that service or energy supply at an acceptable price?
- CSF6: potential affordability – the organisation's ability to fund the required level of expenditure – namely, the capital and revenue consequences associated with the proposed investment.
    - Is the change affordable to the Council / Shetland?
    - Could we find partnership funding to allow it to be affordable?

4.2 Main options

Within the potential scope for the programme, please list and evaluate the main choices (or options) for the successful delivery of the potential scope and/or required services.

This should be done by:

- *describing the options for the programme*

And then in relation to the investment aims and CSFs:

- *assessing its main advantages*
- *assessing its main weaknesses*
- *outlining the potential projects (or investments) within the defined scope for the programme.*

Please note that:

these options may differ in relation to potential configuration and services, service solution, service delivery, implementation timescale and funding

the minimum level of activity (or 'do minimum') should be identified as a baseline option.

The Options Framework

The Options Framework recommended by the Green Book 2018 provides a structured approach to identifying and filtering a broad range of options for delivering policies, strategies, programmes and projects.

This tool and technique has been used on a wide range of public sector schemes. It has proven useful in getting senior management, stakeholders and customers signed up to a preferred way forward early on in the scoping and planning stage in the development of schemes.

The Options Framework identifies and filters these choices for the operational scope, service solutions, service delivery vehicles, implementation timeframes and funding mechanism for the programme.

Key dimensions	Description
Scope	The 'what', in terms of the potential coverage of the programme. Potential scopes are driven by business needs, service requirements and the scale of organisational change required to improve service capabilities. Examples include coverage in terms of: business functions, levels of service, geography, population, user base and other parts of the business.
Service solution	The 'how' in terms of delivering the 'preferred' scope for the programme. Potential service solutions are driven by available technologies, recognised best practice, and what the market place can deliver. These solutions provide the potential **'outputs'** and key activities for the programme, and as such the portfolio of enabling projects and activities required.
Service delivery	The 'who' in terms of delivering the 'preferred' scope and service solution for the programme. Potential options for service delivery are driven by available resources, competencies and capabilities – both internal and external to the organisation. Examples include: in-house provision, outsourcing, alliances and strategic partners.

Service implementation	The 'when' in terms of delivering the 'preferred' scope, solution and service delivery arrangements for the programme. Potential implementation options are driven by deadlines, milestones, dependencies (between outputs), economies of scale, benefit realisation, and risk management. The optimal option provides the critical path for delivery of the agreed projects and activities and the basis for the programme plan. Options for implementation include: piloting, modular delivery, big bang and phasing (tranches).
Funding	The 'funding' required for delivering the 'preferred' scope, solution, service delivery and implementation path for the programme. Potential funding options are driven by the availability and opportunity cost of public funding, Value for Money and the characteristics of the programme. Potential funding options include the public or private capital, the generation of alternative revenue streams, operating and financial leases, and mixed market arrangements.

Using the Options Framework to identify the long-list

The Options Framework should be used as follows:

*1. **Convene at least one workshop** comprising of senior managers (business), customers and stakeholders (users) and experts in relevant fields (technical) to be facilitated by an experienced and trained practitioner.*

*2. **Confirm the spending objectives and potential scope for the programme,** as set out in the strategic case section.*

*3. **Agree the critical success factors** for the programme.*

*4. **Identify potential 'scopes'** for the coverage of the programme, ranging from the BAU, through to the 'do minimum' and 'do maximum' and intermediate options.*

***These options focus on the scale of potential change required.** To avoid 'scope creep', they must not exceed the potential scope for the programme as defined within the strategic case section: if they do, the 'case for change' requires revisiting and updating.*

The 'do minimum' scope must be a realistic option that meets the 'core' scope and essential business needs of the programme. The 'do maximum' is predicated on meeting the full scope of the programme and all needs. The intermediate options focus on key differences in relation to the desirable and optional scopes for the programme.

Be pragmatic: scoping options discounted for delivery in the short to medium terms may be retained in the strategic portfolio for delivery in the longer term.

i. Subject each option to SWOT analysis – noting advantages and disadvantages and how well it meets the agreed spending objectives and CSF's.

ii. Discount unrealistic options. Carry forward (C/F) possible options, including the BAU and 'do minimum' scopes.

iii. Identify the preferred way forward (PWF) – the 'scope' which is considered most likely to optimise social value.

Scopes identified for the programme that are more ambitious than the 'do minimum' must be justified on their potential for optimising benefits in relation to costs.

Consider numbering the options and colour coding the results.

Options Framework for the Climate Change Programme

Dimension	Business as usual – Do nothing else	Do minimum – Reactive	Do more - Pro-active	Do maximum
Scope	Continue with existing efficiency and best value initiatives	Develop strategies, plans and projects to meet Council estate and service obligations for emissions reductions as opportunities arise to seek to meet government targets with current infrastructure and arrangements Support community and other agency initiatives reactively	Develop strategies, plans and projects both to achieve emissions reduction targets and promote the underlying structural, infrastructure and regulatory/fiscal arrangements that would most enable those reductions Support community and other agency initiatives proactively	Develop strategies, plans and projects that create conditions that enable targets to be exceeded and/or reached early Assume responsibilities to enable and deliver whole Shetland solutions
Service solution portfolio of enabling projects and activities (see following sec-	Continue Carbon management Plan Leave additional actions to be decided	Review key strategies and plans and seek opportunities within their existing priori-	Require review of all strategies and plans systematically including alignment with Cli-	Restructure and manage all projects and activities centrally under Climate Change direction

tion)	within other projects at their discretion	ties	mate Change key outcomes	
Service delivery • in-house provision, • outsourcing, • alliances • strategic partners.	Continue as is unless change is prompted by efficiency or best value	Reactively assess opportunities for alternative service delivery should any arise	Proactively consider service delivery alternatives in critical areas for climate change to identify more effective models	Create a new corporate body to plan and deliver all activity affecting climate change
Service implementation • piloting, • modular delivery, • big bang • phasing (tranches).	Continue to pilot limited scale alternative approaches	Consider individual sectors and/or service areas individually for implementation of alternative methods	Develop a tranch based approach to considering ranges of interdependent sectors and service areas for phased improvement	Identify all currently possible adaptations and mitigations and implement all as quickly as possible. Repeat this exercise every 5 years as technologies and options develop.
Funding • Council funding • Other public funding • private capital, • generation of alternative revenue streams, • operating and financial leases, • mixed market arrangements.	Fund from existing Council budgets if efficiencies and alternatives are cost neutral. Seek external funding if opportunities arise	Fund from existing Council budgets through cost neutral changes and fund changes which demonstrate spend to save.	Review main budgets associated with areas of greatest climate change impact to ensure climate change objectives are being fully considered in budget allocation. Actively investigate opportunities for external and other funding mechanisms	Redirect budgets centrally based on climate change adaptation and mitigation impacts

4.3 Preferred way forward

Please state the preferred way forward in relation to the options identified for the successful implementation of the programme.

This should outline:

- *the key investments within the programme*
- *those that will lead to separate procurements in their own right (and thus be subject to individual business cases – SOCs, OBCs, FBCs)*
- *related timescales*
- *the indicative economic cost (in £s), taking into account any attributable costs (including those falling to other organisations); quantifiable benefits (in £s) and risks (in £s). The use of optimism bias should be considered here.*

Do nothing beyond Business as Usual

This approach is **not recommended**. It would not appear to offer a feasible path to meeting the Councils statutory obligations and duties to meet the climate change targets adopted by the Scottish Government.

Do Minimum – Reactive

This approach is **not recommended**. While minimum Council action might deliver technical compliance with its public duties to meet statutory duties and obligation relating to the Councils estate and services it would not be likely to address structural and systematic Shetland energy infrastructure, availability and cost issues.

Do More - Proactive

This approach is **recommended**. Proactively assessing key issues systematically through a wide partnership and in tranches, both sectorally and over time is most likely to achieve best outcomes. It offers the possibility of identifying further "quick wins" accessible through existing technology and within available shared resources while also identifying underlying issues which can only be effectively addressed through legislative or regulatory change, substantial investment, complex collaboration and new technology development. This whole system approach can then plan the delivery of these more complex and longer term actions with greater likelihood of successful outcomes.

Do Maximum

This approach is **not recommended**. Implementing all possible adaption and mitigation actions available currently risks a disproportionate re-direction of resources to limited effect when a number of the core issues are systematic and structural. This approach would also require a very directive

approach which may well disengage many partners, communities and individuals. It is also likely that it would be necessary to repeat successive “big bang” change programmes as changes to technology and culture developed over time.

Service solutions - portfolio of enabling projects and activities

Overarching Shetland Plan - The Shetland Partnership Plan

- Participation Delivery Plan
- People Delivery Plan
- Place Delivery Plan
- Money Delivery Plan

Shetland Islands Council – Our Plan

- Service Redesign Programme
- Business Transformation Programme
- Medium & Long Term Financial Plan
- Asset Investment Strategy and Plans
- Carbon Management Plan
- Procurement Plans
- Workforce Plans
- ICT Plans
- Community Development and Locality Plans

Sectoral Plans (each needs to cover adaption and mitigation)

(a) Energy Supply

- Electricity Generation, Infrastructure and Supply Plan(s)
- Hydrogen Generation, Infrastructure and Supply Plan(s)

- Other Energy Generation, Infrastructure and Supply Plan(s)
- Transitional Energy Generation, Infrastructure and Supply Plan(s)

(b) Transport (including aviation & shipping)

- Shetland Transport Strategy
    - Inter Island Ferry Plans
    - Bus Plans
    - Inter-Island Air Plans
    - Fixed Links
    - Private Car Plans
    - External Ferries
    - External Air-Services
- Shetland Active Travel Strategy
- National Transport Strategy
    - External Ferries
    - External Air-Services
    - Commercial shipping transport plans
    - Commercial aviation plansCommercial land transport, van and truck etc. plans

(c) Business and industrial process,

- Economic Development Strategy / 10 year Plan
- Fisheries Plans
- Aquaculture Plans
- Construction Plans
- Shetland Tourism Strategy

- Oil & Gas Plans
- Other Energy Sector Plans
- Other Business and Industrial Plans
- Council Fleet Management Plan
- Port of Sullom Voe Plans
- Small Ports Plans
- Lerwick Port Authority Plans

(d) residential and public buildings,

- Council Housing Strategy & Plans
- Housing Association Plans
- Private Households Plans
- Council Public Buildings Plans
- Other Public Buildings Plans

(e) waste management,

- Zero Waste Shetland Plans
- Domestic waste management & recycling plans
- Commercial waste management & recycling plans
- Landfill, ERP, other recycling / reuse plans

(f) land use, land use change and forestry,

- Shetland Local Development Plan
- Shetland Marine Spatial Plan

(g) agriculture.

- Agriculture Plans

This list is not intended to be exhaustive but starts to illustrate the range of areas and issues that need to be considered within this programme. Equally, the initial identification of a strategy / programme / plan in one sectoral area does not limit the relevance and influence of that plan, there will be many overlaps and dependencies.

None of these plans and programmes belong to the Council exclusively, indeed some will be "owned" by other agencies or bodies, all certainly have overlaps between organisations and include many interests.

There will also need to be a number of "community" based and led plans / strategies and programmes, both for geographical plans, perhaps relating to one specific island and for communities of interest, perhaps relating to young people, vulnerable or low income individuals and families.

The critical need for the responses to climate change to be considered from the perspective of multiple groups will be very important if we are to make sure they support sustainable development, climate justice, just transition principles, human rights and equalities objectives and obligations.

These programmes are currently at very different stages of development and have differing levels of direct Council control and/or influence. All strategies, programmes and plans will however need effective partnership working.

Further clarification of this mapping exercise and then designing arrangements that promote inclusion, collaboration, innovation and aligned decision-making across many partnerships will be one of the most considerable challenges in delivering an effective response.

Potential Next Steps across all key strategies and plans

Each programme or project identified in the list above will be required to ensure that it;

- develops effective understanding of the challenge in terms of Climate Change adaption and mitigation that it will be expected to meet,
- revisit it's underpinning strategies and plans to see whether these challenges and obligations are sufficiently included,
- revisit and further develop actions plans for every area to ensure they include delivery of Climate Change objectives, targets and timelines,
- develop engagement, communication and reporting arrangements to ensure all parts of the overall Climate Change programme informs each other, and;

- ensure all this is done cross Council / cross Shetland and links into Scotland/UK/international assistance where that is available.

More understanding of the detailed actions and changes which will be required over a sustained period will emerge from this activity and will also need to be aligned with the detailed guidance which the Scottish Government have undertaken to produce within 6 months as a "Scotland Climate Change Plan".

The timing of a number of actions in Shetland will undoubtedly depend on key decisions taken elsewhere, the emergence and/or commercialisation of new technologies and the deployment of new infrastructures and regulatory regimes.

The table below does not seek to be exhaustive but highlights some potential developments etc. across the sectors as identified by the Scottish Government.

	Council role / Others role	**Key issues**
(a) energy supply,	Limited direct Council, mostly Govt & private sector. Will critically require leadership, co-ordination and facilitation.	Shetland power station(s) and/or interconnector and local grid capacity Electricity renewable generation capacity and distribution Hydrogen generation and distribution
(b) transport (including road transport, aviation,shipping and active travel),	Direct for ferries, tugs, internal planes and Council vehicle fleet. Others include Govt agencies for external shipping and aviation, commercial for road haulage, fisheries and aquaculture and individuals for personal transport. Direct in terms of staffing and funding ZetTrans which has functional responsibility for public transport provision as well as a remit for active travel.	Availability of alternative energy sources and their distribution infrastructure Particular challenges for realistic alternative fuel sources for shipping and aviation Pricing and regulatory arrangements Encouraging behaviour change in terms of travel choices and use of private car
(c) business and industrial process,	Limited direct Council e.g. Waste to Energy plant and Scord Quarry. Others include very large Oil & Gas + very significant fisheries and aquaculture + other quarries	Availability of alternative energy sources and their distribution infrastructure Particular challenges for realistic alternative fuel sources for aquaculture

	and construction.	and fisheries Pricing and regulatory arrangements
(d) residential and public buildings	Direct for Council houses and public buildings, + agencies for Housing association and NHS etc. public buildings. Others include private housing and commercial premises	Availability of alternative energy sources and their distribution infrastructure Significant challenges around availability across Shetland Pricing and regulatory arrangements Transitional energy (LNG etc.) sources and distribution
(e) waste management,	Direct for collection, processing and disposal. Government, commercial and individuals for waste generation	Circular waste economy and reuse / recycling
(f) land use, land use change and forestry,	Direct as land owner, some directive with aspects of planning authority influencing with wider aspects of planning Others include farmers, crofters and other landowners.	Further determination of scale of changes required and potential in interventions
(g) agriculture.	Council limited Influence as land owner, planning authority and economic development agency Others include farmers, crofters and other landowners.	Further determination of scale of changes required and potential in interventions
Sectoral Climate Change Adaption Programmes	Significant Council responsibility for Council services and general community resilience leadership Shared responsibility and interest across agency partners, businesses and communities	Further determination of scale of changes required and potential in interventions
Supporting	Significant Council responsibility	Further determination of scale of changes

programmes and activity	for Council services and general community resilience leadership Shared responsibility and interest across agency partners, businesses and communities	required and potential in interventions

Many of the choices that sectoral programmes have available to them, especially around moves to alternative fuel sources, will be determined by the energy market and supporting energy distribution infrastructures. This may well be the most complex local matter in determining the ability of the Council, and everyone else in Shetland's, to respond as they would wish.

Ultimately it will only be possible to achieve "net-zero" greenhouse gas emissions in Shetland if alternative energy sources are available for public bodies, businesses and households to utilise and the infrastructure to support them is in place.

Our experience of the development and roll-out of infrastructure for any national service or infrastructure has consistently been that we are at the most remote and last in the queue. This was historically the islands experience with electricity, water, telephones and even television, it is the continuing experience with broadband. There is a real danger that changes in widespread usage of energy sources away from petrol, diesel, domestic heating oil and bottled gas to new alternatives will be equally fraught, slow and challenging.

However, these risks and challenges in energy transition may also create what is perhaps a unique opportunity to address some of the most intractable structural and systematic difficulties around key living costs in Shetland.

The most significant element of the inflated cost of living in Shetland is the excess costs we have to bear for energy to heat our homes and the energy costs of the transport to and from Shetland and within the islands. These costs ultimately affect the prices of all the goods and services we fundamentally depend on. If necessary energy transition from high carbon sources to alternative fuels result in still higher costs, then that will be even more problematic for island life, especially if these costs end up being passed on to the user.

It will therefore be critical to identify how transition avoids inflating the cost of energy, and indeed seek to identify approaches that allow access to more affordable arrangements, especially for life-line services and those in the community least able to afford high costs.

At this stage it would appear that there are basically three scalable future sources of zero emission energy which might be available in Shetland; renewable generated electricity,"green" hydrogen and non-motorised transport solutions.

While there may be a range of transitional fuel sources that have relevance during the transition period, perhaps including lower emission hydrocarbons such as LNG, they cannot be zero-emission solutions. However some of these transitional energy sources may be an inevitable requirement for years or decades until technical availability and cost effectiveness of zero emission alternatives becomes available.

That might be most likely in shipping, fisheries, aquaculture and agriculture where the demands placed on fuel sources are very particular. If that transpires then much of the holistic work described below for renewable electricity and hydrogen, i.e. identification of sources for generation, distribution arrangements for supply and regulatory and pricing arrangements will also have to be delivered for that fuel source.

Other zero-emission technologies may also have some role to play such as solar, air & ground source, anaerobic digestion or bio-mass with carbon capture but practically these would seem to have more limited capacities in the Shetland context in comparison to renewable generated electricity and "green" hydrogen.

Therefore it will be necessary to develop realistic and deliverable plans for the availability of renewable generated electricity and "green" hydrogen energy supplies across Shetland to enable full achievement of sectoral mitigation plans.

It would seem critical that renewable electricity and hydrogen generation, distribution and regulation arrangements are considered holistically to seek to manage their availability and cost issues effectively. Neither fuel source is available widely in Shetland at the moment; much work will be required to develop arrangements likely to improve availability and ensure affordability.

In addition to mitigation programmes, Climate Change Adaption arrangements will need to be revisited and/or developed to address the potential impacts of global warming, sea level changes, species migration and extreme weather events etc.

These direct mitigation and adaption programmes will also have to be supported by a review and update of support arrangements across finance, procurement, asset management, HR, ICT etc.

A range of education, awareness, training and engagement activity will also need to be planned and delivered both within the Council and partner agencies and more widely with individuals, communities' young people, businesses etc. to develop and promote the widest understanding and engagement about issues and solutions.

5. Commercial case

5.1 Commercial strategy

Please outline the commercial strategy for the programme.

This may differ for individual investments and describes how the organisation(s) will endeavour to 'leverage' the best available deal for each investment, or combination of investments, from the supply-side and market place.

The Climate Change programme will require a wide range of commercial arrangements from a range of organisations to deliver this broad scope. This is likely to involve direct procurements, partnerships both with commercial, public sector and community partners.

A number of the commercial solutions are likely to be novel and innovative and may require regulatory realignment, particularly given our geographical context and scale.

Many projects will have to be evaluated and decided on individually and may require their own strategic, outline and full business cases before implementation.

5.2 Procurement strategy

Please outline the procurement strategy for the programme and how its components (projects) will be procured in accordance with the Government Procurement Agreement (WTO) and the EU Consolidated Public Sector Procurement Directive (2004).

This may differ for individual investments and range from the use of existing call-off contracts and catalogues, to new procurements.

Many projects will have to be evaluated and decided on individually within the responsibilities of other organisations and will require their own strategic, outline and full business cases before implementation. The key aim must be to ensure good alignment that optimises the opportunity for value for money solutions.

6. Financial Case

6.1 Indicative costs

Please indicate the total financial cost (in £s) of the programme, broken down by constituent investments and/or procurements.

This should be based on the additional cash cost of these investments to the organisation(s), taking into account any cash releasing benefits or off-setting costs.

Overall Council energy consumption was estimated to be c 100gwh in 2018/19. Council energy costs are current in excess of £6.5m per annum, c£2.5 on electricity, c£4m on marine, vehicle and heating fuel.

Whole Shetland energy consumption (excluding Oil & Gas terminals) was estimated to be c 1500gwh in 2008, this whole Shetland analysis is currently being updated. This would indicate an overall Shetland energy bill in the order of c£100m per annum.

Maintenance and replacement costs for the buildings, vessels, vehicles and other assets associated with that energy use are in excess of £100m for the Council estate over the next 5 years, perhaps £1b for the whole of Shetland when replacement vehicles, house builds, vessels and other plant is taken into account.

It will be a priority within the Shetland Climate Change Plan to review these cost estimates, however there is no doubt that very significant sums of public, commercial and household money is currently being spent on energy (transport, heating, lighting etc).

The costs of the interventions and actions required to respond to Climate Change effectively will require that spend to be restructured to alternative energy sources. The specific investments which will be required will be of a very significant scale.

Area	**Financial implications**
(a) energy supply,	Very large government and private sector investment Possible community participation. Regulatory / community benefit arrangements around pricing
(b) transport (including road transport, active travel, aviation and shipping),	Very large investment required in new vehicles, boats, planes, alternative infrastructure by all parties, agencies, businesses and individuals.

(c) business and industrial process,	Very large for Oil & gas, substantial for fisheries, aquaculture and other business and industrial sectors especially in terms of SME business investment capacity.
(d) residential and public buildings	Very large for all parties across heating systems. Significant Council actions required in terms of Council houses and public buildings. Perhaps even larger in terms of private households.
(e) waste management,	Significant for waste management and waste to energy.
(f) land use, land use change and forestry,	Further analysis required
(g) agriculture.	Further analysis required
Sectoral Climate Change Adaption Programmes	Further analysis required
Supporting programmes and activity	Further analysis required

6.2 Funding arrangements

Please indicate how it is intended that these investments will be funded.

Restructuring the capital investment and revenue spending on energy will require collaborative action between the Council, other public bodies, businesses, communities, families and individuals.

Existing funding sources, investment and spending arrangements will all have to be examined carefully to understand how they can be best redirected. Sources of additional funding, whether through external government support schemes, commercial partnerships or community action will also need examination.

Each sectoral programme will have to map out the potential funding implications for the activity required in its area. A key contribution of the Climate Change programme be to then seek to integrate these actions and investments together to best mutual benefit.

Meaningful climate change action will require long term adjustments to culture and spending activity. Current arrangements are already very costly and involve a significant proportion of public and private funds. Investing and spending that money differently will be the most significant way forward, however that will require careful planning and very effective collaboration if the most effective results are to be achieved.

6.3 Affordability

Please confirm the affordability of the overall programme, indicating any agreements or understandings in place with commissioning bodies and/or any affordability gaps.

Changes of the order required to transform our energy use away from the hydrocarbons on which we fundamentally depend at the moment will undoubtedly create affordability challenges.

These challenges will present themselves at a macro level, where the potential investment costs will compete with other priorities for access to limited overall funding both in terms of capital investment priorities and ongoing revenue funding.

There are also likely be significant affordability challenges at a local level for families, individuals and businesses around both one-off costs in changing energy sources and the ongoing implications that might create.

Sectoral analysis and planning will have to consider these issues specifically in each area and seek to develop mitigations as far as possible. Again the programme challenge will be to help integrate these plans and actions for overall benefit.

The changes required are long term, and affordability will have to be considered across that long term also. Much investment and ongoing spending is required around the arrangements and energy sources we use just now.

A key aspect of affordability will be finding ways to divert and enhance the effectiveness of that spend into activity and arrangements that support climate change objectives.

7. Management case

7.1 Programme management arrangements

Please outline the programme management arrangements, including your framework (roles and responsibilities), strategy for dealing with stakeholders and customers, and outline plans.

In accordance with best practice, the programme must have a Senior Responsible Owner (SRO), who takes ownership of the programme and is responsible for its direction.

Effective engagement, communication and governance arrangements for such a complex and wide reaching programme of activity will be unavoidably complex to design and manage.

This may require revision of arrangements at Council, Community Planning, Community and government levels.

Proposals for these arrangements will require some thought, discussion and time to develop but must recognise and be aligned with the key obligations and objectives of the programme as well as the key obligations and objectives of individual partners recognising these will be driven by individual statutory roles and requirements.

Given the wide reaching scope of this matter, it is proposed that initial programme managerial arrangements are through the Councils Corporate Management Team.

The Chief Executive who chairs that group will operate as the programme Chair / Senior Responsible Officer.

Overall strategic decisions relating to a matter of the significance of Climate Change lie with a range of bodies in Shetland. In relation to the Councils' duties there is a need to ensure a coherent approach and it will be essential that all committees work to build these issues into their strategy development, monitoring and decision making.

Initial political governance within the Council is proposed through consultation with Committee Chairs, who will convene as required as a Climate Change Sounding Board with reporting through the Environment and Transport Committee and the Policy and Resources Committee.

The Shetland Partnership will be expected to function as a "whole Shetland" co-ordinating group for Climate Change consideration and response, and development of further collaborative mechanisms will be required to ensure alignment in planning and delivery of solutions.

This programme and any resultant programmes and projects will be managed to Prince2 standards.

7.2 Programme milestones

Please outline the main milestones for the programme in the years ahead.

Programme milestones will be established in relation to individual project evaluation, decision making and implementation.

It is also necessary to establish overall anticipated milestones for this overarching programme including establishment of overall governance arrangements, target setting, monitoring and reporting arrangements, partnership engagement and community engagement.

The Climate Change Bill targets legislated by the Scottish Government are;

(a) 2020 is at least 56% lower than the 1990 baseline,

(b) 2030 is at least 75% lower than the 1990 baseline, and

(c) 2040 is at least 90% lower than the 1990 baseline.

(d) 2045 is net zero

The Council will have to respond effectively to these.

A further significant milestone should be around March / April 2020. This is the date when the Scottish Government has committed to update their Climate Change Plan, setting out the pathway to decarbonisation for Scotland as a whole.

Influencing the content of that updated plan, as well as reacting to it will be very important.

March / April 2022 is also the recommended target for the completing of initial development of sectoral plans and further reporting to Council.

7.3 Programme assurance

Please state what these arrangements are, including any provision for gateway reviews on an ongoing basis for strategic fit (Gate 0).

Programme assurance will be managed to Prince Project Management standards and in line with the Better Business Case planning guidance.

Appendix A – Carbon Management Plan - Energy / Emissions Report

1. Introduction

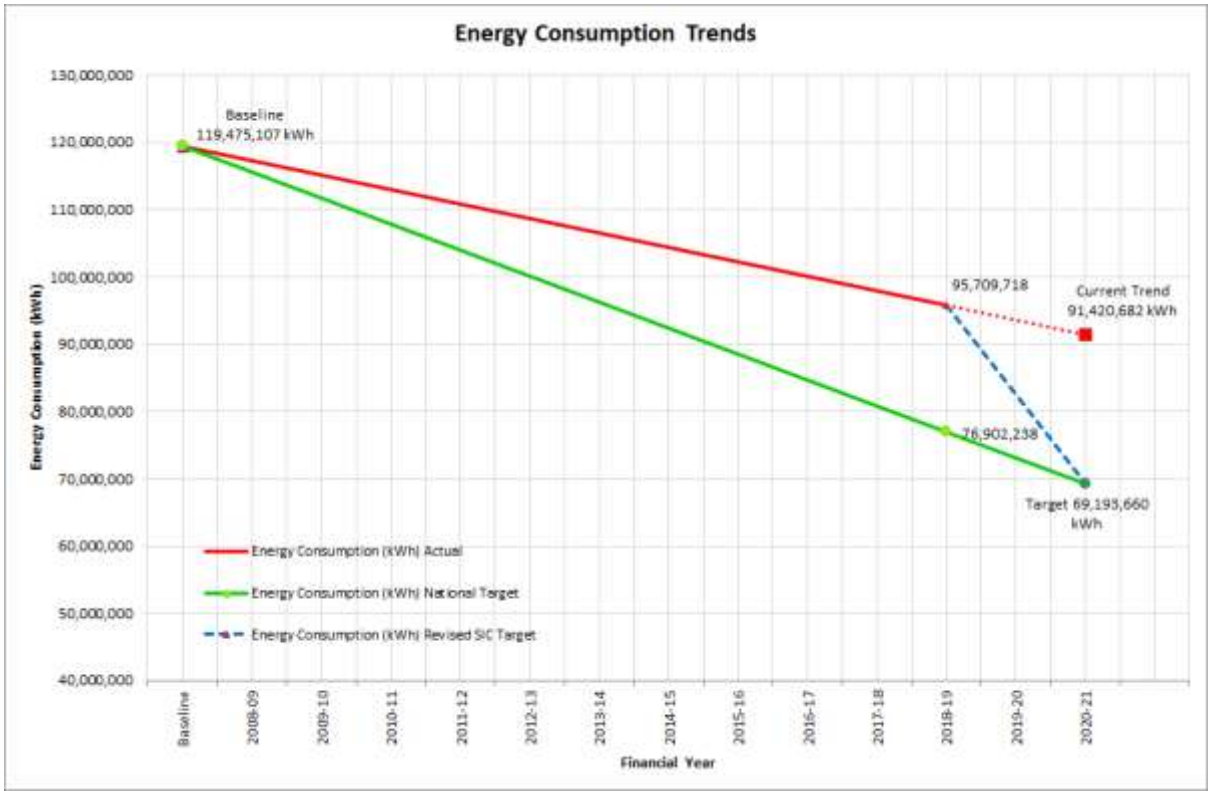
This report provides an update on the Council's position in terms of energy and carbon reduction.

The report provides an update of the data presented in the Carbon Management Plan 2015-2020.

2. Trends

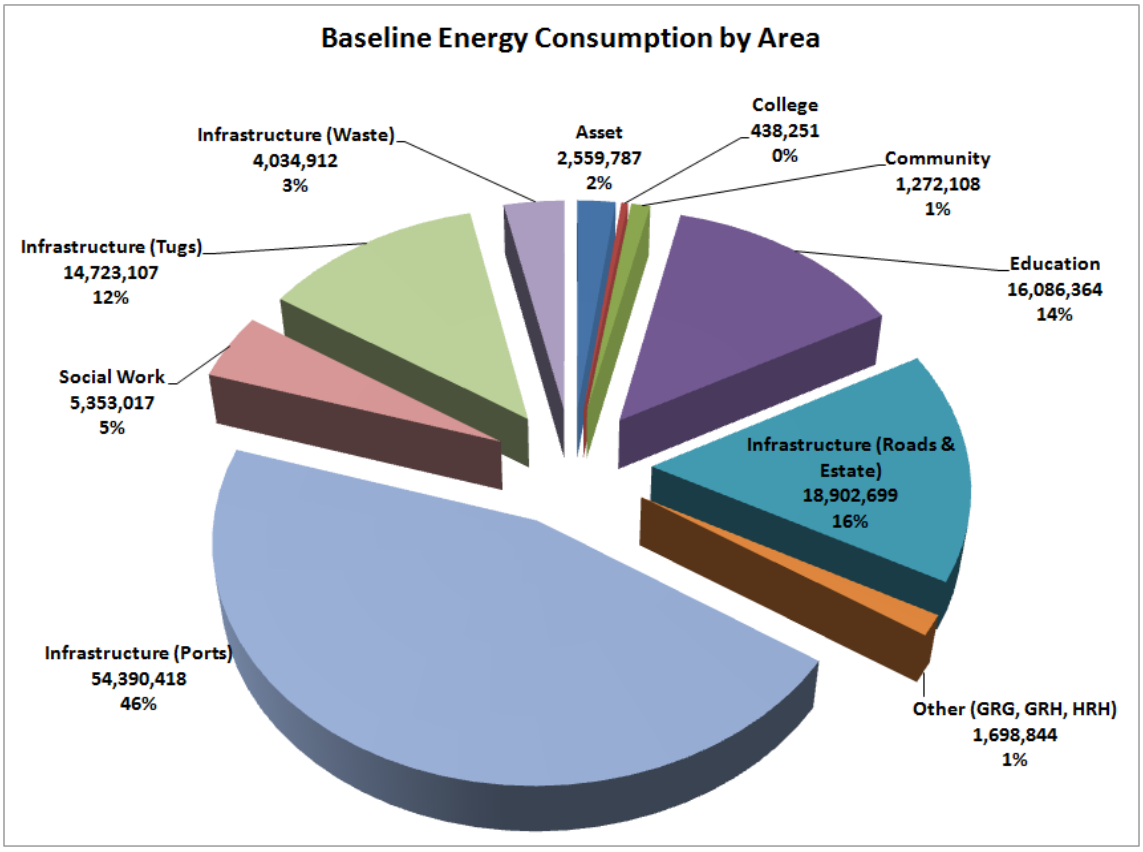
The following graph presents the consumption trend compared with the 42% reduction target (from the baseline) set for 2020/21.

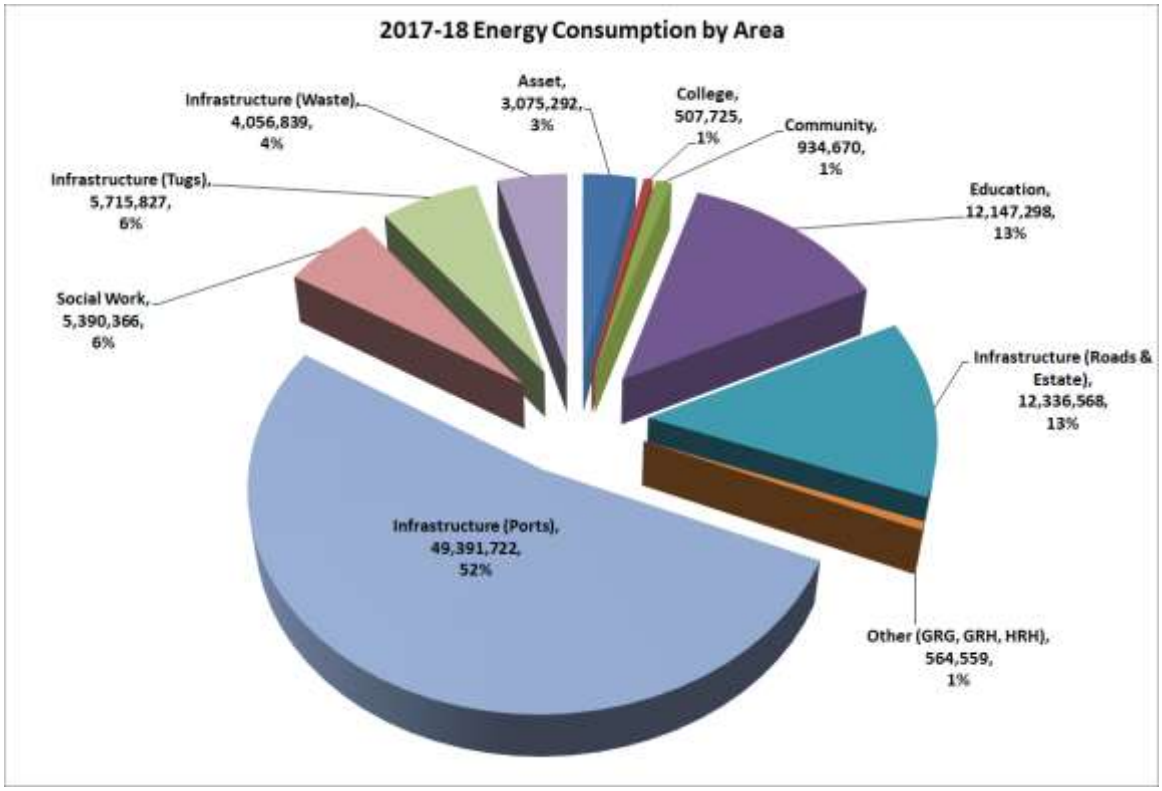
There is still a significant difference between target trend and current trend and the current trend has increased to a 2020/21 consumption of 91,420,682kWh at current projections from the 2017/18 figure of 86,514,594kWh.

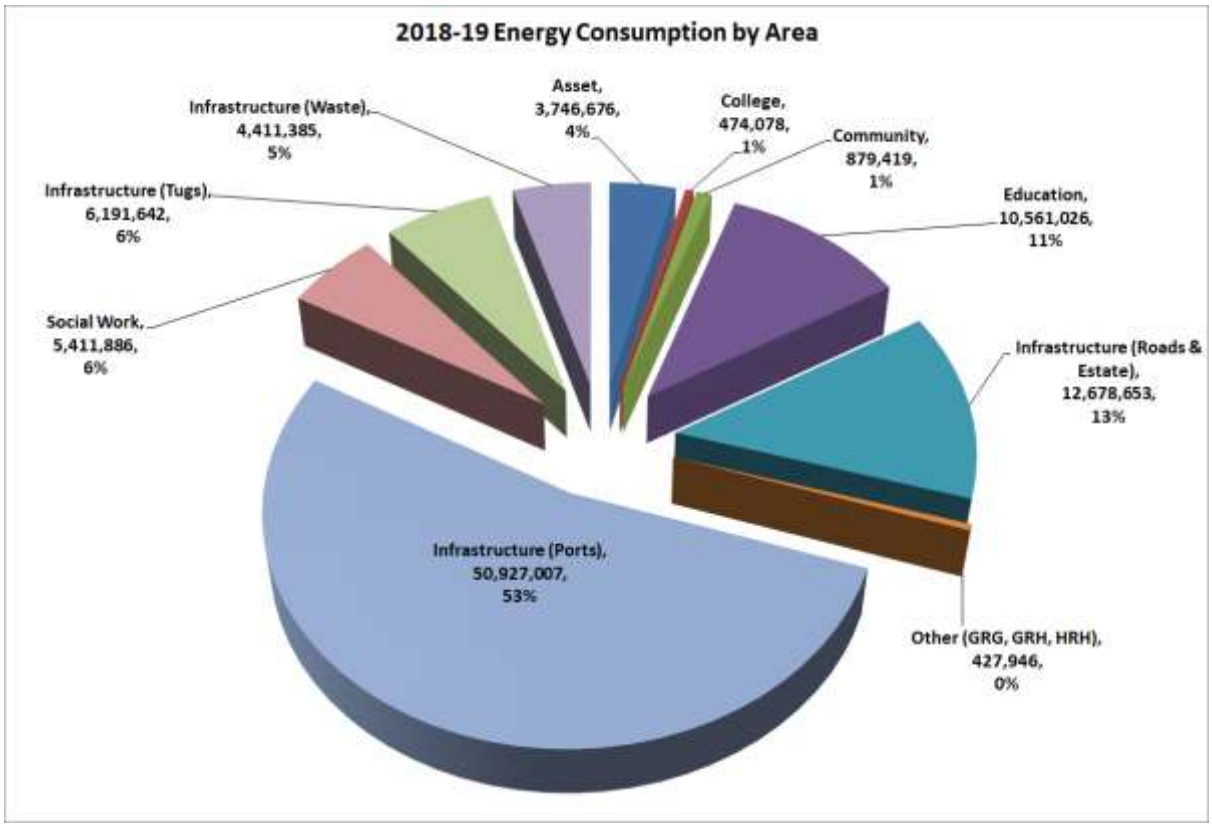


3. Baseline, 2017/18 and 2018/19 Consumption Breakdown

The following graphs provide a comparision of the above three periods.







The following paragraphs outline the main usage in each area:

3.1 **Infrastructure Ports** – this is the largest area of energy use (the majority of which is gas oil use on ferries). Other usage in this area includes piers/ferry terminals and navigation aids as well as the Sellaness site.

3.2 **Social Work** – this is mainly energy consumption in care homes but also includes the Eric Gray Centre, Annsbrae, the Independent Living Centre and the smaller ILP offices.

3.3 **Infrastructure Tugs –** covers both gas oil and electricity use (shore power) for the tugs.

3.4 **Infrastruture Waste** – consists mainly of consumption at the Energy Recovery Plant but includes the Waste Handling Facility and Rova Head.

3.5 **Asset** – this area covers mainly office buildings and also vacant or empty sites.

3.6 **College** – this is purely consumption at the Shetland College

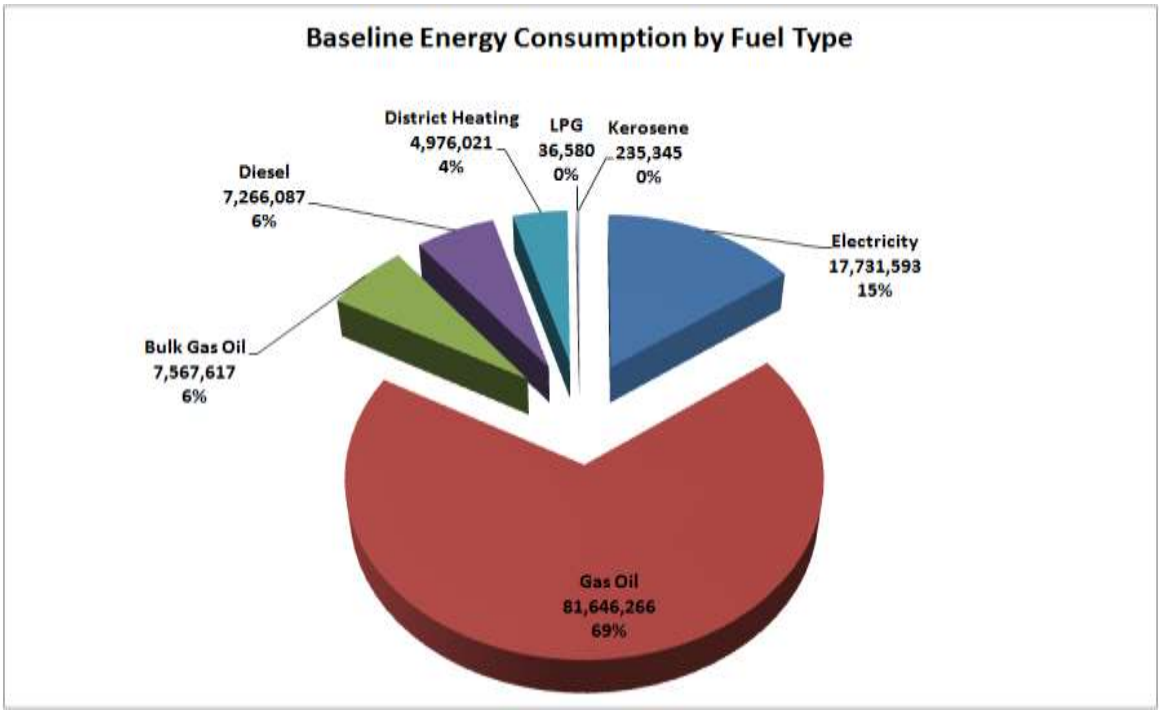
3.7 **Community –** includes the Islesburgh complex, the pavilions and the St Sunniva Street store.

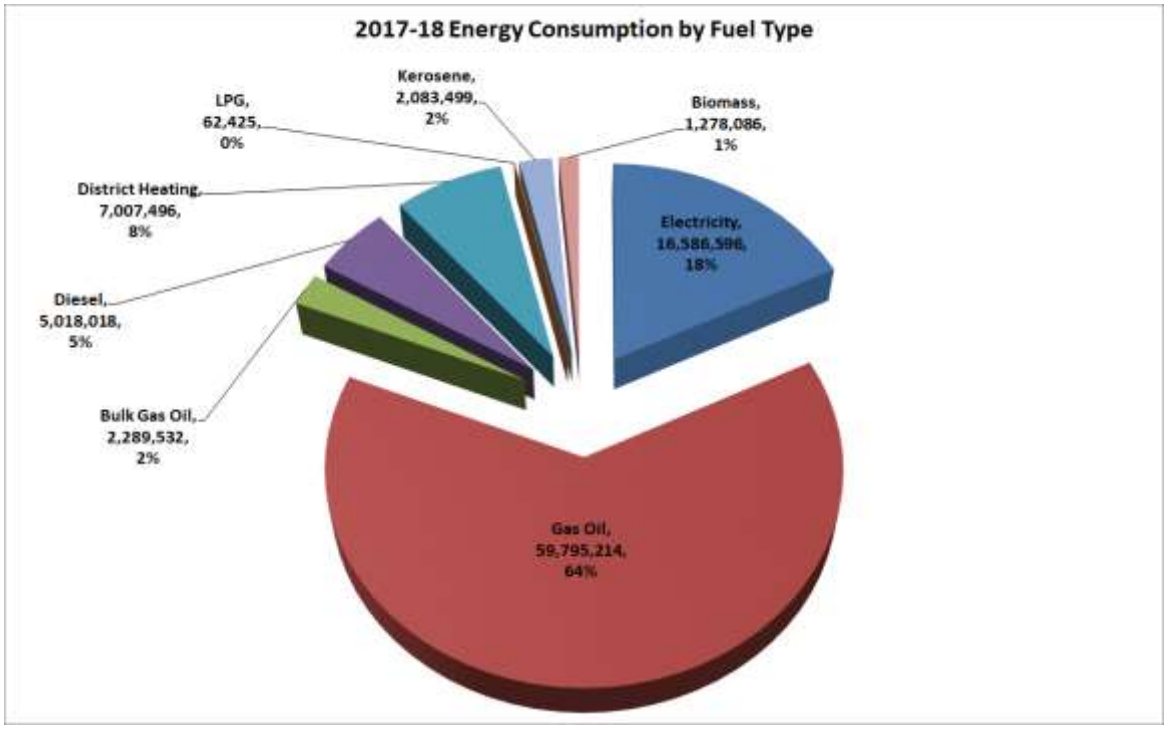
3.8 **Education –** this covers all schools as well as the Library and the Bridges Project.

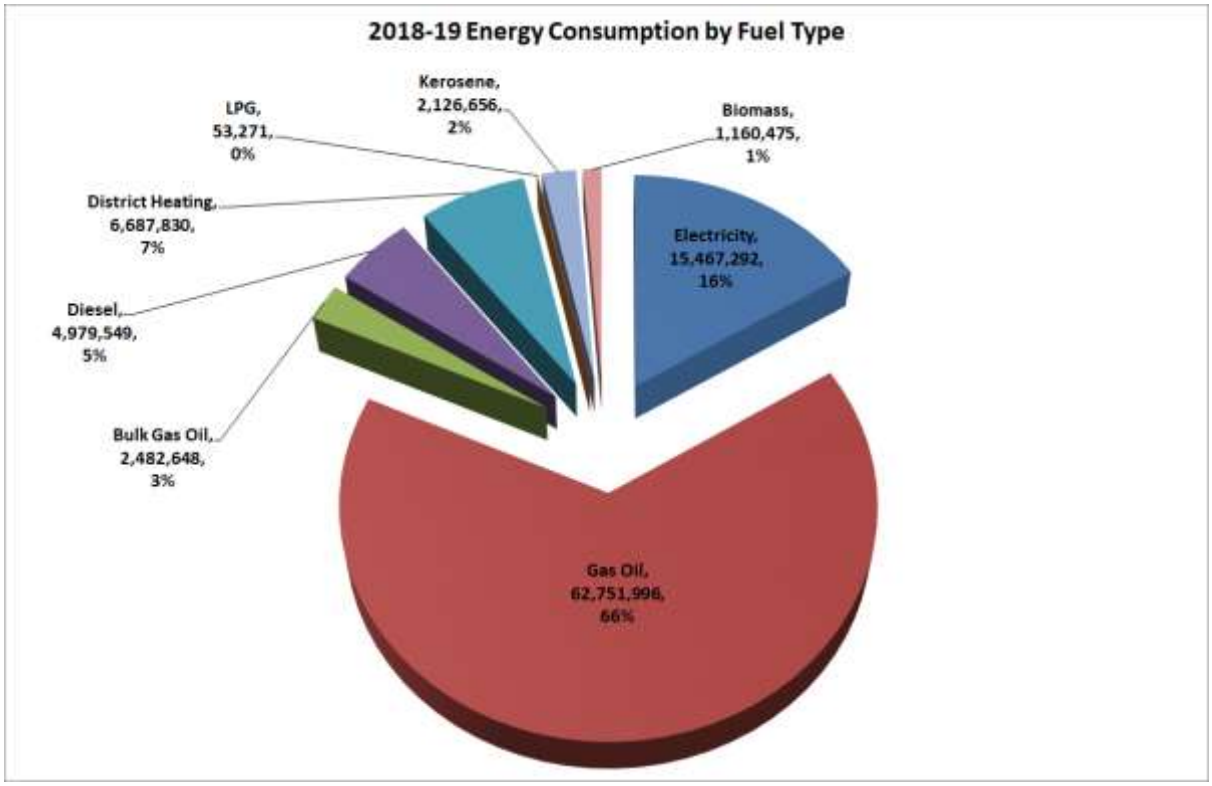
3.9 **Infrastructure (Roads and Estate) –** this covers all bulk gas oil and diesel consumption (although fuel consumption is spread across a number of Services), street lighting, Scord Quarry as well as the various depots and workshops.

3.10 **Other (GRG, GRH, HRH) –** this covers housing facilities, Laburnum and Windybrae and the nursery provision at King Harald Street

4. <u>Baseline, 2017/18 and 2018/19 Fuel Type Breakdown</u>







Reviewing the fuel types in turn:

4.1 Gas Oil

Baseline to 2017/18 - significant reduction through the following:

- Intruduction of the tug shore power facility
- The sale of two of the tugs
- The reduction generally in buildings through efficiency programmes and conversions to alternative fuels
- Conversion of sheltered housing OPD blocks from centralised boiler plant to houses with individual heating systems
- Asset management.

2017/18 to 2018/19 – increase in consumption through the following:

- Ferry oil consumption
- Tug oil consumption
- To a lesser extent oil for heating.

4.2 Bulk Gas Oil

Baseline to 2017/18 - significant reduction through the following:

- The conversion of Scord boiler plant to kerosene
- General reduction in bulk oil use across the depots

2017/18 to 2018/19 – increase in consumption through the following:

- Scord, Mid Yell and Sellaness depots increase

4.3 Kerosene

Baseline to 2017/18 – increase in consumption through the following:

- The conversion of Scord boiler plant to kerosene
- Spot increases due to more productive years e.g. the high output period experienced in 2015/16 as a result of the construction work at Total.

2017/18 to 2018/19 – increase in consumption through the following:

- Increase in use at Scord Quarry
- Increased space heating use. Snagging issues with new boiler plant systems which have since been resolved

4.4 Diesel

Baseline to 2017/18 - use has steadily reduced over the period through the following:

- Reduced mileage and efficiency programmes
- The tracking system has led to further efficiency savings; and,
- The 6 new electric vehicles in use (1 vans and 5 cars) now in use.

2017/18 to 2018/19 – small decrease again through the continued impact of the above measures.

4.5 LPG

Baseline to 2017/18 - use has increased due to the gas boilers installed as part of refurbishment of the Shetland College catering facility.

2017/18 to 2018/19 – decrease in consumption through the following:

- Reduced use at the College

4.6 Biomass

Baseline to 2017/18 - increased use through:

- The operation of the Mid Yell scheme (supplying the school and leisure centre)
- The replacement of oil boilers at Sellaness; and
- The operation of the Scalloway scheme (supplying the school and leisure centre)

2017/18 to 2018/19 – increased use through:

- Slight decrease possibly due to milder weather.

4.7 District Heating

Baseline to 2017/18 - increased use through:

- Decentralisation of the AHS (displacing remaining oil consumption)
- Additional sites e.g. Support Services at Montfield
- Displacement of oil consumption with district heating e.g. Islesburgh House and the Old Library Centre

2017/18 to 2018/19 – decrease through the following:

- Currently both AHS sites are in use but old site to a lesser extent. The eventual demolition of part of the old site will see a significant drop in district heating consumption generally
- Increase at Bells Brae through displacement of storage heating in the ASN although this increase been relatively low through general improved efficiency of refurbished plant room
- Decreased space heating use due to warmer weather, see 4.7.

4.8 Electricity

Baseline to 2017/18 – reduction in consumption through the following:

- The reduction generally in buildings through efficiency programmes (lighting, heating etc)
- ICT server virtualisation project
- Renewable projects including small scale wind turbines and solar PV
- Asset management

- Street lighting upgrades to LED, the impact of this measure will increase through the ongoing street lighting upgrade

The rate of reduction has been impacted upon through:

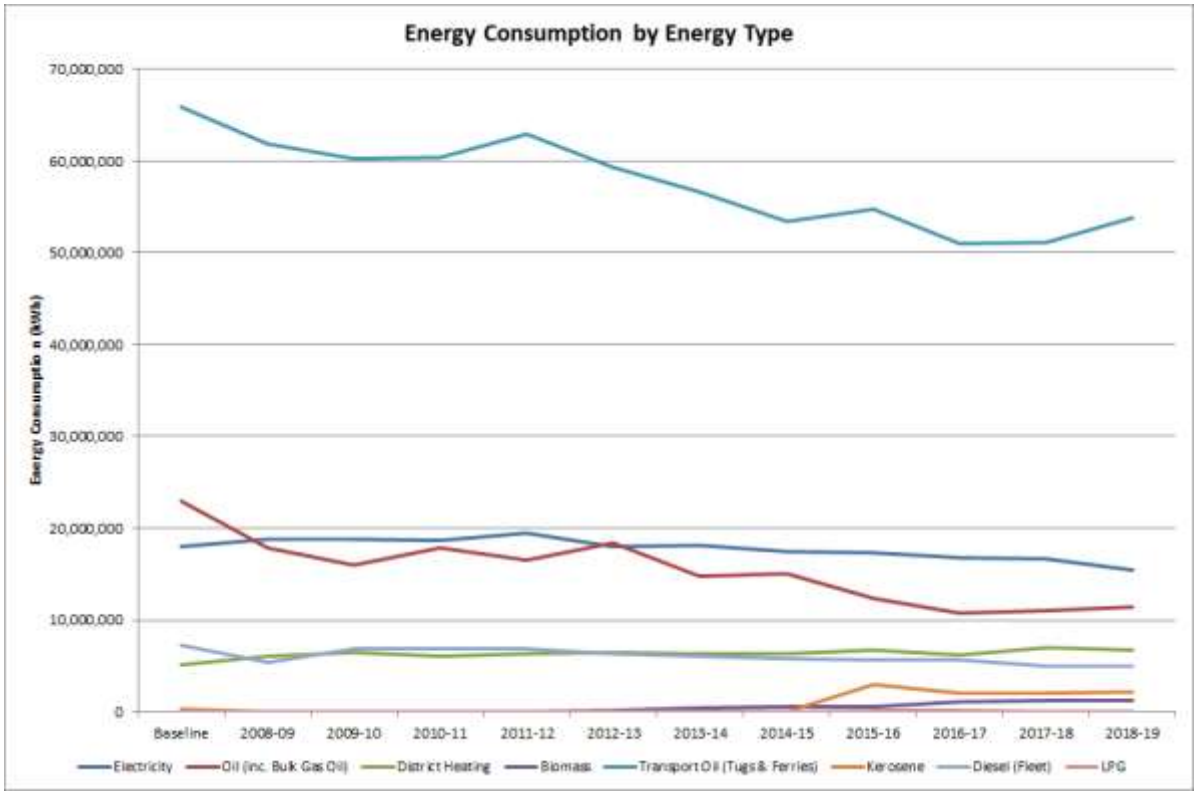
- The introduction of the shore power facility for the tugs (although this same facitlity achieved far higher reductions in oil use and this consumption has reduced significantly in this financial year)
- External usage e.g. shore power at Scalloway and also the old Rova Head site
- The extension at the College
- Other additional buildings e.g. Support Services at Montfield

2017/18 to 2018/19 – There has been a decrease in electricity consumption again through the following:

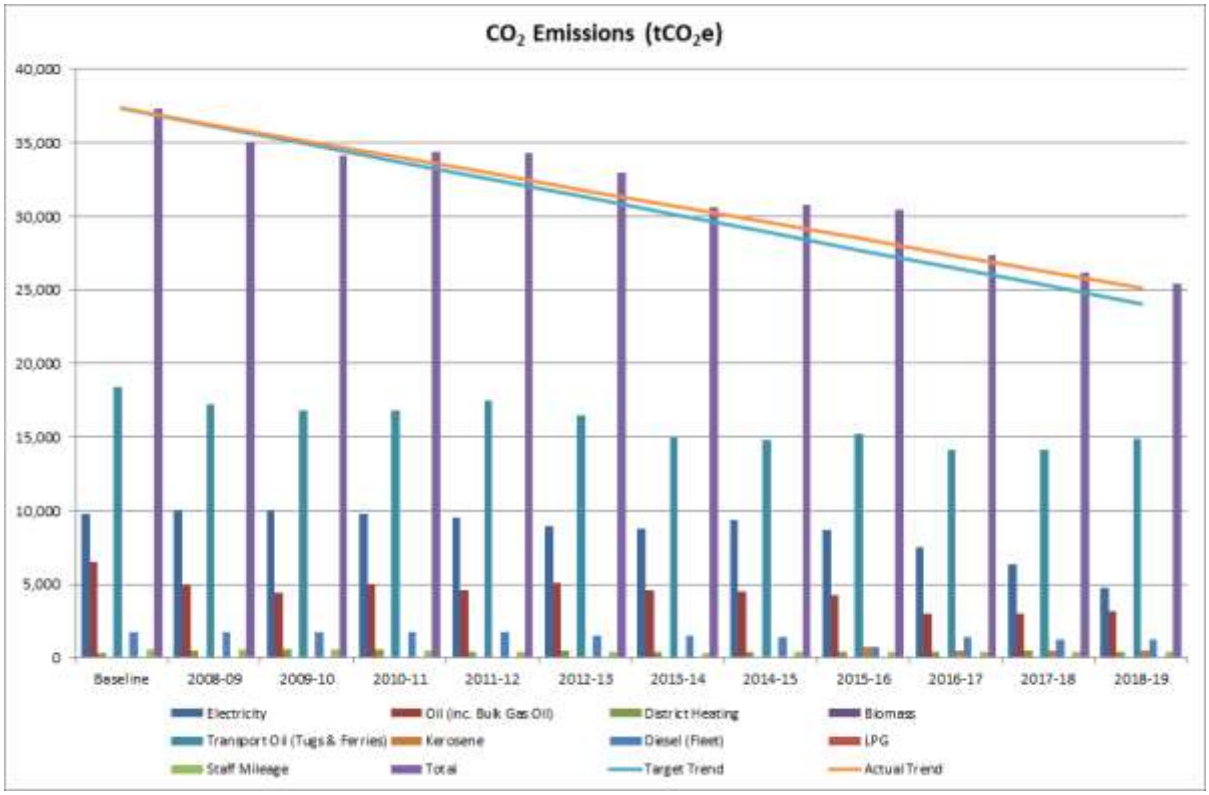
- The reduction generally in buildings through efficiency programmes (lighting, heating etc)
- Conversions to alternative fuels e.g. removal of Bells Brae storage heating
- Renewable projects including small scale wind turbines and solar PV
- Asset management although this has been impacted on by the continued use of the old AHS site

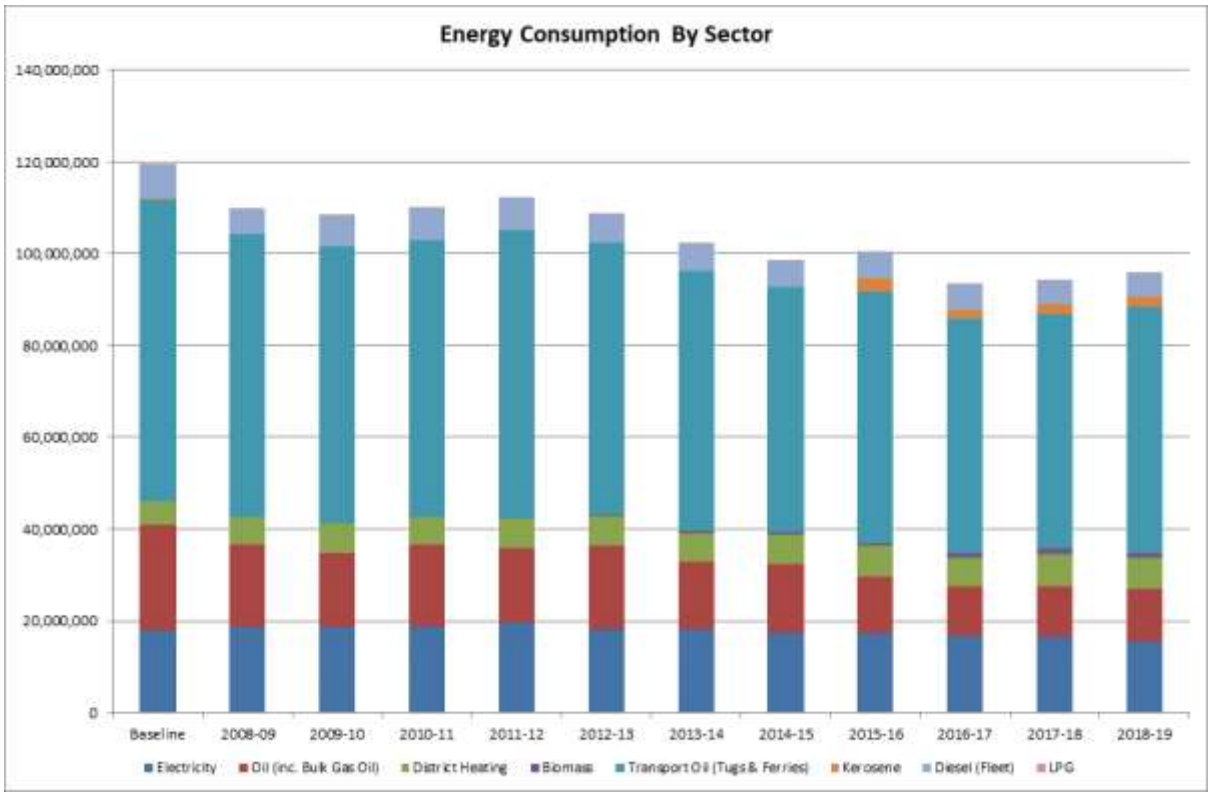
4.9 Temperature Data

From 2017/18 to 2018/19 any reductions in space heating use can be partly attributed to the warmer year in 2018/19 (measured in degree days).



5 Emissions Breakdown by Year





There has been a significant reduction in the UK average emissions factor for electricity which is the reason that although consumption has risen slightly emissions from electricity consumption has dropped impacting significantly on emissions overall.

Refering to the consumption trends graph in section 2 please note that for **emissions** the reduction from the baseline to the 2018/19 is closer to 32% compared with an **energy** consumption reduction of approximately 20% and this difference is due to the emissions factor noted above, cleaner fuels generally (relative to previous years) and the use of alternative fuels.

PROJECT DOCUMENTATION

Appendix 2

PROGRAMME INITIATION DOCUMENT (PID)

Climate Change – Developing Shetland's Response

Date: 13 January 2020

PRINCE2

Author: John Smith

Owner: Shetland Islands Council

Document Ref:
Version No: V0.1

1 Programme Initiation Document History

1.2 Revision History

Date of this revision: 13 January 2020
Date of next revision:

Revision date	Previous revision date	Summary of Changes	Changes marked
25 November 2019		First issue	
13 January 2020		SIC 22nd January	

1.3 Approvals

This document requires the following approvals.
Signed approval forms should be filed appropriately in the project filing system.

Name	Signature	Title	Date of Issue	Version

1.4 Distribution

This document has been distributed to:

Name	Title	Date of Issue	Version

2 Programme Definition

Background

The Climate Change Programme is intended to provide an overview of the strategy, governance arrangements, target development and action planning required to address the internationally

recognised issues and responses required to adapt to, and mitigate, climate change in Shetland and contribute to an effective Scotland, UK and international response.

It will help inform the identification of issues and options and assist in evidence based planning and decision making so that environmental, economic and social needs are recognised, balanced and met efficiently, effectively and economically to support key outcomes for Shetland and its residents.

Project Objectives

- To drive actions which support our response to Climate Change as Shetland Islands Council.
- To enable and facilitate Climate Change actions within individual organisations, businesses and community groups in Shetland.
- To inform the ongoing development of policy and planning in relation to Climate Change, across the Partnership in Shetland, and within Shetland Islands Council.

Desired Outcomes

1. A responsive and structured planning framework for adaption to, and mitigation of, Climate Change in Shetland across all sectors, principally:
    - Energy supply
    - Transport (including aviation and shipping)
    - Business and industrial process
    - Residential and public buildings
    - Waste Management
    - Land use, land use change and forestry
    - Agriculture
2. A wide understanding and awareness, inside organisations and across the whole of Shetland, about the issues and opportunities which Climate Change presents.
3. A framework of collaboration, support and communication which enables:
    - sustainable solutions to Climate Change to be developed, implemented and shared across Shetland;
    - agreed Climate Change targets to be met.
4. For Shetland Islands Council, appropriate and robust support processes in place across:
    - administrative schemes
    - financial regulations
    - procurement and commissioning regulations
    - asset investment strategies
    - service planning

- HR policies
- ICT policies

Project Scope and Exclusions

This programme has two associated but overlapping scopes:

- adaptations and mitigations of greenhouse gas emissions from Shetland Islands Council's estate and operations, and activities;
- adaptations and mitigations for the whole of Shetland, our Local Authority area and Regional Transport Partnership area.

At this stage it is not fully established what precise duties or obligations in terms of planning, target setting or delivery will be the formal duty of the Council. These are the subject of the current consultation on "The role of Public Sector Bodies in Tackling Climate Change".

However it is likely to be quite "direct" in respect of the first scope and we will be expected to at least "lead and influence" with respect to the second.

It is also inevitable that achievement in the narrow scope will be heavily determined by progress on the wider front, therefore the overall programme will be being designed to address both.

Constraints and Assumptions

Competing priorities, available technology, financial and human resources, commercial developments, legal obligations and limitations are all likely to be significant constraints across this Programme.

Understanding the relationships between potential adaption and mitigation actions and the constraints and dependencies which will affect them will be a very important part of the development of sectoral plans.

It will be crucial to understand how the sequence of activity can be best progressed in light of some very fundamental constraints around alternative energy sources and very material dependencies around the development of alternatives such as an interconnector or a substantive hydrogen infrastructure.

The information which emerges from these sectoral plans will then allow a better identification of the critical paths that will have to be followed to reach solutions that work for Climate Change, and work for and in Shetland. Perhaps the most critical component of this overarching programme will be the identification and management of these dependencies and constraints.

At this time the most significant constraint and dependency is how and when an alternative electricity grid supply solution is going to be implemented.

Resolution of the uncertainty around that would then allow a wide range of other activity to plan with some confidence and address the wide range of very important but dependent matters.

3 Project Approach

The project will be guided by HM Treasury's Green Book and the Prince2 method to achieve best practice in its outcomes.

The Climate Change Strategic Outline Programme recommends that the Chief Executive, supported by the Corporate Management team should function as the Council's "Climate Change Programme Board". This Programme Board should liaise regularly with Council Leader supported by Committee Chairs and the Policy and Resources Committee to provide programme governance and report plans and progress regularly to Council.

The Programme Management function and Programme Board composistion will take account of duties and governance requirements of partner organisations where necessary and ensure these are accommodated in the overall governance approach.

Prince2 methodology will be adopted in the management of individual projects.

4 Business Case

The Council is the Local Authority for Shetland and has a duty as a public body to reduce greenhouse gas emissions and support Scotland's adaptation to a changing climate. Scottish Ministers, in turn, are legally required to provide guidance to Public Sector Bodies to help them with this.

Public Sector Bodies, including the Council, are also legally required to report annually on their greenhouse gas emissions and what they are doing to help adapt to a changing climate.

The Scottish Ministers must ensure that the net Scottish emissions account for the year—

(a) 2020 is at least 56% lower than the 1990 baseline,

(b) 2030 is at least 75% lower than the baseline, and

(c) 2040 is at least 90% lower than the baseline.

(d) 2045 is net zero

It is understood that all sectors, as listed above, are expected to meet these targets. The 2045 scenario for net-zero has all sectors at zero, or virtually zero, emissions except for agriculture, some parts of industry, and international aviation.

It is accepted by the Scottish Government that a lot of what individual Public Sector Bodies will be able to achieve in terms of reducing their emissions will be dependent on what progress is made in the rest of society.

Within six months of the Climate Change (Emissions Reduction Targets) (Scotland) Bill receiving Royal Assent the Government will update the Climate Change Plan, setting out the pathway to decarbonisation for Scotland as a whole.

We also expect that further clarity will emerge on a similar time frame about other obligations and duties in particular sectors, such as road vehicles, shipping and aviation, which inform around other targets or regulations.

Following the update to the Climate Change Plan, the Scottish Government proposes that in their future annual reports, all Public Sector Bodies will report the date by which they intend to achieve zero direct emissions – those are the emissions that the bodies are directly responsible for.

Local Authorities may not be required to “ensure” that targets for their overall geographical area are met, but it is anticipated they will be expected to lead the process of setting these targets, influence their delivery and play a significant role in annually reporting progress.

5 Programme Management Team Structure and Roles

	Role	**Appointee**
Board	Chair, SRO/Executive	Maggie Sandison, Chief Executive
	Programme Assurance	John Smith, Director of Infrastructure Services
	Board Members	Corporate Management Team
Team	Programme Manager – Climate Change	Audrey Edwards, Executive Manager, Change Programme
	Programme Manager – Shetland Energy Hub and Community Energy Networks	Douglas Irvine, Executive Advisor, Energy Networks
	Products Advice	Colin Bragg, Team Leader, Waste Management
	Products Advice	Mary Lisk, Team Leader, Energy Efficiency and Carbon Management
	Products Advice	Jim Macleod, Assets, Commissioning and Procurement
	Other Team Members	TBA

7 Quality Management Strategy

The Chief Executive and Director of Infrastructure, in consultation with all Corporate Assurers, have responsibility for the quality of the work undertaken in the programme.

The quality assurance of workstreams and products will be subject to the developing legislative framework, targets and tools produced by the Scottish and UK Governments.

Products will follow the principles of HM Treasury’s Green Book and the Prince2 project method. Reports and other documents prepared for the Council and Shetland Partnership will be subject Board approval, and existing quality assurance processes.

8 Configuration Management Strategy

All programme documents will be recorded electronically, A Sharepoint area will be created for the Programme.

The Programme Board must authorise any fundamental changes to the Programme Initiation Document. Other minor changes will be documented in the Programme Board Minutes.

The in-house Project Team members will be responsible for the Issues and Activity Logs and maintaining the Risk Register.

9. Risk Management Strategy

It also important to identify the key risks that might stop this programme from achieving its objectives. These are likely to include risks associated with uncertain technical factors, the scale of resources which will have to be applied or redirected, legislative, regulatory and fiscal obstacles in developing locally appropriate solutions, the complexity and interdependency of actions, and political disagreements on the right way forward.

General Risks	**Description**	**Mitigating Actions**
Operational and Performance	Increase in the cost of providing services and reduction in the volumes of service provided	Early planning for introduction of Climate Change measures across all services
Technology	Implementing sub-optimal technical solutions that are overtaken by transformational changes	Understanding the work being done in climate change technology and making a commitment to be an early adopter of proven technology
Funding	Constrained funding leads to delay/ reduction in scope of Climate Change measures	A planned programme of professionally scoped measures combined with full knowledge of external funding to augment Council budgets
Legal and Fiscal	Law changes mean that certain sources of energy become illegal or are subject to high taxation eg. diesel	Need to be sighted on the legal and fiscal developments combined with an early understanding of what changes are likely
Policy	Government policy targets for reducing carbon emissions towards zero are accelerated in response to heightened public opinion	Adoption of a full-scale approach for bringing in practical Climate Change measures as soon as resources permit
Specific Risks		

Ignorance	Lack of knowledge on the Council's use of energy, how energy efficient operations are, funding opportunities and global best practice in Climate Change measures	Coordinate staff and resources to provide the best up to date information possible so that project planning can be done based on a sound basis
Geographical	Dependence on mains electricity from diesel generated source with only localised project based alternatives available	Make representation to UK and Scottish Governments, Ofgem, SSE etc to stress that Shetland cannot meet Climate Change targets without a base renewable energy supply. We should also plan to be as energy self-sufficient as practicable.
Political	Shetland is at the end of the line as governments roll out Climate Change solutions from the main population centres	Making representation to Governments combined with identifying all the practical Climate Change measures that can be achieved internally
Population Loss	Shetland becomes a less attractive place to live and work as energy costs rise faster than in the rest of the UK. Demand for Council services fall and staff are more difficult to recruit	As above
Complacency	Not responding adequately and early to the challenges posed by Climate Change leads to severe future pressure to introduce rapid measures with very high costs	The Council needs to understand the scale of the task ahead and to plan measures early and well to avoid future operational and financial difficulties
Fuel Poverty	Increased energy costs causes fuel poverty levels to rise with a greater demand on support services	Impacts on the less well-off members of the community need to be built into all Climate Change measures
Public Opinion	A perceived inadequate Council response to the Climate Change issue results in negative public publicity and undermines the Council's role as a Community leader on the subject	Adopting the Climate Change Strategic Outline Programme and progressing with early achievable outcomes
Option Confusion	Finding the more practical solutions is made difficult by many different external and in-house approaches pushing particular interest focused options. Thus leading to delayed	The Council has to be guided by established methods for option appraisal based on sound baseline information on energy use, emissions and Climate Change measures

	decision taking.	

A detailed risk register will be prepared for each project arising from this programme, and this will be subject to scrutiny and revision by the overall Programme Board.

10 Communication Management Strategy

A detailed Communications Strategy will be written for the Programme, and assured by the Programme Board. This task is included in the Programme Plan.

This Programme reaches all parts of our community. Key stakeholders are:

- all people who live in Shetland, including any specific interest groups (eg Eco Youth)
- Shetland Islands Council members
- Shetland Islands Council staff
- Other partners who provide services to the Council
- Shetland Islands Council elected members
- All Shetland Community Planning Partners
- The Scottish Government, and all Scottish Government agencies which support carbon reduction and Climate Change
- The UK Government
- SSE
- OFGEM

11 Outline Programme Plan

Actions for Shetland Islands Council as Service Provider (our Estate & Services)

No.	Heading	What needs to be done	Who by	By when
1	Policy and Service Planning	Review all headline strategies, policies, Shetland Development Plan, service plans, capital programme and other projects to integrate systematic alignment with Climate Change measures	Led by CMT and P&R Committee	ASAP to start, backstop of March 2021 for revisit to all key strategies.
2	Carbon Management Plan	Revise and update the Council's Carbon Management Plan 2015-2020 to extend to 2030 including definition of Shetland reduction targets.	Carbon Management Team	31 December 2020

3	Existing Carbon Management and Reduction measures	Intensify actions in existing carbon measures such as the carbon reduction strategy for the Council's built estate and vehicles and waste minimisation and recycling	Director of Infrastructure Services	With immediate effect
4	Priority - Service Action Areas	Progress carbon reduction plans for Service areas where significant future carbon reduction could be achieved eg Ferries, Port of Sullom Voe, and Buses	Service Project managers / Service Managers in consultation with CC Project Manager	ASAP to start
5	Electricity from renewable mains supply	Work with SSE, OFGEM, UK and Scottish Governments to secure the renewable energy sourced mains electricity necessary to replace the diesel fuelled Lerwick and gas and diesel fuelled SVT power stations	Chief Executive, Directors of Development & Infrastructure	By end 2020 for planning, by 2025 for implementation
6	Understanding advances in technology to reduce carbon and identify best practice	Fully co-ordinate renewable energy and carbon reduction information gathering and dissemination, using dedicated staff	CC Project Manager in consultation with project team	31 March 2020
7	Make full use of external funding	Engage dedicated staff to identify all sources of external support and funding for carbon reduction projects and ensure systematic communication of these to all service areas	CC Project Manager with support from Finance & Project Team	Ongoing and built into all plans
8	Measuring Progress Systematically	The Council's Carbon Management Plan will include progress on all Council Climate Change Actions	Director of Infrastructure Services	With Immediate Effect
9	Peatland Restoration	Work with agricultural tenants and SNH and other partners to identify areas of damaged peatland on the Council's agricultural estates suitable for restoration projects (may include some woodland development), including the identification of funding opportunities and cost / benefit analysis.	CC Project Manager supported by Development Services & Assets, Commissioning and Procurement	31 March 2020 for initiation

10	Emerging Ideas	Set up a cross-service in-house group to review and evaluate best practice from other places and emerging ideas that have been submitted from staff and the public with a view towards application in the Council's operations.	CMT	Established by 31 March 2020
11	Energy Efficiency Service Projects	Identify the most likely projects for advancing based on proven technology, funding availability and carbon reduction potential.	CMT	30 September 2020
12	Industry / Sectoral Projects	Engagement with business (perhaps key sectors) to identify proposals to provide or access renewable energy and/or reduce carbon emissions.	Development Services (Planning and Economic Development)	Initiated by March 2020 then as these projects emerge

Actions for Shetland Islands Council as Community Leader, Facilitator and Enabler

No.	Heading	What needs to be done	Who by	By When
1	Political	Work with Government and Government Agencies to ensure that climate change transition measures recognise Shetlands circumstances, are applied equitably and do not leave Shetland as a stranded community. May include the preparation of a "Just Transition Plan" for Shetland.	Council Leader and Council leadership group, CMT and officer support.	Initiated by 31st March 2020, "Just Transition Plan" drafted by end of 2020.
2	Community Planning	Work with Community Planning partners to align the Shetland Partnership Plan and The Shetland Partnership Delivery Plan with national and local net zero carbon emission policy and actions.	Community Development working with all Community Planning Partners	31 December 2020
3	Shetland Renewable Energy Forum (SREF)	Act with the renewable industry in Shetland to reform SREF to help guide future renewable energy policies, communication and developments .	Development Services, Infrastructure Services	31 March 2020

4	Shetland Energy Source Analysis	Commission an updated study of all energy sources in Shetland's & CO2 impacts to provide baseline information for developing carbon reduction measures	Development Services	Commission by 30 November 2019, complete by 31 June 2020.
5	Energy Efficiency Grants – domestic and commercial	Seek continuing external funding to help promote and install energy efficiency measures in Shetland households and businesses.	Carbon Management Team	Ongoing as funding opportunities arise
6	Community Projects	Support 10 energy efficiency and renewable energy projects in the community every year – Align projects with emerging "Community Energy Networks".	Carbon Management Team, Development Services	Per year
7	Larger Scale Opportunities	Engagement with potential larger scale development projects at an early stage including "Shetland Energy Hub", Shetland Electricity Grid Strengthening, Infrastructure for distribution of new energy sources, e.g. hydrogen or LNG, dissemination of lessons learned from Council actions to industry, e.g. boats and heavy plant.	Directors of Development and Infrastructure Services	In progress
8	Communications Strategy	Prepare and keep update a relevant Communications Strategy for the Programme	Project Manager	As required

12 Project Controls

A Programme Board will be established for Climate Change. In addition, regular updates/feedback reports will be provided to Shetland Planning Partnership Management and Leadership Team and Shetland Islands Council.

The estimated Council contribution to the cost of the project is £250,000 over three years broken down as follows:

Recruited staff - two project officer / graduate placement / project support appointments for focused research and project support as a substantive contribution to a multi-agency, public sector / private sector / academic research team collaboration – This will be funded through applications to the Change Fund, estimated at approximately £108,000, each, over three years, resourced through the Harbour Account.

In-house seconded staff – consideration will be given to the appointment of a full-time project manager with appropriate skills and experience to manage the project internally, engage at a strategic level with key partners, interface with aligned internal project teams, facilitate the generation of external funding and monitor and report on progress towards objectives, plans for future actions, risk management and the identification and resolution of issues. This will be investigated with CMT supported by HR with costs to be ascertained depending on the details of secondment arrangements.

Other costs to support information gathering, networking and partner engagement, any specialist technical advice and any additional recharges will be resourced through appropriate Infrastructure Services budgets or through applications by individual project areas for Spend to Save or Change Fund.

The core objectives and outcomes from this project are aligned with the Council's General Fund and its requirement to support the sustainable delivery of services to the public of Shetland. The financial implications of this project will therefore be managed within those arrangements.

It is also anticipated that the Programme will attract significant partnership contributions from agency, commercial and academic partners. This would be intended to leverage substantial additional activity focused on energy transition and energy integration in Shetland to meet our economic and social objectives.

At this stage it is uncertain what level these additional contributions will achieve, however an initial target would be for at least a double in external funding to that contributed by the Council.

Shetland Climate Action
15 Quoys Road
Lerwick
ZE1 0WH

Lerwick Town Hall
Hillhead
Lerwick
ZE1 0HB

3 October 2019

Dear Chief Executive Maggie Sandison,

Please find enclosed our petition calling on Shetland Islands Council to declare a climate emergency. The petition has been signed by 276 people and we trust this demonstrates that the climate crisis is of crucial and urgent importance to islanders.

Last month, Holyrood committed to reducing carbon emissions by 75% by 2030, and to net zero by 2045. Do you feel Shetland is doing enough to achieve this? Declaring a climate emergency would leave the people in Shetland with no doubt as to the SIC and councillors' commitment to meet these targets. In doing so, the council can enable residents - individuals, businesses, organisations - to effectively play their part and do the same.

Over 200 members of the community gathered at the Market Cross on Friday 20 September, joining 4 million others across the globe in demanding action on the climate crisis. We invited participants to share their reasons for joining the event and we have enclosed a selection with this letter.

We trust the petition will soon be debated by the council. In the meantime, we would welcome the opportunity to speak with you individually, or as a group, to express our concerns and hopes. Please do let us know if this is of interest.

Yours sincerely,

Shetland Climate Action
shetlandclimateaction@outlook.com

cc: All Elected SIC Members

The Petition

The climate is changing and we're already seeing the impacts of rising temperatures on the natural world. Scientists say we have only got a few years to turn this global climate crisis around. We need to **ACT NOW.**

We want Shetland Islands Council (SIC) to **Declare a Climate Emergency**. By Declaring a Climate Emergency, SIC can give us the effective leadership that we need to play our part in stabilising our climate. To date, 228 UK councils have declared a climate emergency and it's time for SIC to step up to the mark leaving no doubt of their focus on and commitment to rising to this challenge.

In February 2016, global temperatures spiked to well over **1.35°C above pre-industrial times**, just weeks after, the Paris Climate Agreement set an aim of not exceeding 1.5°C. Climate scientists say that we are facing a climate emergency, and that the future of ecosystems and human civilisation hangs in the balance.

We all need to take responsibility for the climate crisis and our individual choices do matter. However, part of our individual carbon footprint is influenced by higher decisions. Councils, corporations and governments must Declare a Climate Emergency and start to take responsibility and action. The changes are too vast for individuals to make alone - we must all work together. Declaring a Climate Emergency is a vital step in building support for the very large changes required to restore a safe climate.

We recognise the carbon reductions that the Council has made in recent years through its Carbon Management Plan. However, much more needs to be done, very quickly, and we cannot expect a sufficiently ambitious plan to be adopted by all levels of the council until this is acknowledged as an emergency.

We're calling on our elected representatives at SIC to Declare a Climate Emergency with the following outcomes -

- To **recognise** that we are in a state of climate emergency, and that we need to restore a safe climate to avoid further climate degradation.
- To **develop** a Climate Emergency Action Plan.
- To set up a **working group** to report within a short timescale on immediate and longer term actions as part of a Climate Emergency Action Plan.
- To set local emission reduction **targets** to achieve zero net emissions / carbon neutral by 2030. Projects should increasingly prioritise the greatest emission reduction rather than relying on offsetting.

- To **integrate** climate mitigation across all departments and into local plans, including a mandatory section in reports on how activities may affect carbon targets.

- To **engage with the public** about the state of the emergency and inspire collaborative community action projects, such as community waste and food projects.

change.org

Shetland Climate Action

Recipient: Shetland Islands Council

Letter: Greetings,

I want Shetland Islands Council to declare a climate emergency

Appendix4

Shetland Islands Council

Key Carbon Reduction Actions

January 2020

Shetland Island Council – Proposed Approach

Described in more detail in the “Climate Change – Strategic Programme” reporting January 2020.

That programme recommends the Council;

- Adopts a “proactive” approach to Climate Change mitigation and adaption in Shetland.
- Proposes a range of immediate actions and priority areas
- Emphasises that is essential to act in partnership with other agencies, business and communities to be successful.

See Climate Change – SOP section 4.2 & draft PID

Key Action – Energy Efficiency & Community Recycling

- Accelerate current energy efficiency, energy conversion, waste reduction and reuse initiatives, within the Council and across the community.
    - Timing - this is a core long term foundation for Council and community behavioural change and needs to be progressed from now, through 20+ years.
    - Actions / Outcomes –
        - Support “Climate Change Conversations” across the community
        - Act to double the pace of domestic energy efficiency upgrades
        - Promote commercial energy efficiency actions, particularly for SME companies.
        - Ensure all Council new builds / refurbs prioritise zero carbon
        - Accelerate roll-out of electric vehicle charging points.
        - Increase Electric / Pilot hydrogen vehicles in the Council fleet
        - Intensify community recycling and reuse initiatives.
        - Prepare and implement a Green ports and harbours plan

Key Action – Energy Efficiency & Community Recycling

- Accelerate current energy efficiency, energy conversion, waste reduction and reuse initiatives, within the Council and across the community.
    - Potential Council contributions;
        - Facilitative community engagement on climate change
        - Maximise carbon impact from spend of existing Council replacement and renewal budgets
        - Provide support to access external funding
        - Potential pilot or trial project investments through Change Fund
        - Options to further extend / target / accelerate efficiency actions through individual business cases

Key Action – Green Internal Ferries and/or Fixed Links

- Internal ferries are 50% of the Councils carbon emissions;
    - Timing – Conclude the funding and implementation plan for "Fair Ferry Funding" with the Scottish Government, including a delivery programme across the next 2 - 7 years, ensuring fixed links are also properly considered as alternatives.
    - Outcomes / Actions;
        - Renew all internal ferries with zero-carbon vessels, or zero-carbon capable within 10 years.
        - And / or replace internal ferry routes with fixed links.
        - Provide renewable power sources for vessels at all ferry terminals.
        - Provide renewable power sources for vehicles at all ferry terminals.

Key Action – Green Internal Ferries and/or Fixed Links

- Internal ferries are 50% of the Councils Carbon emissions
  - Potential Council contributions;
    - Secure Fair Ferry Funding agreement
    - Conclude and implement the internal ferry renewal programme
    - Pilot project support including research into practical alternative fuels
    - Research support to translate marine lessons learned / support of linkages across to commercial marine sectors
    - Conduct fixed link research and progress options for future funding through national infrastructure planning

Key Action – Strong / Smart / Green / Affordable Electricity Grid

- Support the design and delivery of a strong, smart, green internal electricity distribution grid; one which reaches across all of Shetland, and enables further public, community and commercial "greening".
    - Timing – Reliable green electricity would appear to be a fundamental prerequisite for most transition opportunities. Target for replacement of Lerwick Power station is 2025. Planning local grid strengthening needs to be before that; grid build out would also ideally be before then too, but most likely after.
    - Actions / Outcomes;
        - Contribute to the defining the requirements and design for a strong, reliable, smart, green and affordable electricity grid across the whole of Shetland that can integrate with community generation and use.
        - Integrate community scale projects into the Shetland Energy Hub project to emphasise Shetland based solutions
        - Support research and learning from other areas that are advancing green energy through "smartening" constrained electricity grid situations

Key Action – Strong / Smart / Green / Affordable Electricity Grid

- Support the design and delivery of a strong, smart, green internal electricity distribution grid; one which reaches across all of Shetland, and enables further public, community and commercial “greening”.
    - Potential Council contributions;
        - Campaigning and facilitation
        - Support for research
        - Input to ensure the new local grid is designed to meet Shetlands needs
        - Support pilot project work / linkages across to commercial sectors
        - Alignment of Council transition planning and implementation with new grid capacity and smart capabilities.

Key Action – Facilitate Community Energy Networks

- Facilitate the emergence of Community Energy Networks across Shetland. Ensure these networks can interlink with a green and strengthened Shetland Electricity Grid and complement / enable local energy efficiency, recycling and carbon capture initiatives.

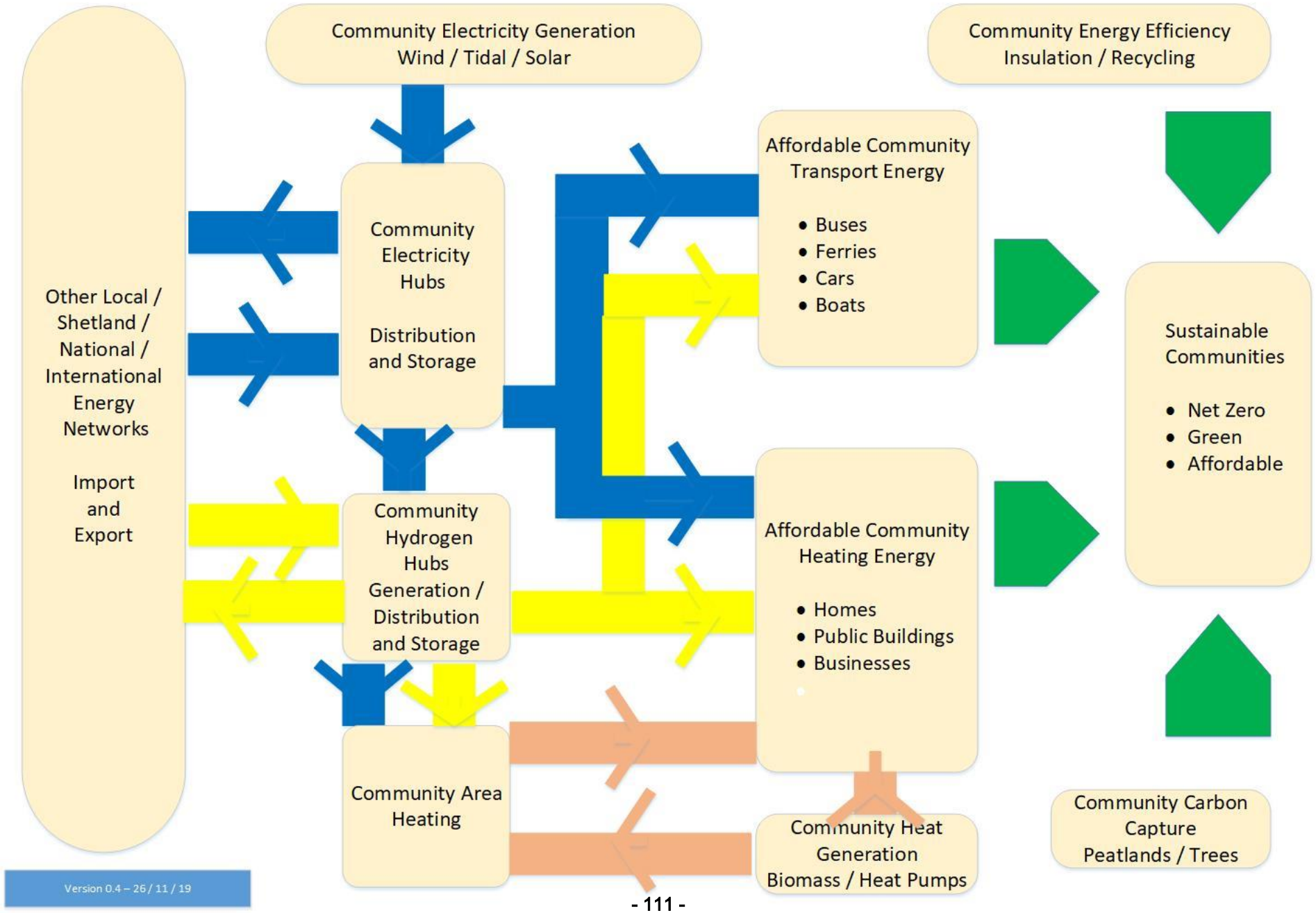
  - Timing – Understanding opportunities, issues and limitations with communities over the next 5 years through the research, development and deployment of community pilots.
  - Actions / Outcomes;
    - A range of community energy networks that tap into community energy generation opportunities
    - Community involvement in delivery to contribute to reliable and affordable green energy across the whole of Shetland.
    - Achieve five community generation projects by 2025
    - Achieve a further five by 2030.

Key Action – Facilitate Community Energy Networks

- Facilitate the emergence of Community Energy Networks across Shetland. Ensure these networks can interlink with a green and strengthened Shetland Electricity Grid and complement / enable local energy efficiency, recycling and carbon capture initiatives.

  - Potential Council contributions;
    - Support for research on potential and opportunities
    - Support to secure external funding for local initiatives
    - Some pump-priming e.g. new technology trials or possible participation in community carbon capture (peatland restoration) or similar community initiatives
    - Community engagement and facilitation support
    - Support to identify community arrangements that facilitate community involvement and benefit from Local Energy networks
    - Support research and learning from other areas that are advancing green energy in constrained geographies

Shetland Climate Change – Community Energy Networks



Key Action – Support Transition in Key Commercial Sectors

- Support partners to plan and deliver energy reduction / transition in the key commercial sectors which are the big Shetland carbon emitters / energy users. They must identify solutions to remain competitive and become compliant with emissions targets.

  - Timing - The challenges are substantial and actions are likely to need to be sustained over an extended time period.
  - Actions / Outcomes;
    - Support the development of sectoral plans that address the particular needs of;
      - Fisheries
      - Aquaculture
      - Agriculture
      - Commercial Transport
      - Aviation
      - Oil & Gas

Key Action – Support Transition in Key Commercial Sectors

- Support partners to plan and deliver energy reduction / transition in key commercial sectors.
    - Potential Council contributions;
        - Mainly facilitation and assistance in co-ordination
        - Possible “Island Proofing” lobbying and campaigning
        - Research support
        - Pilot project support
        - Linkages from any similar Council activity across to commercial initiatives
        - Assistance in learning lessons from communities with similar industry sector and geographical challenges

“Just Transition”

The Scottish Government have emphasised that the transition away from dependence on hydrocarbons should follow “Just Transition” principles, which they summarise as;

- plan, invest and implement a transition to environmentally and socially sustainable jobs, sectors and economies, building on Scotland’s economic and workforce strengths and potential

- create opportunities to develop resource efficient and sustainable economic approaches, which help address inequality and poverty (including fuel poverty)

- design and deliver low carbon investment and infrastructure, and make all possible efforts to create decent, fair and high value work, in a way which does not negatively affect the current workforce and overall economy

Key Action- Just Transition / Energy Affordability

- Campaigning at all levels to ensure that future developments recognise that energy affordability is already a key issue in Shetland, and ensure that progress on that issue is designed into all significant proposals and solutions
    - Timing – Importance of designing “Just Transition” principles in from the start, especially in electricity grid strengthening & Community Energy Networks.
    - Actions / Outcomes;
        - Prepare and support a Shetland Integrated Energy Plan to tackle the current inequalities in energy affordability and the reskilling required to make new energy systems work/re-engage people whose jobs have been affected by transition.

Key Action- Just Transition / Energy Affordability

- Campaigning at all levels to ensure that future developments recognise that energy affordability is already a key issue in Shetland, and ensure that progress on that issue is designed into all significant proposals and solutions
    - Potential Council contributions;
        - campaigning support
        - research support
        - pilot project support
        - community engagement support

Shetland Islands Council

Agenda Item

2

Meeting(s):	Environment & Transport Committee Policy & Resources Committee Shetland Islands Council	21 January 2020 21 January 2020 22 January 2020
Report Title:	Winter Service Review 2020	
Reference Number:	RD-01-20-F	
Author / Job Title:	Neil Hutcheson/ Team Leader – Asset and Network	

1.0 Decisions / Action required:

That the Environment and Transport Committee APPROVES:

1.1 the measures detailed in section 4.1.3 of this report that are intended to address concerns raised in previous winter service seasons and to improve the efficiency of winter service operations;

1.2 the measures detailed in section 4.4 intended to incorporate the relevant aspects of the new national guidance into the Council's winter service; and

RECOMMENDS that the Policy and Resources Committee and the Council approves:

1.3 the allocation of an additional £103,000 to the "Winter Service" revenue budget to meet the estimated cost of implementing these measures, as set out in paragraph 6.5 of this report.

2.0 High Level Summary:

2.1 The interim measures approved in October 2018, to address a number of concerns raised during the previous winter, are presented for approval on a permanent basis.

2.2 A number of aspects of the new national guidance have been considered but discounted for a number of reasons including cost or because they use new technologies that are still being developed.

2.3 A number of aspects of the new guidance are recommended for approval. These relate to spreader calibration, spread rates for pre-treatment and spread rates for post treatment.

3.0 Corporate Priorities and Joint Working:

3.1 The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." Winter service provision has direct implications for road safety.

3.2 A further local outcome that is particularly relevant to the winter service is "Shetland has sustainable economic growth with good employment opportunities and our people have the skills to match, good places to stay and the transport people and businesses need." Maintaining availability and reliability of the road network and public transport is a key objective for Winter Service. Roads that are impassable due to winter conditions are costly to the local economy due to lost working time and disruption to the delivery of goods.

3.3 Development of a sustainable public road network contributes to the "Stronger" section of the Community Plan and also the Corporate aim to use resources sustainably. Low temperatures and ice can cause serious damage to carriageways. An effective winter service can contribute to a reduction in whole life costs

3.4 Shetland Islands Council Improvement Plan 12/13
Area 6.5 – To deliver the agreed savings reviews within the timescales agreed by Council.
Area 11.3 – The development of long term maintenance strategies based on sustainable use of physical resources and whole life costing.

4.0 Key Issues:

4.1 Current Policy

4.1.1 The current winter service arrangements have developed over many years to meet the needs of road users, primarily as they go to and from their place of work.

4.1.2 The "2018/19 Budget and Charging Proposals" were reported to the Environment & Transport Committee on 6 February 2018. The recommendations included a savings proposal for £50,000 that was to be achieved by "a roads gritting review to consider options that include the reduction of routes and the number of gritters provided as well as operational efficiencies that could be generated by the use of new technology." However, Committee approved an amendment such that "a review of the Gritting Service be undertaken with no financial target set" (min ref 1/18).

4.1.3 In October 2018 this Committee approved interim measures intended to address a number of concerns raised regarding the 2017/18 winter service (min ref 26/18). These were implemented prior to this formal review during the 2018/19 season.
These concerns and interim measures were as follows:

- Concern – No treatment after 5pm; Measure – Formalise the procedure for responding to "blue light" emergencies and Police "call-outs" with a gritter crew on standby in each area for the entire winter season to respond then treat Priority 1 roads in that area;
- Concern – Reduced level of service at weekends and public holidays; Measure – Extend weekday level of service to weekends;
- Concern – No treatment on Christmas and New Year's days; Measure – A gritter crew in each area to be on standby to respond to "blue light" emergencies and Police "call-outs" after which Priority 1 roads in that area may be treated.

It is now recommended that these interim measures be permanently approved in order to address concerns raised in previous winter service seasons and to improve the efficiency of winter service operations.

4.2 Winter Service Code of Practice

4.2.1 The National Winter Service Research Group (NWSRG) published new national guidance for winter service practitioners in March 2019. This guidance contains separate sections on a number of issues including salt storage, treatment methods, spread rates and extreme temperatures. This review has considered each of the sections and how they can be applied locally to improve the service provided.

4.3 Discounted Guidance

4.3.1 The consideration of these sections has resulted in the discounting of guidance as listed below:

- Construct Salt Barn for Storage - proper storage is essential to maintain road salt in good condition and to prevent the loss of salt that occurs when it is dissolved in rainfall. In Shetland 310 tonnes of road salt could be lost per year at a value of £11,765. However, given that a salt barn of this capacity would cost in excess of £500,000, with a return on the investment taking over 42 years, the provision of a barn for the main stockpile has been DISCOUNTED;

- Utilise New Treatment Methods - there are now four main methods of treating frost and ice including Pre-wetted Treatment, Treated Salting and Direct Liquid Application. Shetland Islands Council uses the long established “Dry Treatment” which is the spreading of salt in its dry state. A considerable investment in batching plant, new gritters or materials would be required before introducing any of the alternatives so the guidance recommends that they are only considered when fleet renewals are needed and the whole life costing of the winter service is being considered. We are not in that position having recently invested in newer gritters so this option has been DISCOUNTED; and

- Utilise New Technologies - there are a number of new or emerging technologies that may be of benefit to the winter service. For example variable message signs that alert drivers to the presence of ice on the road and low cost road surface temperature sensors that can be installed remotely. However, these are still being developed or use internet technologies that are not yet available in Shetland so for now their use has been DISCOUNTED.

Further detail on these discounted measures is given in Appendix 1.

4.4 Recommended Guidance

4.4.1 Consideration of the sections from the new guidance has resulted in the recommendation of the measures listed below:

- Spread Rates for Pre-Treatment - pre-treatment is the advance salting of roads to prevent the formation of ice, or to prevent the bond of snow to roads when wintery conditions are forecast. Appropriate salt spread rates are crucial for the effective, efficient and sustainable delivery of these operations. The

NWSRG guidance is not prescriptive and allows authorities to take account of local knowledge and conditions, such as traffic volumes, to set spread rates that are appropriate for their road network. It is RECOMMENDED that this guidance be adopted such that conditions experienced on our roads are considered, resulting in pre-treatment spread rates remaining at the current 15g/m^2 but increasing to 20 or 30 g/m^2 when the road is forecast to be wet; and

- Treatments for Snow and Ice (Post Treatment) - post treatment is the treatment of ice and snow after it has formed. The Council's current treatments and those specified in the new guidance are listed in Table 3, in Appendix 1. It shows that the Council's current spread rates, while more than the current guidance, are lighter than those given in the new guidance. Therefore, it is RECOMMENDED that the higher NWSRG spread rates are adopted and that the proportion of salt in our salt:grit mix is increased from 50:50 to 66:33 (see Section 1.9.7 of Appendix 1).

Further detail on these recommended measures is given in Appendix 1.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications :	
6.1 Service Users, Patients and Communities:	The level of winter service provision will affect the availability of the public road network which in turn will impact on stakeholders and the community. The contribution of the road network to communities is recognised by the Audit Commission in their report Going the Distance, 2011. The report states "Councils must use their road maintenance to support the economic competitiveness of their area. Roads play a critical role in public service delivery and economic growth – both through the increased mobility of citizens, goods and services, and through building and maintaining infrastructure."
6.2 Human Resources and Organisational Development:	In order to facilitate additional gritting/ploughing employees would be required to work additional hours out with the normal working day. Employees have been consulted on these alterations and are satisfied with the arrangements in place to deal with the impact on their working patterns and times.
6.3 Equality, Diversity and Human Rights:	No implications.
6.4 Legal:	The Council in its role as roads authority has a statutory duty, under Section 34 of the Roads (Scotland) Act, *"to take such steps as it sees reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads."*

6.5 Finance:	The estimated cost of each of the proposed additional treatments and amendments to the "Winter Service" are listed below: The permanent adoption of the interim measures approved in October 2018, as detailed in section 4.1.3 above, cost a total of less than £25,000 in 2018/19. The maximum cost of these recommendations, as estimated for the 2018 interim review, would be in the region of **£52,000**. This figure is dependent on the severity of the winter. The use of telematics to monitor salt use, as described in section 1.7.5 of Appendix 1, and any subsequent calibration of the gritters that may be required would result in minimal additional staff costs. This is an operational matter with costs met from the existing "Winter Service" revenue budget. The cost of the additional salt required to allow increased spread rates for pre-treatment, as described in section 4.4.1, would be **£7,750.** This figure is based on the number of pre-salts that have been done over the past two seasons and the incidence of wet roads and temperatures below minus 3.0°C on these occasions. The cost of the additional salt required to allow an increased proportion of salt in the salt/grit mix and an increased spread rate on our "side roads," as detailed in section 1.9.7 of Appendix 1, would be **£30,100.** This is based on the average number of gritting days per year, the surface area of our priority 2 plus 3 roads and the incidence of priority 3 treatments. There would be additional costs for the preparation of the greater volume of salt/grit mix. However, this is expected to be largely offset by the reduction in the occasions when roads have to be retreated due to the initial treatment being insufficient. The cost of the additional salt required to allow the limited increase in the post-treatment spread rate recommended by the guidance, as detailed in section 1.9.8 of Appendix 1, would be minimal. The spread rate for by far the most common treatment, the treatment of frost, would remain the same so an additional 10 grams per square metre over the entire network on the average 8 days of snow treatment in a season. This would amount to an additional cost of **£12,980**. Therefore, the total estimated cost to implement all of the recommendations would be approximately **£103,000**. This figure is, of course, dependent on the severity of the winter. This figure cannot be sourced from existing budgets so should all the recommendations be approved there would be a requirement for an additional **£103,000** to be allocated to the "Winter Service" revenue budget.
6.7 ICT and new technologies:	None.
6.8 Environmental:	No implications.

6.9 Risk Management:	Failure to manage and maintain the road network and the net ongoing running costs of the Council carries a significant risk of the Council's financial policies not being adhered to and will require a further draw on Reserves. J. E. Thornes, University of Birmingham (2000) showed that for every £1 spent on winter maintenance in the UK approximately £8 of costs to "society" are saved in the reduction of winter related traffic accidents and delays.
6.10 Policy and Delegated Authority:	Environment and Transport Committee In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for the Roads Service. Policy and Resources Committee As set out in paragraph 2.2.1(7) the Policy and Resources Committee has responsibility secure the co-ordination, control and proper management of the financial affairs of the Council. Shetland Islands Council Matters reserved to the Council include any expenditure not provided for in the Annual Estmates of Revenue and Capital Expenditure as described in section 2.1.3(4)
6.11 Previously considered by:	None.

Contact Details:
Neil Hutcheson, Team Leader – Asset & Network neil.hutcheson@shetland.gov.uk
18 December 2019

Appendices:
Appendix 1: Detail on Discounted Guidance and Recommendations

Background Documents:

1. Winter Service Review 2018/19: Interim Measures (Min Ref E&T 26/18)

APPENDIX 1: Detail on Discounted Guidance and Recommendations

1.1 Current Policy

1.1.1 The Council's Winter Service was reviewed in 2012 resulting in the number of gritting routes, and the number of gritting vehicles, being reduced by six. There are now 19 routes with three gritters in each of the West, North and Central Mainland. There are 2 gritters in the South Mainland and Yell with 1 in Unst, Fetlar, Bressay, Whalsay, Lerwick and Burra-Scalloway. These resources are sufficient to treat 65% of Shetland's road network (priority 1 and 2 routes) for any incidence of frost. This increases to the entire network for severe conditions when priority 3 routes are also treated following completion of priority 1 and 2 routes.

1.1.2 The need for further review of the winter service became evident through the course of the 2017/18 winter. The arrangements had developed over many years to meet the needs of road users, including hauliers and other businesses, as they go to and from their place of work. This was reflected in the reduced service provided at weekends and the fact that there is no service on Christmas and New Year's days. The hours of operation were originally between 6am and 6pm, now curtailed to 4:45pm at the end of the day due to drivers hours regulations, so again an indication that the main consideration when developing the service was the economy and the working day.

1.2 Approved Interim Measures

1.2.1 The relatively harsh winter of 2017/18 resulted in concerns being expressed regarding the increasing number of road users who choose to travel in the evening and on public holidays out with the gritting hours specified in policy. An interim review was undertaken resulting in a number of recommendations being made to this Committee in October 2018.

1.2.2 These recommendations were in part informed by the results of a customer satisfaction survey that had asked specific questions regarding these concerns.

1.2.3 The relevant concerns, approved interim measure and the cost of its implementation during the 2018/19 winter season are shown in the following table. For comparison the total costs for the 2018/19 winter service was £1,115,000. This includes £590,000 for labour, £190,000 on materials/salt and £335,000 on plant/equipment.

Table 1: Approved Interim Measures and Costs 2018/19

Concern	Approved Measure	Cost (£)
No treatment in the evenings after 5pm	Formalise the procedure for responding to "blue light" emergencies and Police "call-outs" with a gritter crew on standby in each area for the entire winter season to respond then treat Priority 1 roads in that area	11,260
Reduced level of service at weekends and public holidays	Extend weekday level of service to weekends	13,297
No treatment on Christmas and New Year's days	A gritter crew in each area to be on standby to respond to "blue light" emergencies and Police "call-outs" after which Priority 1 roads in that area may be treated.	0, not called out on either holiday
TOTAL		

1.2.4 The crews on standby were not required during the 2018/19 season as there were no incidents that needed a "call-out." Therefore, the costs in the table consist entirely of standby payments without any overtime that would have been paid if the crews were required.

1.2.5 Given the relatively low additional costs incurred by these interim measures, and the reassurance they provide to road users, it is **recommended** that they are introduced permanently as part of an updated winter service policy.

1.3 Winter Service Code of Practice

1.3.1 The national code of practice for roads was updated in 2016 with roads authorities expected to implement the new recommendations by October 2018. However, the new code did not contain new guidance on the delivery of winter service operations. Instead the National Winter Service Research Group (NWSRG) was tasked with taking over responsibility for this guidance. In March 2019 the group published the update in its Practical Guide. The guide consists of separate sections on a range of issues each of which has been considered for this latest review of the winter service. The guidance, its relevance to Shetland's roads and the resulting recommendations are detailed in the following paragraphs.

1.4 Salt Storage

1.4.1 Moisture Content - Proper storage is essential to maintain road salt in optimum condition. The most economical treatment rates are available when salt is maintained within the correct moisture content range and the production of fine particles through handling is minimised. The moisture content affects how the salt flows and the size of the salt grains. These both affect spread rate and how salt is distributed across the road surface, with some areas even remaining untreated if the moisture content is too high. When the salt is too dry finer particles can be

blown from the carriageway during or after spreading. In these situations spread rates must be increased to account for the poor distribution or loss of salt. It is also important that the moisture content of the salt is maintained as closely as possible to that of the salt used when calibrating the spreaders (see section 1.7 below).

1.4.2 Salt Loss - Rainfall on unprotected stockpiles results in a loss of material due to "dissolved" salt in the run-off. Research has shown that the loss per annum is in the order of 0.125 per cent of the initial weight of the pile for each inch of rainfall.

1.4.3 Pollution - There is also a risk of stockpiles causing increased, unnecessary pollution and environmental damage through run-off, leaching or windblown salt particles.

1.4.4 Salt Storage Considrations

Storing salt in a barn or dome would allow optimum salt condition to be maintained most easily, requiring less stock management and enabling the use of lower spread rates. However, the provision of a salt barn for the main stockpile has been **discounted** after the following considerations:

- there have been occasions when the moisture content of our road salt has been too high and there has been clogging of the salt in the gritter hopper as a result. However, this has generally been when the salt pile has been quite low at the beginning of a season, and due to the dissolution of salt, it contains a higher percentage of insoluble clay particles. This makes the salt less free flowing. To address this issue we are now ensuring that our main order of salt is placed in good time so that it is delivered before the onset of winter. This allows for the mixing of the old and new salt in order to keep the moisture and clay content down;

- in Shetland where there has been as much as 5,000 tonnes in stock at the end of a winter the loss would be a maximum of 310 tonnes over a year. The cost of purchasing this quantity and hauling it from the Scalloway harbour to the main stockpile at the Scord Quarry would be £11,765 at current rates. The construction of a salt barn with a capacity of 5,000 tonnes would be expected to cost in the region of £500,000 meaning a return period of over 42 years. This is not considered economically viable. The current strategy is to run down the salt stock through the winter so that there is little tonnage to be lost from rainfall during the remainder of the year. Where there is a significant tonnage we have employed a contractor to cover the stockpile with sheeting. The annual cost for its installation and maintenance, when required, is approximately £18,000; and

- pollution or environmental damage are not an issue at our main stockpile. The stockpile is located on an upper level of the quarry floor in a relatively dry area where there is no significant run-off. The stockpile is situated on an asphalt base that has been laid over the solid rock floor of the quarry so leaching of salt into groundwater is not a concern. The height of the quarry walls also ensure that any windblown salt is contained within the quarry.

1.5 Treatment Methods

1.5.1 Recent developments in technology mean that there are now four main methods of treating frost and ice used in this country. The most popular method used by the majority of roads authorities, including Shetland Islands Council, is "dry treatment" or the spreading of salt in its "dry" state. The alternatives now available are as follows:

- Pre-wetted Treatment using road salt mixed with brine at the point of spreading which is used on most of the trunk roads throughout the UK primarily because it allows a reduced spread rate;

- Treated Salting again using road salt but with an additive, generally an agricultural by product, resulting in a number of benefits including reduced spread rates, better salt retention on the carriageway, increased effectiveness at lower temperatures and a reduction in the corrosive effects of the salt; and

- Direct Liquid Application where a de-icer is sprayed directly onto the road surface has been used for many years at locations such as bridges where salt cannot be used and is now being trialled on larger sections of the trunk road network.

1.5.2 Treatment Methods Consideration

Capital investment and maintenance costs for Pre-wetted Treatment and Direct Liquid Application are higher than dry treatment as a result of the need for more sophisticated spreading equipment, brine production, brine storage and increased maintenance requirements. The guidance recommends that these two options are only considered when fleet renewals are needed due to the level of investment required. We are not in that position having recently invested in second hand but much newer and more reliable gritters. Treated salting does not require the production and storage of brine, and can utilise “standard” gritters. However, the cost per tonne of treated salt is higher than that for standard road salt by approximately 30% while the reduction in spread rate that it allows is only 25% according to the new guidance. The treated salt option has significant benefits but it would appear that these are outweighed by the additional cost. Therefore, a move away from the traditional dry treatment to these new methods has been **discounted**.

1.6 Technologies

1.6.1 The technologies referred to in the guidance are those required for the newer treatment methods discussed in section 4.5 above. However, there are a number of other new or emerging technologies that may be of benefit to road safety and the efficiency of the winter service. For example low cost road surface temperature sensors that can be installed remotely are currently being developed and tested. These have their own power source and are “wi-fi” linked to base. A similar low cost sensor could also be useful for linking to variable message signs that would alert drivers to the possibility of ice on the road surface. There is also potential for electronic road studs (cat’s eyes) that are solar powered with built in humidity and temperature sensors and LED’s that will flash blue to warn drivers that there may be ice on the carriageway.

1.6.2 Technologies Consideration

These new technologies are very much still in the early stages of their development and are yet to be widely used and tested. The temperature sensors also use internet technology that is not yet available in Shetland and may not be for some time. Therefore, for now the use of these new technologies has been **discounted**. We will of course continue to monitor the situation and when these ideas are fully tested and reliable we will consider their use at known hazardous locations such as the B9073 Black Gaet and the A970 at the Loch of Voe.

1.7 Spreader Calibration

1.7.1 Calibration is important to demonstrate that the correct amount of salt is being discharged and that it is being evenly spread on the road. Therefore, every gritter should be individually calibrated and tested. Carrying out a check of the spreader settings only is not considered to be sufficient. The amount of salt discharged should be measured and its distribution on the road surface assessed.

1.7.2 It is also important that the gritter chassis, engine etc., and not just its spreading apparatus, are checked for maintenance and correct operation and that they are in a serviceable condition. This may require “regular” replacement of gritters that have deteriorated to the point where it is not economically viable to undertake the required repairs.

1.7.3 Records should be kept and available for future reference and use. A Calibration / Conformity Certificate should be completed for each gritter that meets the requirements of the guidance. Those meeting the requirements of the discharge test and distribution check detailed in the guidance should also be issued with a distribution record.

1.7.4 It is important that once a vehicle is calibrated there is monitoring during the winter season to determine if a recalibration is required. Reports of potential inconsistencies received from drivers or other sources should also be considered. Targets for the total amount of salt that should be used on each route should be determined and used for comparison against actual amounts used. Vehicle tracking (GPS) with their data monitoring systems and/or routine vehicle checks can be used to assist in this process. When the gritters performance is unsatisfactory a procedure should be in place to make checks and take remedial action. These checks, actions and any recalibration should be recorded.

1.7.5 Spreader Calibration Considerations
The calibration of the Council’s gritters is currently provided by specialist contractor Econ Ltd who also manufactured and supplied all the gritters in our fleet. The calibration procedures used are as specified in the new guidance with the required certificates, documents and records being produced. The continuous monitoring of gritter performance throughout the season has not been monitored to date. However, the target tor the total amount of salt spread on each route was calculated some time ago to enable comparison of the theoretical salt use versus actual used as determined by measurements of the main stockpile. The Council’s gritters are also now fitted with telematics or GPS that allows the monitoring of their location, speed and spread rate. The telematics software records this data allowing the preparation of a number of reports including one on the tonnage of salt used on each route. Therefore, going forward telematics will be used to monitor the salt use of each gritter on a monthly basis. Should an issue be identified the gritter will be checked and when necessary recalibrated. This is an operational matter with costs met from existing budgets.

1.8 Spread Rates for Pre-treatment

1.8.1 Delivering accurate and appropriate salt spread rates is crucial for effective, efficient and sustainable operations. In order to optimise salt usage, improve stock resilience and reduce the impact of salt on vehicles, infrastructure and the environment, it is important that salt spread rates are no higher than necessary.

1.8.2 The new guidance is intended to assist road authorities in complying with their legal obligations and duties with respect to winter maintenance. However, in line with the approach advocated in the national Code of Practice for the management and maintenance of roads the new guidance is not prescriptive and allows authorities to take a risk based approach to the determination of appropriate spread rates. The guidance states “risk assessments undertaken at a local level, as well as other considerations, may result in some authorities adopting spread rates that differ from those provided here. In such instances, authorities should document their risk assessment process and their reasons for adopting different rates.”

1.8.3 The amount of salt required to prevent ice forming on a road surface is dependent upon the temperature of the surface and the amount of water present.When insufficient moisture is available to freeze, no salt is required to prevent ice from forming regardless of the road surface temperature. However, the amount of salt required to prevent ice from forming increases rapidly with the amount of surface water present. Precipitation after a treatment takes place will increase the rate of salt dispersal and reduce the brine concentration. Depending upon the amount of precipitation and its timing, higher treatment rates or additional treatments may be required.

1.8.4 Traffic levels on the network are also an important factor influencing spread rates. Traffic effects can increase or reduce the amount of salt required to prevent frost or ice from forming. These effects include crushing of salt particles aiding faster dissolution of the salt. It is important that the timing of spreading operations allows sufficient time for the salt to enter solution before these temperatures are reached. This may be unrealistically early if spread rates are insufficient to allow for low traffic volumes. Therefore, for ‘Light Traffic’ volumes, the guidance suggest that spread rates are increased by 25%.

1.8.5 High wind speeds can affect the salt distribution at the time of spreading and, in dry conditions, lead to increased salt losses after spreading as a result of the salt particles being blown from the road surface. This will affect some authorities more than others but given our weather conditions is particularly relevant for Shetland. The guidance goes on to state that “authorities may also wish to increase spread rates when carrying out salting operations during periods when forecast mean wind speeds are 20mph or higher.”

1.8.6 The new guidance recommends that authorities use the NWSRG’s matrix to determine pre-treatment spread rates. Pre-treatment being the spreading of salt on road surfaces before snowfall or freezing temperatures to provide a layer that prevents snow and ice bonding to carriageways, thereby aiding subsequent treatments. This matrix splits the temperatures from 0 to minus 7°C into six bands, one for each degree. Each band has a different rate for dry/damp roads and wet roads. The rate increases as the temperature decreases and is greater for wet roads than for dry roads (see Table 2 below). This means that the duty officer interpreting the forecast and determining the appropriate treatment would have to choose from 12 spread rates. We consider this impractical not least because of the difficulty in forecasting to within one degree centigrade of accuracy. There is also the possibility that on occasion it may rain between the pre-treatment, which is done in mid-afternoon, and later in the evening when the road surface temperature is forecast to fall below zero. When possible, treatments should be carried out after any preceding rainfall has ceased and sufficient time and traffic has removed excess water on the road surface. However, there may be insufficient time during

the intervening period to undertake a full pre-treatment. These situations are some of the most difficult of all to deal with and, whenever winter conditions are forecast the duty officer will need to carefully consider the most appropriate treatment. In some circumstances, treatments have to be undertaken during rainfall or on very wet road surfaces. The rainfall dissolves the salt and washes a portion of it from the road. We consider the use of the lower spread rates specified in the new guidance to be too much of a risk due to this issue.

1.8.7 Spread Rates Recommendations

The records from our weather forecasting stations show that over the past five years it has been relatively rare for our road surface temperatures to drop below minus 3.0°C. There were a total of 274 days when the temperature fell below zero but only 40 occasions when it fell below minus 3°C. This equates to only 15% of all the days where there were freezing conditions. Temperatures less than 5°C only occurred seven times equating to less than 3% of the days when freezing conditions were recorded. Therefore, to simplify the selection of pre-treatment spread rates we propose a move away from the six temperature bands described above to only two bands ranging from 0°C to minus 3°C and from minus 3°C to minus 7°C. The following table shows the NWSRG recommended spread rates for their various bands and the proposed pre-treatment spread rates for our gritters. Please note that the proposed rates have used the NWSRG rates but with the low traffic volumes on many of Shetland's roads and the high incidence of wind speeds over 20 mph (on 50% of days with RST below zero) taken into account. The rates have been increased by 25% to address the former, as recommended in the new guidance, and by a further 20% to address the latter. The rates have also been rounded up to suit the settings available on the gritter controls. Therefore, it is **RECOMMENDED** that for a dry/damp road surface our current spread rate of 15 g/m^2 would be retained across both temperature bands. However, when the road surface is wet, or forecast to be wet, the rate would be increased to 20 or 30 g/m^2 depending on temperature. This increases the treatment options available to the duty officer while maintaining a factor of safety.

Table 2: Comparison of NWSRG Rates and Proposed Shetland Pre-Treatment Rates

Road Surface Temperatures (°C)	Incidence in Shetland 2016/17 to 2018/19		NWSRG Spread Rate (g/m^2)		Proposed Shetland Spread Rate* (g/m^2)	
	Days	Percentage	Dry/Damp Road	Wet Road	Dry/Damp Road	Wet Road
0 to -1°	84	30.7%	8	8	15	20
-1.1 to -2.0°	71	25.9%	8	8		
-2.1 to -3.0°	58	21.2%	8	13		
-3.1 to -4.0°	32	11.7%	9	17	15	30
-4.1 to -5.0°	22	8.0%	11	21		
-5.1 to -7.0°	7	2.6%	15	30		

Notes: * Shetland spread rate increased by 25% and 20% to account for low traffic volumes, the high incidence of wind speeds over 20 mph then rounded up.

1.9 Treatments for Snow & Ice (Post Treatment)

1.9.1 The guidance provides advice on effective treatments for snow, ice and freezing rain based on the operational experience of practitioners in combination with a review of the available research and literature.

1.9.2 It states that it is impractical to spread sufficient salt to melt anything other than very thin layers of snow and ice, and that ploughing is the only effective way to deal with more than a few millimetres of snow. Effective ploughing will:

- remove as much snow as is practical for the given conditions, preferably down to the road surface;
- reduce the likelihood of snow becoming compacted and bonded to the road surface; and
- reduce the amount of de-icer needed for subsequent treatments.

1.9.3 The most effective ploughing technique is to plough down to the road surface ("ploughing to black"), as this removes almost all of the lying snow and minimises the amount of salt required for subsequent treatments. The guidance recognises this and recommends that authorities acquire the specialist equipment that allows "ploughing to black" on one pass. The Council has one plough fitted with ceramic blades that can be set down directly on the road surface without damaging the blade itself or "cat's eyes." This plough is for the use on the A970 Lerwick to Firth route via "Da Kames" and Voe. Unfortunately, these blades are not suitable for all road types and cannot be used on our single-track roads with their crowned profiles.

1.9.4 The guidance also covers freezing rain which is a still a relatively unusual hazard for Shetland's road users. The formal meteorological definition of freezing rain relates to situations when rain falls through a layer of very cold air in the atmosphere and becomes super-cooled, remaining as a liquid below the usual freezing temperature. When the rain strikes a surface, it freezes to form glaze ice almost immediately on contact. Rain that is not super-cooled but falling onto a surface that is itself significantly below zero centigrade will also freeze rapidly and is also generally referred to as freezing rain.

1.9.5 The guidance goes on to state that in situations, where the risk of ice formation remains high despite the best attempts of authorities to reduce it, advance warnings to road users can be particularly valuable. Authorities should liaise with local media services and/or use social media outlets etc. to publicise the possibility of these events when forecast. The Roads Service with the assistance of the Council's Communications Section have been doing this for a number of years.

1.9.6 Pure salt should not be spread on layered ice or compacted snow as this can produce dangerously slippery conditions due to the formation of a weak brine film on top of the ice/snow layer. The guidance recommends that a salt/grit mix is used in these situations to give some grip and to assist the action of traffic in breaking the layer. When further snow is expected, on already compacted snow or ice, then salt/grit mix should be used as a de-bonding layer between the existing layer and any future snow to assist future ploughing operations.

1.9.7 <u>Salt/Grit Mix Proportion and Spread Rate Recommendations</u>
It should be noted that the current policy specifies the use of salt/grit mix on a number of our lower priority roads. The reason being that the "activation" of the salt takes longer on these low traffic volume roads and the grit gives some grip in the initial period after spreading. The guidance does not recommend the use of salt/grit mix in anything other than specific situations where the use of pure salt would be

hazardous (see paragraph 1.9.6 above). The guidance also recommends increased spread rates of pure salt for lightly trafficked roads. This means that the current policy is contrary to the new guidance as our specified spread rate for salt/grit mix is the same as for pure salt. Therefore, with the 50:50 salt:grit mix we are spreading only half the amount of salt required by the guidance. To remedy this it is **RECOMMENDED** that the proportions of the salt:grit mix is changed to 66:33 to give twice as much salt in the mix as there is grit. Where previously the spread rate was 20 g/m^2 this would be increased to 30 g/m^2 meaning that we would be spreading 20 g/m^2 of pure salt, in compliance with the guidance, plus 10 g/m^2 of grit to give the required grip on these side roads.

1.9.8 Treatments for Snow & Ice (Post Treatment) Recommendations

The following table shows that the Council's current spread rates for post treatment are generally lighter than those stated in the new guidance. Therefore, it is **RECOMMENDED** that the higher NWSRG spread rates are adopted. Please note that for frost the application of salt/grit mix per square metre would be 10 grams greater than for pure salt. However, to avoid the need for frequent visits to the depot to refill the gritter's hopper the higher application rates for the treatment of ice and snow will be 40 g/m^2 for both materials.

Table 3: Comparison of NWSRG Rates and Current Shetland Post Treatment Rates

Road Surface Conditions	Current SIC Treatment	NWSRG Guidance	Proposed SIC Treatment
Frost; light ice formed	***20 g/m^2**	**20 g/m^2;** **40 g/m^2** of pure salt	**20 g/m^2** for frost; **30 g/m^2** for frost; where mix used **40 g/m^2** for light ice
Moderate to thick ice	***30 g/m^2**, thick ice may require repeated treatments.	**40 g/m^2** of pure salt	**40 g/m^2** of pure salt or salt/grit mix depending on road
Hard packed snow, layered ice and freezing rain	***30 g/m^2**, may require the use of salt/git mix and repeated treatments.	**40 g/m^2** of salt/grit mix to give grip and assist traffic in breaking up the layer.	**40 g/m^2** of salt/grit mix to give grip and assist traffic in breaking up the layer.
Snow exceeding 30mm	Either ploughing only, or ploughing plus ***30 g/m^2**, depending on conditions. May require the use of salt/git mix and repeated treatments.	Ploughing to remove snow and slush plus **20-40 g/m^2** when it will assist the break-up of the layer or when freezing conditions are expected.	Ploughing to remove snow and slush plus ***40 g/m^2** when it will assist the break-up of the layer or when freezing conditions are expected.
Notes: * Material used is either pure salt or salt/grit mix depending on location of road.			

1.10 Extreme Temperatures

1.10.1 The guidance considers that spreading salt alone at temperatures below minus 7˚C is not effective or practical due to the repeated applications and high spread rates that would be required. Even then salt may not enter solution quickly enough to prevent freezing or to melt ice or compacted snow.

1.10.2 The guidance recommends a number of alternative de-icers, such as ethylene glycol and magnesium chloride, which can be used in extreme temperatures.

However, these are all to be applied to the road surface as a liquid or brine. This would require an entirely new gritter fleet that is capable of applying liquids to the road surface. In addition a batching plant would be required as well as storage facilities at each of our gritting depots.

1.10.3 Extreme Temperature Considerations

The Council's gritting fleet has recently been updated so its replacement with gritters capable of liquid application is not considered to be economically viable. This is supported by our weather station data which shows that in the past 5 years there have been only two days when the road surface temperature dropped as low as minus 7 ˚C, the point at which the guidance recommends that alternative de-icers are used. Given the infrequency of these low temperatures in Shetland it would clearly be more economical to increase the spread rate and application frequency as required rather than invest in seldom used liquid application equipment. Should that prove to be ineffective then we would revert to salt/grit mix to treat any ice that formed. Therefore, the use of alternative de-icers for extreme measures has been **discounted**.

1.11 Issues Outwith Scope of the New Guidance

1.11.1 The NWSRG guidance has not addressed all the issues that would be considered under a full winter service review. The following sections discuss these "missing" issues, review our current policy in relation to them and details any recommended amendments to policy.

1.11.2 Treatment Hierarchy

The current hierarchy of treatments was introduced following the review of the winter service in 2012. It was based on the Roads Maintenance Hierarchy for general road works which allocates a score based on factors such as traffic flow, bus usage and the presence of commercial premises, schools or transport terminals. The score determines the maintenance band (M1 to M5) appropriate for the length of road which in turn determines the winter service priority. A table showing the treatment regime is attached below. The regime was arrived at following consideration of the effect on school buses and "care at home" customers resulting from the significant change in policy requiring that priority 3 roads were "not normally to be treated for frost." This winter concerns have been expressed by the public and members that on certain routes some roads are not being treated prior to the arrival of the school bus. These concerns are generally only expressed in severe conditions when priority 3 roads are being treated. We have been able to address this issue on a number of routes in the North Mainland by increasing the number of roads treated by "Da Kames" gritter. This has reduced the size of the neighbouring two routes meaning that these gritters can get to their priority 3 roads sooner. However, there are a number of roads throughout Shetland that are still not being treated in time. The main reason being the larger routes that need to be treated in severe conditions when the priority 3 roads are added. Early pick up times for some feeder buses are also a factor. The total length of roads not treated prior to the arrival of a school bus is 48.9 km compared to the 520 km of school bus routes that are treated. Therefore, less than 9.5% of school bus routes are currently untreated. This will, of course, change from year to year depending on the addresses of the pupils so will be monitored to ensure that the best possible coverage is achieved. We are currently in the process of assessing minor route amendments that would potentially allow a further 14 km or 2.5% of the bus routes to be treated in time.

Table 4: Winter Maintenance Treatment Regime

WINTER SERVICE PRIORITY	ROAD DESCRIPTION	TREATMENT REGIME
1	Principal roads linking major centres of population, major industrial sites and ferry terminals. Access routes to some schools and hospitals. Main through routes in Lerwick.	Times: Treated Monday to Sunday between 6.00am and 6.00 pm extending to 9pm in exceptionally bad conditions. No service Christmas Day and New Year's Day. These roads **will be pre-salted** when necessary.
2	Other principal roads not included in the above linking smaller centres of population to the priority 1 network. Major loop roads. Main town streets in Lerwick and Scalloway. Accesses to any schools not on Priority 1 routes.	Times: Treated Monday to Friday between 6.00am and 6.00 pm. Reduced service on Saturdays, Sundays and Bank Holidays with less gritters so it will take longer to clear some roads. No service on Christmas Day and New Year's Day. These roads **will not be pre-salted**.
3	Side roads linking isolated communities to the priority 1 and 2 network. Minor roads in housing schemes in Lerwick and Scalloway.	Not normally to be treated for frost unless in severe conditions when we will grit the priority 3 routes following treatment of the Priority 1 and 2 routes. Grit piles will be provided for road users to assist themselves. **Snow clearance** will be as for the Priority 2 roads.
4	All roads on Foula, Fair Isle and Papa Stour.	Grit piles will be provided for road users to assist themselves.

1.11.3 Gritting Times

Concerns have also been expressed that a number of road users are travelling prior to the start of the gritting day at 6am. A typical gritting day for the Roads Service begins at 4am when our Roads Inspectors and Foremen set out on their inspection routes to determine road conditions. When they have assessed that gritting is required they will call the drivers and crew at 5am. This gives them time for breakfast, the clearing of ice and snow from their gritters and then the usual vehicle checks (tyres, water, lights, wipers, etc.) before commencing their routes at 6am at the latest. The GB Drivers Hours Regulations restrict a driver to only 10 hours of driving per day during which time a driver has to take a 45 minute break. There can be exceptions for the ploughing of snow but none for the gritting of frost and ice. Therefore, the latest that drivers can operate a gritter is 4:45pm if they have been driving all day. This also gives the gritters sufficient time to pre-salt the road which is done when freezing conditions or snow are forecast for the evening or following morning. This helps to prevent ice forming or snow bonding to the road surface. We only have one shift of gritter drivers available. We have insufficient Roadworkers for two shifts and only a few private contractors are interested in the work. Therefore, if we start the gritting earlier we would leave an unacceptable gap between the last gritting of our roads and the peak traffic numbers at the end of the working day. The timing of the start of the gritting day is a balance that has been developed over a number of years. The aim has been to maximise the number of road journeys where effective gritting has been provided. (For example our traffic counters show that on the A970 at Boddam only 1.2% of the total traffic for the day is on the road between midnight and 6am). The start of the day and getting road users to their work is important but getting people home

at the end of their working day is equally important. Therefore, there would be a considerable risk to moving the gritters starting time forward. Unfortunately, this means that some road users are travelling on our roads before the gritters are out. However, in the majority of weather conditions the pre-salt addresses the evening and very early morning. The new salt spreading rates recommended in Table 2 above would improve the effectiveness of the pre-salting in all but the worst weather conditions. Therefore, any amendment to the starting time of our gritters on their routes has been **discounted**.

1.11.4 Treatment/Gritter Routes

The routes have been optimised as much as possible in accordance with earlier national guidance. The aim being that gritters are spreading for as much of their travelling time as possible. However, this is difficult in Shetland given that a lot of our road network has “dead end” roads which are gritted on the way in but not on the way out resulting in an efficiency of only 50%. The efficiency would be improved by a move away from using salt/grit mix on our lower priority roads as it would avoid the need for the gritter to stop spreading and return to the depot to change its load from pure salt to mix. However, this efficiency improvement does not outweigh the benefit of retaining the use of salt/grit mix as explained previously in section 1.9.7 above.

1.11.5 Procedures

The “planned” Winter Service period lasts 23 weeks commencing late October and ending late March or early April. There is a core period of 12 weeks between mid-December and early March during which operatives are guaranteed standby payments. Outside of this core period any requirement for standby is triggered by the Met Office’s forecasts. The Winter Service period can be extended as necessary to suit conditions. Routine treatment and snow clearing must be delivered throughout the winter season with the exception of Christmas Day and New Year’s Day when no service is provided but a gritter crew would be on standby in each area if the permanent adoption of the interim recommendations from October 2018 are permanently approved. These arrangements are similar if not identical to the other island authorities and smaller rural local authorities with similar resources.

1.11.6 Weather Forecasting

StormGeo, a forecasting consultant based in Aberdeen, supply weather forecasts on a daily basis for the winter period, October to April. These comprise of a forecast of road surface temperature (RST) and surface state at our four weather station sites together with text based forecasts. The text comprises 24-hour forecasts for the Shetland area, a morning update and a two to five day outlook forecast. The duty officer also has internet access to StormGeo weather radar displays and, if required, access to the StormGeo duty forecaster to discuss more complex weather scenarios. Vaisala Ltd provides the ice prediction systems. Their computer software gives access to the weather forecasts and our weather stations. The use of the ice prediction system enables the Council’s winter service officers to monitor actual and predicted conditions at the sensor sites and to update any planned actions as needed. This is supplemented by a thermal map that enables extrapolation of the forecast RST to the thermally mapped network of roads. The weather stations are fully instrumented and provide data such as road surface temperature, road surface state, air temperature, precipitation, wind intensity and wind direction. These arrangements comply with earlier guidance so there is no need to make any amendments to our weather forecasting provision at this time.

1.11.7 Personnel

The NWRSG guidance states “particular care should be taken to manage the risks to personnel carrying out winter service operations in snow and freezing rain conditions.” Nearly a quarter of all deaths involving vehicles at work occur during reversing. The Health and Safety Executive (HSE) in their “Workplace Transport Site Safety Information Sheet” state that planned or clearly marked turning areas should be provided and a signaller (second man) should be employed to supervise reversing and turning movements. Therefore, it is our standard practice to crew our gritters with a driver and assistant. Shetland’s gritting routes have a high proportion of narrow roads meaning there is limited scope to introduce single manning. However, single manning is undertaken where we can comply with the guidance. For example, gritters on precautionary routes are only crewed by drivers because there is no ice on the road at the time and only primary routes and main loops are being treated so no reversing is required. In addition to the safety requirements the role of the driver’s assistant also includes:

- assisting the driver when negotiating parked vehicles in narrow streets, when operating on narrow roads and when the nature of a road requires the gritter to reverse along it to apply treatment;
- assisting the driver with the fitting of snow plough blades and snow chains;
- clearing any blockages that occur in the gritting apparatus;
- monitoring the condition of the driver for signs of fatigue; and
- completing a gritting record sheet that details weather conditions and the times that the gritter arrives at each junction along its route.

1.11.8 Facilities, Plant & Equipment

The road network is serviced from depots at Gremista (Lerwick and South Mainland), Murrister (West Mainland), Sella Ness (North Mainland) and Mid Yell (North Isles). These depots are augmented by a further 10 minor depots with salt piles and the main stockpile located at the Scord Quarry, Scalloway. The Council’s Fleet Management Unit have now completed the updating of our gritting fleet with second hand but modern gritters. These newer vehicles have led to significant reduction in maintenance costs and the associated downtime when a gritter is unavailable. Therefore, we are complying with the earlier guidance that “the need to ensure vehicles are well maintained and repaired quickly is essential to the delivery of the service.”

1.11.9 Salt Stock Levels & Salt Purchasing

Minimum stock levels are key to providing a good level of resilience throughout the winter and we aim to maintain a minimum stock level of 3,000 tonnes. It has been calculated that this amount is sufficient for 18 days of snow clearance using the Scottish Government’s guidance that a day consists of two treatments of priority 1 and 2 routes, and one treatment of priority 3 roads. Generally stock levels are much higher with a figure of around 7,500 tonnes in stock at the start of the winter season. The salt is currently bought from “Irish Salt Sales Ltd” via a collaborative contract managed by Scotland Excel. This allows participant Council’s to pool their buying potential to secure competitive prices. The salt is shipped to Scalloway Harbour and bulk stored at the Scord Quarry from where it is distributed to the salt piles at the rural depots either as pure salt or salt/grit mix.

Shetland Islands Council

Agenda Item

3

Meeting(s):	**Environment & Transport Committee Policy and Resources Committee Shetland Islands Council**	**21 January 2020 21 January 2020 22 January 2020**
Report Title:	**Grounds Maintenance Provision Burial Grounds & Amenity Areas**	
Reference Number:	**EO-01-20-F**	
Author / Job Title:	**Carl Symons, Executive Manager - Environmental Services & Estate Operations**	

1.0 Decisions / Action required:

That the Environment and Transport Committee RESOLVES to approve:

1.1 That the cutting frequency of Burial Grounds grassed areas is harmonised with Amenity Areas and classified as Category 2 across all yards. This means that grass shall be mown to maintain a mean height between a maximum growth height of 15 cm and a minimum mower setting of 7.5 cm. Any shortfall in resource will be contracted out on a flexible basis;

1.2 That the current area based contracts for grounds maintenance to Amenity Areas is merged into one Shetland-wide contract to maximise the economies of scale, thus easing contract management and administration; and

1.3 That the collection of mown grass be reviewed by Committee after this year's growing season for both Burial Grounds and Amenity Areas. This will allow evaluation on the impact of more frequent cuts across Burial Grounds on the basis that it will result in better and less visually obtrusive mulching, thus offsetting the need to collect grass at considerable expense.

1.4 That the Environment and Transport Committee RECOMMENDS that the Policy and Resources Committee and Shetland Islands Council approves the budget increase, to implement the measures described in 1.1, of approximately £41,453.

2.0 High Level Summary:

2.1 The purpose of this report is for Committee to consider the current provision and standards of grounds maintenance across Shetland's burial grounds and amenity grass areas.

2.2 This follows several complaints regarding the untidiness of Council maintained burial grounds and amenity areas. Subsequent reviews have revealed that most of the burial grounds complaints were for the yards that received no grass cuts this year, while Amenity Areas suffered because of this year's ideal growing conditions.

2.3 Committee is therefore asked to reconsider the collection of mown grass from 2021/22, a practice previously ceased in 2012 because the cost of waste grass disposal was increasing while budgets were decreasing.

3.0 Corporate Priorities and Joint Working:

3.1 The priorities listed in the Council's "Our Plan" include:

Our approach to managing the risks we face will have resulted in a more risk-aware organisation that avoids high-risk activities

4.0 Key Issues:

Background - Burial Grounds

4.1 Grass cutting across Shetland's 70 burial grounds is predominantly carried out by the Council's in-house workforce, with the total area of grass within the burial grounds being 132,400m². Background papers are provided in the Members' room for ease of reference.

Tabulated below is a summary comparison between 2018 and 2019, bearing in mind that the number of cuts for the yards in 2019 is still ongoing at this time.

	2018	2019
Total Yards	70	70
Total Area m²	132,400	132,400
Total number yards not cut	3	15*
Total Cut m²	129,770	120,331
Total Number of Cuts	711	611
Total m² Cut	1,503,716	1,284,856

*these yards subsequently received one cut this year.

4.2 Over the last year the safety of the Council's burial grounds has been our primary concern, and the service has been prioritising the issue of memorial safety following a fatal accident in Glasgow in 2015 and subsequent changes to Scottish Government guidance to local authorities.

4.3 In addition, following HSE Enforcement action, the Council has had no choice but to adopt a more robust Hand and Arm Vibration Syndrome (HAVS) procedure. This means that the Burial Grounds Team have fewer hours available to operate vibrating equipment i.e. strimmer's and mowers, to reduce their hours of exposure so the Council can remain in compliance with legislation.

4.4 These contributory factors has meant that there are fewer productive hours available to deliver an increased range of burial grounds maintenance activities, including grass cutting and some of our standards and practices have had to alter as a result.

4.5 Several complaints highlighted that for some visitors these changes in practice have been detrimental to the visual amenity of the yards. As such, officers undertook to present the facts so that Committee can reconsider the applicable standard for grass cutting in terms of cutting frequency, and the recommencement

of mown grass collection. The latter practice was previously ceased in 2012 on cost grounds and because of the detrimental impact it has on the functionality of the Energy Recovery Plant. This is due to the incineration of mown grass increasing the cost of maintenance which increases downtime.

Background - Amenity Areas

4.6 The cutting of grass to amenity areas is entirely contracted out. Overall, there are 1,316 plots cut each year with a total area of 379,733m².

4.7 These contracts are split into several batches as follows:

1. Contract A: South Mainland
2. Contract B: Central Mainland
3. Contract C: West Mainland
4. Contract D: North Mainland
5. Contract E: Isles

4.8 Following a drive for efficiency savings prior to 2015, the way that the amenity areas contract was tendered changed from a prescriptive specification "you will cut the grass 14 times a year" to a performance based specification "you will keep the grass at *X*mm length over the year", dependent upon priority.

This change saves money as, in many cases, a given area of grass may not need the maximum number of cuts to remain tidy. Thus, needless cuts were removed. The current priorities, defined as categories in the contract, are as follows:

Category 1 - Recreational turf areas are defined as lawn, fine turf areas and grass areas around flower and shrub beds forming visual garden amenities. Shall be mown to maintain a height between a maximum growth height of 7.5 cm and a minimum mower setting of 2.5 cm.

Category 2 - Maintained turf and estate grassland is defined as that which is adjacent to or surrounding housing and other buildings which is likely to include pedestrian and vehicular access ways within the curtilage of the grass area. Shall be mown to maintain a height between a maximum growth height of 15 cm and a minimum mower setting of 7.5 cm.

Category 3 - Rough turf and public open space is defined as that which open to general use is likely to include pedestrian, horse and some bicycle and vehicular access across and onto the grass area. Roadside verges are defined as strips of grass land abutting road and footpath thoroughfares. Shall be mown to maintain a height between a maximum growth height of 25 cm and a minimum mower setting of 10 cm.

Category 4 - Hard surface areas include paving, brickwork, blockwork, tarmacadam, concrete, stone chipping and loose gravel. They are required to be kept clean and weed-free.

Category 5 - Shrub beds and borders shall be maintained in a way that presents an attractive amenity and allows development of plants to be in keeping with the type, shape, size and aspect of the bed. All work is to be carried out in accordance with the requirements of BS 4428:1989 Code of Practice for General Landscape Operations (excluding hard surfaces).

4.9 The Contractor is required to maintain the grounds to specification throughout the period of the contract. The Contractor is to provide all plant, labour and materials including marking out and fuel to carry out the operations detailed in the tender specification. in carrying out such work the Contractor will ensure that his staff conduct themselves in an appropriate manner.

4.10 A subsequent analysis of complaints regarding the sufficiency of cutting to amenity areas again reveals that the current practice of not collecting mown grass is the likely root cause of many complaints that areas look unkempt or untidy.

Proposed Arrangements – Burial Grounds

4.11 There remains an ongoing need to carry out a memorial safety programme while adhering to the revised arrangements relating to HAVS compliance. These will impact upon the Team's ability to cut grass to the desired standard.

4.12 To overcome this, and to accommodate a potential requirement for either increased cutting frequencies or the collection of mown grass, it is proposed to supplement the in-house workforce with a flexible contract arrangement to cover any shortfalls in coverage.

4.13 To make best use of the economies of scale and to streamline contract administration, this arrangement would be tendered as part of the Shetland-wide amenity grass areas contracts due for renewal on 1st April 2020.

4.14 To ensure that the Council adopts a fair and equitable approach, and to make best use of resources, it is proposed that the Burial Grounds cutting programme be harmonised to match the Amenity Areas category 2 classification. It is anticipated that more frequent cuts, with grass maintained at this height, will negate the need to recommence mown grass collections, on the basis that it will result in better and less visually obtrusive mulching, thus offsetting the need to collect grass at considerable expense.

We estimate that between 12 and 14 cuts per growing season will be required across all yards as indicated below:

	2018	**2019**	**2020**
Total Yards	70	70	70
Total Area of Yards Cut (m²)	129,770	120,331	132,400
Total Number of Cuts (per year)	711	611	910
Total m² Cut (per growing year)	1,503,716	1,284,856	1,721,200

4.15 The estimated increase in additional cutting over currently achievable outputs will be 436,344m² which equates to an additional cost of approximately £41,453 per annum.

4.16 To cut and collect grass in the burial grounds would require investment in new machinery that is fitted with collection hoppers. The existing fleet of trailers could be used for the disposal of grass cuttings with some modifications, namely the retro-fitting of mesh sides and the supply of fit for purpose ramps.

4.17 The additional time taken to transport the grass to disposal should be mitigated by the approximately fortnightly cutting schedule, although the isles may be an issue that requires further consideration. It is likely that additional contracted resource would be required in some of the more remote burial grounds.

The following plant would be needed to transition to mown grass collection:

1. 7Nr Ride-On Mowers (£44,625)
2. 3Nr Mesh Side Kits & Ramps (£4,000)

The change to grass collection would also impact upon vehicle mileage and labour resources, with the following additional costs:

3. Additional mileage for vans (fuel) at approximately 60 miles per day, for the transport of collections to Gremista at a cost of £2,500 per growing year.

4. Additional staff hours to fill and empty trailer at approximately 1.5hrs per day per person, estimated at £7,500 per growing year.

Conclusions - Burial Grounds

4.18 In summary should members elect to review and recommence the collection of mown grass after this year's season for Burial Grounds, there would be a one off additional cost of £48,625 for collecting all mown grass with an annual recurring cost of £10,000 (in-house) and £13,679 (external contractor).

Proposed Arrangements – Amenity Areas

4.19 It is proposed to merge the current area based contractual split into one Shetland wide contract. This will include the addition of a provisional section relating to Burial Grounds as set out in 4.14, 4.15, 4.16 & 4.17 above.

4.20 This approach reduces preliminary overheads, simplifies contract administration, maximises the economies of scale and would reduce the duplication of effort that operating five different service providers would entail.

Conclusions - Amenity Areas

4.21 No changes are proposed to the current performance specification or scope of coverage. However, should members elect to review and recommence the collection of mown grass after this year's season for Amenity Areas the estimated additional cost would be £58,740 per annum, subject to tender.

5.0 Exempt and/or confidential information:

5.1 None

6.0 Implications :

6.1 Service Users, Patients and Communities:	Several complaints from Community Councils and individuals have highlighted that for some visitors the standard of grass cutting has been detrimental to the visual amenity of both the yards and community areas in general. The changes proposed in this report will alleviate many of these concerns.

6.2 **Human Resources and Organisational Development:**	None.
6.3 **Equality, Diversity and Human Rights:**	None.
6.4 **Legal:**	The Council is responsible for their cemeteries and amenity areas and the safety of those working, visiting or operating within them. In terms of:- a) Local Government (Scotland) Act b) Health and Safety at Work Act 1974 c) The Management of Health and Safety at Work Regulations 1999 d) The Occupiers Liability Act 1960] e) The Burial and Cremation (Scotland) Act 2016
6.5 **Finance:**	The cost of providing these service charges cannot be found from within existing budgets, this will be an increase in budget requirement and result in the following financial implications: The harmonisation of burial grounds grass cutting to a Category 2 standard will increase the cost of provision for this service by £41,453 per annum from the 2020/21 budget onwards. That the collection of mown grass be reviewed by Committee after this year's growing season and if approved result in a one off cost for burial grounds of £48,625 with an additional recurring cost of £23,679 per annum. The collection of mown grass to Amenity Areas would cost an estimated £58,740 per annum, resulting in a combined recurring cost of £82,419 per annum.
6.6 **Assets and Property:**	The proposals described in this report are intended to enhance the visual amenity of the Council's Burial Grounds and Amenity Areas.
6.7 **ICT and new technologies:**	None.
6.8 **Environmental:**	The collection and disposal of cut grass will increase travel time and fuel use, both of which will have a negative impact upon our carbon footprint.
6.9 **Risk Management:**	The operations and machinery necessary to carry out the works contained in this report fall under PUWER and HAVs legislation, and minimising trigger times and time on machines is a key determinant to ensuring the Council's ongoing compliance.

6.10 Policy and Delegated Authority:	Environment and Transport Committee In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for Burial Services and Amenity Grass Areas. Policy and Resources Committee As set out in paragraph 2.2.1(7) the Policy and Resources Committee has responsibility secure the co-ordination, control and proper management of the financial affairs of the Council. Shetland Islands Council Matters reserved to the Council include any expenditure not provided for in the Annual Estimates of Revenue and Capital Expenditure as described in section 2.1.3(4)	
6.11 Previously considered by:	None.	

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17 Dec 2019

Appendices:
None

Background Papers:

1. Burial Grounds Data & Locations
2. Amenity Areas Data
3. Amenity Area - Plot Locations

Shetland Islands Council

Agenda Item

4

Meeting:	**Policy and Resources Committee** **Shetland Islands Council**	**21 January 2020** **22 January 2020**
Report Title:	**North Isles Fibre**	
Reference No:	**DV-03-20-F**	
Author/Job Title:	**Thomas Coutts, Team Leader – Business Development**	

1.0 Decisions/Action Required:

1.1 That the Policy and Resources Committee RECOMMENDS that the Council RESOLVES to:

1.1.1 APPROVE the recommendations set out in the Full Business Case attached as Appendix A to this report; and,

1.1.2 DELEGATE authority to the Chief Executive (or her nominee) to sign the UK Department of Digital, Culture, Media and Sport (DCMS) Grant Funding Agreement (GFA) described in section 2.3 below; and implement the North Isles Fibre project; and,

1.1.3 APPROVE the project for inclusion in the 5 year asset investment plan, with a budget of £2,140,322 as described in section 6.5 below.

2.0 High Level Summary:

2.1 In 2017 an Outline Business Case (OBC) was developed by officers of the Council's Economic Development Service to examine options for the rollout of high speed broadband (HSB) to the islands of Yell and Unst. This followed a decision by the Development Committee on 13 June 2016 to approve the investigation of options to rollout HSB through fibre links to Yell and Unst as a priority [Min. Ref. 31/16].

2.2 The OBC identified the extension of the Council's fibre optic network from Graven in the North Mainland to Yell and Unst, negotiating the sea crossing via wireless connectivity, as the preferred option, at a total estimated capital cost of £1.99m. This would extend fibre connectivity to public sector buildings and premises in Yell and Unst, but would not initially be available for residential and commercial usage.

2.3 The OBC was subsequently submitted to the UK Department of Digital, Culture, Media and Sport (DCMS), in the hope of securing funding for the capital elements of the project through Wave 2 of the Local Full Fibre Network (LFFN) Challenge Fund, under the Public Sector Building Upgrade (PBSU) programme. The funding bid for Wave 2 was unsuccessful, but the Council subsequently developed the OBC into a Full Business Case (FBC) which was submitted for consideration under Wave 3 of the LFFN Challenge Fund; this application was successful. The project is required

to progress through a series of ‘gates’ following the initial funding award. The project has successfully negotiated Gate C, which is where the project readies for the procurement phase, and a Grant Funding Agreement (GFA) has been received to be signed between DCMS and the Council.

2.4 Members of the Asset Investment Group have reviewed the FBC and approved it for inclusion within the 5 year Asset Investment Programme.

3.0 Corporate Priorities and Joint Working:

3.1 The Project is in line with Our Plan 2016-2020, which includes the following as one of the top political priority areas:

- Improve high-speed broadband and mobile connections throughout Shetland.

The Project addresses the following key aims of the Plan:

<u>Connections and Access</u>

- More people will have access to high-speed broadband and reliable mobile connections, helping to connect people, communities and businesses throughout Shetland.

3.2 The Shetland Partnership, of which the Council is a key member, is the Community Planning Partnership for Shetland. The Shetland Partnership Plan 2018-2028 reflects the shared vision of the local area and the partner organisations:

“Shetland is a place where everyone is able to thrive; living well in strong resilient communities; and where people and communities are able to help plan and deliver solutions to future challenges.”

3.3 A key objective for the Shetland Community Planning Partnership is to develop and implement a ten-year action plan to attract people to live, work, study and invest in Shetland. This plan is predicated on the link between a healthy demographic balance and the ability to sustain communities and services, and compete economically.

The vision of the plan is:

“In 2028 Shetland will:

- *Be an island of opportunity for young people, businesses and investors;*
- *Be a vibrant and positive student destination;*
- *Have a more balanced demographic profile and a growing population underpinned with more private sector jobs.”*

The relevant ten-year outcomes from the Plan are as follows:

- People will be accessing employment, education and services in new and innovative ways designed to minimise barriers to involvement such as distance, childcare availability, and digital capability and capacity
- Shetland will be attracting and retaining the people needed to sustain our economy, communities and services
- All areas of Shetland will be benefitting from a more resilient low carbon economy underpinned by a culture of innovation, inclusion and skills development.

4.0 Key Issues:

4.1 Improving broadband services and mobile connectivity in rural areas is a key priority and challenge for all levels of government – local, regional and national – as demonstrated in the prominence of these developments in public strategies across the board. Strategic and business planning for the Council highlights the importance of developments in this area as a driver for improving business sustainability, reducing inequality and modernising public services. The political priorities of the Council are clear in placing the improvement, expansion and development of broadband connectivity at the heart of maintaining and improving the quality of life in Shetland, particularly in remoter areas.

4.2 Without improving services to the North Isles, it is almost certain that depopulation will continue unabated. The inability to improve services such as education, health and care will create inequalities in basic quality of life, as other areas of Shetland are able to modernise and improve, which will lead to existing residents moving away from, and will discourage others from relocating to, Yell and Unst. The resultant demographic imbalance will create further pressures on businesses and services who will experience difficulties attracting staff and generating revenue. Business closures will be likely due to an inability to develop modern services and market access routes, as well as a decrease in the local buying population. Key economic indicators such as economic activity, house prices and business start-ups will experience considerable downward trajectories as the islands increasingly become unsustainable.

4.3 The Scottish Government's Reaching 100% Programme (R100) intends to extend the availability of Next Generation Access (NGA) broadband infrastructure to meet a commitment to deliver superfast broadband access to 100% of premises in Scotland. While the North Isles Fibre project is primarily focussed on the deployment of high capacity network to connect public sector buildings for corporate (SIC, NHS and MoD) purposes, the project would be ideally positioned to provide backhaul (possibly for resiliency) for the R100 network in Unst and Yell. The North Isles Fibre project would also provide fibre connection points for other third party networks which may need backhaul connections as part of the aligned interventions scheme. The R100 project is aiming to provide in the region of 25% coverage (with aspirations for significantly more) in both Unst and Yell. This leaves a significant geographic area which may not benefit. Having the Council network planned and prepared for backhaul provision indicates both the intention to assist with the aligned interventions scheme and also the intention to encourage third party investment in broadband in Unst and Yell.

4.4 The Council instigated a tender process in September 2019, which sought bids from engineering companies for the civil works involved in the project. Tenders were received in October 2019.

4.5 External funding of £1,990,322 has been sought from the UK Government Department of Digital, Culture, Media and Sport (DCMS), via LFFN funding, to cover the build costs. The project was successful in negotiating Gate C of the DCMS assurance process, which is where the project readies for the contracting stage. A Grant Funding Agreement (GFA) has been received for £1,376,863, covering the costs of the civils work. Discussions with DCMS have highlighted that separate assurance processes for each element of capital procurement are required from the Council. This would mean separate funding processes for £613,459, for civils work, mast/pole construction and installation, and purchase of cable and connection equipment, rather than an overall grant award covering the capital costs of the project. Project management, consents and way leaves are not funded externally.

5.0 Exempt and/or Confidential Information:

5.1 None.

6.0 Implications:

6.1 Service Users, Patients and Communities:	Facilities such as schools and care centres experience considerable difficulties in service delivery without reliable access to the corporate network and high-speed services. The minimum requirement for junior high schools is considered to be 100Mbps, while for primary schools an asynchronous service may suffice if upload bandwidth is sufficient. The benefits of high-speed broadband can be seen at the Anderson High School in Lerwick, the Brae High School and the Sandwick Junior High School – increased use of remote technology to deliver learning opportunities will require improved connectivity, otherwise those schools in areas with less than optimal speeds will fall behind and lack the learning opportunities enjoyed in other schools. This will lead to much greater inequality of provision across Shetland. A particular business need is to upgrade connectivity to facilitate healthcare improvements. Telemedicine initiatives have been hampered by a lack of sufficient broadband capacity and inadequate 2G and 3G coverage across the area. NHS Shetland are currently unable to adequately support the service needs of practices in the North Isles, while modernising developments such as video consultancy and access to high definition scan results require significant improvements in network speed and reliability. As with education provision, failure to ensure adequate access to high-speed broadband will mean a considerable disparity between services available to the various communities in Shetland. Estimates of savings to be made by NHS Shetland through efficiencies, reduced staff travel, delivering care packages through remote delivery and other savings have been included as avoided costs and are part of the cost benefit analysis. These estimates indicate annual recurring savings to the NHS of £27,694.

6.2 **Human Resources and Organisational Development:**	None at this time.
6.3 **Equality, Diversity and Human Rights:**	Existing Council fibre services make a strong contribution to public service delivery and the business community where these are available. In order to ensure that improvements in service delivery are extended to all communities in Shetland it is essential that the infrastructure is put in place which will allow this. All service delivery plans within the public sector prioritise improvement and efficiency. Access to reliable high speed broadband is recognised as an essential requirement to improve delivery of education, social care, health services and public administration. This is also essential to ensure parity of service delivery in rural communities as adequate connectivity can mitigate against the effects of distance.
6.4 **Legal:**	The majority of the works for cable and ducting installation, and mast infrastructure for wireless connectivity, will be carried out on Council-controlled roads. However, for some aspects of the mast infrastructure, and access to buildings, there will be requirements for usage of and access to non-Council owned land, which will require identification of landowners and negotiation of settlement. It is envisaged that the Council will maintain “stores” to which the party awarded the civil contract will have access and draw from relative to the execution of the civil contract. Advice will be necessary to ensure any procurement exercises undertaken relative to the Council’s “stocking out” these stores is compliant with applicable procurement law. If, for example, single source procurement is sought, this will necessitate additional legal input to ensure grounds exist to justify this procurement approach.
6.5 **Finance:**	**<u>Capital</u>** The total cost of the project is £2,140,322 which will be funded as follows: External Grant (UK Government) - £1,376,863 Asset Investment Plan - £150,000 Asset Investment Plan – Up to £613,459* *Further external funding from the UK Government is anticipated, however approval can only be given in stages. **<u>Revenue</u>** On-going maintenance costs in the region of £13k will be funded from existing budgets.

	It is anticipated that the project will lead to savings of approximately £70k per annum within Community Care Resources e.g. virtual support packages, reduced travel etc.
6.6 Assets and Property:	The fibre network will remain an asset of the Council at all stages.
6.7 ICT and New Technologies:	The fibre installation will extend the Council's fibre network from Graven in the North Mainland to Haroldswick in Unst, providing gigabit connectivity to Council premises and sites in Mossbank, Toft, Yell and Unst. This will allow for service improvements in education, health and social care.
6.8 Environmental:	Service impacts from improved connectivity include reducing the need for journeys through provision of remote meetings, appointments, consultations etc. By reducing the requirement for road journeys the project will contribute to local and national carbon reduction targets.
6.9 Risk Management:	The external funding process requires that elements of the project are approved separately, as the project progresses. This means that there is a risk that the funding applications for the unsecured balance of £613,459 could be rejected. To mitigate this risk, budget provision will be made within the Asset Investment Plan. To further mitigate risk, the Council has maintained regular communications with DCMS on project progress, including progress on procurement under the separate budget headings, and have clarified processes relating to forthcoming grant variations. To ensure regular and timely communications, DCMS are attendees of the fortnightly Project Board which oversees the project. A draft Project Risk Register has been developed and maintained by the Project Manager, which describes and profiles the key risks of the current phase of the project.
6.10 Policy and Delegated Authority:	Authority to incur any expenditure not provided for in the Annual Estimates of Revenue and Capital Expenditure is a matter reserved for the Council, having taken advice from Policy and Resources Committee.
6.11 Previously Considered by:	N/A

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Report Cleared: 13 January 2020

Appendices: Appendix A – North Isles Fibre – Full Business Case

Background Documents: None

North Isles Fibre Project

Full Business Case (FBC)

Version: FINAL

Issue Date: 10 December 2019

Version history

Version	Date Issued	Brief Summary of Change	Owner's Name
1.0	01 Feb 2019	First draft	T. Coutts
1.1	19 March 2019	Sellafirth Industrial Estate removed from list of sites to be connected following State Aid advice	T. Coutts
1.2	08 April 2019	Inclusion of minute reference to Dev. Comm. approval of Economic Development Strategy (p.22) State Aid Statement attached as Appendix 12	T. Coutts
1.3	17 May 2019	Project costs and NPV revisited, including project management and maintenance costs Population stats updated (2018 Mid Year Estimates)	T. Coutts
2.0	05 June 2019	Financial Case revisited All financial tables updated Wider economic benefits removed	T. Coutts
2.1	12 June 2019	Corrections to Economic Case made	T. Coutts
2.2	19 June 2019	Amendments to Commercial Case made – more details of Procurement added Procurement Summary added as Appendix 8	T. Coutts
2.3	21 June 2019	Procurement information amended	T. Coutts
FINAL	10 Dec 2019	Revised dates	T. Coutts

Appendices

OVERVIEW OF THE FBC DEVELOPMENT PROCESS

The table below shows the systematic approach to the preparation of the business case – FBC development phases.

Stages	Development Process	Deliverables
Phase 3	Preparing the Full Business Case	
Step 8	Procuring the VFM solution	Economic Case
Action 8.1	Revisit the case for change	
Action 8.2	Revisit the OBC options	
Action 8.3	Detail procurement process and evaluation of final tenders (£)	
Step 9	Contracting for the deal	Commercial Case
Action 9.1	Set out the negotiated deal and contractual arrangements	
Action 9.2	Set out the financial implications of the deal	
Step 10	Ensuring successful delivery	Management Case
Action 10.1	Finalise project management arrangements and plans	
Action 10.2	Finalise change management arrangements and plans	
Action 10.3	Finalise benefits realisation arrangements and plans	
Action 10.4	Finalise risk management arrangements and plans	
Action 10.5	Finalise contract management arrangements and plans	
Action 10.6	Finalise post project evaluation arrangements and plans	
Output	*Full Business Case*	
Outcome	*Recommended Service Solution*	
Review point	*Gateway 3 – Investment Decision*	

1. EXECUTIVE SUMMARY

1.1 Introduction

This Full Business Case (FBC) for Shetland Islands Council's North Isles Fibre Project forms the third stage of the process to identify the best value option for delivering fibre optic broadband infrastructure to the islands of Yell and Unst in Shetland.

The previous stage of the process, the Outline Business Case (OBC), presented a detailed assessment of options and identified a preferred option, taking benefits, costs and risks into consideration. It is the purpose of the FBC to identify the value for money (VFM) option, to set out the arrangements for realising that option and demonstrate affordability. This will be achieved by reviewing the OBC and earlier decisions related to the project to ensure all assumptions and conclusions remain sound and that the case for change remains.

1.2 Structure and content of the document

This FBC has been prepared using the agreed standards and format for business cases, as set out in the Green Book Guidance issued by HM Treasury. The approved format is the Five Case Model, which comprises the following key components:

- the **Strategic Case** sets out the strategic context and the case for change, together with the supporting objectives for the project;
- the **Economic Case** demonstrates that the option selected best meets the existing and future needs of the organisation and optimises value for money (VFM);
- the **Commercial Case** outlines the content and structure of the proposal;
- the **Financial Case** confirms funding arrangements and affordability and explains any impact on the balance sheet of the organisation;
- the **Management Case** demonstrates that the project is achievable and can be delivered successfully to cost, time and quality.

1.3 Strategic Case

1.3.1 The strategic context

Improving broadband services and mobile connectivity in rural areas is a key priority and challenge for all levels of government – local, regional and national – as demonstrated in the prominence of these developments in public strategies across the board. Strategic and business planning for the Council highlights the importance of developments in this area as a driver for improving business sustainability, reducing inequality and modernising public services. The political priorities of the Council are clear in placing the improvement, expansion and development of broadband connectivity at the heart of maintaining and improving the quality of life in Shetland, particularly in remoter areas.

Usage of digital technology is increasing among local businesses and organisations. Figures from the Shetland Employment Survey 2017 showed that the proportion of local employers using social media platforms for business purposes rose from 45% in 2014 to 60% in 2017, use of cloud computing rose from 23% to

36%, and use of applications for smartphones, tablets etc. rose from 26% to 37%. It is expected that this technology will become ever more crucial to business competitiveness in the future and supporting infrastructure will be required to support this growth in usage in areas which are currently under-served.

1.3.2 The case for change

The investment objectives for the project take into account the specific requirements of the Council services and public sector partners which are located in the North Isles, strategies for development in rural locations, and the overall national and local aspirations for access to high speed data services.

These investment objectives, which will be referred to as the Critical Success Factors (CSF) for the project, are as follows:

1) Help achieve 95% Next Generation Broadband across Shetland by 2019 and 100% by 2021;

2) Ensure a minimum of 100Mbps connectivity for Mid Yell and Baltasound Junior High Schools, and a minimum of 10Mbps for all primary schools;

3) Provide public access to high-speed broadband in all Council premises in Yell and Unst by 2020;

4) Work in partnership with NHS Shetland to ensure high speed broadband is available in all NHS locations across Yell and Unst by 2020;

5) Work in partnership with other public sector organisations and telecommunication companies to provide high-speed mobile coverage to all settlements in Yell and Unst by 2021;

6) Ensure technical solution allows for further phase of development to provide similar benefits to Fetlar.

1.4 Economic Case

1.4.1 The long list

Following the resolution of Shetland Islands Council to examine options for delivering fibre optic services to Yell and Unst, a long list of options to realise this was drawn up. These long list options are as follows:

- **Option 1 -** No public sector intervention - telecom market to provide HSB service to Yell and Unst as per commercial decisions (the 'Do Nothing' option);
- **Option 2 -** Continue Council and public sector representations to Scottish and UK governments and commercial telecom providers to meet HSB needs for Yell and Unst (the 'Status Quo' option);
- **Option 3 -** Public sector investment in a wireless HSB system for Yell and Unst;
- **Option 4 -** Public sector investment in a satellite HSB system for Yell and Unst;

- **Option 5 -** Co-ordinate public sector response to proposed 'voucher' schemes for HSB launched by Scottish Government;
- **Option 6 -** Scottish Government to provide HSB solution to Yell and Unst through R100 project;
- **Option 7 -** SIC provides fibre to Yell only, with Unst to be provided in future as a second or subsequent phase;
- **Option 8 -** Council's fibre optic network to be extended into Yell and Unst on restricted linear routes to the main settlements, crossing Yell and Bluemull Sounds via wireless connectivity;
- **Option 9 -** Council's fibre optic network to be extended into Yell and Unst on restricted linear routes to the main settlements, crossing Yell and Bluemull Sounds via fibre across the seabed and wireless connectivity;
- **Option 10 -** Council's fibre optic network to be extended into Yell and Unst, providing connections to all public facilities, including primary schools in Burravoe and Cullivoe, with resilience provided by fibre links and wireless backup crossing Yell and Bluemull Sounds;
- **Option 11 -** Council's fibre optic network to be extended into Yell and Unst, providing connections to all public facilities, including primary schools in Burravoe and Cullivoe, with resilient wireless links crossing Yell and Bluemull Sounds;
- **Option 12 -** Establish a public/private partnership to investigate and undertake development of a fibre optic network in Yell and Unst;
- **Option 13 -** Establish a public/private partnership to investigate and undertake development of a fibre optic network in Yell and Unst, with SIC retaining ownership of the resultant network and leasing to a private or community partner;
- **Option 14 -** Encourage and support a community-led solution to spearhead development of a fibre network for Yell and Unst.

1.4.2 The short list

A shortlisting assessment was undertaken which measured the capability of each option of achieving the goals of the previously defined Critical Success Factors. From this assessment, the following short list of options emerged (descriptions shortened for brevity):

- **Option 1** Do Nothing
- **Option 2** Status Quo
- **Option 6** R100
- **Option 10** Full resilience (fibre cable sea crossings)
- **Option 11** Full resilience (wireless sea crossings)

1.4.3 Economic appraisal

Summarised figures from the economic appraisal are as follows:

Table 1.1 Key findings from the economic appraisals

	Undiscounted (£)	Net Present Cost (Value) (£)
Option 1 – Do Nothing		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 2 – Status Quo		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 6 – R100		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 10 - Full resilience (fibre cable sea crossings)		
Costs	4,460,462	4,445,431
Less Benefits	5,715,496	5,606,547
Total	**1,255,034**	**1,161,116**
Option 11 – Full resilience (wireless sea crossings)		
Costs	2,260,462	2,245,431
Less Benefits	4,216,887	4,107,938
Total	**1,956,425**	**1,862,507**

The economic appraisal exercise has shown that **Option 11** delivers the highest NPV over a 10-year timespan.

Options 1, 2 and 6 are demonstrated to have no measureable value over the lifespan of the project.

1.4.4 Overall findings: the preferred option

Table 1.2 summary of overall results

Evaluation Results	Option 1	Option 2	Option 6	Option 10	Option 11
Economic appraisals	5=	5=	5=	2	1
Benefits appraisal	5=	5=	5=	1=	1
Risk appraisal	5	3	4	2	1
Overall ranking	5	3	4	2	1

Conclusion: The preferred option is **Option 11 – Full resilience (wireless sea crossings)**.

Options 10 and 11 generate a similarly high degree of benefits in relation to the Critical Success Factors, and have been assessed to have a similar degree of risk. In the economic appraisal the avoidance of costs (and higher risk) involved in crossing the two sea channels via fibre means that Option 11 emerges as the preferred option.

Options 1, 2 and 6 are neutral in terms of net present cost. However, they generate higher risks than Options 10 and 11, and generate no benefits against the Critical Success Factors of the project. Therefore, these options cannot realistically be considered as preferred options for this project.

1.4.5 Required services

The services required are as follows:

- Civils (inc. preliminaries)
- Cable
- Cabinets
- Splicing closures
- Optical Distribution Frames
- Masts/Poles
- Wayleaves/Authorisations
- Maintenance

1.4.6 Procurement strategy

The tendering process will adhere to Shetland Islands Council policy and strategy and the Scottish Government guidance and will follow the following process:

- Project initiation document signed by senior exec/project sponsor
- Project brief drawn up
- Initial meeting with Council Procurement Manager
- Contract request form

- Contract request form signed off by senior exec/project sponsor
- Advertise tender
- Market engagement – Initial contact with interested suppliers
- Technical and financial assessment of tenders
- Issue tender report
- Issue letter/contract.

Other services will be undertaken by internal services.

1.4.7 Potential for risk transfer and potential payment mechanisms

The principle of risk transfer in the context of this project is that all risk will remain with the Council as the owner of the project. The Council will remain the owner of the network at all stages of the project and will retain ownership upon completion.

Payments for contracted services will be based on the successful completion of contract milestones and are expected to be made at 30-day intervals in line with procedures monitored by SIC Finance.

1.5 Financial Case

1.5.1 Financial expenditure

Table 1.4 financial expenditure

Year	0	1	2	3	4	5	6	7	8	9	Tot
	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000
Expenditure											
Build	1,990.3	0	0	0	0	0	0	0	0	0	1,990.3
Management	150.0	0	0	0	0	0	0	0	0	0	150.0
Maint.	0	13.4	12.9	12.5	12.0	11.6	11.2	10.9	10.5	10.1	105.1
Total	**2,140.3**	**13.4**	**12.9**	**12.5**	**12.0**	**11.6**	**11.2**	**10.9**	**10.5**	**10.1**	**2,245.4**
Income											
Income	1,990.3	0	0	0	0	0	0	0	0	0	1,990.3
Net Income	**-150.0**	**-13.4**	**-12.9**	**-12.5**	**-12.0**	**-11.6**	**-11.2**	**-10.9**	**-10.5**	**-10.1**	**-255.1**

1.5.2 Overall affordability and balance sheet treatment

A key dependency for this project is the availability of external finance in the form of grant funding from the UK Department of Digital, Culture, Media and Sport, and no direct income for the organisation will be generated.

External funding of £1,990,322 has been sought from DCMS to cover the build costs. Management costs are to be sought from the Council's own capital budgets.

1.6 Management Case

1.6.1 Project management arrangements

The Senior Executive has overall responsibility for the project, and will appoint the Project Manager, agree all major plans and deviation/exceptions thereof, ensure the required resources for the project are made available, and provide overall strategic guidance. The Senior Executive for this Project is Neil Grant, Director of Development Services, Shetland Islands Council.

The Senior User will represent the needs of those who will use, benefit from and maintain the improvement delivered by the project, and ensure the project delivered meets the needs of intended beneficiaries as effectively as possible. The Senior User for this Project is Susan Msalila, Executive Manager – ICT Unit, Shetland Islands Council.

The Senior Supplier will agree project objectives, ensure supplier resources required for project completion are made available, and ensure consistency with project objectives. The Senior Supplier for this Project is Carl Symons, Executive Manager – Estate Operations, Shetland Islands Council.

Project Manager will run the Project on a day-to-day basis on behalf of the Project Board, including taking responsibility for the Project Team.

1.6.2 Post project evaluation arrangements

A Post Implementation Review will ascertain whether the anticipated tangible and intangible benefits have been delivered. The review will take place 12 months following full implementation of the preferred option.

Project Evaluation Reviews will appraise how well the project was managed and delivered compared with expectations, and are timed to take place 6 months following full implementation of the preferred option.

1.7 Recommendation

This Full Business Case recommends Option 11 – Full Resilience (wireless sea crossings) as the preferred option for the North Isles Fibre Project.

2. THE STRATEGIC CASE

2.1 Introduction

The purpose of the Strategic Case is to explain and revisit how the scope of the proposed project or scheme fits within the existing business strategies of the organisation and to provide a compelling case for change, in terms of existing and future needs.

2.2 Part A: The strategic context

2.2.1 Organisational overview

Shetland

The 2018 Mid Year Population Estimates for Scotland estimated Shetland's population at 22,990, spread across 16 inhabited islands, with the main population centre of Lerwick home to roughly 7,000 inhabitants[1].

Employment in Shetland is dominated by public administration, which accounts for 21.2% of full-time equivalent (FTE) employment. The next largest sectors in terms of employment are wholesale/retail (12.5%) and construction (8.1%)[2].

The most recent economic survey conducted in Shetland found the overall value of the local economy (based on combined output from all sectors) to be £1,091.4m, of which around £198m can be attributed to public services and £310.5m can be attributed to combined fisheries operations[3].

North Isles

The area known as the North Isles of Shetland consists of the islands of Yell, Unst and Fetlar. The total population of this area is estimated at 1,639 people[4].

The North Isles are served by inter-island ferry connections from the mainland of Shetland. A 20-minute vehicle ferry crossing is required from the mainland to Yell, and further ferry crossings link Yell to Unst and Fetlar.

The Shetland Employment Survey 2017 estimated around 460 FTE jobs in the North Isles. The most prominent sectors of employment were aquaculture and public administration, which together accounted for over half of all FTE jobs in the islands. Both Yell and Unst are served by on-island health centres (Fetlar has an on-island district nurse), and both have leisure centres and residential care homes.

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[1] https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2018

[2] *Shetland Employers Survey 2017*, Shetland Islands Council

[3] Dyer, G. and Roberts, D. *An Analysis of the Shetland Economy Based on Regional Accounts 2010-11,* p.6

[4] https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/2011-based-special-area-population-estimates/small-area-population-estimates/mid-2017/detailed-data-zone-tables

There are 611 people registered at the Unst Health Centre, and 1,054 registered at the Yell & Fetlar Medical Practice[5].

School services on the islands comprise two junior high schools, covering S1-S4, located in Mid Yell and Baltasound – senior secondary pupils generally attend the Anderson High School in Lerwick and are accommodated in on-site Halls of Residence for the school week. There are five primary schools in total on the isles – three in Yell (Burravoe, Cullivoe and Mid Yell), and one each in Unst and Fetlar. As of March 2018, the combined primary school roll for all three islands is 120 pupils, and the combined junior secondary roll is 66 pupils. Nursery education is provided at Mid Yell, Baltasound and Fetlar – the combined nursery roll is 30 pupils[6].

The map below shows road and ferry links for the three islands, and the locations of key settlements:

5 *Shetland In Statistics 2017,* Shetland Islands Council, p. 68

6 Shetland Islands Council, Children's Services; School Rolls March 2018

Shetland Islands Council

Shetland Islands Council is the local authority for Shetland, established by the Local Government (Scotland) Act 1973. The Council delivers services including, but not limited to, education, environmental health, roads and ferries, port services, planning, community development, economic development and social care.

The Council is structured around five Directorates:

- Children's Services;
- Community Health and Social Care Services;
- Corporate and Executive Services;
- Development Services;
- Infrastructure Services.

The above Directorates encompass the various services the Council operates to deliver on its responsibilities and priorities.

The Council's political priorities are detailed in *Shetland Islands Council: Our Plan 2016 to 2020*. The five broad areas of activity are:

- Young People;
- Older People;
- Economy and Housing;
- Community Strength;
- Connection and Access.

The Plan also identifies five priority actions to maintain and improve the quality of life in Shetland. These are:

- Complete and move into the new Anderson High School and Halls of Residence;
- Increase the supply of affordable housing in Shetland;
- Improve high-speed broadband and mobile connections throughout Shetland;
- Support older people across Shetland so they can get the services they need to help them live as independently as possible;
- Provide quality transport services within Shetland, and push for improvements in services to and from Shetland.

2.2.2 Business strategies

Local

Shetland Islands Council: Our Plan 2016 to 2020

The development of digital services is a key priority for the Council, and represents a significant element of delivering on the Council's social and economic growth objectives, both in terms of delivery of Council functions and provision of services to others. The Council's Plan states:

*"…as this plan focuses on things we **can** do rather than the things we can't, we have made high speed broadband, mobile connections and affordable housing priorities in this plan. Businesses and people across Shetland identify these as important barriers to economic growth."*

The Council's Plan highlights the following as a priority for maintaining and improving the quality of life in Shetland:

- Improve high-speed broadband and mobile connections throughout Shetland.

One of the areas of development which the Plan highlights is 'Connections and Access'. The Plan states:

"Access to high-speed broadband and mobile connections are increasingly expected, not just desired. Lack of these connections limits business and leisure in more remote areas and could put people off moving there.

Over the next four years we will work with others so that by 2020 we will have made a difference in the following ways:

- *More people will have access to high-speed broadband and reliable mobile connections, helping to connect people, communities and businesses throughout Shetland."*

Shetland's Partnership Plan 2018-2028

The Shetland Partnership, of which the Council is a key member, is the Community Planning Partnership for Shetland. The Shetland Partnership Plan 2018-2028 reflects the shared vision of the local area and the partner organisations:

"Shetland is a place where everyone is able to thrive; living well in strong resilient communities; and where people and communities are able to help plan and deliver solutions to future challenges."

The Shetland Partnership Plan sets out the shared priorities of the Shetland Partnership for 2018-2028, which are as follows:

- People
  - Individuals and families thrive and reach their full potential
- Participation
  - People participate and influence decisions on services and use of resources
- Place
  - Shetland is an attractive place to live, work, study and invest
- Money
  - All households can afford to have a good standard of living

The relevant ten-year outcomes from the Plan are as follows:

- People will be accessing employment, education and services in new and innovative ways designed to minimise barriers to involvement such as distance, childcare availability, and digital capability and capacity
- Shetland will be attracting and retaining the people needed to sustain our economy, communities and services
- All areas of Shetland will be benefitting from a more resilient low carbon economy underpinned by a culture of innovation, inclusion and skills development.

<u>10 Year Plan to Attract People to Live, Study, Work and Invest in Shetland</u>

A key objective for the Shetland Community Planning Partnership is to develop a ten-year action plan to attract people to live, work, study and invest in Shetland. This plan is predicated on the link between a healthy demographic balance and the ability to sustain communities and services, and compete economically. The vision of the plan is:

"In 2028 Shetland will:

- *Be an island of opportunity for young people, businesses and investors;*
- *Be a vibrant and positive student destination;*
- *Have a more balanced demographic profile and a growing population underpinned with more private sector jobs."*

In order to achieve this vision, one of the objectives of the plan is:

- Targeted support for industry growth sectors and areas of skills shortage in the public sector

Under this objective, the plan states:

"Innovation can take many forms, from the use of new technology, to new ways of working as well as the development of new products, services and markets. In terms of this theme it is assumed that all Shetland business premises will have access to superfast broadband by 2021 and that Shetland will have city levels of mobile connectivity in place."

The plan also identifies the following risk to achieving the stated vision:

- Lack of digital connectivity (high speed broadband and mobile connectivity) which is vital to developing and diversifying the economy throughout Shetland. Digital connectivity is a key concern for young people wishing to return or stay in Shetland.

Economic Development Strategy 2018-2022

The Council's Economic Development Strategy 2018-2022 states:

> *"We must encourage wealth generation and job creation through development in new technology, and ensure that Shetland businesses can lead on and exploit technological change. We will seek to improve the economic circumstances of communities in Shetland by improving access to high speed communications, while supporting innovation through research and development, and reducing our dependence on fossil fuels."*

The Economic Development Strategy includes the following measure:

- Facilitate delivery of high speed mobile broadband and mobile connectivity across Shetland.

The measure above is supported by the following action:

- Facilitate delivery of fibre infrastructure to the North Isles.

The following outcomes/targets of the Economic Development Strategy relate to the expansion and improvement of local connectivity:

- 95% of premises have access to fibre broadband;
- Access to fibre connectivity for Council, public sector partners and others in Yell and Unst.

Business Transformation Programme 2016-20

The future management of the Council's fibre assets has been identified as a key workstream in the Council's Business Transformation Programme 2016-2020, which is designed to streamline how the Council operates. The Business Transformation Programme includes Broadband and Connectivity and Digital Services delivery programmes. There are also strong links with the ICT Wide Area Network Project that have to be maintained and all services provided to third party customers must be maintained at a minimum of existing levels.

National

'Realising Scotland's full potential in a digital world': A Digital Strategy for Scotland

'A Digital Strategy for Scotland' describes the steps the Scottish Government plan to take to ensure that Scotland can respond positively to the opportunities the digital age presents, including steps to:

> *"support our digital technologies industries;*

support all business sectors to become digitally mature and internationally competitive;
create digital public services around the needs of their users and to make the public sector more efficient;
share and open up the use of non-personal data;
provide high quality connectivity across the whole of our country;
focus our education and training systems on expanding its pool of digital skills and capabilities;
tackle the current gender gap in digital skills and careers;
enable everybody to share in the social, economic and democratic opportunities of digital; and
ensure Scotland is a cyber resilient and secure nation."

Reaching 100%

As the Scottish Government's Digital Scotland Superfast Broadband (DSSB) project DSSB neared completion, a subsequent phase, known as Reaching 100% or R100, was prepared by with the aim of making superfast broadband available to all premises in Scotland by 2021. Prior to Government intervention in the development of HSB services, successive Councils had advanced plans to significantly improve broadband services in Shetland, which ultimately led to the SHEFA2 Interconnector/Shetland Telecom project.

In December 2017, the Scottish Government announced investment of £600m for the procurement phase of the R100 programme, with procurement split across three regional lots (North, Central and South) and contracts to be awarded by the end of 2019.

The future

Improving broadband services and mobile connectivity in rural areas is a key priority and challenge for all levels of government – local, regional and national – as demonstrated in the prominence of these developments in public strategies across the board. Strategic and business planning for the Council highlights the importance of developments in this area as a driver for improving business sustainability, reducing inequality and modernising public services. The political priorities of the Council are clear in placing the improvement, expansion and development of broadband connectivity at the heart of maintaining and improving the quality of life in Shetland, particularly in remoter areas.

Usage of digital technology is increasing among local businesses and organisations. Figures from the Shetland Employment Survey 2017 showed that the proportion of local employers using social media platforms for business purposes rose from 45% in 2014 to 60% in 2017, use of cloud computing rose from 23% to 36%, and use of applications for smartphones, tablets etc. rose from 26% to 37%. It is expected that this technology will become ever more crucial to business competitiveness in the future and supporting infrastructure will be required to support this growth in usage in areas which are currently under-served.

Without improving services to the North Isles, it is almost certain that depopulation will continue unabated. The inability to improve services such as education, health and care will create inequalities in basic quality of life, as other areas of Shetland are able to modernise and improve, which will lead to existing residents moving away from, and will discourage others from relocating to, Yell and Unst. The resultant demographic imbalance will create further pressures on businesses and services who will experience difficulties attracting staff and generating revenue. Business closures will be likely due to an inability to develop modern services and market access routes, as well as a decrease in the local buying population. Key economic indicators such as economic activity, house prices and business start-ups will experience considerable downward trajectories as the islands increasingly become unsustainable.

In recognition of the need for change, Shetland Islands Council's Development Committee on 13 June 2016 approved the investigation of options to rollout HSB through fibre links to Yell and Unst as a priority [min. ref. 31/16].

Shetland Islands Council's Economic Development Strategy 2018-2022 includes the rollout of fibre to Yell and Unst as a specific action identified in the strategy action plan. This strategy was approved by the Development Committee on 01 October 2018 [min. ref. 24/18].

2.3 Part B: The case for change

2.3.1 Project objectives

The investment objectives for the project take into account the specific requirements of the Council services and public sector partners which are located in the North Isles, strategies for development in rural locations, and the overall national and local aspirations for access to high speed data services.

These investment objectives, which will be referred to as the Critical Success Factors (CSF) for the project, are as follows:

1) Help achieve 95% Next Generation Broadband across Shetland by 2019 and 100% by 2021;

2) Ensure a minimum of 100Mbps connectivity for Mid Yell and Baltasound Junior High Schools, and a minimum of 10Mbps for all primary schools;

3) Provide public access to high-speed broadband in all Council premises in Yell and Unst by 2020;

4) Work in partnership with NHS Shetland to ensure high speed broadband is available in all NHS locations across Yell and Unst by 2020;

5) Work in partnership with other public sector organisations and telecommunication companies to provide high-speed mobile coverage to all settlements in Yell and Unst by 2021;

6) Ensure technical solution allows for further phase of development to provide similar benefits to Fetlar.

2.3.2 Existing arrangements

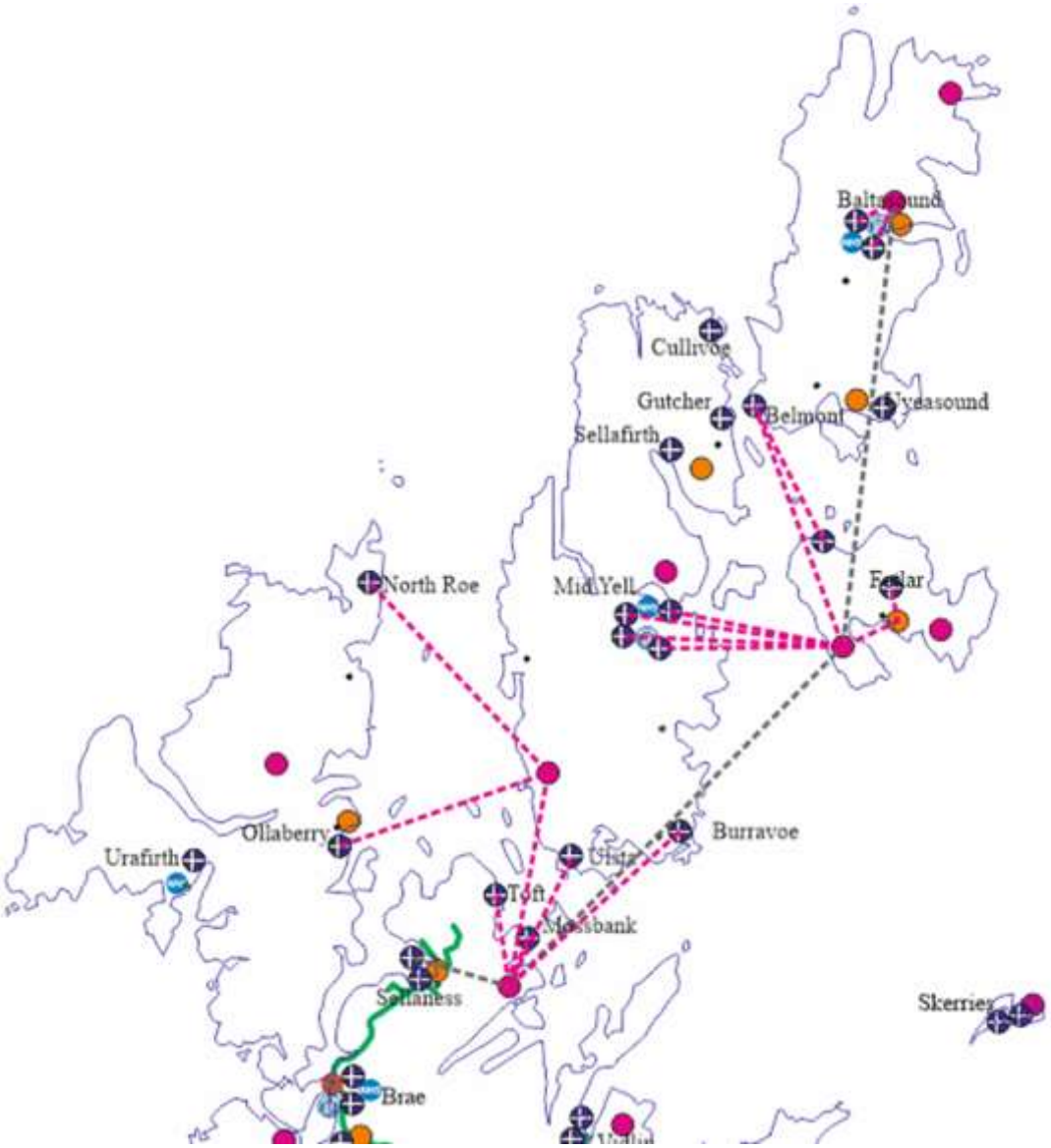
British Telecom currently operate a 20th Century network delivering telephony, ADSL (up to 8Mbps) and Exchange Activate (512kbps) through a network of exchanges. It is through this infrastructure that commercial broadband in Yell and Unst is currently accessed.

Shetland Islands Council's ICT Unit operates a private wireless network which provides speeds of up to 25Mbps for key service delivery sites – this includes schools, health centres, leisure centres and care centres. The network is not available to commercial, private or community users and has limited or no capacity for commercial provider (CP) connectivity. Performance of these links is satisfactory and meets the requirements of the Council sites in question, with the exception of Cullivoe Primary School, which utilises satellite connectivity considered to be unfit for purpose.

Regarding mobile connectivity, Vodafone have a single 2G cell in Mid Yell, while in 2016 provider EE won an emergency services network contract from the UK Home Office, proposing 20 new 2G and 4G sites across the islands including nine new masts in the North Isles.

The map below shows the nearest Council fibre to the North Isles (**green**) which links to sites in Sellaness and Graven in the north mainland, and the sites served by the Council's private wireless network, marked with ⊕. Wireless links identified as 5.8GHz lightly licensed connections (**- - - - -**) and licensed high capacity links (- - - - -) are shown.

The map also shows **commercial masts**, **business parks**, and **NHS sites**.



2.3.3 Business needs

Demography

Since 2001, the population of the North Isles has declined by over 1,000 residents, or over 6%. The largest factor in this population decline was the 2006 closure of RAF Saxa Vord in Unst, an economic shock from which the population level has not recovered. Based on population estimates from the National Records of Scotland, the population has been relatively stable over the last few years:

	2015	2016	2017
North Isles (Yell, Unst and Fetlar)	1,628	1,642	1,639

While population levels reflect the general stability of the Shetland population, there is evidence that the population is ageing at a faster rate than the Shetland average. The 2017 Mid-Year Population figures estimated that 31.2% of the North Isles population were aged under-35, compared to 39.7% for the whole of Shetland,

while 25.2% of residents in the North Isles were aged over 65, compared to 18.1% for the whole of Shetland.

It is expected that access to high speed broadband will make the North Isles more attractive as a place to live and work, and this will aid population retention. This will also impact on the working age population, helping to attain a healthier demographic balance.

Business and Employment

In 2013, Fetlar Developments Ltd. and Unst Partnership Ltd. undertook a process of community engagement with a view to improving services through a community-owned fibre network. While this ambition was not realised, the research undertaken in this process highlighted a number of issues regarding usage and aspirations for connectivity from local businesses:

- 45% of businesses surveyed described themselves as 'regular' internet users, while 53% described themselves as 'heavy' internet users;
- 39% of businesses claimed their average download speed was less than 0.75Mbps;
- 76% of businesses said that they were not satisfied with their current service;
- 86% said that their business was constrained in some way by the level of service;
- 56% of businesses claimed adequate broadband speed would allow them to provide new and/or improved services, while 40% said that it would allow them to access new markets;
- 36% of businesses said that adequate broadband speeds would improve turnover and 33% said that this would improve profitability;
- 9% of businesses said that they would be able to increase employment as a result of better broadband provision.

It is clear from the research above that businesses located in the North Isles consider current broadband provision as a hindrance to development. While the information dates from 2013, broadband services have not improved significantly in the North Isles in that time, so it can be assumed that business demands for improved broadband are currently at similar or greater levels than those stated above.

The Shetland Employment Survey 2017 noted a significant increase in the usage of information communication technologies by local businesses since the previous survey in 2014. The survey noted that in that time period, social media usage increased from 45% to 60% of businesses, use of cloud storage facilities increased from 23% to 36%, while use of applications increased from 26% to 37%. The benefits of businesses being able to access and utilise these technologies are increased access to markets, reduced costs and improved productivity. In order to access and get the full benefits of these technologies, businesses require adequate broadband links.

A 2018 report on the impact of high-speed broadband identified the following impacts on 'community-level' economies:

- Business efficiency improvements;

- Innovating and opening new markets;
- Enabling new business creation;
- Flexible working.

Shetland Islands Council would expect that the following measureable benefits would be generated from business access to high speed broadband:

- Increased employment in Yell and Unst;
- Increase in business start ups in Yell and Unst;
- Better access to enabling technologies;
- Improved access to online training and workforce development;
- Increased flexible working, and resultant efficiencies realised by employers.

Any impacts related to the above can be measured through the Shetland Employment Survey and the Shetland Skills Survey.

Service Delivery

Existing Council fibre services make a strong contribution to public service delivery and the business community where these are available. In order to ensure that improvements in service delivery are extended to all communities in Shetland it is essential that the infrastructure is put in place which will allow this.

All service delivery plans within the public sector prioritise improvement and efficiency. Access to reliable high speed broadband is recognised as an essential requirement to improve delivery of education, social care, health services and public administration. This is also essential to ensure parity of service delivery in rural communities as adequate connectivity can mitigate against the effects of distance.

Facilities such as schools and care centres experience considerable difficulties in service delivery without reliable access to the corporate network and high-speed services. The minimum requirement for junior high schools is considered to be 100Mbps, while for primary schools an asynchronous service may suffice if upload bandwidth is sufficient. The benefits of high-speed broadband can be seen at the Anderson High School in Lerwick, the Brae High School and the Sandwick Junior High School – increased use of remote technology to deliver learning opportunities will require improved connectivity, otherwise those schools in areas with less than optimal speeds will fall behind and lack the learning opportunities enjoyed in other schools. This will lead to much greater inequality of provision across Shetland.

A particular business need is to upgrade connectivity to facilitate healthcare improvements. Telemedicine initiatives have been hampered by a lack of sufficient broadband capacity and inadequate coverage of 2G and 3G coverage across the area, while modernising developments such as video consultancy and access to high definition scan results require significant improvements in network speed and reliability. As with education provision, failure to ensure adequate access to high-speed broadband will mean a considerable disparity between services available to the various communities in Shetland.

Similar connectivity requirements in terms of reliability, resilience and security are experienced by other public sector partners, including emergency services. These services are included in national procurement arrangements which find it difficult to make use of local solutions.

A key aspiration for the Shetland Partnership is to make Shetland a more attractive place to live, work, study and do business. This aspiration is at the core of the Partnership's 10-year plan. As high-speed broadband and suitable mobile phone coverage are considered essential requirements for individuals and households, improving the infrastructure to support these is a fundamental aspect of realising these aspirations.

2.3.4 Potential business scope and key service requirements

The geographical scope of the project covers fibre routes through the islands of Yell and Unst linking from the north of the Shetland mainland. At this stage the project scope excludes the island of Fetlar.

Council premises and those of public sector partners, with access to this network for community schemes, commercial customers, CPs, private customers and other agencies located in the islands are included in the business scope for this project.

Income to the Council from wholesale fibre access and costs of fibre maintenance/repair are outside the scope of this project.

Extension of the fibre optic network will incorporate a number of 'community connection points'. These will serve as Points of Presence where further network deployment can take place to serve homes and businesses with community owned broadband networks. In most cases these connection points will be provisioned within the public building being served with the new fibre network. This model has worked successfully in Shetland in the past.

2.3.5 Main benefits criteria

The Benefits Criteria were based on the aspects of project delivery which would best achieve the Critical Success Factors. These aspects are considered and weighted. The benefits are described more fully in the Economic Case and attached as Appendix 5.

2.3.6 Main risks

The main project risks are set out in the Risk Register in Appendix 6, in relation to each of the Critical Success Factors. Risk impacts are scored on the basis of likelihood of occurrence and severity of impact.

2.3.7 Constraints

The main constraints identified for the project are as follows:

- Identify and avoid duplicated effort involving other public and private sector services;
- Making sure that the Shetland public is properly informed at all stages of the exercise.

2.3.8 Dependencies

A critical influence on the project is the availability of external funding for capital works. Shetland Islands Council is currently facing a reduced settlement from the Scottish Government in terms of annual revenue funding and faces a series of other cost pressures. As such the authority must seek to make savings through efficiencies in service delivery, reducing the ability of the Council to fund large-scale capital projects.

3. THE ECONOMIC CASE

3.1 Introduction

In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (A Guide to Investment Appraisal in the Public Sector), this section of the FBC documents the wide range of options that have been considered in response to the potential scope identified within the strategic case.

3.2 Critical success factors

The critical success factors (CSFs) described in the OBC were as follows:

1) Help achieve 95% Next Generation Broadband across Shetland by 2019 and 100% by 2021;

2) Ensure a minimum of 100Mbps connectivity for Mid Yell and Baltasound Junior High Schools, and a minimum of 10Mbps for all primary schools;

3) Provide public access to high-speed broadband in all Council premises in Yell and Unst by 2020;

4) Work in partnership with NHS Shetland to ensure high speed broadband is available in all NHS locations across Yell and Unst by 2020;

5) Work in partnership with other public sector organisations and telecommunication companies to provide high-speed mobile coverage to all settlements in Yell and Unst by 2021;

6) Ensure technical solution allows for further phase of development to provide similar benefits to Fetlar.

These have been re-visited in the context of the FBC and remain valid.

3.3 The long-list

The long list of options scrutinised in the OBC was as follows:

Table 3.1 Summary of long list options and findings

Options		Finding
1	No public sector intervention - telecom market to provide HSB service to Yell and Unst as per commercial decisions The 'Do Nothing' option	Scored 0/30 – does not provide any achievements against the investment objectives. The telecommunications market will not provide non-commercial HSB solutions for remoter communities.
2	Continue Council and public sector representations to Scottish and UK governments and commercial telecom providers to meet HSB needs for Yell and Unst The 'Status Quo' option	Scored 11/30 – some potential benefits against the objectives, but these would be based on a purely hypothetical outcome from representations and could not be guaranteed. Any resultant solution would be unlikely to meet the requirements for connections to schools.
3	Public sector investment in a wireless HSB system for Yell and Unst	Scored 15/30 – provides a low level of connectivity. Restriction in backhaul would mean that higher speed connections would not be available.
4	Public sector investment in a satellite HSB system for Yell and Unst	Scored 3/30 – provides little or no connectivity.
5	Co-ordinate public sector response to proposed 'voucher' schemes for HSB launched by Scottish Government	Scored 2/30 – purely passive option which does not in itself achieve any of the investment objectives. This would be a complicated and inefficient approach with a high risk of failure.
6	Scottish Government to provide HSB solution to Yell and Unst through R100 project	Scored 16/30 – potential for some achievement of investment objectives, but would not provide adequate level of connectivity and would be reliant on Scottish Government willingness to invest in most remote communities as part of R100. Provision to Yell and Unst would be significantly later than the Scottish Government's target date of 2021
7	SIC provides fibre to Yell only, with Unst to be provided in future as a second or subsequent phase	Scored 2/30 – does not achieve any investment objectives as no solutions are provided to Unst
8	Council's fibre optic network to be extended into Yell and Unst on restricted linear routes to the main settlements, crossing Yell and Bluemull Sounds via wireless connectivity	Scored 7/30 – linear routes provide a low rate of connectivity for Unst and Yell communities and will not include a number of public sector facilities, including schools. Non-resilient links would provide limited coverage with a high risk of failure or unreliability.
9	Council's fibre optic network to be extended into Yell and Unst on restricted linear routes to the main settlements, crossing Yell and Bluemull Sounds via fibre across the seabed and wireless connectivity	Scored 7/30 – as above, albeit with improved resilience requiring much greater capital costs.
10	Council's fibre optic network to be extended into Yell and Unst, providing connections to all public facilities, including primary schools in Burravoe and Cullivoe, with resilience provided by fibre links and wireless backup crossing Yell and Bluemull Sounds.	Scored 24/30 – this options meets all of the investment objectives
11	Council's fibre optic network to be extended into Yell and Unst, providing connections to all public facilities, including primary schools in Burravoe and Cullivoe, crossing Yell and Bluemull Sounds via wireless links.	Scored 24/30 – as at Option 10, but with significantly reduced capital expenditure for the Council, albeit with reduced resilience.
12	Establish a public/private partnership to investigate and undertake development of a fibre optic network in Yell and Unst	Scored 12/30 – this option is unlikely to fulfil the investment objectives due to the difficulty of attracting private sector partners to a non-commercial undertaking
13	Establish a public/private partnership to investigate and undertake development of a fibre optic network in Yell and Unst, with SIC retaining ownership of the resultant network and leasing to a private or community partner.	Scored 12/30 – this would be an extremely complex undertaking, with little chance of achieving the investment objectives due to a lack of viability for the service.
14	Encourage and support a community-led solution to spearhead development of a fibre network for Yell and Unst	Scored 10/30 – high costs and capacity issues mean that this option is unlikely to be successful.

3.4 Short-listed options

The short list shown within the SOC, and subject to the economic appraisal process in the OBC, was as follows:

Option 1	Do Nothing
Option 2	Status Quo
Option 6	R100
Option 10	Full resilience (fibre cable sea crossings)
Option 11	Full resilience (wireless sea crossings)

In detail, the short-listed options are:

(a) Option 1 – Do Nothing

Table 3.2 Option 1

Scope	Minimum - no intervention or investment will be engaged in by the Council to realise fibre connectivity to Yell and Unst. The telecommunications market will be relied upon to provide this service.
Solution	The private commercial market will be relied upon to provide fibre connectivity to all premises, public and private, in Yell and Unst. The Council will not provide any investment in infrastructure or equipment to support this.
Service Delivery	This option will require no investment or commitment of resources from the Council.
Implementation	Agreement between relevant Directors and Council members to agree corporate and political approach.
Funding	This option does not require additional funding.

(b) Option 2 – Status Quo

Table 3.3 Option 2

Scope	Status Quo
Solution	The Council will make political and strategic representations to the Scottish and UK governments, and private UK telecommunications companies, to roll out HSB to Yell and Unst in order to provide those communities with the socio-economic benefits of modern connectivity.
Service Delivery	Political and strategic representations will be co-ordinated by the Economic Development Service.
Implementation	Agreement between relevant Directors and Council members to agree corporate and political approach.
Funding	This option does not require additional funding.

(c) Option 6 – R100

Table 3.4 Option 6

Scope	The Council will make representations to the Scottish Government, through the R100 project, to roll out HSB to Yell and Unst.
Solution	The Council will make political and strategic representations to the Scottish Government to roll out HSB to Yell and Unst as part of the Reaching 100 (or R100) project, in order to provide those communities with the socio-economic benefits of modern connectivity.
Service Delivery	Political and strategic representations will be co-ordinated by the Economic Development Service.
Implementation	Agreement between relevant Directors and Council members to agree corporate and political approach.
Funding	This option does not require additional funding.

(d) Option 10 – Full resilience (fibre cable sea crossings)

Table 3.5 Option 10

Scope	Provide resilient HSB links to all settlements and public buildings in Yell and Unst, utilising wireless links and fibre across the seabed.
Solution	The Council fibre optic network will be extended across Yell Sound and Bluemull Sounds via physical fibre links over the seabed, with wireless backup over both sea crossings. The fibre network will be configured over Yell and Unst to link all settlements and public premises, including schools, health centres and care facilities in Mid Yell, Burravoe, Cullivoe and Baltasound.
Service Delivery	Civils and crossing work tendered to market for delivery. Wayleaves and authorisations sought by Shetland Islands Council. Connections to public buildings undertaken by SIC Estate Operations and ICT. Community connection points will allow for further network. deployment to serve homes and businesses through community owned broadband networks.
Implementation	Report to relevant Council committees seeking approval for project; tendering process undertaken to source contractor to deliver installation work.
Funding	Project co-ordination and negotiations to be undertaken using existing resources. LFFN funding required for capital costs.

(e) Option 11 - Full resilience (wireless sea crossings)

Table 3.6 Option 11

Scope	Provide resilient HSB links to all settlements and public buildings in Yell and Unst, utilising wireless links to negotiate sea crossings
Solution	Council's fibre optic network to be extended into Yell and Unst, providing connections to all public facilities, including primary schools in Burravoe and Cullivoe, crossing Yell and Bluemull Sounds via wireless links. The fibre network will be configured over Yell and Unst to link all settlements and public premises, including schools, health centres and care facilities in Mid Yell, Burravoe, Cullivoe and Baltasound.
Service Delivery	Civils and crossing work tendered to market for delivery. Wayleaves and authorisations sought by Shetland Islands Council. Connections to public buildings undertaken by SIC Estate Operations and ICT. Community connection points will allow for further network. deployment to serve homes and businesses through community owned broadband networks.
Implementation	Report to relevant Council committees seeking approval for project; tendering process undertaken to source contractor to deliver installation work.
Funding	Project co-ordination and negotiations to be undertaken using existing resources. LFFN funding required for capital costs.

3.5 Economic appraisal

This section provides a detailed overview of the main costs and benefits associated with each of the selected options. Importantly, it indicates how they were identified and the main sources and assumptions. More detailed information for each option and each cost or benefit is shown within appendices 1 (Variables) and 2 (Cost-Benefit Summary). Net Present Values are summarised in Appendix 3.

3.5.1 Estimating benefits

Methodology

The benefits associated with each option were identified by the project team which analysed the main impacts.

Descriptions

The benefits identified fell into the following **main** categories:

- **Cash releasing benefits**
  - Avoided costs - defined as savings to public services through access to online service delivery options.
- **Other quantifiable benefits**
  - Multiplier effect – the direct, indirect and induced economic benefits associated with installation of fibre infrastructure to Yell and Unst from Shetland mainland.

Avoided costs

Avoided costs may alternately be defined as cost savings – these are costs which will definitely be incurred as a result of continuing with a particular service or cost delivery model, whereas shifting to a new model will not require these costs.

The following estimates have been included as avoided costs from Year 1 onwards:

- Estimates from SIC Community Care Resources – responsible for management and administration of care centres in Yell and Unst – incurred from use of HSB, including increased use of virtual support packages, distance learning and reduced travel time/mileage indicate an annual recurring saving of £69,060.

- Estimates of savings to be made by NHS Shetland through efficiencies, reduced staff travel, delivering care packages through remote delivery and other savings have been included as avoided costs and are part of the cost benefit analysis. These estimates indicate annual recurring savings to the NHS of £27,694.

Multiplier effect

An increase in final demand for a particular industry output carries with it the assumption that there will be an increase in the output of that industry, as producers react to meet the increased demand; this is the direct effect. As these producers increase their output, there will also be an increase in demand on their suppliers and so on down the supply chain; this is the indirect effect. As a result of the direct and indirect effects the level of household income throughout the economy will increase as a result of increased employment. A proportion of this increased income will be re-spent on final goods and services: this is the induced effect. The ability to quantify these multiplier effects is important as it allows economic impact analyses to be carried out on the Scottish economy.

In the context of this project, the multiplier effect will apply to the investment made in fibre infrastructure and the installation of this, which will require a significant amount of capital infrastructure. As this will require the services of the local construction industry to realise, the multiplier used for the project will be the Type I GVA effect multiplier for Construction, which has been calculated at 0.68 (rounded). This will be applied to the project cost which will be tendered to the market to determine the direct, indirect and induced effects of the proposed investment.

3.5.2 Estimating costs

Methodology

The costs of delivery have been estimated from existing market rates for required infrastructure and installation work, based on the experience of previous projects.

Description, sources and assumptions

The costs identified fell into the following categories. In each case, the sources and assumptions underlying their use are explained:

- Preliminaries
  - These costs will include site management and clearing, traffic management, fencing, drainage and other preliminary work required to support the dig and build elements. These costs have been estimated at 15% of other capital costs.

- Civils
  - These costs are defined as the raw materials required for the rollout of the fibre network (cabling, ducting) and the construction work required (dig and build costs). Total costs per metre for materials and build costs are included in Appendix 1 – Variables.

- Crossings
  - These costs include crossing roadworks and the two sea channels which require to be spanned. These costs include access points (man holes). Estimates for costs of crossing by wireless or fibre are included in Appendix 1 – Variables.

- Connections
  - These are the costs per site for connecting public buildings and sites to the fibre network. The project assumes a total of 22 public buildings and sites in Yell, Unst and the North Mainland will be connected, which are as follows:

Table 3.7 public buildings and sites requiring connections

Schools	Baltasound Junior High School
	Burravoe Primary School
	Cullivoe Primary School
	Mid Yell Junior High School
	Mossbank Primary School
Ferry Terminals	Belmont Ferry Terminal
	Gutcher Ferry Terminal
	Toft Ferry Terminal
	Ulsta Ferry Terminal
Care centres	Isleshaven Care Centre
	Nordalea Care Centre
NHS sites	Unst Health Centre
	Yell & Fetlar Medical Practice
Leisure Centres	Mid Yell Leisure Centre
	Unst Leisure Centre
Other public sector sites	Remote working site, Unst
	Saxa Vord radar station
	SIC Roads Yell depot
	SIC Building Services Yell store
	SIC Roads Unst depot
	Cullivoe Pier

Estimated costs per site are included in Appendix 1 – Variables.

- Maintenance
  - Estimated costs of maintenance, including time, based on a full maintenance and replacement programme on the fibre network.

3.5.3 Net present cost findings

Summaries of economic appraisals for each option are attached as Appendix 2, together with a summary of NPV calculations at Appendix 3.

The following table summarises the key results of the economic appraisals for each option:

Table 3.8 key results of economic appraisals

	Undiscounted (£)	Net Present Cost (Value) (£)
Option 1 – Do Nothing		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 2 – Status Quo		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 6 – R100		
Costs	0	0
Less Benefits	0	0
Total	**0**	**0**
Option 10 - Full resilience (fibre cable sea crossings)		
Costs	4,460,462	4,445,431
Less Benefits	5,715,496	5,606,547
Total	**1,255,034**	**1,161,116**
Option 11 – Full resilience (wireless sea crossings)		
Costs	2,260,462	2,245,431
Less Benefits	4,216,887	4,107,938
Total	**1,956,425**	**1,862,507**

3.5.4 Option appraisal conclusions

The key findings are as follows:

(a) Option 1 – Do Nothing

This option ranks **fifth equal**

This option requires no investment and generates no costs. It does not achieve any financial or other benefits, and is therefore neutral in terms of net present cost.

(b) Option 2 – Status Quo

This option ranks **fifth equal**

This option requires no investment and generates no costs. It does not achieve any financial or other benefits, and is therefore neutral in terms of net present cost.

(c) Option 6 – R100

This option ranks **fifth equal**

This option requires no investment and generates no costs. It does not achieve any financial or other benefits, and is therefore neutral in terms of net present cost.

(d) Option 10 – Full resilience (fibre cable sea crossings)

This option ranks **second**

This option will generate a positive NPV and generates a high degree of economic benefits in line with the main benefits identified, which is slightly offset by the higher cost of this option.

(e) Option 11 – Full resilience (wireless sea crossings)

This option ranks **first**

This option will generate a positive NPV and generates a high degree of economic benefits in line with the main benefits identified. This option is a lower cost option than option 10 and delivers a higher NPV.

3.6 Qualitative benefits appraisal

3.6.1 Methodology

The appraisal of the qualitative benefits associated with each option was undertaken by:

- identifying the key individual benefits related to achieving each of the Critical Success Factors;
- scoring each of the short-listed options against the benefit criteria on a scale of 1 to 5 (1 = low or no benefits, 5 = high degree of benefits).

3.6.2 Qualitative benefits criteria

Qualitative benefits are defined as those which are not necessarily measureable in monetary terms but which nonetheless represent positive material impacts derived from the project.

The qualitative benefits for this project have been defined as the positive impacts on the communities of Yell and Unst which would be made possible by access to HSB services by public sector organisations and communities.

3.6.3 Qualitative benefits scoring

Benefits scores were allocated on a range of 1-5 for each option and agreed by the project team to confirm that the scores were fair and reasonable.

3.6.4 Analysis of key results

The results of the benefits appraisal are shown in the following table:

Table 3.9 benefits appraisal results

	Option 1	Option 2	Option 6	Option 10	Option 11
Improved health and social care services delivered in Yell and Unst	1	1	1	4	4
Increased access to HSB for businesses, public sector and private premises	1	1	1	4	4
Capacity for improvements in delivery of telemedicine and other remote care options	1	1	1	4	4
Increased opportunities for business development and improvement of business services - e.g. aquaculture husbandry, marketing, retail	1	1	1	4	4
Increased employment in North Isles	1	1	1	3	3
Improved provision of educational opportunities in North Isles schools	1	1	1	5	5
Increased capacity for nationally important communication services (e.g. defence) to be situated within the North Isles	1	1	1	5	5
Increased capacity for inward investment	1	1	1	5	5
Improved connectivity leads to environmental benefits - carbon reduction - through reducing road journeys	1	1	1	4	4
Reduced inequality within Shetland due to distance and remoteness, and increased access to public services	1	1	1	5	5
Total	**9**	**9**	**9**	**43**	**43**

The key considerations that influenced the scores achieved by the various options were as follows:

(a) Option 1 – Do Nothing

This option ranks **fifth equal**

This option does not achieve any of the identified qualitative benefits in and of itself, and is reliant on a future phase of delivery by the private sector to deliver any benefits.

(b) Option 2 – Status Quo

This option ranks **fifth equal**

This option does not achieve any of the identified qualitative benefits in and of itself, and is reliant on the success of representations to ensure a future phase of delivery by either the public or private sector to deliver any benefits.

(c) Option 6 – R100

This option ranks **fifth equal**

This option does not achieve any of the identified qualitative benefits in and of itself, and is reliant on the rollout of R100 to the relevant communities to ensure a future phase of delivery.

(d) Option 10 – Full resilience (fibre cable sea crossings)

This option ranks **first equal**

This option provides a very high degree of benefits across all identified criteria, allowing for improvements in public services, including healthcare, social care and education, and improving access for businesses to HSB, will improve business sustainability, financial performance and employment.

(e) Option 11 – Full resilience (wireless sea crossings)

This option ranks **first equal**

This option provides a very high degree of benefits across all identified criteria, allowing for improvements in public services, including healthcare, social care and education, and improving access for businesses to HSB, will improve business sustainability, financial performance and employment.

3.7 Risk appraisal – unquantifiables

3.7.1 Methodology

A risk appraisal exercise was undertaken by the project team and involved the following distinct elements:

- identifying all the possible business and service risks associated with each option;
- assessing the impact and probability for each option;
- calculating a risk score based on probability against impact.

3.7.2 Risk scores

A detailed analysis of identified risks included in Appendix 6. The appraisal exercise assigned the risk scores shown in the risk table on the basis of professional judgement and experience with the sector. Scores were made on the basis of likelihood and potential severity of each risk.

The range of scales used to quantify the severity and likelihood of risk was as follows:

- low equals 1;
- medium equals 3;
- high equals 5;
- 0 means the risk does not apply to that option.

The key considerations that influenced the scores achieved by the various options were as follows:

(a) Option 1 – Do Nothing

This option ranks **fifth**

This option will increase the likelihood that the North Isles will continue to experience the negative impacts of lack of access to high-speed broadband. The likelihood of businesses becoming unsustainable and public services degrading in comparison to other areas, due to an inability to realise the benefits of online services, will increase, and this will lead to depopulation and an inability to attract new residents to the area.

(b) Option 2 – Status Quo

This option ranks **third**

This option will increase the likelihood that the North Isles will continue to experience the negative impacts of lack of access to high-speed broadband. The likelihood of businesses becoming unsustainable and public services degrading in comparison to other areas, due to an inability to realise the benefits of online services, will increase, and this will lead to depopulation and an inability to attract new residents to the area.

(c) Option 6 – R100

This option ranks **fourth**

This option will increase the likelihood that the North Isles will continue to experience the negative impacts of lack of access to high-speed broadband. The likelihood of businesses becoming unsustainable and public services degrading in comparison to other areas, due to an inability to realise the benefits of online services, will increase, and this will lead to depopulation and an inability to attract new residents to the area.

(d) Option 10 – Full resilience (fibre cable sea crossings)

This option ranks **second**

This option will provide options for businesses and public services to improve and allow for residents to access the benefits of HSB, which will reduce the risks of service degradation and depopulation. There are technical and political risks but these will be mitigated through appropriate project planning. A higher degree of risk is incurred by undertaking to cross Yell and Bluemull Sounds via fibre as part of this option.

(e) Option 11 – Full resilience (wireless sea crossings)

This option ranks **first**

This option will provide options for businesses and public services to improve and allow for residents to access the benefits of HSB, which will reduce the risks of service degradation and depopulation. There are technical and political risks but these will be mitigated through appropriate project planning.

3.8 The preferred option

The results of the investment appraisal are as follows:

Table 3.9 summary of overall results

Evaluation Results	Option 1	Option 2	Option 6	Option 10	Option 11
Economic appraisals	5=	5=	5=	2	1
Benefits appraisal	5=	5=	5=	1=	1=
Risk appraisal	5	3	4	2	1
Overall ranking	**5**	**3**	**4**	**2**	**1**

Conclusion: The preferred option is **Option 11 – Full resilience (wireless sea crossings)**.

Options 10 and 11 generate a similarly high degree of benefits in relation to the Critical Success Factors, and have been assessed to have a similar degree of risk. In the economic appraisal the avoidance of costs (and higher risk) involved in crossing the two sea channels via wireless connectivity only means that Option 11 emerges as the preferred option.

Options 1, 2 and 6 are neutral in terms of net present cost. However, they generate higher risks than Options 10 and 11, and generate no benefits against the Critical Success Factors of the project. Therefore, these options cannot realistically be considered as preferred options for this project.

3.9 Sensitivity analysis

Three sensitivity models were created to analyse the impacts of increasing costs and over-optimistic benefits on the project:

- 5% increase in costs against a 15% reduction in expected benefits;
- 10% increase in costs against a 25% reduction in expected benefits;
- 25% increase in costs against a 40% reduction in expected benefits.

Results of this process show positive, although significantly reduced, net present values for the preferred option for all sensitivities.

Impacts of the sensitivity analysis on net present values for each option are attached as Appendix 7.

4. THE COMMERCIAL CASE

4.1 Introduction

This section of the FBC describes the proposed deal in relation to the preferred option outlined in the Economic Case.

4.2 Required services

There will be six main procurements taking place within the overall project. The rationale behind separating out the provision of 'stores' (e.g. cable, cabinets, etc.) from the main civil works contract is that, in previous contracts of this kind, it has proven to be better value for money for the Council to procure these stores itself, rather than have the main contractor procure these.

The procurements are as follows:

4.2.1 Civils (inc. preliminaries)

Required Service: Installation including mole ploughing, road crossing, inspection chambers, site preliminaries, etc.

It is proposed that the procurement proceed on the same basis as previous network deployments. Namely, the Council will procure a civil contract rather than a 'design and build'. It is vital that the Council maintains full ownership and control of the network once deployed so no partnership with a network provider is being sought. All the necessary skills and experience exist within the Council to the build and make the network operational. A civil works contractor will be contracted to do the necessary installation including mole ploughing, road crossings, inspection chambers etc. The tender will be advertised in line with Council policy relating to a contract of this value – due to the value of the contract there will be a substantial 'quality' element to the selection and scoring procedure, which will also take into account track record and price. This approach has been proven to be successful and cost effective.

- Regulated procurement through open tender – phased procurement
- Advertised in The Shetland Times
- Procurement Procedures Summary Guidance – relates to Works >£4.3m
- Estimated value = £1.6m

4.2.2 Cable

Required Service: Supply and delivery of fibre optic cable, ensuring a match with existing fibre network specifications.

In previous procurements the Council has either included the supply of fibre (and duct) in the civil works contract, or excluded it and provided it directly to the contractor for installation. It has been shown that it is much better value for money for the Council to acquire the cable (and duct) and provide it to the civil works contractor. It is proposed that the cable be single sourced for this project to ensure compatibility and reduce the need to have different types of cable as stores for any future repair work.

- Single source to match existing fibre network specifications
- Procurement Procedures Summary Guidance – relates to Works/Supplies/Services £60,000+
- Estimated value = £0.13m

4.2.3 Cabinets

Required Service: ‘Street furniture' - purchase of protective housing for Optical Distribution Frames.

It is proposed that the contract to supply cabinets be advertised on the Public Contracts Scotland web portal. In previous network deployments cabinets have been supplied by different manufacturers. None have proven to be better or worse than the others.

- Framework or tendered service to ensure best value
- Procurement Procedures Summary Guidance – relates to Works/Supplies/Services £60,000+
- Estimated value for 12-15 cabinets = £0.1m

4.2.4 Splice Enclosures

Required Service: Provision of cable junction - housing for splicing of cable in the carriageway.

The project proposes to use a specific type of joint enclosure to ensure compatibility with existing network infrastructure. Using the same splice enclosures as the rest of the network ensures that the Council operatives (splicers, etc.) do not require additional training and allows the Council to stock only one type replacement purposes. It is proposed to use existing framework agreements or single source.

- Framework or single source to ensure compatibility with existing network
- Procurement Procedures Summary Guidance – relates to Works/Supplies/Services £1,001-£10,000
- Estimated value = £0.002m

4.2.5 Optical Distribution Frames

Required Service: Optical Distribution Frames - fibre patch panels used to direct fibre into building or other premises. Used to terminate fibre within premises/cabinets and provides a patch panel to easily route fibre services.

ODFs are the fibre patch panels used to terminate fibre and then to route services to wherever they need to go.

- Single source to ensure compatibility
- Procurement Procedures Summary Guidance – relates to Works/Supplies/Services £1,001-£10,000
- Estimated value of 40 ODFs = £0.008m

4.2.6 Masts and Wireless Links

Required Service: Mast infrastructure to facilitate the wireless links which will be used to negotiate the two sea crossing on the network route.

The Council have used TNP (The Network People) on various contracts in the past and we have asked them to provide specialist advice for this project. They are putting together a specification for all the network links as well as the mast/pole infrastructure. The antennae (links) will be procured through framework agreements and the mast/pole infrastructure will be procured through open tender.

- Mast/Pole - Open tender based on specifications supplied by TNP
- Wireless links – Framework agreement.
- Procurement Procedures Summary Guidance – relates to Works/Supplies/Services £60,000+
- Estimated value = £0.1m

4.3 Other Requirements

The following services/requirements have also been accounted for:

4.3.1 Wayleaves/authorisations

A wayleave is the consent that allows the consent-holder to install, maintain or repair equipment on privately-owned land. This is necessary where the fibre route will go through land which is not owned by the Council. Wayleaves and authorisations will be negotiated directly between the Council and landowners. Previous experiences installing fibre have led to no significant problems with the granting of wayleaves.

As the bulk of installation work will take place on Council-controlled roads the requirement for wayleaves to be sought will be kept to a minimum.

4.3.2 Maintenance

Ongoing maintenance of the fibre network will be carried out by the Council's Estate Operations through the Fibre Optic Asset Management Team. Costs have been estimated based on a full maintenance and replacement programme for the current network footprint, and will be met from existing budgets.

4.4 State Aid

Under a service contract between SIC and FarrPoint Ltd, legal advisers Hill Dickinson LLP were instructed to undertake a high-level State aid assessment of the project proposals. The results of this assessment are attached as Appendix 11.

4.5 Interaction with R100

4.5.1 R100

The Reaching 100% Programme (R100) intends to extend the availability of next generation access (NGA) broadband infrastructure to meet Scottish Government's commitment to deliver superfast broadband access to 100% of premises in Scotland by 2021.

To achieve this, Scottish Government intends to procure further coverage of NGA broadband infrastructure (capable of delivering download speeds of at least 30Mbps) in areas where such broadband is currently unavailable. Geographically, R100 covers the whole of Scotland.

To encourage bids from as many contractors as possible, it was decided to split the procurement into three lots:

- North – Highlands and Islands (including Shetland), Angus, Aberdeen and Dundee with a contract value of £384 million and around 84,000 eligible premises.
- Central – Central Scotland and Fife with a contract value of £83 million and around 42,000 eligible premises.
- South – The Scottish Borders and Dumfries and Galloway with a contract value of £133 million and around 21,000 eligible premises.

To encourage the successful contractors to build fibre in the most remote areas of Scotland, Scottish Government has specified:

- 11 mandated areas (including Unst and Yell), all in the North lot, where 25 per cent of premises must be able to get speeds of at least 100 Mb/s.
- 36 weighted areas (including Fetlar), two in the South and the rest in the North.

The procurement exercise requires bidders to set out how many of the in-scope premises they could connect, how they would do this, and at what cost. Scottish Government anticipates it will award the contracts in March 2019.

Scottish Government recognises that a full fibre connection to all premises is unlikely to be achievable on cost grounds and within current timescales. It expects the initial R100 procurement to extend superfast fibre access to most of the 147,000 premises, but it is unlikely to reach them all. Scottish Government is considering its options under various scenarios such as using different technologies to extend access. This could involve laying further fibre or could mean using mobile, wireless or satellite technologies.

Scottish Government is planning for this through its aligned interventions scheme which is likely to involve a voucher scheme, where households can apply for vouchers to help fund access to superfast broadband. The eventual size and cost of

this is dependent on a number of variables including the number of premises and the extent to which it can be integrated with other broadband schemes.

4.5.2 North Isles Fibre Project

The project to deploy fibre to the islands of Unst and Yell plans to augment and facilitate the R100 project.

The project is primarily focussed on the deployment of high capacity network to connect Public Sector buildings for corporate (SIC, NHS and MoD) purposes. The project would, however, be ideally positioned to provide backhaul (possibly for resiliency) for the R100 network in Unst and Yell.

The North Isles Fibre project would also provide fibre connection points for other third party networks which may need backhaul connections as part of the aligned interventions scheme. The R100 project is aiming to provide in the region of 25% coverage (with aspirations for significantly more) in both Unst and Yell. This leaves a significant area (geographically) which may not benefit. Having the Council network planned and prepared for backhaul provision indicates both the intention to assist with the aligned interventions scheme and also the intention to encourage third party investment in broadband in Unst and Yell.

4.5.3 Shetland Islands Council and Scottish Government cooperation

Shetland Islands Council took up the opportunity with Scottish Government to be actively involved in the R100 from the outset of the project. Regular dialogue has been maintained throughout. The R100 team are fully aware and supportive of Shetland Islands Council's plans to deploy fibre network in Unst and Yell. Scottish Government have made all the potential suppliers of R100 aware of the availability of Shetland Islands Council fibre infrastructure in Shetland.

4.6 Potential for risk transfer

The principle of risk transfer in the context of this project is that all risk remains with the Council as the owner of the project. The Council will remain the owner of the network at all stages of the project and will retain ownership upon completion.

4.7 Proposed charging mechanisms

Payments for contracted services will be based on the successful completion of contract milestones and are expected to be made at 30-day intervals in line with procedures monitored by SIC Finance.

4.8 Proposed contract lengths

Contract lengths will be expected to be no longer than 18 months based on project implementation milestones.

4.9 Procurement strategy and implementation timescales

The tendering process will adhere to Shetland Islands Council policy and strategy and the Scottish Government guidance and will follow the following process:

- Project ignition document signed by senior exec/project sponsor
- Project brief drawn up
- Initial meeting with Council Procurement Manager
- Contract request form
- Contract request form signed off by senior exec/project sponsor
- Advertise tender
- Market engagement – Initial contact with interested suppliers
- Technical and financial assessment of tenders
    - Is tender achievable within price scales?
    - Evaluate contractors ability to deliver the project
- Issue tender report
    - Contract awarded on price subject to technical and financial assessment
- Issue letter/contract.

A procurement summary is attached as Appendix 8.

5. THE FINANCIAL CASE

5.1 Introduction

The purpose of this section is to set out the forecast financial implications of the preferred option (as set out in the Economic Case) and the proposed deal (as described in the Commercial Case).

5.2 Impact on the organisation's income and expenditure account

A summary of the expenditure for the project is set out in the following table.

Table 5.1 Project Expenditure

Year	0	1	2	3	4	5	6	7	8	9	Tot
	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000	£,000
Expenditure											
Build	1,990.3	0	0	0	0	0	0	0	0	0	1,990.3
Management	150.0	0	0	0	0	0	0	0	0	0	150.0
Maint.	0	13.4	12.9	12.5	12.0	11.6	11.2	10.9	10.5	10.1	105.1
Total	**2,140.3**	**13.4**	**12.9**	**12.5**	**12.0**	**11.6**	**11.2**	**10.9**	**10.5**	**10.1**	**2,245.4**
Income											
Income	1,990.3	0	0	0	0	0	0	0	0	0	1,990.3
Net Income	**-150.0**	**-13.4**	**-12.9**	**-12.5**	**-12.0**	**-11.6**	**-11.2**	**-10.9**	**-10.5**	**-10.1**	**-255.1**

A key dependency for this project is the availability of external finance in the form of grant funding from the UK Department of Digital, Culture, Media and Sport, and no direct income for the organisation will be generated.

5.3 Overall affordability

Capital costs of the preferred option are detailed below:

Table 5.2 Capital Costs

	Units	Unit Cost (£)	Cost
Costs			
Slots inc. Crackfill	2,950	£45.00	£132,750.00
Mole Plough	86900	£11.00	£955,900.00
Subduct	89850	£1.50	£134,775.00
Cable Plant	89850	£2.00	£179,700.00
Road Crossing	52	£2,688.00	£139,776.00
Insp. Chamber	56	£1,000.00	£56,000.00
Microwave	2	£25,000.00	£50,000.00
Public Building/Site Connections	24	£2,500.00	£60,000.00
Contingency	1	£82,525.00	£82,525.00
Preliminaries	1	£198,896.00	£198,896.00
Total Build Cost			**£1,990,322.00**
Project Management			£90,000.00
Wayleaves and Authorisations			£60,000.00
Total Management Cost			**£150,000.00**
Total Costs			**£2,290,322.00**

External funding of £1,990,322 has been sought from DCMS to cover the build costs. Management costs are not covered by the funding from DCMS. A request is being made to add the overall project to the Capital Programme and meet the remaining unfunded costs from Capital budgets.

Annual costs of maintenance have been estimated as below:

Table 5.3 Maintenance Costs

Maintenance	Costs
Equipment/Tools	£500.00
Storage	£1,170.00
Materials	£500.00
Additional labour	£7,500.00
Equipment Maintenance	£100.00
CPD	£660.00
Inspections	£1,056.00
Fibre assets	£250.00
Overheads/Supervision	£1,612.94
Total Revenue Costs (p/a)	**£13,348.94**

Funding for these revenue costs will be met from existing maintenance budgets within the Fibre Optic Asset Management Team.

5.4 Comparison with Status Quo (Option 2)

The status quo option does not generate any income or financial benefits, nor does it generate any costs. It is therefore neutral from a net present cost perspective.

6. THE MANAGEMENT CASE

6.1 Introduction

This section addresses the 'achievability' of the scheme; it sets out in more detail the actions that will be required to ensure the successful delivery of the scheme in accordance with best practice.

6.2 Project management arrangements

The project will be managed in accordance with PRINCE 2 methodology.

6.3 Project reporting structure

The reporting organisation and the reporting structure for the project are as follows:

Table 6.1 project reporting organisation

6.3.1 Project roles and responsibilities

The purpose of the Senior Executive is to appoint the Project Manager, agree all major plans and deviation/exceptions thereof, to ensure the required resources for the project are made available, and to provide overall strategic guidance. The Senior Executive for this Project is Neil Grant, Director of Development Services, Shetland Islands Council.

The Senior User represents the needs of those who will use, benefit from and maintain the improvement delivered by the project. They ensure the project delivered meets the needs of intended beneficiaries as effectively as possible. The Senior User for this Project is Susan Msalila, Executive Manager – ICT Unit, Shetland Islands Council.

The purpose of the Senior Supplier is to agree project objectives, to ensure supplier resources required for project completion are made available, and to ensure consistency with project objectives. The Senior Supplier for this Project is Carl Symons, Executive Manager – Estate Operations, Shetland Islands Council.

The purpose of the Project Manager is to run the Project on a day-to-day basis on behalf of the Project Board, including taking responsibility for the Project Team.

6.3.2 Project plan

The outline project plan with key milestone dates is as follows:

Table 6.2 outline project plan

Milestone Activity	Delivery date
Agree preferred option	Jan 2019
Undertake tendering process	Oct 2019
Milestone 1 – Mainland – Yell Sound crossing	Mar-Jun 2020
Milestone 2 – Yell – fibre network dig and build	
Milestone 3 – Bluemull sound crossing	
Milestone 4 – Unst – fibre network dig and build	
Milestone 5 – all public buildings and sites connected to network	Sep 2020
Project completion	Sep/Oct 2020

6.3.3 Stakeholder engagement

There are a broad range of stakeholders involved in the delivery and management of this project. The following table shows how various stakeholder groups will be or have been engaged with the design and implementation of the project:

Table 6.3 Stakeholder engagement plan

Stakeholder	Engagement	Achieved?
Local Authority		
Shetland Islands Council – Elected Members	Committee report confirming political goals Report and updates to committee on project progress	Yes No
Shetland Islands Council – Senior Management	PRINCE2 Project Management process Reporting procedure	Yes
Shetland Islands Council – key service delivery personnel	Consultation undertaken with regard to potential service improvements to be gained from rollout of HSB to Unst and Yell	Yes
Community Stakeholders		
Community Councils	Consultation on proposed developments, including permissions required for final route plan and discussion on realisation of expected benefits	Yes
Local Development Organisations	Undertook North Isles Community Broadband research to establish view on current provision and demand for improvements	Yes

Stakeholder	Engagement	Achieved?
Local businesses and organisations	Views on current broadband provision and potential benefits from improvements sought through survey work	Yes
Local residents	Views on current broadband provision and potential benefits from improvements sought through survey work	Yes
Community Planning Partners		
NHS Shetland	Consultation undertaken with regard to potential service improvements to be gained from rollout of HSB to Unst and Yell	Yes
Other stakeholders		
Royal Air Force/Ministry of Defence	Views sought on proposed development – letter of support received	Yes
Shetland Space Centre development partners	Views sought on proposed development – letters of support received from Skyrora Ltd. and Alba Orbital Ltd.	Yes
MP/MSP	Informed of project progress and expected benefits	Yes

6.4 Outline arrangements for change and contract management

Contracts will be managed in line with existing Council terms and conditions, and project specifications.

Regular updates from the contractor will be provided to the Project Board. Any change to contract specifications must be approved by the Project Board.

6.5 Outline arrangements for benefits realisation

The economic and service benefits associated with HSB rollout will be measured along with other Community Planning activity and reported through appropriate channels as part of directorate planning for the various services involved.

6.6 Outline arrangements for risk management

Risk management will be the responsibility of the Project Board. A copy of the project risk register is attached at Appendix 6.

6.7 Outline arrangements for post project evaluation

The outline arrangements for post implementation review (PIR) and project evaluation review (PER) have been established in accordance with best practice and are as follows:

6.7.1 Post implementation review (PIR)

The review will ascertain whether the anticipated tangible and intangible benefits have been delivered. The review will take place 12 months following Go Live.

6.7.2 Project evaluation reviews (PERs)

PERs appraise how well the project was managed and delivered compared with expectations and are timed to take place 6 months following Go Live.

6.8 Gateway review arrangements

The next gateway review is to be scheduled for June 2020.

Appendix 1 – Variables

		Option 1		Option 2		Option 6		Option 10		Option 11	
Preliminaries	Value	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
Preliminaries	15%	0	£0	0	0	0	0	1	£198,896	1	£198,896
Civils	Value (£ per m)	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
Slot incl. Crack Fill	£45.27	0	£0	0	£0	0	£0	2950	£133,547	2950	£133,547
Mole Plough	£10.62	0	£0	0	£0	0	£0	86900	£922,878	86900	£922,878
Sub duct	£1.50	0	£0	0	£0	0	£0	89850	£134,775	89850	£134,775
Cable	£1.50	0	£0	0	£0	0	£0	89850	£134,775	89850	£134,775
Crossings	Value (each)	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
Road crossing	£2,688.00	0	£0	0	£0	0	£0	52	£139,776	52	£139,776
Man hole	£1,000.00	0	£0	0	£0	0	£0	56	£56,000	56	£56,000
Wireless sea crossing	£25,000.00	0	£0	0	£0	0	£0	2	£50,000	2	£50,000
Fibre sea crossing	£1,000,000.00	0	£0	0	£0	0	£0	2	£2,000,000	0	£0
Connections	Value (each)	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
Public premises	£2,500.00	0	£0	0	£0	0	£0	25	£62,500	25	£62,500
Contingency	Value	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
Contingency on Capital works	10%	0	£0	0	£0	0	£0	1	£357,175	1	£157,175
Project Management	Value	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
SIC Roads	£30,000.00	0	£0	0	£0	0	£0	1	£30,000	1	£30,000
SIC Estate Operations	£30,000.00	0	£0	0	£0	0	£0	1	£30,000	1	£30,000
Professional Fees	£30,000.00	0	£0	0	£0	0	£0	1	£30,000	1	£30,000
Wayleaves/Authorisations	Value	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
SIC Planning	£5,000.00	0	£0	0	£0	0	£0	1	£5,000	1	£5,000
Wayleaves/Authorisations	£55,000.00	0	£0	0	£0	0	£0	1	£55,000	1	£55,000
Maintenance	Value	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
SIC Recharges	£17,742.38	0	£0	0	£0	0	£0	1	£17,742	1	£17,742
Savings	Value (p/a)	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL	Qty	TOTAL
SIC Community Care Resources	£69,060.00	0	£0.00	0	£0.00	0	£0.00	1	£69,060	1	£69,060.00
NHS Shetland	£27,694.00	0	£0.00	0	£0.00	0	£0.00	1	£27,694	1	£27,694.00

Appendix 2 – Cost-Benefit Analysis

DISCOUNT FACTOR (%)	0	1	2	3	4	5	6	7	8	9	
3.50%	1.0000	0.9662	0.9335	0.9019	0.8714	0.8420	0.8135	0.7860	0.7594	0.7337	

Option 1 - Do Nothing

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	0	0	0	0	0	0	0	0	0	0	**0**
Multiplier Effect	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 2 - Status Quo

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	0	0	0	0	0	0	0	0	0	0	**0**
Multiplier Effect	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 6 - R100

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multiplier Effect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 10 - Full resilience - wireless links and fibre across sound

	0	1	2	3	4	5	6	7	8	9	Cumulative
Build	4,190,322	0	0	0	0	0	0	0	0	0	4,190,322
Management	150,000	0	0	0	0	0	0	0	0	0	150,000
Maintenance	0	13,349	12,898	12,461	12,040	11,633	11,239	10,859	10,492	10,137	105,109
Total Costs	**4,340,322**	**13,349**	**12,898**	**12,461**	**12,040**	**11,633**	**11,239**	**10,859**	**10,492**	**10,137**	**4,445,431**
Avoided Costs	0	96,754	93,482	90,321	87,267	84,316	81,464	78,709	76,048	73,476	761,837
External Funding	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Multiplier Effect	2,854,388	0	0	0	0	0	0	0	0	0	2,854,388
Total Benefits	**4,844,710**	**96,754**	**93,482**	**90,321**	**87,267**	**84,316**	**81,464**	**78,709**	**76,048**	**73,476**	**5,606,547**
Net Benefits	**504,388**	**83,405**	**80,585**	**77,860**	**75,227**	**72,683**	**70,225**	**67,850**	**65,556**	**63,339**	**1,161,116**

Option 11 - Full Resilience - wireless links only

	0	1	2	3	4	5	6	7	8	9	Cumulative
Build	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Management	150,000	0	0	0	0	0	0	0	0	0	150,000
Maintenance	0	13,349	12,898	12,461	12,040	11,633	11,239	10,859	10,492	10,137	105,109
Total Costs	**2,140,322**	**13,349**	**12,898**	**12,461**	**12,040**	**11,633**	**11,239**	**10,859**	**10,492**	**10,137**	**2,245,431**
Avoided costs	0	96,754	93,482	90,321	87,267	84,316	81,464	78,709	76,048	73,476	761,837
External Funding	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Multiplier Effect	1,355,779	0	0	0	0	0	0	0	0	0	1,355,779
Total Benefits	**3,346,101**	**96,754**	**93,482**	**90,321**	**87,267**	**84,316**	**81,464**	**78,709**	**76,048**	**73,476**	**4,107,938**
Net Benefits	**1,205,779**	**83,405**	**80,585**	**77,860**	**75,227**	**72,683**	**70,225**	**67,850**	**65,556**	**63,339**	**1,862,507**

Appendix 3 – Net Present Value

	Net Present Value										
	0	1	2	3	4	5	6	7	8	9	Cumulative
Option 1 - Do Nothing	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 2 - Status Quo	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 6 - R100	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 10 - Full resilience - wireless links and fibre across sound	£504,388	£83,405	£80,585	£77,860	£75,227	£72,683	£70,225	£67,850	£65,556	£63,339	£1,161,116
Option 11 - Full resilience - wireless links only	£1,205,779	£83,405	£80,585	£77,860	£75,227	£72,683	£70,225	£67,850	£65,556	£63,339	£1,862,507

Appendix 4 – Cost-Benefit Analysis – UNDISCOUNTED

Option 1 - Do Nothing

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multiplier Effect	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 2 - Status Quo

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multiplier Effect	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 6 - R100

	0	1	2	3	4	5	6	7	8	9	Cumulative
Costs	0	0	0	0	0	0	0	0	0	0	0
Total Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Avoided Costs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multiplier Effect	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Benefits	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Option 10 - Full resilience - wireless links and fibre across sound

	0	1	2	3	4	5	6	7	8	9	Cumulative
Build	4,190,322	0	0	0	0	0	0	0	0	0	4,190,322
Management	150,000	0	0	0	0	0	0	0	0	0	150,000
Maintenance	0	13,349	13,349	13,349	13,349	13,349	13,349	13,349	13,349	13,349	120,140
Total Costs	**4,340,322**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**4,460,462**
Avoided Costs	0	96,754	96,754	96,754	96,754	96,754	96,754	96,754	96,754	96,754	870,786
External Funding	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Multiplier Effect	2,854,388	0	0	0	0	0	0	0	0	0	2,854,388
Total Benefits	**4,844,710**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**5,715,496**
Net Benefits	**504,388**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**1,255,034**

Option 11 - Full Resilience - wireless links only

	0	1	2	3	4	5	6	7	8	9	Cumulative
Build	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Management	150,000										150,000
Maintenance	0	13,349	13,349	13,349	13,349	13,349	13,349	13,349	13,349	13,349	120,140
Total Costs	**2,140,322**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**13,349**	**2,260,462**
Avoided costs	0	96,754	96,754	96,754	96,754	96,754	96,754	96,754	96,754	96,754	870,786
External Funding	1,990,322	0	0	0	0	0	0	0	0	0	1,990,322
Multiplier Effect	1,355,779	0	0	0	0	0	0	0	0	0	1,355,779
Total Benefits	**3,346,101**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**96,754**	**4,216,887**
Net Benefits	**1,205,779**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**83,405**	**1,956,425**

Appendix 5 – Benefits

Benefits	Option 1 - Do Nothing	Option 2 - Status Quo	Option 3 - R 100	Option 10 - Full resilience - wireless and fibre across sound	Option 11 - Full resilience - wireless links only
	Score	Score	Score	Score	Score
Improved health and social care services delivered in Yell and Unst	1	1	1	4	4
Increased access to HSB for businesses, public sector and privae premises	1	1	1	4	4
Capacity for improvements in delivery of telemedicine and other remote care options	1	1	1	4	4
Increased opportunities for business development and improvement of business services - e.g. aquaculture husbandry, marketing, retail	1	1	1	4	4
Increased employment in North Isles	1	1	1	3	3
Improved provision of educational opportunities in North Isles schools	1	1	1	5	5
Increased capacity for nationally important communication services (e.g. defence) to be situated within the North Isles	1	1	1	5	5
Increased capacity for inward investment	1	1	1	5	5
Improved connectivity leads to environmental benefits - carbon reduction - through reducing road journeys	1	1	1	4	4
Reduced inequality within Shetland due to distance and remoteness, and increased access to public services	1	1	1	5	5
	10	10	10	43	43

Appendix 6 – Risks

Risk	Impact	Mitigation	Option 1 - Do Nothing			Option 2 - Status Quo			Option 6 - R100			Option 10 - Full Resilience - wireless links and fibre across sound			Option 11 - Full Resilience - wireless links only		
			Score			Score			Score			Score			Score		
			L	I	Score	L	I	Score	L	I	Score	L	I	Score	L	I	Score
Public sector solution discourages private sector investment in HSB to remoter communities	Potential investment in rural areas from private sector becomes unfeasible due to public sector intervention	Private sector investment in rural areas is not considered commercially feasible and is therefore unlikely	1	1	1	1	1	1	1	1	1	1	2	2	1	2	2
Investment model breaches State Aid guidelines	Project faces complaint/action under State Aid legislation	Project carried out in line with UK and Scottish guidance on State Aid	1	1	1	1	1	1	1	1	1	2	2	4	2	2	4
SIC unable to secure relevant authorisations required for installation of physical fibre network	Fibre route must be altered or extended at cost to allow for alterations to plan	Wayleaves and authorisations sought at early stage; most of installation to be carried out on Council highways so ownership/authorisations will not be an issue	1	1	1	1	1	1	1	1	1	2	2	4	2	2	4
Increased disparity between connectivity in rural communities leads to depopulation from North Isles	Working age population tend to leave first as jobs become scarcer and/or services become more difficult to access. Further pressure is placed on services which no longer have workforce/resources to be cost effective. Businesses become unsustainable.	Improving connectivity through HSB rollout will make communities more attractive and sustainable through allowing for service improvement, business growth and better broadband services to homes.	4	5	20	4	5	20	4	5	20	2	4	8	2	4	8
Inability to improve public services will lead to disparity in quality of life in North Isles	The inability to improve services such as health, social care and education will lead to increasing disparities in the quality of life availble in the North Isles compared to other areas which can access HSB	Improving connectivity through HSB rollout will increase the likelihood of public service improvement and will lead to improved quality of life	4	5	20	4	5	20	4	5	20	1	4	4	1	4	4
Inability to access HSB causes businesses to become unsustainable and reduces economic output of Yell and Unst	Businesses lose out due to competition from those able to access benefits of HSB; increasing costs of transport and other services which cannot be mitigated by online services impact on business sustainability	Improving connectivity through HSB rollout will improve capacity for business development, new market access and employment opportunities	4	5	20	4	5	20	4	5	20	2	4	8	2	4	8
Changes to political objectives of Shetland Islands Council	Project is no longer considered to be a priority and ceases to be a strategic objective, causing progress to stall	Firm commitment secured from Shetland Islands Council before commencement of project	1	2	2	1	2	2	1	2	2	2	3	6	2	3	6
Installation of fibre network across two sea channels and over two islands encounters technical difficulties or becomes practically unfeasible	Fibre to islands cannot be installed due to inability to cross sounds.	Project utilising tested technology to cross sounds and ensures resilience through using both fibre crossing on seabed and wireless crossing at both sides of each sea channel	1	1	1	1	1	1	1	1	1	2	4	8	2	3	6
					66			66			66			44			42

Appendix 7 – Sensitivity Analysis

5% Cost; -10% Benefits	0	1	2	3	4	5	6	7	8	9	Cumulative
Option 1 - Do Nothing	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 2 - Status Quo	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 6 - R100	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 10 - Full resilience - wireless links and fibre across sound	-£2,131,108	£633,354	£261,493	£261,869	£262,244	£262,621	£262,998	£263,377	£263,756	£264,136	£604,740
Option 11 - Full resilience - wireless links only	-£1,094,926	£633,354	£261,493	£261,869	£262,244	£262,621	£262,998	£263,377	£263,756	£264,136	£1,640,922

10% Cost; -25% Benefits	0	1	2	3	4	5	6	7	8	9	Cumulative
Option 1 - Do Nothing	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 2 - Status Quo	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 6 - R100	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 10 - Full resilience - wireless links and fibre across sound	-£2,633,563	£555,763	£227,650	£227,982	£228,313	£228,646	£228,979	£229,312	£229,647	£229,982	-£247,289
Option 11 - Full resilience - wireless links only	-£1,337,520	£555,763	£227,650	£227,982	£228,313	£228,646	£228,979	£229,312	£229,647	£229,982	£1,048,754

25% Cost; -40% Benefits	0	1	2	3	4	5	6	7	8	9	Cumulative
Option 1 - Do Nothing	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 2 - Status Quo	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 6 - R100	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Option 10 - Full resilience - wireless links and fibre across sound	-£3,712,769	£438,046	£175,556	£175,821	£176,086	£176,352	£176,618	£176,885	£177,153	£177,421	-£1,862,833
Option 11 - Full resilience - wireless links only	-£1,861,935	£438,046	£175,556	£175,821	£176,086	£176,352	£176,618	£176,885	£177,153	£177,421	-£11,998

Appendix 8 – Procurement Summary

	Required Service	Estimated Value	SIC Procurement Guidance	Scottish Government Procurement Journey	Proposed Procurement Route	Rationale for Procurement Route
Civils	Installation including mole ploughing, road crossings, inspection chambers, site preliminaries etc.	£1.6m	Relates to Works >£4.3m	Route 2 - Regulated Procurement between £50k and OJEU threshold	Regulated procurement through open tender - phased procurement	Given the scale of the project, and following best practice from previous exercises, regulated procurement ensures that the Council will achieve value for money, while fulfilling responsibilities to follow the public pound.
Cable	Supply and delivery of fibre optic cable, ensuring a match with existing fibre network specifications.	£0.13m	Relates to Works/Supplies/Services £60,000+	Route 2 - Regulated Procurement between £50k and OJEU threshold	Single source to match existing fibre network specifications	Single sourcing will ensure that the cable installed is a known quality, with known performance specifications, and matches service needs.
Cabinets	'Street furniture' - purchase of protective housing for Optical Distribution Frames	12-15 cabinets = £0.1m	Relates to Works/Supplies/Services £60,000+	Route 2 - Regulated Procurement between £50k and OJEU threshold	Framework or tendered service to ensure best value	Require to source cabinets which are suitable robust for local environment and conditions, and provide easy use/access for maintenance personnel
Splicing Closures	Provision of cable junction - housing for splicing of cable in the carriageway	£0.002m	Relates to Works/Supplies/Services £1,001-£10,000	Route 1 - Unregulated procurements under £50k and of a non-repetitive nature	Framework or single source to ensure compatibility with existing network	Ensurse compatibility with existing network hardware, and quality of provision
ODFs	Optical Distribution Frames - fibre patch panels used to direct fibre into building or other premises. Used to terminate fibre within premises/cabinets and provides a patch panel to easily route fibre services	40 ODFs = £0.008m	Relates to Works/Supplies/Services £1,001-£10,000	Route 1 - Unregulated procurements under £50k and of a non-repetitive nature	Single source to ensure compatibility	To maintain quality and network compatibility, and to avoid requirement for maintenance personnel to be trained on unfamiliar equipment following installation.
Masts	Mast infrastructure to facilitate the wireless links which will be used to negotiate the two sea crossing on the network route.	£0.1m	Relates to Works/Supplies/Services £60,000+	Route 1 - Unregulated procurements under £50k and of a non-repetitive nature	Open tender based on specifications supplied by TNP.	Open tendering, based on expert analysis of scope provided by TNP, ensures that the Council will achieve value for money, while fulfilling responsibilities to follow the public pound, and will ensure a solution which is best fit to local conditions.

Appendix 9 – State Aid Statement

HILL DICKINSON

Shetland Islands Council

Local Full Fibre Networks

Challenge Fund - Wave 3

High Level State Aid Assessment

INTRODUCTION

Shetland Islands Council (SIC) is seeking funding under Wave 3 of the UK Department of Culture, Media and Sports' (DCMS) Local Full Fibre Network (LFFN) Challenge Fund. SIC is aiming to undertake procurement under the Public Sector Building Upgrade (PSBU) Model to procure upgraded connections at public sector sites on Unst and Yell (to connect the islands to SIC's public sector network). We understand that the upgrade of these connections is purely for the benefit of the public sector with no commercialisation of the connectivity.

SIC would also like to use any funding to upgrade connections at the:

- Unst Leisure Centre;
- Mid Yell Leisure Centre;
- Unst Airport;
- Belmont Ferry Terminal;
- Gutcher Ferry Terminal;
- Toft Ferry Terminal;
- Ulsta Ferry Terminal; and
- Sellafirth Industrial Estate.

Hill Dickinson have been instructed, under the contract between SIC and FarrPoint Ltd, to undertake a high-level State aid assessment to support Shetland Islands Council at this stage of the LFFN Challenge Fund application. This assessment should be re-visited during the course of any procurement and as further information becomes available.

EXECUTIVE SUMMARY

State aid is dealt with on a case-by-case basis and there are aspects and areas which are complex and uncertain.

A State aid assessment is necessarily an organic process and should be kept under review as any proposed measure proceeds, develops or changes. The purpose of this report is to assess at a high level whether (based on the information provided to date) the proposed measures are compliant with current State aid legislation. This report is not intended to be a detailed review.

Following our high-level State aid assessment, we conclude as follows:

PSBU Model

We understand that the level of connectivity to be procured is required to future-proof Shetland's internal connectivity requirements against the ever-growing telecommunication needs of the public sector. There is no intention for the procured connections at the public sector sites to be commercially exploited in any way.

In addition, we understand that Unst airport is owned and operated by SIC but undertakes a public function only (i.e. transfer of NHS patients to the mainland for emergency treatment). It does not provide any other services nor compete in the air travel market. As such, on the information provided to date, we would argue that the upgraded connection forms part of the public sector network.

For the reasons detailed below, at this stage we do not consider that the upgrade of these sites will breach the State Aid rules.

Non-Public Sector Sites

With the exception of the Sellafirth Industrial Estate there is the potential, due to the geographic nature of this project, that the leisure centre and the ferry terminals would fail to meet the fourth limb of the State Aid test (i.e. the measures are not liable to effect trade between Member States). This would mean that the upgraded connections at these sites would be unlikely to breach the State aid rules.

In respect of the Sellafirth Industrial Estate any upgrade of the connections to a commercial site would amount to State Aid unless such connection falls within the Commission Regulation (EU) No 1407/2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European to De minimis aid (**De Minimis Regulation**).

ASSESSMENT

PSBU Model

Description

To address the strategic needs detailed within SIC's Full Business Case for the North Isles Fibre project, SIC is proposing to procure upgraded connectivity to its public sector sites. SIC and/or other public sector bodies shall have the exclusive use of the upgraded connections. The purpose of the procurement is to future proof public sector connectivity in the North Isles and allow the Council to respond to new technological developments.

State aid

The Treaty on the Functioning of the European Union ("TFEU") prohibits Member States from granting State aid, which distorts competition, and trade in Europe. At a basic level State aid will be present where the aid meets the following four key conditions:

(a) **it is granted out of State resources** – for example loans at preferential rates, grants, tax relief / exemptions, foregoing revenue etc.;

(b) **it confers an economic advantage on undertakings** – for example any advantage which it would not have received under normal market conditions;

(c) **the advantage is selective and distorts or threatens to distort competition** - the potential to distort competition does not have to be substantial or significant, and can apply to small amounts of aid and firms with little market share; and

(d) **it affects trade between Member States** – the Commission interprets this very widely.

The test is cumulative and State Aid will only exist if all four key conditions have been met.

The proposed procurement under the PSBU model can be assessed against these four conditions as follows:

Test	Met	Commentary
a.	×	Essentially this part of the test requires that the aid reduces the state's resources, compared with what they would have been had the aid not been granted. However, merely using state resources does not necessarily mean there is aid. The state must be able to buy goods and services. There will be no aid where the state receives a value which is commensurate with the cost to its resources. However, measures not involving a transfer of resources may still fall within the concept of aid (i.e. where the purchase of goods or services is superfluous to the state.) In the proposed measure, we understand that SIC will only be purchasing the upgraded connectivity in order to meet its own requirements at those sites. In addition, a competitive tender will ensure that only market rate is paid for that connectivity (taking into account of course the geographical area in question).
b.	×	There is no economic advantage because, we understand that, the upgraded connections will not be commercially exploited
c.	×	State aid rules are "blind" as to whether it is the state or a private operator delivering services, the test is whether there is market distortion.

Test	Met	Commentary
		SIC is procuring the upgraded connections for its own purposes and therefore it is not undertaking an economic activity. Therefore, there is no distortion of the market.
d.	✓	The threshold for this test is low, and the measure is "*liable to affect*" trade between Member State in as much as any undertaking from any Member State could enter the competitive tender.

As demonstrated by the above table SIC's PSBU model does not meet all four key conditions under the TFEU.

SIC is procuring dedicated upgraded connections to satisfy and future proof the needs of the public sector within a defined geographical area. Therefore, there will be no undertaking of an economic activity.

The procurement of a contractor is to be undertaken by way of a competitive procurement process. This process will also mitigate the risk in respect of the level of the charges payable to the appointed supplier.

The Commission has also accepted in previous State aid cases that the fact that a public authority builds its own public-sector network to satisfy its needs for internet connectivity (instead of procuring such services from private operators) does not entail an economic advantage for the beneficiaries since they do not exercise an economic activity. Therefore, there is no aid.

Non-Public Sector Sites

As part of the project, Shetland is seeking to upgrade connections to non-public sector sites on the Islands as part of its wider economic development plans. The non-public sector sites are as follows:

- the Unst Leisure Centre;
- Mid Yell Leisure Centre;
- Belmont Ferry Terminal;
- Gutcher Ferry Terminal;
- Toft Ferry Terminal;
- Ulsta Ferry Terminal; and
- Sellafirth Industrial Estate.

In respect of the Unst Airport, we understand that this is owned and operated by SIC solely for the purposes of the emergency services (i.e. the air ambulance to take NHS patients to the mainland). This is provided as a public function and there is no scope for competitive supply. SIC does not undertake any economic services from the airport

and there are no plans for it do so. As such, this connection forms part of the public sector network and should treated as per the other public sector buildings.

State aid

- Leisure Centre and Ferry Terminals

As detailed above, the TFEU prohibits Member States from granting State Aid, which distorts competition, and trade in Europe.

The proposed upgrade of the above non-public sector sites can be assessed against the four key conditions (set out above) as follows:

Test	Met	Commentary
a.	✓	The resource does qualify as State resources.
b.	✓	There is an economic advantage as the undertaking at each site will benefit from the upgraded connections reducing the costs that each undertaking would need to bear.
c.	✓	State aid rules are "blind" as to whether it is the state or a private operator delivering services, the test is whether there is market distortion. SIC is procuring the upgraded connections in favour of a defined number of undertakings within the geographical area. As such it is arguable that the measure could distort the market.
d.	×	The threshold for this test is low. However, the Commission has in a number of decisions (in respect of leisure centres, airports and ports) considered that where a measure has a purely local impact it did not have an effect on trade between Member States. Given the locality and its attributes (i.e. that in respect of these sites / undertakings, competition is limited to a local level and that these sites / undertakings serve predominantly local users) it is arguable that this limb of the test is not met.

In respect of the LFFN programme, the Shetland Islands are unique, they have an estimated population of just over 23,000 spread across 16 inhabited islands. The

geographic nature of the markets in which the proposed upgrades are to take place will have a bearing on any State aid review.

In relation to the upgrading of connectivity at each of the ferry terminals it is arguable that such an upgrade would have purely a local impact and consequently have no effect on trade between Member States. The ferry terminals provide services to a limited geographical area and primarily to a local customer base. This is an inter-island ferry only (operated by the SIC) and is not connected to the UK mainland or to any other Member State. It is therefore unlikely to attract any customers from other Member States. As such, given the nature of the subsidy together with the relatively low sums per connection per undertaking, the measure is unlikely to have more than a marginal effect on the conditions of cross border investments or establishments.

Leisure Centres

In relation to the upgrading of connectivity at the leisure centres, it could be argued that, such upgrade would only have a local impact and that there would be no effect on trade between Member States. The leisure centres serve a limited area within the UK (i.e. the island population of the Shetland island on which it is located). The leisure centres are the only leisure centres in their location and predominantly serve a limited local customer base and are unlikely to attract customers from other Member States. As such, coupled with the relatively low costs involved, it is unlikely that the measure would have more than a marginal effect on the conditions of cross border investment or establishment.

- Sellafirth Industrial Estate

Providing funding to upgrade the connections at the Sellafirth Industrial Estate would amount to State aid.

Under the De Minimis Regulation, however, aid totalling up to €200,000 to a firm over a three-year period will be exempt on the basis that it does not appreciably distort or restrict competition.

This ceiling takes into account all aid, which can take various forms (grants, loans, subsidised contracts etc) provided to an undertaking during this period. However, aid given under an approved scheme does not have to be cumulated with de minimis aid.

Before granting any De Minimis aid, Shetland would need to ensure that any aid provided does not breach an undertaking's de minimis ceiling.

Shetland Islands Council

Agenda Item

5

Meeting(s):	**Policy and Resources Committee Shetland Islands Council**	**21 January 2020 22 January 2020**
Report Title:	**Asset Investment Plan – Progress Report**	
Reference Number:	**ACP-01-20-F**	
Author / Job Title:	**Robert Sinclair, Executive Manager – Assets, Commissioning & Procurement**	

1.0 Decisions / Action required:

1.1 The Policy and Resources Committee RECOMMENDS that the Council notes the progress of the projects within the Asset Investment Plan.

2.0 High Level Summary:

2.1 This report advises the Council on the progress of the projects contained within its Asset Investment Plan which are currently underway in 2019/20.

2.2 It includes a summary of the financial status for the full life of each project.

3.0 Corporate Priorities and Joint Working:

3.1 This report forms part of the annual performance reporting arrangements on financial matters in support of the Financial Strategy, Reserves Policy and Budget Strategy. 'Our Plan 2016 to 2020' states that "Excellent financial-management arrangements will make sure we are continuing to keep to a balanced and sustainable budget, and are living within our means" and that "We will have prioritised spending on building and maintaining assets and be clear on the whole-of-life costs of those activities, to make sure funding is being targeted in the best way to help achieve the outcomes set out in this plan and the community plan".

4.0 Key Issues:

4.1 This report provides an overview of the full life of those projects within the Council's Asset Investment Plan that are currently underway in 2019/20, based on the agreed budget.

4.2 Where projects take place over a number of financial years, this report summarises the position from the beginning to completion of the project. Capital maintenance is not included in this report.

4.3 Quarterly monitoring information on capital expenditure is provided by the Executive Manager - Finance for inclusion in each Directorate Performance Report, detailing the progress of all capital projects within the current financial year; that information also covers expenditure on capital maintenance.

4.4 The detailed project information is attached as Appendix A.	
5.0 Exempt and/or confidential information:	
5.1 None.	
6.0 Implications :	
6.1 Service Users, Patients and Communities:	Upon completion, the projects described in the appendix to this report will either enhance the quality and / or condition of the assets available to the people of Shetland, or add to them.
6.2 Human Resources and Organisational Development:	No implications arising directly from this report.
6.3 Equality, Diversity and Human Rights:	No implications arising directly from this report.
6.4 Legal:	No implications arising directly from this report.
6.5 Finance:	The projects referred to in this report are phased over the 10 year period from 2014/15 to the end of the current 5 Year Asset Investment Plan period of 2023/24 and total an approved budget of £116.6m, with a projected project outturn of £115.8m, resulting in a projected underspend of £0.83m.
6.6 Assets and Property:	Upon completion, the projects described in the appendix to this report will either enhance the quality and / or condition of the Council's existing asset base, or add to it.
6.7 ICT and new technologies:	No implications arising directly from this report.
6.8 Environmental:	All maintenance and new-build projects seek to address climate change and carbon management for example by embedding energy saving measures and environmentally friendly materials in their design. Where possible, assets are repaired and maintained where this reduces the carbon footprint associated with new-build. Environmental Impact Assessments are carried out where the nature or scale of the project dictates; the only such project(s) detailed in the programme are the new AHS and associated Halls of Residence.
6.9 Risk Management:	The main areas of risk are financial in terms of over or under-spend. Regular progress reports to Committee and the Council enable Members to monitor the investment plan.
6.10 Policy and Delegated Authority:	Approval of the financial strategy and budget framework is a matter reserved for the Council having taken advice from the Policy and Resources Committee.

6.11 Previously considered by:	N/A	

Contact Details:
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10 January 2020

Appendices:
Appendix A - Asset Investment Plan – Progress Report

Background Documents: None

END

Capital Projects - Full Life Project Costs

ACP-01-20 Appendix A

		Budget			Funding	
Directorate	**Service Area**	**Approved Budget £**	**Predicted Project Outturn £**	**Under (Over) Budget £**	**External Funding £**	**Cost to SIC £**
Children's Services	Schools	21,337,803	20,992,912	344,891	4,020,500	16,972,412
	Childrens Resources	870,000	870,000	0	0	870,000
		22,207,803	**21,862,912**	**344,891**	**4,020,500**	**17,842,412**
	Capital Programme Service	5,245,221	5,249,885	(4,664)	310,696	4,939,189
Corporate Service		**5,245,221**	**5,249,885**	**(4,664)**	**310,696**	**4,939,189**
Community Care Services	Adult Service	6,200,312	6,542,312	(342,000)	0	6,542,312
		6,200,312	**6,542,312**	**(342,000)**	**0**	**6,542,312**
Development Services	Economic Development	227,442	227,442	0	205,000	22,442
		227,442	**227,442**	**0**	**205,000**	**22,442**
Infrastructure Services	Environmental Services	1,757,086	1,918,755	(161,669)	0	1,918,755
	Estate Operations	63,146	63,146	0	0	63,146
	Ferry & Air Operations	60,337,065	60,337,065	0	54,250,000	6,087,065
	Roads	4,334,172	4,334,172	0	92,807	4,241,365
	Ports & Harbours	16,265,742	15,271,820	993,922	1,000,000	14,271,820
		82,757,211	**81,924,958**	**832,253**	**55,342,807**	**26,582,151**
	Total All Funds	**116,637,989**	**115,807,509**	**830,480**	**59,879,003**	**55,928,506**

	Budget			Funding			
Project Name	Approved Budget £	Predicted Project Outturn £	Under (Over) Budget £	External Funding £	Cost to SIC £	Date Completed / to be Completed	Update
Early Learning (General)	100,465	100,465	0	100,465	0	Not Known	Funding for general Early Learning costs held here.
Aith Early Learning Provision	332,112	332,112	0	332,112	0	May 2020	Contractor appointed and works to commence January 2020.
Baltasound Early Learning Provision	177,059	177,059	0	177,059	0	September 2019	Complete, final account still to be processed.
Bells Brae Early Learning	155,474	155,474	0	155,474	0	August 2019	Complete, final account still to be processed.
Brae Early Learning Extension	224,845	224,845	0	224,845	0	Phase 1 Oct, 2017. Phase 2 Dec, 2020	Phase 1 complete. Phase 2 programmed for 2020/21
Cunningsburgh Early Learning Provision	313,493	313,493	0	313,493	0	September 2019	Complete, final account still to be processed.
Dunrossness Early Learning Extension	72,054	72,054	0	72,054	0	April 2018	Complete
Happyhansel Early Learning Extension	235,985	235,985	0	235,985	0	February 2019	Complete
Lunnasting Early Learning Provision	140,507	140,507	0	140,507	0	August 2020	Works programmed for 2020/21
Mid Yell Early Learning Provision	140,000	140,000	0	140,000	0	August 2020	Works programmed for 2020/21
Mossbank Early Learning Provision	151,310	151,310	0	151,310	0	December 2020	Works programmed for 2020/21
Sandwick Early Learning Provision	250,000	250,000	0	250,000	0	August 2020	Works programmed for 2020/21
Skeld Early Learning Provision	45,558	45,558	0	45,558	0	December 2020	Planning in progress with works programmed for 2020/21
Sound Early Learning Provision	470,629	470,629	0	470,629	0	August 2019	Complete, final account still to be processed.
Symbister Early Learning Provision	270,591	270,591	0	270,591	0	June 2020	Tenders due back 10th February 2020.
Urafirth Early Learning Provision	0	0	0	0	0	March 2019	Complete, with costs processed to revenue.
Whiteness Early Learning Extension	37,918	37,918	0	37,918	0	March 2019	Complete
Little Tikes Early Learning Provision	270,000	270,000	0	270,000	0	August 2020	Works programmed for 2020/21

	Budget			Funding			
Project Name	**Approved Budget £**	**Predicted Project Outturn £**	**Under (Over) Budget £**	**External Funding £**	**Cost to SIC £**	**Date Completed / to be Completed**	**Update**
Isleshaven / Lerwick Pre School Early Learning Provision	50,000	50,000	0	50,000	0	December 2020	Works programmed for 2020/21
Capital Grant Partner Provider	50,000	50,000	0	50,000	0	Not Known	Works programmed for 2020/21
Anderson High School Replacement	3,094,803	3,402,745	(307,942)	25,000	3,377,745	06/10/2017	Works complete and school in operation. Officer time will not be processed until year end.
Anderson High Clickimin Path Upgrade	1,015,000	758,626	256,374	507,500	251,126	30/08/2018	SIC / Sustrans funded project. Section of path adjacent to rugby pitch completed in August 2018, retention will be released this financial year.
Anderson High - Halls of Residence	13,605,000	13,208,541	396,459	0	13,208,541	10/10/2017	Works now complete and hostel in operation, final A/C still to be processed. Officer time will not be processed until year end.
Anderson High - Storage Shed	135,000	135,000	0	0	135,000	28/02/2020	Contract commenced and works on site.
Childrens Supported Accommodation	870,000	870,000	0	0	870,000	31/03/2021	Detailed design underway. Construction programmed for 2019/20 and 2020/21.
Total	**22,207,803**	**21,862,912**	**344,891**	**4,020,500**	**17,842,412**		

	Budget			Funding			
Project Name	Approved Budget £	Predicted Project Outturn £	Under (Over) Budget £	External Funding £	Cost to SIC £	Date Completed / to be Completed	Update
AHS Hostel Relocation Works	45,000	45,000	0	0	45,000	31/05/2020	ASN relocation works
Montfield Office Refurbishment	190,000	190,000	0	0	190,000	30/04/2020	Old AHS relocation works
72 Commercial Rd Refurbishment (previously HNP)	240,000	240,000	0	0	240,000	30/11/2020	Various departments storage relocation works.
68 Commercial Rd Refurbishment (previously LESS)	95,000	95,000	0	0	95,000	30/11/2020	Bridges relocation works
66 Commercial Rd Refurbishment (previously Offices)	93,000	93,000	0	0	93,000	30/11/2020	Environmental Health and Trading Standards relocation works.
Commercial Road Car Park	80,000	80,000	0	0	80,000	30/11/2020	Carpark works
Lerwick Library Refurbishment	1,622,221	1,622,221	0	0	1,622,221	31/10/2020	Tenders due back 21 January 2020..
Town Hall Conservation Project	1,680,000	1,684,664	(4,664)	310,696	1,373,968	04/12/2019	All building and restoration works complete, Final account will be processed when defects liability period complete. Final funding claim processed at end of last financial year.
Knab Site Demolition	1,000,000	1,000,000	0	0	1,000,000	Phase 1 Demolition 31/10/2020	Tenders for demolition being prepared. Works on site expected to begin in early summer 2020.
Former Eric Gray Demolition	200,000	200,000	0	0	200,000	31/08/2020	Business case approved and tender documentation being prepared.
Total	**5,245,221**	**5,249,885**	**(4,664)**	**310,696**	**4,939,189**		

	Budget			Funding			
Project Name	Approved Budget £	Predicted Project Outturn £	Under (Over) Budget £	External Funding £	Cost to SIC £	Date Completed / to be Completed	Update
Eric Gray Replacement	5,855,312	5,855,312	0	0	5,855,312	14/11/2018	Defects still to be actioned and final account to be agreed. Retention held until works finalised.
Health & Social Care Replacement Information System	345,000	687,000	(342,000)	0	687,000	Not known	This project does not represent a firm commitment in the Asset Investment Plan until a business case is presented for approval. Business Case being prepared.
Total	**6,200,312**	**6,542,312**	**(342,000)**	**0**	**6,542,312**		

	Budget			Funding			
Project Name	Approved Budget £	Predicted Project Outturn £	Under (Over) Budget £	External Funding £	Cost to SIC £	Date Completed / to be Completed	Update
Landfill Capping	740,586	740,586	0	0	740,586	Rolling Programme	Landfill Capping Phase 2 complete. Capping works to be reviewed by Mott MacDonald in January. Further phases programmed in future years.
Recycling Shed	1,016,500	1,178,169	(161,669)	0	1,178,169	November 2019	Construction now complete and building in use, internal SIC costs still to be processed.
Wind Turbine Baltasound	63,146	63,146	0	0	63,146	Not known	Proposed manufacturer has not updated microgeneration accreditation. Project to be reviewed in 2020
Clickimin Roundabout Works	1,063,110	1,063,110	0	17,745	1,045,365	29/09/2017	All works complete with only surface course scarifying and laying payment due.
Cycling/Walking Safer Streets	37,000	37,000	0	37,000	0	Not known	2019/20 programme will be based on responses from community councils.
Flood Damage Works	38,062	38,062	0	38,062	0	Not known	This scheme was carried over from last year - programme still to be decided.
Burra Bridge Painting	395,000	395,000	0	0	395,000	Not known	Precontract works to take place this year, main contract anticipated start 2020/21
Streetlighting LED Upgrade	2,801,000	2,801,000	0	0	2,801,000	Rolling Programme	First year contract now complete, further replacement works progressing.
Foula Airstrip Licensing Works	85,000	85,000	0	0	85,000	Not known	This project does not represent a firm commitment in the Asset Investment Plan until a business case is presented for approval. Business Case being prepared.
Ferry Replacement Programme	54,250,000	54,250,000	0	54,250,000	0	Not known	The Scottish Government Fair Funding for Ferries process has not reached a conclusion and the budget is to be re-profiled for design works to start in 2020/21. Outline business case for Fair Isle received from consultants. Public engagement with Whalsay community due in early 2020 prior to completion of the Whalsay outline business case.
Ferry Life Extension Works Contract	6,002,065	6,002,065	0	0	6,002,065	Not known	Revised Business Case being progressed covering all vessels, in consideration of Ferry Replacement Programme and Fair Ferry Funding from Scottish Government.

	Budget			Funding			
Project Name	**Approved Budget £**	**Predicted Project Outturn £**	**Under (Over) Budget £**	**External Funding £**	**Cost to SIC £**	**Date Completed / to be Completed**	**Update**
Ferry Terminal Life Extension Works	3,750,000	3,750,000	0	0	3,750,000	Rolling Programme to 2022/23	Works contract let and preparations are in hand to commence the first linkspan replacement during spring / summer 2020.
Ferry Terminal Paint Works Contract	350,000	350,000	0	0	350,000	Not known	Hamarsness Terminal painting slipped from last financial year.
VTS Radar Replacement	1,276,000	1,276,000	0	0	1,276,000	Not known	Final commissioning slipped from last year.
Scalloway Fishmarket Rebuild	5,672,000	5,672,000	0	0	5,672,000	End January 2020	Substantial complete by end December, final testing and commissioning of internal services due January 2020.
Piers - Cathodic Protection	1,254,000	1,254,000	0	0	1,254,000	30/04/2019	West Burrafirth contract works complete.
Tug Jetty - Cathodic Protection	1,000,000	32,840	967,160	0	32,840	Not known	Project on hold whilst a new business is case prepared for jetty replacement.
Hamarsness/Ulsta Wind Turbine	63,742	36,980	26,762	0	36,980	26/06/2019	Project complete within budget.
Toft Pier (New)	2,900,000	2,900,000	0	1,000,000	1,900,000	Summer 2020	Contractor appointed and onsite works commenced. Estimate completion summer 2020. EMFF grant award confirmed by Marine Scotland and further external funding opportunities being investigated.
Total	**82,757,211**	**81,924,958**	**832,253**	**55,342,807**	**26,582,151**		

	Budget			Funding			
Project Name	Approved Budget £	Predicted Project Outturn £	Under (Over) Budget £	External Funding £	Cost to SIC £	Date Completed / to be Completed	Update
Town Centre Fund	227,442	227,442	0	205,000	22,442	Various see update column	Applications for projects assessed and funding allocated to 6 projects, 3 in Lerwick and 3 in Scalloway. Additional funding has been added by Development to enable all 6 projects to progress. All projects to be completed between January and July 2020 depending on consents, contractors and weather.
Total	**227,442**	**227,442**	**0**	**205,000**	**22,442**		

Shetland Islands Council

Agenda Item

6

Meeting(s):	Shetland Islands Council	22 January 2020
Report Title:	SIC Diary of Meetings 2020/21	
Reference Number:	GL-01-F	
Author / Job Title:	Jan Riise, Executive Manager – Governance and Law	

1.0 Decisions / Action required:

1.1 That the Council **RESOLVES** to approve the attached schedule of Council and Committee meetings for the financial year 2020/21.

2.0 High Level Summary:

2.1 The purpose of this report is to seek Council's approval for the schedule of meetings for the financial year 2020/21

3.0 Corporate Priorities and Joint Working:

3.1 The recommendation in this report will achieve point 5 of Our Plan 2017 to 2021, by contributing towards the achievement of high standards of governance, and effective decision making.

3.2 Consultation is taking place with the Chairs and Lead Officers for the O&SVJB, IJB and ZetTrans, and those organisations will also be considering their proposed dates at their next meeting.

4.0 Key Issues:

4.1 The draft schedule has taken account of comments from Members and Officers, and has maintained the scheduled format used In 2019/20 whereby all meetings are scheduled as ordinary meetings.

4.2 A minimum of 6 ordinary meetings for each of the 3 main functional Committees, Policy and Resources Committee and Council is required, and that 4 ordinary meetings for the remaining Committees and Boards [[Audit, Pension Fund, Harbour and College] will be sufficient, with the exception of Planning and Licensing Committees, which will continue to be scheduled monthly. Meetings of the Audit Committee have been moved to earlier in the cycle to allow time for any onward reporting to functional Committees, Policy and Resources Committee and Council.

4.3 In addition, due to the specific timings required, special meetings of the Audit Committee, Pension Fund Committee and Council have been scheduled in June and September, for consideration of the draft and final annual accounts. A special

cycle of meetings has also been scheduled for February 2021 specifically for budget and Council Tax setting and, on request, for consideration of the External Audit Plans. Also, as in previous years, reserved dates have been scheduled in between ordinary meetings, which can be used for either special meetings, Member development, service seminars or other information sharing events.

4.4 The Council should note that the schedule of meetings proposed has been developed whilst taking account, as far as possible, of the requirements for meetings of the Integration Joint Board and its Committees, the Shetland NHS Board and its committees, the Orkney and Shetland Valuation Joint Board, the Shetland Islands Area Licensing Board and ZetTrans. Consultation is taking place with the Chair and Lead Officers, and those bodies will be asked to approve meeting dates at their next meeting, but the proposed dates are included in the appendix for information.

4.5 Our aim is to ensure that the approved diary has as many fixed dates as possible so that Councillors, community partners, project teams and management, can address their total business in a planned way, in particular allowing Councillors scheduled “free time” during business hours for other strategic, service, constituency or personal matters.

4.6 As is always the case, and in consultation with the Chair and relevant Members and Officers, and if required according to the circumstances, the time, date, venue and location of any meeting may be changed, or special meetings added, although every effort will be made to avoid such instances. It has been pointed out that additional meetings may be required particularly in relation to decisions required for the College Merger Project, but it is not possible to diary any additional requirements at this stage.

4.7 In conclusion, and taking account of the above key issues, the proposed schedule of meetings attached as Appendix 1, is commended to Council for approval.

5.0 Exempt and/or confidential information:

5.1 None

6.0 Implications:

6.1 Service Users, Patients and Communities:	Approval of the diary of meetings provides the community and other stakeholders with important information as to the planned meeting dates for the coming year.
6.2 Human Resources and Organisational Development:	There are no human resources or organisational development issues arising from this report.
6.3 Equality, Diversity and Human Rights:	There are no equality, diversity or human rights issues and an Equalities Impact Assessment is not required.

6.4 **Legal:**	There are no legal issues arising from this report.
6.5 **Finance:**	The proposals in this report do not have any direct financial implications, but indirect costs may be avoided by optimising Councillor and Officer time.
6.6 **Assets and Property:**	As stated in the report above, any change to the scheduled dates may mean that alternative arrangements will be required in terms of a venue, with Islesburgh Community Centre being our first choice as a Council-owned venue, but also in terms of size and accessibility. If other venues are use, officers always try to achieve preferential rates in order to ensure costs are kept to a minimum.
6.7 **ICT and new technologies:**	The proposals in this report do not have any direct ICT implications.
6.8 **Environmental:**	There are no environmental issues associated with the terms of this report, and an Environmental Impact Assessment is not required.
6.9 **Risk Management:**	The main risks associated with setting the meeting dates are around the challenges for officers meeting the timescales required, and any part of council or committee business slipping and causing reputational damage to the Council. This can be avoided by ensuring sound project planning and making use of set dates for special meetings. Equally, not applying the diary of meetings could result in decision making being unplanned and haphazard.
6.10 **Policy and Delegated Authority:**	Section 18.2 of the Council's Standing Orders for meetings states "The dates of ordinary meetings of the Council and other bodies which are part of the political management framework will be decided by the Council on the basis of a programme of meetings which will normally be decided each year."
6.11 **Previously considered by:**	No previous consideration.

Contact Details:
Anne Cogle, Team Leader – Administration, anne.cogle@shetland.gov.uk
13 January 2020

Appendices:
Appendix 1 – Draft Calendar of Meetings 2020/21

Background Documents:
None

END

Shetland Islands Council CALENDAR OF MEETINGS - 2020-2021 - Version 1.5 - SIC 22 January 2020

		M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S		cycle
Q1	April 2020			1	2	3	4	5	6	7	8	9	10	11	12	13 PH	14	15	16	17	18	19	20 L/P	21 AC	22 RSVD	23 IJBA	24	25	26	27 EJCC	28 NHSB	29 SCB HB	30 ZET				April 2020	1
	May 2020					1	2	3	4 E&F	5 DEV E&T	6 PF/PB	7 IJB	8	9	10	11 P&R	12	13 CSRB	14	15	16	17	18 L/P	19	20 SIC	21	22	23	24	25	26	27	28	29	30	31	May 2020	
	June 2020	1	2		4	5	6	7	8	9	10 RSVD	11	12	13	14	15	16	17	18	19	20	21	22 L/P	23	24 AC PF/PB SIC	25 VJB ZET IJBA/IJB	26	27	28	29 E&F DEV	30 E&T P&R						June 2020	2 + Special - Draft A/Cs
Q2	July 2020			1 SIC	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	July 2020	
	August 2020	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17 L/P	18 NHSB	19 AC CSRB	20 RSVD	21	22	23	24	25 EJCC	26 SCB HB	27 IJBA	28	29	30	31 E&F							August 2020	3 + Special - Final A/Cs
	September 2020		1 DEV E&T	2 PF/PB	3 ZET	4	5	6	7 P&R	8	9 SIC	10 IJB	11	12	13	14	15	16	17	18	19	20	21 L/P	22	23 AC PF/PB SIC	24 VJB ZET IJBA/IJB	25	26	27	28	29	30					September 2020	
Q3	October 2020				1	2	3	4	5	6 NHSB	7 RSVD	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	October 2020	4
	November 2020	2	3 AC	4	5	6	7	8	9 L/P	10 EJCC	11 SCB HB	12 ZET	13	14	15	16 E&F	17 DEV E&T	18 PF/PB	19 CSRB	20	21	22	23 P&R	24	25 SIC	26 IJBA	27	28	29	30 bdgt seminar							November 2020	
	December 2020		1 bdgt seminar	2 bdgt seminar	3 bdgt seminar	4 bdgt seminar	5	6	7 L/P	8	9	10 IJB	11	12	13	14	15 NHSB	16 RSVD	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				December 2020	Budget seminars
Q4	January 2021					1	2	3	4	5	6	7	8	9	10	11 L/P	12	13	14	15	16	17	18 E&F DEV	19 E&T P&R	20 SIC	21	22	23	24	25	26	27 PH	28	29	30	31	January 2021	5
	February 2021	1	2	3	4	5	6	7	8	9 E&F DEV	10 E&T HB	11 PF/PB SCB	12	13	14	15 P&R	16 NHSB	17 SIC	18 VJB Zet IJBA/IJB	19	20	21	22 L/P	23 AC	24	25 CSRB	26	27	28								February 2021	6 + Special Budget Setting / External Audit Plans
	March 2021	1	2 EJCC	3 SCB HB	4 ZET	5	6	7	8 E&F	9 DEV E&T	10 PF/PB	11 IJBA	12	13	14	15 P&R	16	17 SIC	18	19	20	21	22 L/P	23	24 RSVD	25 IJB	26	27	28	29	30	31					March 2021	7

Public Holidays, School Holidays and Shutdown	**Spring** - Mon 30 March to Mon 13 April 2020; **Summer** - Mon 6 July - Tues 18 August 2020; **October** - Mon 12 - Tues 27 October 2020; **Christmas** - Wed 23 December 2020 - Tues 5 January 2021 Public Holidays : **Easter Monday** - 13 April 2020; **Christmas** 25 & 26 December 2020 **Shutdown;** 27 to 31 December 2020; **New Year** 1 & 2 January 2021; Lk UHA Wednesday 27 January 2021
SP AC/Sp PF/Sp SIC	Special Meetings for Draft Accounts - Audit 10 a.m.; Pension Fund 11.30 a.m. SIC 2 p.m.
IJB/A /VJB/ZET	Special meetings for Final Accounts - O&SVJB 9.30 a.m./ZetTrans 11 a.m./ IJB Audit 2 p.m./IJB 3 p.m.
Bdgt Seminar	Budget Seminars
Budget Setting	Budget setting - budget Book 2021/22 and Annual Audit Plans
RSVD	Reserved for Committee Business/Member Development - Special meetings, Appeals/Hearings, members development/training or seminars - date reserved and only used if required.
IJB	Integration Joint Board
IJBA	IJB Audit
NHSB	NHS Board
VJB	Orkney and Shetland Valuation Joint Board
Zet	ZetTrans
CSRB	Community Safety and Resilience Board (p.m.) – DS, AC, SC, AD, MB, SF, ML
	Meeting-free Friday

Still to be arranged:

LNCT	SIC Local Negotiating Committee for Teaching Staff
JSF	Joint Staff Forum
CLJCC	College Lecturers Joint Consultative Committee

AC = Audit Committee
E&F = Education and Families Committee
PF/PB = Pension Fund Committee/Pension Board
HB = Harbour Board
SCB = Shetland College Board
E&T = Environment and Transport Committee
Dev = Development Committee
P&R = Policy and Resources Committee
SIC = Shetland Islands Council
EJCC = Employees Joint Consultative Committee
CLJCC = College Lecturers Joint Consultative Committee

L/P = Licensing and Planning Committee
10 a.m. SIALB
10.30 a.m. Licensing Committee
2 p.m. Planning Committee

DRAFT

PLEASE NOTE THAT THIS IS CURRENT AS AT XXXXX - YOU SHOULD CHECK COINS, SIC MEETINGS DIARY, OR YOUR OWN DIARY FOR CONFIRMATION OF DATES AND TIMES [and will also be on agendas/invitations]

Shetland Islands Council

Agenda Item
7

Meeting(s):	**Shetland Islands Council**	**22 January 2020**
Report Title:	**Appointment to the Pension Board**	
Reference Number:	**GL-04**	
Author / Job Title:	**Executive Manager – Governance and Law**	

1.0 Decisions / Action required:

1.1 That the Council appoints one Member to the Pension Board; and

1.2 In relation to 1.1 above, that the Council make the appointment by the method set out in Section 4, and RESOLVES, in the event of a vote, to elect by secret ballot.

2.0 High Level Summary:

2.1 On 27 November 2019, Councillor Amanda Hawick intimated her resignation from the Pension Board, with immediate effect.

2.2 The purpose of this report is to provide the Council with the opportunity to fill the vacancy.

3.0 Corporate Priorities and Joint Working:

3.1 The recommendation in this report is not linked directly to any of the Corporate Priorities, but will support the Council's responsibilities in terms of ensuring good governance, accountability and partnership working.

4.0 Key Issues:

4.1 The Pension Board is the body responsible for assisting the Scheme Manager in relation to compliance with scheme regulations and the requirement of the Pensions Regulator. The Terms of Reference are set out in Appendix 1.

4.2 Membership of the Pension Fund Committee is the same membership as the Policy and Resources Committee. Membership of the Pension Board is from the remaining Members, which currently includes Councillor M Bell and Councillor J Fraser.

4.3 The Members eligible for appointment to the Pension Board are as follows:

P Campbell	S Flaws
C Hughson	M Lyall
A Manson	A Priest
D Sandison	D Simpson

4.4 It is important to note that Members of the Pension Board, and also the Pension Fund Committee, are required to undertake any relevant training. Regular training events are organised in Shetland as a means of ensuring that members of the Board are familiar with the activities and administration of the Pension Fund, and relevant Codes of Practice published by the Pensions Regulator.

Method of Election/Voting

4.5 Section 10 of the Council's Standing Orders sets out the method of appointment of office bearers. When Councillors are to be appointed to any positions to be filled by the Council, and where the number of candidates nominated exceeds the number of vacancies, the Councillors to be appointed will be determined by a vote or votes in each of which Members will be entitled to vote for as many candidates as there are vacancies; but they may not cast more than one vote for any candidate.

4.6 The vote will normally be taken by a show of hands, unless the Council resolves in the case of any particular appointment to take the vote by secret ballot. It has been custom and practice for the Council to undertake such voting by secret ballot.

4.7 The name of the candidate having fewest votes will be deleted from the list and a fresh vote, or votes, will be taken. This process of elimination will be continued until the number of candidates equals the number of vacancies.

4.8 Where only one vacancy requires to be filled, and any candidate has an absolute majority of the votes, the candidate will be declared appointed. Otherwise, the name of the candidate having fewest votes will be deleted from the list. This process of elimination will be continued until one candidate has a majority of the votes.

4.9 In the case of an equality of votes, nominees shall be elected by lot as between those who received equal votes and proceed on the basis that the person to whom the lot falls upon had received an additional vote.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications:

6.1 Service Users, Patients and Communities:	There are no implications for service users arising directly from this report.
6.2 Human Resources and Organisational Development:	There are no implications for staff arising directly from this report.

6.3 **Equality, Diversity and Human Rights:**	There are no equality implications arising directly from this report.	
6.4 **Legal:**	The legal framework for this report is supported by the Council's Constitution, including the Scheme of Administration and the Standing Orders.	
6.5 **Finance:**	As an approved duty, any appointed elected Members will be entitled to claim expenses for attendance at meetings. This will result in expenditure in relation to the Members' Expenses budget.	
6.6 **Assets and Property:**	There are no implications for assets and property arising directly from this report.	
6.7 **ICT and new technologies:**	There are no implications for ICT and ICT systems arising directly from this report.	
6.8 **Environmental:**	There are no environmental implications arising directly from this report.	
6.9 **Risk Management:**	The main risk associated with this report is the 'do nothing' option, which would result in a failure to support the Council's Constitution, and a failure to make provision for adequate democratic accountability for constituents.	
6.10 **Policy and Delegated Authority:**	In terms of Section 2.1.3 of the Council's Scheme of Administration and Delegations, matters reserved to the Council include the appointment of Councillors to any body which is part of the political management framework. A decision of the Council is therefore required.	
6.11 **Previously considered by:**	N/A	N/A

Contact Details:
Jan Riise, Executive Manager - Governance and Law jan.riise@shetland.gov.uk
15 January 2020

Appendices:
Appendix 1 – Pension Board – Terms of Reference

Background Documents: None

END

Appendix 1

PENSION BOARD – TERMS OF REFERENCE

1. Introduction

1.1. Each Local Government Pension Scheme Manager in Scotland is required to establish a Board separate from the Committee that acts as the Scheme Manager.

1.2. The Shetland Islands Council Pension Fund Pension Board is established under the provisions of The Local Government Pension Scheme (Scotland) Regulations 2014.

2. Objectives

2.1 The Pension Board is the body responsible for assisting the Scheme Manager in relation to compliance with scheme regulations and the requirements of the Pensions Regulator.

2.2 The Pension Board will determine the areas they wish to consider including, amongst others:

- Reports produced for the pensions committee;
- Seek reports from the Scheme Manager on any aspect of the Pension
- Fund;
- Monitor investments and the investment principles/strategy/guidance;
- The Pension Fund annual report;
- External voting and engagement provisions;
- Pension Fund administrative performance;
- Actuarial reports and valuations;
- Pension Fund funding policy; and
- Any other matters that the Pension Board deems appropriate.

3. Membership

3.1 Membership of the Pension Board will consist of equal numbers of trade union representatives and employer representatives, drawn from Shetland Islands Council and scheduled or admitted bodies in membership of the Pension Fund. Pension Board representatives must not also participate in or act as members of the Pension Committee. Local Authority employer representatives will be Elected Members of the Council.

3.2 The Scheme Manager will appoint a senior officer as Joint Secretary. The trade unions will appoint their own Joint Secretary. The Joint Secretary's role is to liaise with Pension Board members and other colleagues to support the smooth operation of Pension Board meetings and to assist in the resolution of any issues arising within normal Pension Board meetings or processes.

3.3 The term of appointment to the Pension Board will be concurrent with the Council election cycle. Pension Board members may be reappointed to serve further terms.

3.4 There will be four trade union representatives appointed from amongst the Council's recognised trade unions as follows:

GMB
Nautilus International
UCATT
UNISON
Unite

3.5 Trade unions will arrange their own selection process. The Scheme Manager will confirm the appointments once satisfied that the persons to be appointed do not have a conflict of interest.

3.6 There will be four employer representatives appointed by the respective employer organisations as follows:

Shetland Islands Council	3
Scheduled/Admitted bodies	1

3.7 The Shetland Islands Council representatives will be Councillors appointed by the Council. On ceasing to be a Councillor the Council representatives will also cease to be a member of the Pension Board.

3.8 The Scheduled and Admitted Bodies will be invited to nominate representatives who will be chosen by the drawing of lots at a meeting of the Pension Board.

3.9 Pension Board representatives will serve for a period concurrent with the Council election cycle and may be reappointed to serve further terms. Timescales for organisations to notify the Pension Board of their representatives shall be determined locally. Employer bodies and organisations retain the right to withdraw representatives and identify replacements on occasion. Pension Board representatives are required to adhere to the Model Code of Conduct as specified by Scottish Government (details can be found at the link http://www.scotland.gov.uk/Topics/Government/localgovernment/governance/ethical-standards/codes)

3.10 Appointing bodies can appoint a named substitute for their representative. Such substitutes must undertake the same training as set out in section 6 below.

3.11 Advisors may attend meetings of the Pension Board in a non-voting capacity.

3.12 No person may be appointed to the Pension Board who has a significant conflict of interest. A conflict of interest is defined as a financial or other

interest which is likely to prejudice a person's exercise of functions as a member of the Pension Board. It does not include a financial or other interest arising merely by virtue of that person being a member of the scheme or any connected scheme for which the Pension Board is established. The Pension Board will adopt policies and protocols for handling any conflicts that are unanticipated and might arise during membership.

3.13 Ordinarily all items, including exempt items, will be open to the Pension Board. Exceptionally, the Pension Committee may reserve the right to consider items in the Pension Board's absence.

4. Meetings

4.1 The Chair of the Pension Board will be rotated on an annual basis between the trade union and employer sides of the Pension Board.

4.2 Pensions Board meetings will be administered by Shetland Islands Council as agreed with the Joint Secretaries appointed by the trade union and the employers' sides of the Pension Board. All reasonable administration costs shall be met by the Pension Fund.

4.3 The Pension Board will meet at least quarterly. A majority of either side may requisition a special meeting of the Pension Board in exceptional circumstances.

4.4 The Pension Board may establish sub-committees.

4.5 While the statutory roles and function of the Pension Committee and Pension Board are separate, the normal practice will be that both bodies will meet at the same time to consider the same agenda, with the Chair of the Pension Committee chairing the concurrent meeting. The Council's Standing Orders will apply at concurrent meetings. The aim is to engender a positive and proactive partnership culture where in practice the two bodies act as one.

5. Dispute resolution

5.1 If the Pension Committee and Pension Board cannot reach joint agreement on any matter the process for resolving any differences between the two bodies will be as follows. Whilst this process is undertaken the decision of the Pension Committee is still competent.

5.2 In the first instance, if at least half of the members of the Pension Board agree, then the Pension Board can refer back a decision of the Pension Committee for further consideration if any of the following grounds are met:

- That there is evidence or information which it is considered needs re-evaluating or new evidence or data which the Pension Committee did not access or was not aware of at the point of

decision making and which is considered material to the decision taken;

- That the decision of the Pension Committee could be considered illegal or contrary to regulations;

- That the decision of the Pension Committee is contrary to a relevant Code of Practice published by the Pensions Regulator; or

- That the decision is not in the interest of the continued financial viability of the Scheme or is against the principles of proper and responsible administration of the Scheme

5.3 If there is no agreement after the matter has been referred back to the Pension Committee, then the difference in view between the Pension Board and the Pension Committee will be published in the form of a joint secretarial report on the Pension Fund website and included in the Pension Fund annual report.

5.4 The Scottish LGPS Scheme Advisory Board may also consider and take a view on the matter and, if considered appropriate, provide advice to the Scheme Manager or the Pension Board in relation to the matter.

6. Training

6.1 All members (and named substitutes) of the Pension Board must undertake a training programme in accordance with any guidance issued by the pensions regulator and complying with best practice training requirements of the Pension Committee.

6.2 The Pension Board shall agree policies and arrangements for the acquisition and retention of knowledge and understanding for Pension Board members.

6.3 The Scheme Manager will keep an updated list of the documents with which they consider Pension Board members need to be conversant to effectively carry out their role and make sure that both the list and the documents are accessible.

7. Access to Information

7.1 The Scheme Manager and the Pension Board will together ensure that information is published about the activities of the Pension Board including:

- the full terms of reference for the Pension Board, including details of how it will operate;
- the Pension Board appointment process;
- who each individual Pension Board member represents; and
- any specific roles and responsibilities of individual Pension Board members.

7.2 The minutes of the Pension Board will be published on the Pension Fund website. The Pension Board may undertake such communications and stakeholder engagement as it deems appropriate to perform its functions.

END

Shetland Islands Council

Agenda Item

8

Meeting(s):	Shetland Islands Council	22 January 2020
Report Title:	Statutory Review of Polling Districts and Places	
Reference Number:	GL-03-F	
Author / Job Title:	Executive Manager – Governance and Law	

1.0 Decisions / Action required:

1.1 That the Council **RESOLVES** to approve the revised Parliamentary Polling Scheme.

2.0 High Level Summary:

2.1 The Electoral Administration Act 2006 (the "2006 Act"), through amendment to the Representation of the People Act 1983, places a duty on the local authority to review its UK Parliamentary polling districts and polling places every four years. It should be noted that these legislative requirements only pertain to the UK Parliamentary polling arrangements.

2.2 The aims of the review are: (a) to ensure that all the electors in the constituency have such reasonable facilities for voting as are practicable in the circumstances; and (b) to ensure that so far as is reasonable and practicable, the polling places are accessible to all electors, including those who are disabled.

2.3 Whilst consultation was intended to commence in September 2019, the imposition of by-elections prevented this. In this regard, consultation on the Scheme [Appendix 1] commenced formally on 16 December 2019, and was completed on 6 January 2020.

3.0 Corporate Priorities and Joint Working:

3.1 This report has no impact on the Council's corporate priorities or on joint working.

4.0 Key Issues:

4.1 During the consultation exercise, I consulted directly with Community Councils, Ability Shetland and Voluntary Action Shetland. No objections or other comments were received.

4.2 As a statutory consultee, the Parliamentary Returning Officer (Chief Executive, Orkney Islands Council) has no comments on the proposed Scheme and supports its approval.

4.3 As there were no objections to the proposed Scheme, no further changes are proposed at this time.

4.4 However, this statutory review of polling places for UK Parliamentary elections does not preclude a review taking place at any other time. In view of the short consultation period for this statutory review, I intend to conduct a further, more detailed, review of polling places during 2020/21. This will allow any changes to be implemented, along with any changes which might arise from the review of local government ward boundaries, in May 2022.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications:

6.1 Service Users, Patients and Communities:	Public consultation took place over three weeks in December and January and no objections were received. As there are no changes proposed at this stage, there are no impacts on voters or communities.
6.2 Human Resources and Organisational Development:	There is no impact on employees and/or wider workforce management and development, including issues in relation to health, safety and wellbeing.
6.3 Equality, Diversity and Human Rights:	• Election Staff regularly undertake an accessibility audit of all polling places for election purposes, and all are fully compliant. • Accordingly, and as there are no changes proposed to the existing Scheme, an Equalities Impact Assessment is not required. • No issues regarding accessibility have been raised and Ability Shetland were a formal consultee in the process.
6.4 Legal:	Failure to conduct the formal review would result in the Council being in breach of its duties under the Electoral Administration Act 2006 (the “2006 Act”).
6.5 Finance:	There are no financial implications for the Council in terms of this report.
6.6 Assets and Property:	There are no assets and property implications for the Council in terms of this report.
6.7 ICT and new technologies:	There are no impacts on ICT or ICT systems.
6.8 Environmental:	There are no implications for the local environment, and a Strategic Environmental Impact Assessment is not required.

6.9 **Risk Management:**	The Council would be in breach of legislation if it fails to undertake this statutory review. As there have been no issues raised during consultation, or indeed during elections in 2019, there are no apparent risks to the Council making no changes at this time.
6.10 **Policy and Delegated Authority:**	The final determination of UK Parliamentary Polling Districts and Places must be made by the Council, in terms of the Electoral Administration Act 2006. The Returning Officer has delegated authority from the Council [SIC Min. Ref. 55/01] to designate polling places in Shetland for all elections, other than Parliamentary Elections, but to ensure that the polling arrangements for all elections are the same in order to ensure there is no voter confusion.
6.11 **Previously considered by:**	None

Contact Details:
Anne Cogle, Team Leader – Administration
13 January 2020

Appendices:
Shetland Islands Area – Polling Scheme 2019

Background Documents: None.

END

SHETLAND ISLANDS COUNCIL –
REVIEW OF PARLIAMENTARY POLLING DISTRICTS AND PLACES 2019

Polling District	Polling Place	Returning Officer's Recommendation / Proposed Polling Place
1A Unst North	North Unst Public Hall	No change
1B Unst South	Uyeasound Public Hall	No change
1C Fetlar	Sellafirth Public Hall	No change
1D Yell North	Sellafirth Public Hall	No change
1E Yell South	Mid Yell Public Hall	No change
1F Whalsay	Symbister Public Hall	No change
2A Northmavine North	North Roe Public Hall	No change
2B Northmavine Central	Hillswick Public Hall	No change
2C Northmavine South	Brae Hall	No change
2D Muckle Roe and Busta	Brae Hall	No change
2E Delting West -North	Brae Hall	No change
2F Delting West - South	Voe Hall	No change

Polling District	Polling Place	Returning Officer's Recommendation / Proposed Polling Place
2G Delting East North	Mossbank Public Hall	No change
2H Delting East - South	Voe Hall	No change
2J Lunnasting	Lunnasting Public Hall	No change
2K Nesting	South Nesting Public Hall	No change
3A Walls	Walls Public Hall	No change
3B Sandness	Sandness Public Hall	No change
3C Sandsting & Aithsting West	Walls Public Hall	No change
3D Clousta	Aith Public Hall	No change
3E Sandsting East	Skeld Public Hall	No change
3F Aithsting East	Aith Public Hall	No change
3G Weisdale	Whiteness and Weisdale Public Hall	No change
3H Whiteness	Whiteness and Weisdale Public Hall	No change
4A Girlsta and Gott	Tingwall Public Hall	No change
4B Scalloway	Scalloway Public Hall	No change

Polling District	Polling Place	Returning Officer's Recommendation / Proposed Polling Place
4C Trondra	Burra Public Hall	No change
4D Burra	Burra Public Hall	No change
5A Quarff	Quarff Public Hall	No change
5B Cunningsburgh	Cunningsburgh Public Hall	No change
5C Sandwick	Carnegie Hall	No change
5D Levenwick & Bigton	Levenwick Hall	No change
5E Dunrossness	Dunrossness Central Public Hall	No change
6A North Lerwick	Gilbertson Park Games Hall	No change
6B Bressay	Bressay Public Hall	No change
7A South Lerwick	Gilbertson Park Games Hall	No change
7B Gulberwick	Gulberwick Community Hall	No change

END

Shetland Islands Council

Agenda Item

9

Meeting(s):	**Development Committee** **Policy and Resources Committee** **Shetland Islands Council**	**20 January 2020** **21 January 2020** **22 January 2020**
Report Title:	**Shetland Energy Hub Project**	
Reference Number:	**ISD-02-20-F**	
Author / Job Title:	**John R Smith** **Director Infrastructure Services** **Neil Grant** **Director Development Services**	

1.0 Decisions / Action required:

That the Development Committee and the Policy and Resources Committee **RECOMMEND** that Shetland Islands Council:

1.1 **CONSIDER** and **COMMENT** on the information provided in Appendices one to four, the Project Initiation Document for the Shetland Energy Hub Project ("the Project");

1.2 **RESOLVE** to authorise the Director of Infrastructure Services, acting as Senior Responsible Officer, to undertake the following actions:

a) Establish a Project Board, as detailed in Appendix one, as part of the Community Planning Framework;

b) Deploy Project staffing and resources as specified in Appendix one, for an initial period of three years financed from the Harbour Account;

c) Commission an experienced energy industry specialist to guide a visioning scope for the Project (to be concluded by 30 June 2020);

d) Prepare a Strategic Outline Programme for the Project (to be concluded by 30 June 2020);

e) Promote Shetland's energy assets and attributes to local and external energy production and distribution sectors;

f) Research the emerging renewable and transitional energy sciences, oil and gas industry greening plans and process, and best practice from other places with restricted electricity grid access; and,

1.3 **NOTE** the information provided on Key Carbon Reduction Actions in Appendix five, Energy Network Schematics in Appendix six and proposals for developments in UK energy transition and integration in Appendix seven which show how this Project

links with the Councils Climate Change Strategic Outline Programme and wider energy transition and integration opportunities.

2.0 High Level Summary

2.1 The Council endorsed the objectives, critical success factors and opportunities for potential development and evolution of the "Sullom Voe Hub" project on 11 June 2019. In the course of working on that project the proposition has shifted significantly because of the growing influence of the important climate change debate, which has now become a guiding principle for the oil and gas industry. A broader project definition is therefore necessary to drive Shetland's energy ambitions for integrating renewable and transitional energy sources with the hydrocarbons sector. The new proposition which is the Shetland Energy Hub combines all of Shetland's energy development aspirations from community scale up to retaining activity at Sullom Voe for as long as possible.

2.2 The Shetland Energy Hub is an activity programme, set up under the Council's Climate Change Policy, that is designed to advance Shetland's position as a strategic international energy centre at a time when the energy industry is accelerating its transition from hydrocarbons to renewable energy production. The project's purpose is to;

- promote green energy projects throughout Shetland and offshore as part of the international drive to achieve net zero carbon emissions by 2045, while;
- Making full use of the natural energy resources that abound in these islands and
- Working with our oil and gas industry partners in Shetland to optimise existing and developing infrastructure in the hydrocarbon sector and energy transition opportunities (see appendix 6 – Energy Network Schematics).

Coordinating this balanced future approach to energy production will include making full use of the Shetland energy and ancillary industry skills base, encouraging local commercial benefits from the decommissioning of redundant assets, and seeking efficiency from shared services. Project success will mean that the principles of "Just Transition" (as described in Appendix one) will be upheld in Shetland with 500+ people being employed in a net zero carbon energy industry in 2045.

3.0 Corporate Priorities and Joint Working:

3.1 Fostering a spirit of partnership working with the existing and emerging energy industry both at macro and community scale, lies at the heart of the project.

3.2 It is a Corporate Plan priority to maximise income from Sullom Voe whilst ensuring robust environmental protection and a sustained contribution of this industry to Shetland's economy.

3.3 The future of Sullom Voe and the Shetland Hub is one of the Council's key Service Redesign Projects. Carbon Management, Energy Efficiency and Zero Waste are also key Service Redesign Projects. These projects are led by the Infrastructure Services Directorate.

4.0 Key Issues:
4.1 The energy industry employs 1000+ people in Shetland and provides important revenue streams that support the Council's provision of core services for the Shetland community. Retaining Shetland's status as an energy centre, at a time when there are fundamental shifts in the energy industry towards low carbon solutions is therefore an essential proposition. 4.2 Achieving and maintaining robust engagement with both the transitioning oil and gas sector and the emerging renewable energy sector has become a main focus in recent months and this activity now needs to be resourced properly and to be an integral part of Shetland's Community Planning process. 4.3 Progressing Shetland as an Energy Hub recognisable by the energy industry, Government agencies and future customers requires a set of actions to demonstrate that a dynamic shift is actually taking place towards a net zero carbon emissions future. 4.4 The next 30 years is undoubtedly going to be a period of profound change for the energy industry and, with change, there will be inevitable impacts on jobs. By integrating net-zero solutions with oil and gas production better job security should be achieved together with stronger community confidence in a stable, more sustainable economy. This approach follows the principles of "Just Transition".
5.0 Exempt and/or confidential information:
5.1 None

6.0 Implications:	
6.1 Service Users, Patients and Communities:	Working towards a stable, more sustainable energy industry in Shetland will enable a wealthier society with better employment prospects, secure household income, more resilient communities, better physical and mental health in the population and a higher standard of public services.
6.2 Human Resources and Organisational Development:	Prolonging activities at Sullom Voe will mean that operational changes will be phased more gradually over a longer period. The risk of job losses reduces if the project is successful but there will still be necessary changes to job types and configuration as the transition towards and integration of net zero carbon solutions takes place.
6.3 Equality, Diversity and Human Rights:	The principles of Just Transition will be applied to the project.
6.4 Legal:	Part of the project may consider alternative uses for some of the land at Sullom Voe Terminal and the surrounding area, as possible transitional energy projects such as carbon capture, gas to wire, hydrogen production, etc. are developed. Any changes to the current leasing arrangements of the land at Sullom Voe Terminal will require negotiations on the terms and conditions.

	The pace of change in the energy sector towards net zero emission solutions may well be driven by new laws and regulations, which the Council will have to follow if it is directly engaged in energy production and transmission.
6.5 **Finance:**	The estimated cost of the project is £250,000 over an initial period of three years. This cost will be financed from the Harbour Account because project success will secure a significant revenue stream, while the Port of Sullom Voe remains an active part of the Maximum Economic Recovery for oil piped to and shipped from the Terminal.
6.6 **Assets and Property:**	The Port of Sullom Voe is a key Council asset, most significantly, due to its environmental sensitivity, economic impact and income generation capacity.
6.7 **ICT and new technologies:**	No implications arising directly from this report. Specific project development in future will bring in elements of ICT development and new technologies.
6.8 **Environmental:**	Environmental Protection and the maintenance of biodiversity are key Council Objectives. Future developments around the project are potentially highly significant in maintaining environmental standards and acting to mitigate carbon emissions.
6.9 **Risk Management:**	A range of specific risks relating to the project are contained in the risk register in Appendix one.
6.10 **Policy and Delegated Authority:**	In accordance with Section 2.3.1 of the Council's Scheme of Administration and Delegations the Council's Development Committee has functional responsibility for strategic regeneration, economy and business and energy. In accordance with Section 2.3.1 of the Council's Scheme of Administration and Delegations, functional committees have responsibilities to advise Policy and Resources Committee and the Council in the development of service objectives, policies and plans concerned with service delivery within its remit. Policy and Resources Committee has referred authority to advise the Council in the development of its strategic objectives, policies and priorities. The Council has reserved authority to determine and approve the overall goals, values and strategy framework documents. This report relates to the overall goals and strategic objectives of the Council.
6.11 **Previously considered by:**	

Contact Details:

John R Smith
Director-Infrastructure Services
01595 744851
jrsmith@shetland.gov.uk

Appendices:

Appendix 1 – Project Initiation Document – Shetland Energy Hub Project
Appendix 2 – SWOT Analysis
Appendix 3 – Specific Objectives for Sullom Voe Related Outcomes
Appendix 4 – Shetland Energy Hub Project Actions
Appendix 5 – Key Carbon Reduction Actions
Appendix 6 – Energy Network Schematics
Appendix 7 – UKCS Energy Integration Interim Findings

Background Documents:

Shetland Climate Change – Strategic Outline Programme

Appendix 1

Project Initiation Document

Shetland Energy Hub Project DRAFT 2019

Project Summary: The Shetland Energy Hub is an activity programme, set up under the Council's Climate Change Programme, which is designed to advance Shetland's position as a strategic international energy centre at a time when the energy industry is accelerating its transition from hydrocarbons to renewable energy production. Making full use of the natural energy resources that abound in these islands, the project's dual purpose is to promote green energy projects throughout Shetland and offshore as part of the international drive to achieve net zero carbon emissions by 2045, while working with our oil and gas industry partners in Shetland to optimise existing and developing infrastructure in the hydrocarbon sector. Coordinating this balanced future approach to energy production will include making full use of the Shetland energy and ancillary industry skills base, encouraging local commercial benefits from the decommissioning of redundant assets, and seeking efficiency from shared services. Project success will mean that the principles of Just Transition will be upheld in Shetland with 500+ people being employed in a net zero carbon energy industry in 2045.

Author: Douglas Irvine

Date: 06 December

Document Ref: Intranet2.Shetland.gov.uk/policy/sullomvoe

Version: 1.0

1. Project Initiation Document History

1.1 Document Location

An electronic version of the document is stored on sharepoint Intranet2.Shetland.gov.uk/policy/sullomvoe and a paper version is filed at Ports and Harbours Operations.

1.2 Revision History

Revision Date	Previous Revision Date	Summary of Changes	Changes Marked

1.3 Approvals

This document requires the following approvals:

Signed approval forms should be filed appropriately in the project filing system.

Name	Signature	Title	Date of Issue	Version
Mr John Robert Smith		Director of Infrastructure Services		

1.4 Distribution

This document has been issued to:

Name	Title	Date of Issue	Version

2 Project Definition

2.1 Background

Shetland is a natural energy hub, one of the windiest places in the world surrounded by formidable wave and tidal power resource and in the middle of a forest of oil and gas fields that have supplied the UK's energy needs for decades. Energy production and supply is an integral part of the Shetland economy and the local workforce is highly skilled in energy operations and engineering, all providing a sound basis for future energy developments.

The islands have been an active participant in the modern energy industry since the 1970's when the massive Sullom Voe Oil Terminal (SVT) was developed. The Terminal began to operate in 1978 with a capacity of 1.5 M bls a day based on the production of the East of Shetland (EoS) Brent and Ninian pipeline systems. These pipelines are still functional and have delivered more than 8 billion bls of oil since 1978. A third pipeline, this time for gas, was completed in 2002 from West of Shetland (WoS) to carry LPG through SVT for export to the Magnus field for the purpose of enhancing oil recovery. In 2005 stabilised oil started to flow into SVT from Phase 1 of the Clair Field. Phase 2 of Clair commenced in 2018 and main shareholders BP are currently assessing options for production from the entire Clair Field including Phase 3, Clair South. Immediately adjacent to SVT, Total developed the Shetland Gas Plant (SGP), opened in 2016, for processing gas from their WoS Laggan and Tormore fields through SIRGE to the FUKA system and then to St Fergus. In all, 52 oil and gas fields are connected to SVT and SGP in a region where developments are more active WoS with an emphasis on Maximising Economic Recovery(MER) EoS. Currently the throughput at SVT is between 80,000 and 140,000 bls of oil a day sourced from EoS and from Clair.

With significant changes in the world energy market, combined with declining throughput EoS and the drive for maximum efficiency WoS, SVT operators Enquest are seeking to make SVT as efficient as possible with major restructuring and staff reduction taking place.

Shetland Islands Council operates the Port of Sullom Voe and is responsible for the pilotage and towage operations required by SVT.

Shetland's efforts to develop renewable energy are constrained by the limited distribution and transmission network in the islands and by not being part of the national grid. So far two successful small windfarms have been developed, a tidal generation project is underway, a strong hydrogen fuel expertise has been built up (based on external projects) and a number of individual aerogenerators have been built to supply power into individual homes and businesses. The local grid, core supplied from diesel generation, is at maximum capacity for renewable energy. Further development of renewable generation, local or large scale, cannot progress unless the UK Government and OFGEM support the interconnector cable that is necessary to provide resilience for periods where renewables cannot generate. Overall, this is an

unsatisfactory situation given the Islands' world class renewable energy potential for wind, wave and tidal power opportunities.

Statutory electricity supply is endogenous based on a diesel fuelled power station in Lerwick combined with a top-up supply from the gas and diesel fuelled power station at SVT. Both facilities have to be replaced by 2025 due to the age of the assets and to comply with emissions regulations.

The oil and gas industry has recently demonstrated some moves towards a more environmental focus with a drive to make their onshore and offshore facilities as carbon free as possible. This drive is reflected in the Oil and Gas Authority's (OGA's) UK Continental Shelf Energy Integration project. That project has identified offshore floating wind power as a major opportunity for integrating renewable energy into the offshore oil and gas sector, particularly because the more northern wind regime is much stronger than the coastal UK wind regime. Predictions are being made for large scale floating offshore wind to be developed for the northern oil and gas sector in the next 20 - 30 years. Should those developments take place then the potential to reduce carbon emissions is huge because it is estimated that the offshore industry linked to SVT and SGP emits around 6+ million tons of Co2 every year.

The latest exploration figures from the OGA show that 2019 has been a very busy year for the oil and gas industry, west, east and north of Shetland, with substantial drilling taking place in all areas. It seems clear that potential oil and gas developments will be an important part of the Shetland Energy Hub over the next 30 years, albeit with an increasing focus on integrating with low carbon solutions.

Over 1000 people in Shetland are employed directly and indirectly in the energy sector and ancillary services (oil, gas, renewables and power generation and supply). A sound skills base exists that can be built on to progress future energy projects.

This project has been set up to achieve a broader consideration of the future of large scale energy production in Shetland at a time when there is: an international drive to halt and reverse climate change, closer scrutiny of energy industry activities due to concerns about climate change, local uncertainty about the future of oil and gas production in Shetland; and, local uncertainty about how an energy future based on renewable energy can be achieved in the isles.

In order to remain an active entity in the energy industry Shetland must face the challenges posed by declining hydrocarbon production combined with the drive for zero carbon emissions. These processes are exemplified daily by statements in the media from oil companies seeking green solutions for offshore developments and also from organisations promoting new energy projects associated with existing hydrocarbon production infrastructure.

With current energy related jobs estimated to be over 1000 (around 10% of total employment) and a project ambition to keep this figure above 500 by 2045, this project will make an essential contribution to the Place Priority contained in the Shetland Partnership Delivery Plan 2019-22 which seeks to develop Shetland as an attractive place to live, work, study and invest.

The drive to achieve a Shetland Energy Hub adheres to the principles of **Just Transition** by ensuring that livlihoods are protected, communities are resilient and the price of electricity is affordable.

This project has the same origin as the Clair Oilfield – Future Oil Exports Arrangements 2019 project, approved by Shetland Islands Council as part of the Sullom Voe Hub Project on 27 March 2019, Minute Reference 17/19. It has also been drawn up following a recommendation from the OGA that Shetland should be pitching for energy work based on an integration of renewables, transitional and hydrocarbon sources. The project is also closely linked to the "Climate Change – Strategic Outline Programme" also being reported to Council. A number of the key actions proposed by both of these programmes will interlink, overlap and be jointly delivered.

2.2 Project Objectives and Desired Outcomes

The project objectives will be redefined following the visioning exercise which is an integral part of the actions necessary to fulfil the project's brief. Likely objectives will include:

- Identifying pathways to achieve 10 GW of renewable energy in and around Shetland by 2045
- Achieving a set of outcomes aimed at retaining high levels of greener energy production at Sullom Voe (SV) beyond 2045 (See appendix two)
- Contributing to a Net Zero Carbon Energy Plan for Shetland showing pathways for transitioning energy generation from hydrocarbon energy to renewable energy by 2045
- Building up a network of external sources of expertise in renewable energy development to provide up-to-date information on relevant renewable and transitional energy developments
- Supporting the development of 20 projects in Shetland by 2030 to speed up the transition of the energy sector from hydrocarbon to renewable sources

2.3 Project Scope and Exclusions

The project includes the general area of energy/fuel production and supply in Shetland:

- Engagement with all entities with influence in energy/fuel production and supply in and around Shetland (renewable, transitional, oil and gas and energy distribution)

- Partnership working with SVT operators Enquest and SGP operators Total to promote the services at Sullom Voe to existing and new customers and to explore pathways towards net zero carbon operations through transitional and renewable energy projects

- Engagement with Scottish and UK Governments, OFGEM, OGA etc to promote Shetland as a key centre for activity in the modern energy industry.

- Partnership working with SSE or any other organisation responsible for statutory delivery of electricity in Shetland.

- Integrate the activities of the Shetland Energy Hub project with the local supply chain to ensure a fully coordinated approach in Shetland's drive towards net zero carbon solutions.

- Involvement in the UK Continental Shelf Energy Integration project run by the OGA and in any similar projects set up during the period of the Shetland Energy Hub Project.

- Development of robust data sources and intelligence regarding carbon sources and uses, including benchmarking against national emissions outputs.

- Organising the resources for doing the work via in-house secondment, recruitment and the hiring of advisers from the energy industries.

- Procurement of specialist services.

- Including the project in the Council's bid for a joint Islands Deal.

- Foundation research to identify best practices in other places and developing renewable energy ideas that could be practicable in Shetland.

- Upholding the principles of Just Transition in all activities.

The project runs in parallel with all other carbon reduction initiatives as part of the Council's Climate Change Programme. Actions will tie in with the use of energy across all of Shetland life but the focus in this project will be on energy production and distribution rather than the end use of that energy.

2.4 Constraints and Assumptions

SWOT analysis attached as appendix one.

- Decision making on the greater part of the project objectives will be taken at Government, quasi-Government and large scale industry level. The role of the people working in the project will be to influence those decisions from the Shetland perspective and ensure our interests are explained and communicated.

- Shetland's involvement in future large-scale energy production will only be possible if the islands are included in networks of interconnectors as the modern energy industry is developed.

- This project is required to achieve the future opportunities and commercial advantages that the location and the infrastructure at Sullom Voe has to maximise economic recovery of hydrocarbons within a responsible green energy framework. This involves the consideration of integration of renewables from wind, tide and wave, carbon capture and storage, gas to wire, gas to hydrogen and, green hydrogen production etc.

- This project must interface with the Clair Oilfield – Future Oil Export Arrangements 2019 project.

- The location and close proximity of the facilities to the active offshore markets, both in the North Sea and North Atlantic to the west of Shetland, mean that downstream support can be achieved close to the production areas, which decreases environmental risks. These support services will create additional activity at Sullom Voe and related operations such as the adjacent airport. Service companies will grow to meet the increased demands associated with greater activity in the port.

- Shetland's long history in servicing oil and gas activity means that there is a skilled existing workforce in place. Local businesses are already contributing to the services offered and increased activity will mean new opportunities for employment in Shetland and in growing the local population with all the additional benefits that this will bring.

- Some of the opportunities will be of an R&D nature, testing new systems and equipment, which closely aligns with innovative approaches from leading universities.

- **Just Transition** is an established international term that relates to a set of principles designed to protect the livelihoods of people and the resilience of communities involved in carbon intensive energy as the drive to achieve net

zero carbon emissions by 2045 gains momentum. The term includes **Creative Labour Adjustment**, **Strong Social Support Programmes**, and **Sustainable Industrial Policies**. The Scottish Government is signed up to the principles of **Just Transition.**

- The project must remain a political and operational priority for Shetland Islands Council, and resources will be directed accordingly.

2.5 **The User(s) and any other known interested parties**

- Renewable energy developers located both in Shetland and worldwide with projects that can contribute to the goals of this project.
- SVT and Port of Sullom Voe Operators and Owners – Enquest, Total E&P, Taqa, Shetland Islands Council and 18 shareholder oil companies (includes SVA and SOTEAG)
- The developing offshore oil and gas market - BP, Hurricane Energy, Total E&P, Siccar Point, Equinor, Premier Oil, NSMP etc.
- National Interests – UK and Scottish Governments, OFGEM, OGA and HIE
- Direct and indirect workforce
- Innovation and academic partners
- The Council directors of the SVA and other Council members
- Shetland Community – as represented by the Shetland Partnership
- North Sea Decommissioning and NSMP
- Wider national and international Community – climate change pressure groups
- Key ancillary services such Engie operating the SVT power station and Sodexo at Scatsta Airport
- Active local supply chain and LPA
- MP and MSP
- Active external supply chain: Bilfinger, Altrad, Wood Group Plc, CAN and numerous other suppliers, a number of which have staff based in Shetland as well as on the Mainland
- Downstream services yet to be identified

2.6 **Interfaces**

- Project Board Meetings tied in with Shetland Partnership process
- Presentations to Councillors and staged reports to Council
- Structured meetings with key users such as Enquest, Total, Taqa, BP, OGA and renewable energy industry sources
- Specific project team meetings
- Regular communications with other important users
- Shared online repository for project documents

3 Project Approach

3.1 The project will be guided by HM Treasury's Green Book and the Prince2 method to achieve best practice in its outcomes. The products include:

- Regular structured engagement with main participants such as advisers on renewable energy sources, potential energy developers, and key players in the oil and gas industry with an interest in reducing operational carbon emissions
- Development of work packages/briefs to direct the engagement of external specialists and advisers
- Hiring specialist advisers to monitor progress in energy technology development
- Working with key stakeholders at Sullom Voe to ensure that all opportunities to improve working practices towards a more efficient greener future operation at SV are understood
- Undertaking foundation research into global energy developments which may be of interest in the Shetland context
- Hiring specialist advisers to guide decision making on elements of the project such as the most effective deployment of transitional and renewable energy.
- Preparing business cases for developing elements of the project such as pilot energy generation projects using hydrogen.

4 Business Case

4.1 The project is critical for securing the best economic and social outcomes for Shetland, Scotland and the UK in a period of intense change in the energy industry involving a drive towards a variety of renewable sources integrated

with oil and gas. Achieving embedded principles of Just Transition for the Shetland energy workforce and the community, including affordable energy charges, can only be achieved if the Council acts with community partners to influence positive outcomes from the energy transition process. A future with Shetland properly engaged in large scale renewable energy integrated with declining carbon forms will mean retaining valuable jobs, livelihoods and a strong social fabric.

5. Project Management Team Structure and Roles

Board	Role	Appointee
	Chair, SRO/Executive and interim Project Manager	John Smith – Director of Infrastructure Services
	Project Manager	To be appointed
	Port of Sullom Voe Service Adviser	To be appointed
	Development Services Adviser	Thomas Coutts
	External Economic Adviser and Link to HIE and Scottish Government economic support	Katrina Wiseman - HIE
Team	Renewable Industry Advice	External Consultant/s
	Oil and Gas Industry Advice	External Consultant/s
	Energy Research and Advice	Joe Najduch – Graduate Projects Officer
	Products	Douglas Irvine

The Project Board will include from time to time other people to provide specialist advice and guidance.

6 Quality Management Strategy

6.1 The Director of Infrastructure Services, as SRO, has responsibility for the quality of the work undertaken in the project.

External advice received will be sought from experienced and qualified professional organisations and all activity will be based on sound accounting and legal principles.

Products will follow the principles of HM Treasury's Green Book and the Prince2 project method. Reports, etc. prepared for Council will be subject to the agenda management process.

7 Configuration Management Strategy

7.1 All project documents will be recorded electronically and saved on sharepoint Intranet2.Shetland.gov.uk/policy/sullomvoe

The project board must authorise any fundamental changes to the PID or scope of the project. Other minor changes will be documented in the Project Board Minutes.

The in-house Project Team members will be responsible for the Issues and Activity Logs and the Risk Register.

8 Risk Management Strategy

8.1 It is also important to identify the key risks that might stop the project from achieving its objectives. These are likely to include risks associated with uncertain technical factors, the scale of resources which have to be applied or redirected, legislative, regulatory and fiscal obstacles in developing locally appropriate solutions, the complexity and interdependency of actions, political disagreements on the right way forward etc. The main risks are explored below:

Risk Register

General Risks	Description	Mitigating Actions
Project Scale	Integrating the development of the huge volumes on renewable energy required in balance with the hydrocarbon sector developments proves too unmanageable.	Full and continuing dialogue with Governments, OGA and key energy industry companies (renewables and oil and gas). Draw up an implement strategic action plan.
Geographical	Shetland is by-passed by offshore electricity networks carrying renewable energy to oil and gas fields and/or national markets.	Continually promote Shetland's renewable energy capabilities to the oil and gas industry and to Governments.
Inactivity	Absence of good examples of renewable and transitional energy projects in Shetland to scale up from and promote Energy Hub.	Being more dynamic – ensuring that a programme of new energy development projects is always active.
Technology	Shetland is unsighted on technological advances that might bring advantage.	Building networks with agencies involved in the developing energy science, and maintaining active research.

Geographical	Lack of interconnectors to external electricity grids	Work with Governments. OFGEM and other agencies to persuade interconnector development + investigate how other remote locations handle this issue.
Oil and Gas	The oil and gas industry is unable to integrate with renewable energy while located in Shetland and departs as a consequence.	Foster full dialogue between the oil and gas industry and the renewables industry to achieve industry synergies.
Public Opinion	The project is not regarded as being an adequate or appropriate response to Climate Change	Promote the Just Transition aspects of the Project that fulfil Economic and Social needs while advancing net zero carbon solutions.
Complacency	Shetland's community leaders and the public decide that the future of energy development in Shetland is a matter for external agencies to advance.	Be clear that inactivity at a Shetland level will lead to the islands becoming an energy backwater with deep economic and social consequences (no Just Transition).
Political	Shetland is at the end of the line as Governments roll out modern energy development policies and schemes.	Make representation to Governments combined with maintaining a programme of high profile energy projects in Shetland to demonstrate the value of power sources in and around the islands.
Population Loss/Skills	Shetland's energy skills base reaches tipping point as the oil and gas industry withdraws without renewable/transitional energy replacement.	Emphasise an active strategic approach to the Shetland Energy Hub concept.

9 Communication Management Strategy

9.1 Communications with stakeholders will be conducted as specified in the table below:

Users and interested parties	Purpose	Responsibility	Method
Renewable Energy Developers	Encourage new projects	Project Manager	Promotional materials and sales pitches, then structured meetings
SVT,SGP and Port of SV Operators	Encourage close partnership working	SRO	Structured Meetings
Offshore oil and gas market	Promotion of the services provided at SV	SRO Project Team	Structured meetings, promotional materials and sales pitches
Governments (includes OGA and OFGEM)	Explain project objectives and obtain political support	SRO Project Team External Communications services	Structured meetings, lobbying techniques
Innovation and Academic Partners	Obtain information on developing science, to guide and commission research	Project Manager/SRO	Regular communication via email, telephone-occasional meetings
Shetland Island Council members	Gain support for project objectives and advise progress	SRO	Briefing meetings and staged reports to Council
Direct and indirect workforce	Explain project objectives and progress	Project Team	Press Statements
Shetland Community	Explain project objectives and progress	Project Team	Press Statements
Wider National/International community	Explain project objectives and progress	Project Team	Press Statements
Key Logistical Services	Explain project objectives and encourage some partnership working	Project Team	Meetings, emails etc

Active Local Supply Chain	Explain project objectives and encourage ideas	Project Team	Meetings, emails etc
Active External Supply Chain	Explain project objectives and encourage ideas	Project Team	Meetings, emails etc

10 Project Plan

10.1 Key Project Milestones – these are set out in the Actions Log, appendix three.

11 Project Controls

11.1 The main control of the project rests with the Director of Infrastructure Services.

Progress will be communicated as stated in section 9.

The Risk Register is shown in section 8 and the Action Log is detailed in Appendix 3. An Issues Register will be prepared and controlled by the Project Team.

Stage reports will be prepared for the Council as the SRO thinks fit.

The estimated Council contribution to the cost of the project is £250,000 over three years broken down as follows:

Recruited staff - for two project officer / graduate placement / project support appointments for focused research and project support as a substantive contribution to a multi-agency, public sector / private sector / academic research team collaboration.

In-house seconded staff - Consideration will be given to the appointment of a full-time project manager with appropriate skills and experience to manage the project internally, engage at a strategic level with key partners, interface with aligned internal project teams, facilitate the generation of external funding and monitor and report on progress towards objectives, plans for future actions, risk management and the identification and resolution of issues. This will be investigated with CMT supported by HR with costs to be ascertained depending on the details of secondment arrangements.

Other costs to support information gathering, networking and partner engagement, any specialist technical advice and any additional recharges will be resourced through appropriate Harbour Account budgets.

The core objectives and outcomes from this project are aligned with the Councils Harbour Account and its requirement to generate an ongoing financial contribution to Council reserves. The financial implications of this project will therefore be managed within that arrangement.

It is also anticipated that the project will attract significant partnership contributions from agency, commercial and academic partners. This would be intended to leverage substantial additional activity focused on energy transition and energy integration in Shetland to meet our economic and social objectives.

At this stage it is uncertain what level these additional contributions will chieve, however an initial target would be for at least a double in external funding to that contributed by the Council.

Appendix Two - SWOT Analysis

Strengths

- Abundance of largely untapped renewable energy sources (wind, wave and tidal)
- Successful SME participation in renewables (2 small scale windfarms, 1 tidal research project, 1 H2 specialist trading, 1 biofuel provider and other minor developments)
- Two windfarms (one large scale, one medium scale) at consented stage
- Two medium to large scale windfarms at various stages of development
- Active engineering supply chain for renewable energy with capacity for development
- 40+ years of successful oil and gas production
- Highly skilled workforce in oil and gas production and harbour activities capable of reskilling in renewable energy
- Hub location for 3 oil and 2 gas pipelines
- Good proximity to offshore oil and gas fields
- Possible future connection to 100% renewable energy supply for onshore and offshore operations

Weaknesses

- A very remote location unconnected to national grid, depending heavily on diesel generated power with no immediate operational alternative options
- Shetland grid at maximum capacity for renewable sourced energy
- Indecision on interconnector delays planning and development of next generation solutions
- Dependence on remote centralised decision making process
- No currently scalable sources of renewable energy other than wind generated electricity and green H2 derived from wind generated electricity
- Insufficient active renewable energy projects to promote Shetland as an integrated energy hub
- High dependency on the uncertain future of hydrocarbon production
- Not linked to National Grid limiting renewable electricity supply
- High costs at SVT associated with low throughput and maintaining aging assets
- Constrained local labour market
- Inefficient working practices
- Poor marketing of SV facilities

Opportunities

- Securing energy links through interconnectors to onshore and offshore markets (and sources)
- Involvement in Oil and Gas industry drive for green energy power in onshore and offshore operations
- Development of hydrogen generation and carbon capture in declining gas field infrastructure
- Provide huge volumes of renewable energy to UK energy market
- Attracting higher volumes of oil and gas from West of Shetland
- Achieving Maximum Economic Recovery from East Shetland Basin
- More efficient working
- Diversifying business base
- On site low carbon production systems
- Providing national energy security in volatile international markets
- Sustaining / Contributing 1,000+ jobs to the national workforce at a time of economic uncertainty

Threats

- Renewable energy constraints leads to oil and gas industry relocating outside Shetland
- Renewable energy sources remain undeveloped due to lack of coordinated action particularly associated with interconnector development
- Energy security threatened by uncertainty of links to national and international grids
- Loss of skilled workforce as people leave to find better employment opportunities elsewhere
- Political uncertainty leading to changes in regional and international trading conditions
- Inability to reduce costs at SV to achieve greater efficiency
- Complacency based on the gradual decline of oil and gas activity over a period of 30+ years
- Development of more efficient offshore loading systems and improving technology to pipe oil and gas over long distances

Appendix Three - Specific Objectives for Sullom Voe Related Outcomes

The specific objectives for the Sullom Voe elements of the project have been established following a dedicated workshop on 6th August 2019, and are detailed below.

- Maximise recovery of West of Shetland and East of Shetland oil through SVT at a level of 200,000 bls a day by 2025, using existing infrastructure.

- Maximise recovery from West of Shetland and North of Shetland gas at a level of 20 million scm a day by 2025, using existing infrastructure.

- Use renewable energy supply to reduce carbon in the operations of SVT and Port of SV by 200,000 tonnes a year of CO2 emissions by 2030.

- Prepare and adopt a greening plan for the Port of Sullom Voe to include shore-side 100% renewable by 2025 and identify dates to bring all vessels into line with national carbon reduction policies.

- Identify and progress an energy transition strategy for Sullom Voe to diversify some activity away from established hydrocarbon forms into new technologies such as LNG, gas to hydrogen, gas to wire and carbon capture.

- Attract renewable energy generating and supplying businesses into Sullom Voe Hub Project area to develop alternative energy sources, including onshore and offshore wind projects.

- Develop a partnership between Sullom Voe decommissioning activities, local suppliers and the Dales Voe Decommissioning Project to maximise benefits from onshore and offshore decommissioning activities.

- Develop, in partnership with the oil and gas industry, a consolidated pollution response base to serve the northern North Sea area and SVT.

- Prior to decommissioning, establish with main stakeholders if there is any future strategic or commercial use for redundant oil storage tanks, jetties and other significant assets.

Appendix Four - Shetland Energy Hub Project

Actions Log

No	Heading	Date Active	What needs to be done	Who by	When	Date Closed
1	Energy Hub Vision	01.20	Put a rolling visioning process at the heart of the project	Initially led by a hired energy industry specialist who will guide the work, then led by the project manager	By 30 April 2020	
2	Energy Hub Plan	01.20	Prepared in parallel with the visioning exercise, the Energy Hub Plan has to set out the pathways for achieving the defined objectives	Project Manager and team	By 30 June 2020	
3	Promotional Activities	01.20	Achieving a high profile for the Shetland Energy Hub within the energy industry and the whole apparatus of Government	Director of Infrastructure Services by engaging the services of energy industry PR specialists to confirm a programme of promotional activities including drawing up an active network of energy decision takers	Some work achieved to date, structured approach required ASAP	
4	Research	01.20	Shetland needs to be fully sighted on: the developing science of renewable and transitional energy; oil and gas industry	Project Manager and Team	This work has begun, has to be resourced better if meaningful progress is to be made	

			greening plans; and, how other places with restricted electricity grids are planning for a net zero carbon future			
5	Practical Activity	01.20	Shetland needs to demonstrate a more dynamic approach to achieving net zero carbon emissions by 2045. A rolling programme of projects is essential for establishing the credentials of a viable Energy Hub.	Led by CMT	Required immediately	
6	Coordination	01.20	Given the huge economic and social impacts of the current, and future, energy industry on Shetland the coordination of the Energy Hub project needs to be fully integrated with Community Planning	Project Board needs to be set up as part of Community Planning and led by a senior figure such as the Director of Infrastructure Services	ASAP	

Appendix 5

Shetland Islands Council

Key Carbon Reduction Actions

January 2020

Shetland Island Council – Proposed Approach

Described in more detail in the “Climate Change – Strategic Programme” reporting January 2020.

That programme recommends the Council;

- Adopts a “proactive” approach to Climate Change mitigation and adaption in Shetland.
- Proposes a range of immediate actions and priority areas
- Emphasises that is essential to act in partnership with other agencies, business and communities to be successful.

See Climate Change – SOP section 4.2 & draft PID

Key Action – Energy Efficiency & Community Recycling

- Accelerate current energy efficiency, energy conversion, waste reduction and reuse initiatives, within the Council and across the community.

  - Timing - this is a core long term foundation for Council and community behavioural change and needs to be progressed from now, through 20+ years.
  - Actions / Outcomes –
    - Support “Climate Change Conversations” across the community
    - Act to double the pace of domestic energy efficiency upgrades
    - Promote commercial energy efficiency actions, particularly for SME companies.
    - Ensure all Council new builds / refurbs prioritise zero carbon
    - Accelerate roll-out of electric vehicle charging points.
    - Increase Electric / Pilot hydrogen vehicles in the Council fleet
    - Intensify community recycling and reuse initiatives.
    - Prepare and implement a Green ports and harbours plan

Key Action – Energy Efficiency & Community Recycling

- Accelerate current energy efficiency, energy conversion, waste reduction and reuse initiatives, within the Council and across the community.
    - Potential Council contributions;
        - Facilitative community engagement on climate change
        - Maximise carbon impact from spend of existing Council replacement and renewal budgets
        - Provide support to access external funding
        - Potential pilot or trial project investments through Change Fund
        - Options to further extend / target / accelerate efficiency actions through individual business cases

Key Action – Green Internal Ferries and/or Fixed Links

- Internal ferries are currently 50% of the Councils emissions;
    - Timing – Conclude the funding and implementation plan for "Fair Ferry Funding" with the Scottish Government, including a delivery programme across the next 2 - 7 years, ensuring fixed links are also properly considered as alternatives.
    - Outcomes / Actions;
        - Renew all internal ferries with zero-carbon vessels, or zero-carbon capable within 10 years.
        - And / or replace internal ferry routes with fixed links.
        - Provide renewable power sources for vessels at all ferry terminals.
        - Provide renewable power sources for vehicles at all ferry terminals.

Key Action – Green Internal Ferries and/or Fixed Links

- Internal ferries are 50% of the Councils emissions
  - Potential Council contributions;
    - Secure Fair Ferry Funding agreement
    - Conclude and implement the internal ferry renewal programme
    - Pilot project support including research into practical alternative fuels
    - Research support to translate marine lessons learned / support of linkages across to commercial marine sectors
    - Conduct fixed link research and progress options for future funding through national infrastructure planning

Key Action – Strong / Smart / Green / Affordable Electricity Grid

- Support the design and delivery of a strong, smart, green internal electricity distribution grid; one which reaches across all of Shetland, and enables further public, community and commercial "greening".
    - Timing – Reliable green electricity would appear to be a fundamental prerequisite for most transition opportunities. Target for replacement of Lerwick Power station is 2025. Planning local grid strengthening needs to be before that; grid build out would also ideally be before then too, but most likely after.
    - Actions / Outcomes;
        - Contribute to the defining the requirements and design for a strong, reliable, smart, green and affordable electricity grid across the whole of Shetland that can integrate with community generation and use.
        - Integrate community scale projects into the Shetland Energy Hub project to emphasise Shetland based solutions
        - Support research and learning from other areas that are advancing green energy through "smartening" constrained electricity grid situations

Key Action – Strong / Smart / Green / Affordable Electricity Grid

- Support the design and delivery of a strong, smart, green internal electricity distribution grid; one which reaches across all of Shetland, and enables further public, community and commercial “greening”.
    - Potential Council contributions;
        - Campaigning and facilitation
        - Support for research
        - Input to ensure the new local grid is designed to meet Shetlands needs
        - Support pilot project work / linkages across to commercial sectors
        - Alignment of Council transition planning and implementation with new grid capacity and smart capabilities.

Key Action – Facilitate Community Energy Networks

- Facilitate the emergence of Community Energy Networks across Shetland. Ensure these networks can interlink with a green and strengthened Shetland Electricity Grid and complement / enable local energy efficiency, recycling and carbon capture initiatives.

  - Timing – Understanding opportunities, issues and limitations with communities over the next 5 years through the research, development and deployment of community pilots.
  - Actions / Outcomes;
    - A range of community energy networks that tap into community energy generation opportunities
    - Community involvement in delivery to contribute to reliable and affordable green energy across the whole of Shetland.
    - Achieve five community generation projects by 2025
    - Achieve a further five by 2030.

Key Action – Facilitate Community Energy Networks

- Facilitate the emergence of Community Energy Networks across Shetland. Ensure these networks can interlink with a green and strengthened Shetland Electricity Grid and complement / enable local energy efficiency, recycling and carbon capture initiatives.

  - Potential Council contributions;
    - Support for research on potential and opportunities
    - Support to secure external funding for local initiatives
    - Some pump-priming e.g. new technology trials or possible participation in community carbon capture (peatland restoration) or similar community initiatives
    - Community engagement and facilitation support
    - Support to identify community arrangements that facilitate community involvement and benefit from Local Energy networks
    - Support research and learning from other areas that are advancing green energy in constrained geographies

Key Action – Support Transition in Key Commercial Sectors

- Support partners to plan and deliver energy reduction / transition in the key commercial sectors which are the big Shetland carbon emitters / energy users. They must identify solutions to remain competitive and become compliant with emissions targets.

  - Timing - The challenges are substantial and actions are likely to need to be sustained over an extended time period.
  - Actions / Outcomes;
    - Support the development of sectoral implementation plans that address the particular needs of;
      - Fisheries
      - Aquaculture
      - Agriculture
      - Commercial Transport
      - Aviation
      - Oil & Gas

Key Action – Support Transition in Key Commercial Sectors

- Support partners to plan and deliver energy reduction / transition in key commercial sectors.
    - Potential Council contributions;
        - Mainly facilitation and assistance in co-ordination
        - Possible “Island Proofing” lobbying and campaigning
        - Research support
        - Pilot project support
        - Linkages from any similar Council activity across to commercial initiatives
        - Assistance in learning lessons from communities with similar industry sector and geographical challenges

“Just Transition”

The Scottish Government have emphasised that the transition away from dependence on hydrocarbons should follow “Just Transition” principles, which they summarise as;

- plan, invest and implement a transition to environmentally and socially sustainable jobs, sectors and economies, building on Scotland’s economic and workforce strengths and potential

- create opportunities to develop resource efficient and sustainable economic approaches, which help address inequality and poverty (including fuel poverty)

- design and deliver low carbon investment and infrastructure, and make all possible efforts to create decent, fair and high value work, in a way which does not negatively affect the current workforce and overall economy

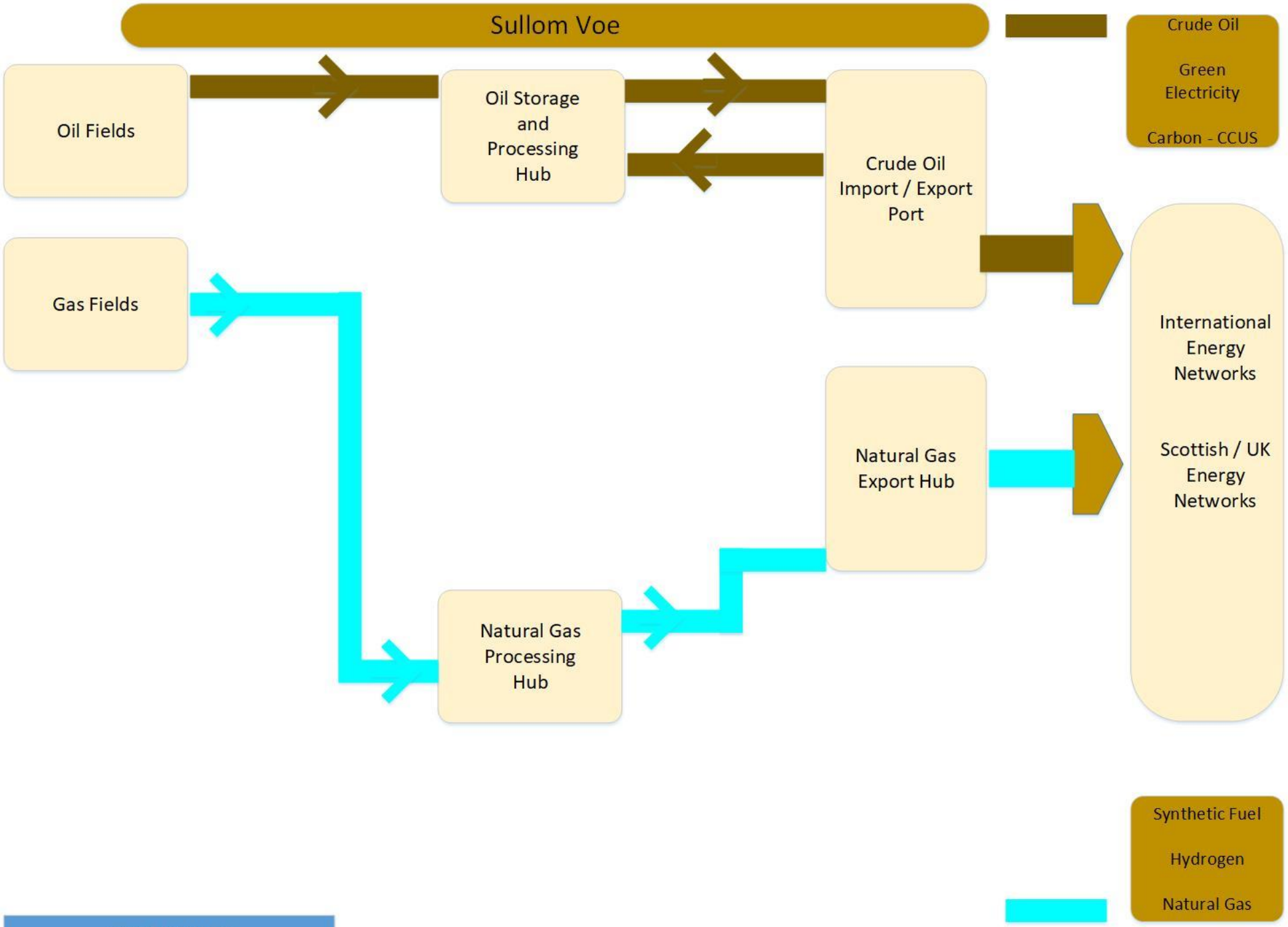
Key Action- Just Transition / Energy Affordability

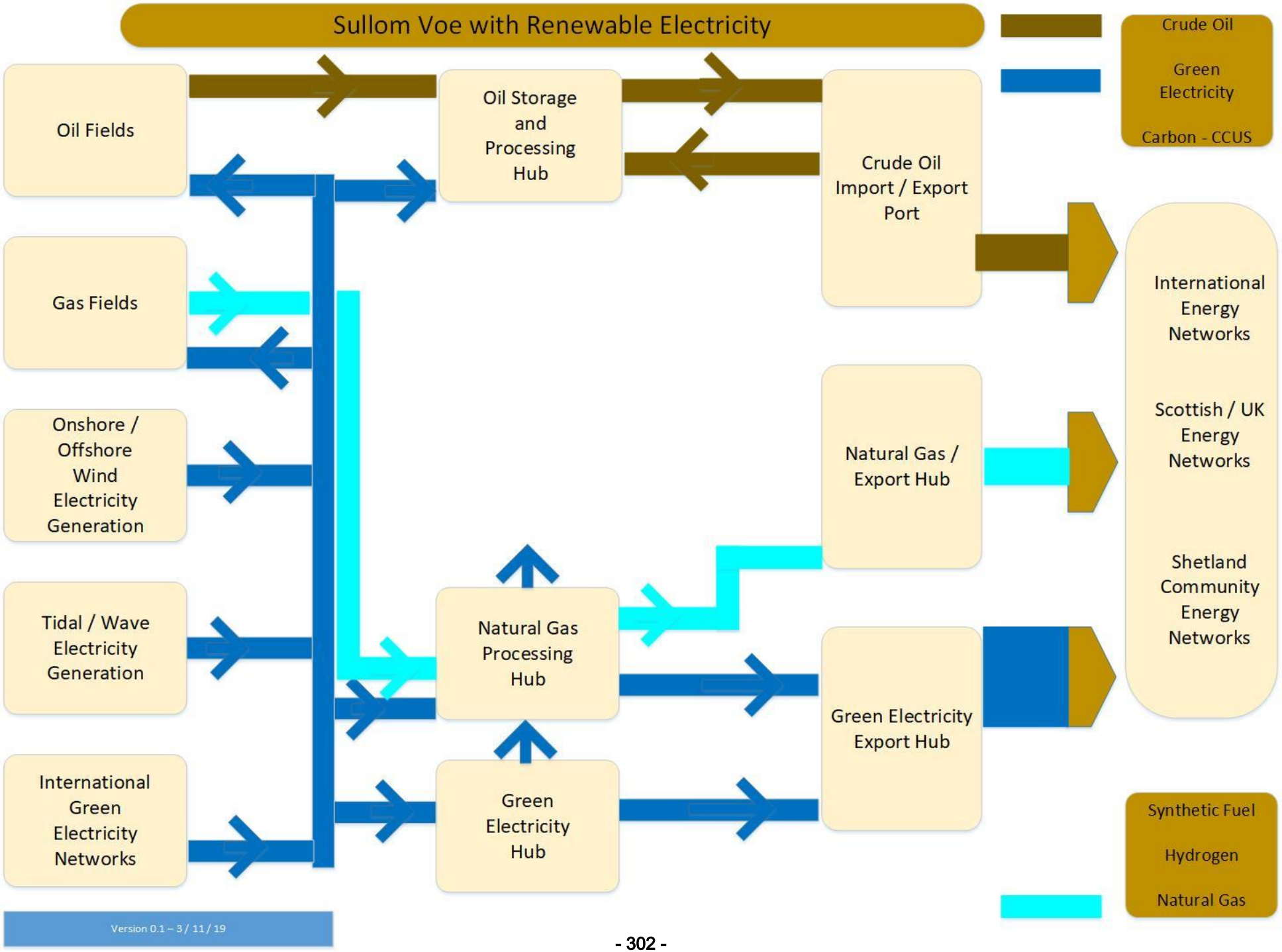
- Campaigning at all levels to ensure that future developments recognise that energy affordability is already a key issue in Shetland, and ensure that progress on that issue is designed into all significant proposals and solutions
    - Timing – Importance of designing “Just Transition” principles in from the start, especially in electricity grid strengthening & Community Energy Networks.
    - Actions / Outcomes;
        - Prepare and support a Shetland Integrated Energy Plan to tackle the current inequalities in energy affordability and the reskilling required to make new energy systems work/re-engage people whose jobs have been affected by transition.

Key Action- Just Transition / Energy Affordability

- Campaigning at all levels to ensure that future developments recognise that energy affordability is already a key issue in Shetland, and ensure that progress on that issue is designed into all significant proposals and solutions
    - Potential Council contributions;
        - campaigning support
        - research support
        - pilot project support
        - community engagement support

Appendix 6


Sullom Voe
Crude Oil
Green Electricity
Carbon - CCUS
Oil Fields
Oil Storage and Processing Hub
Crude Oil Import / Export Port
Gas Fields
International Energy Networks
Scottish / UK Energy Networks
Natural Gas Export Hub
Natural Gas Processing Hub
Synthetic Fuel
Hydrogen
Natural Gas
Version 0.1 – 3 / 11 / 19


Sullom Voe with Renewable Electricity
Crude Oil
Green Electricity
Carbon - CCUS
Oil Fields
Oil Storage and Processing Hub
Crude Oil Import / Export Port
Gas Fields
Onshore / Offshore Wind Electricity Generation
Natural Gas / Export Hub
International Energy Networks
Scottish / UK Energy Networks
Shetland Community Energy Networks
Tidal / Wave Electricity Generation
Natural Gas Processing Hub
Green Electricity Export Hub
International Green Electricity Networks
Green Electricity Hub
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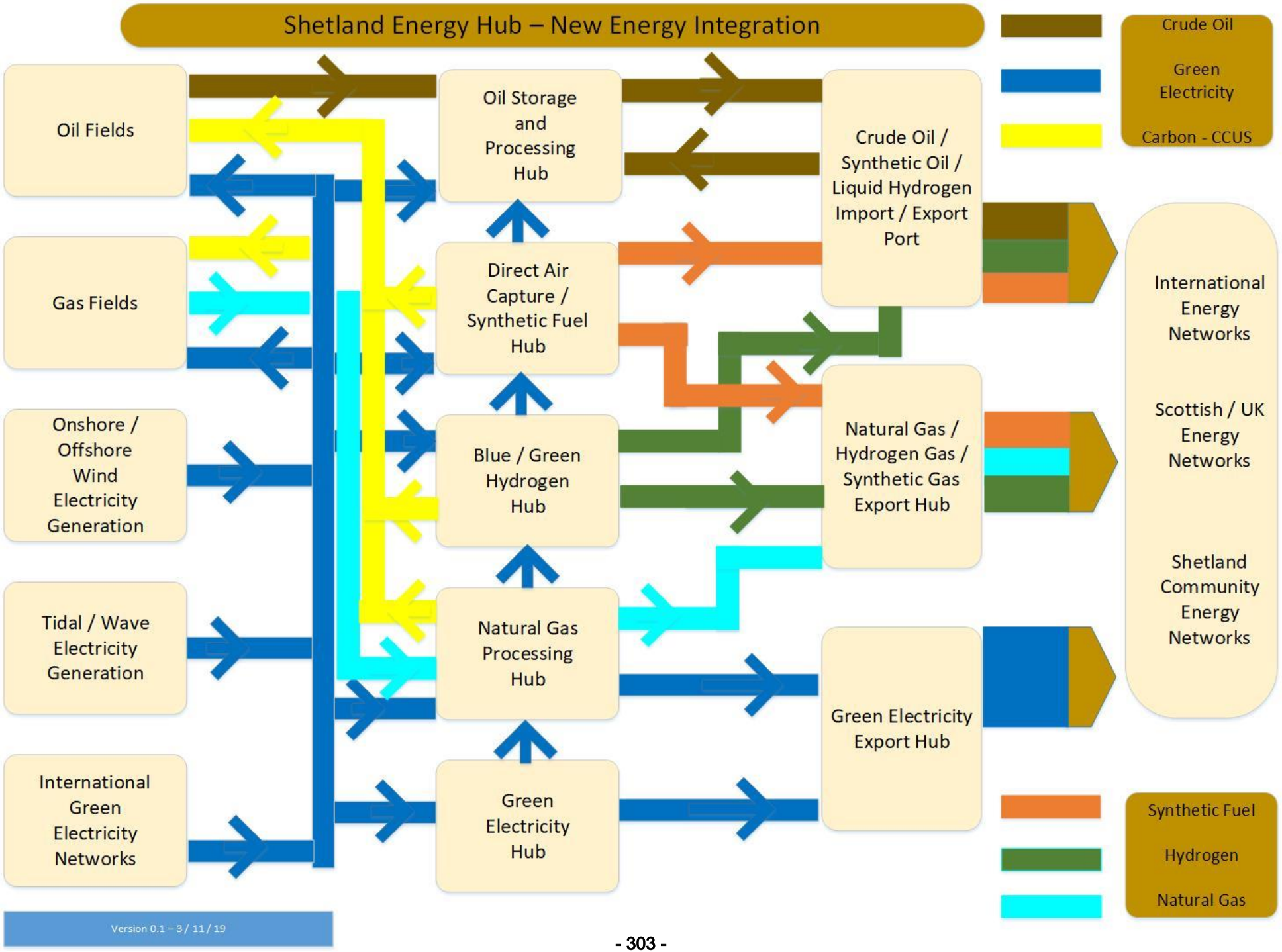
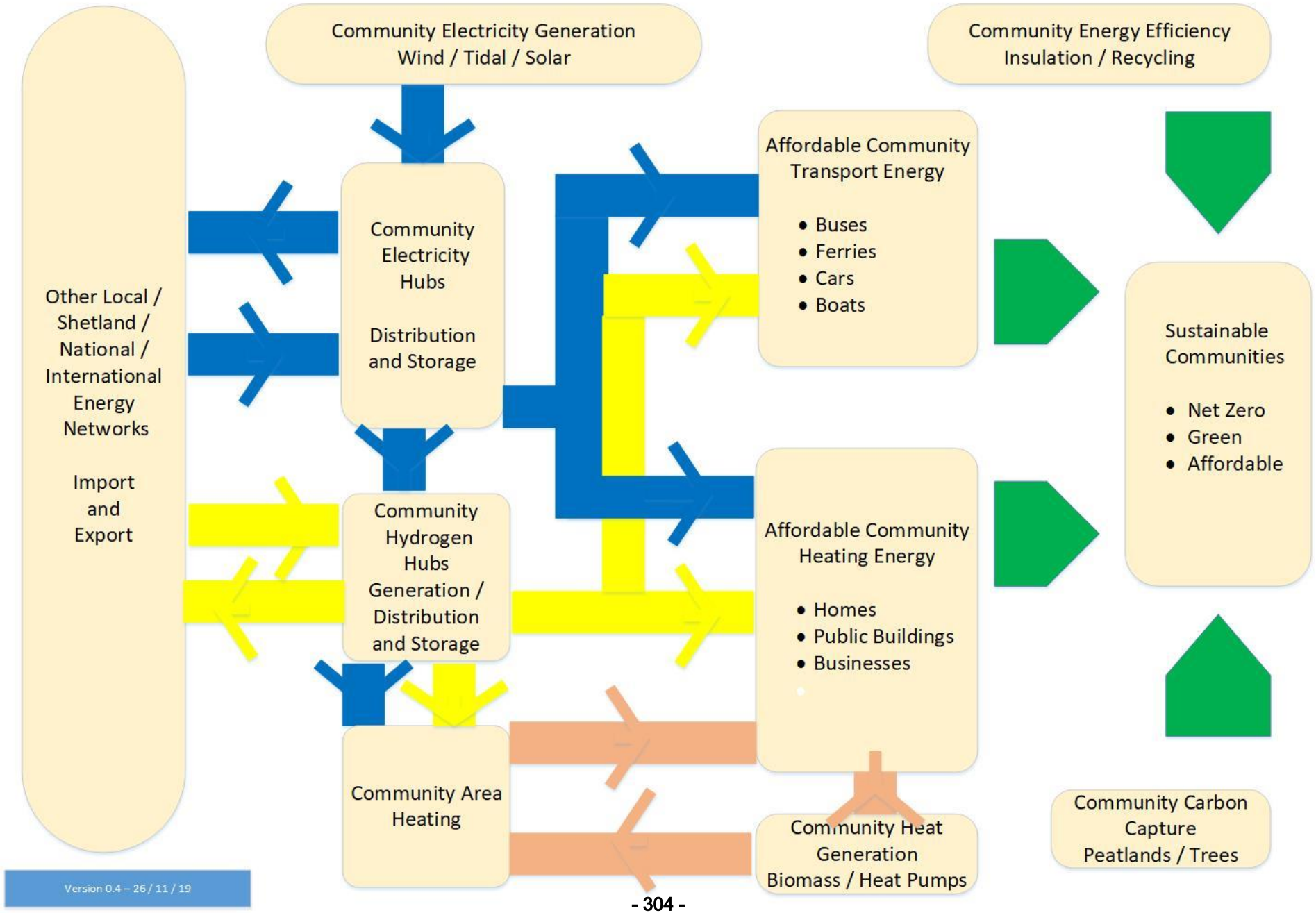

Shetland Energy Hub – New Energy Integration
Oil Fields
Gas Fields
Onshore / Offshore Wind Electricity Generation
Tidal / Wave Electricity Generation
International Green Electricity Networks
Oil Storage and Processing Hub
Direct Air Capture / Synthetic Fuel Hub
Blue / Green Hydrogen Hub
Natural Gas Processing Hub
Green Electricity Hub
Crude Oil / Synthetic Oil / Liquid Hydrogen Import / Export Port
Natural Gas / Hydrogen Gas / Synthetic Gas Export Hub
Green Electricity Export Hub
International Energy Networks
Scottish / UK Energy Networks
Shetland Community Energy Networks
Crude Oil
Green Electricity
Carbon - CCUS
Synthetic Fuel
Hydrogen
Natural Gas
Version 0.1 – 3 / 11 / 19

Shetland Climate Change – Community Energy Networks



Oil & Gas Authority

UKCS Energy Integration

Interim findings

Department for Business, Energy & Industrial Strategy

THE CROWN ESTATE

ofgem

Cover photos:

Equinor's floating wind concept (Hywind, drawing) was piloted successfully offshore Scotland (picture) and will be used to electrify oil and gas platforms in the Tampen area.

Neptune Energy has converted an existing offshore platform (Q13a, picture) to power imported from the shore and is now installing a containerised electrolyser module to pilot offshore hydrogen generation (drawing).

Contents

Foreword

The UK government's legally-binding commitment to net zero emissions by 2050 means there is a duty on everyone to act now and do everything possible to achieve this. This applies to regulatory authorities like the OGA and it applies to the oil and gas industry.

Government forecasts that oil and gas will remain an important part of our energy mix for the foreseeable future, during the transition to net zero, and that the UK is expected to remain a net importer.

While the drive to net zero doesn't mean the UK will immediately stop needing oil and gas, there is a growing expectation that the oil and gas industry goes much further in reducing its carbon footprint from operations, while helping solve the big challenges around carbon capture and hydrogen which will 'move the needle' in meeting our climate change targets.

The UK's infrastructure, subsurface reservoirs and expertise, along with a world-class supply chain which is already diversifying into renewables, make it well-placed to be a global leader in the energy transition.

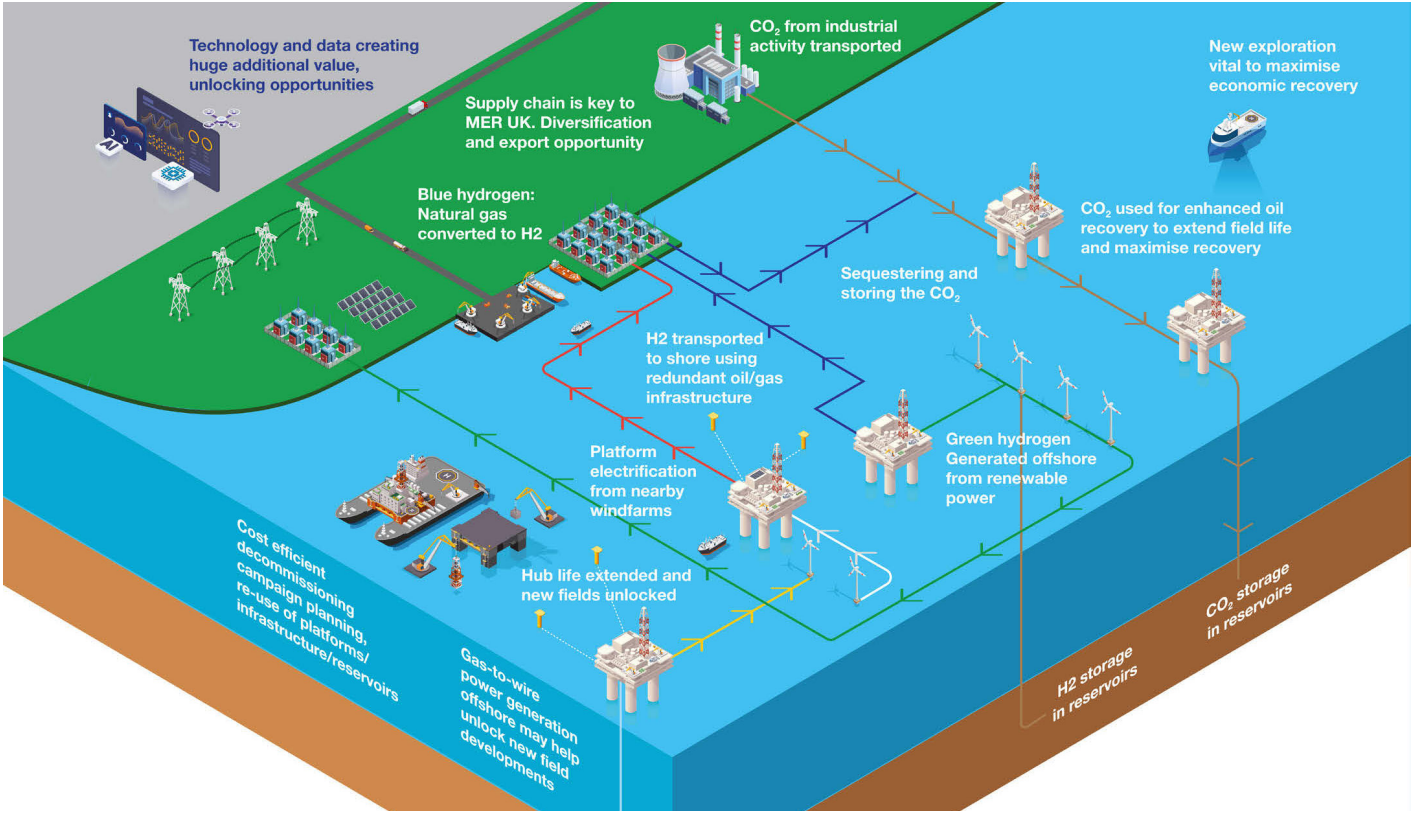
A more integrated offshore energy sector, including closer links between oil and gas and offshore renewables, will be vital to accelerate the energy transition.

- Platform electrification could reduce emissions on oil and gas installations by using electricity generated from windfarms instead of diesel
- Gas-to-wire may enable gas to be converted to electricity offshore and transported using existing windfarm cables
- Natural gas produced offshore can be converted to hydrogen using methane reforming, with the CO_2 stored in reservoirs
- Offshore energy hubs can enable hydrogen to be generated offshore using windfarms and either stored in reservoirs or transported to shore using oil and gas infrastructure

This report summarises the findings from the technical assessment (Phase 1) of the UKCS Energy Integration project. The economic and regulatory assessment (Phase 2) is well underway, and the project will conclude 2Q 2020, after which a final report and action plan will be published.

Dr Andy Samuel
Chief Executive

UKCS energy integration vision



Project overview

Led by the OGA, in collaboration with:

Department for Business, Energy & Industrial Strategy

THE CROWN ESTATE

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The project aims to:

- **Unlock UKCS energy integration opportunities**
- **Leverage oil and gas infrastructure for CCS, wind and hydrogen**
- **Enable partnering of oil and gas operators and supply chain with renewables**

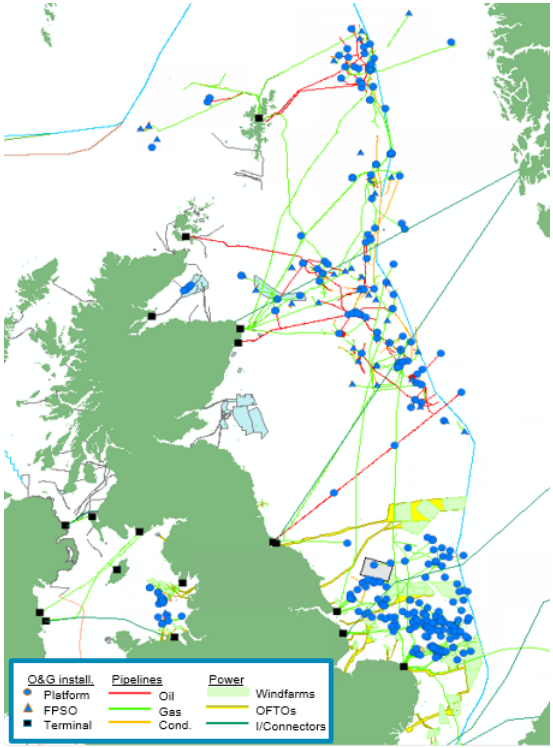
The project comprises two phases:

1. **Technical options (completed)**
2. **Economic and regulatory assessment (ongoing)**

This report describes the findings from Phase 1

Funded by £1m grant from the Better Regulation Executive's Regulators' Pioneer Fund

UKCS infrastructure (oil and gas, renewables and power transmission)



Timelines

1Q 2019	2Q 2019	3Q 2019	4Q 2019	1Q 2020	2Q 2020

Phase 1. Technical Options

Understand technical feasibility of offshore energy integration concepts and their applicability on the UKCS

- Electrification
- Gas-to-Wire
- CCS
- Power-to-Gas (H_2)
- Energy hubs

Phase 2. Economic and Regulatory Assessment

Industry Engagement

- Comprehensive stakeholder engagement to validate Phase 1 work and provide inputs to economic and regulatory workstreams

Economic Assessment

- Modelling economic and commercial opportunities

Regulatory Assessment

- Mapping regulatory landscape to identify gaps, barriers, opportunities and enablers

Delivered with Lloyd's Register

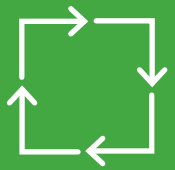
Delivered with EY

Dissemination of findings & Action plans

COMPLETION SUMMER 2020

UKCS 'size of the prize'

Actions to address priority barriers and enablers



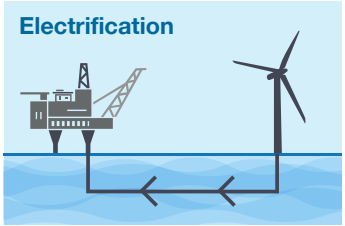
Facilitate 'quick win' projects to accelerate cross- sector synergies

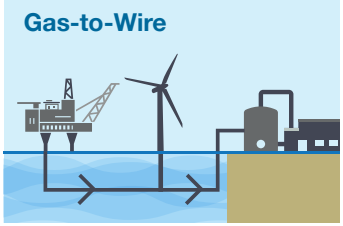
Phase 1

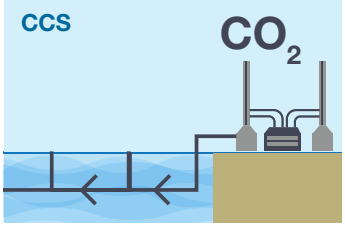
Phase 1 delivered with Lloyd's Register

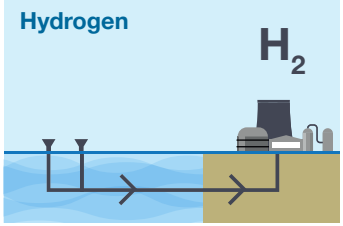
- Five offshore energy integration concepts assessed (Lloyd's Register)
  - Platform Electrification
  - Gas-to-Wire (GTW)
  - Carbon Capture and Storage (CCS)
  - Hydrogen (H_2) – both 'Blue' (methane reforming, with capture and storage of resulting CO_2) and 'Green' (water electrolysis, using power from renewable sources)
  - Energy Hubs
- Development options
  - Stand-alone
  - Reuse
  - Synergies
- Technical feasibility (with current and future technologies)
- Costing and sensitivities
- Build-up scenarios
- The purpose of this document is to communicate interim project findings and engage industry on the project Phase 2

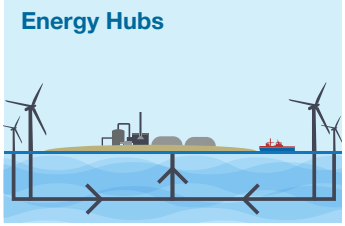
Offshore Energy Integration Concepts











Phase 1 summary findings

The UKCS is a critical energy resource, which can be transformed to support the net zero target

The UK has significant wind power potential, untapped carbon storage capacity, and extensive oil and gas infrastructure in place

Phase 1 of the study reviewed five technology concepts which integrate multiple energy sources on a technical ground. Phase 2 of the project will address economic and regulatory aspects

Opportunities for UKCS deployment are plentiful, diverse and location-specific

All technology concepts offer carbon reduction benefits but differ in terms of scalability and timeline

Platform electrification and gas-to-wire are mature and can enable near-term oil and gas industry emissions reductions, but there are cost challenges

CCS can accelerate decarbonisation of the UK economy and re-use oil and gas infrastructure

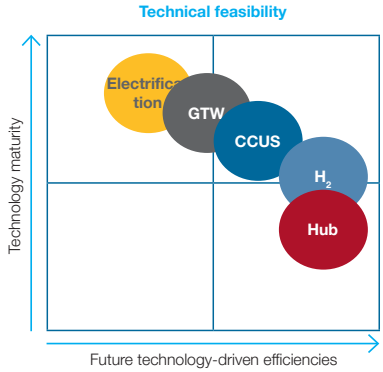
Hydrogen and energy hubs can enable the full-scale deployment of wind power and other renewables

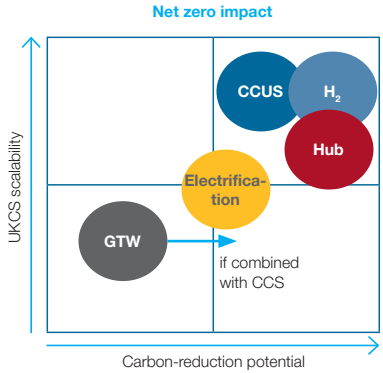
Larger energy hubs – on or offshore – can help capture the full potential from renewables

Technology screening

Concept	Technical feasibility	UKCS potential
Platform Electrification	• Proven technology • Combination with (floating) offshore wind being piloted	• UKCS-wide • Opportunities via windfarms, inter-connectors or shore
Gas-to-Wire	• Individual elements proven (e.g. Open Cycle Gas Turbines (OCGT), and offshore power transmission)	• Niche solution • Southern North Sea (SNS) and East Irish Sea (EIS) opportunities also via windfarm cables
CCUS	• Already piloted offshore (Norway) • Oil and gas field repurposing to be tested	• UKCS-wide • Very large CO_2 storage capacity, and oil and gas synergies
Hydrogen	• Blue – existing technology (methane reforming) still has efficiency advantages • Green – hydrolysis concepts can be improved and also transferred offshore	• Blue: UK wide, with onshore gas plants repurposing a key option; integration with CCS necessary • Green: UKCS wide, following future windfarm expansions
Energy Hubs	• Individual elements proven, integration yet to be tested • Significant cost challenge	• Natural islands: e.g. Shetland, Orkney • Artificial islands: e.g Dogger Bank • Onshore/Offshore: EIS, Wales and NE England

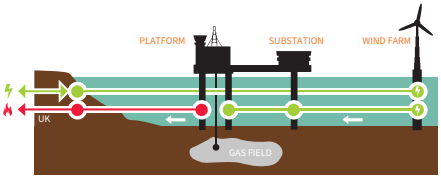
Central North Sea (CNS)
East Irish Sea (EIS)
Northern North Sea (NNS)
Southern North Sea (SNS)
West of Shetlands (WoS





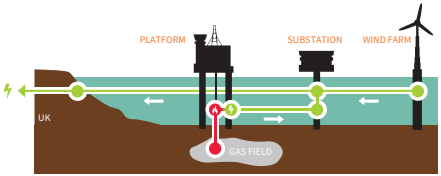
Potential build-up scenarios

Transform O&G Production → **2020s** → **Ramp up energy transition** → **2030s** → **Delivery Net-Zero** → **2040s**



1. Electrification

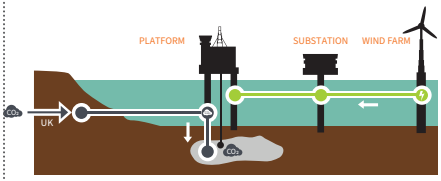
- Power platforms from windfarms
- Reduce emissions and opex



2. Gas-to-Wire

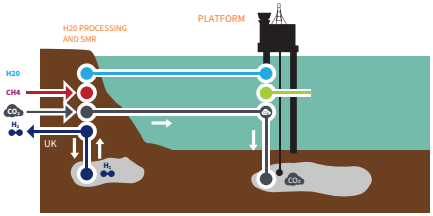
- Offshore power generation
- Reduce opex and balance grid
- Can be combined with CCS

2. Gas-to-wire



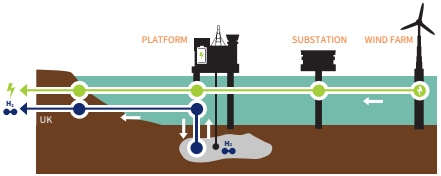
3. Carbon Capture & Storage

- Capture onshore emissions
- Transport and store offshore
- Repurpose O&G infrastructure



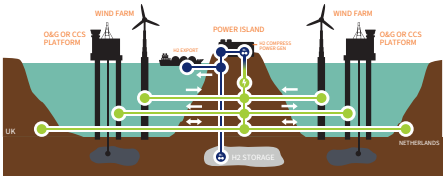
4.1 Blue Hydrogen

- Enables continuing use of natural gas and hydrogen economy
- Combined with CCS to support net-zero



4.2. Green Hydrogen

- Critical storage and transportation solution for renewable energy
- Enable hydrogen economy



5. Large-scale Energy Hubs

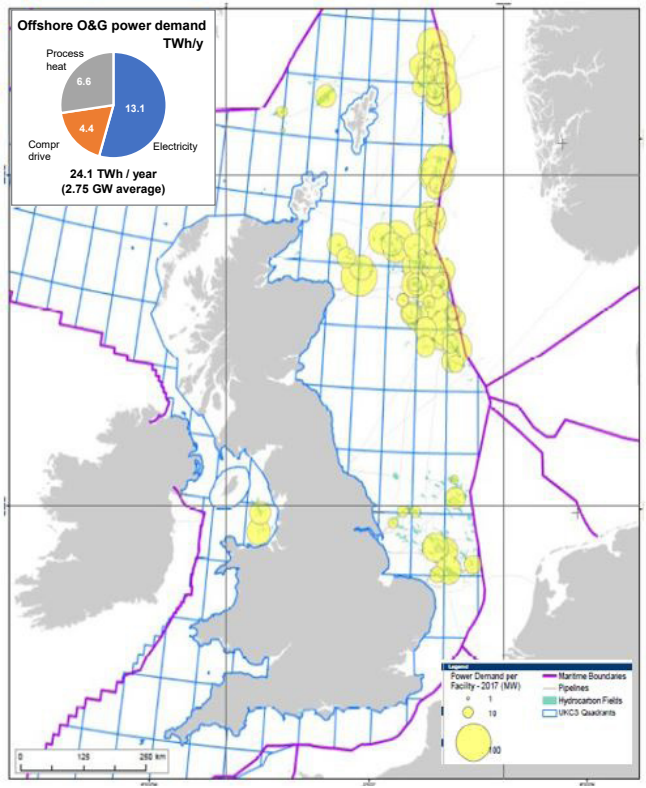
- Co-locate renewable generation, energy storage and transportation
- Build economies through scale
- Enable low-carbon industrial clusters

Energy integration technologies

Platform electrification

- UKCS platforms are far from shore and widely distributed: hence local gas/diesel power generation
- UKCS platforms power demand is ca. 24 TWh/year (or 2.75 GW annual average)
- This represents over 5% of UK power demand, accounting for over 10% of total power plant emissions
- Expected 25% demand decline by 2030 due to decommissioning, but with stable (CNS) and growing (WoS)
- Opportunity: lower emissions, lower opex, lower capex (greenfield) enabler to further transition (e.g. CCS)
- Concept currently under consideration in CNS, WoS and EIS
- Challenges include high capex (cables, substations, brownfield) and limited platform remaining operating life (brownfield)
- Synergies with UKCS power infrastructure (windfarms and interconnectors) include opportunity to repurpose oil and gas assets

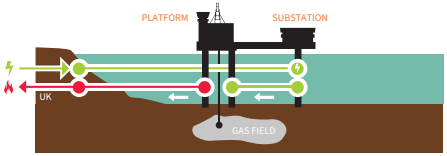
Oil and gas platform power demand (2017)



Electrification options

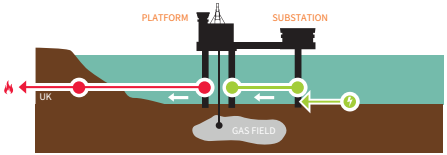
1. Power from shore

- Cables from the shore, extending grid offshore
- Power supply continuity
- High capex investment in cables and substations
- Additional costs, if brownfield



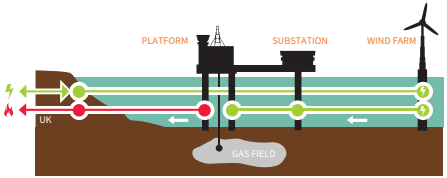
2. Power from interconnectors

- Capex savings (shorter cables)
- New interconnectors planned across CNS/SNS
- Low carbon power from Norway or Denmark

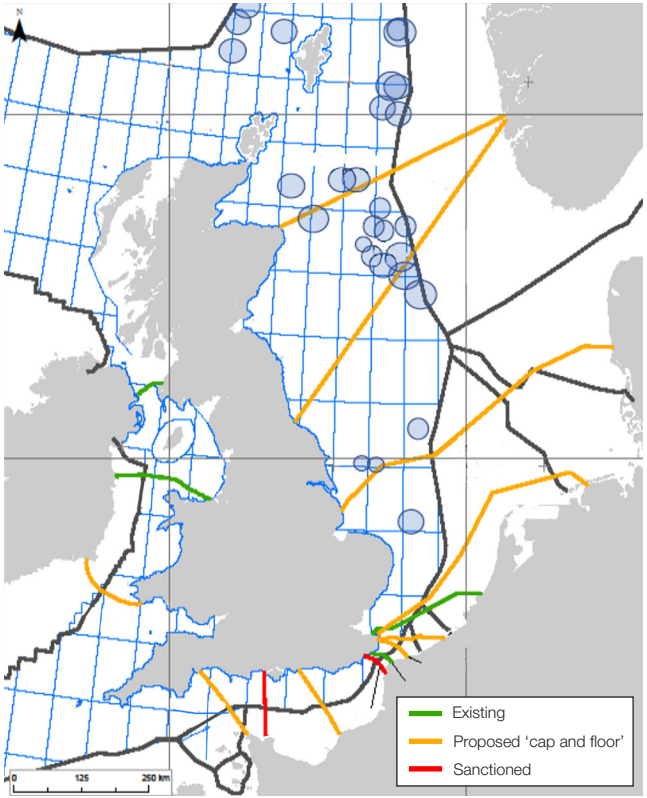


3. Power from windfarms

- Capex savings (cables and substations)
- Potential sources from planned SNS wind farms and floating wind installations in CNS/NNS/WoS



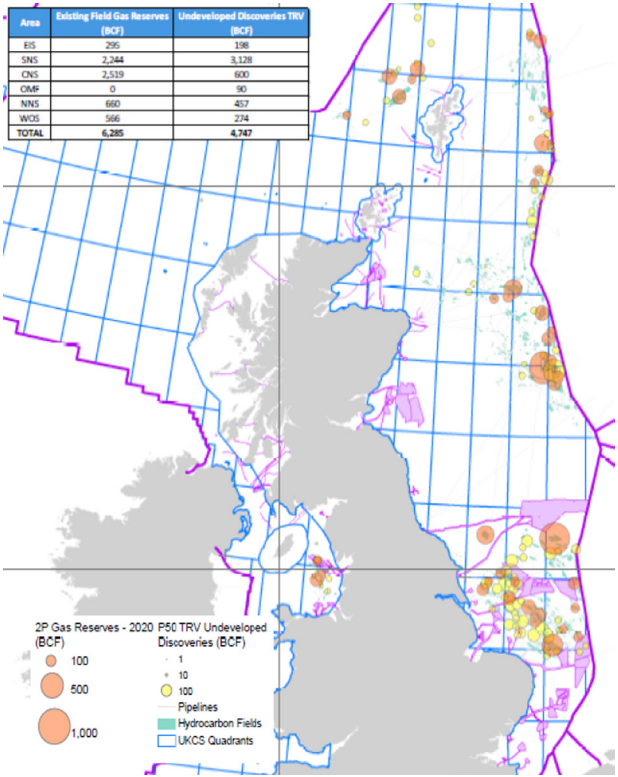
Oil and gas power demand (2030) and interconnectors



Gas-to-Wire

- UKCS has 6.3 trillion cubic feet (TCF) proven and probable ('2P') gas reserves and 4.7 TCF contingent resources ('2C') discovered
- Gas-to-Wire represents a local opportunity to develop stranded resources and/or extend asset life
- May support wind power through:
  - Infrastructure sharing
  - Grid balancing
  - Market rate opportunities
- Deployable in the short-term, as based on mature technology (OCGT)
- Requires lean cost models to be attractive, e.g. latest industry proposals of small generators on jack-ups or barges
- Active industry interest in SNS and EIS
- Could be combined with CCS to abate emissions

UKCS 2P gas reserves and 2C resources

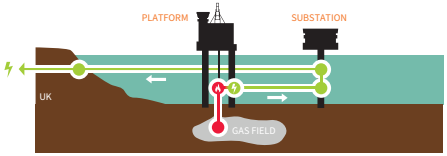


Area	Existing Field Gas Reserves (BCF)	Undeveloped Discoveries TRV (BCF)
EIS	295	198
SNS	2,244	3,128
CNS	2,519	600
OMF	0	90
NNS	660	457
WOS	566	274
TOTAL	6,285	4,747

Gas-to-Wire options

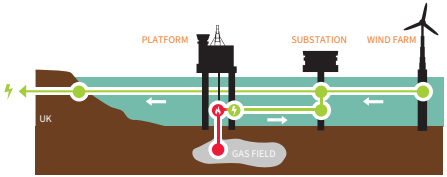
1. Power export to shore

- Requires investment in dedicated transmission equipment
- Higher capex option
- Efficient concepts (jack-up and barges are possible)



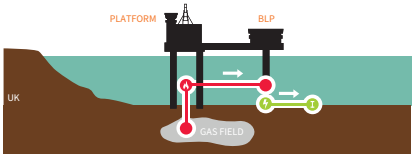
2. Power export to wind farms

- Exploits spare capacity in windfarm cables
- GTW intermittent export
- Significant capex savings in cables and substation

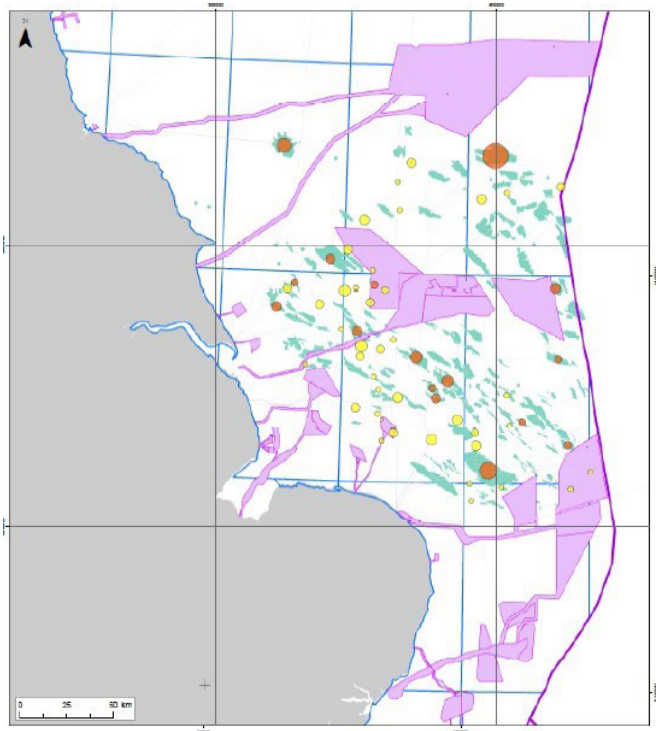


3. Power export to interconnectors

- Potential synergies with planned interconnectors
- Options across CNS/SNS



SNS 2P gas reserves and 2C resources

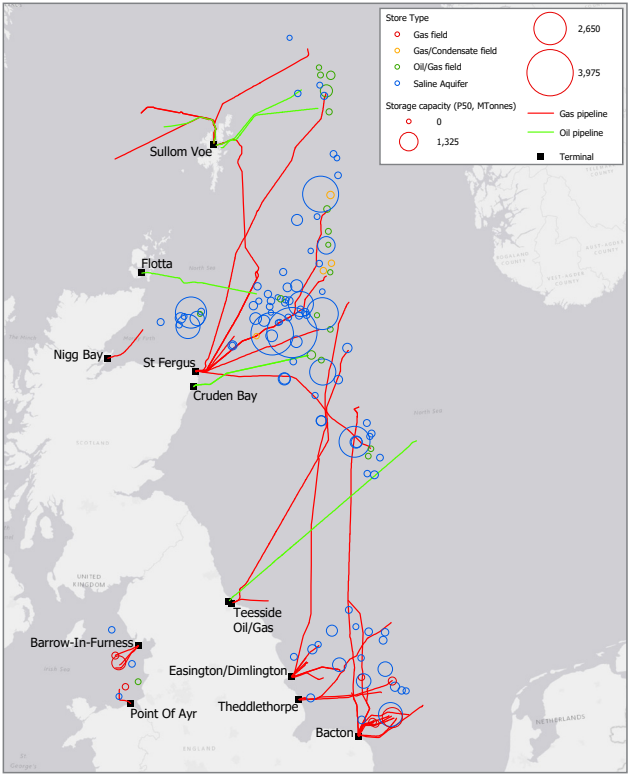


Sources: BGS CO_2 stored database; OGA NDR infrastructure data; OGA GIS

Carbon Capture and Storage (CCS)

- CCS is essential for meeting climate change targets and can support decarbonisation of industry, and enable further low carbon technologies, e.g. hydrogen from natural gas (blue hydrogen) with carbon storage
- The UKCS is a strategic asset in terms of its storage capacity, with an estimated 78 gigatonnes (GT) CO_2 potential storage capacity, including 8 GT in depleted oil and gas fields
- The storage capacity is large as well as widespread, with opportunities across the UKCS, including with significant oil and gas infrastructure synergies in SNS, EIS, CNS
- Long-term integrity of potential subsurface stores needs to be assessed, but international experience is available, e.g. Sleipner saline aquifer pilot in Norway, operating for 20 years.
- Reusing oil and gas infrastructure (reservoirs, wells, platforms and pipelines) may be possible and lead to capex savings – however, potential for reuse needs to be evaluated on a case-by-case basis
- CO_2 Enhanced Oil Recovery (EOR) may provide over 1 bnboe of additional oil recovery and capacity for over 0.5 GT of CO_2 storage

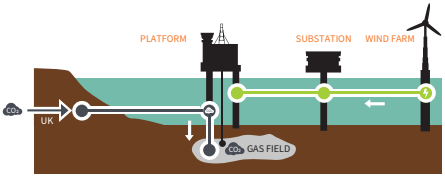
Potential CO_2 stores and existing oil and gas pipelines



CCS options

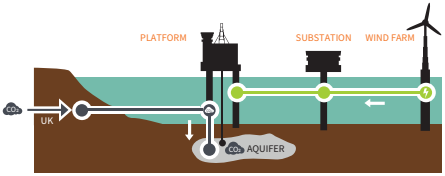
1. Depleted hydrocarbon fields

- Oil and gas fields well understood as long-term gas stores
- Some infrastructure (pipelines, platforms) may also be reused. Benefits include cost and time efficiencies



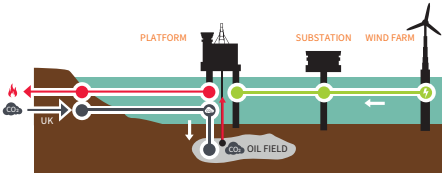
2. Saline aquifers

- Large overall capacity in aquifers, but require individual assessment
- Very large individual stores, may drive down CCS unit costs
- Favourable location (distance to shore and existing infrastructure)

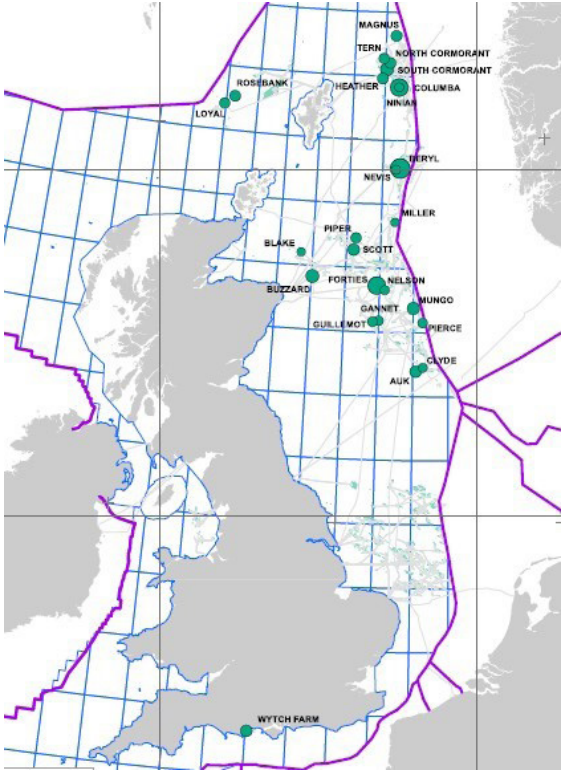


3. CO_2 Enhanced Oil Recovery (EOR)

- CO_2 dissolves into oil, facilitating its recovery
- UKCS fields may yield >1bnboe recovery and store >0.5 GT CO_2
- Synergies with other CO_2 projects



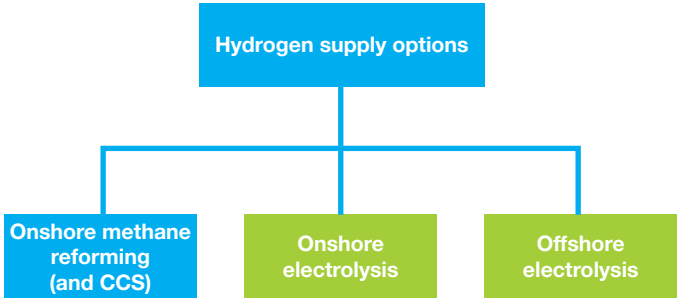
Potential CO_2 EOR reservoirs



Source: LR SENEOR database

Hydrogen

- Hydrogen has the potential to transform the UK energy system by 2050, as a key energy vector for power, heating, and transport
- Two production avenues:
  - Blue hydrogen – from methane reforming, with capture and storage of resulting CO_2
  - Green hydrogen – from water electrolysis, using power from renewable sources
- Onshore blue hydrogen generation may leverage existing gas terminals, with efficient access to gas supply, blending and pipeline networks
- There are alternative reforming technologies (e.g. steam methane reforming (SMR), and autothermal reforming, (ATR)) with efficiency levels in H_2 production and CO_2 capture cycles
- Green hydrogen generation can also take place onshore, using electricity generated from offshore renewables
- However, offshore green hydrogen generation may also be placed offshore, potentially repurposing legacy oil platforms. Depending on distances from shore, this may provide efficient energy transmission



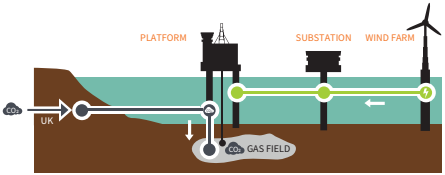
- Blue H_2
- Combined with CCS,permits use of fossil and abating emissions
- Can be an important transition technology

- Green H_2
- Combined with renewable power
- Energy buffer, storage and transportation

Hydrogen options

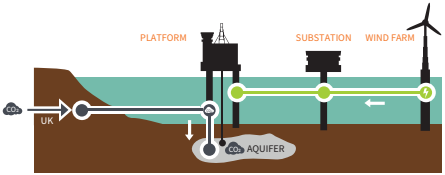
Blue – Onshore methane reforming and H_2 storage, offshore CCS

- Onshore: methane reforming
- Offshore: wind powered desalination; CO_2 storage



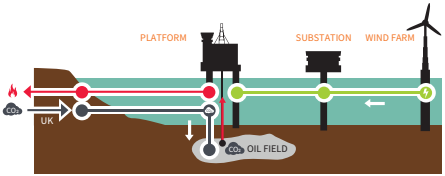
Green – Onshore electrolysis and H_2 storage

- Onshore: wind powered electrolysis; H_2 storage
- Offshore: wind powered desalination



Green – Offshore electrolysis and H_2 storage

- Offshore: wind powered electrolysis on platforms
- H_2 storage in spent fields or salt caverns
- H_2 transportation with re-used pipelines



Onshore proven but technology still evolving – projects in planning phase (e.g. Hynet, Acorn)

Offshore to be piloted (Q13a in NL, and proposed Flotta scheme)

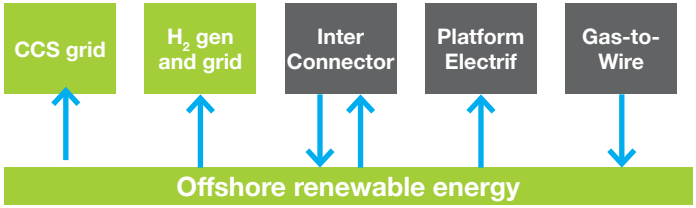
Offshore infrastructure large re-use potential: SNS, EIS and Northen North Sea (NNS)

Larger hubs can help capture full potential: Shetland, Orkney, SNS, EIS and NNS

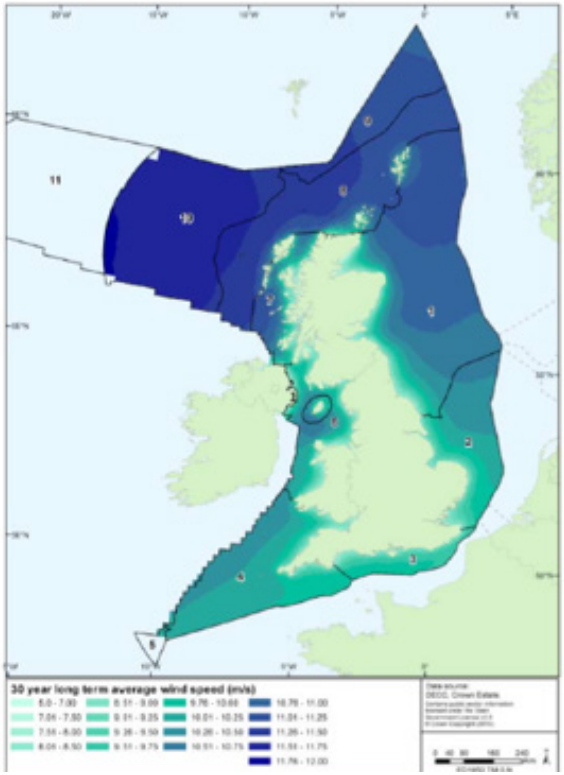
Energy hubs

- Energy hubs – on or offshore – can support energy transition by integrating renewable electricity generation with carbon and hydrogen storage and transportation solutions to enable or address:
  - more optimal offshore windpower locations
  - renewables supply intermittency
  - cost-efficient carbon capture, usage and storage
  - potential interconnection with other countries
- In deeper waters, energy hubs could be combined with floating windfarms
- Scope to reuse oil and gas infrastructure, e.g. heavy steel jackets and concrete gravity-based structures
- Widespread UK opportunities:
  - Onshore (e.g. Merseyside, Humber and Teesside)
  - Offshore (e.g. Dogger Bank and around CNS and NNS oil clusters)
  - Islands (e.g. Shetland and Orkney)

Energy hub components



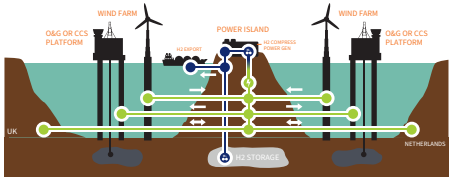
UKCS average windspeed conditions



Energy hub options

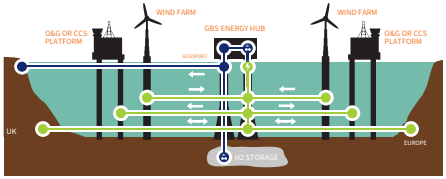
1. Power island

- Artificial island option - high capex
- Onshore locations may also be suitable (e.g. Orkney, Shetland, Humberside)



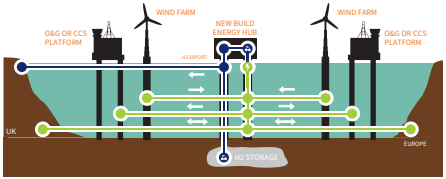
2. Re-purposing of oil and gas assets

- Long-lasting gravity based structures (GBS)
- NNS locations for sustained high windspeed
- Reservoir storage and pipelines
- Capex savings

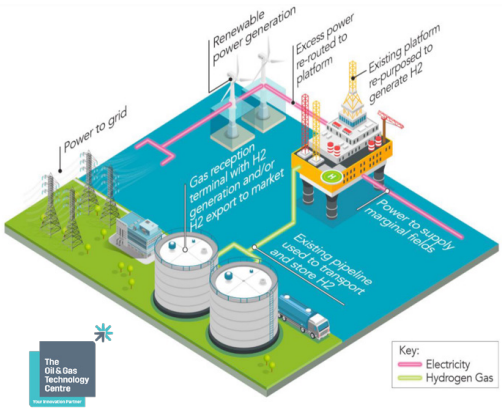


3. New-build offshore platform

- Platform hub to connect and optimise usage of existing and new installations:
  - Wind
  - Oil and gas
  - Future CCS and H_2



Example: Orkney Flotta energy conversion – proposed



Phase 2

Phase 2 scope

(delivered with EY)

Phase 2 is conducting an economic assessment and identification of regulatory enablers to help realise the opportunities for a more integrated offshore energy sector.

The project has prioritised a number of real world projects, across the different technology concepts and UKCS areas, for industrial engagement and economic assessment, to test how integrated business models could be delivered.

The study comprises three workstreams:

1.Integrated economics

- Assessing each business model from an economic and commercial perspective
- Develop scenarios and sensitivities to identify how to improve commercially viability

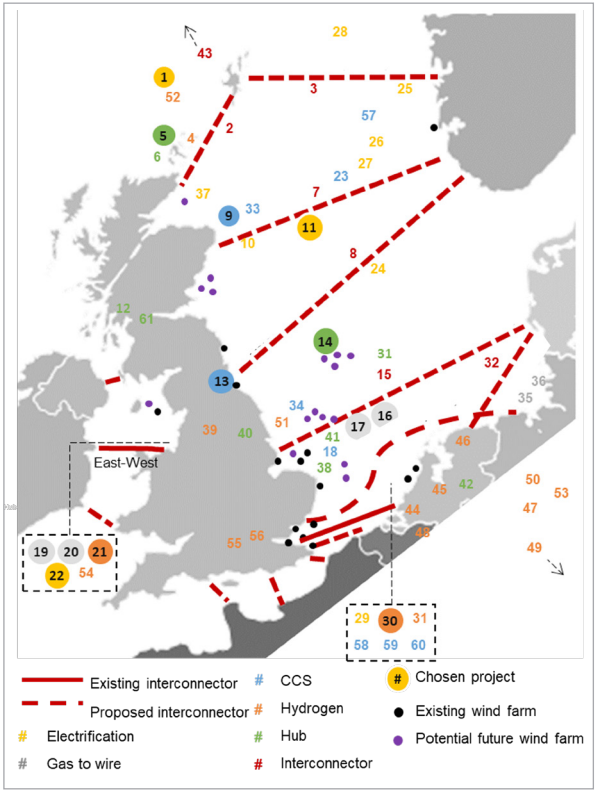
2. Cross industry synergies

- Comprehensive stakeholder engagement to provide inputs into the analysis, validating findings and recommendations
- Promoting contacts across industry sectors to accelerate joined-up plans for UKCS energy concept developments

3. Regulatory coordination

- Inventory of regulations which apply to each business model
- Highlight any regulatory barriers, synergies, and areas for improvement

Industry projects engaged in Phase 2



Phase 2 ‘business models’

We have defined 8 stand-alone business models from the technologies reviewed in phase 1

	Business models	Economic and strategic opportunities
1	**Brownfield Electrification**	→ Reduced greenhouse gas (GHG) emissions → Greater recovery of oil and gas → Opex savings
2	**Greenfield Electrification**	→ Reduced GHG emissions → Greater recovery of oil and gas → Capex and opex savings
3	**Brownfield Gas to Wire**	→ Extension of asset life/gas recovery → Capture peak electricity prices → Grid balancing
4	**Greenfield Gas to Wire**	→ Greater recovery of gas → Scope to capture peak electricity prices/balance grid → Synergies with offshore wind
5a	**Offshore CCUS**	→ Access to vast CO_2 storage capacity of UKCS → Contribution to Net Zero targets → Re-use of oil and gas infrastructure
5b	**Offshore CCUS & Blue Hydrogen**	→ Enabler for clean use of gas → Access to vast CO_2 storage capacity of UKCS → Re-use of oil and gas infrastructure
6	**Offshore Green Hydrogen**	→ Energy storage and transportation solution for renewable power → Supports growth of renewables in previously non-commercial areas → Re-use of oil and gas infrastructure
7	**Offshore Energy Hub**	→ Logistical advantages from combining between technologies → Synergies between energy sources and energy storages → Economies of scale and re-use of oil and gas infrastructure

This will help develop a set of recommendations addressing the following questions:

What are the relative advantages of the different UKCS options to support Net Zero?

How can these be enabled or promoted?

How can regulatory hurdles be mitigated?

Contacts

OGA
www.ogauthority.co.uk

BEIS
www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy

The Crown Estate
www.thecrownestate.co.uk

Ofgem
www.ofgem.gov.uk

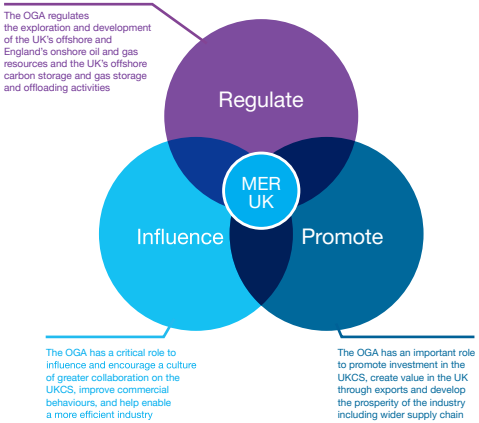
If you would like to contribute to Phase 2 of the UKCS Energy Integration project, please contact the OGA:
oga.correspondence@ogauthority.co.uk

Annex

Project Partners

Oil & Gas Authority

The OGA's role is to regulate, influence and promote the UK oil and gas industry in order to maximise the economic recovery of the UK's oil and gas resources. It is the licensing authority for carbon storage in the UK, approving and issuing storage permits, and maintaining the carbon storage public register. The OGA issued its first carbon dioxide appraisal and storage licence in December 2018.



Department for Business, Energy & Industrial Strategy

Department for Business, Energy and Industrial Strategy (BEIS) is one of the partner organisations taking part in the UK Continental Shelf (UKCS) Energy Integration Project.

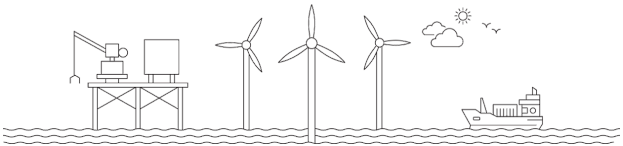
BEIS leads the Government's decarbonisation agenda, helping the UK cut emissions by 42% since 1990, faster than any other G20 country. Since legislating for net zero emissions by 2050, the Government has announced around £2 billion to help all sectors of the economy decarbonise. In 2018, more than half of the UK's electricity came from low carbon sources and it is expected this figure will continue to grow.

Key BEIS policy areas such as Carbon, Capture, Usage and Storage, oil and gas, gas security, hydrogen and renewables are crucial to UKCS energy integration and various teams from across BEIS input and support the Energy Integration Project. BEIS welcomes being part of this initiative, supporting UKCS energy integration and contributing to the UK's transition to a low carbon economy.

The Crown Estate is a specialist real estate business, created by an Act of Parliament to manage a diverse portfolio that includes the seabed around England, Wales and Northern Ireland, as well as around half of the UK's foreshore.

The Crown Estate works closely with industry and stakeholders to enable the sustainable development of the seabed, including by providing seabed rights for offshore renewable energy, as well as marine aggregates and minerals, cables and pipelines, and carbon capture and storage.

The Crown Estate is pleased to be working with the Oil and Gas Authority and other partners to support this project, helping to pave the way for greater market innovation in the critical area of energy integration, and support the UK's ongoing transition to a low carbon energy mix.

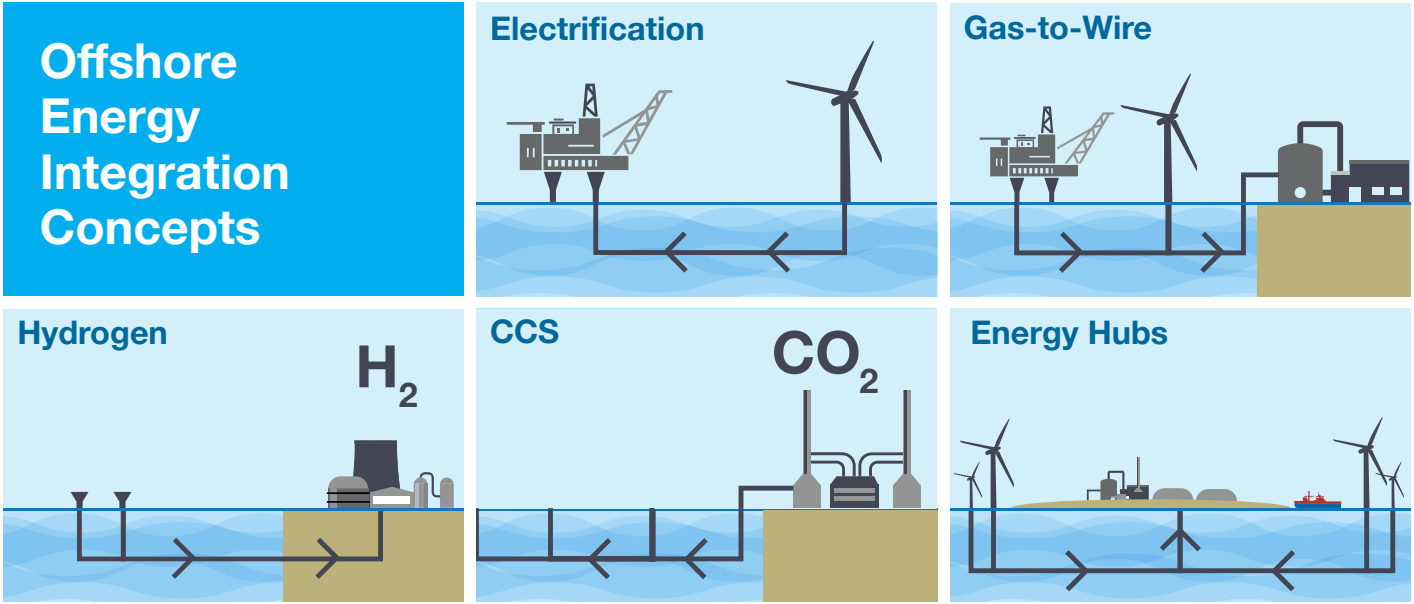


Ofgem is the independent Great Britain energy regulator, working to protect the interests of current and future energy consumers.

The energy system is undergoing rapid changes and we expect the scale and pace of change to continue. To support this, Ofgem will play its role in facilitating the UK's transition to a decarbonised energy system and to enable smarter and more flexible system arrangements that will benefit consumers.

Ofgem therefore welcomes research that can contribute to our understanding of how to best support this transition.
Ofgem maintains a broad interest in the role that energy integration could play in this future, and consider that the UKCS Energy Integration project will be a valuable addition to the growing evidence base in this area.

Technical concepts



Concepts summary

Concept	Description
Platform Electrification	• The concept of electrification is to substitute OCGTs, which are used to generate platform power and heat, with electricity supplied by underwater cables • This would remove carbon dioxide emissions that arise from OCGT generation and potentially reducing operational costs
Gas-to-Wire (GTW)	• Gas-to-wire projects aim to tap undeveloped gas reserves and generate electricity for export through an offshore grid • The effect would be to maximise economic recovery of gas reserves • With the addition of CCS, the technology may avoid carbon emissions
Carbon Capture and Storage (CCS)	• The study covers the compression, transport and injection (i.e. excluding capture) of carbon dioxide emissions into offshore subsurface storage sites, and synergies with oil and gas • The concept would offset emissions that are currently produced by power plants and other industrial users and thereby contribute towards the UK's net zero target
Hydrogen (H_2)	• Hydrogen can be produced through natural gas reforming (blue hydrogen) capturing and storing the resulting CO_2 or electrolysis powered by renewable sources (green hydrogen) • It could play a vital role in helping create a hydrogen economy, supporting the transition to a low carbon energy system, help mitigate renewable intermittency, and decarbonise heat and transport
Energy Hubs	• An energy hub combines various elements of the above concepts • Through deploying technologies jointly, it is possible to realise synergies that achieve cost reductions and improvements in efficiency

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Oil & Gas Authority

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Shetland Islands Council

Agenda Item **10**

Meeting(s):	**Policy and Resources Committee** **Shetland Islands Council**	**21 January 2020** **22 January 2020**
Report Title:	**Corporate Risk Register report**	
Reference Number:	**CRP-02-20-F**	
Author / Job Title:	**Christine Ferguson** **Director Corporate Services**	

1.0 Decisions / Action required:

1.1 That Policy and Resources Committee and Shetland Islands Council:

- CONSIDER the content of this report and of the Corporate Risk Register attached as Appendix 1;
- ADVISE the Chief Executive and Corporate Management Team of their views; and
- ENDORSE the actions being taken by management to mitigate the risks described in Appendix 1.

2.0 High Level Summary:

2.1 This report introduces the Council's Corporate Risk Register, which is attached at Appendix 1. The Corporate Risk Register is complemented by the Confidential Corporate Risk Register, which is the subject of a separate report on today's agenda.

2.2 The Council's Corporate Management Team (CMT) reviews both the Corporate Risk Register and the Confidential Corporate Risk Register at least quarterly when it meets as the Council's Risk Board.

2.3 The risks identified reflect the significant challenges facing the Council at this time. These include changes in Scottish Government and UK policy, BREXIT, increasing financial constraints and local and national skills shortages.

3.0 Corporate Priorities and Joint Working:

3.1 The priorities which are set out in the Council's Corporate Plan include:

- 'Our approach to managing the risks we face will have resulted in a more risk-aware organisation that avoids high-risk activities', and
- 'We will be an organisation that encourages creativity, expects co-operation between services and supports the development of new ways of working'.

The ongoing identification and monitoring of corporate risks are key components of that approach.

4.0 Key Issues:

Changes to how risks are measured

4.1 Changes to the Council's approach to risk profiles and measuring the financial parameters of risks were approved by the Council on 15th May 2019 (Min Ref. 27/19). Risks have been revised accordingly.

4.2 The introduction of 'Very High' as a risk profile make the highest risks more visible. This is now in place across all risk registers.

Very High Risks

4.3 There are currently two risks rated as very high using the updated rating approach:

- ORG0037– **BREXIT** and its impact. This risk is a standing item on CMT agendas. Contingency planning is co-ordinated by the Council's Emergency Planning Officer through regular meetings of the Emergency Planning Forum.
- ORG0021– **Infrastructure Maintenance and Renewal.** This risk highlights the need for significant investment in Council owned infrastructure, including ferries.

4.4 The first, around EU exit, is to a large extent outwith the Council's control. However, it is important that it is kept under review and that consideration is given to any actions that can be undertaken to mitigate the impact of that risk by building resilience within the organisation and across Shetland.

Risk Register Updates

4.5 Risk Register updates since the last quarterly report are summarised below.

ORG0034 – **SIC Pension Fund** - **High**. This risk has been reviewed and updated in light of revised financial risk parameters.

ORG0050 – **Change management failure** – **High**. This risk is an amalgamation of two previous risks, and connects with almost all other risks. It sets out the breadth of the challenges to the organisation in striving to achieve an ambitious Medium Term Financial Plan at a time of significant change and with staff and skills shortages in some sectors.

ORG0046 – **Partnership working failure** – **High**. In respect of Transport Scotland and the Northern Isles Ferry Service, the national tender process is being challenged through the courts, which has caused a delay to the start of the new contract.

ORG0045 – **Unanticipated increase in service demand** - **High**. Further detail has been added to provide greater clarity regarding the potential risk to the Council.

ORG0044 – **Implications of the Equal Pay Audit** - **High**. The risk has been revised to confirm the publication of the Council's equal pay gap in April 2019 and that a further equal pay audit is being carried out. The range of services provided directly by the Council is a significant factor in the performance of the Council when compared with other local authorities.

ORG0025 – **Risk of harm to a child** – **High**. This risk has been revised to better reflect the nature of the risk to the Council and the Council's duties with regard to the risks to children across the community.

ORG0024 - **Risk of harm to a vulnerable adult** – **High**. This risk has been updated although it remains largely unchanged.

ORG0039 – **Medium Term Financial Plan** - **High**. This risk has been revised to set out the current financial pressures faced by the Council.

ORG0035 – **Knab Site Master Plan** - **High**. The master-planning exercise has been completed, with that plan adopted into the Local Development Plan. The Project has now entered the implementation phase with a project team formed to bring this forward. Next steps are to conclude surveys and preparatory work prior to demolition. A detailed project risk register has been prepared.

ORG0031 – **Missed opportunities from Viewpoint surveys** – **Medium**. Various strands of activity are ongoing following the Viewpoint survey, and a follow-up survey will take place in 2021.

ORG0048 – **ICT records/ Corporate Address Gazetteer** – **Medium**. ICT has taken on the responsibility for the role of Custodian and work is ongoing to ensure that the Gazeteer is accurate.

ORG0032 – **Failure to Implement Corporate/ Community Plans** – **Medium**. This risk articulates the increased workload on staff who are at capacity, the impact of that workload on planned work and the resulting conflicting demands.

ORG0049 – **College Merger** – **High**. The vesting date has been put back and work is underway to revise the project timetable. This will have a significant financial impact on the Council and increases the risk of failure to provide a sustainable tertiary education service in Shetland.

4.6 A proposed corporate risk description for Climate Change was included at the Risk Board which was adjourned before Christmas. The draft risk description will be reviewed following the consideration of the "Climate Change – Strategic Outline Programme" by Council on the 22nd January 2020, updated and resubmitted to Risk Board on 25 February 2020.

5.0 Exempt and/or confidential information:

5.1 None

6.0 Implications :

6.1 **Service Users, Patients and Communities:**	Efforts to identify and monitor risks including those to communities who access services through partner-providers, help ensure that service users, services and communities are protected. ORG0046 considers economic and societal impacts that could result from the Northern Isles Ferry Service provision should it prove to be inadequate for the needs of Shetland.
6.2 **Human Resources and Organisational Development:**	Both ORG0050 and ORG0032 refer to staff shortages and the increased workload challenges for existing staff.
6.3 **Equality, Diversity and Human Rights:**	An Equalities Impact Assessment is not required in connection with this report.
6.4 **Legal:**	Legal risks are considered for all risks and included where necessary in the Corporate Risk Register.
6.5 **Finance:**	All risks can have a direct or indirect financial cost, whether in terms of the impact, or the cost of preventing a risk from happening. The recently implemented revisions to the financial parameters for risk brings the thresholds in line with those used by external auditors.
6.6 **Assets and Property:**	Risks regarding financial sustainability consider the maintenance cost challenges in relation to the Council's estate and Shetland's infrastructure.
6.7 **ICT and new technologies:**	ICT Service is the Custodian for developing the Corporate Address Gazetteer. This significant piece of work helps mitigate risks to people and services including to third parties and the work of the emergency services, across the whole of Shetland.
6.8 **Environmental:**	The cost of maintaining Shetland's infrastructure is significant, and moves to more environmentally friendly assets and infrastructure require additional capital investment, which presents a significant barrier at this time.
6.9 **Risk Management:**	All risks are measured on the agreed risk matrix, which has been reviewed with regard to the financial thresholds and risk profiles have been updated to allow for a 'Very high' category to bring attention to the Council's highest risks.
6.10 **Policy and Delegated Authority:**	Policy & Resources Committee requires the Corporate Risk Register to be reported periodically [*Min. ref. 43/17*]. The Risk Management Strategy forms part of the Policy Framework contained in Section A of the Constitution – Governance, which states that the management body for the Risk Management Strategy lies within the remit of the Policy and Resources Committee. Ensuring proper management of the Corporate Risk Register is therefore a delegated matter for the Policy and Resources Committee.

	Policy & Resources Committee agreed the Risk Management policy, strategy and associated documents including the Risk Board terms of reference, [*Min. ref. 43/17*]. However, the Council instructed that the Corporate Risk Register be reported to the Council quarterly as part of the Planning and Performance Management Framework (PPMF) cycle [*Min.Ref. SIC 20/16*] so that all Members are informed and involved in discussing the high level and strategic risks facing the Council alongside other performance information. The recent revision to the Risk Matrix was approved by the Council (Min Ref SIC 27/19).	
6.11 Previously considered by:	None	

Contact Details:
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e-mail: Christine.ferguson@shetland.gov.uk
Tel. 01595 743819
20 December 2019

Appendices:
Appendix 1 – Corporate Risk Register

END

Directorate Details

JCAD

Directorate

Profile Totals	0	7	12	Total	21
Changes			1 -8	1 -8	

Total Risks including Unassigned 21

0	0	0	0	0
0	1	1	1	2
0	0	3	5	3
0	0	0	3	1
0	0	0	0	1

Risk Register - Shetland Islands Council

Manager Maggie Sandison

Profile Totals	0	7	12	Total	21
Changes			1 -8	1 -8	

Total Risks including Unassigned 21

0	0	0	0	0
0	1	1	1	2
0	0	3	5	3
0	0	0	3	1
0	0	0	0	1

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
On 23rd June 2016, the UK voted to leave the European Union. There has been, and continues to be, ongoing economic and political uncertainty following that decision. However, the recent postponement of the preferred date for Brexit, and the recent election results suggest that the UK will be leaving the EU on or by the 31 January 2020. EU exit is a standing item on CMT agenda and Resilience Advisor reports there weekly. Resilience Advisor is in close communication with various national, local authority and Category 1 responder groups which have been convened and meet weekly to consider EU exit preparedness and the changing Scottish and UK planning assumptions. Locally, SIC EU exit group meets weekly. In addition, there are various strands of activity happening including a Food Forum which is looking at food insecurity and food poverty.	ORG0037	Maggie Sandison	Political - Other	17/12/2019	17/03/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
The date for leaving the EU was extended by 6 months to 31st October 2019 and then to 31st January 2020. The UK could leave the EU without an agreement, with an as-yet-unclear agreement or the departure date could be set back further. Each of these potential scenarios has potentially significant implications locally and nationally.	The consequences remain the same if the UK leaves with a "Deal". Mitigation strategies were formulated in the run up to the previous exit dates and they have not changed. Generally, impacts are most likely in relation to constraints on the supply chain, for imports and/or exports. Shetland Seafood industry is worth circa £450M pa and the English channel is a key part of the export supply chain. Shetland's electricity and fuel supplies are partly or wholly outwith national supply frameworks and so may be overlooked in the event that UK government seeks to control or protect those supplies. The vessels	• **Arrangements are in place to allow the resumption of reporting of any issues that may arrise.** Control Measures are being discussed with the new deadline. Reporting will commence approximately ten days before the 31st January 2020. The requirement and necessity of daily reporting "no issues" is being queried. EU Exit groups will re-commence meetings in January 2020 in relation any new information from SG and the new UK Parliament. *Ingrid Gall*	Approved	Very High 20 Extreme Likely	

	which provide the lifeline ferry service to Shetland are owned by the Scottish Government so could be commandeered, for example, to ship goods on international routes. A lag in the move from EU funding to the UK prosperity fund might impact on projects, activities and industry across Shetland. There is a possible impact on EU nationals working in Shetland, and a number of Shetland nationals who live abroad may return at short notice. Medium term: Withdrawal of funding, political and economic uncertainty, legislative & regulatory uncertainty, impact on pension fund and Council investments, issues round fish quotas/ market/ pelagic fleet, economic impact, uncertainty for non-UK EU nationals employed in Shetland, potential impact on recruitment (of staff/ students). Potential for further legislative, political and structural change, opportunity to influence direction and shape of new legislation, impact on partner organisations and partner-funded bodies, risks around capital expenditure.				

Review Comments Updated to take account of Jan 2020 date and election
17/12/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Council invested heavily in infrastructure at the time when the oil industry was taking off. This infrastructure was funded from income generated from the oil industry. That infrastructure is now ageing and will need to be replaced, however, the financial situation is now tighter which will mean that it will be challenging to finance this.	ORG0021	Christine Ferguson	Physical - People / Property - Other	17/12/2019	17/03/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Need for Investment in Shetland's infrastructure	Challenge to finance the maintenance and/or replacement of existing infrastructure			Very High 20 Extreme Likely	

		• **The current Asset Investment Plan focuses on** the maintenance of existing assets in order to prolong their useful economic lives. This should mitigate against the risk of immediate failure. In order to address the longer term replacement of assets, a Borrowing Policy was approved by Council on 11 December 2013. Other measures in place include: MTFP, budget monitoring and scrutiny, clear and robust roles and responsibilities for managers and financial procedures & regs. A report on Long Term Asset Investment planning has been prepared and presented to the Council. It identifies the extent of future programmes, which will inform funding options. LTAI planning highlights the significant challenges - for example fair funding for ferries is a challenge that is larger than is manageable by the SIC and requires national input and support. Lobbying of Scottish Govt to be undertaken. *Christine Ferguson*	Implemented		

Review Comments Reviewed for date 17/12/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Council is undergoing a period of significant change against a background of significant external pressures from local and national factors, now and going forward. Various Transformation and Redesign projects are in progress in order to deliver an organisation that has the “Right Shape, Right Skills, Right Culture” for the future, with the MTFP being a key driver. BTP and SR projects are significant in terms of workload and staff input, particularly across Corporate Services at a time when the wider organisation is also challenged by difficulties in recruiting and a small local labour pool. National skills shortages are more acutely felt in Shetland as remoteness is an additional challenge to successful recruitment. The tertiary merger project is a significant piece of work, as are the various activities around the operation of the IJB. The Council is the biggest employer in Shetland so is key to the sustainability of communities in terms of service provision and employment. The workforce strategy sets out ten elements under the three themes: Right Shape: 1. Workforce Profiling and Planning, 2. Recruitment and Retention, 3. Pay and Reward, 4. Equality & Diversity Right Skills: 5. Developing our Workforce, 6. Leadership & Management, 7. Spotting and growing talent Right Culture: 8. Employee Engagement, 9. Health & Wellbeing, 10. Continuous Improvement. The Council Values help shape and embed the “right culture” and are being threaded through the business of the Council with current focus including recruitment, induction and performance management.	ORG0050	Christine Ferguson	Change management failure		16/10/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
• Revised budget post Scottish Govt settlement – budget-setting challenges, requirement to make savings now and in the future - the new MTFP places ambitious financial targets on the organisation; • Implementing various pay and conditions requirements plus 3rd edition of JE scheme; • The planned governance reviews,	The organisation cannot demonstrate “right shape, right skills, right culture” and hence struggles to deliver the services that communities require, within available resources; Impact on planned work particularly corporate/ strategic review and			High 16 Major Likely	

organisation-wide project work - BTP and SRP are in progress, service redesign; • Competing demands on the organisation; • Vacancies particularly in some areas (Teaching, Care, Planning) and for unique posts, recruitment exercise.	strategy development. Organisation cannot achieve, or is delayed in achieving, the MTFP savings; Failure to effectively manage current risks - ORG031 – Viewpoint survey/ disillusioned staff; ORG048 – Corporate address gazetteer; ORG029 – Malicious cyber attack; ORG030 – Uncontrolled release of (significant quantities of) personal & confidential data; Lack of capacity to focus upon opportunities for change through for example the BTP and SRP, or at points of transition such as when vacancies arise – opportunities missed, organisation is mainly reactive; Difficulty in recruiting, which is already experienced across the organisation and is acute in some services; Impacts on services and outcomes for the community including levels of employment if the SIC fails to maintain an effective workforce - the SIC as an employer is a significant factor in the sustainability of communities both in terms of service provision and employment opportunities; Causes or exacerbates additional cost from unanticipated service demand, with impacts from managing sudden vulnerabilities of fragile communities being of particular concern – with resulting further impact on service delivery, impact on service users, impact on communities.	• **HR continually reviews the council's HR policies and processes to** ensure policies and procedures support the organisation to become more responsive and flexible in the deployment of existing staff. The Council's Workforce Strategy provides a framework to focus attention and prioritise work streams that identify and develop talent as well as increase the number of ways young people can join the organisation. Attracting and retaining staff is a priority and a pilot recruitment exercise to support the Planning service to fill large number of vacancies has tried a range of new approaches to try to increase and improve our ability to recruit. The Council's Market Forces Policy can be applied in appropriate circumstances. A business transformation project to streamline HR and payroll activities is being developed in order to increase self-service and improve workflow. *Denise Bell* • **Our Plan 2016-20 has been agreed. This explains the outcomes that the SIC wants to achieve by April 2020.** Our financial planning process is more robust and in line with other planning processes. The risks to Directorate and Service plans are articulated and considered in reports. The Risks for new initiatives including the allocation of resources are considered at Project start up and kept under review. *Christine Ferguson* • **The effects of the move from 8 North Ness** are being monitored and adjustments made where possible to ensure minimal disruption to services. *Christine Ferguson*	In Progress In Progress Implemented	

Review Comments

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
There is a challenge to sustain current business and developing new business activity at Sullom Voe Terminal. Sullom Voe Terminal employs some 400 staff directly and many more indirectly. Exports from SVT through the Port of Sullom Voe (PoSV) earn c£6m - £8m contribution to Council reserves annually, an income level which is a key component of the Councils MTFP.	ORG0047	John Smith	Loss of revenue/income	16/10/2019	16/10/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating

SVT processes Oil received through pipeline from East of Shetland (Brent & Ninian Pipeline Systems) and West of Shetland (Clair Pipeline System). East of Shetland volumes are in long term decline but West of Shetland is forecast to increase significantly over the coming years and be sustainied for a considerable period pof time, c2050-60. There are however evaluations and negotiations ongoing between Clair system owners and SVT operator and owners about whether a long term contract for Clair/SVT can be agreed, or whether some by-pass option might be preferred. Without Clair volumes the medium / long term future of SVT would be in some jeopardy.	If SVT cannot secure long term business on a satisfactory commercial basis then there is a risk that the terminal would close in the medium term perhaps around 2025. A significant decline or cessation of Oil & Gas activity at SVT would have very considerable economic, financial and social consequences.	• **The Council has recognised that there is a significant review process** being carried out at the moment between Clair and SVT. Discussions have been held with both parties and further discussions sought with the UK Oil & Gas Authority (OGA). An internal/ external project team has been established to focus on this issue and specific items of technical advice are being considered with legal, financial and technical advisors. Engagement has been initiated through the Sullom Voe Association and Council SVA directors are being kept informed of developments as a sounding board. Further reports on progress and plans will be brought to Council through appropriate channels to ensure commercial confidentiality." *John Smith*	In Progress	High 15 Extreme Possible	

Review Comments Reviewed, remains current
16/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Transport Scotland has reviewed the Northern Isles Ferry Service and began tendering the service in January 2019 with the aim of having a new contract awarded by the end of July 2019 and the contract commencing on 31 October 2019. At the point of tendering it is known that the service specification cannot meet even the short term economic and social needs of Shetland. If this position is sustained for any significant period of time then there will be serious constraints on important economic sectors such as aquaculture, fishing, engineering and fabrication, construction and tourism. Serco Northlink was announced at the end of Sept as the preferred bidder, but this has been put on hold while the tender process is challenged in the courts.	ORG0046	Michael Craigie	Partnership working failure	03/10/2019	03/10/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Failure to agree and implement variations to the contract to put in place service and infrastructure improvements that adequately address short to medium economic and social need.	The contracted service does not meet the needs of Shetland, can't support the economic growth of Shetland and could trigger economic stagnation and decline. An opportunity to address societal inequalities is missed. Significant societal and economic impact is experienced in Shetland	• **Scottish Government has structured the contract so that it is "flexible"** and variations can be made to the contract to reflect changing economic and social needs. Resources will be applied to gather and submit evidence to Transport Scotland making the case for contract variations as soon as possible to address capacity constraints, reliability and costs for freight and passengers. *Michael Craigie*	Approved	High 15 Extreme Possible	

Review Comments Updated to show preferred bidder.
03/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Shetland Islands Council and specific Directorates, Services and sections are in a number of partnerships. Some have a legislative element and have a strategic directing role (the Community Planning Partnership, SADP, etc), some are entered into for the purpose of delivering services (Community Health and Social Care/ IJB, SIC Housing Service and Hjaltland Housing Association). Many are contractual but for some, the partnership may exist only through an informal agreement. There is no formal list of the council's partnership arrangements or agreements.	ORG0040	Christine Ferguson	Partnership working failure	10/04/2019	10/04/2020

Risk Register - Shetland Islands Council

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Partner fails (legally, financially, is wound up, becomes insolvent or goes into administration) or is no longer able to provide their part of the partnership. Grant or funding is cut to partner. Board resignation, difficulty in recruiting board members, failure to achieve buy-in from essential partners, volunteer fatigue.	If a partner fails, the responsibility to deliver service or function for which the partnership was formed, may fall to Shetland Islands Council. Contractual obligations such as leases may become the (moral or financial) responsibility of Shetland Islands Council. Financial responsibilities such as for pensions, may fall to Shetland Islands Council. Civil liabilities such as through claims, may fall to Shetland Islands Council in the event that joint liability exists.	• **Various controls in place.** All new admitted bodies comply with current requirements, all contracts are scrutinised by Legal Services / Governance and Law/ Finance staff. Assurance required that managers engage with Corporate Services BEFORE commencing service redesign programmes. Managers must adhere to Commissioning and Procurement framework. *Jan R Riise*	Approved	High 15 Extreme Possible	

Review Comments Reviewed for date 10/04/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Council, along with a range of partners, is tasked with delivering services to the breadth of the population and to all communities. Development Service has a role in providing locality-specific services to support fragile / remote/ rural communities. The Council's MTFP requires significant savings to be achieved within a constrained timescale, and is pursuing an ambitious Business Transformation programme and Service Redesign Projects in order to meet those savings requirements.	ORG0045	Neil Grant	Economic - Other	21/08/2019	21/02/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Any unanticipated increase in service need from a community, changing demographic or socio-economic situation relevant to a specific community.	Unanticipated additional demand on services may not be able to be met because of difficulty in recruiting or the unavailability of people to deliver that service, unbudgeted-for costs, impact upon services and resources, failure to act to the extent that is required or within the timescales required may exacerbate or fail to resolve or mitigate the challenges to that community.	• **Planned control measures include:** Impact of connectivity from broadband and transport links; working with communities to develop sustainable plans; Progressing 'Islands with small populations' project *Neil Grant*	Proposed	High 12 Major Possible	

Review Comments Reviewed for date as per email 21/08/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Equal Pay Audit carried out on 2015/16 pay resulted in a published pay gap of 11.21% in favour of men. This is calculated on basic pay, and when other pay elements and allowances, except non-contracted overtime are included the gap increases to 16.23%. when non-contracted overtime is included the gender pay gap increases further to 20.05%. The Equality and Human rights Commission advise that any gender pay gap greater than 5% is of concern and action should be taken to address	ORG0044	Denise Bell	Economic - Other	05/08/2019	05/02/2020

the gap.

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Failure to address the identified issues, public / media scrutiny, equal pay claim from a member of staff, scrutiny by EHRC.	There is a risk that not addressing the equal pay gap identified in the Equal Pay Audit 2016 could lead to equal pay claims being made where pay inequalities exist. There is a risk that recruitment and retention of staff is detrimentally impacted by a failure to address barriers from gender, disability and race inequalities, and that this will impact on service delivery. A failure to realise the benefits of greater diversity in employment represents a waste of talent and an opportunity to address workforce and skills shortages. Occupational segregation means the clustering of employees with a particular protected characteristic into particular occupations or different levels of work. The published Equal Pay Statement 2017-2021 provides analysis that shows 97% of employees in the Marine occupational category are men, while 89% of employees in the Care occupational category are female. The data also shows an under representation of male employees in lower grades relative to their share of total employees, and an over representation at higher grades, with the reverse that case for female employees. These will also place a demand on resources and require specialist legal input, there will be financial pressure from legal costs and any damages, reputational damage and negative media coverage should there be equal pay claims, and a detrimental impact on staff confidence and morale. Increased recruitment and retention difficulties are likely.	• **Various significant activities are in place: The SIC Workforce Strategy,** Equal pay Statement; Equal pay Audit Action plan. A new council-wide approach is being developed in the Council's travel at work arrangements for implementation by 1 April 2019, a new pool car scheme has been approved for use by the care at home service to address inequalities identified through the equal pay audit. The council published its equal pay gap information in April 2019, and is carrying out a further equal pay audit. *Denise Bell*	Implemented	High 12 Major Possible	

Review Comments Considerable work has been undertaken to manage this risk during this year. The Equal Pay Audit completed earlier this year showed a reduction in the equal pay gap which reflects the action taken. This includes focussing on and promoting flexible working and promoting Apprenticeships. A recently completed survey as part of our work to seek "Equally Safe" accreditation has identified areas for improvement and an action plan that focuses on improvements to experiences and perceptions of gender equality in the workplace, including raising awareness of gender based violence.
05/08/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Children's Services manage services for children across the breadth of Shetland and in a range of contexts. In all areas of the department's work, every encounter matters. There are robust systems and procedures in place to support the early identification of risk. Preventative measures, effective communication, and information sharing to ensure that any changes or increased risk are identified quickly. Inter-agency Child Protection Training is led by Shetland Islands Council and overseen by the Shetland Public Protection Committtee (SPPC) with training activity reported on a quarterly basis to SPPC. Children's Services is working to increase capacity in Shetland to provide accommodation for looked after children. This includes growth in the Foster Care and Residential Childcare Services, to reduce demand for more expensive out of area/ off island placements, and new accommodation building begins in Sept 2019. Child Protection - Children's Social Work manage high risk, complex situations in their work with families. This often requires significant resource provision to mitigate risks, and ensure the safety of children and young people. There are circumstances when Children's Social Work must accommodate children and young people away from home, and the Department's most significant risk is failure to appropriately accommodate looked-after children. Currently, there is a shortage of residential placements in Shetland and this results in placements being sought away from Shetland, which is undesirable, and comes at a high cost to the Council.	ORG0025	Helen Budge	Accidents /Injuries - Staff/Pupils/ Clients/Others	03/10/2019	03/02/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Crisis or unanticipated escalation of a complex situation, which puts child at increased risk of harm. There is currently a shortage of residential placements in Shetland, and in some situations a specialist service may be required that cannot be provided in Shetland, such as secure accommodation or a parenting assessment unit. Failure to act quickly or to the extent that is required, because of restricted resources.	A child is exposed to harm for a longer period of time. This impacts on the child, the service and its staff, and sometimes the community. There is a financial risk, as placements have to be sought out with Shetland, which come at a high cost to the Local Authority.			High 12 Major Possible	

		• **The current five priorities are:** -carrying out condition and suitability surveys for schools estate to ensure that it is appropriate for the safe, efficient and effective delivery of services. This includes ensuring that buildings are used efficiently with spare capacity utilised, for example, by other services; -Employability - includes preparing children/ school leavers for current posts and those that will be available after service redesign, and apprenticeships in key areas. Focussing on innovating recruitment for Social Workers and Teachers, working with HR to look at vacancies, need to develop recruitment packs for trade fairs, ensure SIC vacancies are in Times Educational Supplement, and currently targeting reserve applicants (where suitable); - Early learning and childcare expansion; - Emotional wellbeing and resilience - for staff, pupils and all children with which we have contact. In the longer term, it is hoped that this will support young people to live well in Shetland, and will contribute to retaining a workforce of the future; -Residential care -starting building a new facility in Tingwall which will provide on-island accommodation and an opportunity to better support vulnerable children and young adults, particularly at points of transition and provides the opportunity to teach life skills. *Helen Budge*	In Progress		

Review Comments Updated to reflect current challenges and how the breadth of Children's Services Department seeks to manage this risk
03/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Risk of harm to a vulnerable adult - Shetland has an increasing older population and an increase in people with a learning disability reaching older age. Statutory services will need to have oversight of an increasing number of vulnerable adults to prevent harm occurring.	ORG0024	Jo Robinson	Communications failure	17/12/2019	17/03/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Statutory services fail to identify and take account of all vulnerable adults within their remit, systems failure means that information is not fully collated and/or shared	Vulnerable adult is not given access to full range of services that they need, delay in access to services leads to harm to vulnerable adult, reputational risk to organisation, potential for HSE action, Care Commission/ external advisors' negative report, civil action.	• **New Adult Protection Format in place.** New Adult Protection Format in place, which is to combine Child and Adult Protection into one Public Protection Committee with the Chief Officers Group retaining oversight. This is an improved arrangement where the Directorate provides care for both Adults and Children. *Jo Robinson*	In Progress	High 12 Major Possible	
		• **There are well established mechanisms in place to support the detection of risk** with an active Public Protection Committee overseeing the work. There is good multi-agency working within formal arenas to discuss individual cases causing concern. Transitions group in place for Learning Disability Services to manage childhood support to adult support. Ongoing work to review services to make effective use of limited and reducing budgets. Chief Officers Group provides assurance on the effectiveness of the Public Protection Committee. *Jo Robinson*	Implemented		

Review Comments reviewed for date 17/12/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Medium Term Financial Plan covers the period from 2018/19 to 2023/24 and as an instrument to direct the organisation's budget setting and expenditure is prudent and in line with available resources. Over 75% of the Council budget is funded by the Scottish Govt. The local authority's annual grant from the Scottish Govt is expected to reduce in the short and medium term but is currently un-quantified, a reduction of 7.29% has been assumed across the MTFP period. This amount has been estimated based on a best case scenario of a possible growth of 2.7% and a worst case scenario of a reduction of 14.4% over the next 5 years.	ORG0039	Jamie Manson	Economic climate	23/01/2019	23/01/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Organisation's failure to plan or put in place sustainable services for future years, continued reductions to govt grant of an unanticipated or unknown magnitude.	If there is no adequate planning to take account of grant reduction then the Council will be unable to respond to the uncertainty presented by austerity which could result in knee-jerk decisions being made to balance budgets and/ or an unsustainable draw from Council reserves.	• **Service redesign across all areas to identify and implement sustainable** levels of service going forward. Implementation of business transformation programme to support service redesign. Impact of 19/20 financial settlement is generally in line with MTFP expectations, however full funding of internal ferry services is not included which creates an immediate pressure of £2.9M on the Council's 19/20 budget (and on the MTFP). Settlement also reinforces the need for the Council to transform the way it provides services in the future in order to deliver the right outcomes in an efficient and cost-effective way (for the community), i.e. to proceed with the ambitious Service Redesign programme and Business Transformation Programme *Jamie Manson*	Implemented	High 12 Significant Likely	

Review Comments reviewed for date 23/01/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The SIC Pension Fund is currently not 100% funded. At 31 March 2017 triennial evaluation the Fund was 90% funded. The SIC Pension Fund, as well as the Council has a number of Scheduled and Admitted Bodies that have liabilities to fund over the long term. Admitted bodies failing or being unable to meet their contributions places risk from these arrangements on the Council, as the largest contributor to the Pension Fund.	ORG0034	Jamie Manson	Customer / Citizen - Other	21/08/2019	21/02/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Any circumstance that triggers a liability to crystalise	Financial impact, significant long term obligations on pension fund employers			High 12 Major Possible	20 -8

		• **The 2017 Triennial valuation has been completed,** along with a revised Funding Strategy Statement (FSS). This provides an up-to-date funding position for the SIC Pension Fund along with a revised FSS to ensure the Funds deficit can be met over the long term. Deficits are estimated to be recovered over a period of less than 20 years. A review of the Pension Fund strategy was approved by the Pension Committee and Board on 22nd May 2018 and is now in progress. KPMG are advising us of options in relation to the Pension Fund investment Strategy in order to realise the Pension Fund Strategy objective of reaching 100% funding level by 2027. For Bodies seeking admission to the Pension Fund, if they are not a scheduled body with tax raising powers, they must provide a guarantee and/or bond to meet any liabilities should they default in the future. This mitigates the risk to the Fund in relation to new employers. *Jamie Manson*	In Progress		

Review Comments Reviewed for date 21/08/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The old Anderson High School campus at the Knab is a large open site with a number of buildings on it. There are various access points to the campus and it is surrounded by residential properties. The school was vacated in Sept/ Oct 2017 when the service/ staff/ pupils, etc moved to the new build at the Clickimin. The Council has completed a Masterplanning Exercise, The Knab Masterplan was adopted as Supplementary Guidance to the Local Development Plan in June 2019, and the Project is now entering the implementation phase. A new project team has been formed to bring this forward, and planning permission is in place for demolition, which is currently out to tender.	ORG0035	Robert Sinclair	Missed opportunities	23/01/2019	23/01/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Failure to properly plan for the future of the site	A failure to plan for the future of the site could lead to missed opportunities to capitalise on this asset, . There will be on-going costs associated with the site, rates, maintenance etc. and a risk of vandalism or other damage. There is also a risk of reputational damage if the site is not developed.	• **The Council has undertaken** a master-planning exercise for this site. It was completed in June 2019 and approved by Council. The next stage is an asbestos survey and preparatory work prior to demolition work. A project risk register has been prepared and details to various challenges and measures planned and in place to mitigate risks. *Robert Sinclair*	In Progress	High 10 Extreme Unlikely	

Review Comments Reviewed for date 23/01/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
A second organisation-wide Staff Viewpoint Survey was carried out in late 2017 for the purpose of gauging staff opinions and levels of engagement. The returns were analysed with the issues prioritised, and that information was reported to Directors, Managers and staff with Action Plans developed for services as well as a council-wide plan led by the Chief Executive. The comments made reflect concerns about the Council, recent changes, and the impact of those changes.	ORG0031	Denise Bell	Missed opportunities	10/04/2019	10/04/2020

Risk Register - Shetland Islands Council

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Perception (real or imagined) that organisation, senior management or specific manager(s) will not/ have not acted upon the findings of the survey. No change evidenced, status quo despite assurances or promises to the contrary. Failure to communicate change to front-line staff, failure to embed change, so situation reverts to that which led to dis-satisfaction.	Disillusioned/ unhappy / disengaged staff, increased disillusionment following the expectation that the survey would make a difference, no confidence in manager or organisation, demotivated staff, poor commitment to Service, impact on Service and/or productivity. Staff retention issues - Increased turnover of staff with resulting recruitment costs and service impacts. Reputational damage, staff more likely to raise grievances. Stress, increase in sickness absence, perception that the whole exercise was a waste of public money.	• **Ensure good two way communication between staff and management,** a new communciations strategy is being developed to put in place a framework to deliver this that has been informed by the results of the Viewpoint Survey. PDPs and carried out and staff training needs are met. A new set of Values and Behaviours are now in place and promoted widely, the next stage is to embed these in to our business as ususal. The Council's Workforce Strategy, Staff Development Policy and Personal Development Plan Policy set out clear direction and framework to ensure the tools are in place to make sure this happens. Directorate Consultation Forums are in place to bring together senior managers and staff representatives at least 4 times a year to exchange information and maintain communication throughout the organisation. The second Viewpoint Survey completed in January 2018 shows improvement in all factors. A new Viewpoint Action Plan is in place with a new approach taken using focus groups to deliver these actions. This is combined with providing opportunities for development for staff as part of the Council's talent management in leading or particpating in these groups. Every opportunity is taken to encourage staff to reflect on the values and particpate in focus groups. A new staff recognition scheme has been introduced and led by the Chief Executive. The Chief Executive has carried out three "meet the Chief Executive" sessions to open up channels of communication even wider. *Denise Bell*	Implemented	Medium 9 Significant Possible	

Review Comments Reviewed for date 10/04/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Corporate Address Gazetteer is a Scottish Government system that is populated by each Local Authority with address information for residential and domestic properties. The information in the gazetteer is increasingly being used by emergency services to locate properties, and the plan is to use it for the 2021 census, which is to be completed electronically for the first time. The data in the Shetland section of the gazetteer is less than satisfactory. ICT have taken on the role as Custodian and are working with colleagues across departments to improve the quality of the data.	ORG0048	Susan Msalila	Records/Research data/systems/security/confidentiality/ back-up.		17/01/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
The gazetteer, which is required to support service delivery (e.g. for the census), does not function as required due to the poor quality of the data.	Impact on service, possible incidents of emergency services not being able to identify property locations, delay to census, national embarrassment, potential penalty from Scottish or UK Government.	• **ICT has** taken on the responsibility for the post of Custodian, and work is ongoing to update and correct entries to ensure that the Gazateer is fit for purpose for all uses. *Susan Msalila*	In Progress	Medium 9 Significant Possible	

Review Comments

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date

Recent Council activities plus local / national issues have led to an increased workload for Services across the Council and within Corporate Services - and particularly for Finance, Governance and Law, Capital Programme and Human Resources. There is a limit to how much additional work staff can absorb - staff and services are considered to be at capacity. The implemented move from 8 North Ness was disruptive and there is an ongoing increase in workload caused by the work arounds required so that the Council can continue to operate from other locations.	ORG0032	Christine Ferguson	Corporate/Community plan - failure to meet	10/04/2019	10/04/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Main triggers include: revised budget post Scottish Govt settlement, budget setting challenges - the requirement to make savings now and in the future, implementing various pay and conditions requirements plus 3rd edition of JE scheme, the tertiary review is a significant on-going piece of work, as are the various tasks and activities around the establishment and operation of the IJB. Governance and law workload includes governance reviews and organisation-wide project work. Service redesign work also requires significant staff time.	Impact on planned work including in particular important corporate/ strategic reviews and strategy development: there is a risk that work will not be scheduled or will not be completed on time, leading to missed opportunities and/or increased costs. Teams at capacity, stress on staff, potential sickness absence, any reduction in resources, e.g. from absences, or resources diverted, can lead to missed opportunities or deadlines/ impact on quality of work as well as difficulty in meeting timescales. Significant work/ strategic planning/ long-term vision is affected or displaced by urgent tasks, short deadlines, reactive work and external demands. Impact on quality of work, missed information, failure to take adequate account of all relevant information, poor quality input / information can lead to poor decision-making.	• **The effects of the move from 8 North Ness** are being monitored and adjustments made where possible to ensure minimal disruption to services. *Christine Ferguson* • **Our Plan 2016-20 has been agreed. This explains the outcomes that the SIC wants to achieve by April 2020.** Our financial planning process is more robust and in line with other planning processes. The risks to Directorate and Service plans are articulated and considered in reports. The Risks for new initiatives including the allocation of resources are considered at Project start up and kept under review. *Christine Ferguson*	In Progress In Progress	Medium 9 Significant Possible	

Review Comments Reviewed for date 10/04/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Council is required to manage changes and challenges in its workforce and in some services across the organisation there are considerable challenges in recruitment, such as social work, teaching and other technical and professional posts. These difficulties are not limited to Shetland. Services must review the demands on services, consider strategies to attract and retain employees and they need accurate and timely data and analysis from the council's HR system to inform their decision making. Human Resources must ensure that effective use is made of information management and reporting to support services to enable effective workforce and succession planning. HR and Council services must work together to develop and review policies, procedures and the employment offer from the Council to minimise the risks of having insufficient staff to deliver council services.	ORG0018	Denise Bell	Employment issues	05/08/2019	05/02/2020

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Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Increase in staff turnover and inability to recruit staff to vacant posts .	Posts remaining unfilled due to failure to recruit which places strain on services to deliver and increases pressure on existing workforce. The relocation and interview expenses budget increases with the increasing need to recruit from outwith Shetland. We are also having to advertise more frequently with teaching posts in particular being difficult to fill. Services must engage proactively with HR in order to analyse the reasons why staff leave to minimse staff turnover. Working patterns, and terms and conditions of service should also be reviewed by services to remove any unnecessary barriers to employment.	• **HR continually reviews the council's HR policies and processes to** ensure policies and procedures support the organisation to become more responsive and flexible in the deployment of existing staff. The Council's Workforce Strategy provides a framework to focus attention and prioritise work streams that identify and develop talent as well as increase the number of ways young people can join the organisation. Attracting and retaining staff is a priority and a pilot recruitment exercise to support the Planning service to fill large number of vacancies has tried a range of new approaches to try to increase and improve our ability to recruit. The Council's Market Forces Policy can be applied in appropriate circumstances. A business transformation project to streamline HR and payroll activities is being developed in order to increase self-service and improve workflow. *Denise Bell*	Implemented	Medium 8 Minor Likely	

Review Comments Work is now underway to develop a council-wide workforce plan, following consultation with all council department management teams. A review of the recruitment & Selection Policy is also underway that will be reported to the Council's EJCC and P&R Committee later this year. This will take account of learning following a pilot exercise to recruit a number of Planners.
05/08/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Malicious cyber attack could happen at any time. ICT and SIC have a host of security systems and approaches in place. However, an attack, successful or otherwise, can always happen. It may be impossible to tell whether there has been an attack, or what any attack has looked at/ taken/ copied. Any attack could result in compromise /damage to systems or reputation, data leak, loss of data or system downtime.	ORG0029	Susan Msalila	Malicious damage/ vandalism/sabotage	16/10/2019	16/04/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Attack on the Council's network resulting in compromise/damage to systems or reputation, data leak, etc	Loss of data, system downtime			Medium 8 Major Unlikely	

		• **Anti-virus and firewall defences, ICT security policy,** , boundary appliance scan all incoming e-mail; Corporate anti-virus installed on all servers and workstations; Corporate firewalls, Systems support team ensure software and hardware are patched to the latest secure versions; Annual penetration testing resulting in security remediation actions, PSN and Cyber Essentials Plus certification; Regular internal system scans and reviews to ensure systems are up to date and secure. System monitoring for unusual activity, which may be linked to a cyber-attack Fortnightly Security Review meetings discuss and evaluate threats; Active participation in national Security forum CiSP, and implementation of advice from government bodies such as Secure Email Blueprint, Webcheck, and Secure DNS. Documentation of a Cyber Incident Response plan, including escalation points of contact at central government level, including Netcraft. *Susan Msalila*	Implemented		

Review Comments Reviewed w/ SM, no change, remains current
16/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
A Full Business Case for colleges merger was agreed in December 2018, with a targeted vesting date of January 2020. However, that date has now slipped and work is underway to revise the timetable and actions. A Shadow Board has been established and a Principal Designate has been appointed. Director - Corporate is now lead on merger element, property, legal, TUPE, finance, pensions, governance, etc. Director - Corporate is now direct point of contact for UHI Project Manager.	ORG0049	Christine Ferguson	Professional - Other	16/10/2019	16/04/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating
Project management failure, partner failure, project resources	Failure to deliver the College merger would result in an unsustainable tertiary sector within Shetland. Failure to deliver a sustainable and affordable model for tertiary education, training and research. Partner may cease to exist.	• **Director - Corporate is now lead on merger element, i.e. on property, legal,** TUPE, finance, pensions, governance, etc., and is now direct point of contact for UHI Project Manager. *Christine Ferguson*	In Progress	Medium 8 Major Unlikely	

Review Comments Updated w/ JC
16/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
The Council handles significant quantities of data including confidential and personal data on a daily basis. It is expected to be an exemplar of good practice and to maintain high standards of security and confidentiality at all times. Information management is managed within the legislative framework as set out by the Information Commissioner.	ORG0030	Christine Ferguson	Breach of Legislation - Data Protection, Human Rights, Employment Practice, Health and Safety etc	17/10/2019	17/10/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating

Data is released in an uncontrolled manner, accidentally or deliberately, and potentially without the knowledge of the organisation, because of a lack of training/ understanding, poor security, loss of paperwork or data-storing technology.	Release results in reputational damage or action against the organisation by the Information Commissioner. Financial loss/ fine. Negative media coverage and reputational damage. Possible disciplinary action, stress for staff. Loss of confidence in Services.	• **Current and planned controls -** There are systems and procedures in place to prevent the loss of data and information. All Directors are identified within the Information Management Strategy and Governance Structure as Senior Information Asset Owners, and as the owners of Information Management Risks they are responsible for ensuring that the risks are managed in accordance with Council policy and practice. The Information Governance Board regularly receives and addresses reports relating to data breaches, and also provides strategic overview in terms of the appropriate handling of the Council's records. A number of staff have now accessed training in basic Data Protection by accessing online training through iLearn. Work continues on implementation of the new Data Protection 2018 Act, including the creation of service Privacy Statements, reviewing personal information audits, management briefings and staff training. In particular, 30 officers have completed training on Data Protection Impact Assessments across all Directorates. Planned: Information management and improvement is a strand of the Business Transformation Programme 2016-2020. This is supported by an Information Management Strategy, which provides a framework for improvement and development of information management policies and procedures to ensure our services can work together in a smarter way. The Improvement Programme includes a number of work streams, including information security, business continuity, culture and training, all of which will contribute to further reducing the risks inherent with maintaining and processing large amounts of information, and will aim to keep these considerations at the forefront of business transformation projects. Governance, accountability and strategic direction for the Information Improvement Programme is provided by the Information Governance Board. The Board includes those who have management responsibility, accountability and ownership of information assets and this will be supplemented by the continued raising of awareness amongst, and further training of, managers, administrators and other staff in the proper handling of information. *Anne Cogle*	Approved	Medium 8 Major Unlikely

Review Comments Control measure update by A Cogle
17/10/2019

Details	Risk Ref	Responsible Officer	Risk type	Last Review date	Next Review Date
Long term financial planning - fulfilling the Council duty of best value has been defined (in part) by the Accounts Commission as addressing and doing more long term planning. Failure to recognise the longer term factors that impact on Council finance and service delivery obligations and challenges may result in serious criticism from Audit Scotland and the Accounts Commission, while at the same time impacting on customers and the organisation at large.	ORG0042	Jamie Manson	Economic / Financial - Other	23/01/2019	23/01/2020

Triggers	Consequences	Control Measures	Control Status	Current Risk Rating	Previous Current Rating

Risk Register - Shetland Islands Council

Failure to prepare and take account of longer term scenario planning and to make informed assumptions about the impact of those on services and finance. A trend in the one-off use of reserves to balance revenue budgets. Use of invested capital for one-off or recurring expenditure and failing to recognise the cost of that capital and the impact on future budgets.	If the Council operates unsustainably and without intervention it will have to increasingly rely on its reserve, the compounding effects of this eventually resulting in the depletion of reserves/investments and being no longer able to provide additional funds to support services in the General Fund budget. Reputational damage, the current expectations of customers not met and the Council outcomes not achieved.	• **Strong financial management arrangements in place, with MTFP refreshed and** reported to Council in August 2018. A clear and robust financial cycle of annual budget process, regular monitoring and annual accounts in place, with positive feedback from external auditors. Regular / annual review of MTFP based on adoption of current year's budget and any likely changes in wider local government funding environment. Work to review the LTFP is expected to commence over the next 12 - 18 months. Service redesign across all areas to identify and implement sustainable levels of service going forward. Implementation of business transformation programme to support service redesign. *Jamie Manson*	Implemented	High 5 Extreme Rare	

Review Comments reviewed for date
23/01/2019