Irish Energy Supply profile 1997 vs 2020

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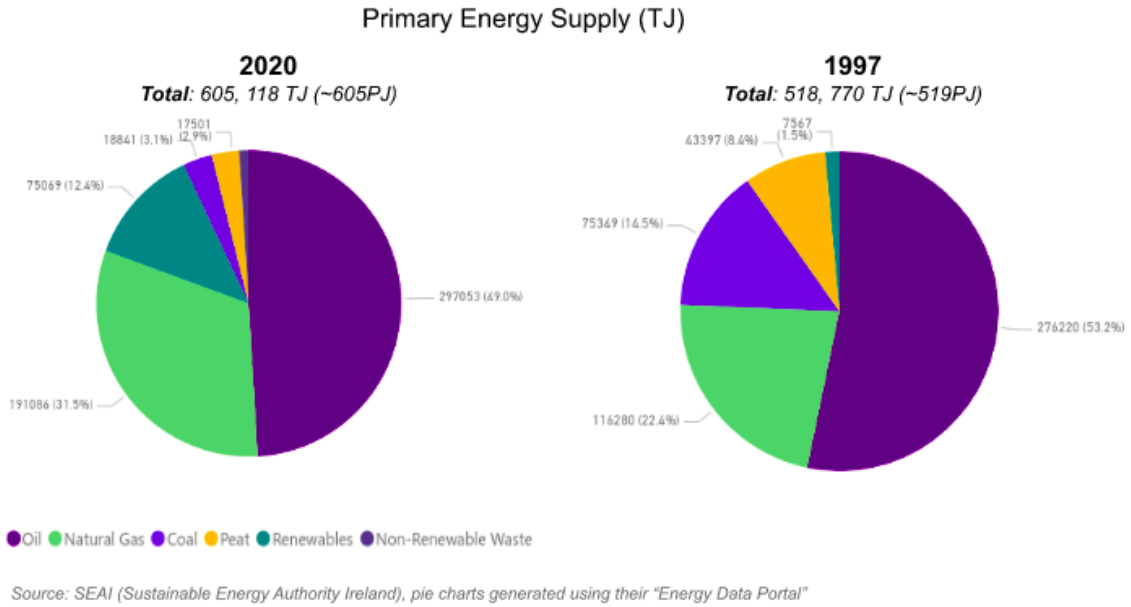

Figure 1: *Total Primary Energy Supply (TPES) breakdown by source type in 1997 (on the right) and 2020 (on the left) 2020, the most recent data accessible through SEAI*

An extra 1.3 million people (including myself) now occupy the island of Ireland since I was born (1997). Ireland has changed dramatically in this time, particularly in terms of it's economy below are the main trends I noticed in it's energy supply.

Main trends

- Ireland's **coal** dependency reduced from 15.5% of Total Primary Energy Supply (TPES) to 3.1%.
- **Renewable energy** increased as a share of TPES from 1.5% to 12.4%. Ireland had set a target of 16% of all it's energy needs to be from renewable sources under the Renewable Energy Directive (a mandate from the EU). From these numbers we have not met the target.
- Roughly 36% of **natural gas** supply was domestic in 2020 [1]. Our domestic supply of gas (the Corrib Gas Field) is depleting. Since 1997 we've become much more reliant on imports for gas but it is now a much large share of electricity generation. It would seem that natural gas has had to pick up the slack of coal and peat in our electricity generation since 1997 as our uptake in renewables can not deliver full reliable supply of electricity yet.
- It's difficult to see in the above graph but there has been an increase in the use of **non-renewable waste** as an energy supply. In 2020 it provided approximately 2260 TJ of net

[1] https://www.seai.ie/publications/Energy-in-Ireland-2021_Final.pdf

energy compared with no supply from this source in 1997 [2].

- **Peat** production has fluctuated since 1997 but the general trend is downward. Conservation of peatlands has also been dictated by the EU with several cases being brought against Ireland for mismanagement of it's peatlands[3].
- **Oil** supply remains roughly the same in terms of share of TPES reducing by roughly 3%.
- **Efficiency gains:** It's interesting to note that if we take the average energy usage of the irish person as 35,000KWH [4] which is approximately 0.126 TJ we would expect the increase in population of 1.3 million to cause an increase in energy utilisation of 165,000TJ or 165PJ. The actual number is closer to 87,000 TJ or 87PJ. This is probably a marker of efficiency gains in the intervening years. This matches trends of increasing electricity efficiency with the SEAI classifying electricity supply as almost 55% efficient, in 1997 it was estimated to be approximately 34%[5].

Conclusion

In general, Ireland is increasing it's renewable sources of energy. This is good but it's not that unique on a global scale. It's evident that any changes that have been made in energy supply have been half-hearted. There are challenges to transitions in energy source, for instance, using natural gas to transition from coal and peat which has come with it's own set of problems in terms of supply dependency. There has been virtually no change in oil supply it doesn't seem to be a topic approached in discussions of cleaning up fuel sources. Looking at the change overall I think it's fair to say that Ireland is a country who's determination to make energy supply more sustainable is fairly low.

[2] See footnote 1

[3] https://www.npws.ie/sites/default/files/publications/pdf/NationalPeatlandsStrategy2015EnglishVers.pdf

[4] https://ourworldindata.org/energy/country/ireland#per-capita-what-is-the-average-energy-consumption-per-person

[5] https://www.teagasc.ie/media/website/crops/crops/EnergyInIreland2011Report.PDF