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In the published version of this decision, some information has been omitted, pursuant to articles 24 and 25 of Council Regulation (EC) No 659/1999 of 22 March 1999 laying down detailed rules for the application of Article 93 of the EC Treaty, concerning non-disclosure of information covered by professional secrecy. The omissions are shown thus [...].

PUBLIC VERSION

WORKING LANGUAGE

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Subject: State aid N 409/2006 – HighSi GmbH (MSF 2002) - Germany

Sir,

1. PROCEDURE

- (1) By electronic notification of 23 June 2006, registered the same day at the Commission (A/34962), the German authorities notified to the Commission their intention to provide a regional investment aid in favour of HighSi GmbH, for the setting-up of a production plant of solar modules at Frankfurt (Oder), Brandenburg, Germany, under the Multisectoral Framework on regional aid for large investments projects¹ (hereafter referred to as “MSF 2002”).
- (2) On 6 June 2006, a pre-notification meeting took place between the Commission services and the German authorities. The Commission requested additional information by letter of 18 August 2006, which was provided by the German authorities by letters of 19 September 2006 and 11 October 2006.

2. DESCRIPTION OF THE AID MEASURE

- (3) The German authorities intend to provide regional investment aid to HighSi GmbH (hereafter referred to as “HighSi”) to support the development of a production plant for the manufacturing of solar modules for terrestrial use. Solar modules are products that make it possible as part of an integrated 'solar energy system', to convert sunlight into electricity (photovoltaic).
- (4) The financial support of the German Government amounts to a maximum nominal amount of €76 630 000 and is given by 2 different aid instruments (a direct grant and a tax allowance). The total eligible cost of the investment will amount to €520 262 000 in nominal value.

¹ OJ C 70 of 19.3.2002, p. 8

- (5) The investment will take place in Eastern Germany, namely in Frankfurt (Oder), a region of the land Brandenburg which is a region in the sense of Article 87(3)(a) of the EC-Treaty with a maximum allowable aid intensity of 35 % GGE.

2.1 The beneficiary

- (6) The beneficiary of the financial support is HighSi, which is a newly created firm for the purposes of the project which is notified.
- (7) HighSi is a 100% daughter company of Conergy AG which affirms to be one of the leading enterprises in the photovoltaic sector. Conergy AG was founded in 1998, went to the “Frankfurter Börse” stock exchange in 2005 and has widespread shareholders.
- (8) Conergy AG is currently mainly active in 4 business areas: 1) sales of solar modules to sanitary, heating and electrical wholesalers (Conergy); 2) sales of solar modules to system installers (subsidiary AET); 3) sales of integrated solar energy systems to end-customers (subsidiary SunTechnics); and 4) sales of services to investors who want to invest in closed-end solar funds (subsidiary Voltwerk who generally uses products of Conergy).
- (9) As HighSi is intended to become operational and produce solar modules only from beginning 2008 onwards, the present data of the mother company Conergy AG will be presented. The following table shows the turnover and the number of employees of Conergy AG in 2005.

Financial year: 2005

Conergy	Turnover		Staff (AWU)
Germany	454 546 000 €		626
EEA	55 311 000 €		111
Rest of the world	20 311 000 €		57
	530 168 000 €		794

- (10) Conergy AG claims to be a global player as it has subsidiaries, sales offices, service centres and engineering branches on the 5 continents. The table above indicates that, in 2005, the main turnover was realised in Germany and the vast majority of employees were located in Germany. The notification states that it is the intention of Conergy AG to have by the end of 2008, half of their turnover realised outside Germany.

2.2 The project

- (11) HighSi will create a new production plant to manufacture solar modules with a nominal capacity per year of 400 Megawatt peak (MWp)² in Frankfurt (Oder).

² One megawatt peak (MWp) corresponds to 1 000 000 Watt peak (Wp). Watt peak is a measurement unit for the capacity (nominal output) of solar cells and solar modules. Watt peak is the standard usually used in the photovoltaic industry to measure the technical capacity of solar modules; it expresses the nominal output of the module under standard test conditions. These conditions are: an irradiance capacity of 1 000 W/m² of a

- (12) The project started in 2006. In the beginning of 2007, the installation of equipment should start. First production with a capacity of 200 MWp is targeted for the beginning of 2008 and the investment project should be finalised by the end of 2008.
- (13) HighSi intends to create directly around 1040 new jobs in the region. In Frankfurt (Oder) there is an unemployment rate of 20,1% but also in Land Brandenburg the unemployment rate of 17,1% is still higher than the national German average of 12,2%.³

2.3 Legal basis

- (14) The aid is based on the aid scheme “Improvement of the regional economic structure” state aid N 642/2002⁴, the “Law on investment premiums 2005” – state aid N 142a/2004⁵ and its successor scheme the “Law on investment premiums 2007” – state aid N357a/2006⁶.

2.4 Investment costs

- (15) The project involves a total investment in nominal value of €520 262 000.

Breakdown of the project costs (in millions of €)

	2006	2007	2008
Land	[...]	[...]	[...]
Buildings/ building investment	[...]	[...]	[...]
Machinery/equipment/vehicles	[...]	[...]	[...]
Intangible assets	[...]	[...]	[...]
	147,250	223,732	149,280
Total	520,262		

- (16) The total investment costs of €520 262 000 equals in present (discounted) value an amount of €498 702 000. However, only €518 462 000 of the total investment costs are eligible under the relevant German regional aid schemes.⁷

2.5 Aid amount and aid intensity

- (17) The German authorities intend to grant regional aid in nominal value amounting up to €76 630 000 which is planned to be paid out between 2006 and 2009. This amount equals €73 450 000 in present (discounted) value and 14,73% GGE of the total eligible investment costs in present (discounted) value of €498 702 000.
- (18) It is provisionally indicated in the notification that the investment aid of €76 630 000 will probably be disbursed⁸ by a direct grant of €75 055 000 under the aid scheme

module or cell surface, cell temperature of 25°C and AM = 1.5. The latter means that on its journey, the sun ray passes through 1.5 times the earth's air mass.

³ Data based on “Arbeitsmarkbericht der Bundesagentur für Arbeit“, on 31 May 2006.

⁴ Commission decision of 1 October 2003 (SG(2003) D/232040, 2 October 2003).

⁵ Commission decision of 19 January 2005 (SG(2005) D/200301, 24 January 2005).

⁶ Commission decision of 6 December 2006 (SG (2006) D/59707, 7 December 2006).

⁷ This difference is due to the fact that, contrary to the applicable community rules, the costs of “land” are not eligible to receive regional aid under the German regional aid schemes concerned.

“Improvement of the regional economic structure” and of an investment premium €1 575 000 of the total eligible costs under the “Law on investment premiums 2005” and its successor scheme, the “Law on investment premiums 2007”⁹.

2.6 Financing of the project

(19) The project costs will be financed as follows:

Source	Amount (in EUR)
Own resources	150 000 000
Grant under Joint Federal/ <i>Länder</i> Scheme	75 055 000
Investment allowance	1 575 000
Bank loan (not covered by public guarantee)	294 211 000
Total	520 262 000

(20) It is planned to finance the project using own resources and bank loans, in addition to the aid applied for. It is clear from the table above that the HighSi will make a contribution of at least 25% of the total eligible expenditure which will be free of any public support.

2.4 General provisions

(21) The notification states that the aid for the project will not be cumulated with aid received for the same eligible costs from other local, regional, national or Community sources.

(22) Although the costs of "land" for the notified project are not eligible to receive regional aid under the German regional aid schemes concerned¹⁰, the following can be noted. The land where HighSi will develop the notified project was initially planned to host a production facility for semiconductors.¹¹ The firm Communicant AG bought the land and started to construct the plant where the semiconductor project would have been carried out. However, this semiconductor project collapsed in November 2003 and the company was uncoiled from 31 August 2005 onwards. In the notification, the German authorities demonstrated to the Commission that in the end Communicant AG did not profit from any state aid. Moreover, they explained and certified in the notification that HighSi acquired the land and the already partially constructed buildings of the plant through a transparent, open and unconditional bidding procedure at market conditions.

(23) Moreover, the German authorities ensured that the beneficiary applied for the aid before works have started on the project.

⁸ The notification indicates that the total amount of aid might be granted by a different division between the mentioned aid schemes.

⁹ Eligible costs incurred before the 1 January 2007 are eligible under the Investment Premium law 2005, and all eligible costs incurred after 31.12.2006 are eligible under the 2007 investment premium law.

¹⁰ See also footnote 7 above.

¹¹ This was also an investment project which was supposed to received aid and was as such notified and assessed by the Commission (N 300/2002, Communicant Semiconductor Technologies AG).

- (24) In addition, the aid is granted under the condition that the beneficiary will maintain the manufacturing facility at the site for a minimum period of five years.
- (25) The German authorities have committed to submit to the Commission a final detailed report including information on the aid amounts being paid, on the execution of the aid contract and on any other investment projects at the same location, within 6 months after payment of the last tranche of the aid.

3. ASSESSMENT OF THE AID MEASURE AND COMPATIBILITY

3.1 Existence of aid

- (26) As the financial support given to HighSi, and thus the Conergy group, will be disbursed by the German authorities in application of the “Improvement of the regional economic structure” and the “Law on investment premiums 2005” and “Law on investment premiums 2007”, it can thus be considered as given by the Member State and through State resources within the meaning of Article 87 (1) of the EC Treaty.
- (27) This financial support given to the Conergy group, will relieve it from costs which it normally would have had to bear itself and therefore the Conergy group benefits from an economic advantage over its competitors. By favouring in this way the Conergy group and its production, competition is distorted or threatened to be distorted in the sense of Article 87(1) of the EC Treaty.
- (28) The financial support from the German authorities will be given to the Conergy group who are producing and selling i.a. solar modules and solar energy systems as part of the photovoltaic sector. The photovoltaic sector is subject to competition and trade between Member States. Therefore, the support given is likely to affect trade between Member States in the sense of Article 87(1) of the EC Treaty.
- (29) Consequently, the Commission considers that the notified measure constitutes State aid to the Conergy group within the meaning of Article 87(1) of the EC Treaty.

3.2 Notification requirement

- (30) By notifying the measure, the German authorities complied with the individual notification requirement expressed in point 24 of MSF 2002.
- (31) The Commission has therefore assessed the aid measure in accordance with the provisions of the Guidelines on national regional aid¹² (hereafter: RAG) and the MSF 2002.

3.3 Compatibility with general provisions of the RAG 1998

- (32) The project comprises an initial investment within the meaning of the RAG, the costs eligible for investment aid are defined (see table above under point 15) and the rules

¹² OJ C 74, 10.3.1998, p. 9.

on cumulation are respected. Furthermore, HighSi has applied for aid before starting work on the project and it has the obligation to maintain the investment in the region for a minimum of five years after completion of the project. HighSi provides a financial contribution of at least 25% of the eligible costs in a form which is free of any public support. The investment contributes to the regional development of the region of Brandenburg as, in particular, it creates a significant number of new jobs, thereby helping to alleviate the serious problem of unemployment in the region. As the aid to HighSi is disbursed on the basis of approved aid schemes, the aid is therefore in principle in compliance with the general provisions of the RAG.

3.4 Compatibility with the MSF provisions

3.4.1 Aid intensity - point 21 of the MSF

- (33) The planned total nominal aid amount that will be disbursed is €76 630 000 which equals an amount of €73 450 000 in present (discounted) value. The Gross Grant Equivalent is 14,73 % and the Net Grant Equivalent is 11,91 % (on the basis of a discounting rate which equals the applicable reference rate for Germany of 4,36% at the time of the notification and a standard rate of corporation tax of 25%).
- (34) Given that the present (discounted) eligible expenditure is €498 702 000 and the applicable standard regional aid ceiling is 35%, the adjusted maximum aid intensity following point 21 and 22 of the MSF 2002 is 14,78% NGE.
- (35) Since the aid intensity of the aid (14,73 % GGE or 11, 91% NGE¹³) is below the maximum aid intensity allowed under the scaling down mechanism of the MSF 2002 for this project (namely 14,78 % NGE), the proposed aid intensity for the project complies with the adjusted regional aid ceiling of the MSF 2002.
- (36) It has to be noted that the German authorities only notified the nominal aid amount of €76 630 000. The Commission assessed in the previous paragraph that this aid amount is in conformity with the maximum aid intensity allowed for this project. However, in the hypothesis that, for unforeseen circumstances, the eligible costs would be different than the ones indicated in the notification, the German authorities will have to respect either the aid amount of €76 630 000 in nominal value or the aid intensity of 14,73% GGE of the total eligible costs in present (discounted) value, which ever is the lowest.

3.4.2. Compatibility with the rules under points 24(a) and (b) of the MSF

- (37) The Commission's decision to allow regional aid to large investment projects falling under point 24 of the MSF 2002 depends on the market power of the beneficiary before and after the investment and on the capacity created by the investment. However, to carry out the relevant tests under point 24(a) and (b) of the MSF 2002, the

¹³ Normally the maximum aid ceiling defined by the regional aid map for each Member State which a Member State has to comply with, is indicated in NGE. The German authorities however auto-limited themselves by the fact that the maximum aid ceiling allowed for them should be expressed in GGE and therefore the Commission has to check whether the aid intensity of the project in GGE is not above the maximum aid intensity allowed in NGE.

Commission has first to establish appropriate product and geographic market definitions.

Relevant product(s) concerned by the project

- (38) The product envisaged by the investment project is **solar modules** for terrestrial use. The notification indicates that the solar modules that HighSi will produce fall under the following product codes: NACE Rev 1.1 32.10, Prodcom (2004 version) 32.10.52.37 and CN code (2005 version) 85414090. The solar modules (panels) can be described as basically a set of solar cells connected together to obtain a certain voltage and which are the main component to built an integrated solar energy system.
- (39) The **solar energy systems** are basically the assembly and installation of integrated solutions composed of solar modules, an inverter, batteries, a charge controller etc. in order to build a system which is either stand-alone or grid-connected and which can convert sunlight into electricity. Assembling and installing solar energy systems is one of the four main activities of the Conergy group for which they will use a part of the solar modules produced by HighSi who will then thus not be sold directly on the market for solar modules.
- (40) In this context, it has to be reminded that, following point 52 of the MSF 2002, where the project concerns an intermediate product and a significant part of the output is not sold on the market, the product concerned will be deemed to include the downstream products.
- (41) As Conergy AG (and/or through its 100% subsidiaries SunTechnics and Voltwerk) is assembling and installing solar energy systems, it is active directly in the downstream market of the production of solar modules by HighSi and a significant part of the solar modules produced by HighSi will not be sold directly on the market but will be delivered to Conergy AG (and/or its subsidiaries SunTechnics and Voltwerk) to assemble and install solar energy systems. Access by Conergy AG (and/or its subsidiaries) to the aided solar modules produced by its 100% subsidiary HighSi is thus likely to enhance also the competition position of Conergy AG (and/or its subsidiaries) on the market for solar energy systems. Therefore and in light of point 52 of the MSF 2002, the Commission considers that the 'product concerned' by the notified project is not only **solar modules** but also the **solar energy systems**.
- (42) Moreover, it has to be noted that the manufacturing of solar modules by HighSi comprises an integrated process of 3 stages. From silicon blocks, thin slices of specific silicon **solar wafers** are made who then result in **solar cells** which are connected and form at the end of the process a solar module (panel).¹⁴ It can however not be excluded that the specific **solar wafers** and/or specific **solar cells** in the manufacturing process of solar modules by HighSi might also need to be regarded as separate (intermediate) products concerned by the project in light of point 52 of the MSF 2002, which might belong to separate product market than the solar modules.

¹⁴ This in contrast with the Commission decision in case N 17/2006, aid to First Solar (MSF 2002), where a different technology is used to produce the solar modules. That investment project used an “*automated manufacturing process [which] does not yield any intermediate products that could be used separately (e.g. wafers, individual solar cells). The production process is an integrated one and no intermediate product market or by-products will be manufacture*”.

- (43) However, the notification indicates that HighSi is not planning to sell any (intermediate) products (like solar wafers and solar cells) deriving from their production of solar modules. Indeed, it is stated that all (intermediate) products like solar wafers and solar cells are planned to be used for the own production of HighSi in the integrated process to manufacture solar modules to assure a constant utilization of all the production capacity and to be able to use the therewith involved cost optimization.
- (44) At the same time, it is also derived from the notification that it cannot be completely excluded that HighSi sells some intermediate products directly on the market. HighSi might in [...] circumstances sell the (intermediate) products like solar wafers and solar cells directly on the market [...]. To make sure that this is indeed limited to [...] circumstances, the German authorities agreed to confirm that the aid covered by the present decision will only be used for an investment regarding the production of solar modules and that any product used to produce these solar modules (like solar wafers and solar cells) will not be sold directly on the market by the aid beneficiary within 5 years after completion of the investment for more than [0-20]% of the total production capacity of these products per annum. If, due to unforeseen circumstances on the market, this condition could not be kept, the German authorities will notify the aid again to the Commission. The aid is thus supposed, at least in the first 5 years after completion of the investment, to have no effect on the market(s) where solar cells and solar wafers belong to as they will not be sold as such on these markets but used for the internal production of solar modules by HighSi. Under those circumstances, it is not necessary to assess in this decision the markets where solar wafers and solar cells belong to and to analyse the market shares of Conergy and/or HighSi thereon.
- (45) Following the above, the Commission will regard for its further compatibility assessment of this project under the MSF 2002, **solar modules** and **solar energy systems** as the 'products concerned' by the investment project.

Relevant product market(s)

- (46) In light of point 52 of the MSF 2002, the Commission will thus examine to which markets **solar modules** and integrated **solar energy systems** belong to.
- (47) The German authorities put forward that the Commission does not have to look separately at the market for solar energy systems as it has the same size in volume terms as the market for solar modules. That similar market trends are followed is not surprising to the Commission as this can happen when products are directly upstream or downstream from each other in the production chain. However, this is not a determining factor to define if both products belong to the same market as therefore it has to be examined if they are somehow substitutable for each other from the producers and/or consumers point of view.
- (48) Solar modules and solar energy systems differ in terms of characteristics, price and their intended use as they each fulfil a different part in the production chain. The Commission observes also that the producers for the two products are nearly never the

same.¹⁵ Moreover, the production of solar modules incorporates a very capital-intensive, highly developed specific photovoltaic technology (mostly patented) which could indicate an obstacle to enter this market. In contrast, the activity of integrated solar energy systems can basically be carried out by any company having specialised engineering expertise whereby thus the entry into the market might be rather easy. This contrast is also an indication that, from the producers point of view, the mentioned products would thus not be substitutable and belong thus to separate markets. Moreover, the customers of the two mentioned products are different depending on the vertical integration of their production process. The products they purchase for their own production process or end/use are thus also, from their point of view, certainly not substitutable with any product which is up- or downstream in the production chain. Furthermore, some Merger decisions¹⁶ exist concerning the photovoltaic sector. Although there was no need for the Commission in these merger decisions to define the relevant product markets as such, they contain indications which confirm that solar modules and solar energy systems are belonging to separate relevant product markets.

- (49) Based on all the elements mentioned above, the Commission will consider for the purpose of this state aid decision that solar modules and the integrated solar energy systems belong to separate product markets. However, it still had to examine whether the market where these two products belong to, are broader or narrower than only those products themselves.
- (50) Concerning the market where **solar modules** belong to, it should be noted that there are different technologies used in the market to produce solar modules. HighSi is making use of specific silicon solar wafers, which result in specific silicon solar cells. Others technologies also exist like, for example, the thin film photovoltaic technology used by First Solar¹⁷ and the “Crystalline Silicon on Glas” (CSG) Technology¹⁸ used by CSG Solar. However, following also the indications given in the above mentioned Merger decisions, the Commission has no reason to believe that the solar modules made from different technologies are belonging to different product markets. Indeed, the Commission has no indication that prices differ considerably between solar modules made through different technologies, if differences in energy performance are taken into account. Moreover, they seem perfectly substitutable for one another in the solar energy systems. Therefore, the market does thus not seem to be narrower than the general market where all solar modules are traded. Moreover, solar modules do not seem to be substitutable with another product. They are the main element of solar energy systems and cannot be replaced in those systems by other products. Therefore no indication exists that market could be broader than the solar modules market.
- (51) Concerning the market where **solar energy systems** belong to, it cannot be completely excluded that the final product for the end-customer, namely the integrated solar energy system, might be substitutable, at least to some extend, with other renewable

¹⁵ Some companies indeed exist who are vertically integrated by producing and selling both solar modules and solar energy systems (like Conergy AG will do in the future with HighSi, SunTechnics and Voltwerk) but the vast majority of competitors of, on the one hand, Highsi (solar modules) and, on the other hand, SunTechnics and Voltwerk (integrated solar energy systems) are currently not the same.

¹⁶ Decision of 27/03/2001 in case N° COMP/M.2367- Siemens/E.ON/Shell/SSG and Decision of 18/04/2001 in case N° COMP/M.2712 – Electrabel/Totalfinalelf/photovoltech.

¹⁷ See footnote 14.

¹⁸ Decision of 19 July 2006 in case N 335/06 – aid to CSG Solar, see paragraph 9 and 10.

energies like bio fuel, wind energy or even with traditional energy installations/sources. However, the specific installation requirements are quite divergent and it is likely that prices will be quite divergent as well. Moreover, even if the different energy sources/installations pursue in the end all the same purpose (providing electricity/energy), not all sources of renewable or even traditional energy are suitable to fulfil the specific electricity/energy needs of each end-customer/consumer and would thus in practise be substitutable for one another. In addition, the choice for a certain renewable energy source might also be limited to climatological reasons (availability of enough sun or wind for example). However, a detailed analysis of the substitutability of solar energy systems with other (renewable) energy sources is not necessary in this case since the Commission will examine the market share of the Conergy Group on the market for solar energy systems which is the narrowest definition possible of the relevant product market and will thus reflect the worst possible scenario.

Relevant geographic market

- (52) The German authorities consider that the relevant geographic market for **solar modules** is world-wide. They put forward that solar modules are traded all over the world by European and non-European producers, that there are no barriers to trade, that transport costs of modules are low due to their lightness and that price levels are homogeneous. The biggest producers and consumers of photovoltaic technology are Japan, Europe and USA and a great part of the production is exported.
- (53) The Commission notes that the Conergy group claims to follow a strategy of having half of its business realised outside Germany by end of 2008, although in 2005 up to 95% of its business was still realised in Germany (see table on turnover and employees under paragraph 9 of this decision). However, the fact that a company is predominantly active in Germany is not as such determining for defining the relevant geographical market for solar modules.
- (54) The solar modules market is actually considered to be worldwide because the producers who are manufacturing and selling solar modules are active on a worldwide market. It does indeed follow from different independent¹⁹ studies²⁰ in the photovoltaic sector that solar modules are currently mainly produced in Japan and Germany closely followed by the USA and China. Moreover, big quantities of solar modules produced in Japan are imported on the European market²¹ (of which it is generally known that Germany takes the largest share). In addition, transport costs seem relatively low compared to the production costs. Moreover, these studies give no indication of barriers to trade. On the contrary, they point out in rather explicit terms that the market for solar modules is worldwide as solar modules are traded on a worldwide level. Besides, the studies do not even provide figures for the specific

¹⁹ They are considered independent as they were not commissioned by the aid beneficiary nor were they written for the sole purpose of this assessment.

²⁰ “Capacity and market potential for grid-connected systems by 2010”, by EPIA, Frankfurt, December 2005; “Branchanalyse Photovoltaic 2006”, by Landesbanken Baden-Württemberg, Stuttgart, 21. März 2006; “Sun Screen II, Invest opportunities in solar power”, by CLSA, July 2005; “PV status report 2005, Research, Solar Cell Production and Market Implementation of Photovoltaics”, ILS Institute for Environment and Sustainability, August 2005, on order of the European Commission. These studies were all submitted by the German authorities with the notification.

²¹ See page 8 and 9 in the ILS study.

market of solar modules at EEA-level which is also an indication that the market is worldwide. Also in previous merger decisions²² as in a previous state aid decision²³, the view was taken, even if it was not necessary there to explicitly define the market as such, that the solar module market was most probably worldwide.

- (55) Based on these elements, the Commission considers it has enough indications to regard the **solar modules market** for the purpose of this decision as worldwide.
- (56) Concerning the **solar energy systems**, the German authorities argue that the relevant geographic market is a worldwide market as well. Indeed, they claim that Conergy and its subsidiaries are active in the solar energy systems market in the USA, India, Singapore, Australia and Korea and that these worldwide activities are constantly being expanded.²⁴ The German authorities argue that these worldwide sales by Conergy and its subsidiaries were possible because there exist no barriers to trade for solar energy systems, prices are largely homogeneous and transport costs are minor.
- (57) The Commission notes that it follows from the independent studies consulted that currently the two most important markets in the world where solar systems are installed are Germany and Japan. This is most probably due to the specific Japanese and German subsidisation possibilities offered by those respective governments: there is not only large financial public support offered for producers and investors in the photovoltaic industry but citizens/consumers can also profit from large financial public support which should encourage them to fulfil their electricity needs through solar energy systems. This financial government support is also one of the main reasons why the solar energy systems market in several states in the USA is foreseen to grow rapidly in the near future.
- (58) However, this financial support by certain states does not automatically mean that the relevant geographic market is limited to those states as the market definition depends on the potential existence of barriers to trade, high transport costs and price differences. Based on those elements, the Commission examined if the relevant geographical market for solar energy systems could possibly be national, even if point 24 of the MSF 2002 indicates, like the German authorities emphasize, that the market shares of the aid beneficiary should in principle be assessed at EEA-level.
- (59) One merger decision²⁵ states that, at the time it was taken in 2001, it could not be excluded that the market for solar energy systems might be national. To verify trade flows into and from Germany, the Commission could not check Eurostat data as the prodcom codes for the products concerned are too wide. However, the Commission has no indication of the existence of barriers to trade into or from the German market or any other national market. Indeed, the Commission is not aware of any technical or other specifications required per state that could form a barrier to trade. It would also be difficult to conceive that there would exist barriers to trade for the solar energy systems while they are mainly composed of solar modules which are traded on a worldwide level. Moreover, as solar modules have no high transport costs, there

²² See footnote 16 above.

²³ See case N 17/2006, aid to First Solar (MSF 2002).

²⁴ The Commission notes however again that 95% of their business was still realised in Germany in 2005 according to figures of the table under paragraph 9 of this decision.

²⁵ Decision of 27/03/2001 in case N° COMP/M.2367- Siemens/E.ON/Shell/SSG.

should thus in principle also be no specific high transport costs which could form a barrier to trade for the solar energy systems. In this context, it can also be mentioned that the German subsidies to end-users/consumers cannot form a barrier to trade as they are not restricted to solar energy systems coming from German providers. Additionally, the Commission has evidence that some of the main foreign competitors of the Conergy Group (including Japanese and British firms) are also selling and installing solar energy systems on the German market and are able to win even prestigious projects, which is a clear indication that imports into Germany are made and the market is thus not national. On the basis of all the above, the Commission excludes, for the purpose of this decision, that the relevant geographical market for solar energy systems could be the national German market.

- (60) The Commission also examined if the relevant geographical market could be the EEA or is worldwide. The independent studies consulted²⁶ are ambiguous and do not give clear indications for a possible geographical demarcation as either EEA or worldwide. This is probably due to the fact that the markets for solar energy systems, in the last years, have evolved rapidly and that the prognoses seem to indicate an ongoing structural change in this market. Indeed, there seems to be a massive shift going on from, in the past, a possibly rather national market towards possibly a current or future worldwide market. This can for example be illustrated by the fact that one of the independent studies²⁷ mentions that Germany was in 2005 responsible for 57% of the total worldwide demand of solar energy systems while this is estimated to become 7% in 2020 in a continuously growing market.
- (61) Consequently, to make sure the analysis covers all possible relevant demarcations of the geographic market for **solar energy systems**, the Commission will firstly check compliance with point 24 (a) of the MSF 2002 on the relevant product market at **EEA-level and** thereafter at the **worldwide** level.

Market shares of solar modules and solar systems

- (62) To examine whether the project is compatible with point 24 (a) of the MSF, the Commission has to analyse the market share of the aid beneficiary at group level before and after the investment. As the investment of HighSi will start in 2006 and is deemed to be finished by the end of 2008, the Commission will thus examine the market share of the Conergy Group on the solar modules market and the solar energy systems market from 2005 until 2009.
- (63) The German authorities provided 4 independent studies²⁸ with forecasts for the evolution of demand in the photovoltaic sector. The German authorities also provided some data on the beneficiary's expected future production volumes for solar modules and solar energy systems. However, 3 of the mentioned studies only provide figures for the market of **solar energy systems**, which the German authorities used in their

²⁶ See footnote 20 above.

²⁷ See LBBW study, mentioned above, on page 15.

²⁸ See footnote 20 above.

notification as figures supposedly for the **solar modules** market.²⁹ This is the one of the main reasons why the Commission will not take over in its assessment, the markets shares of the Conergy group as presented in the notification.³⁰

- (64) For the **solar modules** market, the Commission checked the market shares of the Conergy Group based on data provided by the EPIA study which was the only study which presented figures for this market.
- (65) Concerning the **solar energy systems**, the different independent studies give different forecasts on the market. This is most probably due to the continuing rapid growth of the photovoltaic industry which is evaluated at divergent speed by the different independent sources. As the figures presented in those studies concern forecasts which are thus by definition only estimations, the Commission compared, to calculate the market shares of the Conergy Group the lowest possible size expressed in MWp of the total market for solar modules with the capacity figures in MWp of the Conergy group (as presented in the figures either provided by the German authorities or taken from the EPIA study submitted). In this way, the Commission is calculating the market shares in the worst case scenario as it took the most stringent forecasts of the independent studies on the total relevant market.
- (66) Furthermore, it has to be noted that, pursuant to the notification, solar modules currently (re)sold by the Conergy group via wholesale constitute approximately 50% of Conergy's purchases of solar modules and the integrated solar energy systems use the other 50% of the purchased solar modules by the Conergy group. The Conergy group expects that this ratio will be maintained in the future when they will have their own production of solar modules.³¹ The Conergy group thus intends to use half of its current and future capacity of solar modules for the installation of solar energy systems. The German authorities notified the market shares for the Conergy group accordingly. However, the Commission notes that the Conergy group has the theoretical possibility to put solar modules up to the maximum production capacity of HighSi (400 MWp in 2009) directly on the market for solar modules or use its full production of solar modules on the market for solar energy systems. Of course, Conergy's maximum capacity in MWp of solar modules cannot be put on both markets at the same time as they only have one maximum capacity which they have to divide somehow between both markets. Moreover, it is unlikely that the Conergy group will

²⁹ The market for solar energy systems is directly downstream to the market for solar modules and MWp figures in the EPIA study (which is the only study who contained figures for both the modules and the systems) point out that the volume of the solar energy systems market follows the same pattern as the solar modules market but with a time delay of a few trimesters which according to the Commission could imply that the volume figures of the total solar energy systems market for a certain year give an indication of the volume figures for solar modules market for the year before.

³⁰ The other reasons related to the fact that one independent study gives volume figures of the total solar modules market. Moreover, the German authorities notified 0% market shares for the Conergy group on the solar modules market in 2005 and 2006, not taking into account the fact that the Conergy group is already selling solar modules and has thus a market share. The German authorities also did not provide market shares for the Conergy group on the market for solar energy systems in 2005, 2006 and 2007 and therefore the Commission based itself on the figures provided in the independent studies.

³¹ [...] [*Concerning the*] *purchase of*] solar modules. [...] the Conergy group planned HighSi's production capacity of solar modules on the current known worldwide market growth. In the event that the worldwide growth would exceed the current expectations, the Conergy group [...] will [...]. [...] try to maintain a constant market share [...].

put its maximum capacity of solar modules on one of both mentioned markets as that would imply that Conergy would put half of its other activities out of business. However, to take account of the theoretical possibility on the one hand, and the notified plans of the Conergy group on the other hand, the Commission will, for calculating the market shares of the Conergy group, not follow completely the 50/50 approach of the notification but will take a margin of manoeuvre by considering the market shares of the Conergy group at 75% of their maximum capacity of solar modules in MWp and this for both relevant product markets.

- (67) Taking all the above into account, market share of the Conergy group for **solar modules** is assessed in volume terms on the world-wide market.

Conergy's market shares for solar modules at worldwide level (in MWp)

2005	2006	2007	2008	2009
[0-15]%	[0-15]%	[0-15]%	[0-15]%	[0-15]%

- (68) These figures indicate that the aid beneficiary's market share for solar modules would, even in the worst case scenario, not account for more than 25% of the total solar modules market before and after the investment. Therefore, as far as the market of solar modules is concerned, the project is in line with point 24(a) of the MSF.

- (69) Taking the above considerations into account, Conergy's market share for **solar energy systems** is assessed at group level in volume terms in the EEA and the world-wide market.

Conergy's market shares for solar systems at EEA-level (in MWp)

2005	2006	2007	2008	2009
[10-20]%	[10-20]%	[10-20]%	[10-20]%	[15-25]%

Conergy's market shares for solar systems at worldwide level (in MWp)

2005	2006	2007	2008	2009
[5-15]%	[5-15]%	[5-15]%	[5-15]%	[5-15]%

- (70) Although the [15-25]% of market share in 2009 on the EEA market is relatively high and close to the 25% allowed, it should be noted that this reflects the worst possible scenario as, firstly, the Commission took the smallest possible product market concerned [as the market might be broader and include some other (renewable) energy sources]. Secondly, the Commission took the most stringent forecasts of the independent studies on the total relevant market. Thirdly, the figures on the total market are rather speculative as the market is growing rapidly. Fourthly, the Commission did not take 50% of the total capacity in MWp of the production of solar

modules into account as indicated in the notification to calculate the market shares of the Conergy Group on the market for solar energy systems but took a margin of manoeuvre of 75%.

- (71) For all these reasons, the Commission is confident that the aid beneficiary at group level has in reality no market share above 25% on the product market where solar energy systems belong to before and after investment, either at EEA or worldwide level. Therefore, also for the market where solar energy systems belong to, the Commission considers the project to be in line with point 24(a) of the MSF.

Production capacity

- (72) The Commission has also to examine whether the investment project complies with point 24 (b) of the MSF 2002. In this context, the Commission will verify that the average annual growth rate of the apparent consumption of the product concerned over the last five years is above the average annual growth rate of the European Economic Area's GDP.
- (73) The latest available data are those for the years 1999 to 2005. The data notified by the German authorities on this issue was verified by the Commission on the basis of the submitted studies and public information of established source.³² In none of these sources, the CAGR for solar modules and for solar energy systems is below 49% in volume terms in the EEA for the years 2000 to 2005.
- (74) As the average annual growth rate of the European Economic Area's GDP for the years 2000 to 2004 is 2,11% and for the years 2001 to 2005 is 1,68%, the average annual growth rate of the apparent consumption of solar modules and solar energy systems over the last five years of which data is available, is clearly largely above those figures.
- (75) Therefore, on the basis of the figures stated above, the Commission concludes that the investment project of the Conergy Group is compatible with point 24 (b) of the MSF 2002.

3.5 Conclusion

- (76) The aid for the notified project is in line with the RAG and respects the conditions of the MSF 2002. Consequently, the aid measure is compatible with Article 87(3)(a) of the EC Treaty.

4. DECISION

- (77) The Commission has decided on the basis of the foregoing assessment that the regional aid in favour of HighSi and thus the Conergy group is compatible with the EC Treaty.

³² Internet site of the "International Energy Agency Photovoltaics Power Systems Programme" (IEA PVPS): www.iea-pvps.org

- (78) The Commission reminds the German authorities of their commitment to submit to the Commission a copy of the aid contract as well as the final report concerning the measure in question.
- (79) If this letter contains confidential information, which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site:
http://ec.europa.eu/community_law/state_aids/index.htm

Your request should be sent by registered letter or fax to:

European Commission
Directorate-General for Competition
State Aid Greffe
B-1049 Brussels
Fax No: 32 2 296 12 42

Yours faithfully,
For the Commission

Neelie KROES
Member of the Commission