II

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is not obligatory)

DECISIONS

COMMISSION

COMMISSION DECISION

of 17 June 2009

on the State aid C 21/08 (ex N 864/06) which Germany is planning to implement in favour of Sovello AG (formerly EverQ GmbH)

(notified under document C(2009) 4516)

(Only the German is authentic)

(Text with EEA relevance)

(2009/697/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community, and in particular the first subparagraph of Article 88(2) thereof,

Having regard to the Agreement on the European Economic Area, and in particular Article 62(1)(a) thereof,

Having called on interested parties to submit their comments pursuant to the provisions cited above [1] and having regard to their comments,

Whereas:

1. PROCEDURE

(1) By electronic notification dated 20 December 2006, registered the same day at the Commission (A/40513), the German authorities notified, in line with the individual notification request resulting from the Multisectoral Framework on regional aid for large investments projects [2] (hereafter referred to as 'MSF 2002'), their intention to provide regional aid for a large investment project in favour of EverQ GmbH. On 24 November 2008, EverQ GmbH was transformed in an 'Aktiengesellschaft' called Sovello AG [3].

(2) The Commission requested additional information on 16 February (D/50671), 26 April (D/51786), 10 July (D/52902), and 17 September 2007 (D/53704). The German authorities updated the notification and provided additional information on 29 March (A/32775), 9 May (A/33866), 28 August (A/37024), 17 October (A/38528), 9 November (A/39223) and 12 November 2007 (A/39287) respectively. On 6 December 2007, a meeting took place between the Commission services and the German authorities. On 20 December 2007 (A/40543), the German authorities confirmed in writing the information transmitted at this meeting. On 20 February 2008, the Commission asked further information concerning the single investment project issue and an update of the market data. The requested information was submitted to the Commission on 19 March 2008 (A/5454).

(3) By letter dated 20 May 2008, with reference K(2008)1844 final, the Commission informed Germany that it had decided to initiate the procedure laid down in Article 88(2) of the EC Treaty in respect of the aid.

(4) By letter dated 15 August 2008, registered at the Commission on 18 August 2008 (A/16933), the German authorities submitted their observations.

[1] OJ C 227, 4.9.2008, p. 19.
[2] OJ C 70, 19.3.2002, p. 8.
[3] To facilitate understanding of the decision, the current name 'Sovello AG' will be used, even for the period preceding the change of name.

(5) The Commission decision to initiate the procedure was published in the *Official Journal of the European Union* ([4]) on 4 September 2008. The Commission called on interested parties to submit their comments on the aid measure.

(6) The Commission received comments from one interested party by letter dated 30 September 2008, registered at the Commission on the same day (A/20002). By letter dated 7 October 2008 (D/53848), the Commission forwarded these comments to Germany. The German authorities submitted additional information by e-mails dated 16 and 24 April 2009, and 15 May 2009, registered at the Commission on the same day (A/8772, A/9822, and A/11817 respectively).

2. DETAILED DESCRIPTION OF THE AID

2.1. Objective of the measure

(7) The aid measure aims at promoting regional development. The investment takes place in Thalheim, Landkreis Bitterfeld, Sachsen-Anhalt, Germany, an assisted area pursuant to Article 87(3)(a) of the EC Treaty according to the regional aid map established for Germany and in force till the end of 2006 ([5]).

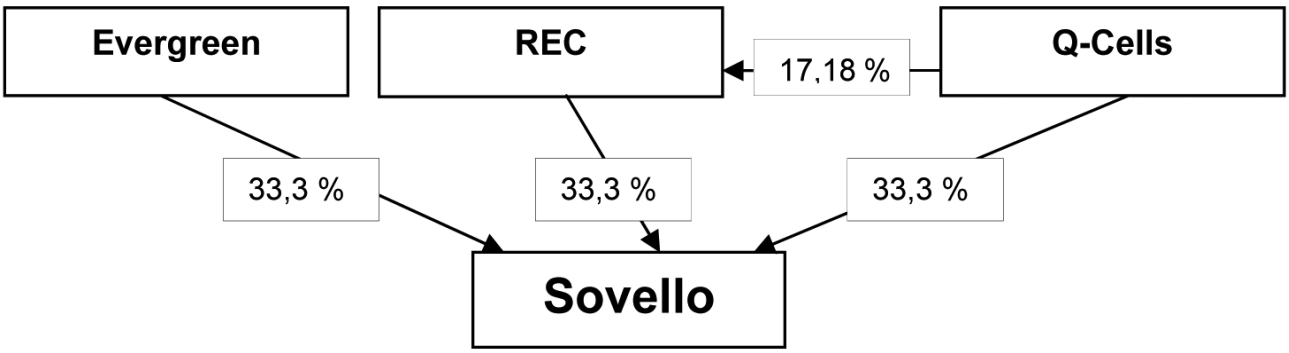
2.2. The beneficiary

(8) The beneficiary of the notified aid is Sovello AG (hereafter: Sovello). Sovello was established in December 2004 as a joint venture of Evergreen Solar Inc. (Marlboro MA, USA) (hereafter: Evergreen), owing 75,1 % of the shares, and Q-Cells AG (Thalheim, Germany) (hereafter: Q-Cells), owing 24,9 %. Evergreen, a producer of solar modules, owns a patent on the String-Ribbon technology ([6]) and licensed this technology to the joint venture. Q-Cells, one of the largest producers of solar cells in the world, brought in its competence in cell manufacturing and its experience on the German solar market.

(9) In November 2005, Renewable Energy Corporation ASA (Norway) (hereafter: REC) joined the joint venture and took a participation of 15 %, whereas Evergreen and Q-Cells lowered their participation to respectively 64 % and 21 %. REC is among the world's largest producers of silicon materials for the photovoltaic industry. REC also produces solar wafers, cells and modules through its subsidiaries.

(10) Since 19 December 2006, i.e. the day before the notification was introduced, the partners Evergreen, Q-Cells and REC each hold a share of 33,3 % in Sovello.

(11) The current shareholder structure of Sovello is represented in the figure below:



([4]) See footnote 1.

([5]) State aid N 641/02 — Germany — Regional State aid map for Germany (2004-2006).

([6]) The String-Ribbon technology is a continuous process whereby long wires unwind from spools, run through a silicon melt and pull a long 'ribbon' of silicon out of this melt. The ribbon is harvested periodically and cut into smaller pieces (solar wafers). The wafers are then cleaned and undergo further processing ($POCl_3$-diffusion, etching, SiN-antireflexcoating, metallisation and conditioning) into solar cells. The last stage consists in the assembly of the cells into solar modules (panels).

2.3. **Investment project**

(12) The German authorities intend to provide regional investment aid to Sovello for the setting-up of a new plant (Sovello2) for the production of solar modules.

(13) Sovello already operates in Thalheim its Sovello1 ([7]) plant that started production of solar modules in April 2006. At the date of notification, an output of 30 Megawatt peak ([8]) was planned to be reached by end 2007. The German authorities claim that this plant was designed as a pilot project to validate Evergreen's String-Ribbon technology in an industrial process, combined with the manufacturing techniques of Q-Cells.

(14) The notified aid refers to a new investment project, called Sovello2. It concerns the construction of a new plant for the integrated large scale production of solar modules using the validated String-Ribbon technology on land adjacent to the Sovello1 site in Thalheim. The works on Sovello2 started in July 2006, and were finalised by June 2008. Sovello2 was expected to reach its full nominal capacity of 60 MWp in 2009 ([9]).

(15) At the date of notification, Sovello2 was expected to create around 390 direct, and at least some 700 indirect new jobs in the region.

(16) The time table below gives an overview of the different steps for both projects Sovello1 and Sovello2.

Date of event	Sovello1	Sovello2
Investment decision	14.1.2005 (date of MJVA1)	End June 2006 (according to German authorities)
Aid application	27.12.2004 (for GA grant)	20.2.2006 (for GA grant)
Aid awarding date	21.4.2005 (GA decision)	15.12.2006 (GA decision; subject to Commission approval)
Land sale contract	27.6.2005	30.6.2006
Start of works	2005	July 2006
Notification	1.9.2005 ([10])	20.12.2006
Planned investment period	1.1.2005-31.12.2007	24.7.2006-30.6.2008
Start of production	February 2006	Second quarter 2007
Full capacity reached	End June 2006 (30 MWp)	End 2007 (60 MWp)
Commission approval	7.6.2006 (SME bonus)	

([7]) Sovello already received regional investment aid for its first plant in Thalheim, including an SME bonus of 15 % on the basis of the GA scheme, which refers to Article 4(3)(b) of Commission Regulation (EC) No 70/2001 of 12 January 2001 on the application of Articles 87 and 88 of the EC Treaty to State aid to small and medium-sized enterprises (OJ L 10, 13.1.2001, p. 33). In its decision No 426/05 of 7 June 2006 (OJ C 270, 7.11.2006, p. 2) the Commission assessed that at the time of the notification Sovello was an SME.

([8]) 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 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.

([9]) Originally a much larger extension investment was envisaged at the company site in Germany, representing a total additional capacity of 90 MWp (according to the initial joint venture agreement between Evergreen and Q-Cells, dated January 2005), or even […] (*) ((*) Covered by the obligation of professional secrecy) MWp (according to information submitted to the Commission in March 2007 in the course of the notification for the extension project), to be realised in […] stages ([…]). The German authorities withdrew the two last stages from the notification, […]. The Commission notes from information in the annual reports of the joint venture partners that Sovello's total production reached 85 MWp in 2008.

([10]) See footnote 7.

2.4. **Legal basis**

(17) The aid is to be granted on the basis of the existing aid schemes 'Improvement of the regional economic structure' (State aid N 642/02 [11] — hereafter: the GA scheme), the 'Investment Premium Law 2005' (State aid N 142a/04 [12]) and its successor scheme the 'Investment Premium Law 2007' (State aid N 357a/06 [13]).

2.5. **Investment costs**

(18) According to the updated information submitted by the German authorities on 16 and 24 April 2009, Sovello2 involves a total investment in nominal value of EUR 118 418 780 (EUR 114 882 310 in discounted value [14]), all of which is eligible for regional aid. Table I below gives a breakdown of the total investment costs for the notified project.

Table I

Breakdown of the project costs

(in EUR)

2006	2007	2008	Total (nominal value)	Total (discounted value 31.12.2006)
[…]	[…]	[…]	118 418 780	114 882 310

2.6. **Financing of the project**

(19) According to the updated information submitted by the German authorities on 16 and 24 April 2009, Sovello financed the project using EUR 87 313 015 of own resources and bank loans (not covered by a public guarantee), in addition to the aid applied for (EUR 31 105 765). It follows that Sovello makes an own contribution of at least 25 % of the total eligible expenditure which will be free of any public support.

2.7. **Applicable regional aid intensity ceiling**

(20) Thalheim, Landkreis Bitterfeld, Dessau in Sachsen-Anhalt is an assisted area in virtue of Article 87(3)(a) of the EC Treaty with a maximum aid intensity of 35 % gross grant equivalent (GGE) for large undertakings according to the Guidelines on national regional aid [15] (hereafter: RAG 1998) and the German regional aid map 2004-2006 [16] which was in force at the time of the notification.

2.8. **Aid amount and aid intensity**

(21) Germany notified two different aid amounts and aid intensities, depending on whether a cohesion bonus provided for under point 25 of the MSF 2002 can be applied. Point 25 of the MSF 2002 stipulates that 'the maximum allowable aid intensity (…) may be increased by multiplying it by the factor 1,15 if the project is co-financed from structural funds resources as a major project within the meaning of Article 25 of Council Regulation (EC) No 1260/1999 [[17]] (…)'. However, the rate of Community co-financing must be at least 25 % of the total public expenditure in a region eligible for regional aid pursuant to Article 87(3)(a) of the EC Treaty, and the maximum aid intensity resulting from the application of the cohesion bonus must not exceed 75 % of the applicable regional aid ceiling (points 25 and 26 of the MSF 2002).

(22) The first aid intensity notified by the German authorities for this project was 22,46 % GGE (corresponding to an aid amount of EUR 30,526 million), which is the maximum basic aid intensity without cohesion bonus, calculated on the basis of the initially notified eligible costs of EUR 135,934 million in discounted value, applying the scaling-down mechanism of point 21 of the MSF 2002 and a regional aid ceiling of 35 % GGE.

(11) Commission decision of 1 October 2003 (OJ C 284, 27.11.2003, p. 2).
(12) Commission decision of 19 January 2005 (OJ C 235, 23.9.2005, p. 3).
(13) Commission decision of 6 December 2006 (OJ C 23, 1.2.2007, p. 1).
(14) Calculated on the basis of the applicable reference rate for Germany of 4,36 % at the time of the notification.
(15) OJ C 74, 10.3.1998, p. 9.
(16) OJ C 186, 6.8.2003.
(17) OJ L 161, 26.6.1999, p. 1.

(23) In case the cohesion bonus applies (cf. hereinafter: aid including cohesion bonus), the maximum aid amount for an eligible cost of EUR 135,934 million in discounted value is EUR 35,105 million (representing an aid intensity of 25,83 % GGE). This aid intensity is based on point 25 of the MSF 2002.

(24) The second aid intensity notified by the German authorities for a situation where the cohesion bonus is applicable was 23,83 % GGE (corresponding to an aid amount of EUR 35,336 million in nominal value and EUR 32,397 million in discounted value) of the total eligible investment costs.

(25) On 16 and 24 April 2009, the German authorities submitted updated information to the Commission, informing that the total eligible investment costs for Sovello2 finally amount to EUR 118 418 780 (EUR 114 882 310 in discounted value), and that the aid to be granted to Sovello2 in a situation where the cohesion bonus is applicable amounts to EUR 31 105 765 in nominal value (EUR 27 367 723 in discounted value, corresponding to an aid intensity of 23,8224 % GGE). The updated information also mentions that the aid is to be provided in the form of a direct grant amounting to EUR 17 220 066 and a tax allowance amounting to EUR 13 885 699, to be paid out in 2009.

(26) The German authorities applied for ERDF co-financing ([18]) (major project), under the operational programme 'Sachsen-Anhalt', in the amount of EUR 9,118 million (nominal values). If the Commission should reject the corresponding application under the rules applicable for major projects pursuant to the Regulation (EC) No 1260/1999, the conditions to obtain the cohesion bonus would not be fulfilled. In this situation, the grant, and thus the total aid, as foreseen by the notification, will be reduced to meet the aid ceilings in GGE indicated under the no bonus scenario.

(27) According to par. IX.2(m) of the aid granting decision ([19]) under the GA scheme, the granting of the investment incentives is subject to the Commission's clearance of the State aid.

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

(29) The German authorities confirmed that the beneficiary applied for the aid before works have started on the project. According to the aid granting decision, the aid application was introduced on 20 February 2006, whilst the investment only started in July 2006.

(30) The German authorities also confirmed that the maximum aid intensity and the maximum aid amount as approved in this decision will not be exceeded, even in the case of lower or increased eligible costs.

2.9. **General commitments**

(31) Par. IX.2(f) of the aid granting decision, as well as the national legal basis for the applied existing aid schemes, impose that the beneficiary maintains the investment at the site for a minimum period of five years.

(32) With the notification, the German authorities provided a copy of the aid granting decision. Furthermore, the German authorities have committed to submit to the Commission:

— on a five-yearly basis, starting from the approval of the aid by the Commission, an intermediary report (including information on the aid amounts being paid, on the execution of the aid contract and on any other investment projects started at the same establishment/plant),

— within six months after payment of the last tranche of the aid, based on the notified payment schedule, a detailed final report.

3. **GROUNDS FOR INITIATING THE FORMAL INVESTIGATION PROCEDURE**

(33) The Commission, in the decision to initiate the formal investigation procedure in the present case, founded its doubts on the following aspects.

(34) Point 49 of the MSF 2002 states that an investment project should not be artificially subdivided into subprojects in order to escape the provisions of the MSF 2002. For the purpose of the MSF 2002, it is assumed that an investment project includes all the fixed investments on a production site in a period of three years. A production site is defined in this paragraph as 'an economically indivisible series of fixed capital items fulfilling a precise technical function, linked by a physical or functional link, and which have clearly identified aims, such as the production of a defined product'. Member States might be inclined to notify two separate projects because treating them as separate instead of as one single investment project normally allows a higher maximum aid intensity due to effects of the automatic scaling-down mechanism laid down in point 21 of the MSF 2002 ([20]).

([18]) Application filed on 8 May 2007.

([19]) 'Zuwendungsbescheid' dated 15 December 2006, modified on 29 January 2009.

([20]) The Member State could apply twice the full regional aid ceiling to the first EUR 50 million of the projects (no scaling down of the applicable regional aid ceiling required) and twice half of this ceiling to the next EUR 50 million, while for all eligible costs above EUR 100 million the regional aid ceiling is reduced by 34 %.

(35) Since less than three years had elapsed between the start of works on the Sovello1 (2005) and the Sovello2 (July 2006) projects, the Commission stated in the decision to open the formal investigation that it would normally assume that the two projects form a single investment project, unless the criteria mentioned in point 49 of the MSF 2002 are fulfilled.

(36) The Commission noted in this context that Evergreen had a pilot plant in Marlboro, where it carried out R & D as well as tests on a pilot production line for its String-Ribbon technology, whereas Sovello1 is much closer to the market: in fact, the production had started in April 2006, and all modules produced in April, May and June 2006 were immediately sold on the market. The Commission therefore provisionally concluded that Sovello1 seemed to be designed essentially not to demonstrate the technical or technological feasibility of producing solar modules based on the String-Ribbon technology but rather to evaluate the economic performance and industrial capacity of the technologies and manufacturing processes of the joint venture partners, as well as to take advantage of the expected fast development of this market in Germany.

(37) The Commission further observed that the scale of the initial investment (Sovello1, 30 MWp) is not really small scale. On the other hand, compared to the output of Sovello1, the size of Sovello2 (output 60 MWp) does not really seem to be 'mass production'. The cost multiplication factor is only 2 for Sovello2, whereas it was 13 for the large investment project Qimonda, for which the Commission had come to the conclusion that the notified project did not form a single investment project with a previous pilot project (Commission decision of 30 January 2008 ([21]), hereafter: the Qimonda decision).

(38) In light of the judgment of the Court in case T 184-97 ([22]), as well as the definitions of 'industrial research', 'experimental development' and 'process innovation' in the Community Framework for State aid for Research and Development and Innovation ([23]) (hereafter: R & D & I framework), the Commission expressed doubts that Sovello1 could be considered as a pilot project and would therefore constitute a separate project from the Sovello2 project.

(39) The Commission took the position that if Sovello1 could not be considered as a pilot project, then it would seem that it may have to be considered as a single investment project with Sovello2 (based on a global assessment of the criteria of point 49 of the MSF 2002). In this context the Commission concluded that, notwithstanding the arguments of the German authorities about the physical separation of the two plants, and the lack of functional links between them, the simple fact remained that there is one single company, having two production plants, built on physically adjacent land, producing the same product using the same technology, in a scenario where work begun on the second plant within three months of the start of commercial production of the first plant.

(40) The Commission also understood from the initial joint venture agreement (hereafter: MJVA1) that the partners planned an investment of a much larger scope than Sovello1, which was to be realised in different stages. Furthermore, the Commission noted that it was not clear whether the additional costs for conceiving separate projects, rather than an integrated facility, exceeded the amount of extra aid resulting from the fact that the two projects would not be considered as a single investment project (and hence the scaling down of point 21 of the MSF 2002 would not be applicable to the combined project).

(41) In view of the above, the Commission, had doubts whether, and if yes to which extent, the notified aid was necessary to provide an incentive effect for the investment and could be considered compatible with the MSF 2002 and the common market.

4. COMMENTS FROM INTERESTED PARTIES

(42) In response to the publication of its decision to open the formal investigation procedure in the *Official Journal of the European Union*, the Commission received observations from one interested party: the European Photovoltaic Industry Association (EPIA) ([24]). The arguments put forward by EPIA can be summarised as follows.

4.1. The solar industry as a high growth market

(43) According to EPIA, the solar industry is characterised by a continually high market growth rate due to increasing worldwide demand for photovoltaic products and a dynamic technology and innovation degree. Swiftness is a key factor when it comes to implementing industrial-scale innovations. To accelerate the competitiveness of the solar industry a reduction of generation costs for solar power is required. An essential cost element for generating solar power is the acquisition cost of solar systems. The production costs of solar systems, in turn, depend on technologies used, pertinent feedstock and material costs.

([21]) Commission decision N 872/06, Individual aid to Qimonda (OJ C 170, 5.7.2008, p. 2).

([22]) Case T-184/97 *BP* v Commission, ECR [1997] II-03145. In this case, the CFI appears to hold that a programme intended to demonstrate the economic and industrial viability of a sector cannot be regarded as a pilot project for the technological development of products.

([23]) OJ C 323, 30.12.2006, p. 1.

([24]) EPIA represents almost 200 members, based in over 20 countries in Europe, from across the entire solar electricity sector (covering the whole value-chain of the photovoltaic industry: from silicon, cells and module production to systems development). The aid beneficiary is a member of EPIA.

(44) The high level of technology and innovation is mainly illustrated by a growing number of cooperation projects between companies and/or R & D institutions as well as a growing number of start-ups in the sector.

4.2. **Pilot projects in the solar industry**

(45) EPIA stated that in the solar industry innovations and novel technologies are developed and applied according to economic criteria. In order to limit economic risks of financiers and to test the technological and/or economic feasibility of an innovation to certain criteria, there is a phased approach notably in R & D as well as in industrial implementation of innovations. Therefore, pilot projects are suitable means to find answers to certain technical and/or economic questions regarding innovations with concrete objectives, limited resources and funds as well as calculable risks. According to EPIA, pilot projects are also applied in product and process innovations of industrially proven technologies, since an expansion of capacities is not economically reasonable until a pilot production successfully demonstrated the replicability of processes. Once process replicability was verified in pilot production, swift extension of production capacities is an important success factor. Hence, new production capacities are often set up soon after successful 'proof of concept' in pilot production.

4.3. **The String-Ribbon technology not yet industrially tested**

(46) EPIA underlined that the String-Ribbon process technology employed by Sovello is a silicon ribbon growth process to make crystalline wafers which, compared to conventional crystalline sawing technologies, consumes markedly less silicon. It has thus a clear cost advantage. EPIA stressed that the String-Ribbon process for manufacturing wafers had not yet been industrially tested when Sovello1 was built. That is, there was not a single company worldwide at that time, which was capable of processing such String-Ribbon wafers into cells and modules. By applying the String-Ribbon technology, Sovello has been able to cover the entire production chain from solar wafers via solar cells to solar modules. This technologically innovative integration along the added-value chain required testing in industrial practice.

5. **COMMENTS FROM THE GERMAN AUTHORITIES**

(47) The German authorities provided additional evidence in order to dispel the doubts of the Commission as to whether the two investments Sovello1 and Sovello2 constitute a single investment project in the meaning of point 49 of the MSF 2002. Germany claims that Sovello1 is a pilot project and, hence, following the Qimonda precedent, has to be interpreted as an independent investment project. The arguments presented can be summarised as follows.

5.1. **Sovello1 is a pilot project**

(48) The German authorities argue that the investment in Sovello1 must be regarded as a pilot project. They refer to a definition of the OECD ([25]), which considers the construction and operation of a pilot plant to be parts of R & D as long as the principal purposes are to obtain experience and to compile engineering and other data. According to the OECD definition, a pilot project is carried out not only to check technical feasibility of a new technology, but also to assess the operating efficiency, the cost effectiveness and the technical optimisation before mass production can start. The successful development of the pilot project is thus a *conditio sine qua non* for the start and development of a mass production facility.

(49) The German authorities are of the opinion that the process and product innovation realised through the Sovello1 investment falls under the definitions of 'industrial research' and 'process innovation' of the Commission R & D & I framework. According to Germany, the fact that the beneficiary from the start envisaged to commercialise the output of Sovello1 should not be decisive for its classification as a single investment project or not, since the Commission did not develop this view in its Qimonda decision either. The German authorities claim that there is no difference in aims and approach between the Qimonda pilot project and the investment in Sovello1.

(50) The German authorities claim that the above description of a pilot project fully applies to the project Sovello1. Sovello was established as a joint venture between Q-Cells and Evergreen (in January 2005), with the objective to validate Evergreen's String-Ribbon technology in an industrial production process, combined with the manufacturing techniques of Q-Cells (production of solar cells and know-how concerning machinery and production processes).

(51) According to the German authorities, the judgment of the European Court of First Instance in case T-184/97 would not contradict the assessment of considering Sovello1 as a pilot project. This judgment would also not be relevant in the Sovello case since it does not comment on the single investment project issue.

(52) According to the German authorities, Sovello1 is the first automated and fully integrated industrial production facility to produce solar modules on the basis of the String-Ribbon technology worldwide.

([25]) *Main definitions and conventions for the measurement of research and experimental development — A summary of the Frascati manual 1993*, OECD, Paris, 1994, par. 117-118.

(53) The German authorities confirmed that Evergreen indeed has a pilot plant in Marlboro where R & D and tests on a pilot production line for its String-Ribbon technology are carried out. The purpose of Sovello1 was not to verify whether it was possible to produce solar modules based on the String-Ribbon technology, because Evergreen had successfully tested this at laboratory scale in Marlboro. The question was however to verify whether serial production was technologically (and economically) feasible at industrial scale. The German authorities declare that in Marlboro an industrial production took neither place in the wafer nor in the cell or module production. The modules produced in Sovello1 are of another type ('Spruce Line') than those produced in Marlboro ('Cedar Line'). One of the main differences is that the modules of the Cedar Line were produced manually, whereas in Sovello this process was automated to a large extent.

(54) The Marlboro capacity of 15 MWp was only reached in 2004, thanks to the installation of new wafer-ovens. According to the German authorities, this does not allow to conclude that Marlboro had industrial processes for the production of cells and modules, or that its output reached the necessary standards for industrial production. Moreover, as said above, the modules produced at this plant were of another type than those to be produced in Sovello1. The German authorities inform that pilot projects in the solar industry have capacities ranging between 10 and 30 MWp. They are of the opinion that the fact that the Sovello1 project is situated at the upper line of this range should not exclude this project from the qualification as a pilot project. They further inform that the capacity of the Sovello1 plant (30 MWp) was in fact determined by the capacity of the […] ([26]) specifically developed for this plant.

(55) The German authorities also informed that based on the current level of knowledge and experience, facilities using String-Ribbon technology reach production capacities of 75-80 MWp. They hold that no investor would have set up a larger plant on the basis of a new and fully unproved technology.

(56) The German authorities argue that at the time of the Sovello1 investment, no standards were available for the technical conceptual design of the machinery and equipment to be used for industrial production of solar modules based on the innovative String-Ribbon technology. As Sovello had specific and higher targets than Marlboro for its output (reach factory yield of at least […], stabilise cell efficiency at […] and increase it by […]), it could not simply 'copy' the laboratory processes of Marlboro, nor could it use Q-Cells' traditional production processes ([27]). The German authorities presented numerous examples to illustrate this.

(57) The German authorities argue that the short test period and the early achievement of success and commercialisation should not be considered as negative elements for the qualification of Sovello1 as a pilot project. The German authorities observe that also Marlboro sold its 'pilot' production. This is to be explained by the high demand on the market for solar products. In the case of lower yields and cell efficiency, such modules are sold at lower prices. If the yield and cell efficiency targets set forward for Sovello1 had not been reached, the project would have failed, but the output would still have been sold on the market, in order to limit the losses.

(58) The German authorities informed the Commission that five months expired between the start of production at Sovello1 and the works for Sovello2 (instead of three months as indicated by the Commission in its opening decision).

(59) The German authorities argue that the test period for Sovello1's pilot production facility was so short since, contrary to usual practice in other sectors, the investment phase and the operating phase (hiring skilled labour, close cooperation with engineering company, early supply contracts for raw material and parts, spatial separation of cell and module production) were not separated, and also thanks to a very good planning of the whole project.

5.2. **The investment projects Sovello1 and Sovello2 are independent investments**

(60) The German authorities consider that all criteria mentioned in point 49 of the MSF 2002 guidelines must be fulfilled cumulatively in order to classify Sovello1 and Sovello2 as a single investment project. The German authorities extensively argue this interpretation and base their analysis on the past Commission practice, referring to the Qimonda decision, the Commission decision on AMD ([28]) (hereafter: the AMD decision), and the Commission decision on Q-Cells ([29]) (hereafter: the Q-Cells decision). Since this condition would not be fulfilled in the case of Sovello1 and Sovello2, both projects should be perceived as independent investment projects.

([26]) The […] uses an innovative […] (instead of the traditional 'plasma enhanced chemical vapour deposition', PECVD process).

([27]) The cell format of the new technology (150 mm × 80 mm) is different from the conventional quadrangular silicon based format (156 mm × 156 mm). The new cell format as well as the physical properties of the wafers (e.g. […]) set specific requirements for the planning and assignment of all the machinery and equipment for Sovello1.

([28]) Commission decision of 18 July 2007, N 810/06, Aid to AMD (OJ C 246, 20.10.2007, p. 1).

([29]) Commission decision of 10 July 2007, N 850/06, Aid to Q-Cells (OJ C 270, 13.11.2007, p. 5).

(61) The German authorities assert that Sovello1 and Sovello2 are neither physically, technically nor functionally connected to each other. They are separate production facilities with completely autarkic production lines, separate fixed assets (land, buildings, machinery, and equipment) and with separate access to the public road network (having different street numbers), located on separate (but adjacent) land parcels, which were acquired at different dates ([30]). Both production facilities cover the complete value chain starting with the production of String-Ribbon wafers, via cells to modules. They could be sold separately without any physical changes in the production process ([31]) of each plant.

(62) The German authorities claim that a comparison between Sovello1 and Sovello2 shows differences in production technology (new process technologies, production of thinner wafers) and the quality (higher yield) of the (intermediate) products (wafers, cells, and modules).

(63) The German authorities stress that Sovello's option in the land sale contract to purchase an adjacent parcel of land next to the Sovello1 production site only constituted an obligation for the seller, and that the applicable aid scheme rules do not allow to characterise the acquisition of land as being the start of an investment project. Therefore, they conclude that the buying option would not be a clear proof for a common investment plan covering Sovello1 and Sovello2.

(64) The German authorities point out that in the Q-Cells decision, the Commission came to the conclusion that there is no link between two investments if both investments have their own land, buildings and equipment, the administration is separate and only the strategic and operational management are performed together. They inform that the common strategic and operational management of Sovello1 and Sovello2 is merely based on commercial grounds and is not imperative for the existence and the functioning of the two projects.

(65) The German authorities suggest that the existence of a strategic plan to expand capacity through a follow-up project in case of success of the pilot project, as mentioned in the MJVA1, should not be interpreted differently from the strategic plans as set out in the Qimonda decision.

(66) The German authorities affirm that the objectives of the two projects Sovello1 and Sovello2 are different, even if the output of both projects is solar modules. Sovello1 is more akin to a feasibility study (testing the technological and economical feasibility of manufacturing at industrial scale along the value added chain on the basis of the String-Ribbon technology) whereas Sovello2 is the full-scale commercial production of a specific product group, standardising the technical experience gathered in Sovello1.

(67) The German authorities argue that the comparison in paragraph 61 of the Commission opening decision (comparing the cost multiplication factor of the investments concerned by the Qimonda decision with the cost multiplication factor for the two Sovello investment projects) does not take account of sector-specific characteristics and is thus not appropriate to exclude Sovello1 from the qualification as a pilot project. They argue that the costs in the Qimonda decision refer to three investments, that the costs for building and equipment in the semiconductor industry are much higher than in the solar industry, and that the output per machine is significantly lower in the semi-conductor industry (so for mass production, they need to install much more equipment). In addition, pilot projects in the semiconductor sector would be feasible for relatively lower costs, because of a much higher standard-isation of the machinery in this sector. Germany furthermore suggests that a higher ratio 'cost of follow-up project/cost of pilot project' could also result from a better financial position of the investor (and hence should not constitute a criterion for being entitled to more State aid).

(68) The German authorities take the view that the general declaration of intent, laid down in the MJVA1, to enlarge the production capacity of Sovello is no proof for a functional link between Sovello1 and Sovello2, since it does not contain more precise specifications for a second investment project with respect to location, production technologies, machinery, silicon supply, and financing.

(69) The German authorities indicate that the final decision to realise Sovello2 was taken in June 2006 on the basis of: (1) the continuous fast growing demand on the market, safeguarding the sales on a long-term basis; (2) the conclusion of a long-term contract for the supply of the raw material silicon (contract with REC signed in June 2006); (3) the proven technical and economic success of the pilot project Sovello1 (target factory yield and stable cell efficiency reached in June 2006).

([30]) The land parcels were bought separately, but the sales contract for the land for Sovello1 (dated […]) included a non-binding buying option for additional land for Sovello2 (sales contract dated […]). The legal conversion under urban planning rules of the land for Sovello2 into 'land for industrial use' was only decided at a later stage, and the infrastructure works for this land parcel were carried out separately.

([31]) The German authorities refer to a report by Deloitte & Touche GmbH of 27 September 2006, submitted to the Commission in the context of the notification, which comes to the conclusion that it is perfectly possible to operate Sovello1 and Sovello2 separately as well as to sell them independently.

(70) The German authorities point out that at the time of the investment decision on Sovello1 (January 2005), it was neither technically nor economically possible to carry out the Sovello2 investment. The success of the Sovello1 project was not foreseeable at the time of the investment decision.

5.3. **No economic incentive to artificially separate Sovello1 and Sovello2**

(71) The German authorities argue that Sovello had no economic incentive to artificially separate Sovello1 and Sovello2. They indicate that Sovello incurred additional costs of approx. EUR […] ([32]) due to the autarkic concept of the two production facilities. Furthermore, they consider that, as a consequence, Sovello did not profit from synergies and economies of scale that would normally result from a single investment project. Moreover, they emphasise that the higher investment costs are not compensated by the higher aid amount that could be expected if the two projects would be considered to be separate: this higher aid amount would only amount to approx. EUR 10 million ([33]).

5.4. **Conclusion: Sovello1 and Sovello2 are not a single investment project**

(72) The German authorities argue that it follows from previous decisions that the Commission would have presumed two separate investment projects to form a single investment project only when all criteria mentioned in point 49 of the MSF 2002 are jointly fulfilled. They therefore hold that even if Sovello1 was not recognised as a pilot project, Sovello1 and Sovello2 would still not constitute a single investment project since the criteria set forward in point 49 of the MSF 2002 are not jointly fulfilled.

(73) The German authorities conclude that the geographic and timely proximity of the two projects should not lead to the conclusion that these two investments form a single investment project in the meaning of point 49 of the MSF 2002 and are artificially subdivided in order to escape the provisions of the MSF 2002.

6. ASSESSMENT OF THE AID

6.1. **Existence of State aid in the meaning of Article 87(1) of the EC Treaty**

(74) In its decision to initiate the formal investigation procedure, the Commission concluded that the financial support to be given by the German authorities to Sovello on the basis of the existing GA and IZ regional aid schemes constitutes State aid within the meaning of Article 87(1) of the EC Treaty. The German authorities have not contested that conclusion.

6.2. **Notification requirement, legality of the aid, and applicable law**

(75) By notifying the measure on 20 December 2006, the German authorities complied with the individual notification requirement of point 24 of the MSF 2002.

(76) In line with point 63 and footnote 58 of the Guidelines on national regional aid for 2007-2013 ([34]), stating that individually notifiable investment projects will be assessed in accordance with the rules in force at the time of notification, the Commission assesses the notified aid measure under the provisions of the RAG 1998, the regional aid map for Germany for 2004-2006, and the MSF 2002.

6.3. **Compatibility of the aid with the general provisions of the RAG 1998**

(77) As the Commission already found in its decision to initiate the formal investigation procedure, the project comprises an initial investment within the meaning of the RAG 1998, the costs eligible for investment aid are defined, and the rules on cumulation are respected. Furthermore, Sovello 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. Sovello provides a financial contribution of at least 25 % of the eligible costs in a form which is free of any public support. As the aid to Sovello is disbursed on the basis of approved aid schemes, the aid is therefore in principle in compliance with the general provisions of the RAG 1998. The Commission confirms this finding in its present decision.

6.4. **Compatibility of the aid with the MSF 2002 provisions**

6.4.1. *Single investment project*

(78) Point 49 of the MSF 2002 states that an investment project should not be artificially divided into sub-projects

([32]) If Sovello had invested in only one investment project of 90 MWp production capacity instead of splitting it up into Sovello1 (30 MWp) and Sovello2 (60 MWp).

([33]) Advantage calculated on the basis of reduced total eligible costs of approx. EUR 144 million for a single investment project, and assuming that an SME bonus would have been allowed for such a large investment project.

([34]) OJ C 54, 4.3.2006, p. 13.

in order to escape the provisions of the framework. A single investment project includes all the fixed investments on a production site in a period of three years ([35]). A production site is 'an economically indivisible series of fixed capital items fulfilling a precise technical function, linked by a physical or functional link, and which have clearly identified aims, such as the production of a defined product'.

(79) As Sovello received aid in the past for a previous investment project Sovello1 on the same location (on land adjacent to the Sovello2 site), and less than three years elapsed between the start of works on Sovello1 (2005) and Sovello2 (July 2006), it is necessary to establish whether this investment forms a single investment project with the notified project Sovello2.

(80) The Commission would normally assume that the fixed investments on a production site in a period of three years constitute a single investment project. The comments submitted by the Member State regarding the single investment project issue are assessed on the basis of the criteria listed in point 49 of the MSF 2002.

(81) The Commission considers that there is no indication that the investment was artificially split into two projects in order to escape the provisions of the MSF 2002. However, the absence of an intentional circumvention of MSF 2002 rules does not allow to come automatically to the conclusion that projects started within the three-year period do not constitute a single investment project (cf. also paragraphs 47 to 49 of the AMD decision, where the Commission concluded to the existence of a single investment project although there was no intention to artificially subdivide the projects in order to circumvent the MSF 2002 rules). Whether a single investment project exists or not has to be established on the basis of facts, applying the criteria developed in point 49 of the MSF 2002, and not on the basis of intentions.

(82) The German authorities derive from their analysis of the Commission practice that all criteria mentioned in point 49 of the MSF 2002 must be fulfilled cumulatively in order to classify two projects as a single investment project. The Commission does not agree with this interpretation. None of the previous Commission decisions states that all criteria should be cumulatively met in order to conclude that a single investment project exists. The Commission considers that the MSF 2002 foresees a global assessment of these criteria. The criteria are to be balanced in a global assessment on a case-by-case basis. This implies that two investments could constitute a single investment project even if not all the criteria were fully met.

(83) In the following, the criteria

— precise technical function

— physical or functional link

— clearly identified aim

— economic indivisibility

are analysed and balanced in a global assessment.

(84) The argument of the German authorities that Sovello had no economic incentive to artificially separate Sovello1 and Sovello2 is also taken into consideration.

6.4.1.1. Precise technical function

(85) Both plants fulfil a precise technical function which is identical for both: production of solar modules based on the String-Ribbon technology. It is also noted that there is no indication that different input is needed for production in Sovello1 and Sovello2 (the raw material is silicon). The changes to the equipment and machinery of Sovello2, aimed at optimising the production efficiency and resulting from experience gathered in Sovello1, may lead to slight differences between the modules produced in Sovello1 and Sovello2. The Commission however considers that these are the result of normal adjustments in the context of industrial projects, and do not alter the fact that both plants have the same precise technical function.

6.4.1.2. Physical or functional link

(86) Sovello1 and Sovello2 are separate production facilities with separate fixed assets and with separate access to the public road network. Both production facilities cover the complete production chain for solar modules, starting from wafers, via cells to modules. There are no physical links between the 'series of fixed capital items fulfilling a precise technical function' that constitute the two production facilities. An expert report submitted to the Commission concludes that the plants could be sold separately, and could be run separately without requiring any physical changes in the production process. The Commission has no reason to reject this conclusion.

([35]) Because investment projects may continue over several years, the three-year period is calculated from the start of works on each project.

(87) Sovello1 and Sovello 2 have some centralised services. Furthermore, they produce the same product, using the same production process, machines and equipment, the suppliers of machines, equipment and raw materials are also typically the same and maintenance or management of spare parts is organised centrally. However, it is true that typical elements that would demonstrate functional links between the 'series of fixed capital items fulfilling a precise technical function' that constitute the two production facilities are not present in this case. For example, there is no supply relationship between the Sovello projects, no common technical infrastructure (e.g. power plant or similar) nor an exchange of intermediate products. Both plants constitute autarkic production lines.

(88) As regards the buying option for adjacent land in the land sale contract for Sovello1, in this particular case the Commission agrees with the German authorities that as such the buying option may not be a sufficient reason to conclude that there is a functional link within the meaning of point 49 of the MSF 2002, also in view of the fact that the beneficiary did not pay for this buying option, and that alternative locations for Sovello2 were envisaged by the investor.

(89) Based on the elements above, the Commission considers that there is no physical and no strong functional link within the meaning of point 49 of the MSF 2002 between Sovello1 and Sovello2.

6.4.1.3. Clearly identified aim

(90) The German authorities claim that Sovello1 constituted a pilot project, which was aimed at validating the functioning, yield efficiency, and economic viability of a manufacturing process at industrial scale along the value added chain which was based on a fundamentally innovative technology ([36]), whereas the objective of Sovello2, subsequent to the demonstrated technical and economic viability, was to expand capacity in view of large-scale manufacturing. They conclude that hence both investment projects Sovello1 and Sovello2 had different aims.

(91) In this respect the Commission would like to point out that, contrary to the interpretations of the German authorities, it did not consider in the Qimonda decision that pilot projects would automatically have a different aim for the purpose of the application of point 49 of the MSF 2002. The Commission in that decision only found that the particular pilot project at hand had a different objective and did not form a single investment project with the second project. It is true that, when examining the aims of two projects, the fact that one qualifies as a pilot project, can be a strong indication of the fact that both projects pursue different aims, but depending on the specific characteristics of the projects in each individual case, this qualification may not be enough to clearly distinguish the aims of both projects. Therefore, and also taking into account the difficulties to define a pilot project, the Commission considers that one must rather look at the individual characteristics of each project to see whether the particular, special pilot character it demonstrates, gives it an objective that is sufficiently different from the second project. In this case a number of elements were put forward which demonstrate that Sovello1 and Sovello2 have a different, clearly identified aim.

(92) The comments submitted by EPIA confirm the frequent existence of phased approach in the solar industry for the development of innovations and novel technologies, which is based on economic criteria, and the existence of numerous projects in the photovoltaic sector aiming at verifying the industrial feasibility of innovations as well as the replicability of processes prior to large-scale implementation. They also confirm that Sovello1 was the first investment worldwide to industrially test the String-Ribbon technology.

(93) The Commission understands from the MJVA that the production in Sovello1 was to be based on the String-Ribbon technology for the wafer production, but had to integrate Q-Cells manufacturing techniques, in view of developing production processes which should be applicable at industrial scale and economically proven. This implied a range of technological innovations, machinery specifically developed for Sovello1, focussing on automatisation and replicability of the production processes at industrial scale, which led to the production of modules of the Spruce Line type. Sovello1 was therefore a very novel project, that aimed at testing the technical feasibility and economic viability of manufacturing at industrial scale solar modules based on the String-Ribbon technology. Sovello2 would be the industrial large-scale production, which could only be started if Sovello1 was successful.

(94) In its decision to initiate the procedure, the Commission had questioned the scale of the Sovello1 facility (production capacity of 30 MWp), compared to 15 MWp for laboratory production in Marlboro, and to only 60 MWp for serial production in Sovello2. Germany however explained that the full capacity of the Marlboro

([36]) The German authorities provided additional information explaining the difference between the laboratory testing in the Marlboro plant and the industrial processes tested in Sovello1. The production in Marlboro was based on Evergreen String-Ribbon technology, the modules were produced manually, and the end products were modules of the Cedar Line type. According to the German authorities, […].

plant was only reached in 2004, and argued that this did not indicate that Marlboro applied industrial production processes. This seems to be confirmed by the fact that Evergreen currently envisages to close its manufacturing activities in Marlboro (only maintaining R & D), in conjunction with the ramp up of its new manufacturing facility in Devens ([37]).

(95) Germany further indicates that pilot projects with production capacities ranging from 10 to 30 MWp are normal in the photovoltaic industry. They also explain that the 30 MWp of Sovello1 was conditioned by the capacity of the […]. The Commission initially had doubts on the 'limited production capacity' of Sovello2 compared to the Sovello1 capacity, but the German authorities explained that currently the maximum capacity of String-Ribbon facilities seems to be around 75-80 MWp, and indicated that a further expansion of Sovello (Sovello3) was started in 2008 and is close to its completion.

(96) Regarding the cost multiplication factor of the Qimonda investments compared to the cost multiplication factor for the two Sovello investment projects, the Commission notes that the costs in the Qimonda decision refer to three investments, that the costs for building and equipment in the semiconductor industry are much higher than in the photovoltaic industry, and that the output per machine is significantly lower in the semiconductor industry (so for mass production, they need to install much more equipment). The Commission notes also that pilot projects in the semiconductor sector are relatively less expensive due to the much higher level of standardisation of the machinery in this sector. The Commission also considers that a higher ratio 'cost of follow-up project/cost of pilot project' could result from a better financial position of the investor. The Commission also notes that initially, a much larger project had been notified (Sovello2 + Sovello3), and that at a later stage the notification was amended to exclude aid to Sovello3 from its scope, and the Sovello3 investment was delayed. For these reasons, and taking account of the dynamics and the rapid development of this demand-driven sector, the Commission considers that the 'low' cost multiplication factor of the two Sovello investment projects does not allow to exclude Sovello1 from the qualification as a pilot project with a different aim than Sovello2.

(97) Furthermore, the Commission also took into account that, before Sovello2 was launched, a genuine go/no go decision for further investments was taken based on the results of Sovello1.

([37]) Evergreen annual report 2008.

(98) In this respect, it is true that an application for aid for Sovello2 was filed already in February 2006 (provisional granting decision December 2006). The Commission assumed at the time of opening the formal investigation that at the time of the submission of the aid application file, the aid beneficiary had concrete plans about the scope and the financing of the investment project. However, it appears from the information provided that the final investment decision was only taken in June 2006, after the 'milestones' set for Sovello2 were reached. This is underscored by the fact that the supply contract with REC (ensuring sufficient silicon for Sovello2) was only signed in June 2006, which appears to confirm that the real 'go/no go decision' was only taken then. While the management of the beneficiary company may obviously have had earlier indications that the technological and economic targets were likely to be reached, this is not in contradiction with the concept of Sovello1 as a pilot project in 2005, with pre-established technological and economic targets, clearly distinct from those of Sovello2.

(99) Furthermore, the Commission also took into account that, based on the OECD Frascati Manual ([38]), which sets global standards accepted in R & D & I policy, Sovello1 has the characteristics of a pilot project. The OECD definition distinguishes between several forms of pilot plants: those concerning the experimental development of a new invention or technology (in this case, String-Ribbon technology) under laboratory conditions, and others concerning the experimental development of a process technology to industrially exploit the new invention or technology.

(100) Point 2.3.4 of the Frascati Manual expressly addresses borderline cases between R & D and other industrial activities (such as Sovello1) and provides classifications of how to distinguish R & D from industrial activities. It is worth noticing that the industry standards and benchmarks (e.g. cost multiplication factor) can differ from industry to industry.

(101) In light of the description of EPIA of the photovoltaic market as being very dynamic and characterised by high demand, the Commission considers that, in the case at hand, the fact that Sovello1 production was immediately commercialised is no decisive proof that Sovello1 was not conceived as a pilot project.

(102) The judgment of the European Court of First Instance in Case T-184/97 *BP* v *Commission* concerns the meaning of

([38]) Frascati Manual — Proposed Standard Practice for Surveys on Research and Experimental Development.

pilot projects for the technological development of more environmentally-friendly products (in particular in relation to fuels from renewable sources). The contested scheme in this case goes far beyond the implementation of a pilot project pursuing the technological development, and seems essentially concerned with economic and industrial development pursuing a better market penetration of biofuels. The Sovello1 project, however, pursues both aims: validating a new technological process (String-Ribbon combined with Q-Cells manufacturing techniques) at an industrial scale and testing its economic viability. As explained above, this is indeed not in contradiction with the OECD definition of pilot plants.

(103) Based on the above, the Commission is of the opinion that Sovello1 and Sovello2, although they have the same precise technical function (production of solar modules based on the same technology), have different aims: the objective of Sovello1 was to verify whether the production of solar modules (based on the String-Ribbon technology combined with Q-Cells manufacturing technologies) was technologically and economically feasible at industrial scale, whereas the objective of Sovello2 was to develop serial production of such modules.

6.4.1.4. Economic indivisibility

(104) Both projects Sovello1 and Sovello2 are independently economically viable. It is true that the pilot project Sovello1 was a necessary step to build up the Sovello2 full-scale project. On the other hand, each project can be sold separately and there is no indication that the pilot project Sovello1 is not economically divisible from the Sovello2 investment project. Furthermore, the Commission notes that alternative locations for Sovello2, both in Europe and the USA, had been considered by the management of the beneficiary company before choosing Thalheim.

6.4.1.5. No economic incentive to artificially separate the two investment projects

(105) The German authorities calculated an advantage of only approximately EUR 10 million of extra aid for the setting-up of two separate investments Sovello1 and Sovello2, compared to reduced aid for a single investment project Sovello1 + 2. This advantage has to be balanced against EUR […] of extra costs. The German authorities based their calculation on the assumption that a single investment project (with reduced total costs) would also have benefited of an SME bonus of 15 %, as was the case for the Sovello1 project. It is however not sure that the Commission would have approved an SME bonus for an investment project of such a large scope. Whatever the scenario, even if no SME bonus would have been allowed, all calculations suggest that Sovello had no economic incentive to 'artificially' split Sovello1 and Sovello2.

(106) The Commission recalls, however, that this only indicates that Sovello1 and Sovello2 were not separated with the intention to circumvent the State aid rules. It does not mean that, if a project has to be split in any event for economic reasons, as was the case here, there might not be an advantage in presenting them as not building a single investment project, in order to benefit from higher aid intensities. Therefore the Commission must always examine the economic reality based on the criteria in paragraph 49 of the MSF 2002, irrespective of the intention of the parties.

6.4.1.6. Conclusion: no single investment project

(107) The Sovello investments were not only split because of insufficient financing and insufficient silicon, but also because the investors had to industrially and economically test a highly innovative technology. If the factory yield and cell efficiency targets had not been reached, the Sovello2 project would in all likelihood not have been carried out. It can therefore be concluded that, although Sovello1 and 2 have the same precise technical function, they are not economically indivisible, have no physical and no strong functional link, and have a clearly different aim.

(108) In view of the above, taking account of the comments submitted by Germany and EPIA, and balancing the different criteria of point 49 of the MSF 2002 in a global assessment, the Commission concludes that the notified project Sovello2 does not form a single investment project in the meaning of point 49 of the MSF 2002 with Sovello1.

6.4.2. *Aid intensity — points 21 and 25 of the MSF 2002*

(109) In its decision to open the formal investigation, the Commission calculated the maximum aid intensity and the maximum aid amount for Sovello2 on the basis of the initially notified eligible costs. The maximum approvable basic aid intensity was 22,46 % GGE (corresponding to a maximum aid amount of EUR 30,526 million in discounted value), and the maximum approvable aid intensity including cohesion bonus was 25,83 % GGE (corresponding to a maximum aid amount of EUR 35,105 million in discounted value).

(110) The 'cohesion bonus' is based on point 25 of the MSF 2002, which allows to increase the maximum basic aid intensity calculated according to point 21 of the MSF 2002 by a factor of 1,15 if at least 25 % ([39]) of the total public expenditure for this project is covered by a contribution from the ERDF under the Structural Funds rules applicable to large projects, i.e. following an individual Commission decision authorising the Community contribution for the specific case.

(111) In line with the general approach communicated to Member States by letter of 18 December 2003 (D/58176-D/1247), the German authorities indicated two different aid intensities in their initial notification: the basic aid intensity, not exceeding 22,46 % GGE, and a second aid intensity of 23,83 % GGE including the cohesion bonus.

(112) The German authorities applied for ERDF co-financing in the amount of EUR 9,118 million, and invoke in their initial notification the application of the 'cohesion bonus'. This amount of Community co-financing would exceed 25 % of the really incurred public expenditure of EUR 31 105 765 in nominal value. In addition, the notified aid intensity of 23,83 % GGE is below 26,25 % GGE and thus does not exceed 75 % of the applicable regional aid ceiling of 35 %. The conditions for the application of the cohesion bonus are therefore met, provided the co-financing by the Structural Funds as applied for by Germany is approved by the Commission. Since the co-financing decision is not yet taken, the German authorities committed to apply the cohesion bonus based aid intensity only if a corresponding Commission decision approving the Community co-financing is adopted.

(113) The Commission understands from the updated information submitted on 16 and 24 April 2009 that Germany intends to grant — under the cohesion bonus scenario — for the project with really incurred eligible expenditure of EUR 114 882 310 (discounted value), an aid intensity of 23,8224 % GGE, corresponding to an aid amount of EUR 31 105 765 in nominal value (EUR 27 367 723 in discounted value). This aid intensity is below the initially notified aid intensity under the cohesion bonus scenario of 23,83 % GGE and below the maximum approvable aid intensity of 25,83 % GGE (calculated with reference to the initially submitted estimated eligible expenditure of EUR 135,94 million in discounted value). The envisaged aid intensity of 23,8224 % is thus in conformity with the applicable scaling down rules, as laid down in points 21 to 23 of the MSF 2002, and neither the envisaged aid amount nor the envisaged aid intensity exceed the maximum aid amount and maximum aid intensity the undertaking could expect when works on the project where started.

([39]) For a project located in an area eligible under Article 87(3)(a) of the EC Treaty.

(114) The German authorities confirmed that in case no co-financing from ERDF creating the conditions to apply the cohesion bonus will take place, the initially notified basic aid intensity of 22,46 % GGE will not be exceeded. This aid intensity, applied to the really incurred eligible expenditure of EUR 114 882 310 (discounted value), leads to a maximum aid amount of EUR 25 802 567 (in discounted value). The German authorities committed not to exceed this aid amount. The aid intensity of 22,46 % under this non-cohesion-bonus scenario represents the initially notified aid intensity and corresponds to the maximum approvable regional aid ceiling calculated with reference to the initially submitted estimated eligible expenditure of EUR 135.94 million in discounted value. The envisaged aid intensity of 22,46 % is thus in conformity with the applicable scaling down rules, as laid down in points 21 to 23 of the MSF 2002, and neither the envisaged maximum aid amount of EUR 25 802 567 (in discounted value) nor the envisaged aid intensity exceed the maximum aid amount and maximum aid intensity the undertaking could expect when works on the project where started.

(115) In view of the above, the Commission concludes that the aid measure is in line with points 21 and 25 of the MSF 2002.

6.4.3. *Compatibility with the rules under point 24 of the MSF 2002*

(116) The Commission's decision to allow regional aid to large investment projects falling under point 24 of the MSF 2002 depends on the market share of the beneficiary before and after the investment and on the capacity created by the investment or the performance of the market. To carry out the relevant tests under point 24(a) and (b) of the MSF 2002, the Commission has first to identify the product(s) concerned by the investment, and to define the relevant product and geographic markets.

6.4.3.1. Product concerned by the investment project

(117) The product envisaged by the investment project is a solar module for use in solar module systems. The notification indicates that the solar modules that Sovello will produce fall under the following product codes: NACE Rev 1.1 32.10.0, Prodcom 32.10.52.37 and CN code (2005 version) 8541 40 90. The solar modules can be described as basically a set of solar cells connected together in order to convert sunlight into electrical energy.

(118) The solar modules are produced on the basis of the String-Ribbon technology. The manufacturing of solar modules by Sovello comprises an integrated process of three stages. From a silicon melt, thin slices of specific silicon solar wafers are made which are then processed into solar cells, which are connected and assembled into a solar module (panel).

(119) The German authorities confirm that no other products than silicon based solar cells, solar wafers and modules can be produced at the aided facilities without significant costs.

(120) 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. Since the German authorities indicate that Sovello is not planning to sell any intermediate products (like solar wafers and solar cells) deriving from their production of solar modules and that all such intermediate products are planned to be used for the own production of Sovello in the integrated process to manufacture solar modules, the Commission will not consider solar wafers and solar cells as separate products concerned.

(121) Following the above, the Commission will regard for its further compatibility assessment of this project under the MSF 2002, solar modules as the product concerned by the investment project.

6.4.3.2. Relevant product market

(122) The definition of the relevant product market requires the examination of what other products could be considered as substitutes to the product envisaged by the investment project within the meaning of point 52 of the MSF 2002.

(123) There are different technologies used in the market to produce solar modules. According to the Solar generation study of EPIA and Greenpeace ([40]), 90 % of the cell technology in 2005 was silicon based. This is confirmed by information on the internet. Sovello is making use of the String-Ribbon technology that enables to produce solar modules based on solar cells manufactured with less silicon. Currently there are different technologies/semiconductor materials under investigation or in mass production, such as amorphous silicon, poly-crystalline silicon, micro-crystalline silicon, cadmium telluride, copper indium selenide/sulfide. The thin film photovoltaic technology is used by First Solar ([41]) and the 'crystalline silicon on glass' (CSG) technology ([42]) is used by CSG Solar. The thin-film technology is less efficient (per m^2 but not per kg of silicon used) but also less expensive; it is more used in rural zones due to lower prices per m^2. The mono- and poly-crystalline technology are more expensive, but more efficient per m^2, so more adapted to be used in urban zones. Thus, from a supply side point of view, one could make a distinction between both technologies. However, in previous State aid decisions ([43]), the Commission has defined the overall solar module market as the relevant market, which is also proposed by the solar modules producing companies. Moreover, independent statistics which make a distinction in technologies are not available. There seems to be substitutability from the demand side: all technologies have finally the same objective, which is to convert sunlight into electrical energy.

(124) The Commission has no reason to consider 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 solar energy systems ([44]). Therefore, the market does not seem to be narrower than the general market where all solar modules are traded.

(125) Furthermore, 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 these systems by other products. Therefore no indication exists that the market could be broader than the solar modules market.

(126) This description of the relevant product market is in line with merger decisions in the same sector ([45]).

([40]) 'Capacity and market potential for grid-connected systems by 2010', by EPIA, Frankfurt, December 2005.

([41]) Decision of 26 April 2006 in case N 17/06 — Aid to First Solar (MSF 2002) (OJ C 259, 26.4.2006, p. 13).

([42]) Decision of 19 July 2006 in case N 335/06 — Aid to CSG Solar (OJ C 232, 27.9.2006, p. 2).

([43]) Case N 17/06 First Solar (MSF 2002) (OJ C 259, 26.4.2006, p. 13); case N 409/06 HighSi GmbH (MSF 2002) (OJ C 77, 5.4.2007, p. 4); case N 863/06 Avancis (MSF 2002) (OJ C 227, 27.9.2007, p. 1); case N 199/08 Intico Solar (OJ C 195, 1.8.2008, p. 2); case N 545/08 Masdar (OJ C 9, 14.1.2009, p. 8); case N 453/08 Sunfilm (OJ C 106, 8.5.2009, p. 7); case N 538/08 ersol Thin Film (OJ C 63, 18.3.2009, p. 16).

([44]) See also State aid case N 409/06 — Aid to HighSi GmbH (MSF 2002) (OJ C 77, 5.4.2007, p. 4).

([45]) Decision of 27 March 2001 in case No COMP/M.2367 — Siemens/E.ON/Shell/SSG and Decision of 18 April 2001 in case No COMP/M.2712 — Electrabel/Totalfinalelf/photovoltech.

(127) Based on the elements mentioned above, the Commission will consider for the purpose of this State aid decision that the market for solar modules is the relevant product market.

6.4.3.3. Relevant geographic market

(128) The Commission notes that Sovello claims that the main markets for the Sovello products in the short and middle term are Germany and other European countries. However, the fact that a company is predominantly active in Germany is not as such determining for defining the relevant geographic market for solar modules.

(129) The German authorities consider that the relevant geographic market for solar cells is worldwide. 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 are relatively low compared to the production costs, and that price levels are homogeneous. They also point out that technical requirements are the same worldwide. The biggest producers and consumers of photovoltaic technology are Japan, Europe and USA.

(130) The Commission agrees that the solar modules market is worldwide because the producers who are manufacturing and selling solar modules are active on a worldwide market. It does indeed follow from different independent ([46]) studies ([47]) in the photovoltaic sector that solar modules are currently mainly produced in Japan and Germany, closely followed by the USA and China. Moreover, large quantities of solar modules produced in Japan are imported on the European market (of which 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 market of solar modules at EEA-level, which is also an indication that the market is worldwide. Also in previous merger decisions ([48]) as in previous State aid decisions ([49]), the view was taken, even if it was not necessary to explicitly define the market as such, that the solar module market was most probably worldwide.

(131) Based on these elements, the Commission will consider, for the purpose of this State aid decision, the solar modules market to be worldwide.

6.4.3.4. Point 24(a) of the MSF 2002: market shares

(132) According to point 24(a) of the MSF 2002, an individually notifiable investment project will not be eligible for investment aid if the aid beneficiary accounts for more than 25 % of the sales of the product concerned on the relevant market before the investment or will, after the investment, account for more than 25 %.

(133) To examine whether the project is compatible with point 24(a) of the MSF 2002, the Commission has to analyse the market share of the aid beneficiary at group level before and after the investment. As the investment of Sovello started in 2006 and full capacity is to be reached in 2009, the Commission will examine the market share of Sovello on the solar modules market in 2005 and 2010.

(134) When the aid was notified, the German authorities provided several independent studies ([50]) 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. The Commission used the LBBW study as a basis for its calculations. This study provides figures for installed capacity and for demand, as well as price estimations ([51]).

([46]) They are considered independent as they were not commissioned by the aid beneficiary nor were they written for the sole purpose of this assessment.

([47]) 'Capacity and market potential for grid-connected systems by 2010', by EPIA, Frankfurt, December 2005; 'Branchenanalyse Photovoltaik 2006', by Landesbanken Baden-Wurttemburg, Stuttgart, 21 March 2006; 'Sun Screen II', by CLSA, July 2005; 'PV status report 2006', European Commission/Joint Research centre and Institute for Environment and Sustainability, August 2006; and 'Solar Generation', by Greenpeace and EPIA, September 2006; 'Photovoltaik-Marktmodell — Version 2.1', by Landesbanken Baden-Württemberg LBBW, 22 August 2007. These studies were all submitted by the German authorities with the notification.

([48]) Decision of 27 March 2001 in case COMP/M.2367 — Siemens/E.ON/Shell/SSG, and Decision of 18 April 2001 in case COMP/M.2712 — Electrabel/Totalfinaelf/Photovoltech.

([49]) Case N 17/06 First Solar (MSF 2002) (OJ C 259, 26.4.2006, p. 13); case N 409/06 HighSi GmbH (MSF 2002) (OJ C 77, 5.4.2007, p. 4); case N 863/06 Avancis (MSF 2002) (OJ C 227, 27.9.2007, p. 1); case N 850/06 Q-Cells (OJ C 270, 13.11.2007, p. 5); case N 199/08 Intico Solar (OJ C 195, 1.8.2008, p. 2); case N 545/08 Masdar (OJ C 9, 14.1.2009, p. 8); case N 453/08 Sunfilm (OJ C 106, 8.5.2009, p. 7); case N 538/08 ersol Thin Film (OJ C 63, 18.3.2009, p. 16).

([50]) See footnote 47.

([51]) The Commission considers that the figures for demanded capacity (solar energy systems) can give an indication of the sales for the solar modules market.

(135) As none of the participations of the three joint venture partners Evergreen, Q-Cells and REC in Sovello exceeded 50 %, at or after the date of notification of aid to Sovello2, the Commission would normally not take their market share into account for the assessment of the compatibility with point 24(a) of the MSF 2002 ([52]).

(136) Evergreen markets and sells all modules manufactured by Sovello, but the sales agreement respects the arm's length principle. However, it is possible that Evergreen may be able to influence Sovello's marketing strategy through its participation in the joint venture. Therefore, in order to cover a worst case scenario, while not taking a definitive view on the matter, the Commission calculated the combined market share of Evergreen and Sovello ([53]).

(137) On this basis, the Commission found that combined market shares (in volume and value terms) for Sovello and Evergreen on the relevant market will be below 5 % between 2005 and 2010.

(138) These figures indicate that the aid beneficiary's market share for solar modules would not account for more than 25 % of the total solar modules market before and after the investment. Therefore, the notified aid measure is in line with point 24(a) of the MSF 2002.

6.4.3.5. Point 24(b) of the MSF 2002: production capacity

(139) The Commission has also examined whether the investment project complies with the condition stipulated in 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 (which would indicate that the market is not in structural decline).

(140) As the measure was notified in 2006, the data used are those for the years 2000 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 an established source ([54]). In none of these sources, the CAGR for solar modules is below 49 % in volume terms in the EEA for the years 2000 to 2005 (42 % in value terms).

(141) As the average annual growth rate of the European Economic Area's GDP for the years 2000 to 2005 is 1,76 % in volume terms and 3,72 % in value terms, the average annual growth rate of the apparent consumption of solar modules over the last five years for which data is available, is clearly largely above those figures.

(142) The Commission based its assessment on the apparent consumption in the photovoltaic sector as a whole in the EEA since it is very difficult to find data on the solar module market at EEA level. This is mainly due to the fact that the geographic market of solar modules is considered worldwide. The photovoltaic market is considered a good proxy for the solar module market since solar modules are intermediate products in the overall photovoltaic market and the market of the intermediate product normally closely follows the growth pattern of the market of the end product or of the overall market (photovoltaic sector includes normally wafers, cells, modules and systems). Moreover, the photovoltaic market is growing so rapidly that even a slightly different growth pattern for the modules market in the EEA would not deviate such that it would be below 1,76 %.

(143) Therefore, on the basis of the figures stated above, the Commission concludes that the notified aid measure is in line with point 24(b) of the MSF 2002.

6.5. **Conclusion**

(144) Based on the above assessment, the Commission concludes that the notified aid measure is in line with the RAG 1998, the regional aid map for Germany for 2004-2006, and the MSF 2002.

HAS ADOPTED THIS DECISION:

Article 1

1. The regional aid intensity which the Federal Republic of Germany is planning to apply if the conditions for the application of the cohesion bonus are fulfilled, amounting to maximum 23,8224 % GGE of the incurred eligible costs of EUR 114 882 310 in discounted value, and the corresponding regional aid of an amount of EUR 27 367 723 in discounted value, in favour of Sovello AG, are compatible with the common market if a Commission decision authorising ERDF co-financing of an amount of, or exceeding, 25 % of the public expenditure for the project is adopted.

([52]) The same view was taken in Commission decision N 850/06, aid to Q-Cells.

([53]) The Evergreen annual report 2008 announces that as from 2009, Sovello will gradually commercialise its products independently.

([54]) Internet site of the 'International Energy Agency Photovoltaics Power Systems Programme' (IEA PVPS): www.iea-pvps.org

2. The regional aid intensity which the Federal Republic of Germany is planning to apply if the conditions for the application of the cohesion bonus are not fulfilled, amounting to maximum 22,46 % GGE of the incurred eligible costs of EUR 114 882 310 in discounted value, and the corresponding regional aid of an amount of EUR 25 802 567 in discounted value, in favour of Sovello AG, are compatible with the common market.

Article 2

1. Accordingly, in case a positive Commission decision authorising ERDF co-financing is taken, the aid including cohesion bonus amounting to maximum 23,8224 % GGE of the incurred eligible costs for Sovello2, corresponding to an aid amount of EUR 27 367 723 in discounted value, may be implemented.

2. In case no positive Commission decision authorising co-financing from ERDF will take place, the aid without cohesion bonus amounting to maximum 22,46 % GGE of the incurred eligible costs for Sovello2, corresponding to an aid amount of EUR 25 802 567 in discounted value, may be implemented.

Article 3

This Decision is addressed to the Federal Republic of Germany.

Done at Brussels, 17 June 2009.

For the Commission

Neelie KROES

Member of the Commission