

## IV Annual Analyst and Investor Day

October 22<sup>nd</sup> – 23<sup>rd</sup>, 2008

**ABENGOA  
SOLAR**



**"Sunny Days Ahead"**

1

**Vision**

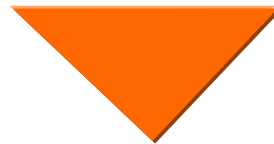
2

**Overview of Abengoa Solar today**

3

**Plan going forward**

- Solar Power will be big and global
- Value creation will happen in several steps of the value chain
- Technology is important in every step of the value chain
- It is unclear which technologies will win but it is clear that several will coexist to serve different needs



**The Solar Power Company, global, based on technology and certain degree of vertical integration**

### A sector under a profound transformation

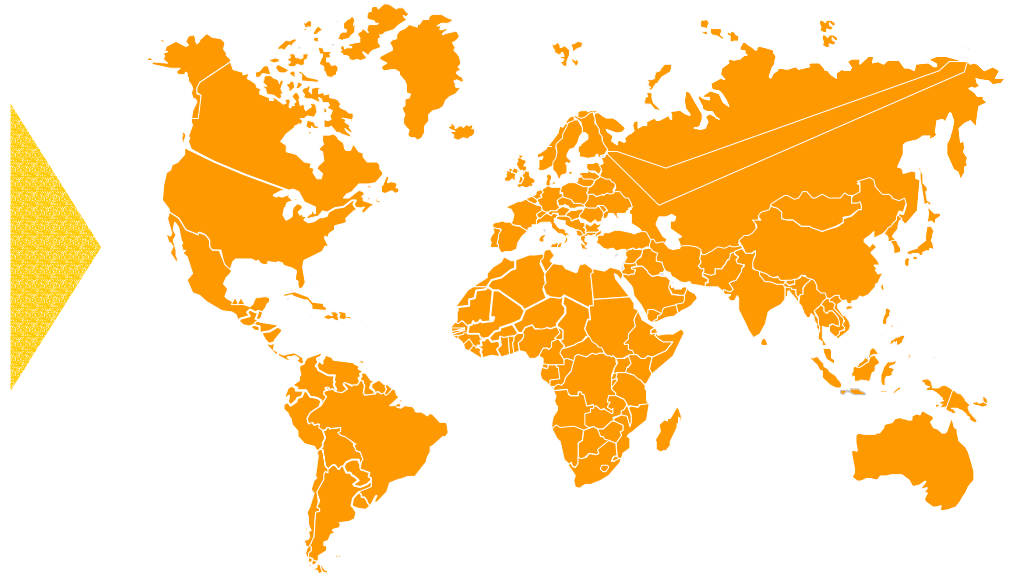
2 years ago

From local...

- ✓ Germany
- ✓ Japan
- ✓ Spain

Today

...to global



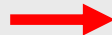
Even the most conservative scenarios look very positive

Today

2020



9,1 GW



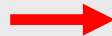
160 GW

PV

x10



0,5 GW



46 GW

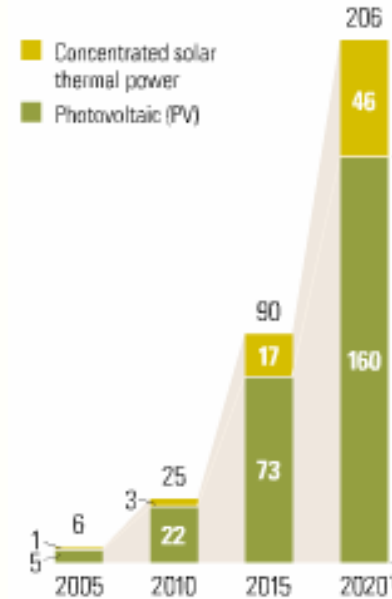
CSP

x100

GW (gigawatts)

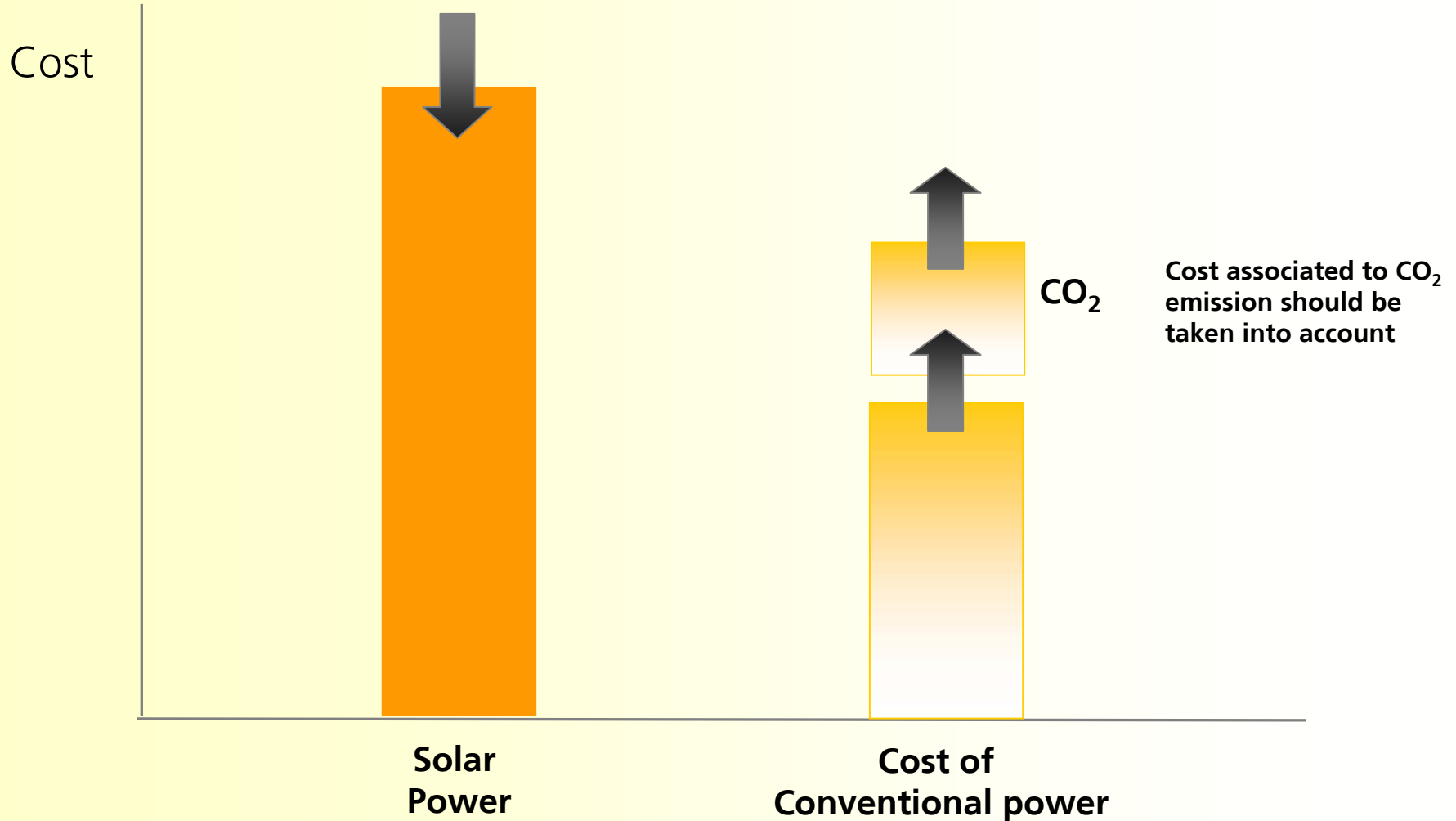
Cumulative installed capacity,

Concentrated solar thermal power  
Photovoltaic (PV)



Sources: Lorenz, P.; Pinner, D. & Seitz, T. (2008). "The economics of Solar Power". The McKinsey quarterly - Energy, resources, materials

**Solar will soon be competitive to conventional energy**



**Value can be created in different steps of the value chain**  
**Technology is important in several steps of the value chain**

R&D

Manufac-  
turing

Design

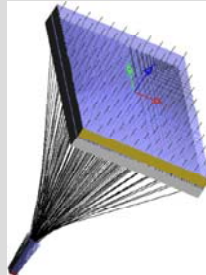
Develop-  
ment

Construc-  
tion

Ownership

O&M

PV



CSP









### It is unclear which technologies will win



**A few different  
solutions for  
different needs**



## The Solar Power Company, global, based on technology and a certain degree of vertical integration

- **The Solar Power Company**  CSP and PV in several forms with different degrees of focus and time horizon
- **Global**  From Spain to the (sunny) world, but carefully
- **Based on technology**  World class R&D team and program  
Highly experienced team in technical areas and development
- **Certain degree of integration**  Increase by leveraging in house capabilities

1

**Vision**

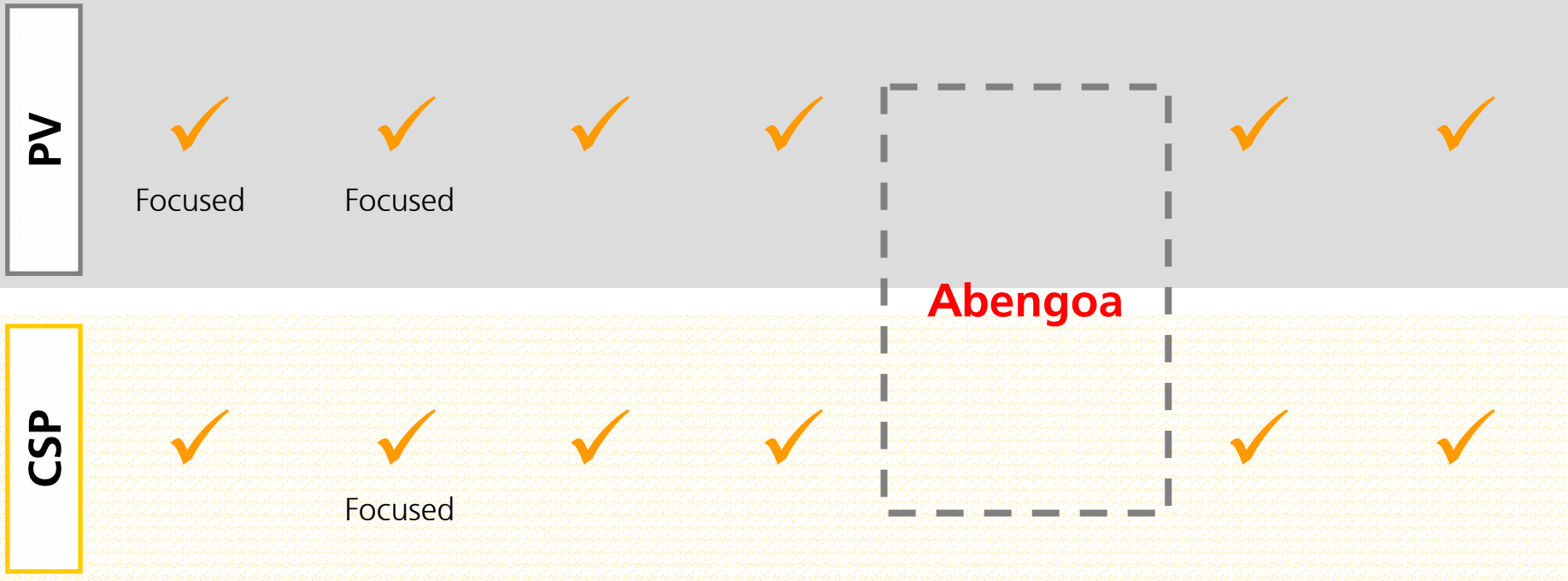
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**Overview of Abengoa Solar today**

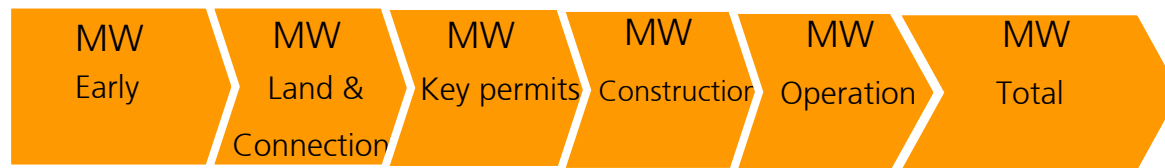
3

**Plan going forward**

## What do we do?



### Yes, we are a developer...

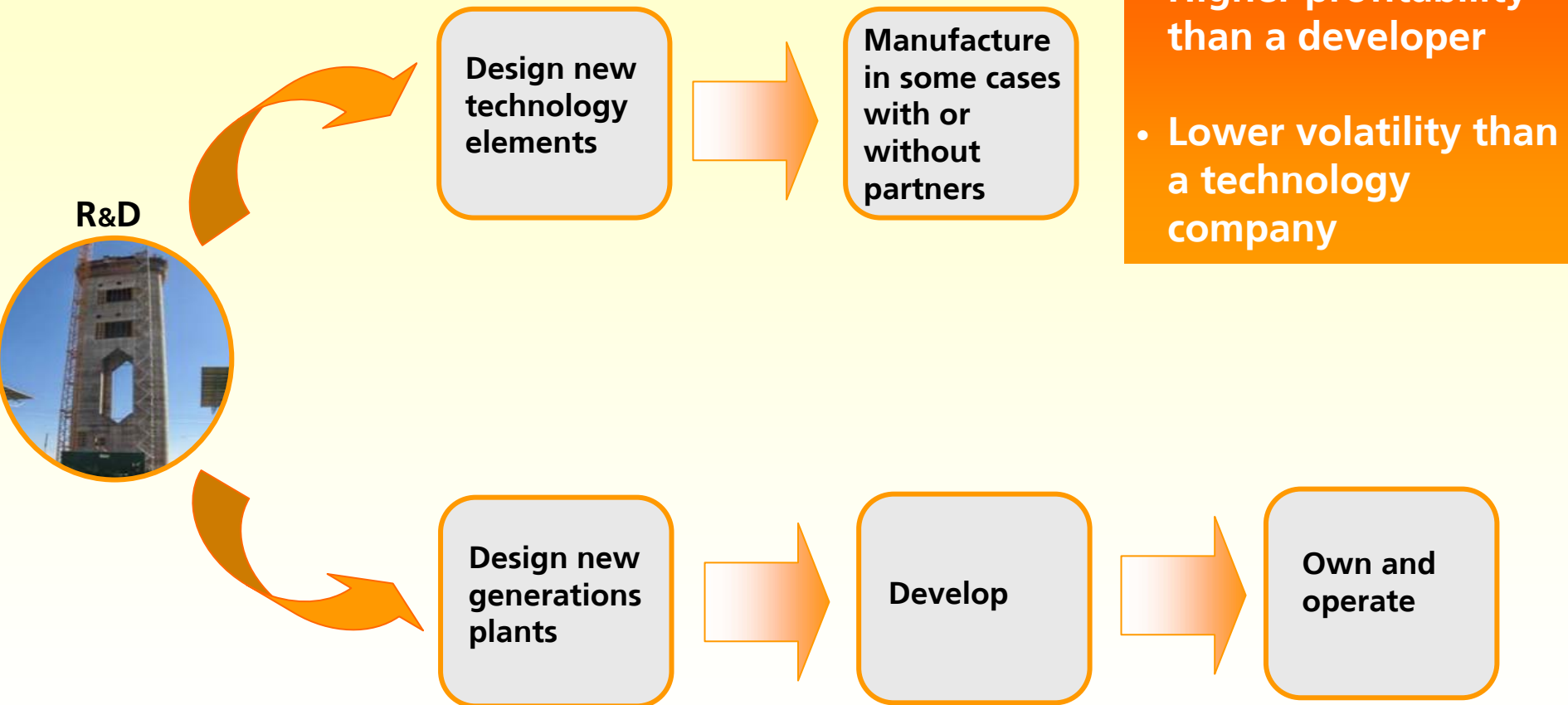


CSP		MW Early	MW Land & Connection	MW Key permits	MW Construction	MW Operation	MW Total
	▪ Spain	n.d.	500	100	170	11	781
	▪ US	n.d.	280	-	-	-	280
	▪ International	n.d.	-	-	150	-	150

PV		MW Early	MW Land & Connection	MW Key permits	MW Construction	MW Operation	MW Total
	▪ Spain	n.d.	17	10	-	12	52
							<b>1263</b>

n.d.: not disclosed

... but much more than a developer



## Abengoa is committed to technology through our enormous R&D effort

### CSP + Selected areas of PV

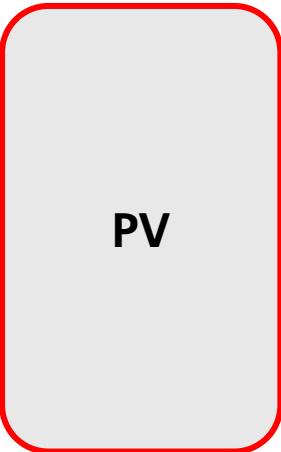
- 60 researchers
- Seville, Madrid, Denver
- Cenit (Spain)
- DoE (5 projects)
- European Union
- Demonstration plants



### Broad in CSP, focused in PV



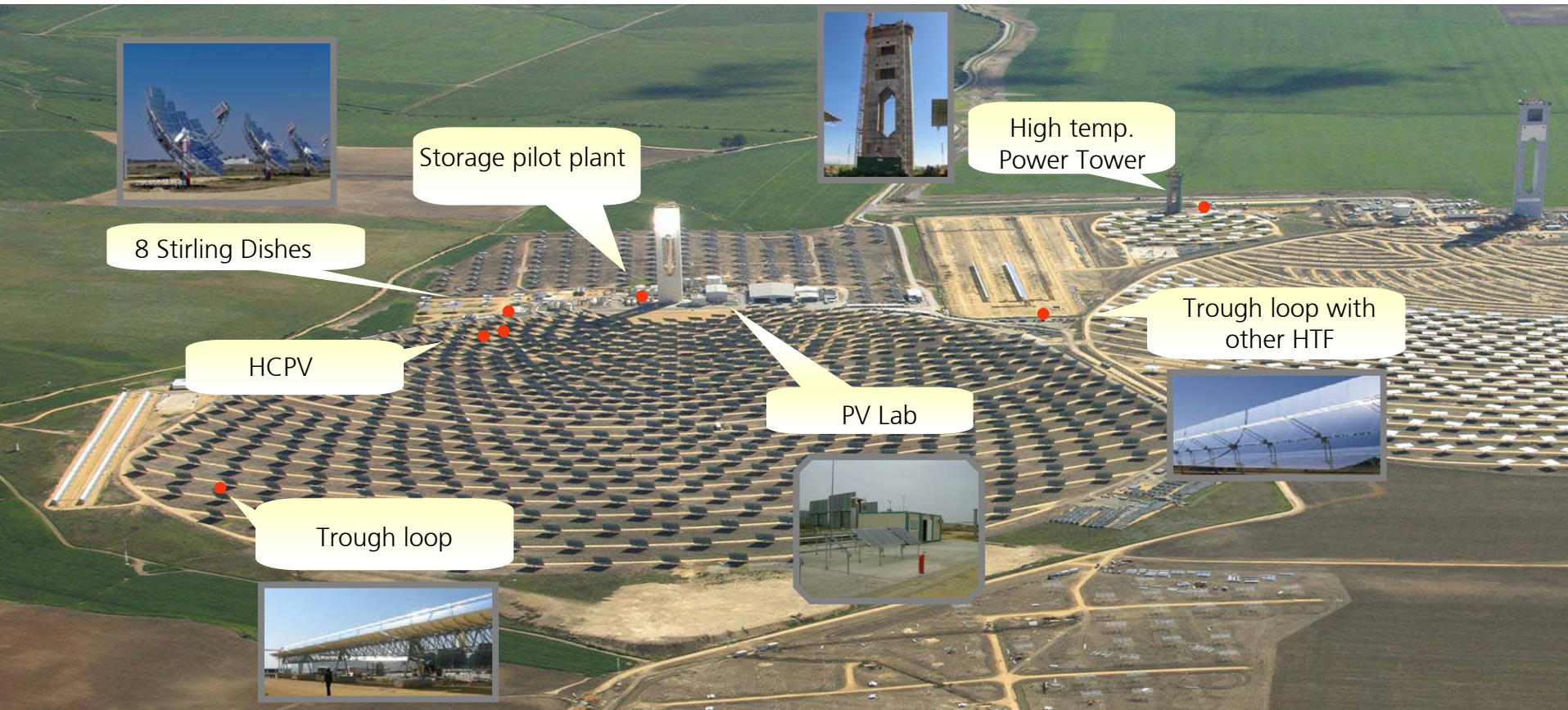
1. Better, more efficient, lower cost troughs
2. The tower of the future
3. Intelligence: other technologies
4. Storage



1. CPV
2. Thin film
3. Best technology for each need (PV Lab)



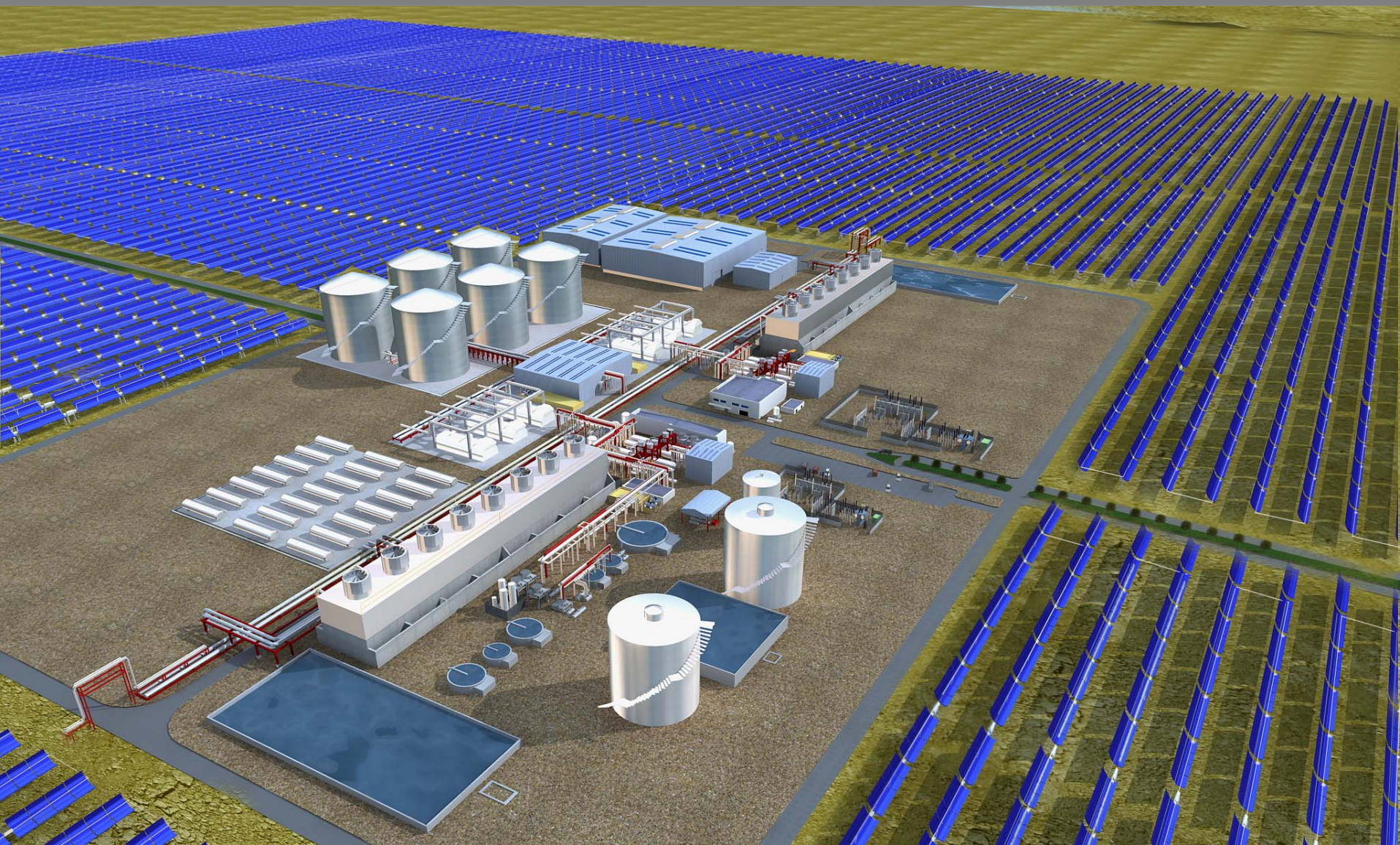
## Acquired knowledge in all technology to bet for the best options



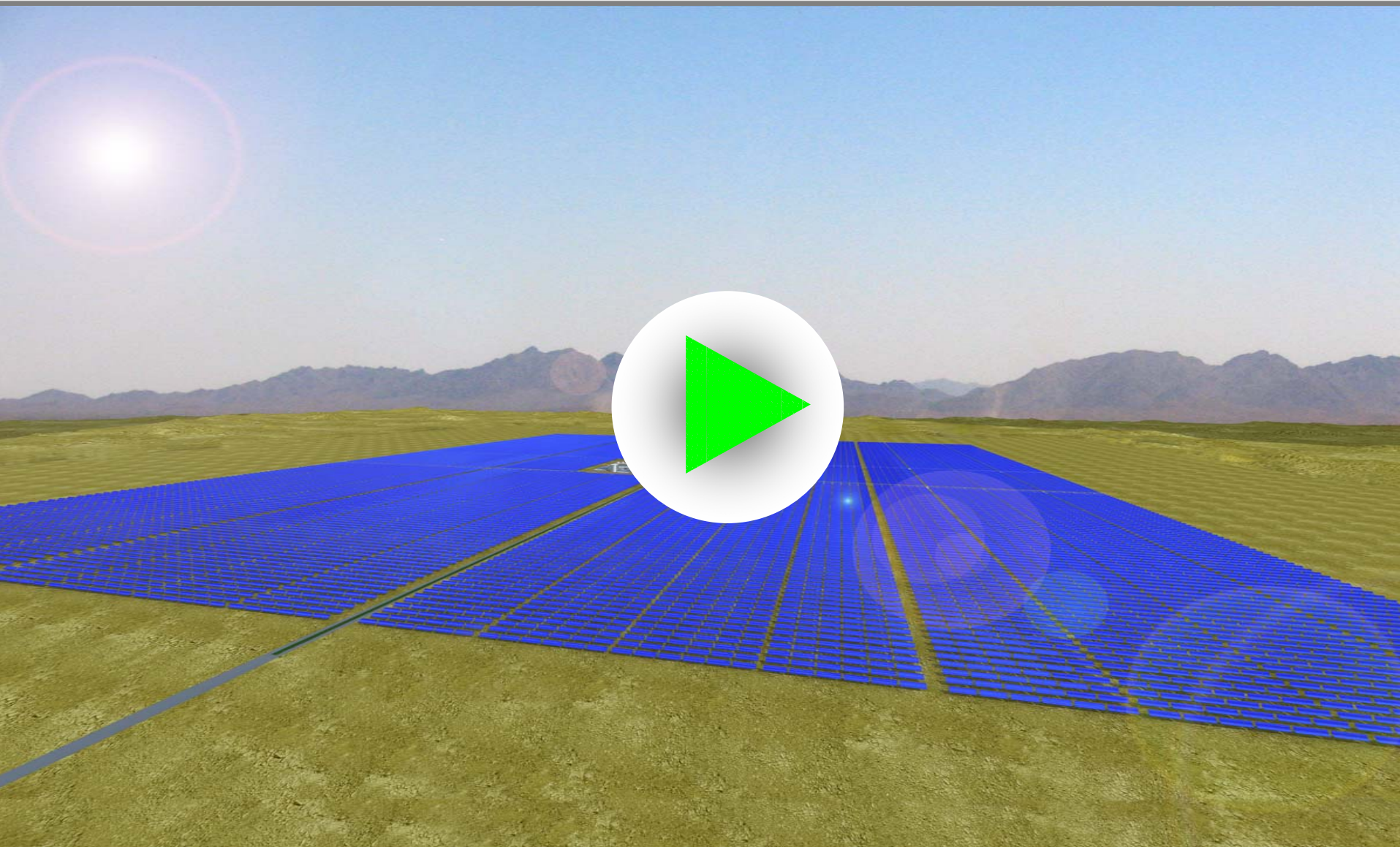
## Partnering with the best globally

	Program	Time frame	Partners
1	Consolida (Cenit)	08-11	Ciemat
2	DoE program (5 projects)	08-11	DoE, NREL
3	Solugas	08-10	EU, DLR
4	CPV	07-10	Several











**PS 20**



Start-up **Q1 09**

**Solnova 1**



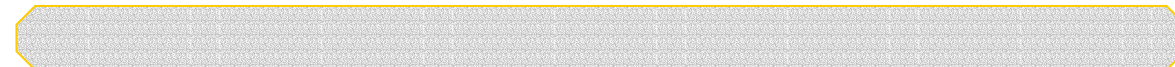
Start-up **Q4 09**

**Solnova 3**



Start-up **Q2 10**

**Algeria**



**Q3 10**

**Solnova 4**



Start up  
**Q4 10**





## Experience operating towers and troughs

PS10









- Project finance (last Solnova 4 in August 08)
- Financial markets situation







**Las Cabezas  
(5,7MW)**



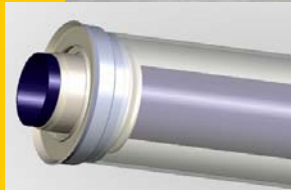
**Casaquemada  
(1,8MW)**

### CSP

✓ Trough collectors



✓ Receiver tubes

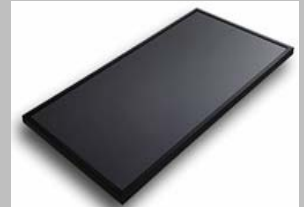


✓ Mirrors

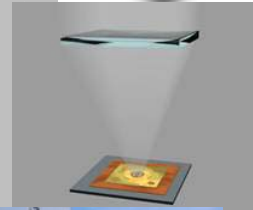


### PV

✓ Modules



✓ HCPV



✓ Trackers



Energy sales 3,2 M€

Technology sales 22,6 M€

Developer 14,1 M€

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Agregated sales 39,9 M€

Eliminations (22,8) M€

Consolidated sales 17,1 M€

Gross cash flow 12,4 M€

EBITDA 2,5 M€



1

**Vision**

2

**Overview of Abengoa Solar today**

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**Plan going forward**

If you believe in Solar Power, you believe in us





## Working to decrease costs and to offer storage

### Parabolic Trough

- ✓ ↓ Costs
- ✓ ↑ Efficiency



### Power Tower

- ✓ ↓ Costs, mature the technology
- ✓ Efficiency



### Storage

- ✓ Make it commercial
- ✓ Other materials (concrete, ceramics, ...)



Cenit (2x million euro in Spain and DoE contracts in US)



### Working to find new concepts more efficient and cost effective

#### CPV

- ✓ ↓ Costs
- ✓ ↑ Efficiency



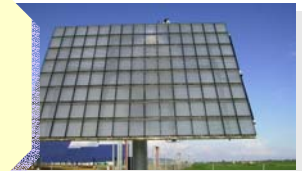
#### PV laboratory

- ✓ Assessment of current technology
- ✓ Development of new concepts



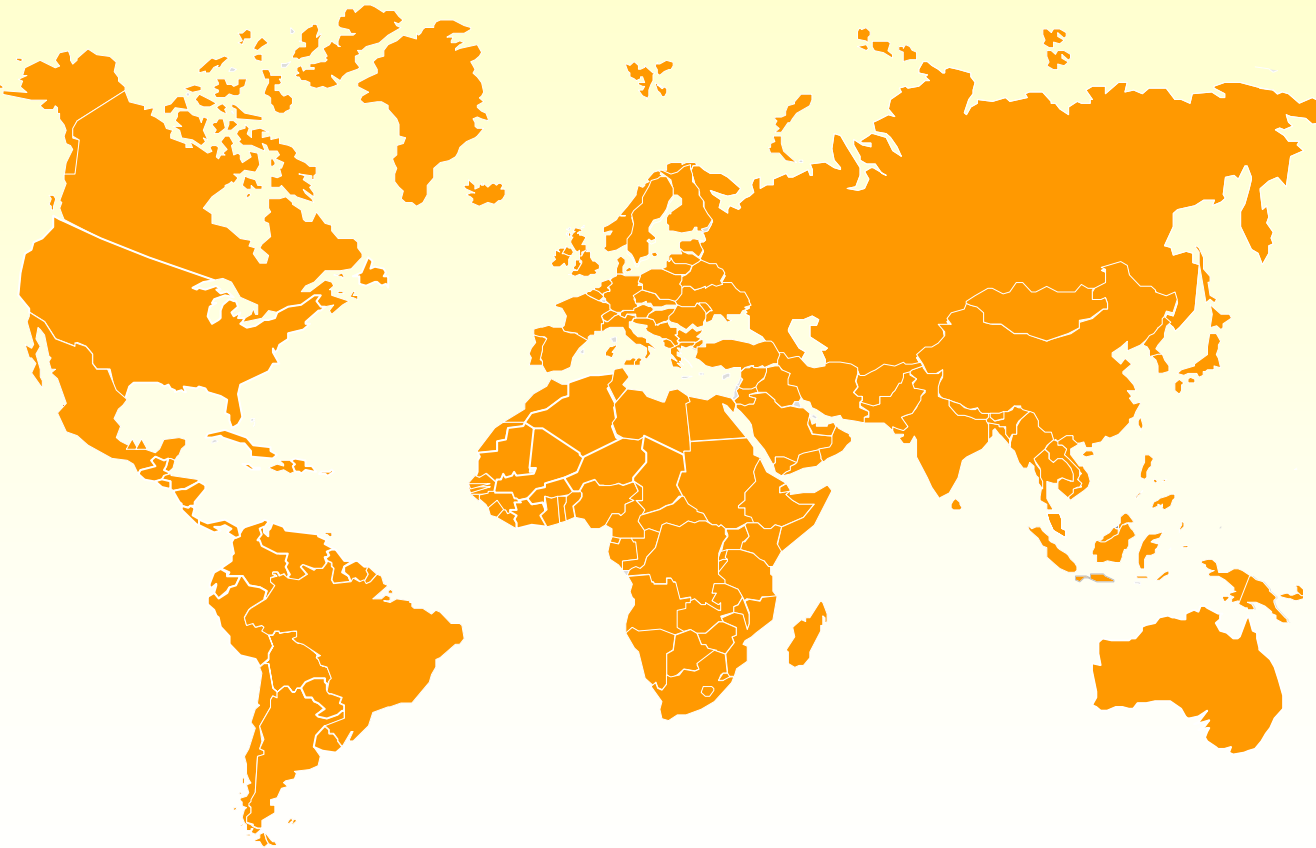
#### Partnerships with best

- ✓ Centrix Iberia



NREL, University of Rochester, University of Merced (CPV Dedalos Project), ...

### From Spain to the world



- Strong pipeline
- More countries introducing regulation or ad-hoc projects
- Strong international presence and access in key geographies

Risk	Mitigation
• Regulation	• Diversification
• Technology	• R&D program
• Access to financial markets	• Diversification

