

He will push for the expansion of new nuclear power

NUCLEAR POWER Building new supply chains and skills, lowering investment thresholds and creating a favourable development environment. There are many issues on Carl Berglöf's desk as the new nuclear power coordinator. Now the processes must get started if we are to have new nuclear power by 2035," he says.

Last updated: 05-02-2024 07:53

Subject areas: [Taxes & policy instruments](#), [Electrification](#), [Nuclear power](#)



"It feels honorable and exciting to be the one who drives the nuclear power work," says Carl Berglöf, new nuclear power coordinator.

On 1 February, Carl Berglöf took over as national nuclear power coordinator. He brings with him 20 years of experience in the field of nuclear power and a PhD in reactor physics from KTH. Most recently, he worked at Energiföretagen, where he was an expert in nuclear power, and he has previously worked with the planning of new nuclear power at Vattenfall.

Now the focus will once again be on new nuclear power, where he in his new role will support the government with the expansion of nuclear power. It is also about driving the work on new nuclear power forward.

"Initially, it's very much about listening to what the need is and establishing the structures that exist to be able to continue working. For example, it is a question of which collaboration functions are needed and which reporting lines are to be established. I'm also going to build up an office, and initially it's about me and a couple of other people," says Carl Berglöf.

What attracted him to the job is above all that it means a central position to enable the nuclear wave that is planned.

"The fact that Sweden is going to push through a second nuclear power programme is historic and it feels honourable and exciting to be the one driving forward this work," says Carl Berglöf.

Two large-scale reactors by 2035

According to the roadmap, which the government together with the Sweden Democrats, presented in November last year, the effect equivalent of two large-scale reactors will be in place by 2035 and by 2045 the ambition is for there to be the equivalent of ten new large-scale reactors. To achieve this, the most central elements are to put in place a financing model and that there is a clear permit process, according to Carl Berglöf.

"Investing in new nuclear power involves a business risk because it involves large projects that extend over a long period of time. Here, the government can be involved and contribute by reducing, for example, the political risk and thereby reducing the business risk," he says.

"When it comes to the permit process, it is important that it is efficient and predictable, so that investors dare to invest. It is important that the process is predictable so that investors know when they can expect a decision. There are also new directives from the EU on how to set up such processes in the member states.

” We will not have time to start new major investigations, but now the processes must get underway if we are to have a chance of achieving the goal of new nuclear power by 2035.

Reports on funding and licensing

Both the issue of financing and licensing are now being investigated.

Mats Dillén, former Director-General of the National Institute of Economic Research, is investigating the financing and the investigation is to be completed by August this year. His assignment includes submitting proposals for models for financing and risk-sharing for new nuclear reactors.

When it comes to streamlining the licensing process for nuclear power reactors, these are being investigated by lawyer Pernilla Sandgren and the investigation will be fully completed in February 2026, but some parts will be reported as early as the end of 2024.

"The fact that these issues are being investigated makes me feel secure in my assignment. We will not have time to start new major investigations, but now the processes must get underway if we are to have a chance of achieving the goal of new nuclear power by 2035. When these investigations are concluded, the time for new investigations will be over," says Carl Berglöf.

He highlights another important part of his new assignment, and that is to lower the thresholds so that more players may want to invest in new nuclear power. By 2035, his assessment is that it will primarily be a matter of using existing sites where there is nuclear power today.

"In the short term, we have to hope that the companies that currently own nuclear power are interested in investing in new nuclear power.

"However, if you look to 2045, where the goal is to reach the equivalent of ten large reactors, completely different opportunities open up. It can be about new places, new players and new areas of application in electricity, heat and industry. Then there will be a broad palette of measures needed to achieve these development paths.

Great interest in nuclear power

Carl Berglöf's view is that there is a great deal of interest in new nuclear power in Sweden, and he points to a couple of current events that confirm that picture.

"Recently, 14 industry players signed an opinion piece in Dagens Nyheter in which they highlight nuclear power as necessary to gain access to affordable electricity. They are prepared to co-finance nuclear power and buy such electricity, which shows that there is a clear interest on the part of the industry.

He also points to a broader interest in investing in Swedish nuclear power.

"I have been contacted by Norwegian investors who believe that if Swedish nuclear power is developed, it will also benefit Norway. If you get a broader ownership base, it also guarantees a better long-term perspective. If the nuclear power plant is to be owned or partly owned by the export industry or foreign actors such as pension funds, it will be more difficult for future governments, which may be critical of nuclear power, to abandon these plans.

Carl Berglöv also sees that electricity-intensive industries can become co-owners of nuclear power plants. There are several electricity-intensive companies that have their own electricity production, but today that production does not come from nuclear power.

"Nuclear power is special because it requires a different type of safety and specially trained operating personnel, but it could be solved, for example, by having one company that owns the nuclear power plant and another that operates it.

"This is actually already happening today, but with the difference that today's owner companies sell the electricity on instead of consuming it themselves. It is also conceivable that you have an owner company that is also responsible for the nuclear responsibility, but buys in an operating organisation.

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There are many indications that Ringhals will be one of the sites for new Swedish nuclear power.
Photo: Istock.

Skills need to be built up

Many countries in addition to Sweden now have far-reaching plans for new nuclear power. Although Sweden has the most nuclear power per

capita in the world, the last reactor was commissioned 39 years ago. When nuclear power was expanded, there was also domestic industry in the expansion of nuclear power.

Are there suppliers and expertise to expand Swedish nuclear power?
"We have a good starting point because we are a large nuclear power nation and have a good base of subcontractors and expertise in the nuclear field, but it is not enough for what is to come. We are not ready to take on a new construction today, but the skills and supply chains that will be needed must be built up.

"For that, I think we need sharp projects that send a clear signal. An application to the Swedish Radiation Safety Authority for a new reactor could be such a starting signal that makes the supply chain start to prepare and hire staff, etc.

Getting components and the right personnel are issues that end up on Carl Berglöv's desk.

"It's about creating a favourable development environment for companies in the supply chain," he says.

What kind of nuclear power we will see in Sweden in the future, however, is not part of Carl Berglöv's assignment, but in order to achieve the long-term goals, he believes that we in Sweden will see both traditional nuclear power and SMRs (small-scale reactors).

"SMR is currently not a proven technology, but it can be based on a proven technology, so it will be the first time an authority has taken on this. There will therefore be a slightly longer start-up time for licensing issues. Using technology that has already been built should be faster, which argues for large-scale nuclear power by 2035. However, the construction time for small-scale reactors is expected to be shorter, but if you are going to invest in SMRs, several parallel tracks are needed because they have lower power.

➤ The goal is for a first SMR to be in operation somewhere in the EU within ten years and I hope that it will be in Sweden.

EU forms SMR

Industrial Alliance At the same time, Carl Berglöv points out that Vattenfall, Fortum and Kärnfull Next, together with Studsvik, are now

conducting studies on SMRs, so there may be results that will make SMRs interesting as early as 2035.

What also speaks in favour of SMRs is that the European Commission will form an industrial alliance in the spring to enable SMRs within the EU within ten years. This is the first time that the EU has made proactive efforts to promote nuclear power, and this includes creating conditions between the countries that want to expand nuclear power, so that harmonised specifications of requirements and specially optimised licensing processes are ideally obtained.



Possible design of future SMRs. Graphic: Waterfall.

"In this way, suppliers do not have to make adjustments to their designs in each country, which they have to do today, and this is something that drives up costs.

"Here, the EU wants to link arms with the industry, so that it becomes a workshop and not just a paper product. The goal is for a first SMR to be in operation somewhere in the EU within ten years and I hope that it will be in Sweden.

There were high hopes for several small-scale modular reactors in Utah in the United States, but Nuscale Power was recently forced to shut down its investment due to a lack of customers who wanted to sign contracts.

"It was a setback, but there are many SMR projects underway and not all of them will survive. Nuscale was one of the projects that was at the forefront, so in that respect it was particularly sad, but there are many companies in the SMR area, so Nuscale's investment is not something that worries me," says Carl Berglöf.

➤ It is important that the operators involved in the construction of nuclear power plants do their homework and learn from previous megaprojects.

Standardized processes

Regardless of the choice of technology, there is an urgent need to produce new electricity production, and it is crucial that new nuclear power projects keep to schedules. Looking at neighbouring Finland, their new Olkiluoto 3 nuclear power plant was delayed by as much as 14 years. Keeping to budgets is also important.

"In order to meet both schedules and budgets, it is important to reduce the risks, and one of my most important tasks will be to identify risks and address them. It is also important that we are able to develop more standardised processes, so that not every project reinvents the wheel.

"It is also important that the actors who will build the nuclear power plants do their homework and learn from previous mega projects that it means to build new nuclear power and act on that experience," concludes Carl Berglöf.

Carl

Berglöf is Sweden's national nuclear power coordinator and is thus a special investigator. His investigation will run from 1 February 2024 to 31 December 2026. He will have a central role in supporting the government and bringing together stakeholders in the work of expanding nuclear power in Sweden. The assignment includes, among other things, following up and analysing how the work on the expansion of nuclear power is progressing and identifying the need for supplementary measures that are needed to drive the work forward.

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