



Promotion of Renewable Energy & Energy Efficiency

Looking at Norway





Promotion policies in Norway

1. **Investment support**
2. **Green certificates:** The government decide the production of renewable electricity, and the price is set by supply and demand in the free market.
3. **CO2 tax on fuel oil, diesel and gasoline:** Oil and gas sector pay high CO2 tax, others pay less, companies under the emission trading scheme do not pay.
4. **R&D:** Norwegian Research Council



Target

Increased annual production of renewable energy and energy efficiency by 30TWh from 2001 to 2016



Investment support



- Enova was established by the Ministry of Petroleum and Energy in 2001
- Goals are defined by the parliament, but Enova operates independent of the political system.
- Provides incentives and financial mechanisms for market stimulation
- Enova's objectives apply to stationary land-based use and production of energy
 - not transportation or off-shore sector
 - not research activities



Enova's Goals

1. More effective energy use
2. Increased use of other energy sources to electricity, oil and natural gas for heating
3. Increased production of energy from renewable sources
4. Introduction and development of new technologies and solutions in the energy market
5. A well functioning market for effective and environmentally friendly energy solutions
6. Increased knowledge in society about the opportunities to take advantage of effective and environmentally friendly energy solutions

Enova web portal

Senter for søknad og rapportering

Enova SF | Svartjenesten


Hovedsiden

Velkommen til Enovas Søknads- og rapporteringssenter

Enova organiserer sin støtte gjennom program. På disse sidene finner du en oversikt over skjema og veiledninger for å søke om støtte. Informasjon om programmene finner du på egne sider.

Ny søknad

Enova har for tiden følgende støtteprogram:

Program	Kriterier og veiledning
Forprosjektstøtte til Energibruk - Industri	Les Opprett søknad
Energibruk - Industri	Les Opprett søknad
Støtte til utredning av passivhus	Les Opprett søknad
Støtte til passivhus og lavenergibygg	Les Opprett søknad
Støtte til eksisterende bygg og anlegg	Les Opprett søknad
Kommuneprogram	Les Opprett søknad
Varmesentraler	Opprett søknad
Biogassproduksjon	Les Opprett søknad
Fjernvarme nyetablering	Les Opprett søknad
Enovas Vindkraftprogram	Les Opprett søknad
Fornybar marin energiproduksjon	Les Opprett søknad
Innovative energiløsninger	Les Opprett søknad
Introduksjon av ny teknologi	Les Opprett søknad
IEE II - Forprosjektstøtte	Les Opprett søknad
IEE II - Nasjonal medfinansiering	Les Opprett søknad

Fremdrifts og regnskapsrapport

Prosjekter som har mottatt støtte fra Enova skal levere fremdrifts og regnskapsrapport. For å levere rapporter må du logge deg inn på senter for søknad og rapportering.

[Send fremdrifts og regnskapsrapport](#)

 **Logg inn**

For registrerte brukere

E-postadresse

Passord

Logg inn

[Glemt passord?](#)

[Registrer ny bruker](#)

 **Trenger du hjelp?**

Prøv [Enova kundesenter](#) for hjelp og ofte stilte spørsmål.

For gratis telefonhjelp ring 08049



Enovas procedures

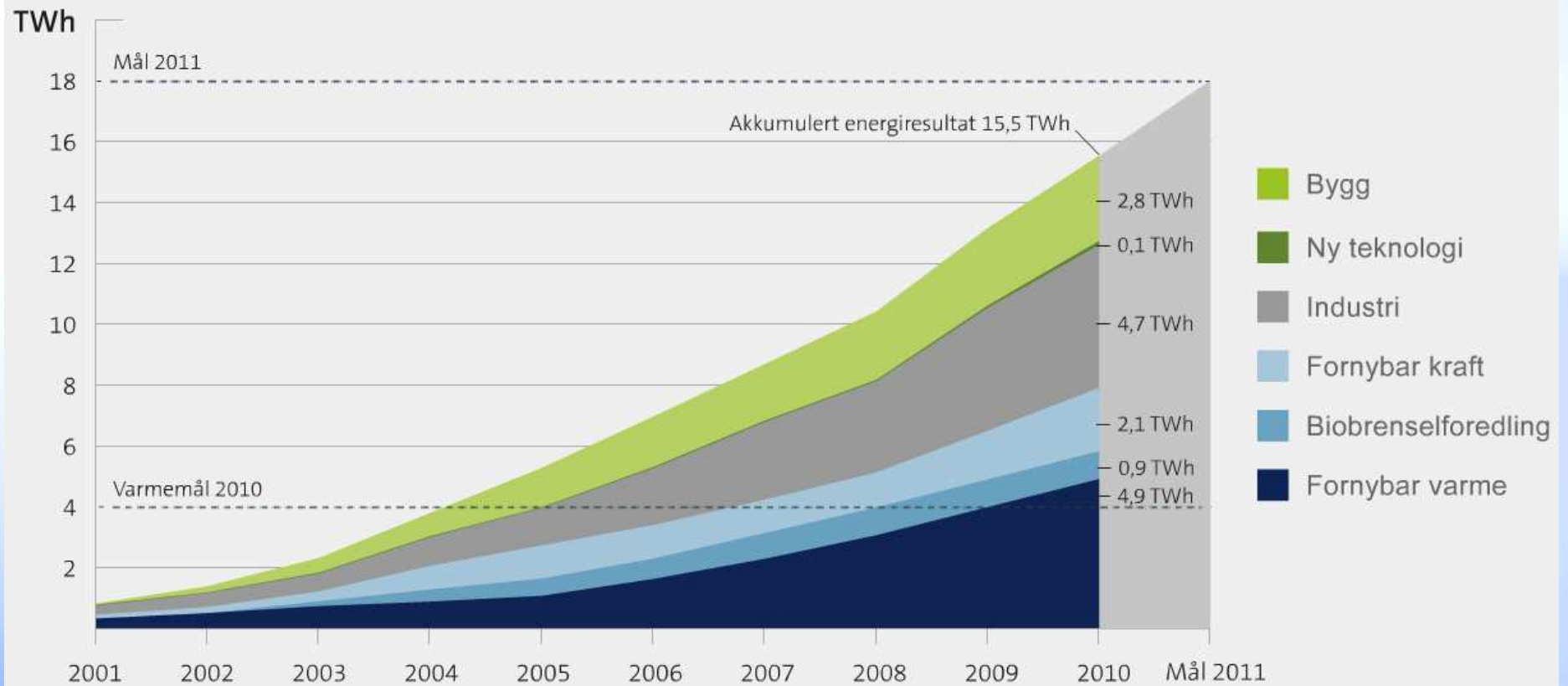
- Internet based application and reporting
- Payment of the approved funds depends on the energy results reported to Enova
- Enova does NOT fund:
 - Investments where energy reductions can not be monitored
 - Projects already started or decided carried out
 - Research and development projects



Enova – Funding

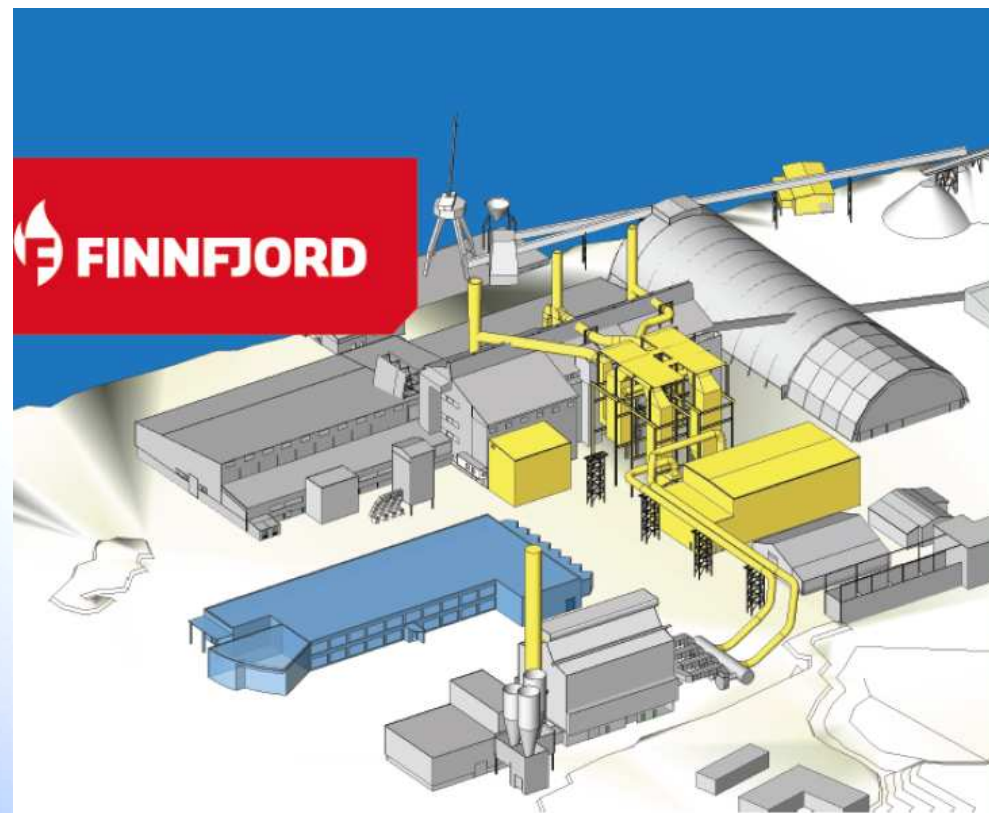
- Funding sources
 - Levy on the electricity tariff 1 øre/kWh (0,1 Eurocents)
 - Grant allocation
 - Interest
- Estimated total funding for 2011: 236 mill Euro
 - Levy: 100 mill Euro
 - Grant: 122 mill Euro
 - Interest: 14 mill Euro
- 2001-2010 : support provided to 15.5TWh of energy reductions and produced renewable energy (*eq. 10% of all stationary energy use in Norway*)

Results and goals 2011



WHR at Finnfjord Ferroalloy

Total investments: 88 mill Euro /Investment support 20 mill Euro



WE GOT THE POWER

VI BYGGER VERDENS MEST
ENERGIEFFEKTIVE SMELTEVERK!

Som Norges største industrielle gjenvinningsanlegg vil vi gjenvinne 340 GWh elektrisk kraft.

Dette tilsvarer det årlige kraftbehovet til 22.000 husholdninger, eller produksjonen til et halvt Altakraftverk.

Hvis denne kraftmengden var produsert av kullkraft, ville det gitt et utslipp på 240.000 tonn CO₂.

FERDIGSTILLELSE

NOVEMBER 2012



www.finnfjord.no

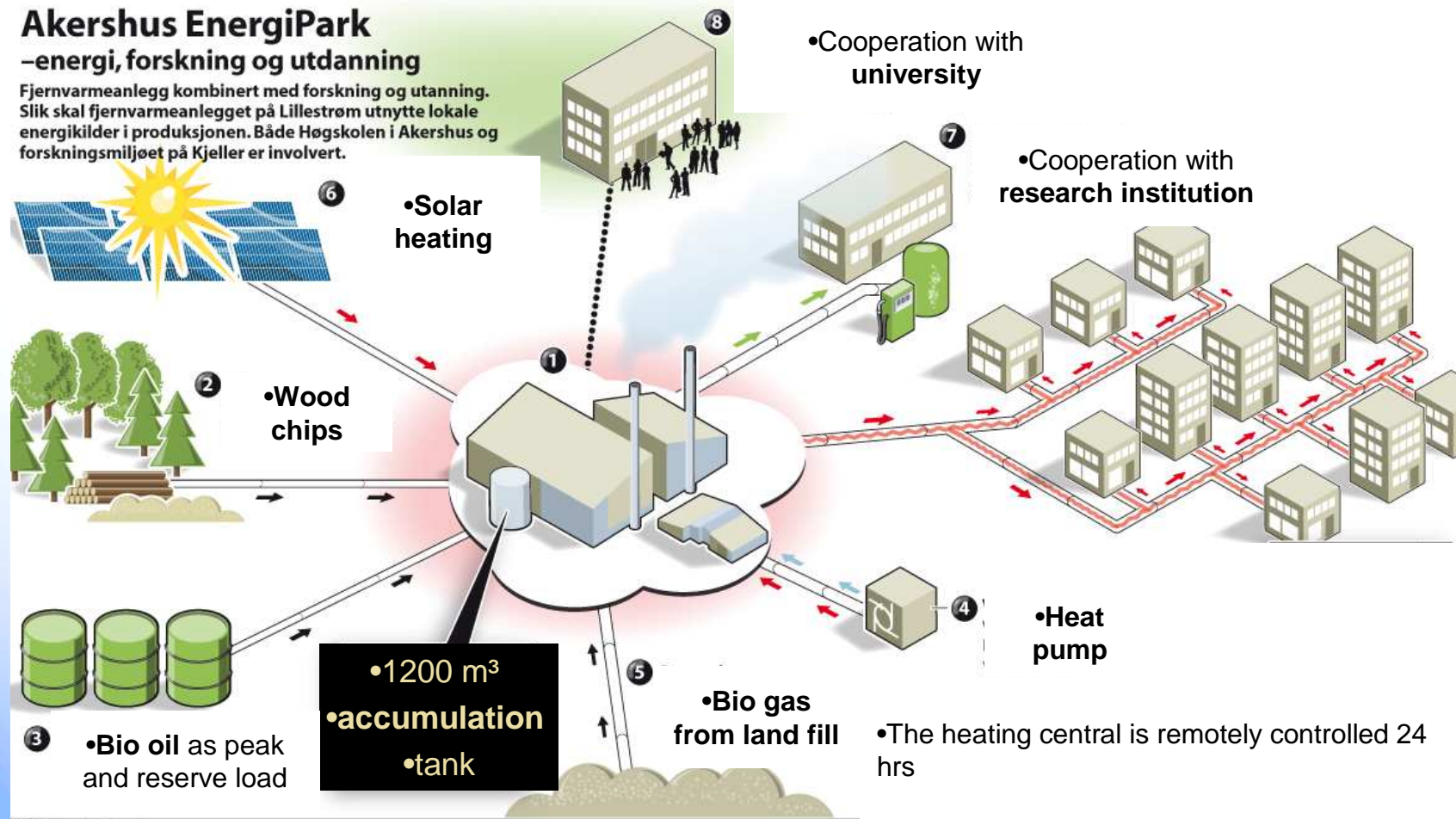
Akershus Energy park

Total investments: 67 mill Euro / Investment support 13 mill Euro

Akershus EnergiPark

–energi, forskning og utdanning

Fjernvarmeanlegg kombinert med forskning og utdanning. Slik skal fjernvarmeanlegget på Lillestrøm utnytte lokale energikilder i produksjonen. Både Høgskolen i Akershus og forskningsmiljøet på Kjeller er involvert.

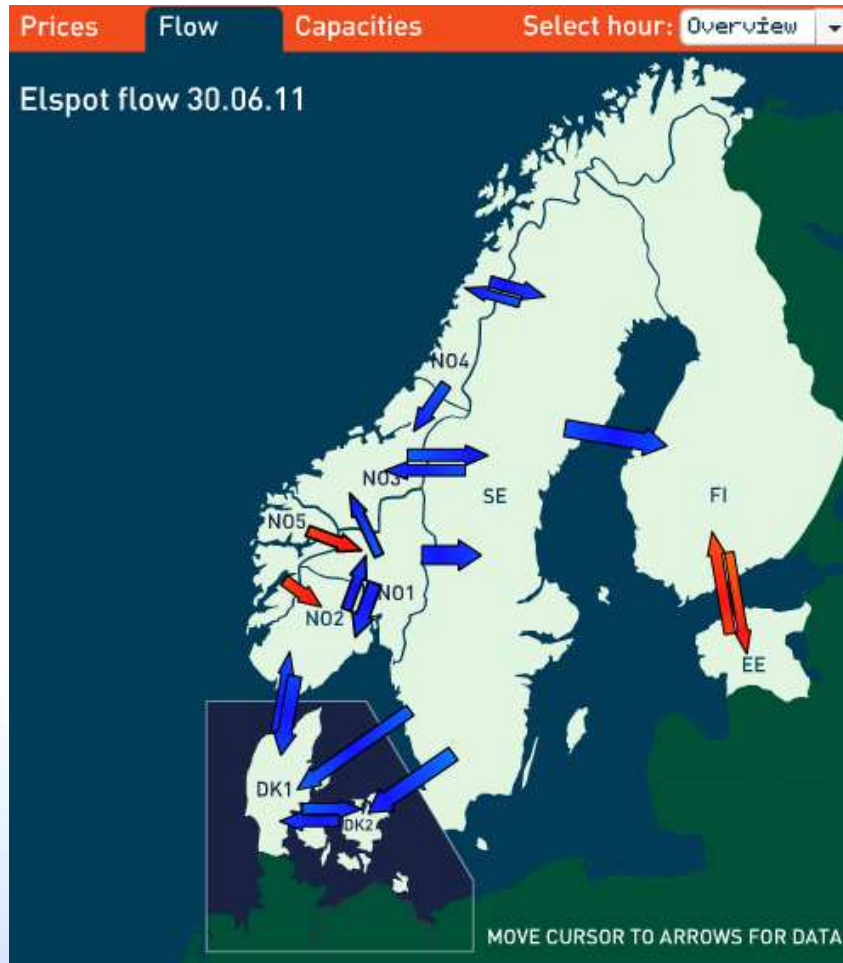




Green Certificates

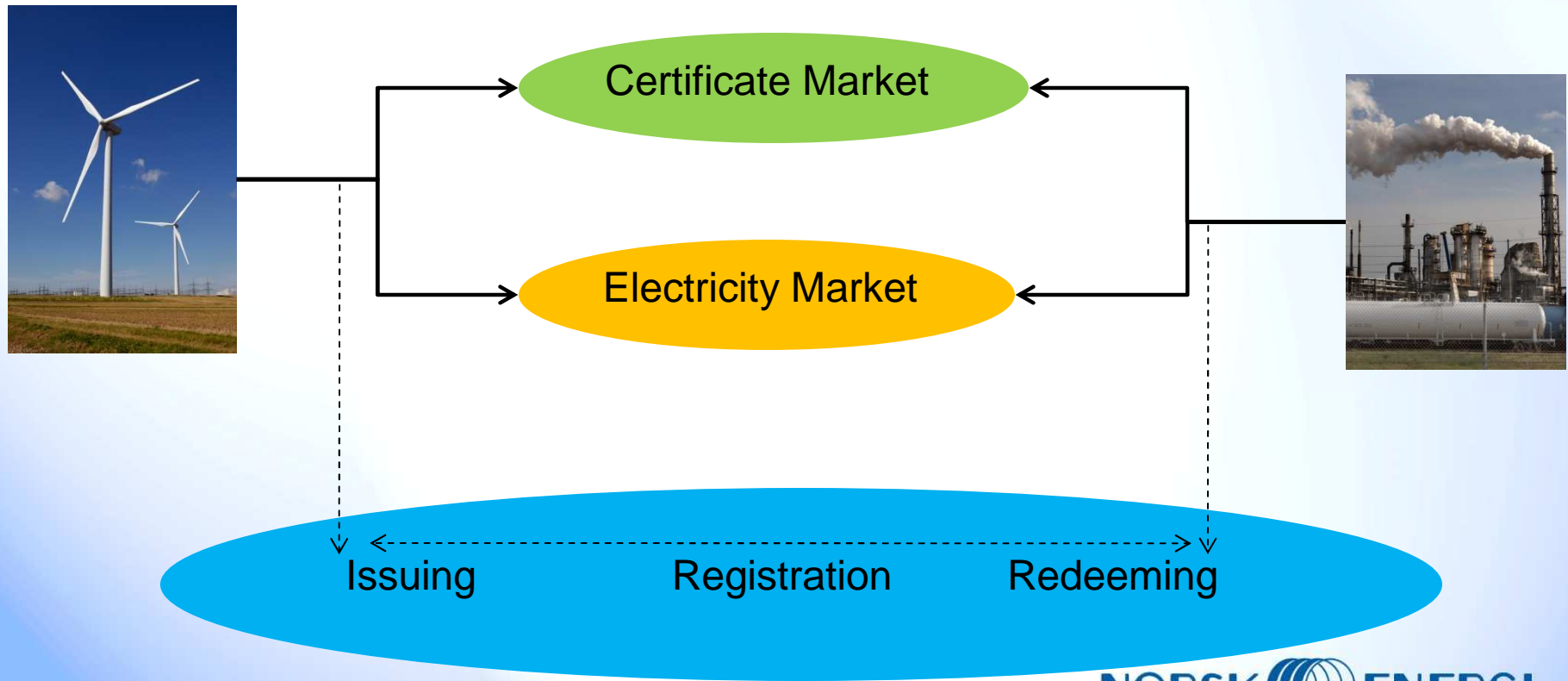
- Certificate issued to renewable energy generators for energy sold into the market
- Market for green certificates is established by government setting annually increasing targets for generation
- Green certificates are a commodity in the market to make marginal renewable energy more viable
- Sweden implemented green certificate market in 2003
- Norway will join the market in 2012

Nordic Energy Market





The background for green certificates





Green certificates

This is how it works:

- Producers of renewable electricity receive green certificates for every kWh they produce
- The government requires retailers to purchase a certain amount of green certificates from the market
- This creates a market with demand and supply of green certificates, and the price for the green certificates will be set in this market.



Pricing

- Green certificates generate their own market
- The cost of purchase of a green certificate will be driven by demand

Shortage of certificates in the market → Higher certificate price

Higher Certificate price → Development of new RE generation



Price example

- Average electricity price in 2010 was 4.5 Eurocent/kWh
- The average price for green certificates in Sweden in 2010 was 3.1 Eurocent/kWh
- Producers of renewable electricity get $4.5+3.1 = 7.6$ Eurocent/kWh.
- The certificate system shall finance 1.3 TWh new renewable energy in 2012 (of total 80 TWh). The average consumer must pay 0.06 Eurocent/kWh in addition to the electricity price.
- The average consumer use 20 000 kWh/year, and will pay 12 Euro in 2012 for green certificates.
- In 2020, the average consumer will pay 0.55 Eurocent/kWh, total 110 Euro to the average consumer.

Source: Norwegian Ministry of Petroleum and Energy