



# Achieving a common green certificates market between Norway and Sweden: benefits, conditions and constraints.

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# 1. Background for green certificates trading

- Green certificate or guarantee of origin?
  - **Guarantee of origin (GO):** used for tracking electricity attributes.
  - Three main purposes associated with the **tracking of generation attributes:**
    1. **Report:** electricity disclosure (fuel mix). Regulatory requirements: Directive 2003/54/EC (second electricity directive), Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources (RES-E) and Directive 2004/8/EC on combined heat and power (CHP). Created “legitimate expectations” and entailed adoption of contractual provisions based on the directives’ provisions. To analyse in relation with the new RES Directive proposal from 23 January 2008.
    2. **Target:** defined by legislation, indicative or mandatory.
    3. **Support:** proof for financial support (including quota obligation, feed-in tariffs or tax exemption)
  - **Alternative tracking modalities:** explicit tracking (contract-based or certificate-based), or implicit tracking (data collection, statistics).
  - **Tradable green certificates:** certificate awarded under a quota obligation and a renewable support scheme.
- Some trading aspects:
  - **Value:** almost standardised at 1,000 kWh of electrical energy.
  - Certificates purely **electronic**.
  - **Diverse trading modalities:** bilateral, via brokers, or stock exchange (limited).
  - **Towards standardisation:** European Energy Certificates Standard (EECS), RECS International (voluntary), possible combinations (RES-GO, CHP-GO, ...), role of Association of Issuing bodies (AIB), the latter working on an electronic hub (AIB= 90% of certificates used for disclosure). See E-Track Initiative.

## 2. Current regulatory regimes in Norway and Sweden



### 2.1 Norway

- Current support scheme:
  - Based on a new Ordinance (St. Meld. 11 2006/2007).
  - Objective: 30 TWh of RES production (!) and energy efficiency by 2016.
  - Operates via a fund, managed by ENOVA (in force since January 1, 2008). Direct financial support to RES producers.
- Norway, as part of the European Economic Area (EEA) Agreement: committed to transpose provisions of Electricity Directive 2003/54/EC, RES-E Directive 2001/77/EC and CHP Directive 2004/8/EC.
- Trade in guarantees of origin started in 2000, with Statnett as responsible for issuing GO.
- January 2008, entry into force of a Regulation on GO, dated 14 December 2007:
  - Issuing body: Norwegian Water Resources and Energy Directorate (NVE);
  - Register: managed by Statnett (TSO)



- Level of trade activity:
  - Certificates activity for **2006** (figures AIB):
    - Certificates issued *per country*:  
Total **66,629,273**. Sweden 25,293,491. Norway 19,762,654. Finland 8,333,595. The Netherlands 7,382,389. Denmark 529,882. Total redeemed: 38,973,347 (58%).
    - Certificates issued *per technology*: hydro (54,294,209), onshore wind (4,151,110), forestry (3,614,498), etc.
  - Certificates activity for **2007** (figures AIB):
    - Certificates issued *per country*:  
Total **137,172,604**. Norway 81,574,809. Sweden 34,067,611. Finland 7,900,171. The Netherlands 6,432,838. Denmark 1,004,623. Total redeemed: 80,512,227 (59%).
    - Certificates issued *per technology*: hydro (126,557,306), onshore wind (5,339,100), forestry (2,067,167), etc.
  - Interpretation. High level of activity. But in Norway: only disclosure. No real limitation put on the use of GOs. Sweden has its own support system based on certificates (« Elcert »).



## 2.2 Sweden

- Since May 2003, the subsidy to renewable electricity production has been replaced by an energy certificates scheme: **Elcert**.
- **Objective:** stimulate production of RES-E in Sweden by 17 TWh by 2016 compared to 2002 level (70,3 TWh, 90 % large scale hydro), by a market-based approach (target revised in 2007).
- **Regulatory framework:**
  - **GO:**
    - Act (2003:437) on guarantees of origin of electricity produced from renewable energy sources.
  - **Elcert:**
    - Act (2003:113) Concerning Electricity Certificates (determines the quota obligation)
    - Ordinance (2003:120) Concerning Electricity Certificates.
- **Design elements:** Quota obligation, validity and redemption (31 March).
- **Authorities involved:** Swedish Energy Agency (compliance authority, approves plants entitled to certificates) and Svenska Kraftnät (manages the electronic register, Cesar)
- **Trade activity:** 50% bilateral, 50% brokers, <1% **NordPool** since 2004, with derivatives on certificates contracts (closed in 2008). 2007: more trade via brokers (to get market price).

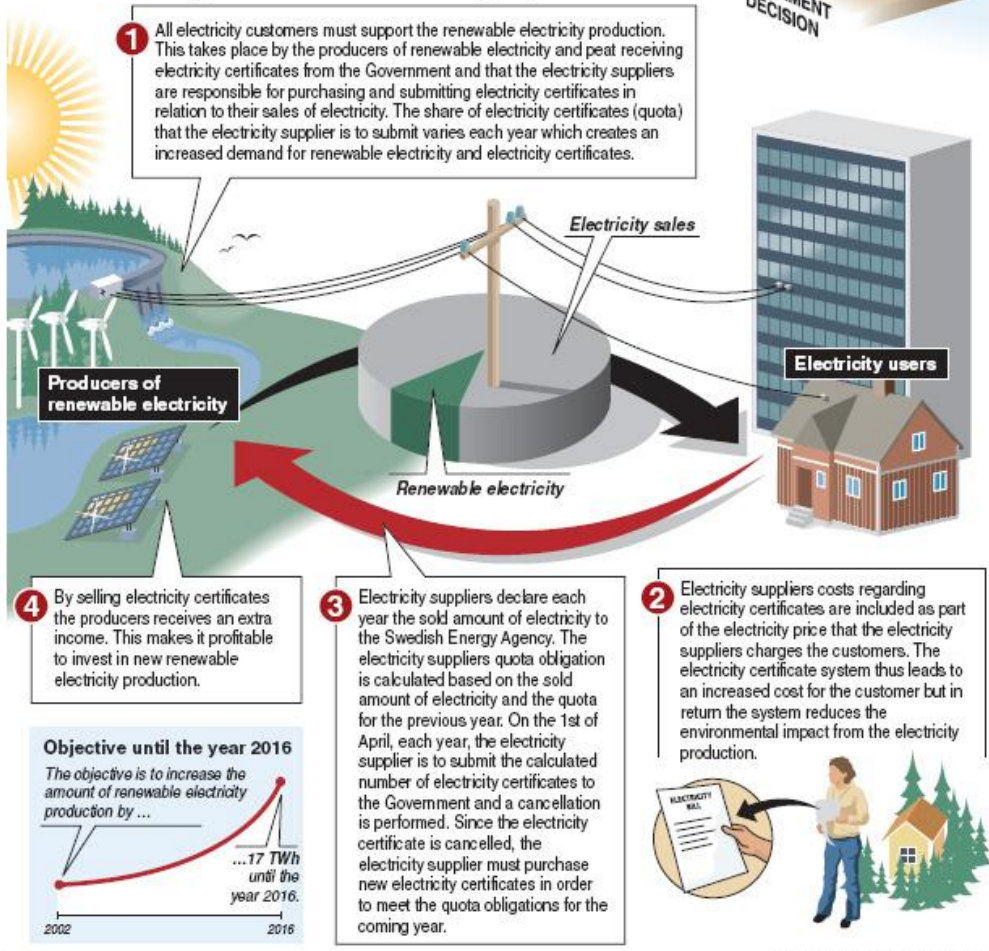
## The electricity certificate system

The Swedish Parliament has decided that the support concerning electricity production using renewable energy sources (solar energy, wind power, hydro power and biofuel) and peat is to be based on the electricity certificate system. The electricity certificate system started on the 1st of May 2003 and runs to the end of year 2030.



PARLIAMENT DECISION

The system works in the following way:

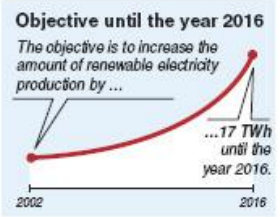


**1** All electricity customers must support the renewable electricity production. This takes place by the producers of renewable electricity and peat receiving electricity certificates from the Government and that the electricity suppliers are responsible for purchasing and submitting electricity certificates in relation to their sales of electricity. The share of electricity certificates (quota) that the electricity supplier is to submit varies each year which creates an increased demand for renewable electricity and electricity certificates.

**4** By selling electricity certificates the producers receives an extra income. This makes it profitable to invest in new renewable electricity production.

**3** Electricity suppliers declare each year the sold amount of electricity to the Swedish Energy Agency. The electricity suppliers quota obligation is calculated based on the sold amount of electricity and the quota for the previous year. On the 1st of April, each year, the electricity supplier is to submit the calculated number of electricity certificates to the Government and a cancellation is performed. Since the electricity certificate is cancelled, the electricity supplier must purchase new electricity certificates in order to meet the quota obligations for the coming year.

**2** Electricity suppliers costs regarding electricity certificates are included as part of the electricity price that the electricity suppliers charges the customers. The electricity certificate system thus leads to an increased cost for the customer but in return the system reduces the environmental impact from the electricity production.



GRAPHICS BY TOMAS ÖHRLING.SE

Source: Swedish Energy Agency, *The electricity certificate system*.



### 3. Foreseen benefits of a common green certificates market between Norway and Sweden

- **RES exploited in a more efficient way**, with a better allocation of resources and greater investments: benefit or threat of reallocation of production? All in all, a cost-efficient support system.
- **A more effective market**: lower price volatility, limit risk of market dominance, more political stability due to common commitment.
- Wider number of **actors** for an increased **liquidity**.
- **Separation** of financial and physical flows.
- Builds on a liberalised, experienced and well integrated **Nordic power market**. See relationship to the liberalisation of the electricity market.
- A **market-friendly** approach. Thought to avoid conflict with EC internal market rules (Art. 28), and competition law concerns, in particular state aids issues (Art.87). See ECJ case law on *Outokumpu Oy* and *PreussenElektra*, and then *Campus Oil* and *Greek Oil Monopolies*, and *ADBHU* (on restrictive measures – necessary, proportionate and non-arbitrary).

## 4. Regulatory modalities for a common green certificates market: conditions and constraints

### 4.1 Remove regulatory barriers: preliminary conditions related to scheme design.

- Common definitions of:
  - **Renewable energy**: role of large scale hydropower; possible divergence from the definition given in Directive 2001/77/EC?; "technical specification" notification procedure under Directive 98/34/EC?
  - **Certificates**: legal status (consequence of divergences between national legislation), standardised size (1,000 kWh), validity (redemption dates, banking).
- Requires a "mandatory" quota obligation.
- Parties to the market (obligated parties and possible buyers).
- Compliance fees (see example of EU Emissions Trading Scheme harmonised penalty, Art. 16 Directive 2003/87/EC)
- Linking of registers.
- Administrative procedures: permitting, issuing, monitoring, verification.
- Access to market and market information (for a transparent market place).
- A common currency (ex: €).



## 4.2 Remove trade barriers: preliminary conditions related to cross-border trade.

- Constraints related to domestic regulatory framework: barriers put in legislation on the export or import of certificates, or on the use of a specific certificate's attribute.
- Constraints related to the EC internal market rules and secondary EC legislation.
- The new proposal for a RES-directive (COM(2008)0016) of 23 January 2008: can it unlock cross-border trade or does it create new barriers?
  - *Objective of the proposal*: (1) setting mandatory targets; (2) laying down rules relating to GO, administrative procedures and electricity grid connection; (3) establishing environmental sustainability criteria for biofuels and other bioliquids.
  - *State of play of the co-decision procedure*:
    - Council: Counter proposal from Germany, Poland and the UK dated June 2008 (refocus on disclosure, secure national feed-in tariff schemes). MS to retain control over their national support schemes. GOs only for disclosure purpose.
    - European Parliament: report published (short analyse), first reading scheduled for September 2008.
    - Expected date for adoption: Spring 2009 (before new Parliamentary elections).
  - *Discussion on GOs trade*: some legal concerns in relation to internal market rules (legal definition of GO and GC; free movement of goods; possible restrictions and justifications).
- The way forward: how to overcome the barriers? For which purpose? Harmonisation of support schemes (unlikely), cross-boarder trade (without restrictions based on origin), mutual recognition, or flexibility?



# Thank you for your attention!

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