

Smart Specialisation Platform for Energy

Thematic Partnership

Solar Energy

Start Date May 2017

MONITORING PROGRESS REPORT

Reporting Period: from June 2018 to December 2018

This Report is presented to the relevant Working/Steering Committee.
It contains two parts:

- I. Management Report prepared by the Lead Region(s)***
- II. Progress Report prepared by the Lead Region(s)***

Confidentiality: this document (part I) will be made available to the public via the Partnership's web page except for chapter *II.E. Self evaluation*.

Based on the monitoring results, the European Commission will decide on the following year's support.

Executive summary (max. 250 words):

The Solar Energy Partnership was created in May 2017 as a way to support solar electricity generation and distribution in Europe and maintain the European concentrated solar power industry leadership worldwide. The Partnership, which is led by Extremadura (ES) and Alentejo (PT), currently comprises 10 further entities. The focus is aligned with the Thematic objective 4, Low carbon economy, in particular with "Generation a distribution of Renewable sources".

The partners have jointly identified 4 main areas of work: (1) the construction in Extremadura of a solar FOAK Power plant, (2) the deployment of a research facility for solar technologies, (3) the analysis of the Cooperation mechanisms Renewable Directive, and (4) the implementation of medium temperature solar energy in the agro industry.

To date, much of the partnership's activity has focused on the development of the solar FOAK project in Extremadura. The project has already completed the first phase of preparing the plant's value proposition; mapping potential stakeholder interest; preparing a preliminary business plan of the project; and consulting development options with industry players, financing institutions and off-taker countries. The next steps require identifying the necessary enabling conditions and launching the implementation phase.

I. Management Report prepared by the Thematic Platform/Lead Region(s)

I.A. Partnership Action Fact Sheet

- **Partnership:** *Solar Energy*

- **Partnership's web-page:** <http://s3platform.jrc.ec.europa.eu/s3-energy-partnerships-solar-energy>

- **S3 Thematic Platform:** *Energy*

- **Objectives:** *The Solar European partnership has been created as a way to support solar electricity generation and distribution in Europe and maintain the European concentrated solar power industry leadership worldwide.*
- *The Solar S3 partnership offers interactive and participatory arenas for interregional cooperation along regions and MS who selected Solar energy as a priority in their RIS3 strategy. Among the different interesting thematic areas in solar energy, Concentrated Solar power (CSP) has been identified by different regions as one of the key technology. This is undoubtedly linked to the position of European CSP Industry as the worldwide leader along the full CSP value chain.*
- *Furthermore, the Solar S3 Partnership is aligned with the Energy Union R&D and competitiveness priorities and promotes the energy related TO1 (Research and innovation), TO4 (Low carbon economy) and TO7 (Sustainable transport), together with the commitment to the Set Plan 10 key actions. The main objectives of this partnership are:*
 - *1. The S3 aims to maintain the global leadership of the European industry in Concentrating Solar Power/Solar Thermal Electricity (CSP/STE):*
 - *2. S3 in CSP must be focused on regional development, maintaining the competitiveness of the full value chain of the CSP European industry and strengthening its technological development (TO1, TO4);*
 - *3. The EU's Solar Industry must maintain its export opportunities in low-carbon technologies by strengthening partnerships among national governments, industry and research actors (TO4); and*
 - *4. S3 in solar (which aligns with the SET PLAN) must focus on achieving significant cost reductions of existing technologies (in the short term), and to work towards the development of next generation technologies (in the longer term) (TO1).*

- **Lead Region(s):** *list of regions/countries leading this partnership*

<i>Extremadura (ES)</i>
<i>Alentejo (PT)</i>
<i>Any other comments</i>

- **Official partner regions:** *list of regions/countries that have officially committed to follow this partnership and have been active in the last six months.*

<i>Andalusia (ES)</i>	<i>Asturias (ES)</i>	<i>South Estonia (EE)</i>
<i>Sicily (IT)</i>	<i>Slovenia (SI)</i>	<i>South Karelia (FI)</i>
<i>Vaasa (Ostrobothnia) (FI)</i>	<i>GAP Region - TR33 (TU)</i>	<i>Madrid (ES)</i>
<i>Veneto (IT)</i>	<i>Please enter here...</i>	<i>Please enter here...</i>
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<i>Any other comments</i>		

- **Other regions:** list of regions/countries that have expressed their interest in this partnership but have not signed a commitment letter).

Republic of Cyprus (CY)	Province of Trento (IT)	
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Any other comments		

- **Intentions to join:** list any regional/national authorities
(Please list here all other regions that have expressed their interest to join the partnership)

- **Other participants (other than national/regional authorities):**
(Please list here all other (non-region) participants (clusters, institutes, RTOs, etc.))

ESTELA	Photovoltaic European technology and innovation platform	EERA Stage-STE
SET Plan (IWG-STE)	ETIP PV	UNEF (Spanish Photovoltaic Association)
ENEREA (Eszak-Alfold Regional Energy Agency)	Please enter here...	Please enter here...
Please enter here...	Please enter here...	Please enter here...
Any other comments		

<p>Representative of Lead Region 1: (name, institution, address, phone, e-mail) Cosme Segador, Director, Extremadura Energy Agency csegador@agenex.org</p>	<p>Representative of Lead Region 2 (if applicable): (name, institution, address, phone, e-mail) Joaquim Fialho, CCDR Alentejo joaquim.fialho@ccdr-a.gov.pt</p>
<p>European Commission Coordinator: (name, e-mail) Irene BENITO, Directorate B, Growth and Innovation. Unit 3, Territorial Development. Smart Specialisation Platform on Energy (S3PEnergy) Irene.BENITO-RODRIGUEZ@ext.ec.europa.eu</p>	<p>Any other relevant information:</p>

I.B. Thematic Working Areas (WA)

- **Thematic Working Areas** (if any, please list of WAs, region(s) in charge of it, names and affiliations of involved regional/national authorities, and other actors)

Working Area	Region in Charge	Involved regions	Other actors
The construction in Extremadura of a solar FOAK Power plant: A large-scale Sustainable	Extremadura (ES), Alentejo (PT)	Possible OFF taker for the generated electricity (Germany, France..)	Other actors

<p>Energy Technology (SET) First of a kind (FOAK) project: Concentrated Solar power (CSP) Plant hybridised with Photovoltaic (PV) including storage to provide fully dispatchable power and would also demonstrate the technical and commercial viability of a solar generation plant installed in Southern Europe exporting renewable electricity to Northern European countries.</p>			
<p>Research: A research facility for Solar technologies.</p>	<p>Alentejo (PT)</p>	<p>Extremadura (ES), Andalucia (ES)</p>	<p>Other actors</p>
<p>To analyse the Cooperation mechanisms Renewable Directive: The aim of the partnership is to increase the implementation of the Cooperation mechanisms scheme of the RES Directive (2009) across Europa, promoting electricity exports from solar technologies from Southern to Central and Northern European countries.</p>	<p>Extremadura, (ES)</p>	<p>Possible OFF taker for the generated electricity (Germany, France..)</p>	<p>Support from CIEMAT researcher, Natalia Caldés</p>
<p>Implementation of some industrial application: The use of medium temperature solar energy in the agro industry.</p>	<p>Madrid (ES) Extremadura (ES)</p>	<p>Other involved regions</p>	<p>Other actors</p>
<p>Any other comments</p>			

I.C. Overview of past activities (past six months, the 2nd half of 2018)

Past Meetings

Title	Date	Place
Solar Energy Partnership Meeting	11.10.2018	Brussels
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Please enter title here...	Please enter date here...	Please enter place here...
Any other comments		

Past Workshops

<i>Title</i>	<i>Date</i>	<i>Place</i>
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<i>Any other comments</i>		

Past Dissemination Activities

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>Bilbao - S3 Thematic Platform Days</i>	<i>26-27.11.2018</i>	<i>Bilbao</i>
<i>EWRC 2018 S3PEnergy Presentation</i>	<i>10.10.2018</i>	<i>Brussels</i>
<i>Any other comments</i>		

I.C. Overview of future activities (the next 6 months – the 1st half of 2019)**Future Meetings**

<i>Title</i>	<i>Date</i>	<i>Place</i>
<i>Working meeting with the two lead regions and JRC</i>	<i>January 2019</i>	<i>VC</i>
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<i>Any other comments</i>		

Future Workshops

<i>Title</i>	<i>Date</i>	<i>Place</i>
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<i>Any other comments</i>		

Future Dissemination Activities

<i>Title</i>	<i>Date</i>	<i>Place</i>
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<i>Any other comments</i>		

II. Progress Report prepared by the Lead Region(s) of the partnership, describing **results achieved during this period**, in no more than 3 pages (the report is “cumulative”).
All items listed in Sections A, B, and C, below, must be addressed.

Additional documentation such as extended technical reports and/or proceedings of workshops may be provided separately as an annex to this report (and should be referenced in the report).

II.A. Innovative results

- Innovative results and achievements that could be attributed to the Partnership.
(Specific examples of Results vs. Objectives)

One of the priority areas of the partnership and a major line of work is the construction, in Extremadura, of a "First Of A Kind" (FOAK) Power plant. The construction of a First of A Kind project as a result of partnership activity is intrinsically innovative.

The FOAK project will be a large-scale Sustainable Energy Technology (SET) First of a kind (FOAK) project: Concentrated Solar power (CSP) Plant hybridised with Photovoltaic (PV) including storage to provide fully dispatchable power and would also demonstrate the technical and commercial viability of a solar generation plant installed in Southern Europe exporting renewable electricity to Northern European countries.

- Tangible short- and medium-term socio-economic impacts achieved or expected.
(Specific examples)

The construction of the FOAK solar generation plant would have tangible socio-economic impacts. Making exports from the South of Europe, where solar energy resources are abundant, to the North feasible would help regions in the North meet their renewable targets. This is extremely important for the sustainable development goals of the EU and for the successful transition of the Union to a low carbon economy.

On top of this, the FOAK Solar generation plant, addresses the main goals of the Energy union and CLIMA priorities:

1. the decarbonisation of the economy, through the progressive replacement of the high intensive carbon generation power plants in Europe. The design and development of a combined cycle generation concentrated solar plant, hybridised with photovoltaic plant and gas or biomass, is the only possibility to provide renewable base-load power for the European energy market.

2. The contribution to a fully-integrated internal energy market. The project also analyse the import-export energy market across Europe.

II.B. Inter-regional and inter-partnership collaborative results

- Additional results obtained from working with other partnerships under the thematic S3 Platforms. (Specific examples)

Much of the inter-partnership collaboration of the Solar Energy partnership has taken place within the S3PEnergy in the form of S3PEnergy platform joint organised activity such as joint workshops, meetings and working groups. From these sessions, partnerships have been able to exchange their experiences and the challenges they have faced developing S3 energy projects and this has enabled them to learn from each other. For example, during the S3PEnergy Joint Partnerships Meeting of the 28th of November in Bilbao, leaders from all platforms shared with other leaders and partners their experiences on topics such as: raising funding to finance partnership activity, maintaining regional support and commitment from partners, introducing a global value chain thinking approach to partnership activity focused on local energy solutions, linking partnerships to clusters etc.

Moreover, during the S3 Thematic Platform Days in Bilbao, the Partnership interacted with partnerships from the other two Thematic Platforms of Agri-Food and Industrial Modernisation. During the Joint Event, the partnership benefited from joint discussions on topics such as: how to use partnerships as a tool to upscale activities beyond regional borders and access new markets, the challenges involved in engaging businesses in thematic platforms and the future support from the Commission to S3 Thematic Platforms.

- Evaluation of the involvement of relevant business sector (clusters, SMEs, business associations, chambers of commerce, etcetera) in the Partnership activities. (*Specific examples*)

ESTELA (renewable energy industry association), Photovoltaic European technology and innovation platform, EERA Stage-STE, SET Plan (IWG-STE)).

- Evaluation of whether **the level of inter-regional cooperation is sufficient** to potentially provide *practical and relevant socio-economic impacts*. (*Specific examples*)

The main project being carried out requires interregional cooperation on two levels. Firstly, the development of Solar Energy-related infrastructure in Alentejo and Extremadura; and secondly, the partnering of the FOAK Power Plant in Extremadura with regions in the north of Europe for the export of generated renewable electricity. Successful inter-regional partnering in both areas would be sufficient for the projects to succeed and to have a relevant socio-economic impact.

II.C. New activities

- Involvement of regions from EU13 Member States in the Partnership, in particular with respect to scoping, mapping and/or matchmaking. *In addition, justification should be provided if no EU13 regions are involved.*

EU13 regions involved in the partnership are: South Estonia (EE) and Slovenia (SI)

- Involvement of regions/countries from outside of EU28 Countries. (*Number of participants from non-EU countries. Specify their contribution*)

GAP Region - TR33, Turkey (TU).

- Advancement and promotion of the Partnership through publications and other communication/outreach activities. (*Number of outreach activities that resulted from the Partnership. A complete list with references and web-links should be given in an annex*)

JRC prepared a policy report on the topic titled: "Promoting solar electricity exports from Southern to Central and Northern European countries: Extremadura study case". This report presents the value proposition of solar exports in Europe in order to increase the awareness and support among decision makers. This report also studies the possible financial structures to enable such projects to achieve financial close, in order to cover the gap between the Public Power Purchase Agreement (PPA) and the electricity market price so that the project becomes profitable. In particular, the report explores the possibility to make use of (i) the Cooperation Mechanisms of the Renewable Energy Directive 28/2009/EC and (ii) other EU financial support instruments.

- Activities and projects with partnerships working under other S3 Thematic Platforms (*Agri-Food, Energy and Industrial Modernisation*).

The S3PEnergy Solar Energy partnership was involved in joint activities with the other S3 Thematic Platforms of Agri-Food and Industrial Modernisation during the S3 Thematic Platform Days in Bilbao (26-28th November). The partnership had a representative participating in the panel during the S3 Energy meeting.

II.D. Your Partnership and the UN 2030 Sustainable Development Goals (SDGs)

The EU has a strong position when it comes to sustainable development and is also fully committed to be a frontrunner in implementing the UN's 2030 Agenda¹, together with its member countries and regions. Many interregional partnerships under the thematic S3 Platforms contribute strongly to the attainment of these 17 goals.

Please indicate to which Sustainable Development Goals and to what extent your thematic Partnership contributes?

Your Partnership and Sustainable Development Goals

Goals to which your partnership (can) contribute:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not applicable
Goal 1. End poverty in all its forms everywhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Goal 2. End hunger , achieve food security and improved nutrition & promote sustainable agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Goal 3. Ensure healthy lives & promote well-being for all at all ages	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Goal 5. Achieve gender equality & empower all women and girls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Goal 6. Ensure availability and sustainable management of water and sanitation for all	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 8. Promote sustained, inclusive and sustainable economic growth , full and productive employment & decent work for all	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 9. Build resilient infrastructure , promote inclusive and sustainable industrialisation & foster innovation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 10. Reduce inequality within and among countries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 11. Make cities & human settlements inclusive, safe, resilient and sustainable	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 12. Ensure sustainable consumption & production patterns	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 13. Take urgent action to combat climate change and its impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 14. Conserve and sustainably use the oceans, seas & marine resources for sustainable development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems , sustainably manage forests , combat desertification , halt and reverse land degradation and halt biodiversity loss	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 16. Promote peaceful & inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Goal 17. Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹ The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in September 2015, gave a new impetus to efforts to achieve sustainable development.