

Executive Summary



Adaptation is an important part of Scotland's approach to tackling climate change and complements its plans to reduce greenhouse gas emissions. The Climate Change (Scotland) Act 2009 created the legal framework for a strategic and structured approach to adaptation. This report analyses the Scottish Government's adaptation framework against the preparedness ladder of the Adaptation Sub-Committee (ASC) to provide an initial assessment of how well Scotland is preparing for climate change.

In the future, Scotland's climate is likely to be warmer and wetter in winter, and drier and hotter in summer than it is now. There may be some benefits and opportunities for economic growth and inward investment in Scotland from a changing climate, such as:

- Higher average winter temperatures could result in fewer winter deaths and lower demand for heating.
- Opportunities for expansion of tourism, and outdoor sport and leisure activities.
- New crops and expansion of suitable agricultural land.
- Melting of the Arctic ice sheet could result in new trade opportunities, although any associated increase in shipping may also have environmental risks for Scottish waters.

The first UK Climate Change Risk Assessment due to be published early next year will provide further refinement on the benefits and opportunities from climate change.

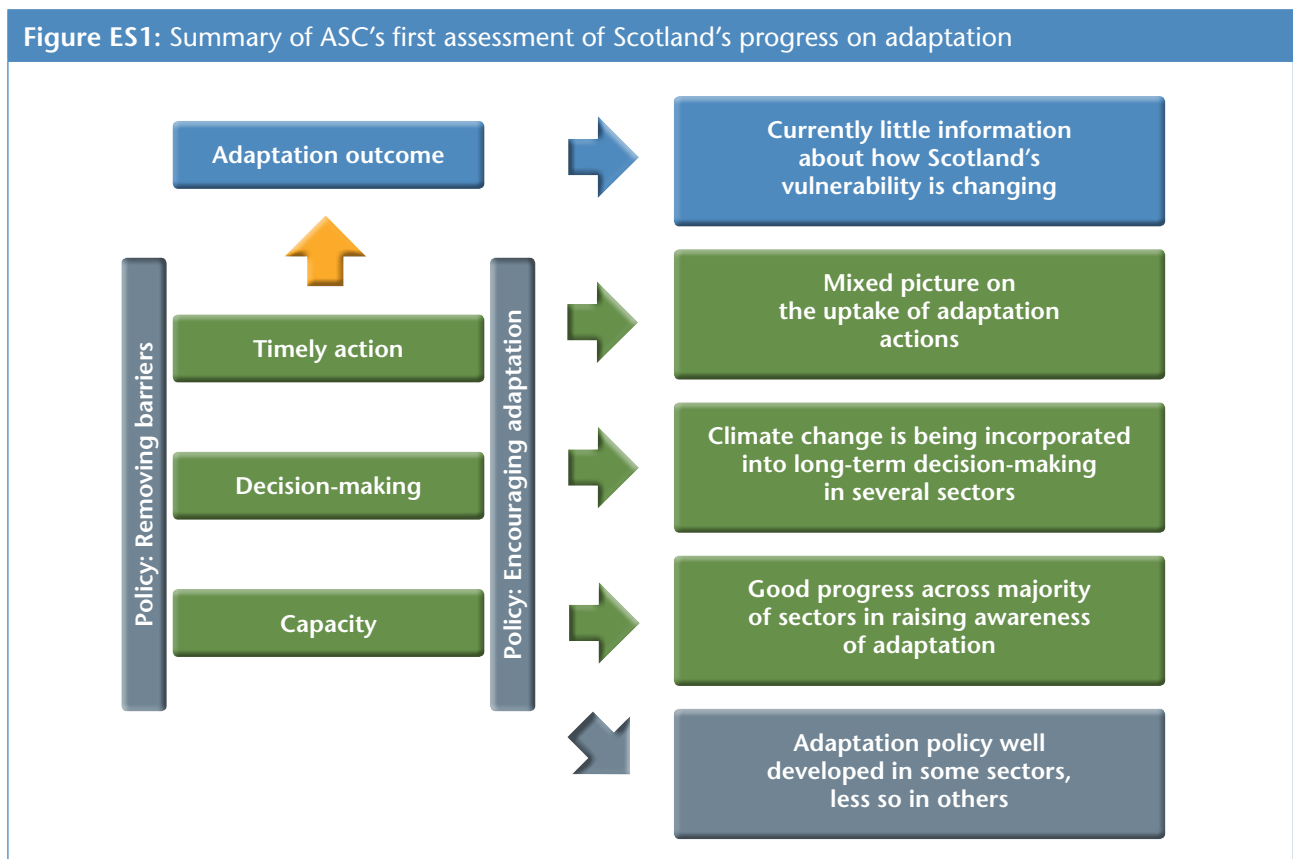
At the same time, Scotland has a number of social, economic and environmental characteristics that will increase its vulnerability to some of the damaging impacts of a changing climate, including the following:

- Scotland's population is unevenly spread across the country. It has pockets of dense urban development that are particularly at risk of flooding and storms, alongside very remote communities that are vulnerable to transport disruption and interruption to critical services (such as water, power, and information and communication technologies) from extreme weather.
- Scotland's population is ageing and elderly people are more vulnerable to the impacts of extreme weather.
- There are a number of health challenges in Scotland, which are more pronounced in deprived areas. These will increase the vulnerability of certain communities to extreme weather.

- The global nature of Scotland’s economy means that many businesses will be exposed to the international economic impacts of climate change.
- Scotland is rich in natural resources, has internationally important biodiversity, and stores globally significant amounts of carbon in its peatlands, all of which are sensitive to changes in climate.

The key findings from our analysis are summarised against the components of the ASC’s “preparedness ladder” (Figure ES.1) that sets out the key steps that we would expect to see happening in a well-preparing society. In summary, we found:

- Scotland is making good progress in raising awareness of adaptation, building capacity and incorporating consideration of climate change into several aspects of long-term decision-making, for example in land use planning and building regulations, marine planning, health, and forestry.
- However, in some other critical sectors, it is not clear how long-term climate impacts are explicitly being taken into account, for example in planning and designing new national infrastructure, such as that required for delivering Scotland’s renewable energy programme or the latest information technology (broadband).
- The adaptation framework does not give sufficient weight to Scotland’s contribution to global efforts to safeguard the billions of tonnes of carbon stored in its peatlands, which are vulnerable to climate change, particularly when degraded.



- There is a mixed picture on the uptake of low-regret adaptation actions, for example we found a reportedly high deployment of sustainable drainage systems in new development but a low uptake of property-level flood protection measures in existing buildings. This suggests that the policy framework is having varied success in encouraging adaptation by addressing some of the barriers to action by householders.
- To date there has been little work to assess the effectiveness of the Scottish Government's adaptation programme in reducing Scotland's vulnerability to a changing climate.

Based on these findings, we advise that, in developing its first statutory adaptation programme, the Scottish Government should:

- **Set clear adaptation outcomes and evaluate the effectiveness of policy** – the programme should establish clear policy priorities and outcomes for the most significant consequences facing Scotland from climate change, based on the findings of the first UK Climate Change Risk Assessment and associated economic appraisal. At the same time, the programme should put in place a process for evaluating the effectiveness of policies in delivering these adaptation outcomes by identifying key trends that affect vulnerability to current and future climate.
- **Enable the uptake of low-regret adaptation actions** – the programme should identify the types of low-regret adaptation actions that can be taken up in the short-term. In doing this, the programme should consider how to remove barriers to the uptake of such actions, for example through incentives or regulation.
- **Ensure key decision-makers explicitly consider adaptation in long-term plans** – the programme should ensure that key decision-makers are explicitly weighing up the long-term costs and benefits that can be expected as a result of climate change against other objectives and priorities.
- **Strengthen adaptation in some policy areas** – the programme should consider the case for strengthening policy in some critical priority areas, for example adapting Scotland's national infrastructure and improving the resilience of Scotland's peatlands.
- **Ensure effective working with the UK National Adaptation Programme** – the programme should ensure that it dovetails with the UK-wide programme in reserved matters to avoid any gaps in coverage in Scotland's preparedness for climate change.