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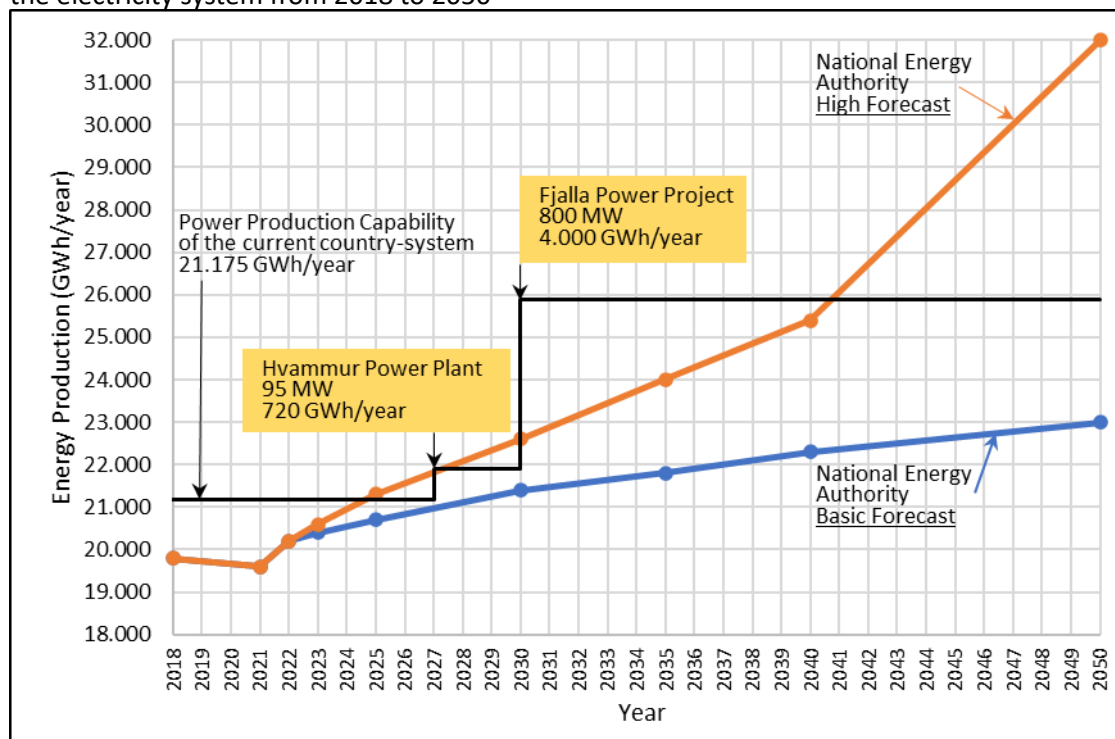
Article in the Morgunblaðið newspaper

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Fjallapower 3 - The need for new hydropower capacity in Iceland.

How could The Fjalla Power Project 800 MW and 4,000 GWh/year fit into the development of our electricity system, where the need for the impending energy transition is addressed?

Figure 1. The National Energy Authority's electricity forecasts and the potential production capacity of the electricity system from 2018 to 2050



The article tries to put ideas about The Fjalla Power Project in the context of the position of Icelanders in climate matters and their obligations according to the law.

Reference is made to the Energy Agency's report from April 2023 "Energy forecast 2022-2050. Recalculation of the forecast from 2020 based on new data and assumptions."

Furthermore, reference is made to my Morgunblaðið article "Energy capacity of the electricity system and actual production in 2018-20" which appeared in the newspaper on 23.03.2021, see also <https://veldi.is/reports/>, where the energy capacity of the system is estimated to be 21.175 GWh/year. The power generation system has changed little since then, and it should therefore be safe to use this same number for the energy capacity of the overall system in Iceland today.

Figure 1 shows demand according to The Energy Agency's electricity forecast and the supply of electricity and the energy capacity of the national system until the year 2050, with the introduction of

The Hvammur Hydro Power Project in 2027 and The Fjalla Hydro Power Project in 2030. According to this scenario, additional power projects would have to be assumed from the year 2040 onwards.

The activation time of Hvammur Power Project could be 4 years, but Fjalla Power Projects's longer or 7 years mainly due to the drilling of the longest tunnels in the world for transporting water for electricity production. 49 km, do it well!

The picture clearly shows that a decision on these power plants would have to be imminent and even at the end of next year. There is nothing to wait for.

The expansion of the installed power capacity of Sigalda Power Plant, which is only for the convenience of operation management, but produces very little electricity, could quite await. The expansion of the power plant at Þeistareykir could also be delayed due to the recent high energy production costs of geothermal power plants. The wind energy development in The Búrfellslundur Wind Farm is a separate issue, which awaits further policy decisions in the uncertain state of wind energy in this country.

Electricity forecasts of the Energy Agency

The Basic Forecast is about the estimated general use of electricity, including confirmed intentions of large users and confirmed actions in the energy transition. The forecast is the official electricity forecast.

With the High Forecast, the scenario definition is improved, and the increase from the Basic Forecast is now mostly based on the upcoming Energy Transition. The main points are:

- New registration of 100% electric cars in 2025, for passenger cars and vans.
- The production of electric fuel will be equal to domestic consumption and the use of electric fuel according to the expected progress in the Basic Forecast.
- Economic growth is based on an anticipated but unconfirmed increase in electricity in the coming years, considering land-based aquaculture and data centers.
- The addition of biofuel to fishing vessels will be 10% in 2030, which would not affect electricity demand but would affect emission figures.

Unfortunately, The Energy Agency does not discuss what carbon footprint the High Forecast will lead to instead of The Basic Forecast, e.g., for the years 2030, 2040, and 2050, but hopefully it will appear sooner rather than later in The Energy Agency's next electricity forecasts.

Icelanders' commitments regarding carbon footprints

In the great effort to reduce the use of fossil fuels and move towards a more sustainable environment, there has been a great demand for new power plants, which use natural and renewable energy sources.

Energy transition in transportation is imminent. The Icelandic Parliament has decided and in fact enshrined in law that domestic, sustainable natural energy sources should be used instead of imported fossil fuels.

This energy exchange has been called the third energy exchange in Iceland with reference to the first two energy exchanges, the utilization of renewable geothermal energy for domestic heating and electricity production and the development of hydropower on a large scale for the production of electricity from renewable and environmentally friendly natural energy sources.

According to the law passed by the Parliament Althing, domestic energy production for transport must be carbon neutral as follows:

- No later than 2030: A reduction of 55% from pre-industrial levels (based on emissions in the reference year 1990), taking into account climate policies in line with the 2015 Paris Agreement.
- No later than 2040: Achieve full carbon neutrality with no (net) greenhouse gas emissions.
- No later than 2050: Iceland will be independent of fossil fuels.

The reference year 1990 is important, as the Reykjavik Capital Area was connected to a geothermal supply around and above the 1960s with the aim of eliminating the use of imported coal for domestic heating. The benefits it brought cannot be overlooked when assessing Iceland's position in climate matters. In any case, these issues could be explained in more detail to the public.

It was a big surprise that in June 2021, the optimistic government of Iceland decided to accelerate the year of net carbon neutrality by 10 years, from 2050 until 2040.