

CONSEQUENCES OF THE SWEDISH ENERGY POLICY

Mrs. Pia ALMSTRÖM

Representative of the municipality of Kävlinge for the Conservative Party

Vice Chairman of the Executive Committee

Vice Chairman of the Local Safety Committee

Vice Chairman of KSO

Sweden is unique among the industrialised nations of the world to be affected by a decision that puts our whole future and welfare at risk, and places us in a position of dependence on others in an area where we, until now, have been practically self-supporting. I am referring to the Parliamentary decision on energy policy, made in 1997, after lobbying pressure from populist and anti-progressive groups, and eagerly supported by the media, especially radio and television, with these "opinion leaders" suppressing all views but their own.

The parliamentary decision on energy policy, made in the spring of 1997, is a highly unfortunate one. The policy guidelines adopted for energy damage Sweden as an industrial nation. The decision to start a premature phasing-out of nuclear power is especially serious. It involves an unprecedented waste of capital, which will negatively impact on our economy, damage our environment and make it even more difficult to fight unemployment.

The decision mandating an early phase-out of nuclear power was poorly prepared. Neither the Swedish people nor their representatives in parliament have been informed about all the aspects of the consequences of the phase-out. It is clear, however, that the phase-out involves a gigantic destruction of capital that threatens employment, the environment and our standard of living.

In addition to the phase-out of nuclear power, the other cornerstone of the 1997 energy policy decision was the so-called "transition programme." In the spring of 1997, the Swedish parliament approved a new five-year plan, appropriating 3.1 billion kronor for grants to reduce electricity consumption and for investments in new sources of electricity, and a seven-year programme of grants for the research and development of new technologies, totalling 5.6 billion kronor. Adding to this, the costs of the new Energy Authority, the proposed price of these measures exceeds 9 billion kronor. The purpose of the programme was to reduce electricity consumption and increase electricity production, which would make it possible to close Barseback 2. The decision establishing these new programmes was described in dramatic terms, by the Social Democrats as "a powerful, long-term investment in research, development and demonstration of new energy technology," which would transform Sweden into an ecological model country. In actual fact, the lack of new ideas is striking.

An evaluation of the effects of the transition programme can now be made. The government wrote in its spring budget bill that "follow-ups done so far indicate that certain of the measures included in the energy policy are not leading to the attainment of the objectives set." This applies first and foremost to the measures to reduce electrical power within the framework of the grants for reduced electricity consumption.

COWI, Consulting Engineers and Planners, commissioned by the Ministry of Trade and Industry, has evaluated the first year of the transition programme, and presented their report on 16 August 1999. The report showed that six of the 18 projects of the programme could not even be evaluated since they had not produced any results at all. These projects included support for small-scale hydroelectric schemes, the purchase of new electricity production technology, energy supply in southern Sweden, introduction of new energy technology, energy system research, and research cooperation in the Baltic region.

Two of the four projects relating to new energy production using renewable energy sources produced no results. Subsidies sought for bioenergy-based combined power and heating schemes have exceeded the appropriation. In spite of this, few plants have been built, due to poor profitability.

It is extremely unfortunate when state grants tend to continually subsidise old-fashioned, existing technology. Energy policy should be directed at increasing economic activity and prosperity. The state should not plan and closely regulate the development of the energy system, but instead establish sustainable long-term limits and conditions. It is the producers that should bear the responsibility for the ongoing transformation, environmental adaptation, and renewal of energy production.

Energy policy is an instrument to help reach general goals, such as increasing competitiveness, maintaining a good environment and promoting prosperity. Nuclear power is not an end in itself, but neither is its phasing out. Every kind of energy production has its advantages and disadvantages. The disadvantages of nuclear power can be overcome, with an ample margin.

The free market should set the terms of energy efficiency and conservation. The state should considerably reduce the grants in the energy area, and not subsidise investments in new power production. Instead, long-term research and development should be prioritised. Research into the development of nuclear power is not allowed in Sweden today.

Since the Swedish energy market was deregulated, conditions have changed totally. Pricing, investment decisions and planning are now made based on the information that the electricity market conveys to consumers and producers.

The energy policy must make full use of all the opportunities created by the deregulation of the electricity market. The continuing transformation, environmental adaptation and renewal of the energy system are best benefited if the state can provide conditions for long-term stability for the power companies, industry and households, which are the entities who are in the best position to make decisions regarding investments in power production and energy consumption. The power industry can then take full responsibility for its own development.

Energy policy should contribute to a return to full employment. Energy use, in general, and the level of energy consumption, in particular, is closely connected with economic growth.

Swedish support to energy research constitutes only a fraction of global research efforts, and should therefore be concentrated to those areas where few other parties are taking responsibility. These primarily include financing energy research, especially long-term research, and promoting information to electricity users, in order to accelerate the dissemination of new technology.

State efforts are important in the area of energy research. At the same time the energy debate includes a lot of wishful thinking about the possible short-term results of research. Research and development work is very long-term and requires patience. Because Swedish energy research is only a small fraction of global research efforts, major technological breakthroughs will not depend on how many billions are spent in the Swedish budget.

In 1998 there were 434 power-producing reactors in operation in 31 countries. Just over 30 reactors were under construction in 13 countries. IAEA, the international atomic energy body, estimates that nuclear power production will continue to grow in the world by an average of 2-3 per cent per year.

The population of the world will double in the next 50 to 100 years, and energy production needs to be doubled by the year 2050. In order to prevent increased discharges of carbon dioxide, energy sources other than coal, oil and natural gas must be used to meet the world energy needs. Wind power, hydroelectric power and bioenergy will not be enough.

It is therefore important to consider the environmental consequences of the closure of the Barsebäck plant.

A comparison of emissions in Sweden to in Denmark, which has no nuclear power, reveals that Denmark emits 10 times more carbon dioxide and 20 times more sulphur dioxide and nitrogen oxides.

We therefore need nuclear power to meet the energy demands of the future. Today's reactors are already environment-friendly and in the long-term can be made even safer and more economical in their use of fuel.

Every terawatt-hour (TWh) of energy that is produced in a nuclear power plant rather than a coal-powered station avoids the emission a million tons of carbon dioxide. The closure of Barsebäck 1 increased the CO₂ release by approximately 3.5 million tons annually. This more than doubled the contribution of Sweden to the global CO₂ emissions related to electricity production.

I am convinced that renewable energy sources will become commercially competitive – in the future. But to reach the Kyoto objective, we should continue to use nuclear power for as long as it is commercially competitive and as long as there are no other ecologically sustainable systems.

Figure title: **Swedish balance of energy**
Axes on graph: **MWh per day**
15 November 1999 – 15 January 2000
Labels on graph: **Barsebäck 1 closed here.**

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Caption:

According to the Government and its supporting parties, the closure of Barsebäck was to be the start of the ecologically sustainable society. Instead, the closure meant that Sweden changed from an energy-exporter to an energy-importer on the day the reactor was closed. This will lead to a great increase in carbon dioxide, sulfur, nitrogen and particulate emissions into the air.