

Nuclear

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At present, Ireland is in a dangerous position, sourcing 92.6% of its fuel for electricity generation from fossil fuels in 2007. Peak oil and climate change have pushed energy issues to the front of policy makers' agendas, both in Ireland and internationally. In spite of this there has been no review of the ban on nuclear energy in Ireland and no new debate on the topic.

The issues facing Ireland's energy policy are:

- High carbon emissions
- Vulnerability to higher fuel and carbon prices in the future
- Lack of security of supply

The viability of any means of electricity generation should be examined under these headings. At the moment, Ireland generates electricity from gas, oil, peat, coal, wind and hydroelectric power. Ireland is very dependent on fossil fuels, especially gas, and this dependence exacerbates all three of the issues mentioned above. Ireland should explore any electricity generation option that can aid in combating these issues, including nuclear power.

The generation of electricity from nuclear sources has virtually no carbon emissions. The only carbon emissions associated with nuclear generation are those arising from the construction of the plant and the mining and enrichment of the ore. The impact of this carbon emitted when stretched over the long lifetime of nuclear plant (typically over fifty years) is therefore very small.

Currently, uranium is the fuel used by the majority of commercial nuclear power plants across the world. Two of the world's largest suppliers of uranium are Australia and Canada which are both developed, stable countries. The cost of importing fuel from these countries is less likely to be influenced by political and social instability. Importing this fuel therefore does not carry the same risks of importing many of the fossil fuels on which we currently depend for electricity generation.

In terms of stability of price, the main cost of a fossil fuel plant is the cost of the fuel. The main cost of nuclear power plant is the initial capital cost. This means that the price of electricity produced from nuclear is far less sensitive to fuel

price changes than electricity produced from fossil fuels. Nuclear fuel price itself is also less volatile than the price of fossil fuels. This means that the price of electricity from nuclear is therefore much less volatile than the price of electricity from fossil fuels.

Due to the low fuel costs, reliability of supply and negligible carbon emissions, nuclear power is seen by many countries to be a viable means of electricity generation, to the extent that it makes up a large part of many countries generation portfolios. In spite of this nuclear in Ireland does not appear to be on the horizon as public opinion is still perceived as strongly anti-nuclear. Such an opinion can only be based on gut feeling as there have been no studies done on public opinion and little to no public debate in Ireland on the topic of nuclear power.

The results of one EU-wide study done on nuclear power, however, are telling. One notes a very high level of Irish respondents replying 'I don't know' to many questions. This suggests that rather than a negative attitude to nuclear energy in Ireland our real problem is ignorance. For example, it was found that 14% of Irish people said it was true that nuclear power plants operate in our country, while a further 18% didn't know. One wonders what the point is in maintaining a blanket ban on an entire source of energy when 32% of Irish people are unaware that this ban even exists.

Debate about nuclear continues to highlight serious issue surrounding nuclear power, such as the accidents which occurred at Chernobyl and Sellafield. The scope and tragedy of Chernobyl was immense, not least because the consequences continue to be felt today. However, it is admitted all over the world that Chernobyl was an accident waiting to happen due to a flagrant disregard of safety measures. As such it should be viewed today as no more than a chilling encouragement to ensure at all times that nuclear power in no way threatens the safety and security of the planet.

Sellafield also has a bad reputation. There is no doubt that Sellafield's safety can be called into question. Campaigners are right to work to ensure that all nuclear plants and sites pose no threat to anyone's safety. It is important, however, to keep these fears in perspective. It could be ill-advised to allow them to forever influence the energy policy of an entire country against a proven technology.

The bane of nuclear generation continues to be the fact that a long term storage site for waste has yet to be found. There is no doubt that this is a concern. A suitable site is unlikely to be easily found as local opposition will always have to be dealt with. However, in terms of the legacy we are leaving future generations, it is likely that a permanent storage solution for nuclear waste will be much easier to

find than a solution to increased amounts of greenhouse gases in the atmosphere.

If Ireland were to generate from nuclear power the best short to medium term solution for nuclear waste is probably to buy into the expertise and facilities of other countries and export any waste we produce. This is also likely to be the most economical solution as Ireland will not produce enough waste to justify the costs of investment in storage.

Genuine objections to nuclear generation in Ireland include the small size of the Irish electricity system. For this reason it is doubtful that Ireland can embark on a nuclear programme now or in the near future. However the medium to long term will probably find us in need of an alternative source of power. In that time a nuclear reactor suitable for the Irish grid will almost certainly be commercially available. Preparing legally and socially for nuclear power may take time. If Ireland will need such a plant in the next twenty years we must begin to inform ourselves now.

In 2007 Minister Eamon Ryan called for a public debate on nuclear energy that never happened. There are many legal and social barriers to nuclear generation in Ireland that have yet to be discussed at a national level. This does not mean that it is certain that Ireland must or even should go ahead with nuclear immediately. It simply means that if and when the time comes that nuclear in Ireland makes economic and scientific sense we will be able to build the necessary infrastructure without having to cope with any red tape that may jeopardise our ability to keep the lights on.

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