

## **Joint Oireachtas Committee on Climate Action - April 2021**

### **1. Introduction:**

Thank you Chairperson and members, it is a real pleasure to be have the opportunity to talk to you about EirGrid and the critical role we play in driving the transformation of the power system as the Government looks to the electricity system to play a central role in the forthcoming Climate Action Plan. The Climate Action Plan, underpinned by the recently published Climate Action and Low Carbon Development Bill, will set out a pathway to reduce carbon emissions across society and the economy by 50% between now and 2030.

By way of introduction:

1. EirGrid operates the power system on a 24/7 basis across 2 jurisdictions on the island of Ireland thus ensuring people have electricity at all times and Eirgrid is also responsible for planning the power system of the future - our planning horizon runs to decades.
2. Ireland is a world-leader in renewables energy integration, namely onshore wind. Last week we reported the fact that Ireland achieved 43% of all electricity from renewable sources in 2020, an extraordinary achievement and ahead of the 40% target which was set back in 2008.
3. As recently as March of this year we signed off on our capability to operate the power system at 70% renewables on the system on an instantaneous basis, we are the only country in the world operating at this level. We expect to be able to operate at 75% by the end of the year.
4. Ireland has exceptional untapped wind resource, particularly offshore which equates to circa 10 times what is currently installed on the island of Ireland, namely 5,000MW. As we look to 2030 targets and ultimately net zero in 2050, offshore wind has a key role to play.
5. The forthcoming Climate Action Plan seeks to transition the electricity system from the aforementioned 43% from renewable sources to at least 70% by 2030.

### **2. Context of Challenges for the Electricity System and Generation**

To meet the target of 70% of electricity from renewable sources in 2030 is a whole of system challenge of significant proportions across three dimensions. I will elaborate on these 3 dimensions now;

Firstly, total system demand for electricity is expected to increase by up to 50% due primarily to Data Centres, Electric Vehicles for transportation and Heat Pumps for homes.

Secondly, the generation portfolio is changing dramatically as fossil fuel plant exits the system and the fleet of renewable generators increases by between 100 and 200 percent through continuing investment in onshore wind, new solar generation and a major new industry centred around offshore wind generation.

Thirdly, EirGrid occupies the space in the middle, completing the jigsaw and delivering the key balancing act across 3 dimensions including operations, the market and the network more

commonly referred to as the grid. Whilst operations and markets are also fundamental to achieving 70% by 2030, I am going to focus on the role of the grid for this particular discussion.

### **3. Demand and Generation of Electricity**

To understand the Grid, one has to understand generation and demand.

Today we have a mixture of fossil fuel generation, including coal, peat and oil as well as onshore wind spread across the country. In fact, we have onshore wind in c. 80% of counties in the Republic of Ireland. As we transition to 2030, more onshore wind will be required in most counties, solar generation will be developed in the southern half of the country and offshore wind will be developed in the Irish sea on the east coast.

The questions to be answered are;

- 1) Where is demand going to be located?
- 2) What is the optimum balance of renewables technologies?
- 3) Where should generation of renewables be located when looked at through the lens of the necessary supporting grid infrastructure?

The grid is what holds all of the system together.

**Shaping out Electricity Future** is designed to answer these questions and thus provide a clear picture of our power system in 2030 including setting out the optimum pathway to delivering this future of a power system with 70% of electricity coming from renewable sources.

### **4. Network Development to 2030**

To find the optimum grid solution we have distilled a major body of work over the last year into four fundamental approaches which I will discuss in more detail in shortly. Before I speak to the 4 options let me stress the following points;

- 1) The approaches are not mutually exclusive, it is not about picking one option at the expense of all others.
- 2) All approaches require significant grid infrastructure – there are no easy options.
- 3) Almost every county in Ireland will see some level of impact
- 4) This process is designed to find the best solution
- 5) Best means it delivers 70% by 2030

### **5. The Four Options**

**Option 1** is called Generation Led and involves Government Policy informing where electricity generation will be located, particularly with reference to where demand for electricity is high.

**Option 2** is called Developer Led which is the current approach which has served us well in getting us to over 40% renewables on the power system last year.

**Option 3** is called Technology Led, is somewhat more radical using technology that is deployed on offshore wind farms to move large volumes of electricity across the country to high demand regions.

**Option 4** is called Demand Led and involves Government Policy informing where large demand uses might be located, particularly with reference to strong grid infrastructure and adjoining renewables generation.

## **6. An all-Island Engagement Programme under Shaping our Electricity Future**

We cannot achieve this ambition on our own and we will need support across a vast range of stakeholders, but particularly in the community and political domains. We launched Shaping our Electricity Future on the 8<sup>th</sup> of March and so far the response has been positive and very measured.

This all-island engagement programme will do 4 things;

1. It is reaching deep and wide, both at a national and regional level, involving over 20 set piece events.
2. It is highly transparent. The high-level document in plain English runs to 20 pages, the detailed technical document runs to c. 200 pages.
3. It is backed up by a major communications programme, national, regional and local, radio, newspapers and social media.
4. It is be underpinned by a real commitment to listen to all views.

## **7. Summary**

I would summarise our message as follows;

1. Enhanced electricity generation using renewables is at the centre of our approach
2. This transformation will have a significant impact right across the country and will impact every county in Ireland
3. Our engagement process will reach into all levels of society and business across the country, north and south
4. We have options but all options include unpopular choices
5. **Shaping Our Electricity Future** will provide the roadmap to deliver the policy objective of 70% RES-E by 2030