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**WORKING LANGUAGE**

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**Subject: State aid N°66/2009 – SE  
State aid scheme for solar cells**

## **1. PROCEDURE**

- 1) The Swedish authorities notified the above-mentioned measure on 5 February 2009 (SANI 2201). The notification was complemented by letter dated 17 February 2009 (A/3989). By letter of 16 March 2009 the Commission requested further information, which the Swedish authorities submitted by letter of 23 March 2009 (A/6813).

## **2. DESCRIPTION OF THE SCHEME**

### **2.1 General description (objective, legal basis, aid calculations, etc)**

- 2) The notified measure is an aid scheme in favour of solar cells systems. The aim is to create a market for solar cells systems in Sweden in order to contribute to the change of the energy system and to industrial development in the field of energy techniques. The objective is to increase the number of suppliers and users of solar cells in Sweden, contribute to decreased costs for the systems and increase the annual electricity production from solar cells by at least 2.5 GWh during the duration of the scheme (2009-2011).
- 3) The legal basis of the aid scheme is *Förordning om statligt stöd till solceller*<sup>1</sup>. The aid will be granted by the County Administrative Board (länsstyrelsen).

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<sup>1</sup> Act on State aid for solar cells

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- 4) Investments in solar cell systems and in simultaneous production of solar electricity and solar heat in an integrated construction (i.e. hybrid systems) will be eligible for aid. The latter type can only receive aid if the electricity production amounts to at least 20 % of the system's estimated total annual production of electricity and heat. The maximum aid intensity will be 60 % of investment costs for small and medium-sized enterprises and 55 % of investment costs for large enterprises<sup>2</sup>. Only one solar cells system per building can receive support<sup>3</sup>. There will be a maximum grant of 2 million SEK (184 000 €) per solar cell system. Eligible costs can amount to maximum 75 000 SEK (6 885 €) per installed kW (excluding VAT). The corresponding ceiling for investments in solar electricity/solar heat hybrid systems is 90 000 SEK (8 262 €).
- 5) Eligible investment costs include both project and material costs which relate to solar cell modules including possible lenses, reflectors and cooling systems, fasteners, cables, electricity meters, monitoring system as well as breakers, overvoltage protectors, possible inverters and storage systems for energy but not such systems for heating. Labor costs are also included in eligible costs. Connection fees to external electricity network are excluded from the eligible costs.
- 6) The Swedish authorities have submitted the following examples in order to show how the aid will be calculated<sup>4</sup>.

Plant type	A	B	C	D	E
Capacity	<=5 kW	>5kW <=10kW	>20kW <=25kW	>60kW <=65kW	>70kW <=120kW
Solar cell area m <sup>2</sup>	19.20	55.30	194.67	506.70	590.70
Maximum power kW	2.30	7.10	24.55	64.33	84.10
Energy savings kW	2 070	6 390	22 095	57 897	75 690
Investment costs SEK	295 251	594 483	1 333 065	3 634 645	8 149 290
Operating and maintenance costs in 5 years SEK	6 200	12 484	27 994	76 328	171 135
Operating benefits within 5 years SEK	10 350	31 950	110 475	289 485	378 450
Eligible investment costs SEK	291 101	575 017	1 250 584	3 421 488	7 941 975
Aid, 55 % of investment costs SEK	162 388	326 966	733 186	1 999 055	4 482 110
<b>Aid intensity of the eligible investment costs (55%)</b>	<b>55.78 %</b>	<b>56.86 %</b>	<b>58.63 %</b>	<b>58.43 %</b>	<b>56.44 %</b>
Aid, 60 % of investment costs SEK	177 151	356 690	799 839	2 180 787	4 889 574
<b>Aid intensity of the eligible investment costs (60%)</b>	<b>60.86 %</b>	<b>62.03 %</b>	<b>63.96 %</b>	<b>63.74 %</b>	<b>61.57 %</b>

**Table 1: Examples of aid calculation**

- 7) All beneficiaries must be connected to the electricity grid and the connection cost cannot be supported by this scheme. According to the Swedish authorities, if the investors would not invest in a solar cells system, the alternative would be to

<sup>2</sup> Small, medium-sized and large enterprises will be defined in accordance with Regulation (EC) No 70/2001, OJ L 10, 13.1.2001, p. 33 (including amendments).

<sup>3</sup> Where the solar cells system is not built-in to the building, only one solar cells system per real estate can be supported.

<sup>4</sup> The calculations are based on a depreciation period of 25 years and a rate of return of 7 %.

simply buy all their electricity from the grid. The net operating benefits above have therefore been calculated in comparison with costs for buying electricity. The Swedish authorities have committed to follow-up the support and ensure that the aid intensity based on eligible costs will not exceed 60 % for large companies.

- 8) Sweden has undertaken to notify individually to the Commission any aid that exceeds the thresholds for detailed assessment specified in Chapter 5 of the Community guidelines on State aid for environmental protection<sup>5</sup> (hereafter 'the EAG'). The Swedish authorities have also committed to submit annual reports to the Commission with detailed information as regards large undertakings, as well as to maintain for 10 years detailed records on all the aid granted and submit them to the Commission upon request.
- 9) A condition for the aid to be granted is that the supported project must not have started before the legal basis has come into force and before the beneficiary has submitted its aid application to the national authorities. The notified aid cannot be cumulated with aid received from other local, regional, national or Community schemes to cover the same eligible costs.

## **2.2 Beneficiaries**

- 10) The notified aid in question will be granted in the form of a direct grant to any enterprise investing in solar cells systems, solar electricity and heat hybrid systems. The estimated number of beneficiaries is 11-50 enterprises of any size, from any sector and any region in Sweden.

## **2.3 Duration and budget**

- 11) The scheme is notified for the period 1 January 2009-31 December 2011, subject to Commission approval of the aid. The estimated total budget for the entire Swedish aid scheme for solar cells installations is 170 million SEK (15.5 million EUR), of which approximately 50 million SEK will be invested in 2009, 61 million SEK in 2010 and 59 million SEK in 2011. It is expected that maximum 20 % of the overall budget (ca 34 million SEK) will finance solar cells system where the investor is an enterprise. The remaining part will support beneficiaries which are private persons or public organisations.

## **3. ASSESSMENT**

### **3.1. Existence of State aid**

- 12) Under Article 87 of the EC Treaty, the notion of State aid covers any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods, in so far as it affects trade between Member States.
- 13) Insofar as the beneficiaries are private persons or if the operations of the beneficiary are limited to non-economic activities, the scheme does not fall within the scope of Article 87(1) and, thus, does not constitute State aid. For the remaining part, the aid under scrutiny is granted by a national authority and

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<sup>5</sup> OJ C 82 of 1.4.2008, p. 26.

financed from the State budget, and is thus granted through State resources within the meaning of Article 87 of the EC Treaty. It distorts competition by selectively favouring those enterprises that invest in solar cells systems. The beneficiaries can be active on any markets, i.e. the measure can affect intra Community trade.

### **3.2. Compatibility of the aid**

- 14) Under Article 87(3)(c) of the EC Treaty, aid to facilitate the development of certain economic activities or of certain economic areas may be considered to be compatible with the common market, where such aid does not adversely affect trading conditions to an extent contrary to the common interest. When analysing State aid for environmental protection, the Commission assesses compatibility with the common market based on the EAG. Under point 101 EAG read in combination with point 70(5) EAG, those guidelines cover environmental investment aid for the promotion of energy from renewable sources including solar energy.

#### *3.2.1. Eligible costs and aid intensity*

- 15) Under point 101 EAG, environmental investment aid for the promotion of energy from renewable sources will be considered compatible with the common market, if the conditions in points 102 to 111 are fulfilled. Under point 102 EAG, for large enterprises, the intensity of such aid must not exceed 60 % of the eligible investment costs as defined in points 105 and 106 EAG. According to point 103 EAG, the aid intensity may, however, be increased to 70 % for medium-sized enterprises and to 80 % for small enterprises.
- 16) Under 105 and 106 EAG, the eligible investment costs are only the extra investment costs borne by the beneficiary compared with a conventional system with the same capacity, which must be calculated net of any operating benefits and operating costs related to the extra investment for renewable sources of energy and arising during the first five years of the life of this investment.
- 17) According to the Swedish authorities, the most credible alternative would in this case be to instead buy electricity from the grid<sup>6</sup>. This is because the aid supports small-scale electricity production in housings or buildings for other individual purposes, which are connected to the grid (the connection is a requirement for receiving aid under this scheme and cannot be included in the eligible costs). Electricity production is normally not carried out in such buildings. Thus, in this particular case all investment costs described in paragraph 5 above minus the operational net benefits during the first five years following the investment are eligible for aid.
- 18) The Commission notes that the aid which will be provided under the proposed scheme is limited to one installation per building. This will limit larger-scale production for the purpose of sales of electricity. In addition, the maximum grant is limited to a total of 184 000 € (6 885 € per installed kW for solar cells systems and 8 262 € per installed kW for hybrid systems).

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<sup>6</sup> There may be some summer house which could instead have installed a wind power plant but that situation would be rare and the beneficiary would be a private person. That support would, thus, not constitute State aid.

- 19) The calculation examples submitted by the Swedish authorities demonstrate that the scheme is not likely to lead to overcompensation. In addition, the Swedish authorities have committed to follow-up that the aid intensities of 60 % for large enterprises and 70 and 80 % for small and medium-sized enterprises will be respected. Consequently, the Commission finds that the aid intensities of the notified scheme comply with points 102 and 103 EAG.

### 3.2.2. *Incentive Effect*

- 20) Under point 142 EAG, State aid for environmental protection must have an incentive effect and result in the aid recipient changing its behaviour so that the level of environmental protection is increased. As stated in point 143 EAG, this is not the case if the project has already started prior to the beneficiary's aid application. In this respect, the Commission notes that aid under the notified scheme cannot be granted to investors who started the project before submitting their aid application to the Swedish authorities.
- 21) Under point 145-146 EAG, the notifying Member State must prove that the environmentally friendly investment would not have been made without the aid, by demonstrating that that the investment would not be sufficiently profitable compared with a credible counterfactual situation and that the eligible costs are calculated in accordance with the methodology set out in points 81, 82 and 83 EAG. The latter provisions identify the eligible investment costs as the extra investment costs necessary to achieve the environmental protection, established by, first, deducting the cost of a technically comparable investment that provides a lower degree of environmental protection and that would credibly be realised without aid as an alternative to the more environmentally friendly investment, and, second, deducting any operating benefits and adding any operating costs arising from the extra investment during the first five years of its life.
- 22) The Swedish authorities have submitted that there are no comparable conventional investments available which would be more suitable and less expensive. The Commission finds that the Swedish authorities have shown that the credible counterfactual situation is the purchasing of electricity from the grid. In case no aid would be granted, it is highly unlikely that any other costs of investments would be realised as an alternative to solar cells systems. In the absence of the aid, alternative investment costs are therefore zero and no reference investment can be deducted from the eligible investment costs.
- 23) Based on the fact that the investment costs net of five years' benefits are considerable in all cases, as shown in table 1, the Commission finds that the investment would not be sufficiently profitable without the aid within the meaning of the EAG.
- 24) The Commission thus concludes that the aid has an incentive effect within the meaning of points 142-146 EAG.
- 25) In consequence, the Commission finds the aid compatible with the EAG, and thus with the common market within the meaning of Article 87 of the EC Treaty.

#### 4. DECISION

The Commission has accordingly concluded that, insofar as the beneficiaries are not private persons or if their operations are not limited to non-economic activities, the proposed scheme for investments in solar cells, constitutes State aid within Article 87(1) of the EC Treaty. In addition, the Commission has concluded that the aid is compatible with the common market in accordance with Article 87(3)(c) of the EC Treaty, since it complies with the relevant provisions of the Community guidelines on State aid for environmental protection.

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Yours faithfully,  
For the Commission

*Neelie KROES*  
Member of the Commission