

Proposal:

All data centres should be contracted to account for 100% of their energy consumption through the generation or purchase of renewable energy. This is a core element of a more comprehensive ‘Green Cloud Policy’ aimed at reducing emissions in the energy-hungry Irish cloud-computing industry.

Basic Background Information:

Data centres are the fastest growing consumers of Irish energy. In 2016, data centres accounted for just 5% of our national energy consumption. However, in the ‘All-island Generation Capacity Statement 2019-2028’, Eirgrid (the body in charge of the Irish electricity grid) estimated that by 2028, data centres will be responsible for approximately 29% (median demand model) of Ireland’s energy usage.

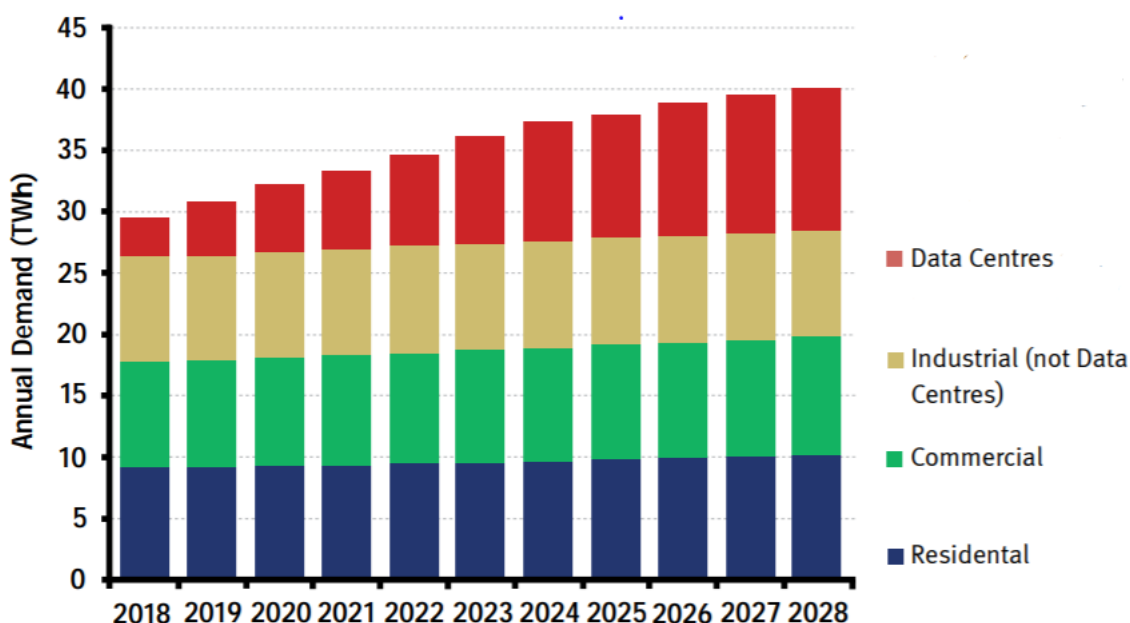


Figure 9 - For the Ireland Median Demand scenario, this illustrates the approximate split into different sectors. Eirgrid estimate that 29% of total demand will come from data centres by 2028

Graph from ‘All-island Generation Capacity Statement 2019-2028’ published by Eirgrid

The above graph clearly shows that whilst energy demand in other sectors of the economy will remain relatively constant between now and 2028, data centre energy demand will grow significantly year on year putting increasing strain on the available energy resources and increasing the risk of further climate change due to increased emissions.

To sufficiently reduce our emissions by 2030, we must address this rapidly increasing strain on Irish energy resources. Renewable energy consumption is an essential part of a more comprehensive Green Cloud Policy aimed to reduce emissions within the cloud computing industry. The policy would also encourage responsible strategies for the software, hardware, architecture, heating & cooling, energy management systems of data centres.

Currently in Ireland, there is a subsidy for renewable energy generation (feed-in tariff) which is levied on consumers through the PSO levy on their bills. A recent ESRI/UCD study has demonstrated how this approach can lead to rapidly increasing costs for consumers compared to alternatives such as targeted legislation.

Through extensive research and subsequent correspondence with academics who are expert in their fields such as economics, engineering, environmental science and policy from Trinity College Dublin, Stanford University, UC Berkeley, the Rocky Mountain Institute and the Lawrence Berkeley National Laboratory (see bold names in bibliography on reverse) and prominent members in the Irish cloud-computing industry, I determined that the proposal outlined above would not only be among the most impactful actions the government can take, but it is also among the most feasible to enact as it is a clear policy that does not cost the government any money.

The knowledge of how to reduce data centre-related emissions has existed for years. However, despite Ireland's status as a data centre hub, there has been no effort by the government to require the data centre industry to reduce the increasing strain on the island's energy resources and harmful impact on the environment. Elsewhere in the world, companies such as Alphabet (Google's parent company) have built renewable-powered data centres as a result of stricter legislation (eg. US, Chile and Netherlands). Ireland needs to anticipate the increasing energy demand from data centres and enact strict legislation requiring all data centres to be contracted to account for 100% of their energy consumption through the generation or purchase of renewable energy. This will not only benefit the earth and its climate by reducing emissions, but also benefit the companies by massively reducing energy costs.

Why this is the most valuable proposal:

This proposal will have an enormous, immediate impact on Ireland's power-related emissions and will prevent energy-related emissions spiralling upwards over the next decade. The reality is that the impact of reducing consumption and emissions within data centres and the cloud computing industry, (and this applies to many other proposals being discussed here today), cannot be rigidly quantified due to the constant developments in the electricity grid structure and storage capacity, the percentage of the grid which is powered by renewable sources and a huge number of other influencing factors. However, as a result of my in-depth research and the input I received from experts in this field, I can confidently assure you that my proposal is economically, financially and technologically feasible and will result in an enormous reduction in Irish power-related emissions in the coming years.



Facebook Data Centre at Clonee, Co. Meath with associated electrical transformer infrastructure top RHS

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