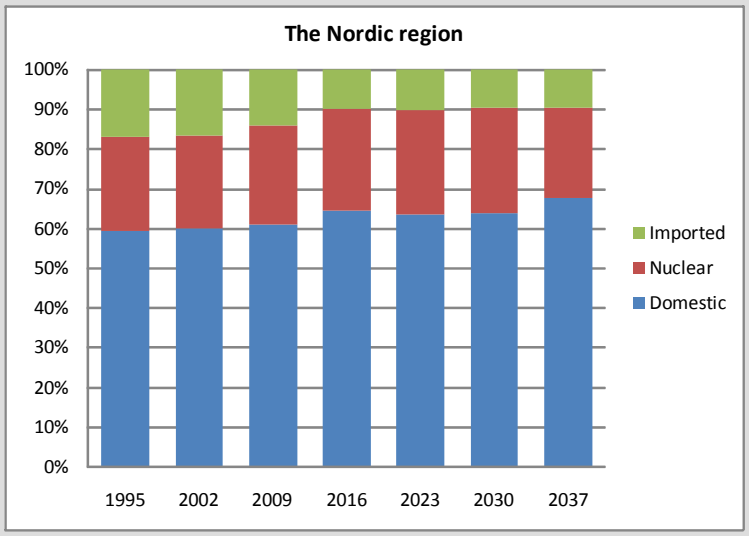
Improved security of supply with EU´s 20% goals

- the import dependence decreases in the Nordic energy system as a consequence of increased use of renewable energy and decreased use of fossil fuels

If EU´s goals of at least 20% renewables in the energy mix and a reduction of carbon dioxide emissions by 20% are implemented, the import dependence for the Nordic energy system (excl. transport) decreases. Preliminary model calculations by the NEP project show that the two 20% targets together increase the share of domestic energy to at least two thirds of the energy mix (calculated as primary energy).

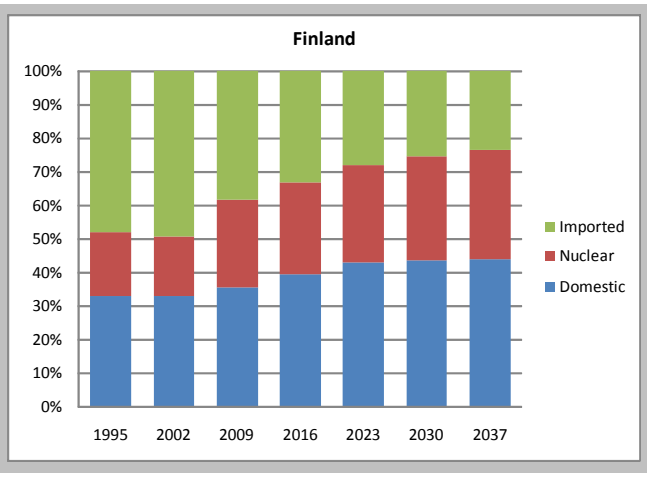
In the analyses we have made a number of simplifications in the assumptions. For the Nordic region we have – in these initial preliminary calculations – considered all oil and natural gas as being domestic (in a Nordic perspective), with reference to the resources in Norway and Denmark. All biomass has also been defined as domestic.



The share of primary energy in the Nordic energy system (excl. transport) which are imported or domestic. Nuclear is presented separately (see explanation below).

The import dependence decreases also in each country

- and would decrease even more if priority was given to security of supply

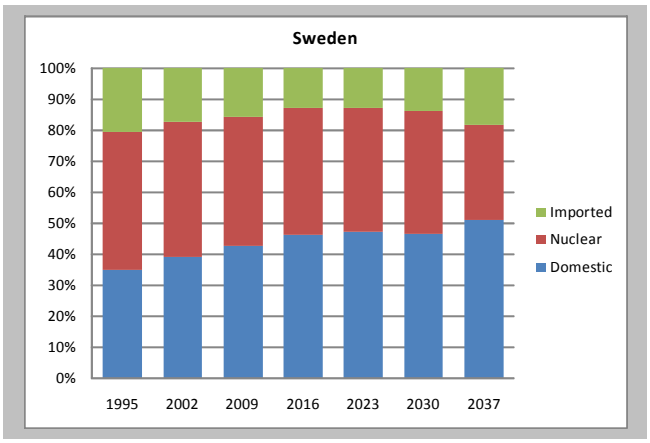


The import dependence on a national level in the Nordic countries also decreases as a consequence of the EU´s goals, in spite of the fact that oil as well as natural gas are imported fuels in both Finland and Sweden. The EU 20% directives leads to a decrease in the use of fossil fuels in all Nordic countries.

In Finland the use of nuclear energy also increases, after the start-up of the 5th reactor. By showing nuclear energy separately in the figure we would like to raise the question whether this should be regarded as imported or domestic. The fact that the uranium fuel today is imported is indisputable, but the Nordic uranium resources are also large.

In the Nordic countries there are also large resources of peat and renewable energy which are not used in the scenarios upon which the figures are based. In a scenario which is more focused on security of supply, these resources will be of great importance.

The research question regarding security of supply is of course more extensive than just analysing the import dependency. In the coming NEP analyses we will present a more complex picture. This first synthesis paper still gives a first interesting insight in the future development in this field.



Note: ETS price on CO_2 is set to 20 Euro/ton. Electricity import to Finland from Russia is set to 12-13 TWh/yr during the period studied. All oil and gas in Finland and Sweden are seen as imported in the national analysis but domestic in the Nordic perspective. Primary energy use increases 15% from 2002 to 2030.