



Sweden, Finland and the German *Energiewende*

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- Finland and Sweden have taken very different paths from Germany after Fukushima; both countries plan to build new nuclear power stations. This article charts the historical development of nuclear power in Sweden and Finland in order to explain why they have not followed Germany in its post-Fukushima decision and whether changes in their respective positions are to be expected.
- Sweden, despite a similar heritage to Germany in the form of its strong environmental movement, has deviated from that path. Swedish reactions to the German phase-out decision exhibit significant political polarisation. The Left points to Germany as a forerunner in renewable energy, whereas the Right warns of increased greenhouse gas emissions and calls the *Energiewende* »a decision made in panic».
- Finland is peculiar in that it lacks a significant anti-nuclear movement. Furthermore, it is the only European country to build new nuclear power facilities in recent years. The news about Fukushima came in the middle of the Finnish election campaign, but did not receive much political attention. Representatives of the energy industry and ministries warned of rising electricity prices after the German decision.
- Neither Finland nor Sweden, despite their cultural and geographical proximity to Germany, show any sign of changing their nuclear policies after Fukushima and the German phase-out decision.



When the CDU/CSU and the FDP formed the federal government in Germany in 2009 they promised an »Ausstieg aus dem Ausstieg« (an exit from the exit), representing a slowdown in the pace of nuclear decommissioning compared to the previous agreements. But the accident in Fukushima, a fully modern nuclear power plant in a developed country, made it politically impossible to stay the course, at least in Germany. By contrast, Sweden and Finland continue on the road to increased use of nuclear power. Why? What historical rationale forms the basis for this? And what were the reactions to the German decision?

Although it is a simplification, in Sweden and Finland the *Energiewende* or new energy transition being pursued in Germany is often reduced to the nuclear phase-out decision. Prior to Fukushima, nuclear power still played a significant role in all three countries dealt with in this article. A snapshot of the situation in 2010 shows that the share of nuclear power in net electricity production was 22.5 per cent in Germany, 38.3 per cent in Sweden, and 28.4 per cent in Finland (cf. Eurostat 2011). However, the reactions to the Fukushima accident were fundamentally different in Sweden and Finland compared to that in Germany.

Swedish Nuclear Power

It has often been pointed out that the development of their respective environmental movements during the 1970s was similar in Sweden and Germany, featuring major protests, social movements and, above all, massive opposition to nuclear power. Also, the Swedish environmental movement has been described as unusually strong by international standards (Jamison et al. 1990: 13). Reasons for this can be found in the tradition of the Social Democratic labour movement or in the fact that another party, the Centre Party, made nuclear power a profile issue for itself early on.

The role of the environmental movement is one key characteristic of the development of the Swedish approach to nuclear energy; another is the fact that a referendum on nuclear energy was held in 1980. The referendum itself did not spell out a specific date for the phase-out, but, after the vote, the Swedish Parliament decided that nuclear power would be phased out by 2010, based on the life expectancy of the reactors.

The Centre Party was long the major anti-nuclear party in the Swedish parliament. However, pressure to facilitate cooperation with the other parties on the political right pushed the party in the other direction. In 2006, when the Centre Party entered a centre-right coalition government with the Moderates, the coalition launched a compromise solution: no decommissioning and no new nuclear power plants for a period of four years. Finally, a subsequent centre-right agreement in 2009 opened the way for new nuclear reactors, replacing existing nuclear power plants. Even though the result of the 1980 referendum had been questioned before, this was the final break with the original policy. By the time of the Fukushima accident in 2011 and the subsequent *Energiewende* in Germany, Swedish nuclear policy had thus already moved from qualified abolition to fairly robust support for continued use of nuclear power by the Swedish political majority.

The Fukushima accident, of course, did raise great concerns in the Swedish media, but it led to no immediate political consequences. A parliamentary bill from the Green Party to immediately start nuclear decommissioning in Sweden after the Japanese incident was turned down in May 2011, with the following comment by the Parliament: »Furthermore, the parliament notes that the accident in Japan should not be an excuse for an almost panicky decision on a radical shift in the direction of energy policy« (Swedish Parliament 2011a).

This was the political climate when news about the German decision to phase out nuclear power spread at the end of May 2011. The Swedish Minister for the Environment, Andreas Carlgren (Centre Party), was harsh in his comment to the Swedish news agency TT:

»To focus so strongly on which year nuclear power should be phased out risks missing the essential point: that is, how are we to meet the dual challenge of reducing both reliance on nuclear power and climate emissions. (...) The key question now for Germany is that they most likely will increase imports of nuclear electricity from France and risk a slower departure from dependency on fossil fuels, above all on coal. (...) Other countries seem to have chosen a different path. Germany is now in danger of falling into a situation with a very disjointed energy policy.« (Dagens Nyheter 2011)



The attitude to the German decision quickly became strongly politically divided. In parliamentary debates, Germany was praised by the Social Democrats, the Greens and the Left. The polarisation itself was commented on by Member of Parliament Åsa Romson, the newly elected party leader of the Greens, on 10 June 2011:

»In our debate the conservative government in Sweden has by all possible means tried to demonstrate that the decision in Germany would lead to increased greenhouse gas emissions, despite the fact that the agreement the decision is based on is very clear with regard to what the German way is. Germany's way is to reduce greenhouse gas emissions, improve energy efficiency and become the front runner in renewable energy.« (Swedish Parliament 2011b)

Her party colleague Lise Nordin developed the case a few days later:

»Has anyone in the government read the German energy agreement? The goal of reducing greenhouse gases by 40 per cent is clear. Germany, despite the decision to decommission, has a much more ambitious climate goal than the Swedish government can boast. Germany, one of the world's largest industrial nations, shows that it is possible to combine renewable energy with affordable electricity prices and a strong industry.« (Swedish Parliament 2011a)

The Social Democrats and the Left agreed with this view, describing Germany as a role model and the driving force of an energy transition in Europe, while criticising the Swedish government for its passivity (cf. Swedish Parliament 2011a). A recurring point made from the centre-right, in response, was that the result of the German decision would be an increased use of fossil fuels, as well as the import of French nuclear power. The Minister for Energy, Maud Olofsson, even remarked that Germany had not been leading in climate negotiations, as Sweden had (cf. Swedish Parliament 2011b). The Christian Democrats claimed that Germany would double its carbon dioxide emissions (cf. Swedish Parliament 2011a).

This harsh divide continued even after the immediate reaction to the German news. In December 2011, the conservative MoP Cecilie Tenfjord-Toftby strongly advised against viewing Germany as a good example:

»[Germany] faces incredible challenges in energy supply, while they struggle with huge pollution problems from their coal power plants« (Swedish Parliament 2011c). At the same time, the liberals claimed that no decision could be as dangerous for European supply as the German one (cf. Swedish Parliament 2011c). And in June 2012, the liberals argued even more antagonistically in parliament:

»In Germany, praised by the anti-nuclear protagonists for its decision to shut down nuclear power, the use of coal has increased by 13.5 per cent already this year with increased emissions, sickness and ultimately death as a result. [...] a decision made in panic by a government under pressure.« (Swedish Parliament 2011c)

It may be noted that, beyond the strong right-left divide on nuclear power, reactions differ in terms of what energy is expected to replace German nuclear power: the left-wing parties point to Germany as a model for renewables, whereas the Right warns of increased greenhouse gas emissions from coal.

Thus despite a history of strong environmentalism, like Germany, Sweden has had a radically different response to the Fukushima accident. Why?

First, there is a Swedish »diffidence« towards nuclear safety. The Swedish left-wing paper *Ordförant* claimed in 2002 that the oldest Swedish reactors were of poor international standard, comparing the number of incidents on the INES scale with other countries (cf. Lundberg 2002). During 2000–2011, 47 incidents classified as 1 on the INES scale were reported in Swedish nuclear facilities, as well as one 2 and one 3 (Fukushima being a 7).¹ In spite of this, the risk of accidents in Swedish nuclear power plants is generally considered low by the public (cf. Hedberg et al. 2010). Swedish political scientist Sören Holmberg also points out that the effect of the Chernobyl accident on public opinion in Sweden was gone after only a year (cf. Holmberg et al. 2011: 14).

Second, climate change has become a major national policy issue. Sweden has had a strong international profile in climate policy, partly by stressing that the country's electricity generation is virtually fossil-free (cf. Zannakis 2009). The Swedes, in general, are strongly engaged in

1. Niklas Larsson, Swedish Radiation Safety Authority, written communication with M. Fjaestad, 15 August 2012.



climate issues and concerned about global warming (cf. Jagers et al. 2007). To risk increasing imports of fossil fuels by decommissioning nuclear power is not politically possible. Even the centre-right in Swedish politics adopted the climate issue in 2006 after the Stern Review and the Al Gore movie. This also became apparent in the parliamentary discussions referred to above – it is worth noting that Swedish opponents of the German decision usually invoked the climate argument.

The future is still unclear, despite a clear stand in favour of new nuclear power on the part of the centre-right government. Whether the industry really dares to invest on this scale, when the prerequisites may change completely after a change of government, remains uncertain. The heritage from the strong anti-nuclear movement and the phase-out referendum, combined with the present-day public acceptance of nuclear power, does not seem to indicate a clear way forward. The debate after Fukushima has underlined the presently strong polarisation on nuclear issues in Swedish politics: the Left and the Right are deeply entrenched and not ready to review their positions despite events outside Sweden.

Finnish Nuclear Power

In Finland, the origins of nuclear power are closely intertwined with the Cold War. The balance between East and West was sensitive in Finland during the time the first reactors were built. Another decisive factor has been the role of energy-intensive private industry. Teollisuuden Voima (TVO), a consortium of forest and paper industries and power utilities controlled by them, was active in ordering nuclear reactors from the West.

Another persistent characteristic of Finnish nuclear policy has been the complete absence of a debate about phasing out nuclear energy (cf. Sunell 2004: 179ff, 205). This tendency, as opposed to developments in Sweden and Germany, has survived the accidents in Three Mile Island, Chernobyl and, most recently, Fukushima. Safeguarding the competitiveness of the Finnish industry by providing it with cheap, reliable and domestically produced energy is an argument that has enjoyed remarkably widespread support in Finnish society. Most strikingly, not even the environmental and anti-nuclear movements in Finland have ever genuinely demanded a nuclear exit. Many reasons for this absence have been discussed, but two more

recent elements seem to stand out to provide the most plausible explanation: the government's climate and energy strategies portraying nuclear power as a means to reduce greenhouse gas emissions and the decisions on the final deposition of nuclear waste. In 2001, the decision-in-principle for a final repository in Olkiluoto was approved by Parliament. Although the decision technically concerned only the site selection, soon afterwards it was framed as a *>solution<* to the nuclear waste issue.

Finland is notably one of very few countries in the Western world that is actively building new nuclear power. TVO is now preparing a fourth unit in Olkiluoto and Fennovoima plans to build a nuclear power plant in Pyhäjoki in Northern Finland. Not even the massive problems and expanding costs of the Olkiluoto 3 power plant have been able to change the generally positive attitudes towards nuclear power.

In Finland the Fukushima accident occurred at a time of intense preparations for parliamentary elections. The news from Japan naturally made the main headlines for several days, but the political fallout in Finland was very limited. One might have imagined that the future of nuclear energy would have become a major election theme, but that was not the case. Not even the Greens made a major theme out of nuclear energy. Their party leader simply wanted to rule out additional decisions-in-principle for new nuclear power plants during the next legislative period – hardly a radical phase-out agenda (cf. Sinnemäki 2011).

The election result proved to be problematic for coalition building and the negotiations lasted longer than usual. Finally, an exceptionally broad six-party coalition led by the conservative Coalition Party agreed on its government programme in late June 2011. Direct references to nuclear power in the programme are limited to two short paragraphs: the option of giving new decisions-in-principle for new nuclear power plants during the legislative term 2011–15 is explicitly ruled out, but immediate processing of construction permits for the ones that have already received the decision-in-principle is promised (Cabinet of Finland 2011). No political party genuinely questioned the permits granted only a year before, let alone talked about a nuclear phase-out.

Representatives of the energy industry and officials in the Ministry for the Economy responsible for energy policy,



on their behalf, were quick to highlight possible problems due to the German decision. Their main worries concerned the potential impact of rising electricity prices in the internal European market and their implications for Finland. Another concern was the impact of the German phase-out on European climate protection efforts, since the general assumption was that the gap left by nuclear would be filled with fossil fuels. Voices arguing for the frontrunner role of Germany in the field of renewable energy technology were in the minority (cf. Pietiläinen et al. 2011).

What possible explanations are there for the Finnish response? Finland certainly shares the fairly relaxed public attitude to safety concerns in its own nuclear power plants with Sweden – from the Finnish perspective, nuclear accidents tend to happen in totally different political or geographical circumstances. The Finnish radiation and nuclear safety authority, STUK, enjoys widespread public trust as a reliable and independent regulator.

The climate argument also plays a role in Finland, but, in contrast to Sweden, it is accompanied by a very strong industrial element. The relatively recent rebranding of nuclear energy as emissions-free has been combined with the traditional role of energy-intensive industry in Finland and the country's overall willingness to maintain its competitiveness by means of affordable energy. This combination has strengthened even further a Finnish peculiarity, namely, the complete absence of a discussion of a nuclear phase-out.

In Finland, Chernobyl's impact has never materialised in discussions about a nuclear phase-out. The decisive fork in the road was at the turn of the century – the decision taken for Olkiluoto 3 in 2002 brought Finland more permanently onto a different path. The historical lack of phase-out debates is now fortified by a relatively broad consensus in favour of additional nuclear power plants, too. Hence, a more long-term future for nuclear power seems to be set in stone in Finland. At least the Fukushima accident and the subsequent German *Energiewende* were not sufficient to alter this conviction.



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