Appendix 11-2 Climate Agreements

Climate change is recognised as one of the most serious global environmental problems and arguably the greatest challenge facing humanity today. While natural variations in climate over time are normal, anthropogenic activities have interfered greatly with the global atmospheric system by emitting substantial amounts of greenhouse gases (GHGs). This has caused a discernible effect on our global climate system, with continued change expected due to current and predicted trends of GHG emissions. In Ireland this is demonstrated by rising sea levels, changes in the ecosystem, and extreme weather events.

In March 1994, the United Nations Framework Convention on Climate Change (UNFCCC) was established as an intergovernmental effort to tackle the challenges posed by climate change. The Convention membership is almost universal, with 197 countries having ratified. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices. This information is then utilised to launch national strategies and international agreements to address GHG emissions. Following the formation of the UNFCCC, two major international climate change agreements were adopted: The Kyoto Protocol, and the Paris Agreement.

In April 1994, Ireland ratified the United Nations Framework Convention on Climate Change (UNFCCC) and subsequently signed the Kyoto Protocol in 1997. The Kyoto Protocol is an international agreement linked to the UNFCCC which commits its parties to legally binding emission reduction targets. In order to ensure compliance with the protocol, the Intergovernmental Panel on Climate Change (IPCC) has outlined detailed guidelines on compiling National Greenhouse Gas Inventories. These are designed to estimate and report on national inventories of anthropogenic GHG emissions and removals. Under Article 4 of the Kyoto Protocol, Ireland agreed to limit the net anthropogenic growth of the six named GHGs to 13% above the 1990 level, spanning the period 2008 to 2012.

The second commitment period of the Kyoto Protocol, the Doha amendment, was adopted *in extremis* on the 8th of December 2012, to impose quantified emission limitation and reduction commitments (QELRCs) to Annex I (developed country) Parties during a commitment period from 2013 to 2020. 38 developed countries, inclusive of the EU and its 28 member states, are participating. Under the Doha amendment, participating countries have committed to an 18% reduction in emissions from 1990 levels. The EU has committed to reducing emissions in this period to 20% below 1990 levels. Ireland's QELRCs for the period 2013 to 2020 is 80% of its base year emissions. Ireland's compliance with the Doha amendment will be assessed based on the GHG inventory submission in 2022 for 1990-2020 data. As of October 2020, the Doha Amendment has received the required number of ratifications to enter force. Once in force, the emission reduction commitments of participating developed countries and economies in transition (EITs) become legally binding.

In December 2015, the Paris Climate Conference (COP21) took place and was an important milestone in terms of international climate change agreements. The Paris Agreement sets out a global action plan to put the world on track to mitigate dangerous climate change by setting a global warming limit not to exceed 2°C above pre-industrial levels, with efforts to limit this to 1.5°C. As a contribution to the objectives of the agreement, countries have submitted comprehensive national climate action plans (nationally determined contributions, NDCs). Under this agreement, governments agreed to come together every 5 years to assess the collective progress towards the long-term goals and inform Parties in updating and enhancing their nationally determined contributions. Ireland will contribute to the Agreement through the NDC tabled by the EU on behalf of Member States in 2016, which commits to a 40% reduction in EU-wide emissions by 2030 compared to 1990.

The EU has set itself targets for reducing its GHG emissions progressively up to 2050, these are outlined in the 2020 climate and energy package and the 2030 climate and energy policy framework. These targets are defined to assist the EU in transitioning to a low-carbon economy, as detailed in the 2050 low carbon roadmap.

The Irish Government published its Climate Action Plan (2019) which provides a detailed framework identifying how Ireland will achieve its 2030 targets. The Plan also puts Ireland on a trajectory which is consistent with achieving net zero emissions by 2050. The plan is on its third update, most recently 2024.

The current EPA projections indicate that:

- Ireland will achieve a reduction of 29 per cent in Greenhouse Gas (GHG) emissions by 2030 compared to a target of 51 per cent.
- Almost all sectors are on a trajectory to exceed their national sectoral emissions ceilings for 2025 and 2030, including Agriculture, Electricity Transport and Industry.
- The first two carbon budgets (2021-2030) will not be met, and by a significant margin.
- Irelands GHG emissions decreased by 6.8 per cent (4.0 Mt CO2eq) in 2023 with reductions in almost all sectors

Figure 11-1: Update to Annual Mean Temperatures

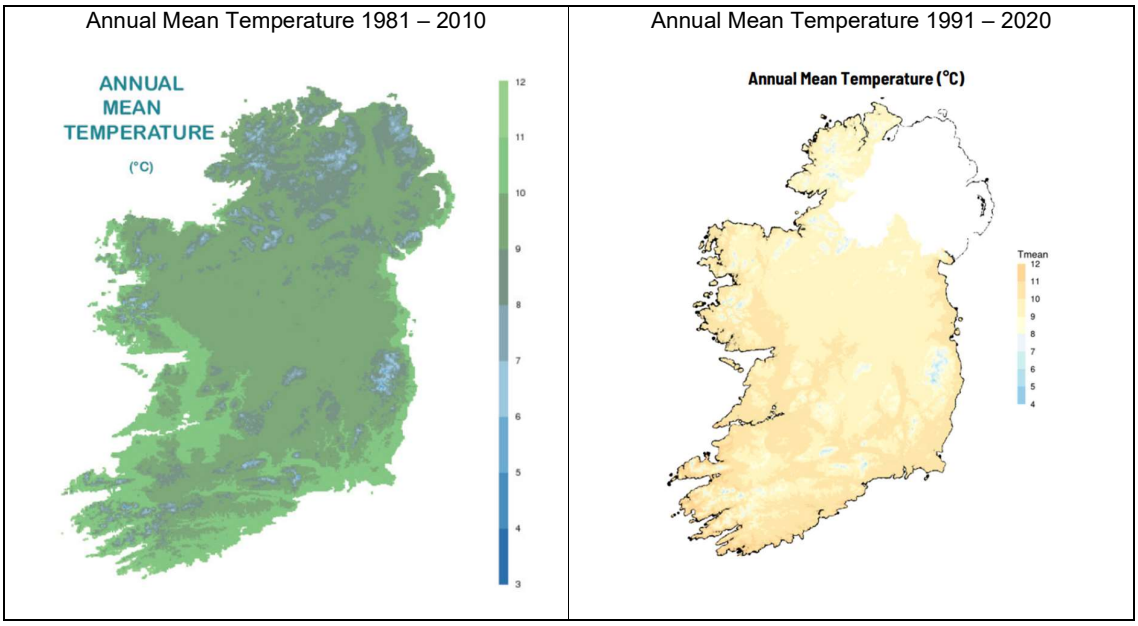


Figure 11-2: Update to Annual Rainfall

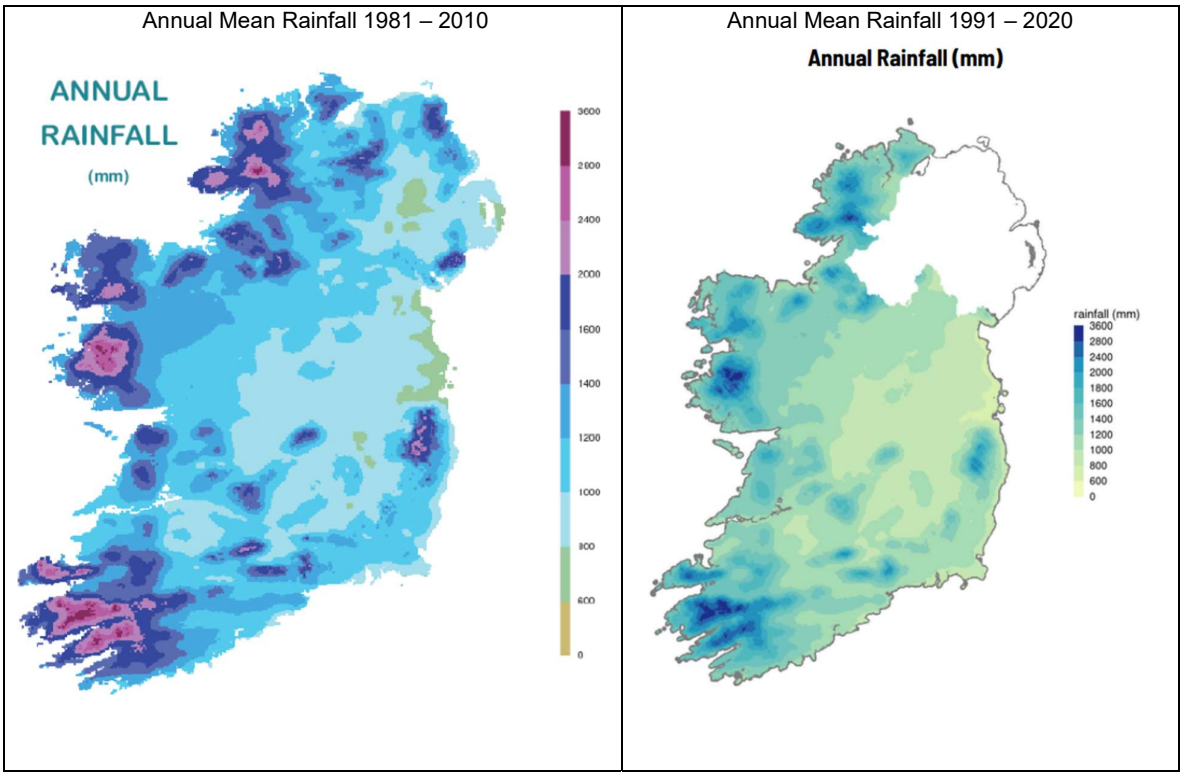
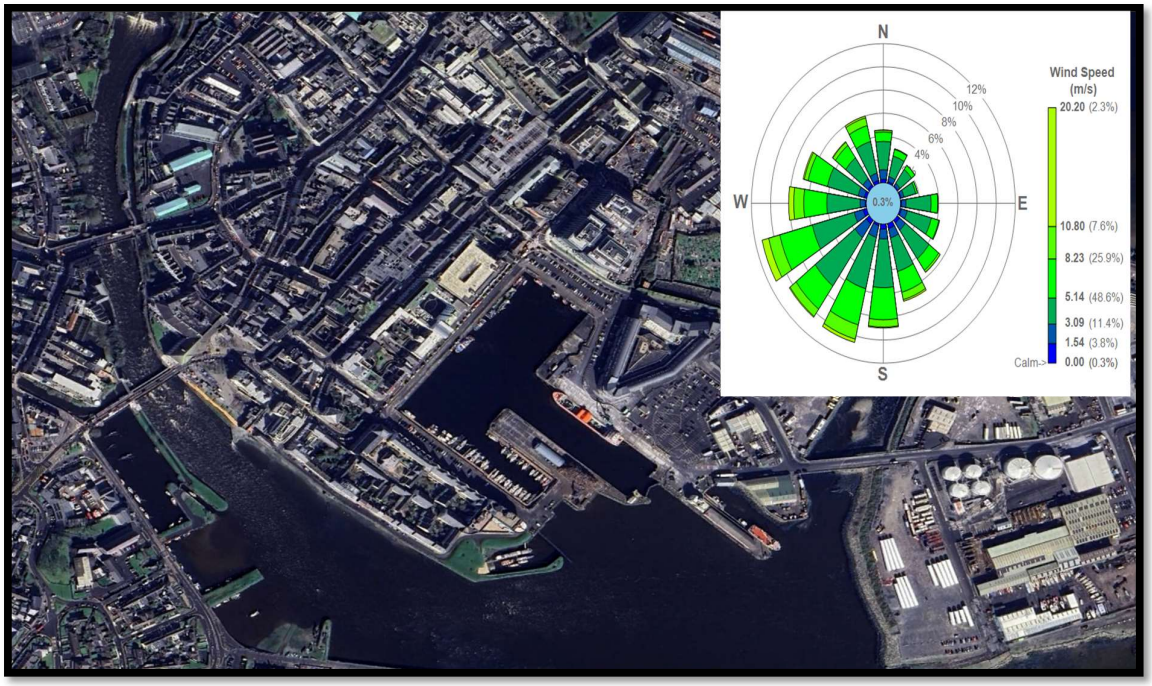


Figure 11-3: Windrose



Appendix 11-3 Mitigation Measures

- Consultation with a wider variety of internal and external stakeholders to ensure all relevant information is included in the development of the plans.
- Implementation of a Traffic Management Plan which will be prepared in advance of the construction works and which will form part of the specification for the construction works. This will outline measures to minimise congestion and queuing, reduce distances of deliveries and eliminate unnecessary loads;
- Reducing the idle times by providing an efficient material handling plan that minimises the waiting time for loads and unloading. Reducing idle times could save up to 10% of total emissions during construction phase;
- Turning off vehicular engines when not in use for more than five minutes. This restriction will be enforced strictly unless the idle function is necessary for security or functionality reasons; and
- Regular maintenance of plant and equipment. Technical inspection of vehicles to ensure they will perform the most efficiently.
- Materials with a reduced environmental impact will be incorporated into the construction design through re-use of materials or incorporation of recycled materials in place of conventional building materials.
- Passive re-use of all of the dredged material and the use of rock breakwaters as opposed to pre-fabricated concrete units minimises the use of high embedded energy materials.
- Potential for “Shore to Ship” power to allow ships shut down engines while berthed and plug into an on shore power source.
- Monitoring and recording of carbon footprint on an annual basis, setting targets for improvement at the port activities.
- An Energy Management system will be implemented for the duration of the works and for the operational stage. This will include the following measures:-
  - The use of thermostatic controls on all space heating systems in site buildings to maintain optimum comfort at minimum energy use;
  - The use of sensors on light fittings in all site buildings and low energy lighting systems;
  - Use of energy efficient lighting on external areas of the port;
  - The use of adequately insulated temporary building structures for the construction compound fitted with suitable vents;
  - The use of low energy equipment and “power saving” functions on all PCs and monitors in the site offices.