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Letter from: The Ambassador, Swedish Permanent Representation

To: Matthias Ruete, DG TREN

Date: 31 October 2007

Letter regarding Articles 3(2) and 3(3) of Directive 2001/77/EC

Please find enclosed a report from the Swedish Government regarding the above matter.

Yours faithfully,

Sven-Olof Petersson

Letter from: Ministry of Industry, Energy Division

To: DG Energy and Transport

Date: 22 October 2007

Letter regarding Articles 3(2) and 3(3) of Directive 2001/77/EC

In accordance with Articles 3(2) and 3(3) of Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market please find enclosed a report on Sweden's national indicative target and an analysis of the success in meeting this target.

Yours sincerely,

Bo Diczfalusy
Assistant Under-Secretary

Letter from: Ministry of Industry, Energy Division

To: DG Energy and Transport

Date: 22 October 2007

Report pursuant to Article 3(2) and 3(3) of Directive 2001/77/EC

Sweden's target for renewable energy (Article 3(2))

Under Article 3(2) of Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market Member States shall adopt and publish, not later than 27 October 2002 and every five years thereafter, a report setting national indicative targets for future consumption of electricity produced from renewable energy sources in terms of a percentage of electricity consumption for the next 10 years. The report shall also outline the measures taken or planned, at national level, to achieve these national indicative targets.

In October 2002 the Swedish authorities sent a report (EUN2002/2516/ESB) setting out targets for the future use of renewable electricity. The target reported at that time was based on that established in 2002 by the Swedish Parliament (prop. 2001/02:143, bet. 2001/02:NU17, rskr. 2001/02:317). The aim was to increase the supply of renewable electricity by 10 TWh from 2002 levels by 2010. Calculated on the basis of Parliament's target the Swedish authorities reported a national indicative target of renewable electricity accounting for 55.2% of total electricity consumption. The target for 2010 was based on production of 79.5 TWh electricity from renewable energy sources and electricity consumption of 144 TWh. This target was to be achieved mainly through the electricity certification system which was introduced on 1 May 2003.

In June 2006 the Swedish Parliament adopted a series of amendments to the electricity certification system aimed at making it more efficient and sustainable (prop. 2005/06:154, bet. 2005/06:NU17, rskr. 2005/06:361). The amendments to the system entered into force on 1 January 2007 and mean that:

- the system is extended until 2030
- there is a new target of 17 TWh by 2016[1]
- there is a time limit for the issuing of electricity certificates which channels aid to new investments.

The national indicative target for the future use of electricity produced from renewable energy sources expressed as a percentage of electricity use for the coming ten years was reported to the Commission in a letter (M2006/2751/E) in June 2006. This letter contained the following table:

[1] There will be a review in 2008 and if the measures taken to facilitate the issuing of licences prove to have been significantly improved it will be possible, at a later stage, to decide to raise the targets by up to 2TWh.

Year	Electricity produced from renewable energy sources, TWh	Electricity produced from renewable energy sources, %	Gross national electricity consumption[2], TWh
1997	72.0	49.1	146.7
2002	72.7	47.8	152.1
2003	73.3	49.5	148.0
2004	73.5	48.9	150.3
2005	75.6	49.9	151.5
2006	78.0	51.7	150.9
2007	81.1	53.6	151.2
2008	82.4	54.4	151.5
2009	83.2	54.8	151.8
2010	84.1	55.3	152.1
2011	83.6	54.9	152.5
2012	84.2	55.1	152.8
2013	85.1	55.6	153.1
2014	85.6	55.8	153.4
2015	87.5	57.0	153.7
2016	89.0	57.8[3]	154.0

Table 1. *Electricity production from renewable energy sources and its percentage of gross national electricity consumption, 1997-2016.*

Basis and assumptions

- Hydropower production for a normal year is calculated here as the average value of actual production in the period 1985-2005. Hydropower production is always shown as a normal year.

- The supply of new renewable electricity production is based on the development of the quota in the electricity certification bill of 2006 (prop. 2005/06:154).

- Own use has been revised on the basis of new statistics.

- Figures on electricity consumption are based on statistics up to and including 2005 and the amended forecasts based on measures taken.

The letter sent in 2006 reported a national indicative target of 57.8% renewable electricity share in total electricity consumption by 2016, calculated on the basis of Parliament's new target of a 17 TWh increase in renewable electricity production by 2016 as compared with 2002 levels. If the target within the electricity certification scheme is increased by 2 TWh after the 2008 review the share will be 59.1%.

[2] Calculated as the sum of total consumption + imports - exports + own use in the energy sector.

[3] If the target in the electricity certification scheme is increased by 2 TWh after the 2008 review the share will be 59.1%.

The Swedish authorities have taken a series of measures to meet the national indicative targets and further measures are planned. Examples of some such measures are given below:

Measures *taken* at national level to meet the national target:

- The electricity certification system has been streamlined and extended until 2030
- Market introduction aid for wind power has been introduced
- Areas of national interest for wind power have been designated
- Four national wind power coordinators have been nominated
- Aid has been introduced for municipal wind power planning
- Continued focus on research, development and demonstration of renewable energy sources
- Committee established to revise the requirements for connecting renewable electricity to the grid
- Committee established to review a new court of appeal for some cases relating to the Environmental Code and the Planning and Building Act. (Additional Directives notified concerning provisions affecting the requirements for renewable energy production.)

Measures *planned* at national level to meet the national target:

- New planning targets for wind power to 2020 are being explored
- Review of areas of national interest for wind power
- Proposals planned for revised rules on connecting renewable electricity to the electricity grid
- Proposals in the 2008 draft budget: (to be adopted in 2007)
    - Regional and local measures to increase energy efficiency, etc.
    - Measures to promote the use of sustainable energy
    - Extended market introduction aid for wind power
    - Aid for energy investments in public buildings
    - Aid for installing energy-efficient windows, etc. in houses
    - Establish a national network for information on wind power.

Analysis of success in meeting the national indicative target for renewable electricity (Article 3(3))

Under Article 3(3) of Directive 2001/77/EC Member States must publish, for the first time not later than 27 October 2003 and thereafter every two years, a report which includes an analysis of success in meeting the national indicative targets taking account, in particular, of climatic factors likely to affect the achievement of those targets and which indicates to what extent the measures taken are consistent with the national climate change commitment.

The letter to the Commission in 2006 reported that the Swedish authorities have made major efforts and taken wide-ranging measures to increase the proportion of renewable electricity. The overall assessment was that the measures will mean that the target for 2010 which was reported in 2002 will be met. The same assessment can be made today and the letter from 2006 therefore still applies. This target is considered in line with Sweden's measures concerning climate change.
The possibilities for achieving the target reported for 2016 are also still considered applicable.

Further information regarding additional electricity production within the electricity certification system and price trends for electricity certificates.

The electricity certification scheme has proved an extremely effective way of increasing production in existing biomass-fuelled plants, and in recent years has even stimulated the construction of new plants. There has been an increase of over 3.5 TWh in existing plants, which is a result of switching to other fuels and extended plant operating lifetimes. Furthermore, more than 1.5 TWh of electricity production has been added through new plants. The total increase so far is more than 5 TWh. The letter from 2006 reported an increase of 3.7 TWh, i.e. an increase of almost 1.5 TWh of renewable electricity production in around one year. According to information from the sector organisation Svensk Vindkraft, around 240 MW of wind power is being installed in 2007 (including the offshore wind farm Lilligrund which will start operating later this year), and a similar quantity in 2008.

Type of power	**Bio**	**Solar**	**Hydro**	**Wind**	**Total**
New plants					
Number	28	2	40	274	**344**
Power (MW)	247	0.03	47	279	**573**
Production (GWh)	721	0.02	277	570	**1568**
Existing plants					
Number			14		**14**
Power (MW)			107		**71**
Production (GWh)	~ 3 400		156		**~ 3 550**

Table 2. *Increases in production through the electricity certification scheme (May 2003 - September 2007).* Source: Swedish Energy Agency.

The total revenue within the framework of the electricity certification system has also continued to be stable and at a high level (see Figure 1) and future electricity certificate prices are rising (see Figure 2).

Figure 1. Total revenue for renewable electricity producers, SEK/MWh, from 1 January 2005 [See Figure in original]

Figure 2. Svensk Kraftmäkling (SKM) [electricity brokerage company] price information Electricity certificate week 41, 2007 [See Figure in original]