

Planning for a Future with Zero Net Emissions: United Kingdom

Case Study 3. The United Kingdom Climate Change Act: A Climate Change Framework Law

Contributors: Thomas Kerr and Grace Henry

The United Kingdom (UK) Climate Change Act has led the way for the development of climate legislation around the world. A world-first national “framework” legislation, the Climate Change Act created a comprehensive and overarching law that set out the United Kingdom’s approach to reducing emissions and preparing for the impacts of climate change. Passed in 2008, it initially included a legally binding emission reduction goal of 80 percent below 1990 levels by 2050 (CCC 2020). In 2019, this was updated to require net zero emissions by 2050, making the United Kingdom the first Group of Seven country to enshrine such a target into law (Evans 2019). The act requires the UK government to undertake climate change risk assessments (CCRAs) and develop adaptation plans that respond to these risks.⁶

National framework legislation can provide stability and direction to achieve climate goals. This form of legislation can help create the institutions required to plan, implement, and sustain credible commitments on climate policies that last beyond political cycles (World Bank 2020e). Legislation can enshrine stable and ambitious targets into law, create mechanisms for realizing them, and ensure proper oversight and accountability. Many other nations have since adopted similar legislation, including Denmark, France, Germany, Ireland, Mexico, New Zealand, and Sweden; this case study analyzes the features of the UK Climate Change Act and evaluates its impact on the United Kingdom’s decarbonization and adaptation pathways.

Context

The United Kingdom has the world’s fifth largest GDP, and this advanced economic development has allowed it to take progressive action on climate change. Since 1990, the country has been transitioning away from the energy sources that previously fueled its economic growth, decreasing its coal use by over 90 percent from 2.6 million terajoules in 1990 to 218,000 terajoules in 2020 (IEA 2022h). Both absolute and per capita emissions peaked in the 1970s and then declined, largely assisted by the transition away from coal and deindustrialization (Ritchie, Roser, and Rosado 2020).

Public pressure and political consensus supported the creation and implementation of the Climate Change Act, which was adopted in 2008 with support across party lines and strong civil society engagement (CCC 2020; IPAC 2021). Before this, scientific evidence on the effects of climate change had been mounting (IPCC 2007). In 2005, the UK government commissioned the Stern Review on the Economics of Climate Change,

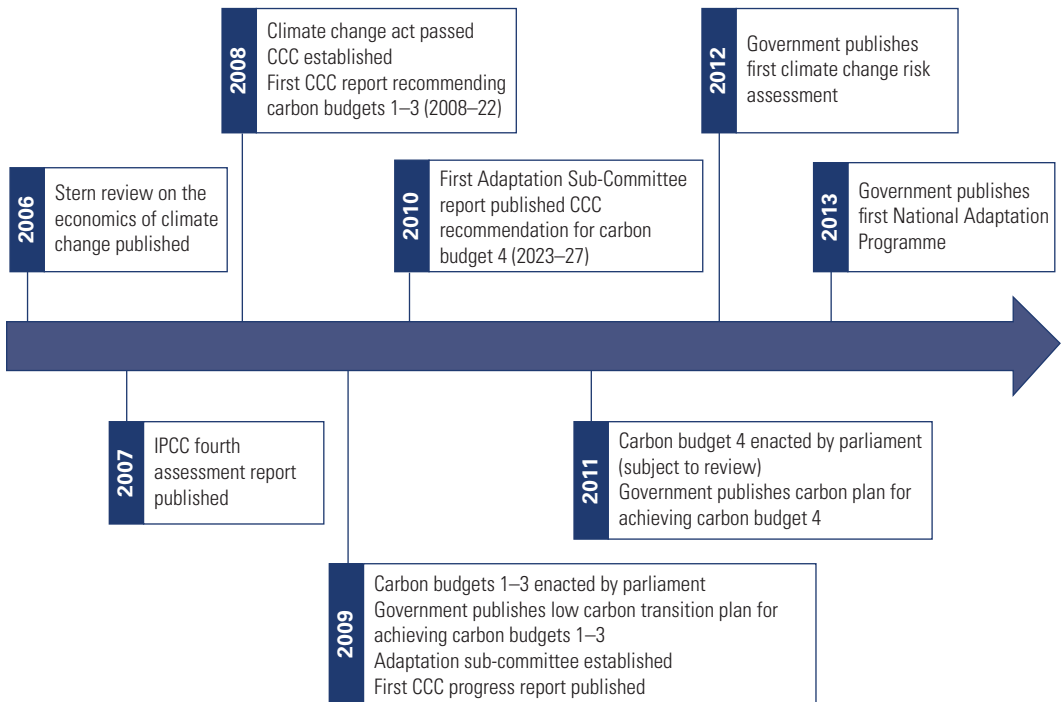
which concluded that “the benefits of strong and early action far outweigh the economic costs of not acting” (Stern 2006). At the same time, environmental nongovernmental organizations were increasing pressure on the government to give statutory force to emission reduction targets (Centre for Public Impact 2016). Together, these factors contributed to the adoption of the UK Climate Change Act 2008 (figure 3.2).

Policy

The Climate Change Act provides an overarching framework and governance structure for climate mitigation and adaptation in the United Kingdom, with the key features set out here (CCC 2020).

Long-term goal: The act contains a legally binding goal for reducing the United Kingdom’s GHG emissions by 2050 (Provision 1), initially by at least 80 percent below 1990 levels, updated in 2019 to reflect the Paris Agreement and require net zero emissions (Government of the United Kingdom 2019). The 2050 goal signals the government’s long-term commitment to a low-carbon economy.

FIGURE 3.2 Key Milestones of the UK Climate Change Act 2008



Source: Adapted from Fankhauser, Averchenkova, and Finnegan 2018.

Note: CCC = Climate Change Committee; IPCC = Intergovernmental Panel on Climate Change.

Intermediary short-term targets: The act contains interim targets called carbon budgets that are designed to provide a pathway toward the long-term goal. These carbon budgets are legally binding limits for GHG emissions over five-year periods (Provision 4). The budgets are legislated 12 years in advance to enable government and business planning to occur. The government has a legal duty to meet both the short- and long-term targets, but the act does not spell out penalties for noncompliance. In the event of noncompliance with these legal duties, members of the public and organizations with appropriate legal standing can bring judicial review cases.

Continual process of adaptation planning: The act prescribes an iterative approach to adaptation planning (Provision 56), involving mandated five-year CCRA cycles, followed by updated risk management responses published in the National Adaptation Programme.

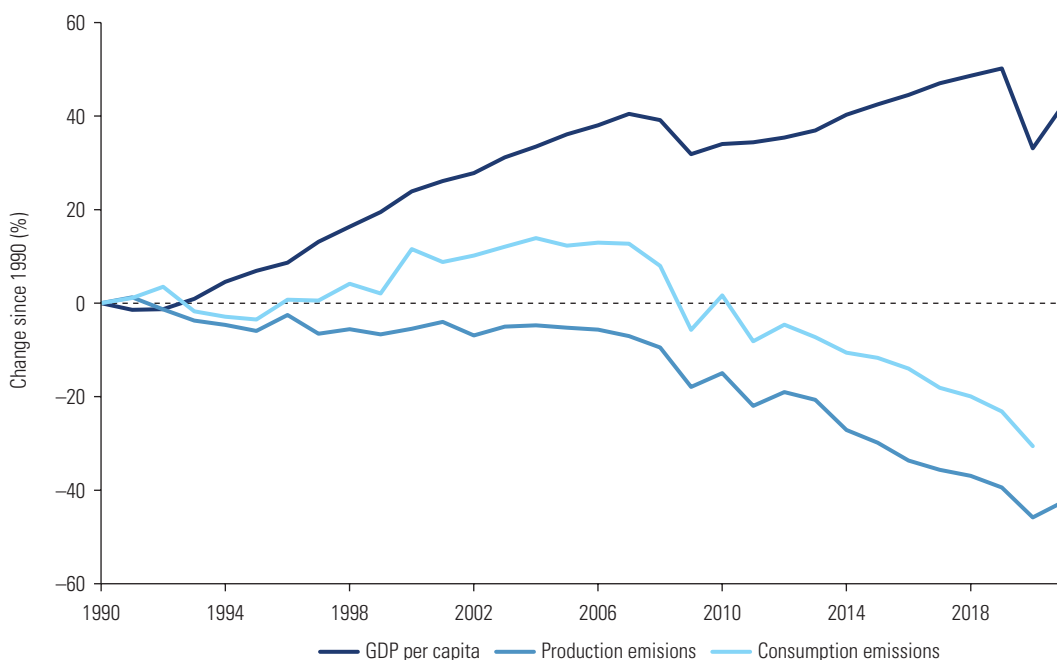
Independent advisory body: The act created the Climate Change Committee (CCC) as an independent statutory adviser (Provision 32). The CCC has two committees with politically impartial experts: the Mitigation Committee, which provides recommendations on the carbon budgets and monitors annual performance on reducing emissions, and the Adaptation Sub-Committee (ASC), which advises the government on key climate risks facing the United Kingdom and reviews adaptation progress every two years. It may also provide additional advice on request. Although the CCC has no formal decision-making powers, the government is obliged to respond to its assessments and provide explanations where deviations from recommendations occur.

Regular government reporting: The act assigns clear duties and responsibilities to the government. Once a carbon budget has been adopted, the government must put forward its policies that will enable legislated targets to be met. This mechanism enables public scrutiny and judicial review to occur if the government's responses appear non-compliant.

Results and Impacts

The United Kingdom has achieved significant reductions in GHG emissions while continuing to grow its economy (figure 3.3). In 2020, these totaled 429 MtCO₂e, 31 percent below 2008 levels and 42 percent below 1990 levels (CCC 2022; ClimateWatch n.d.). This is the largest reduction in GHG emissions by any G20 country since 1990 (CCC 2021).

Greater emission cuts have occurred from sources that the act covers. The United Kingdom's GHG emission reduction targets only account for *territorial emissions*—that is, those that occur within the national boundaries, plus its share of international aviation and shipping emissions. The United Kingdom's carbon budgets and the Paris Agreement do not account for *consumption emissions*, which are adjusted for international trade and include emissions associated with the production, transportation, use, and disposal of imported products and services. Territorial emissions

FIGURE 3.3 The United Kingdom's Emission Reductions and GDP Growth

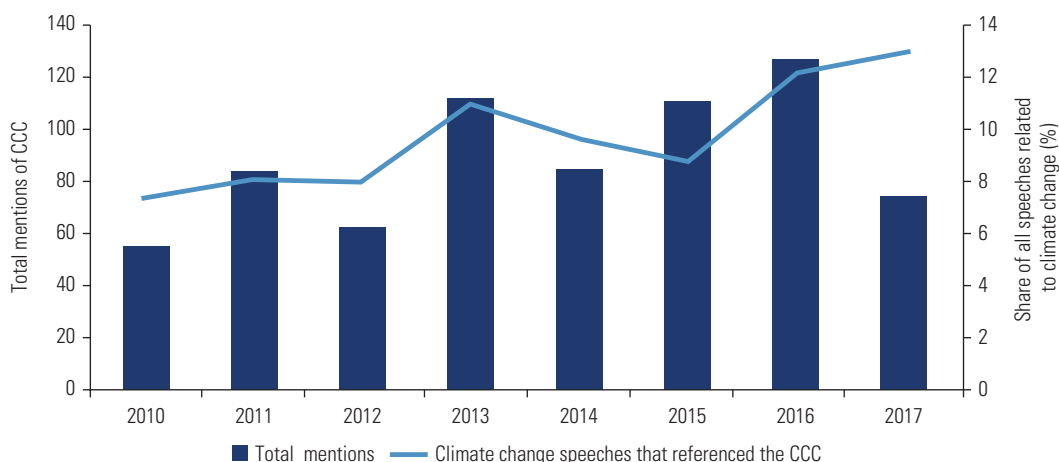
Source: CCC 2022.

Note: GDP = gross domestic product.

have decreased 47 percent below 1990 levels, compared with 29 percent for consumption emissions. Reductions in consumption emissions have also occurred, but to a lesser extent.

The Climate Change Act has facilitated structured and science-based political debates. The reporting procedures, progress reports, five-yearly carbon budgets, and risk assessments provide structure to the frequency and content of climate debates. This ensures that important climate issues get regularly addressed and updated. CCC findings and recommendations have also helped politicians hold the government to account and argue for more ambitious policy measures. In the first 10 years of operation, the CCC and ASC were referenced in 856 parliamentary interventions. Additionally, the proportion of parliamentary speeches related to climate change that referenced the CCC almost doubled from 2010 to 2017 (figure 3.4). This demonstrates that the CCC has functioned as a knowledge broker for many UK parliamentarians.

The United Kingdom is the only G20 country that has aligned its 2030 emission reduction targets with a 1.5°C pathway (Srouji et al. 2021). Each year, the United Nations Environment Programme's Emissions Gap Report publishes the difference between country emission targets and targets that are compatible with 1.5°C levels (UNEP 2021). Through the Climate Change Act, the UK government's target setting

FIGURE 3.4 CCC Mentions by UK Parliamentarians

Source: Fankhauser, Averchenkova, and Finnegan 2018.

Note: CCC = Climate Change Committee; UK = United Kingdom.

has been based on the scientific carbon budget recommendations of the CCC. This has helped eliminate gaps between the United Kingdom's ambition to limit global warming to 1.5°C and its corresponding territorial emissions reduction targets.

Although the United Kingdom has made progress in identifying and creating awareness of climate risks, its responses to these risks require further work. Since introducing the Climate Change Act, the UK government has published three comprehensive CCRAs, increasing the country's ability to identify and raise awareness of the climate risks it faces. Although the government has made some improvements in adaptation plans for flood and erosion management, water scarcity, and extreme weather impacts on business, progress in other areas—such as agricultural productivity, pathogen risks, health impacts from temperature extremes, air quality, and digital infrastructure—is lagging. The 2021 CCC assessment highlights that the government has yet to demonstrate strong progress in climate risk adaptation in any of the 34 priority areas assessed. Overall, the gap between future levels of risk and planned adaptation is widening.

The Climate Change Act has proven to be an accountability mechanism for when the government's actions fall short of its targets. In 2022, three climate organizations jointly took the UK government to the high court to argue that it had failed to show how its policies would sufficiently reduce emissions to meet its legally binding carbon budgets (Client Earth 2022). In a landmark hearing, the court found that the government had failed to meet its obligations under the Climate Change Act and ordered it to undertake additional measures and provide an updated climate strategy with quantified figures on how its policies would achieve the required targets. Several other applications for judicial review have been refused.

Key Takeaways

The UK Climate Change Act has highlighted how national climate framework legislation can help improve the stability and accountability of domestic climate goals. The design and implementation of framework legislation can vary, resulting in different outcomes.

- *Independent expert climate committees can be useful:* The CCC has helped UK politicians make more scientifically informed decisions that take a long-term view. This technical approach to decision-making is similar to how many countries deal with monetary policy.
- *Political and public buy-in are required:* The Climate Change Act alone does not achieve emissions reductions. Its success depends on political parties respecting the requirements of the act and implementing the recommendations of the CCC. This requires strong public institutions, cross-party support, and ongoing public engagement.
- *Both long-term targets and short-term milestones are necessary:* The Climate Change Act has demonstrated that long-term targets can help set the trajectory and short-term milestones are needed to keep governments on track. These targets can integrate and complement NDCs to make the NDCs legally binding in national law.
- *Addressing climate risks can be complex:* Since introducing the Climate Change Act, the United Kingdom has made significant advancements in climate mitigation but progress on adaptation has been limited. The quantifiable metrics of mitigation targets make it easier for governments to be held accountable for mitigation than for adaptation planning.

Looking to the Future

Wider adoption of evidence-led climate governance and policy making is possible. The UK Climate Change Act and CCC have demonstrated the benefits of facilitating science-based climate debates and target setting. It is possible to draw further lessons from other countries' climate framework legislation to improve climate governance around the world. The newly formed International Climate Councils Network is one possible forum for such collaboration and knowledge-sharing (ICCN 2021).

Governments should consider how they can reduce consumption emissions. National carbon accounting frameworks and GHG emission targets generally focus on production emissions and do not consider consumption emissions (IPCC 2019). For the world to limit global warming to 1.5°C, a more holistic and less nationalistic view of emissions is required. Although the UK government initially excluded international shipping and aviation emissions from its carbon budgets, its sixth carbon budget (2033–37) will incorporate its share of these emissions, demonstrating progress in accounting for emissions outside of national boundaries (Government of the United Kingdom 2021). Further work is required on consumption emissions.

Adaptation planning also requires greater attention. As global temperatures rise, the risks of climate change become greater. The UK Climate Change Act shows how national framework legislation can improve climate risk identification and reporting; it also shows that additional work is required to translate these findings into action. Governments should look to incorporate adaptation planning across all sectors of the economy to safeguard the continued potential of sustainable development. The World Bank report *Adaptation Principles: A Guide for Designing Strategies for Climate Change Adaptation and Resilience* (Hallegatte, Rentschler, and Rozenberg 2020) is a useful guide to assist governments with effective adaptation planning.