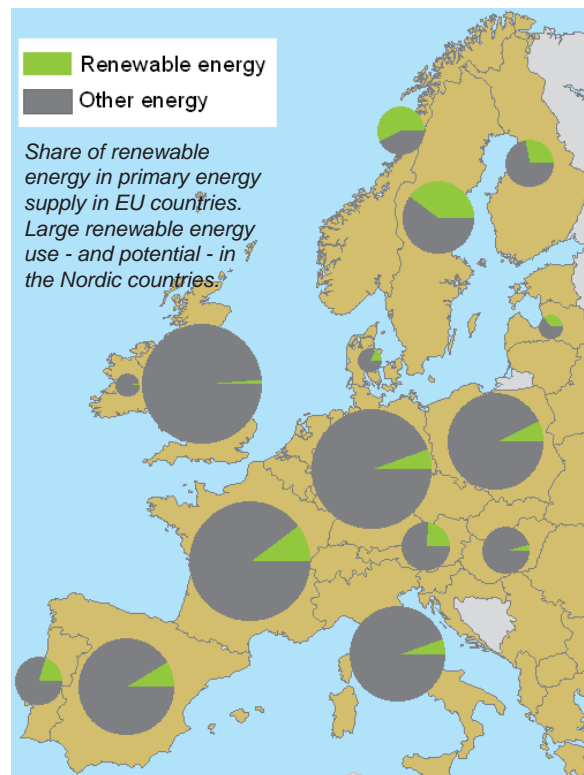


# The RES directive changes the market balances

- the Nordic countries may become a large exporter of electricity

Implementation of the RES directive shifts power market balances and trade patterns in Europe significantly. Large sources for renewable energy in the Nordic countries together with the EU RES directive lead to large electricity export.



The Nordic area has large and relatively cheap potentials for renewable energy sources (RES), as shown in the map. The EU RES directive aims at increasing the share of renewable energy in the EU countries. Although a burden sharing between the EU countries has been proposed, analyses from the Pathways project indicate that the Nordic countries may become a large exporter of electricity. This electricity export may increase even further if international renewable electricity certificates are applied, making it possible to fulfil the common RES targets by means of the most cost effective alternatives.

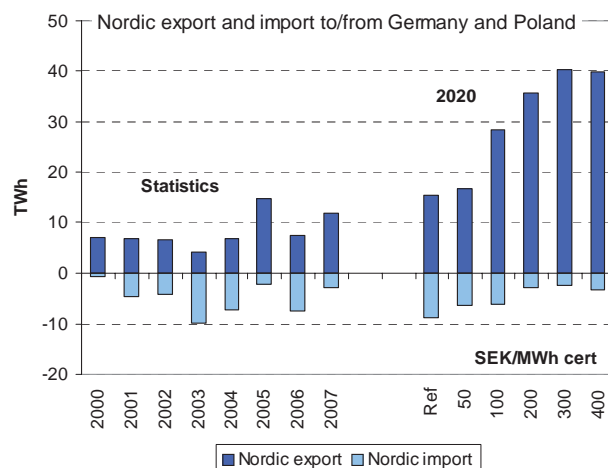
figure shows the power exchange between the Nordic countries and Germany/Poland for the year 2020. High electricity certificate prices increase the net export from Finland, Sweden and Norway significantly; from 5 – 10 TWh to 35 – 40 TWh.

## New interconnectors profitable

This leads to investments in additional interconnectors (which is dealt with in the calculations). The large Nordic electricity export is a clear indication of the comparative advantages for renewable electricity production in the Nordic countries.

## Finland, Norway and Sweden exporters

By means of the MARKAL-NORDIC model an increased electricity production based on renewable energy sources (RES) in northern Europe has been studied (the Nordic countries + Germany and Poland). The analysis has been made by introducing a common renewable electricity certificate system in the North European countries, where different levels of electricity certificate prices has been studied. Higher electricity certificate prices increase the electricity production in the Nordic countries. The



Nordic export and import to/from Germany and Poland. (The reference case assumes that the present policy instruments are applied, not national RES targets).

### THE RES DIRECTIVE

**Targets:** In order to reach the 20% RES target, the electricity sector is set to increase RES-E generation to an estimated 30-35% from today's level of around 8,5%.

**Burden sharing:** Remaining potentials for RES-E generation and the ability to lift such massive investments vary across EU member states. The Commission has proposed a burden sharing which takes these factors into account. The result is that RES-E investments will be unevenly distributed among member states.

**Measures:** An EU wide market in Guarantees of Origins have been rejected by major member states. Certificate trade in the form of joint target compliance, joint projects of transfer certificates will be permitted.

For further information:

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