



HIGH LEVEL EVENT  
**S3P ENERGY**

# Solar S3P Partnership Extremadura Case

25 January 2018 - Brussels

**Regional Government of  
Extremadura**

José Luis Navarro Ribera, *Regional  
Minister for Economy and Infrastructures*

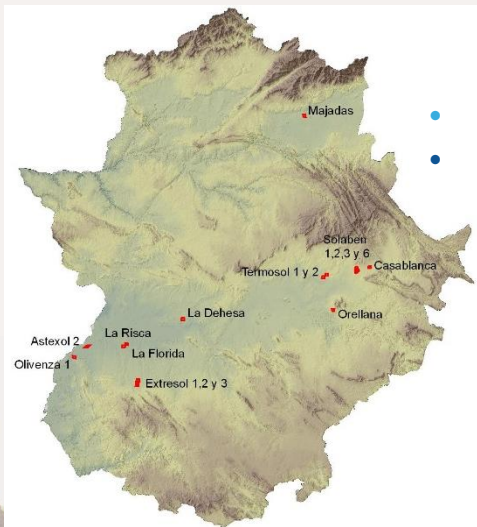
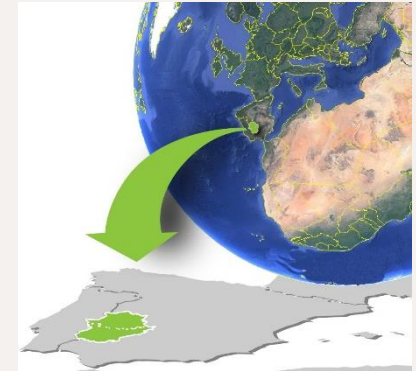


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Joint  
Research  
Centre

## EXTREMADURA REGION AND ITS SOLAR POTENTIAL

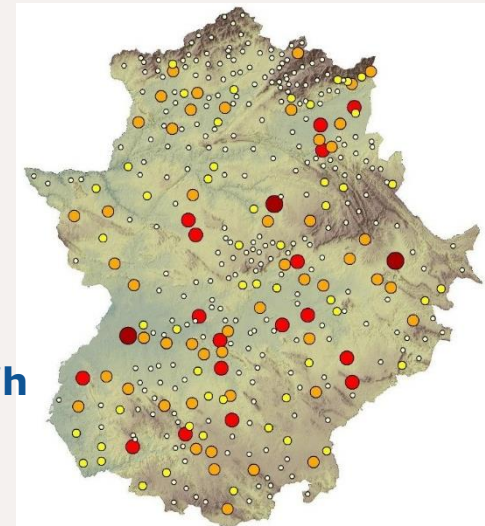
- **1.1 million inhabitants**
- **Area of 41,634 Km<sup>2</sup>**
- **GDP 17 € billion**
- **100% of electric demand is covered with renewable energy generated in the región**
- **#1** in solar coverage of electricity demand: 61%



- **CSP power: 849 MW**
- **Electric production: 1.962 GWh**

- **PV power: 562 MW**
- **Electric production: 1.061 GWh**

Data from 2016



**6.300 MW in PV. Currently in administrative process!!!**

## EXTREMADURA IN THE SOLAR PARTNERSHIP

- The Solar S3 Partnership offers interactive and participatory areas for interregional cooperation along regions and MS who have selected Solar energy as a priority in their RIS3 strategy
- Formed in May 2017
  - Regions
  - Research Centres
  - Industrial Stakeholders
- Initiatives

1<sup>st</sup>



Commercial size STE Plant

Research facility for solar technologies

2<sup>nd</sup>

Generation of Steam by Medium Temperature Thermoelectric Solar for Agroindustrial Applications



## CSP FIRST OF A KIND PROJECT : BENEFITS

Trading solar electricity from South to Central/Northern Europe can play an important role in the European power market, offering some of the following benefits:

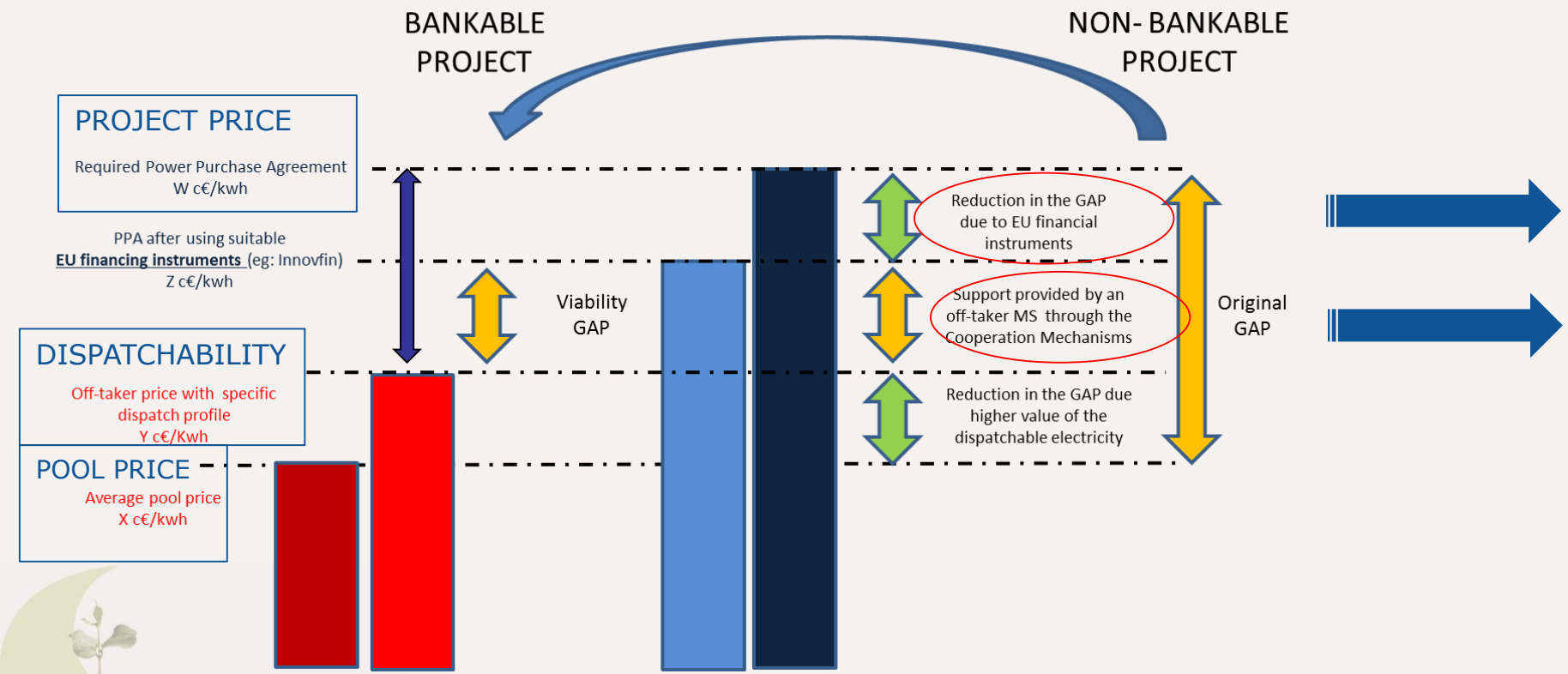
- Maintain the **global leadership** of the European industry in CSP/STE
- Produce “dispatchable power” thanks to CSP **storage capacity**
- **Reduce costs** and improve solar technologies
- **Regional cooperation** among MS

### Possible techno-economic configuration:

- ✓ CSP Plant hybridized with PV or biomass
- ✓ Capacity: 100 – 200 MW (tbd)
- ✓ Storage: 6-8 hours
- ✓ Capex: 300-500 M€
- ✓ Technology: Solar Tower



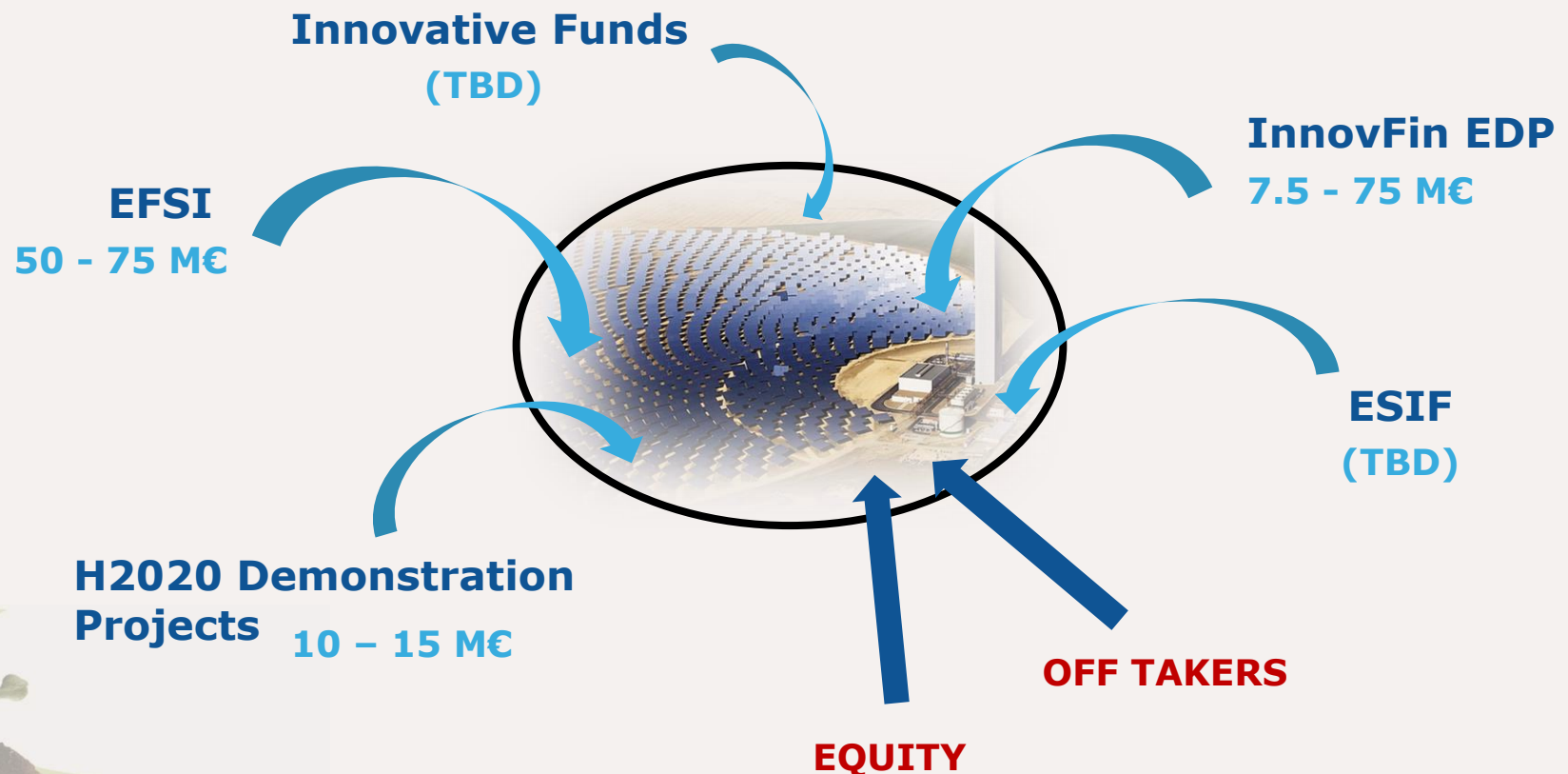
## HOW CAN WE MAKE THIS PROJECT FEASIBLE FROM A FINANCIAL AND REGULATORY POINT OF VIEW?





## AVAILABLE FINANCIAL INSTRUMENTS

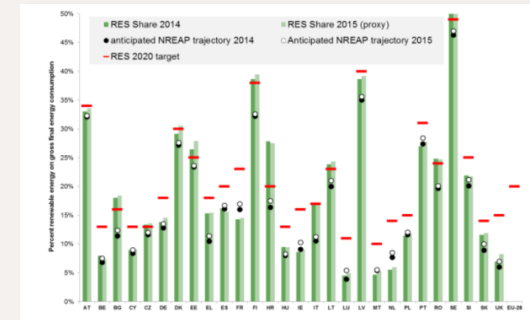
- Financial schemes supporting solar FOAK projects in the EC



## COOPERATION MECHANISMS OF THE RES DIRECTIVE 28/2009/EC

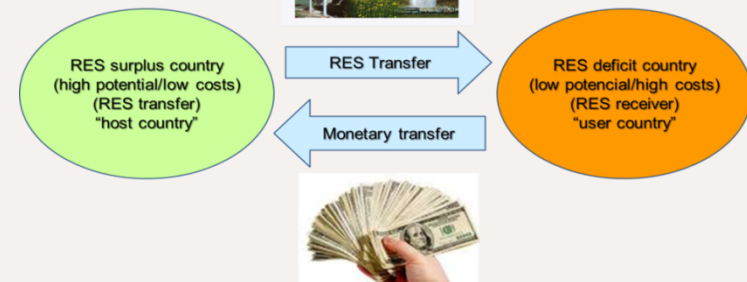
### RES-Directive 2009/28/EC sets binding targets:

- EU: 20 % RES gross final consumption by 2020
- MS: Heterogeneous National targets not based on potentials nor on renewable generation costs.



Directive incorporates some instruments to promote international cooperation in order to meet the 20% EU 2020 target.

- **Statistical Transfers (Art 6)**
- **Join projects within MS (Art 7)**
- **Join support schemes (Art. 11)**



**Greater flexibility:** allowing MS with low/expensive potential/generation cost partially meet their National targets in other countries.

**Reduce the overall costs** to meet RES 20% European target.

Cooperating Countries	Article	Type of agreement	Technology	Year
Sweden/Norway	Art. 11	Joint Certificate Scheme	All RES technology	January 2012
Germany/Denmark	Art. 11	Mutually-opened auctions	Ground Mounted PV installations	July 2016
Luxemburg/Lithuania	Art.6	Statistical Transfer	All RES technologies	October 2017
Luxemburg/Estonia	Art.6	Statistical Transfer	N/A	November 2017

## What about the 2030 framework?



**Regional Cooperation will play a key role!**



## WHERE ARE WE NOW?

- What have we done?
- What are the next steps?



Based on the identified needs and requirements:  
Identify **optimal techno-economic configuration and suitable cooperation mechanism design and scheme** that suits all involved parties

**Start implementation phase** with involved countries (host, off-taker, transit) and the EU.  
**Communicate the benefits and advocate** for this project with civil society.

Consultation phase with:  
- **Off-taker countries** (assess their interests and requirements).  
- **Industry players** (define the techno-economic configuration)  
- **Financial institutions** (define the financing conditions)

Exploration phase:  
**Options to make this project bankable** (EU funding and/or cooperation mechanisms)

From a preliminary techno-economic configuration of the solar FOAK project, assess and communicate its **value proposition** at the EU, National and regional levels.

**Negotiations** and identification of the enabling conditions

- Draft **MoU and Tender**  
- **Communication and Advocacy campaign**

**Consultation** with:  
- industry players  
- financing institutions  
- off-taker countries

**Preliminary Business Plan** of the project

- **Policy report** (value proposition and pre-feasibility assessment)  
- **Mapping** of MS industrial and research interests, RES trajectory

### Consulted actors:

- MS representatives  
- Financial institutions  
- CSP industry  
- EC representatives  
- Local authorities  
- Experts on EU funds  
- Experts on cooperation mex.  
- Experts on business models  
- Regulators, TSO and other mkt players

**José Luis Navarro Ribera**, *Regional Minister for Economy and Infrastructures*

**MANY THANKS FOR YOUR ATTENTION!**

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