Rialtas na hÉireann
Government of Ireland

Policy Statement on Security of Electricity Supply

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Prepared by the Department of the Environment, Climate and Communications
www.decc.gov.ie

1 Background

Electricity is vital for the proper functioning of society and the economy. A total of 2.4 million customers rely on the electricity grid to heat and power their homes and businesses.

The Programme for Government commits Ireland to an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade) and to achieving net zero emissions by 2050.

In order to contribute to the achievement of these targets, the Government has committed that up to 80% of electricity consumption will come from renewable sources by 2030 on a pathway to net zero emissions.

The use of electricity will also contribute to the decarbonisation of the transport sector, through the uptake of electric vehicles, and the heat sector, through the use of heat pumps. As a result, in addition to supporting society and the economy, a reliable source of electricity is vital for consumers to have confidence in the transition to a net zero emissions future.

Ensuring continued security of electricity supply is considered a priority at national level and within the overarching EU policy framework in which the electricity market operates.

The all-island single electricity market is the wholesale electricity market that operates in Ireland and Northern Ireland. This market seeks to ensure security of electricity supply through the capacity remuneration mechanism (also known as the capacity market) which is designed to incentivise the delivery of new generation capacity.

In Ireland, the Commission for Regulation of Utilities has statutory responsibility, under S.I. 60 of 2005, to ensure security of electricity supply. It has the duty to monitor security of electricity supply and to take such measures as it considers necessary to protect security of supply.

The Commission for Regulation of Utilities is assisted in its statutory role by EirGrid which is required to report to the Commission for Regulation of Utilities in regard security of electricity supply matters. EirGrid is also required, where it is of the view that security of electricity supply is threatened or is likely to be threatened, to make recommendations on measures necessary to cover peak demand and to deal with shortfalls.

This Policy Statement on Security of Electricity Supply sets out a number of updates to national policy in the context of the Programme for Government commitments relevant to the electricity sector, planning authorities and developers.

2 Key Challenges

The challenges to ensuring security of electricity supply include:

- ensuring adequate electricity generation capacity, storage, grid infrastructure, interconnection and system services are put in place to meet demand – including at periods of peak demand;
- developing appropriate market rules to incentivise investment and the behaviours of electricity suppliers and consumers in order to deliver greater complementarity between demand and generation;
- developing grid infrastructure and operating the electricity system in a safe and reliable manner;
- ensuring a diversity of fuel supply sources; and
- ensuring resilience from cyber security threats.

Security of electricity supply must also be maintained throughout the transition to up to 80% of electricity consumption coming from renewable sources by 2030 on a pathway to net zero emissions.

It is expected that the majority of renewable energy generated by 2030 will be from wind and solar. These sources of renewable energy are variable in nature and therefore will require other technologies to both support their operation and provide electricity supplies when they are not generating. This will require a combination of conventional generation (typically powered by natural gas), interconnection to other jurisdictions, demand flexibility and other technologies such as energy storage (e.g. batteries) and generation from renewable gases (e.g. biomethane and/or hydrogen produced from renewable sources).

Much of the older high-emitting conventional generation, which is powered by peat, coal and heavy fuel oil, is expected to close over the coming years. This will need to be replaced by generation that provides the same support and backup capability but is also flexible thus enabling it to support high levels of generation from wind and solar. For instance, such generation may need to increase and decrease output quickly in response to changes in output from renewable generation.

As more wind, solar, storage and interconnection is added to the system, conventional generation is expected to operate less, but sufficient conventional generation capacity will still be required. This conventional generation will spend much of its time in reserve for when needed – e.g. when required to balance the system in times of high demand and low wind/solar generation.

It is anticipated that natural gas will form the vast majority, and more enduring, part of this conventional generation. It is possible that some gasoil/distillate generation may also be necessary given the existence of regional constraints such as the limited extent of the natural gas network and, in some cases, the need for rapid deployment. There will also be a need for gas-fired generation to be able to operate on gasoil/distillate as a backup fuel.

There will be a continuing need for conventional generation beyond 2030. Beyond this time, it is expected that the proportion of dispatchable generation using alternative zero and low-carbon fuel sources will increase in order to achieve net zero emissions.

There is significant projected growth in electricity demand from large energy users such as data centres, due to the electrification of heating and transport and as a result of growing population. This is one of a number of challenges to maintaining security of electricity supply while increasing the level of renewable electricity generation in our system. The risk associated with such demand growth can be significantly mitigated by ensuring that new demand can be flexible, particularly at periods of peak demand, or have its own onsite backup generation or storage capacity

The introduction of demand-side initiatives and enabling technologies, such as smart meters, will provide a means of shifting demand away from peak times for many consumers. In addition, larger energy users, could contribute positively to the security and decarbonisation of electricity supply by reducing their demand when required to balance the grid.

The Department of the Environment, Climate and Communications is also carrying out a review of the security of energy supply of Ireland's electricity and natural gas systems for the period out to 2030 in the context of net zero emissions by 2050. This review will inform future policy in relation to security of electricity and gas supply.

3 Policy Decision

The Government recognises that:

- ensuring security of electricity supply continues to be a national priority as the electricity system decarbonises towards net zero emissions;
- the Commission for Regulation of Utilities has statutory responsibility, under S.I. 60 of 2005, for security of electricity supply including the duty to monitor security of electricity supply and to take such measures as it considers necessary to protect security of supply;

- the Commission for Regulation of Utilities is assisted in its statutory role by EirGrid which is required to report to the Commission for Regulation of Utilities in regard security of electricity supply matters and, where it is of the view that security of electricity supply is threatened or is likely to be threatened, to make recommendations on measures necessary to cover peak demand and to deal with shortfalls;
- the all-island single electricity market has an important role in delivering new generation capacity;
- there is a need for very significant investment in additional flexible conventional electricity generation, electricity grid infrastructure, interconnection and storage in order to ensure security of electricity supply;
- in advance of the development of new conventional electricity generation capacity, there is a need to retain existing conventional electricity generation capacity in order to ensure security of electricity supply;
- there is a need to continue to invest in order to ensure security of electricity supply including in areas such as cyber security; and
- the review of the security of energy supply of Ireland's electricity and natural gas systems that is currently underway will inform future Government policy in relation to security of electricity supply including the increasing dependence on natural gas.

The Government has approved that:

- the development of new conventional generation (including gas-fired and gasoil/distillate-fired generation) is a national priority and should be permitted and supported in order to ensure security of electricity supply and support the growth of renewable electricity generation;
- it is appropriate that existing conventional electricity generation capacity, including existing coal, heavy fuel oil and biomass fired generation, should be retained until the new conventional electricity generation capacity is developed in order to ensure security of electricity supply;
- the connection of large energy users to the electricity grid should take into account the potential impact on security of electricity supply and on the need to decarbonise the electricity grid;
- it is appropriate for additional electricity transmission and distribution grid infrastructure, electricity interconnection and electricity storage to be permitted and developed in order to support the growth of renewable energy and to support security of electricity supply; and

- it is appropriate for additional natural gas transmission and distribution grid infrastructure to be permitted and developed in order to support security of electricity supply.