

Designing for a changing climate

Invergordon Climate Action Towns Report



Architecture &
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Scotland's climate is changing, and we need to take urgent action across all scales.

As half of Scotland's population lives in towns, it is vital that they are part of the climate conversation. In 2021 The Scottish Government invited Architecture and Design Scotland – Scotland's design agency for place – to develop the Climate Action Towns project.

The aim was to work with communities and other stakeholders to identify the best ways to embed climate actions in their towns. Climate action could range in scale from a seed library to community energy schemes. The actions respond to the needs of local places and communities.

Selecting the towns

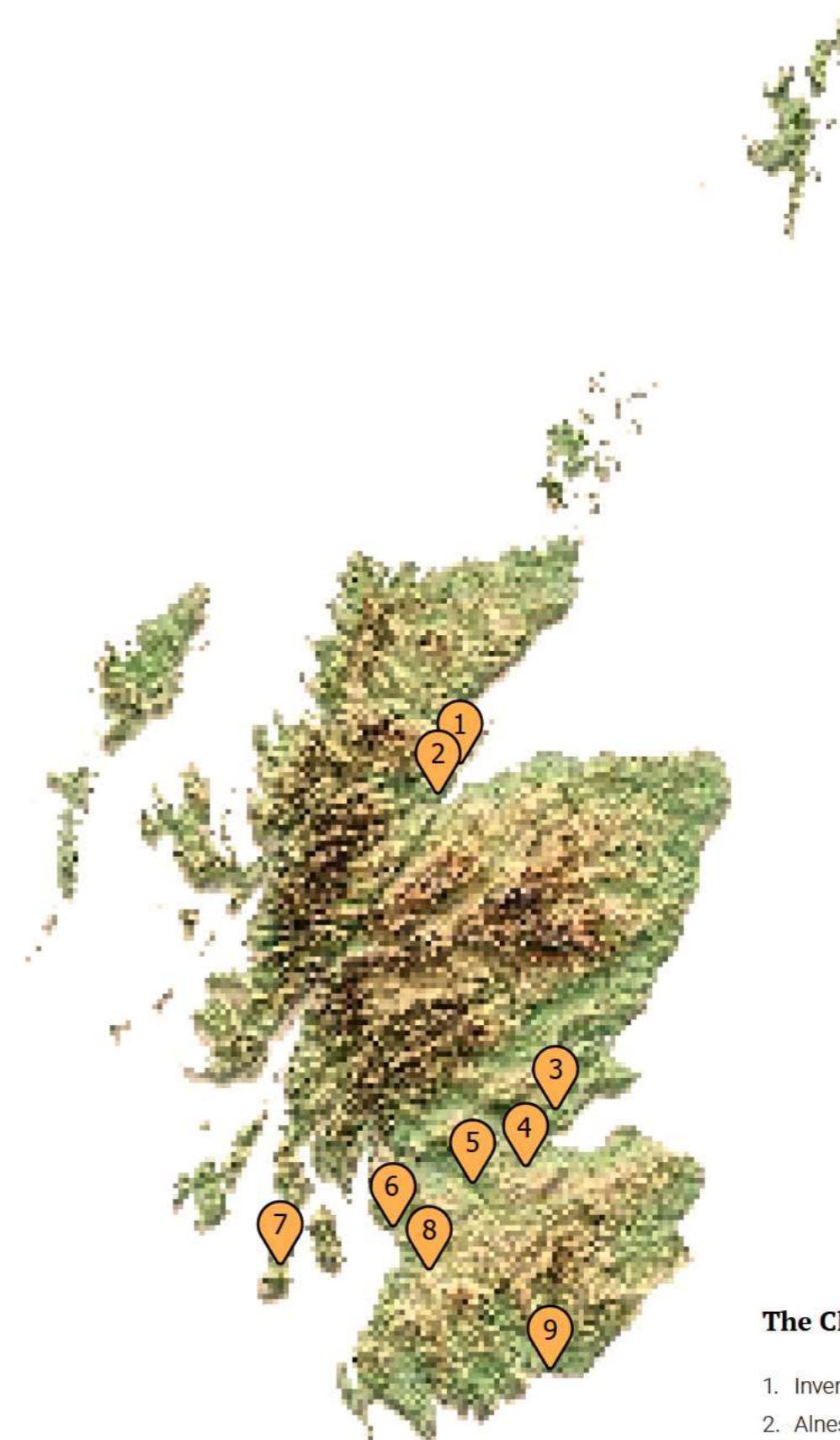
Nine towns are part of the Climate Action Towns project. Each has a population between 3,000 -10,000 and was chosen using a data-driven approach. This meant looking at data relating to climate risk, current climate action and funding, as well as other factors such as levels of child poverty. Another consideration was to what extent the community had taken previous climate action.

The project engaged with community groups and partners to understand each town's capacity and

appetite for climate action. We used design-thinking and creative approaches to deliver workshops and events to learn from the towns and bring partners together. There was a focus on embedding the conditions and capacities that are needed to enable community-led climate action in a place.

Sharing the learning

We are beginning to see the results as climate action is embedded in plans and projects. We are committed to sharing the learning so that more places can get involved in taking place-based climate action. Climate action that works for people and place.



The Climate Action Towns

1. Invergordon
2. Alness
3. Benarty
4. Blackburn
5. Holytown
6. Stevenston
7. Campbeltown
8. Drongan, Rankinston and Stair
9. Annan

Invergordon



Invergordon is a small town in the Highland area of Easter Ross. The town is located on the Cromarty Firth, three miles to the East of Alness. Invergordon is on the rail-line—on the Far North Line—and there are also bus services running through the town.

Invergordon was established in the 18th Century. The town has an industrial past and over the years has produced whisky, wind turbines, oil rigs, and aluminium products.

Invergordon is now home to 17 murals which tell the story of the local community.

There is also a military heritage as Invergordon was previously home to a naval base, the remnant of which is the tank farm which took up a large area of the town centre. As a result of the deep-water port, the town is regularly visited by cruise ships which use Invergordon as a base for excursions.

Invergordon is currently classed by Scotland's Towns Partnership as an independent to interdependent town. This means that Invergordon has a good number of assets in relation to the population, attracting people from neighbouring towns to access some of those assets and jobs.


Households
1781¹


Population
4075²



Percentage of population without a car ³

1. Scottish Census, 2011
2. Scottish Census, 2011
3. Scottish Census, 2011

Climate Risks

Predicted Climate Change Impacts in Invergordon include...



High likelihood of surface water flooding in large area north of Invergordon



Sea Level rises: Climate Central indicate risks adjacent to the B817



Small pockets of surface water flooding throughout the town



Highland-wide increased seasonal rainfall and more heavy downpours



Process



Invergordon is an active port town located on the Cromarty Firth in Easter Ross. The town has an industrial past and over the years has produced whisky, wind turbines, oil rigs, and aluminium products.

When the Climate Action Towns initiated work in Invergordon, the community groups in the town were long frustrated by a lack of investment and had struggled to maintain cohesion in recent years. The Invergordon Umbrella Group is now developing a Local Community Action Plan. Over three years the Climate Action Towns Activities in Invergordon were:

Mapping Opportunities and Ideas for Climate Action in Invergordon focussing on mitigation

We began our work in Invergordon to map the town as a Carbon Conscious Place, to identify key assets, challenges and opportunities. First online only this was followed up by an in-person event. Some challenges include managing the connection between the town and the port, local transport, and food security. Priorities emerged around community food growing, and considering how the town can maximise opportunities from the cruise ships when they dock at the port. The summary of

this work is in the Y1 report "Mapping Invergordon as a Carbon Conscious Place Summary".

Understanding and developing Community Capacity in Invergordon

We supported SCDC (Scottish Community Development Centre) to deliver "Building Stronger Communities" training in Invergordon. This brought together a number of community organisations in the town and was a catalyst for a refresh of Invergordon Umbrella Group and inspired the decision to develop a Community-Led Action Plan.

Identifying Opportunities for Climate Adaptation in Invergordon

We delivered an Adaptation Workshop in Invergordon and Alness looking at current observations of the changing climate, expected future impacts of the changing climate in Invergordon and finally, how to act. The summary of this workshop is between pages 10 and 15 of this report.

Developing a Community-Led Action Plan

We have been working alongside Scottish Community Development Centre (SCDC) and the community to include climate focussed actions in the Invergordon Community Action Plan. We have supported the inclusion of climate-focussed questions in the community survey.

Supporting Easter Ross Place Planning

We worked closely with the Community Planning Partnership and Highland Council Community Development team to deliver design-led workshops. The workshops have uncovered wider climate, social and infrastructure issues that support the work undertaken by the Climate Action Towns project in Invergordon, both directly and indirectly.

Testing the systems map for Community-Led Climate Action

Participants in Invergordon took part in a facilitated workshop to test the systems map for "Community-Led Climate Action". Learning about systems mapping and analysis they then assessed Invergordon's strengths against the systems map. You can read the summary of this process and the results on pages 16-19 of this report.



Place Considerations



As both a post-industrial and military port town there were a number of place-based complexities in Invergordon not present in the other Climate Action towns.

The following key place-based themes emerged across the three years of the Climate Action towns Work:

<p>A Town Centre/ High Street focus</p>	<p>Industrial Constraints</p>	<p>Green Freeport</p>
<p>In a number of workshops and discussions the Town Centre and High Street were seen as a valued asset and one the community are keen to strengthen, to support a walkable place.</p>	<p>As a Post-Industrial town, any development is constrained by sites such as the post, and the former Tank Farm site. These large sites have limited organic wayfinding in the town.</p>	<p>During the course of the Climate Action Towns Project 2021-2024 the development of the Green Freeport was taking place, this was a key concern and potential opportunity for Invergordon.</p>

<p>Tourism opportunities</p>	<p>Spaces for health and wellbeing</p>	<p>Maintaining an identity in local planning</p>
<p>Cruise ships dock in Invergordon but visitors mainly travel further afield- a focus was retaining these visitors locally in Invergordon, benefitting the town and local businesses.</p>	<p>Access to the water side for recreation and wellbeing was raised. Food growing and food networks was another key issue in Invergordon with shortages often apparent.</p>	<p>As Scotlands' largest local authority The Highland Council manages development planning at a large scale. Maintaining Invergordon's voice at the scale of Easter Ross Local Development Plan is key.</p>






Adaptation Workshop



In October 2023 Architecture and Design Scotland facilitated an Adaptation Workshop for community groups in both Alness and Invergordon. This builds on the initial Climate Action Towns Mapping the towns as Carbon Conscious Places workshop for which the majority of suggestions were mitigation focussed.

Workshop Summary

We worked with participants to:

-  Identify and map local climate risks
-  Understand future risks to Alness and Invergordon from the Changing Climate and mapthose
-  Share the definitions of Adaptation, Mitigation and Resilience
-  Identify and map Adaptation measures
-  Share learning about adaptation and resilience projects delivered in Scotland

Adaptation Measures and Actions for Invergordon

Following the workshop the adaptation suggestions for Alness and Invergordon were collated into themes to support action.

Climate Risks and Adaptation Measures for Invergordon

Weather and Climate

Local observations of Climate Change

- Extremes of Weather
- Increased local flooding
- Windier weather impacts
- Notable changes in the season
- Increased periods of drought
- Seaweed on the Shore Road to Milton
- 101m/h storm wind in Invergordon in February 23, felling the belltower in situ in Kilmuir since 1875
- Changes in the diection of winds and storms

Expected future risks from the changing climate

- Extreme wet winters and dry summers
- Increased storm events

Suggested Adaptation measures for Invergordon

- none identified

Biodiversity and land-use

Local observations of Climate Change

- Changes in the seasons is influencing flora and fauna
- there are changes in animal migration
- there's been an impact on plants and birds breeding seasons
- There are less bees and butterflies due to a warm early spring and then cold weather returning
- Sika deer are coming to calf in November when it's usually May

Expected future risks from the changing climate

- Changing habitats will put wildlife at risk
- risks to animal welfare

Suggested Adaptation measures for Invergordon

- Ensure farmers/ landowners and the Local Authority manage the land in a way that mitigates flooding and enhances wildlife corridors

Infrastructure

Local observations of Climate Change

- Deterioration of the roads due to the weather
- Current infrastructure is not being maintained
- Current infrastructure not suitable
- The road to Tomich closed due to flooding
- Shore Road and Tomich road closed leading to access issues for emergency services

Expected future risks from the changing climate

- Power cuts due to electricity lines being down
- Unknown extent of sea level rise, what infrastructure is at risk? Shore Road? Port? Old Town?

Suggested Adaptation measures for Invergordon

- Sheltered cycle routes for year-round access
- Small hydro-electric schemes
- Ensure drains and gullies are always maintained
- Re-design and install culverts to cope with higher volume and intensity of rainfall.

Food

Local observations of Climate Change

- Increase in food costs which has an impact of food growing and supply chains
- Flooding on farm land
- A lack of available fruits and veg

Expected future risks from the changing climate

- Issues with food production
- Insecure food supplies, especially from abroad
- Animal livestock issues
- food shortages
- Increased issues with food security

Suggested Adaptation measures for Invergordon

- Delivery services locally - less reliant on process that involves providers travelling distances that could be provided locally.
- Build allotments and new food growing sites in places where land is available
- Preserve agricultural lands for growing food
- Develop local food growing ideas
- Community orchards

Economy and Services

Local observations of Climate Change

- Emergency services compromised with flooding
- Budgets are already stretched and we are having to find extra to deal with additional services.
- Public health and wellbeing

Expected future risks from the changing climate

- Green Freeport not possible as Firth level rises
- Stress on Council/ Emergency services/ community resources and funds
- Storm damage to property including community assets
- Increased disruption to public transport services
- Fear of death due to emergency services being unable to access due to flooding and road closures

Suggested Adaptation measures for Invergordon

- Develop local heating systems
- Develop affordable solar and wind power options

Health and wellbeing

Local observations of Climate Change

- There is a re-active rather than pro-active response to a crisis
- People at risk of being miserable over long and wet winters

Expected future risks from the changing climate

- Housing could be unsuitable for predicted weather extremes
- Mental health impacts from extreme weather events & general trends

Suggested Adaptation measures for Invergordon

- Innovative house planning and design
- More Water filling stations for Invergordon

Climate Risks and Adaptation Measures for Invergordon

Social resilience

Local observations of Climate Change

- There is a re-active rather than pro-active response to a crisis
- Potential movement of people north to get away from increased heat in the south

Expected future risks from the changing climate

- Immigration
- Global impacts of conflict will be felt locally- e.g food security and anxiety/fear
- Risk of people not bothering to change habits/behaviours because they don't think they'll be affected in their lifetime
- There are big proportions of population dealing with poverty unable to engage with climate change - this trend will continue

Suggested Adaptation measures for Invergordon

- Early Interventions
- New community hall

Coastal

Local observations of Climate Change

- An increase in coastal erosion
- Higher tides
- Damage to sea defences

Expected future risks from the changing climate

- Coastal damage
- Continued coastal erosion
- Sea levels rising

Suggested Adaptation measures for Invergordon

- Sea/ wave power



Analysis of adaptation measures

In analysing and categorising the suggestions from the adaptation workshop into themes it is apparent that:

- Adaptation suggestions don't always relate directly as the solution to the identified current and future climate risks- there is no clear thread of cause and effect.
- This has been quick event introducing the concept of adaptation and ideas might need a bit more thought and revision as participants observe the issues and consider the solutions.
- The themes identified for Invergordon are unique to the place (particularly concerns around food) and can represent themes for future community development in adaptation and resilience.

Recommendations for Next Steps

Adaptation to the changing climate should be considered in Invergordon in line with the cycles of community planning/ in preparation of community action plans- it will be helpful to revise this exercise prompted by the themes highlighted in this document.

It would also be helpful to connect the climate risks with relevant solutions and where an appropriate solution is missing use this as a prompt to consider options.

Understanding systemic barriers to community-led climate action in Invergordon

Why is it sometimes so difficult to see change happen in a place? There is often a network of issues which interweave and make change and decision making more difficult.

In our work in nine very different Scottish towns, we noticed factors which were helping some places (enablers) and creating challenges (barriers) in others. Factors such as community capacity or sense of agency. We used a process known as "systems thinking" to explore these factors.

What is systems thinking?

Systems thinking is an approach for holistically understanding a topic and how it functions as part of a wider system. Systems thinking helps focus efforts where they can have the most impact and reduce the likelihood of actions having unintended consequences. This is particularly relevant in the context of climate action, as climate change is woven across many different topics (health, transport, energy, housing, greenspaces). Visuals and diagrams are used to simplify and understand systems.

How we used systems thinking in Climate Action Towns

By mapping the system, we were able to identify 15 key enablers and barriers to community-led place based climate action. Six of these factors are fundamental to enable climate action and are shown in the diagram on page 13. This helped us understand where to focus resources. For example, in year two we decided to focus on building community capacity as this was identified as a key barrier to climate action.

Testing systems thinking

We tested the systems maps in workshops in three of the towns. Community members and organisations from each town came together and discussed their progress across the fifteen factors, scoring each as a strength or weakness. Participants

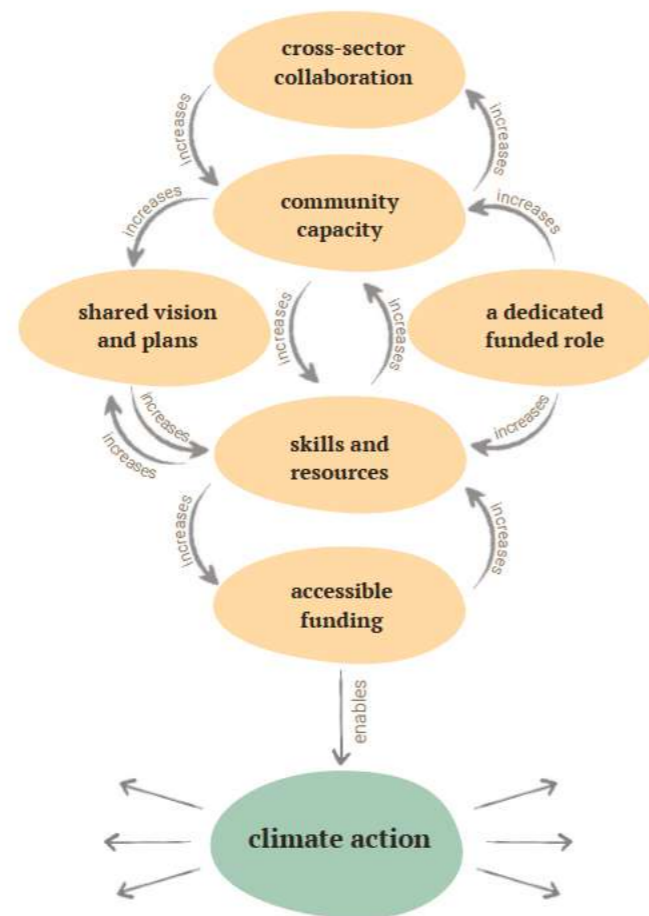
confirmed that this was helpful as it showed where to focus their resources to enable change or progress.

Reading the systems diagram

There is no start or finish. A systems map is a way to illustrate the complex systems.

Each factor can be both an enabler and a barrier to how it interacts with the whole system.

Sample systems map: This illustration shows key enablers and barriers to community-led climate action. You can explore the more detailed systems map as part of our online toolkit.



Invergordon Systems Mapping Workshop

At the workshop, the Climate Action Towns team shared a system map of enablers and barriers to community-led climate action, observed from work across all nine towns. The workshop aims were to a) explore which factors were strengths or weaknesses in Invergordon, and b) collect feedback on how the map could be used as a tool by communities wanting to take climate action.

The session was attended by Col Gordon and Sinclair Coghill (Invergordon Development Trust), Helen Ross and Fiona Richardson (Highland Council), Mark Dowe and Ness Wright (A&DS).

Summary and next steps

The group felt that Invergordon had made good progress as part of the Climate Action Towns project, such as people being more aware of each other and talking. The Invergordon Umbrella Group, comprising multiple community groups including the Development Trust, has gone from strength-to-strength and the system map was helpful to evidence that journey.

The mapping exercise revealed Invergordon's vulnerability, as without a few key people supporting driving work forward it would be very different. This highlighted the importance of involving the next generation and building future capacity. The group discussed the need to maintain momentum on climate action once Climate Action Towns project ends and for local people to see action. Ways to do this included embedding climate within the community action plan, implementing 'low hanging fruit' such as the town hall proposal and creating a robust plan with a clear vision.

Next steps discussed include:

- Having a clear vision and robust plan, to attract funding and align the community
- Positioning climate as a cross-cutting theme in the Community Action Plan
- Pick 1 'low hanging fruit' idea to implement and show action, such as the Town Hall proposal

Recommendations: Key Areas for Climate Action in Invergordon

One of our key lessons from taking a place-based approach across nine locations is that there isn't a one-size-fits-all solution. Community-led Climate action is inherently place based and responds to the assets and environment of each town.

Reflecting on three years work with community groups key climate actions relevant to Invergordon are:

1. Town Centre and High Street Focus

There was a strong town centre and high street focus to Climate Action Towns discussions in Invergordon, supporting a vibrant high street encouraging local shopping and creating economic opportunity.

→ For Example

- A vibrant High Street with a variety of shops and services can work well for both residents and tourists/ visitors, reducing car miles and encouraging tourist footfall.
- A vibrant local economy with local businesses can support food networks and local sourcing (point 2)

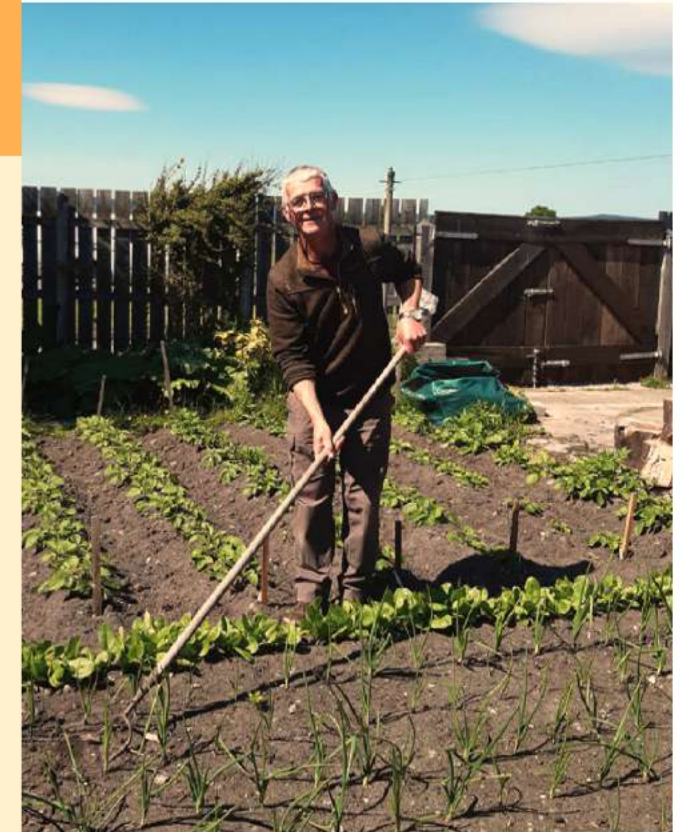


2. Develop Food Growing and networks

In times of crisis such as the COVID pandemic, food shortages and supply issues are apparent in the shops of Easter Ross. In a rural area there are a number of local food producers who struggle to access local markets. Local markets, food networks, and growing opportunities could all create a more resilient local food system.

→ For Example

- Increased and improved availability of community growing, allotments and home-growing would reduce reliance on external supply chains and grow skills.
- Improved food networks creating routes to market for local suppliers in high street shops would improve resilience, create community wealthbuilding opportunities and encourage new enterprises.



3. Value Community Assets

In line with recommendation 1 Invergordon Town Hall was consistently cited as a valuable asset on the High Street which should be accessible by the community. This has the potential to be a catalyst to support investment in the town centre.

→ For Example

- The Town Hall is a valued local building with the potential to support the cultural and community life of Invergordon once again.
- Invergordon Museum is located away from the main street, relocating this in a vacant building created a cultural centre for the town.





4. Increase Community capacity and support

The refresh of Invergordon Umbrella Group was a catalyst for action in Invergordon, inspiring the development of the Community Action Plan. It has been tricky in Invergordon to sustain continual community action.

→ For Example

- The systems workshop identified that Invergordon would benefit from an employed resource to support community action, apply for funding and maintain momentum.
- The Community Action plan will identify priorities for action, but each of these will require time, collaboration and commitment for delivery.



6. Strong community voice and advocacy for Invergordon

In a strategic location on the Cromarty Firth with a Port and number of different industries Invergordon attracts external investment for example in the Green Freeport. It is important that community development for the good of the town is able to leverage support where possible.

→ For Example

- With the development of the Green Freeport along with other external influences it is important that the community of Invergordon has a strong voice with regards major development.
- Ensure the potential to visit Invergordon, and considering tailored activities are communicated to cruise ships visiting the Port.

5. Improved connection and routes for health and wellbeing

With large scale Industrial developments such as the former Tank Farm wayfinding in Invergordon often requires going around rather than through. Likewise the needs of the Port are sometimes at odds with the communities access to the Sea/ waterside.

→ For Example

- Ensuring better connectivity and safe routes can encourage increased active travel for health and wellbeing.
- Improved access to the water alongside clear communication around access times can encourage watersports.



7. Embed Climate mitigation, adaptation and resilience in community planning

In Climate Action towns exploring community led action through the themes of adaptation, mitigation and resilience has provided a framework for ideas and prompts.

→ For Example

- As identified in the adaptation workshop analysis, revisiting the topics of adaptation and resilience in the community action planning process can equally support the ongoing resilience of the town and identify new areas for development or action.



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