SHETLAND COMMUNITY CONVERSATIONS ON CLIMATE CHANGE

Workshop report

Report for: Shetland Islands Council

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1. INTRODUCTION AND BACKGROUND

1.1 PURPOSE OF THIS REPORT

This report summarises key discussion points, observations and reflections from a series of workshops held with communities across the Shetland Islands in early 2022.

1.2 BACKGROUND TO THE CLIMATE CONVERSATIONS

From February to April 2022, a series of climate conversations were held by Shetland Islands Council with individuals, communities, community groups and organisations from across the Shetland Islands. The purpose of the conversations was to hear about communities' main priorities and concerns around climate change and the transition to becoming a climate resilient and low carbon place to live and work, as well as to discuss how communities across Shetland can best get involved in this transition and what support might be needed to do this. Running these workshops would enable the Council to learn more about these issues and provide individuals and communities an opportunity to feed into the development of a net zero route map for Shetland, thereby grounding the route map in community-level issues relevant to those that live across the Shetland Islands. The workshops were run by the environmental consultancy Ricardo[1] and were supported financially by the Scottish Government's Rural Communities Testing Change Fund[2]. All the engagement was carried out virtually.

Fifteen workshops were held in total, as set out in Table 1. As can be seen, there was interaction with a broad spread of groups. The first two workshops were with members of the LEADER Programme[3] Local Action Group for Shetland[4]. There were workshops focused on specific geographies within the Shetland Islands, e.g. north, west etc. There were also some Shetland-wide workshops with certain groups, including community/voluntary organisations, community development companies, asset owners, islands with small populations, and young people. There was one thematic workshop focusing on the just transition, and one open workshop for anyone to attend.

Table 1: workshops and dates

	Workshop	Date
1	Shetland LEADER Programme LAG – 1	Tuesday 1st March, morning
2	Shetland LEADER Programme LAG – 2	Friday 4th March, morning
3	Big Asset-Owning Social Enterprises	Monday 7th March, morning
4	West of Shetland	Monday 7th March, evening
5	Central Shetland	Thursday 10th March, evening
6	Islands with Small Populations	Monday 14th March, evening
7	Community Development Companies / Asset-Owners	Wednesday 16th March, evening
8	East of Shetland	Thursday 17th March, evening
9	Just transition	Friday 18th March, morning
10	Shetland-Wide Community Organisations	Monday 21st March, evening
11	South of Shetland	Thursday 24th March, evening
12	Central Shetland	Monday 28th March, evening
13	North of Shetland	Wednesday 30th March, evening

[1] https://ee.ricardo.com/

[2] https://www.ruralnetwork.scot/news-and-events/news/new-fund-opens-support-future-rural-community-development

[3] https://www.ruralnetwork.scot/funding/leader

[4] https://www.shetlandleader.org/local-action-group#:~:text=The%20Shetland%20LEADER%20Programme%20Local,the%20LEADER%20Programme%20in%20Shetland.

	Workshop	Date
14	Open workshop	Thursday 7th April, evening
15	Young person's workshop	Tuesday 12th April, afternoon

Most workshops followed a similar format, and covered:

- How the Shetland Islands, and specifically communities, might be impacted by climate change and how they can adapt and become more resilient.
- How emissions across Shetland can be reduced towards 'net zero' and what this might mean, including issues relating to a just transition and fuel poverty.
- How communities can act to support the transition to a climate resilient and low carbon Shetland.

There was also a small number of bilateral meetings with some organisations that were not able to attend the workshops. For a full list of the organisations that took part in the workshops and meetings, see Appendix 1. A background information note on climate change is included at Appendix 2.

2. OBSERVATIONS AND REFLECTIONS

2.1 THE WORKSHOPS

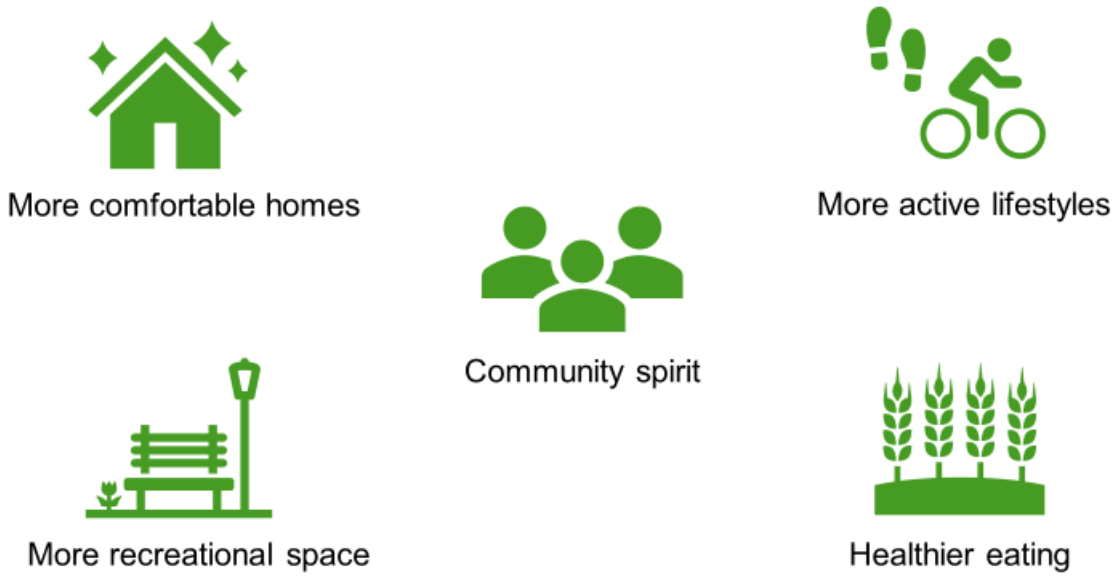
The workshops generally had fairly few attendees. Provision had been made for up to 15 attendees, but the average was below 5 (not including Ricardo, Shetland Island Council or Scottish Government staff). However, this had a positive impact on the nature of workshops. They were relatively informal and relaxed with plenty of opportunity for everyone to participate in the discussion. In short, these felt less like workshops and more like genuine conversations, and arguably led to more insightful discussions than may have been possible with larger workshops. This is an interesting observation in itself and one that the Council may want to consider for future engagement exercises.

Another positive aspect from the workshops was that they did not just include 'the usual suspects'. Undoubtedly there are certain individuals who are already very active in community-level climate action across Shetland. Many of them did attend the workshops and provided valuable inputs. But the team also heard from a number of other individuals and groups that have been less directly involved in such work to date. This is positive both in terms of outreach and engagement, but also as it allowed the project team to gather a rich array of views and opinions.

In terms of the topics that were discussed, when comparing the topics of mitigation and adaptation, there was more interest in the former. People generally had more to say about net zero and the possible costs and impacts of the low carbon transition and relatively less on possible climate impacts that Shetland may face and how it can adapt. That said, it sometimes does not help to distinguish between the two, as there are very close links between them. Sometimes, in the discussion on climate impacts and adaptation, issues such as the cost of the net zero transition, or fuel poverty, were raised. But these issues do have links to adaptation. For example, tackling fuel poverty can also help make communities more resilient to future climate change.

The apparent greater focus on mitigation-related issues disguised the fact that for many individuals and communities, the main interest is in sustainability in its widest sense. Some actions that were being taken already, such as recycling, sharing schemes and community food growing are not the ones that will necessarily 'turn the dial' on carbon emissions. But despite this, they have numerous wider benefits for communities, such as those presented in Figure 1. And importantly, these kinds of actions can provide an invaluable entry point for discussions on net zero, with communities then being taken 'on a journey' to consider what further actions might be needed to radically reduce greenhouse gas (GHG) emissions.

Figure 1: ways in which communities can benefit from climate action (taken from workshop slides)



Finally, it was noted both by the project team and by some of the workshop participants that there is already an impressive level of knowledge on climate change across the Shetland Islands. This provides a solid platform for further engagement on climate action.

2.2 ADAPTATION AND CLIMATE IMPACTS

2.2.1 Climate hazards and impacts

Examples were given in the presentation of the kinds of climate hazards and impacts that might be felt more and more across the Shetland Islands, including flooding (coastal, burn and surface flash flooding), extreme temperatures, increasing intensity and frequency of storms, pests and invasive species and ocean acidification (which could have ecological impacts, for example on shellfish). Participants gave examples of the kinds of impacts they had observed. Examples included:

1. More frequent damage to buildings (e.g. the roof of the leisure centre in Lerwick). Participants pointed out that this was partly due to the age and poor condition of some public buildings. More intense rain leading to more frequent gutter flooding was also mentioned.
2. Coastal flooding, for example of the museum at Hay's Dock. This will be exacerbated by sea level rise. Much of the infrastructure in Shetland is at sea level. High tides have caused bridges to flood, and this can have financial impacts and impact transport and supply chains. These bridges are the only access to some areas of the West Island and so residents would have to resort to boats. On the other hand, some participants felt that flooding had not gotten noticeably worse.
3. Coastal erosion, for example, around Sullom Voe Terminal. Another example given was of local crofters having to repeatedly move fences back from the coastline.
4. River flooding, and in particular changes in the location of river flooding. Participants noted that areas that used to flood frequently (and were therefore well prepared for flooding) no longer experienced flooding very often. However, other areas that had not previously experienced flooding to their knowledge were now flooding frequently.
5. More intense rainfall. While rain is a common phenomenon in Shetland, participants noted that the constant light drizzle that they were well adapted to had been replaced by episodes of more intense rainfall.
6. Changes to animal populations, for example declining sea bird populations, changes to number of geese on the island and how long they stay for.
7. Changes to fishing patterns caused by changing weather patterns. For example, one participant mentioned in mid-March that their partner had not yet been out fishing this year due to bad weather.

8. Changes to growing seasons (including increased unpredictability) and increased incidence of new plant types, pests etc. Participants mentioned that Shetland UHI are conducting a study into marine invasive species.
9. Impacts to essential services. For example, a resident of Foula gave an example of where the ferry service can sometimes be twice a month, due to bad weather, rather than twice a week. Another challenge was that the ferry could sometimes not dock safely against the jetty. One participant from a large asset-owning organisation worried whether climate effects on transport might hinder people from coming to their facilities. And concerns were also expressed at impacts on transport supply chains, hospital visits and food supply.
10. Impacts on transport to school and family for young people. Participants in the young persons' workshop advised that many students in the more remote parts of Shetland travel by ferry to school for the week, and then return home for the weekend. However, increasing extreme weather incidents had at times prevented students from arriving on time for the start of the school week, leading to missed class time and stress, particularly for students preparing for exams. Return ferries were also impacted, requiring students to stay in hostels for the weekend, and leading to further stress about when they would next see their families.

All of the above could lead to further, indirect, knock-on effects. One that came up in a couple of workshops was insurance and a concern that it may become harder to get insurance due to future climate risks.

One interesting observation noted by the project team was that perceptions of risk can sometimes be based on how new a risk is, as risks that are already prevalent (but may be increasing in frequency or magnitude) may engender a lack of caution. When new risks arise, people tend to be more conscious of them and concerned about them. As a place which is already subject to quite significant challenges such as coastal flooding and storms, some of the climate impacts that were discussed may have elicited less of a response than they may have done with communities elsewhere. Of course, the key point with climate change is that many of the climate hazards are likely to get more intense and more frequent, posing a significant challenge even for communities in Shetland that are already well adapted to extreme weather.

Even where strong adaptive capacity already existed, participants noted in some of the workshops that things were getting worse. For example, while strong winds are not new in Shetland, and this existing adaptive capacity was noted, there was recognition of an increased number of storms and associated ferry cancellations with transport/supply chain impacts.

Participants sometimes became more engaged on climate impacts and hazards when put in the context of vulnerability. Exposure to climate hazards, such as extreme storms, is only half the issue – where the main risks occur is where these hazards coincide with vulnerabilities. As a simple example, coastal flooding is less of a concern if the community is set further back from the sea. The hazard (flooding) may still occur, but the vulnerability to that hazard is lower. An example discussed during the workshops related to some of the big asset-owning organisations that had experienced damage to buildings (e.g. leisure centres) from strong winds, but their buildings were set back from the coast so flooding was less of an issue.

This discussion around vulnerability also helped localise the discussion, as vulnerability ideally needs to be considered at the local level. After introducing the concept of vulnerability outlined in Figure 2, we received a number of interesting local examples, for example of low lying roads or bridges that were vulnerable to coastal flooding. Having this more localised discussion, as opposed to a more generic discussion about climate impacts, would therefore be a good way to get more engagement on this topic.

Figure 2: climate risk as a function of exposure to hazards and vulnerability to those hazards

Another interesting example of vulnerabilities was given for buildings. The lack of insulation in most houses was noted in terms of exposure to extreme cold. Hence better insulating buildings would help strengthen climate resilience, as well as reducing energy use and therefore carbon emissions. In some cases, vulnerability was not particularly high now but could change in the future. One example given was of the Lerwick district heating network and the risk of the pipe network being flooded. This is not a particular issue now, but could be in future if sea levels rise. The boiler house itself is 3m above sea level so it is currently relatively safe from flooding.

What can be as interesting as hearing about the climate impacts that people are concerned about is to look at the gaps where people were not aware of or concerned about particular types of potential impacts, as this could indicate a need to raise awareness on these. For example, while most participants noted that severe winds were not a concern in Shetland since they are well adapted to this impact, literature review[5] and comments from some participants noted both damage to buildings and infrastructure and even loss of life due to severe winds in Shetland. As discussed above, there is also a risk that these hazards will increase in frequency and/or magnitude, and that current adaptive capacity will therefore be overcome by this increase. Finally, severe winds can lead to other impacts like high wind chill, which can lead to extreme cold outdoors and indoors (particularly where insulation is lacking), leading to health and wellbeing impacts.

A comment was made at one of the workshops that when discussing climate impacts with Shetland Islanders, it is important to have an open and honest conversation and to reflect on the possible benefits that might arise, such as longer growing seasons, as well as the likely negative impacts, like an increase in or a change in the nature of pests that affect crops, and the potential interactions between these positive and negative impacts.

2.2.2 Vulnerable groups

There were not many additional suggestions given on who across Shetland might be most impacted by climate change beyond those mentioned in the slides, these being low-income families, people who work outdoors and/or rely on nature for their livelihoods and front-line workers. But some Shetland-specific examples were given, including:

1. Those with limited access to transport, as well as the transport system itself, and exposure to an increased number of storms.
2. People who live near the sea and rely on it for their livelihoods.
3. Communities that are having to deal with 'managed retreat' with regards to coastal erosion e.g. moving fence-lines, losing land and infrastructure. Some action by community groups – Sandwick was mentioned as an example.
4. Older people. One participant mentioned that Shetland had an ageing population and that this could make them more vulnerable, especially in outer islands.
5. Young people, who will have to deal with the increasing impacts of climate change and will bear the burden of the net zero transition. Anchor Programme[6] staff noted that in a recent survey of young people, climate change was identified as the highest source of stress after COVID. Participants in the young persons' workshop also noted significant anxiety about what the future will look like due to climate change impacts on their way of life, such as whether the small island they currently lived on would exist in the future due to rising sea levels.

2.2.3 Adaptive capacities and adaptation actions

As might be expected, the population of Shetland is a resilient one and has been adapting to extreme weather for a long time. One quote, from a resident of Foula, summed up the challenge that Shetlanders face:

"*Things that are easy elsewhere are difficult in Foula, things that are difficult elsewhere are nearly impossible in Foula.*"

[5] Fiona Cunningham 2019 (PhD thesis)

[6] https://www.shetland.gov.uk/family-support/anchor-early-action/2

There were many examples given by participants of adaptive capacities, i.e. particular strengths that can help communities adapt to climate change. For example:

1. Building standards – e.g., more nails or screws are usually used per length of material being fixed, to give added strength against strong winds.
2. Sharing schemes – there were a number of examples of community swaps, including for toys, clothing, etc.
3. Local food production, reducing reliance on vulnerable supply chains from the Scottish mainland and beyond. In particular, the use of polytunnels that are specially designed to withstand the extreme weather in Shetland was mentioned by several participants, although a participant in the young persons' workshop did note that polytunnels can at times be blown over in the more frequent and severe storms they experience now.
4. Carpooling schemes (formal and informal) are already in place, for example when taking ferries, or to address the impact of limited or cancelled bus services.
5. Strong community cohesion and support. Participants frequently noted the strong bonds within the community, and that people look out for each other. This was clearly observed during the COVID pandemic, where community members already knew who in their community was vulnerable based on their strong knowledge of their community. Because many community networks and a spirit of helping others already existed, this was mobilised rapidly to support vulnerable people. This type of community connectedness and strength helps increase resilience to a range of challenges, including climate-related hazards.

A small number of examples were given of where adaptive capacity was not strong, but could be improved. For example, one participant mentioned that ditches are not getting cleaned and becoming heavily overgrown, increasing vulnerability to flooding.

Of all the possible measures discussed in the workshops, it was local food production that came up most and seemed to have the most widespread knowledge and support. An additional benefit of this measure is that it is a good example of an action that can address both adaptation and mitigation – reducing reliance on vulnerable supply chains whilst also cutting food miles (and potentially also emissions from fertiliser use).

All of this gives the Shetland Islands a lot to build on when thinking about increasing resilience to future climate change and provides an entry point for a positive discussion about what more needs to and can be done to adapt to climate change.

2.2.4 General reflections

Shetland is already a resilient and adaptive population and economy. While this existing level of resilience is helpful as it provides a starting point for further action, it also presents a challenge for the Council as it could potentially lead to some complacency over the ability to adapt to climate change, even though climate-related hazards are expected to get more intense and frequent.

In this context of high adaptive capacity and some complacency about exposure to hazards, it will be important to:

1. Recognise and build on existing adaptive capacities. This will both improve the effectiveness of adaptation efforts, and ensure that communities feel their knowledge and experience is being respected and valued.
2. Ensure that the many other benefits (socioeconomic, cultural, etc) of adaptation actions are clearly visible to community members. For example, even if the community does not feel particularly vulnerable to extreme weather, adaptation actions like increasing insulation may resonate more with community members if the economic benefits of this action (e.g. lower power bills) are highlighted as much as or more than the adaptation benefits of the action.

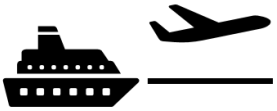
2.3 MITIGATION AND NET ZERO

2.3.1 Current emissions profile

In all workshops we discussed the key sources of emissions, some of which are shown in Figure 3 below.

Figure 3: Examples of emissions sources in Shetland

Energy used in our buildings has typically been supplied by fossil fuels



Ferries and planes release GHG emissions from burning fossil fuels, along with soot and vapour

Sheep and cows release methane during digestion

Driving cars and other vehicles releases GHG emissions

Landfills release GHG emissions when waste decomposes

Land use and agricultural practices release carbon stored in soil and plants

When asked what they thought the main emissions sources are, participants tended to focus on energy use. The most frequent suggestions included:

1. Transport within and between islands, e.g. inter-island ferries
2. Energy use in buildings
3. Generation of electricity, including flaring

Participants were surprised that land use was such a major emissions source – particularly ongoing carbon emissions from land that had been converted from peat to agricultural purposes, such as grassland and cropland. This suggested that more needs to be done to support a better understanding of the emissions profile for Shetland – something that the net zero routemap project should help with.

There was also interest from some participants to better understand the emissions data, where it came from and how it had been calculated, in case it could be made more Shetland-specific. In particular, there were quite a few comments about the emissions data on agriculture and land use and a desire to better understand this. For example, whether the emissions factors for emissions from livestock take account of the extensive nature of livestock farming in Shetland.

2.3.2 Actions to deliver net zero

Participants gave a range of ideas as to what sort of actions should be prioritised in the transition to net zero.

1. Communities want tried and tested technologies, rather than anything too innovative. Linked with this, it felt like activities that don't work often last long in the memory – several examples were given, such as installing a wind turbine on a community hall that did not deliver the expected benefits, and the Fetlar Developments Ltd electric minibus that is now not running due to difficulty and cost of maintenance. Another example was the Powerdown Project that supplied electric scooters. Once these broke down, there was a lack of spare parts to repair them. And another participant mentioned a lack of maintenance on a community-owned wind farm due to the fact that the turbines are from Germany and a lack of local expertise meant that ongoing maintenance was challenging. Such

examples are damaging to the transition to net zero as they can spread by word of mouth and give people a negative impression of climate action.

2. Tackling inter-island travel. For example, Orkney is retrofitting ferries to run on hydrogen and being proactive around shifting to hydrogen.
3. Young people, in particular, mentioned reducing energy use. They recognised the challenges of fuel poverty and the fact that people need to use energy to heat their homes (and at times are not using enough energy to heat their homes to a healthy level due to cost). However, they also noted the types of measures that households could undertake to both reduce emissions and power bills, such as installing insulation, which may involve an up-front cost which people would need support to meet, but would provide financial returns in the long term.
4. It is obviously crucial that the net zero approach is tailored to the specific context for Shetland. For example, shifting from private car use to public transport may be more challenging than elsewhere. But a few participants cautioned against assuming certain measures are not viable. Whilst the weather can be a challenge, a number of participants mentioned action being taken on active travel, for example walking routes, cycle sheds etc, or said they thought more could be done. Whilst the levels of active travel will never be that which could be attained in urban centres, some improvements might be possible.
5. Some activities that support the transition to net zero are already happening for other reasons. For example, car sharing is quite common, especially for taking the ferry. Similarly, many communities have already implemented clothing and toy swaps in an effort to save money and/or to access a greater variety of goods than is available in local shops, while also reducing their carbon footprint.

Many participants mentioned the need for clarity on what the priorities are for the transition to net zero – in other words, rather than just leaving it to community groups and organisations, there needs to be a steer on what the priority areas for action are. As one participant put it, "If we had £1 million to spend, where should we spend it?" and "We need to invest where we will get the biggest bang for our buck". This points to the importance of having the Shetland-wide net zero route map to help guide the actions of communities.

Another often-raised point was the lack of funding required to implement energy efficiency measures within domestic and non-domestic buildings. The vast majority of the housing stock is old. Pressure to increase the energy rating on these buildings is a concern for the residents. There is a gap between the policy demands to raise energy ratings and the capital to implement measures (e.g., draft exclusion, airtightness, and insulation). Another aspect noted was the lack of skills within the island to implement energy efficiency measures, such as installing PV and air/ground source pumps. A resident from Foula suggested there is a need for scrutiny on who delivers the work under these energy efficiency schemes. Lack of skills is also coupled with a lack of building material/equipment due to unreliable and scarce shipments from the main island during stormy weather. As a result, projects are put on hold for long periods.

Several comments were made about the need to make low carbon actions easier, and to remove barriers, if we are to get more widespread action in communities. Some participants pointed to a lack of qualified skilled workforce to do the work, meaning a reliance on workers coming from the Scottish mainland. Some participants wanted it to be easier to carry out insulation work on homes, and suggested there needed to be more companies that can do the work – at the moment it is just a handful and some people are having to wait a few years to get the work done. Access to materials was also sometimes a barrier.

Another interesting barrier to mitigation, brought up in the young people's workshop, was the tendency for extreme weather in the Shetland Islands – it was noted that the extreme wind, rain, and storms prevalent in Shetland make switching to active travel extremely difficult. It was also noted that extreme weather limits Shetland's ability to grow their own food, as the climate is largely unsuitable, and polytunnels often get blown away by strong winds.

2.3.3 Concerns around the transition to net zero

There was a good level of understanding on what is meant by a just transition – ensuring no one is left behind in the transition to net zero. In particular, most people in the workshops could see how the just transition related

to them. The main concerns that came up were around the costs of the transition, which covered costs of technology (e.g. electric vehicles), but in particular cost of energy, perhaps not surprising bearing in mind the current cost of living crisis. Fuel poverty was clearly a major concern and a very sensitive issue, with some concerns expressed about a transition away from fossil fuels to electricity from renewable sources. Some participants also noted the issue of extreme fuel poverty. This concern around fuel poverty was partly about the cost of electricity and it was suggested in a few of the workshops that there needed to be a wider discussion about the effect of electrification and what support there might be to help subsidise these costs. But in addition to costs, some workshop participants also mentioned how solid fuels often provide their warmth when electric systems are hit by storms, which is an interesting example of the close links between climate change impacts and the transition to net zero.

Services are available to support families with rising energy costs. For example, a few participants noted that the Citizens Advice Bureau (CAB) will support families to access fuel grants. However, not all community members are aware of these services, and for many there is a stigma attached to seeking this type of support, particularly for families that are facing these types of financial constraints for the first time. In addition, the support available is often temporary and is not always sufficient to meet households' needs. For example, staff working on the Anchor programme noted that most of the families in need that they worked with had already accessed the maximum of three fuel vouchers, and would no longer be eligible for further support unless the programme is expanded.

Participants pointed out that we should not just focus on homes when considering the issue of fuel poverty – it was also a real concern for businesses, schools, and public service providers. After staff costs, energy can be the main cost and the biggest financial risk. One organisation also pointed out that increased costs from the transition to net zero could lead to reduced services if funding levels stay the same. Another similarly presented it as a zero-sum game – "if spend on this, can't spend on that".

But whilst costs were a concern, they were also a driver for action. Some of the big asset-owning organisations, such as Shetland Recreational Trust and Shetland Amenity Trust, mentioned the cost of energy as a major consideration and that costs of running facilities were very high. The potential opportunity to develop new skills and industries also came up.

Whilst there will undoubtedly be jobs created in net zero-compatible activities, such as peatland and woodland restoration, a concern was expressed in one of the workshops that these may not adequately offset the likely jobs lost from other sectors such as oil and gas. Council staff working with adults seeking employment noted that the creation of these types of jobs were unlikely to address un- or under-employment in Shetland due to the specific features of Shetland's job market. With a low unemployment rate, most adults facing unemployment were generally struggling with significant barriers to employment access. While training services are available to support individuals to access higher paying jobs, the amount of training required for jobs in renewable energy and peatland restoration was likely beyond the time that individuals caring for other family members could manage. However, longer-term job support programmes in schools were more likely to encourage students towards these types of new, green jobs.

One of the observations we noted coming out of the workshops was that 'just transition' is a more multi-faceted and complex issue, despite it sometimes being reduced down to a question of retraining and reskilling those in the oil and gas sector. A number of examples were given of what a just transition might mean for the Shetland Islands, including:

1. Potential impacts on communities. For example, many rural shops have fuel pumps. If they lose this revenue stream because of the electrification of vehicles, would this threaten their viability, thus potentially closing down a hugely important community resource?
2. The need to consult widely on the transition to net zero. For example, a few participants noted the need for the fishing sector to be widely consulted on planned offshore wind developments, so they can understand what the impacts on their sector might be.
3. Some sectors were quite vulnerable to the transition. For example, the fishing industry is reliant on marine diesel. The boats are generally owned by small local businesses, not large multinationals. They therefore may be less able to absorb costs and could be at a competitive disadvantage compared to fishing vessels owned by larger companies.

4. Participants in the young persons' workshop noted that many community facilities are funded by the oil and gas industry, and that these facilities are often used more heavily by low-income families. They noted the importance of ensuring the ongoing provision of these types of facilities in the future via other avenues of financial support.

2.3.4 General reflections

Community members' perception that energy use was a key driver of emissions in Shetland, and focus on the cost of actions like increasing electrification, combined with high fuel poverty rates, appears to have led to some concern about the transition to net zero and a strong focus on just transition principles. Highlighting the many low cost or cost saving measures that can be implemented to reduce emissions may help address these concerns, along with greater visibility regarding the support available to families who are struggling.

Future programming could consider how families could be further supported to cover the significant up-front costs of measures like installing insulation and purchasing more expensive low energy appliances that will save them money in the long term. While the benefits of such changes were widely recognised, there was also clear recognition of the insurmountable challenge that such up-front costs posed for many families.

The prospect of green jobs may not align with the type of support needed by adults currently facing un- or under-employment. However, ongoing discussion of, and preparation for, these types of jobs for young people may both help ease the concerns that young people have regarding the future, and help families break the inter-generational cycle of poverty through higher paying jobs that align with global trends towards a net zero pathway.

2.4 COMMUNITY-LEVEL ACTION ON CLIMATE CHANGE

Participants were very engaged on how they could help, or indeed are already helping, deliver a transition to a climate resilient and low carbon Shetland. A range of possible interventions were discussed in the workshops, such as those outlined in Figure 4. Of these, one that seemed to have most interest was community food growing, which no doubt reflects the growing movement around self-sufficiency and the Grow Shetland project[7].

Figure 4: examples of community action on climate change

We have grouped together the insights from the discussions on community-level action into a number of statements, as follows:

[7] https://www.growshetland.co.uk/grow-shetland/

1. **The Shetland Islands have a strong culture of community, which can be utilised as a tool for facilitating conversations around climate change.** Several participants noted that the tight knit communities prevalent around the Shetland Islands make community activities popular, and that framing climate action from a community angle provides an excellent opportunity for engagement. For example, participants in the young persons' workshop noted that community clothing swaps are quite frequent already, and activities such as this could be reframed from an environmental perspective to facilitate conversations around climate change.
2. **Community-level action is a big effort**. This was reflected across nearly all the workshops – that getting activities started and maintaining them took a lot of time and effort. Often there was a lot of administration involved, and it was difficult to find volunteers who were willing to take responsibility for the administrative tasks that are required to do the "fun" tasks. Those that were running community activities said it was tiring and took a lot of their time and more support/funding would be beneficial. One participant described there being a "competition for attention". Furthermore, many communities in the Shetland Islands are quite remote and small, and it was noted that it is often difficult to engage these communities. Finally, it was often noted that the majority of volunteers are older members of the population. As the group of islanders that will be most affected by future climate change, and with new ideas and creativity to bring to the table, it is crucial that climate action is something that excites and interests young people.
3. **Networks are important and could potentially play a greater role**. There were many comments about the scope for improving connections between different communities and community groups, to foster learning, for mutual support and to create efficiencies of scale. Certain key anchor institutions may potentially be able to play a leading role in fostering these networks, for example the Council and Voluntary Action Shetland. There were also comments in several workshops that there was some scope for rationalisation of community facilities. For example, could better sharing of facilities mean that there is less need for new build? There was even concern from some asset-owning organisations that the proliferation of community calls and groups can take away the ability of bigger trusts to survive. Fixed links were given as an example which could lead to greater rationalisation – one example being if the fixed links between Yell and Unst were developed then it might be possible for more rationalisation of facilities. But on the other hand, it was recognised that there was often strong attachment to local community facilities and some communities might be reluctant to let theirs go and to share with other communities instead.
4. **People get inspired to act when they see action**. It is hard to motivate people to act through a theory or idea, no matter how good that idea is. Sometimes it is necessary to just get started and then people may join in to support the activity when they can see the impact on the ground. It was noted that residents are hesitant to invest in a project in the initial stages as there is a likelihood it may fail. Projects attract more interest and residents once the project or group is more established rather than at early-stage development where more time, effort and responsibility is required. Equally, it was mentioned that another success factor in getting projects/groups off the ground depends on the leader of the group, whether they are well connected within the community and whether they have the right leadership skills to energise and motivate others.
5. **Wider context is important to how successful a project might be**. Sometimes a good idea is not enough. The wider context can be a key factor in whether that idea will get going and inspire people. An example was given of some community action around local food growing that was tried a number of years ago but wasn't successful, but in more recent years has really taken off, possibly because the wider context (e.g. Brexit, Covid) has made people more aware of supply chain fragility, so they are more likely to engage with community action on local food growing.
6. **Communities play a key role in disseminating good practice**. This links to the third bullet point above about networks. There were some interesting examples given of success stories, where an action to reduce emissions has had noticeable positive effects. One example from Bressay was of a community hall that had an air source heat pump installed along with improved insulation. Being in the hall was a much more pleasant experience as a result ("you didn't need to keep your coat on!"). The

more such facilities are used, the more people can experience for themselves how climate actions can benefit them.

7. **Clarity is needed on what is, and is not, expected from communities on climate action**. In one workshop, a participant asked "What can communities actually do in terms of real change? Is this all at the policy level?". In another, a participant pointed out that communities cannot do this themselves, and that a big part of the transition needs to come from national level policy. This is well noted and understood but suggests that more could be done to clarify the 'social contract' between communities and individuals on the one hand, and local and national government on the other, to better understand how they can work together and what the respective roles are.
8. **Community action on climate change needs to be a two-way process.** Building on the point above, it is not just about how communities can be empowered and supported to act, but also about how they can influence climate change policy and better understand how their work fits with wider action on climate. An example was given in one of the workshops of the Shetland tourism industry, which is aiming for net zero in their operations. However, they felt powerless to change the impact of the flights that tourists take to arrive in Shetland, and to impact the decisions that large airlines made. They wanted to learn more about how they could stimulate discussion and wider change at a higher level. As one participant put it, "we sometimes feel at the mercy of policies made in Westminster or Holyrood". An example of this is national energy efficiency schemes that don't fully match the needs of island communities. Under current schemes, there is a lack of incentives to implement draft exclusion measures. This is vital in Shetland due to severe winds and ensuring airtightness of homes is an important component of energy efficiency in Shetland. Yet arguably the national-level policy does not support this.
9. **Communities want a clearer steer on what net zero means.** Some examples were given in one of the workshops around buildings. The asset owner in question owned many very old heritage buildings that were used for accommodation but were very difficult to decarbonise. They wanted to know whether 'it's OK' to continue using them, recognising that decarbonisation will be difficult, or whether they should be thinking about stopping using them. There was then a discussion about how non-climate issues (cultural, socioeconomic, etc.) need to be included into this discussion. For example, we need to consider the wider benefits that heritage buildings might bring – it would be a pity to lose such benefits on account of net zero.
10. **How we talk about climate change is important.** To get communities on board we need to discuss what they care about first – what is on their priority list? For example, we need to talk about concerns such as getting food on the table, the cost of living, livelihoods and jobs etc, through the lens of climate change. Fundamentally, this comes down to messaging and it is crucial that we bring communities with us on this journey. As one participant mentioned, "you can't just find your tribe" – in other words, we need to reach out and to engage with those that we do not normally engage with. The words 'education' and 'awareness' came up time and again in workshops, with the need to raise awareness, combat myths and to do more in schools. It is essential to get the framing of the messaging right and use the right outlet and medium to amplify climate change to educate and increase awareness within communities. Communities are more likely to engage and take action when the information is disseminated from a local, trusted source such as a fellow resident or community champion.
11. **We do not yet know what the lasting impact of the pandemic might be.** Several participants mentioned Covid, but in different ways. Some suggested it had made people more inward-looking and less receptive to community-level action. Others argued that people were itching to get back to their communities and to work together, and also that the pandemic encouraged some of this, for example communities mobilising to ensure vulnerable people were looked out for and supplied with essentials. One voluntary organisation suggested that Covid had led to people understanding their communities better. There were also some examples given of how Covid has helped demonstrate the potential for net zero measures, such as increased home working leading to lower emissions from commuting, as well as more local purchasing and sourcing of goods.

All of this points to the potential benefits of a strategy for community-led action on climate change and wider sustainability, to promote the good work already happening, and to support communities to set up and develop activities that can enhance the transition to net zero and climate resilience. For example, some participants mentioned that they wanted to know who they can contact when they have an idea for community-level climate action, to discuss it, consider funding sources, agree next steps, etc. One participant called for a one-stop shop for community action and also pointed out some of the resources that are currently out there, such as the £72m Viking Community Benefit Fund.

3. OVERALL CONCLUSIONS

Below are some general conclusions we can draw from the workshops:

1. A lot of climate action is already happening across the Shetland Islands. There are some real strengths in place that can be built upon, e.g. adaptive capacity.
2. Change is happening at the community level – but more can be done more to promote and share examples of what has worked.
3. To ensure that this work continues at community level, it will be helpful to demonstrate that communities are not in this alone. In addition to recognising what communities are doing, showing how communities can be supported in their work (e.g. funding and other support available) can help leverage and scale up this community-level action. Further awareness-raising on what the Council and higher levels of government are doing will support this.
4. There are understandable concerns around the transition to net zero, in particular the cost. The net zero routemap should take into account these concerns by ensuring that it includes measures to reduce the impact of the transition on vulnerable groups (e.g. clearly identifying how increased energy costs for those who cannot afford them will be addressed, and how community services will be safeguarded despite decreasing funding from the oil and gas industry).

It is helpful to also think about what this means for next steps, for the Council and for communities across Shetland. For the Council, some possible actions include:

- Develop materials that can give communities ideas for climate action and signpost to possible sources of revenue and other support.
- Develop a strategy for community-led local development to guide future support and work,
- Set up a mechanism for communities to raise an issue/share an idea with the Council and for that to be tracked, so they can see how it is being acted upon. Alongside this, a database of community-level projects could be useful reference material and also support further networking and collaboration between communities.
- Develop an adaptation and climate resilience strategy that can then help guide communities (with appropriate resources) in carrying out more localised vulnerability and risk assessments.
- Consider the creation of a just transition commission at the Shetland scale, similar to the Scottish government's. Representatives of communities, businesses, unions, workers, etc could form part, with candidates nominated by bottom-up engagement. This could provide a forum where communities can influence policy and converse with national government. This should include the owners and workers unions of the farming, fishing and oil and gas sectors. Key conversations could include engaging the National Farmer Union on transition, and the issue of training for peatland restoration.
- The Council's participatory budgeting programme could be extended to include climate action.

For communities that are interested in supporting the transition to a net zero, climate resilient Shetland, some possible actions include:

- Organise and facilitate an event or series of events (e.g. community workshop, drop in session etc) to agree priorities and issues for the local community (climate change-related but also more broadly, e.g.

jobs, accessibility, fuel poverty etc) and to identify options for community climate action. One way to get started on this can be through surveys or newsletter questionnaires, as an initial approach to gauging community priorities and levels of interest.

- Connect with other communities across Shetland to find out more about the projects they have tried, and to get feedback.
- Get information on possible climate actions and funding sources.
- Lodge possible climate action ideas with the Council, so they are aware and can help advise.

APPENDICES

Appendix 1: organisations involved in the community conversations

- Association of Shetland Community Councils
- Bressay Development Ltd
- Community Development Company of Nesting
- COPE Ltd
- Foula Electricity Trust
- Foula Heritage Fishing Shetland
- Foula Voice
- GAADA
- Highlands and Islands Enterprise
- Hjatland Housing Association
- Institute for Advanced Sustainability Studies, Potsdam (Germany)
- Moving On Employment Project
- NatureScot
- Nesting & Lunnasting Community Council
- NFU Scotland
- North Highlands and Islands Climate Hub
- Northmavine Community Development Company
- North Yell Development Council
- Scalloway Community Development Company
- Scalloway Youth and Community Centre
- Scottish Government
- Shetland Amenity Trust
- Shetland Arts Development Agency
- Shetland Charitable Trust
- Shetland Community Benefit Fund
- Shetland Community Bike Project
- Shetland Community Wildlife Group
- Shetland Fisherman's Association / Shetland Fish Producers Organisation
- Shetland Heat Energy & Power Ltd
- Shetland Islands Council
- Shetland Net Zero Energy Forum
- Shetland Recreational Trust
- SSQC Ltd
- Tingwall, Whiteness and Weisdale Community Council
- University of Highlands and Islands
- Unst Partnership Ltd
- Transition Turriefield
- Viking community Benefit Fund
- Visit Scotland
- Voluntary Action Shetland
- Whiteness and Weisdale Public Hall
- Yell Community Council

Appendix 2 – climate change briefing note

Introduction

Work is currently underway to develop a net zero routemap for both the Shetland Islands Council and the Shetland Islands as a whole. The key to these routemaps being a success is that they take into account the views, concerns and priorities of local communities. To ensure this, a series of 'Community Conversations' are being held throughout March to support communities across Shetland to feed into this process, via an online survey and, for selected stakeholders and community groups, in interactive workshops. This note provides some background information, to help inform your feedback.

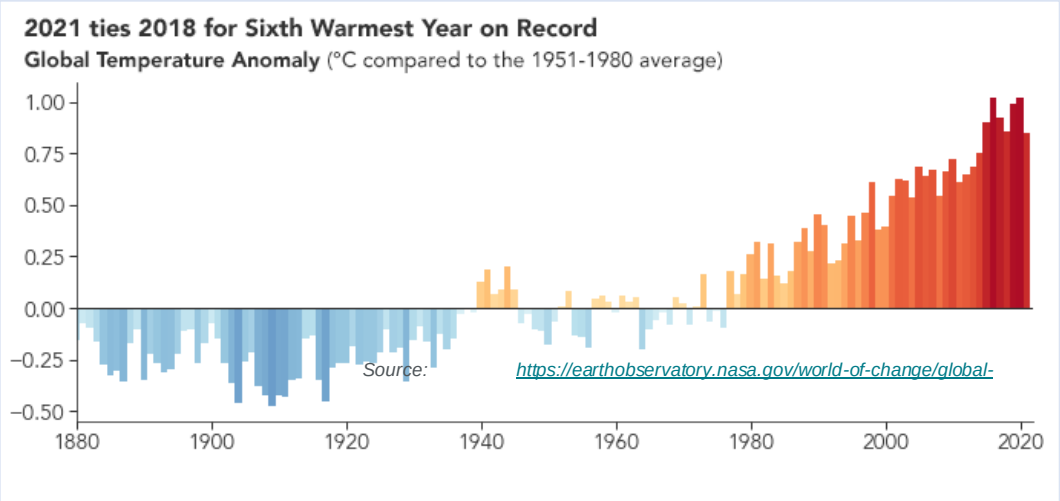
Climate change

Climate change has been described as the greatest threat facing mankind. Of course, the climate has always been changing over the Earth's history. But what we face now is rapid warming of the Earth that cannot be explained by natural cycles. This warming is a result of human activity, which has led to ever increasing levels of greenhouse gases[8] (GHGs) in the atmosphere, trapping energy and making the climate more volatile. As a result, we have seen – and will continue to see – impacts such as coastal flooding from storms and sea level rise, surface and river flooding from extreme rainfall, extreme temperatures, severe wind, wildfires, and numerous other changes to our ecosystems (e.g. increased pests and invasive species). And of course, all of this can lead to socio-economic impacts, such as increased migration, damaged supply chains, lack of raw materials etc.

The science behind climate change has never been clearer. The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change, bringing together climate experts and scientists from around the world. Their 2021 report on the physical science basis behind climate change[9] stated that "It is unequivocal that human influence has warmed the atmosphere, ocean and land". The Earth's global surface temperature has increased by around 1.1°C compared with the average in 1850–1900. While this might not sound like a lot, global temperature increase needs to be limited to 1.5°C above pre-industrial levels to avoid the most damaging effects of climate change. And achieving this means global net GHG emissions (see below) being reduced to zero by the middle of the century.

Countries around the world are therefore urgently implementing measures to do two things in response to this climate emergency. Firstly, to reduce their GHG emissions as quickly as possible, to keep temperature rises to within 1.5°C. And secondly, to increase resilience to climate change and to adapt to the changes that are already happening (and will continue to happen) due to the rise thus far in cumulative global GHG emissions.

Figure 5: A graph of annual "global temperature anomalies" (the difference between the average global temperature for that year and the average global temperature in 1951-1980) for the years 1880-2020.



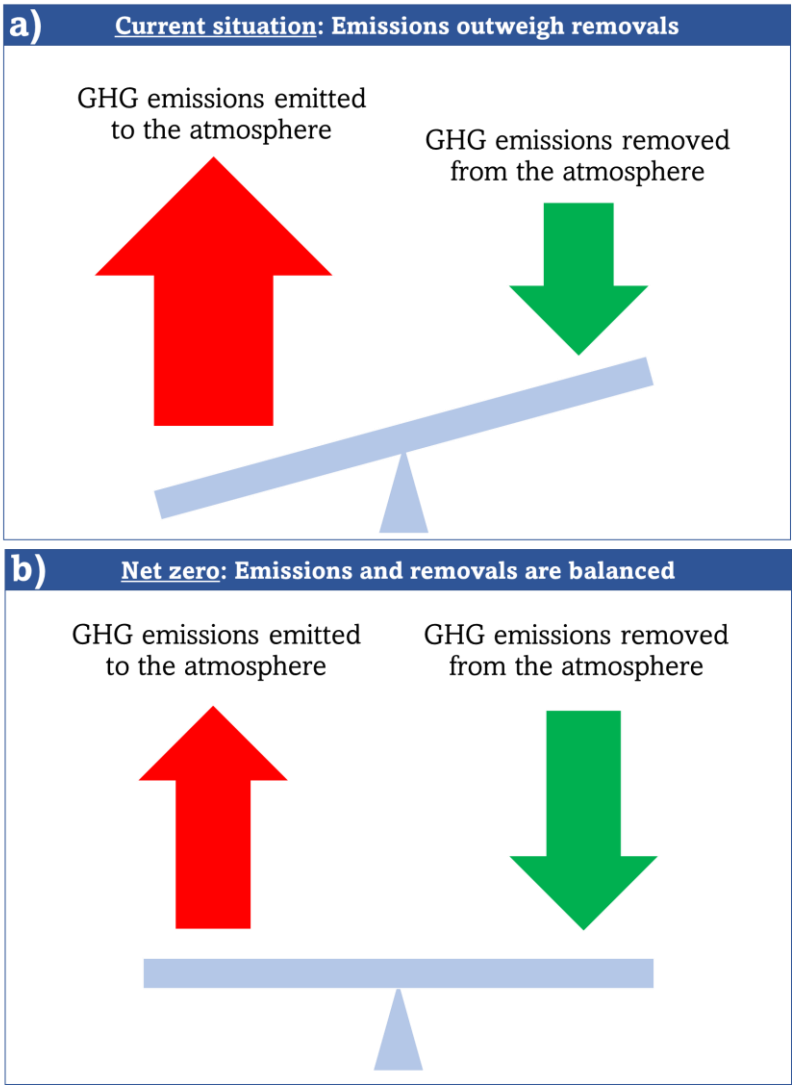
[8] The main greenhouse gas is carbon dioxide, or CO_2, but others include methane, nitrous oxide and fluorinated gases.

[9] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

Net zero emissions

Net zero means balancing out emissions of GHGs to the atmosphere with removals of GHGs from the atmosphere. When these are equal, no further contribution to climate change is being made, as shown in the bottom panel of Figure 2.

Figure 6: A visual representation of greenhouse gas (GHG) emissions in a) our current situation, and b) in a "net zero" situation.



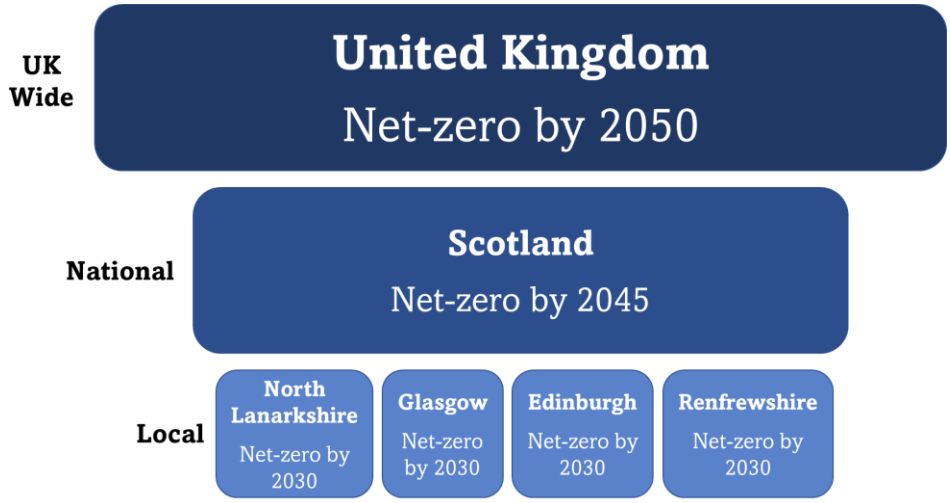
GHG emissions (the red arrows in Figure 2) come from a range of sources – mainly from burning of fossil fuels, but also from other sources such as from sheep and cattle, decomposing waste, or from land use changes that release CO_2 to the atmosphere (such as draining peatlands for agricultural use). GHG emissions removals (the green arrows in Figure 2) can either be natural – for example, trees sucking up CO_2 from the atmosphere – or man-made – for example, using carbon capture and storage technology.

Action in Scotland

Scotland has committed in law to achieving net zero GHG emissions by 2045, with interim milestones such as a 75% reduction in GHG emissions by 2030 (from 1990 levels). To support that, individual local authorities across Scotland are declaring climate emergencies and setting their own net zero targets, either for the emissions within their local authority area, or for the emissions from the Council's own activities (which typically contributes 2-5% of the area-wide emissions), or both. Each local authority is different – some might be able to achieve net zero across their area before 2045, others might only be able to achieve it after 2045.

Figure 7: A visualisation of the different net-zero targets adopted by the UK, Scotland, and

Table 2: The actions and changes that need to happen in different sectors, in order to reach net-zero.



To deliver on its 2045 target, the Scottish Government published a Climate Change Plan in 2018, which was then updated in 2021[10] to align with the 2045 net zero target that was set in 2019, following advice from the UK Committee on Climate Change. This sets out the action being taken across Scotland to deliver net zero. The Scottish Government has also published guidance for local authorities on reducing their own emissions[11].

Reaching Net- Zero will require	
	Reducing demand for energy and other resources much as possible via energy efficiency, behavioural change and technological means
	Switching all fuel consumption to electricity instead of fossil fuels including energy use in buildings and transport
	Radically decarbonising the electricity supply by increasing deployment of renewable power, phasing out fossil fuels and delivering associated infrastructure upgrades.
	For sectors or activities that cannot use electricity mitigating emissions by using other renewable or low carbon energy sources and making use of carbon capture storage
	Changing agricultural practices and land uses to increase carbon sequestration and reduce emissions of other GHGs
	Offsetting residual emissions by delivering further GHG reductions outside the Shetland boundary

Adapting to climate change

Alongside reducing GHG emissions, there is also a need to adapt to the climate change that is already happening and the further impacts that are unavoidable. What this means in practice is identifying the vulnerabilities and hazards in Shetland, identifying areas and activities most at risk of climate impacts and developing a plan to adapt. This might involve strengthening adaptive capacities so that communities, businesses and individuals are better able to adapt to the impacts of climate change, making them more climate resilient. Shetland Islands Council produces annual climate change reports and has a Flood Risk Management Strategy in place. But there is undoubtedly more that local communities could be doing to support action to strengthen resilience to climate change.

[10] https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
[11] https://www.gov.scot/publications/public-sector-leadership-global-climate-emergency/

Figure 8: Examples of the climate change impacts we face and need to adapt to.
(All images sourced from Shutterstock)

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