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# Summary

Our “Roadmap for Electricity – for a fossil-free society” is significantly different from the other roadmaps produced for “Fossil Free Sweden”, initiated by the Swedish Government. The Roadmap for Electricity focuses on how the energy industry will enable a national energy transition away from fossil fuels in all sectors. At the same time, the industry undertakes to phase out the last 2 per cent of fossil fuels in Swedish electricity production by 2030 at the latest. The energy sector is understood here to mean Swedenergy (Energiföretagen Sverige) and our member companies.

Fossil Free Sweden’s roadmaps show that moving away from fossil fuels involves a major transition to fossil-free electricity. Demand for electricity from fossil-free fuels will increase substantially to allow Sweden to reach the net-zero emissions target by 2045. Our analysis suggests that Sweden will have an annual electricity consumption of 190 TWh in 2045 compared to today’s 140 TWh. The analysis is based on the roadmaps of other industry sectors, which include an extensive electrification of industry and transport and the establishment of new electricity-intensive industry, such as data halls.

Sweden has experienced strong expansion of the electricity system on previous occasions, but then under completely different conditions. This time, it will take place in a deregulated electricity market, with more stringent environmental legislation, where Swedish legislation is closely integrated with EU legislation, at the same time as the electricity system is undergoing major changes with fast growth in renewable electricity production.

Our country was early to build a nationally coherent electricity system. We therefore have one of the oldest transmission grids in Europe. Also, our distribution grids have been in place for many years, so there is an extensive need for new and re-investment in electricity grids. Most of today’s electricity generation plants will also need to be renewed or replaced before 2045.

Given the substantial investments that need to be made, long permit processes and investment cycles, 2045 is not far off. Many barriers need to be removed to enable and facilitate the transformation of society, such as the long permit processes. This requires action – and urgently. At the same time, changes in the regulatory framework must be implemented in a holistic way, to ensure the most cost-effective transition as possible for society, while maintaining our high security of supply and competitiveness. As other industries point to electricity as the key to the transformation of society, the electricity sector must lead the way and be at the forefront in order to have time to create the conditions for the transition. It is therefore essential that as soon as possible the energy sector is given the right conditions to become the driver of the transition that we want to and should be.

The overall commitment of the energy industry for a fossil-free society is to meet the growing demand for fossil-free electricity in balance with other societal objectives: security of supply, competitiveness and sustainability. This is crucial for enabling other sectors of society to meet their climate objectives.

In order to meet our overall commitment, among other things the energy industry will:

- Engage with different actors in society in order to increase confidence that all parties are doing what is necessary to achieve the climate objectives. We will create a platform to increase dialogue and knowledge in society and stimulate and shape partnerships with other actors.
- Participate in enhanced cooperation at distribution grid level around planning and prioritising grids and grid capacity to respond to the needs of the fossil-free society. At the same time, electricity network operators will develop Sweden's high level of security of supply through continuous modernisation and development of the grid.
- Analyse the design requirements for the electricity market and the regulatory framework in order to enable the investments necessary to become fossil-free. In the course of our work, we will seek broad interaction with stakeholders in the energy sector and beyond in order to contribute qualified input to policy makers.

In order for the energy sector to be able to meet its commitments, the right conditions are needed. We want to be clear that our commitments will not be achievable under current conditions, and hence not the climate objectives either. But what we ask is by no means impossible. What is needed is a long-term perspective, consistent policy and courage.

The problem of limited availability of electric power and shortage of capacity in the electricity grid is particularly noticeable on cold winter days. District heating has a key role to play there. By heating buildings with district heating rather than electricity, while producing electricity in CHP (combined heat and power) plants, the electricity system is relieved in the critical hours.

The Swedish parliamentary parties need to conclude a broad energy agreement with a holistic approach to the energy system. As part of this, we want the energy sector, customers, politicians and other actors in society to come together in a broad framework to ensure an effective transition. A framework that aims to do what is good for the climate, good for the economy and good for Sweden — and to act accordingly. We present below our main calls to politicians, that need to be started as soon as possible:

- Shorten permit processes radically for electricity grids, power generation and industries that are to switch from fossil fuels. Long and unpredictable permit processes are one of the main obstacles to transition. In particular, the Environmental Code needs to be aligned with national climate objectives and resources provided to review authorities and courts.

- Instruct the Swedish Transmission System Operator (Svenska kraftnät) to cooperate on a broad-basis with different actors in society in the planning and prioritisation of the transmission grid and grid capacity. This should result in an electricity grid plan that takes into account the climate issue and responds to the needs of the fossil-free society at both national and Nordic level.
- Commission a statepublic report or similar on developing sustainable, predictable and long-term electricity network fees that will stimulate economically efficient development of electricity grids, both flexibility and grid development, with a balance between and acceptance by the different interests of society.

The energy sector has fantastic potential to make a major contribution to the transition to the fossil-free society so that Sweden continues to be the leader we want to and can be. It is with great enthusiasm we take on the continued development of Sweden's energy system, which is already one of the world's foremost, for and with our customers.