



**solaredirect**

# **ARE PV DEVELOPERS THE NEW UTILITIES?**

**EU PVSEC**

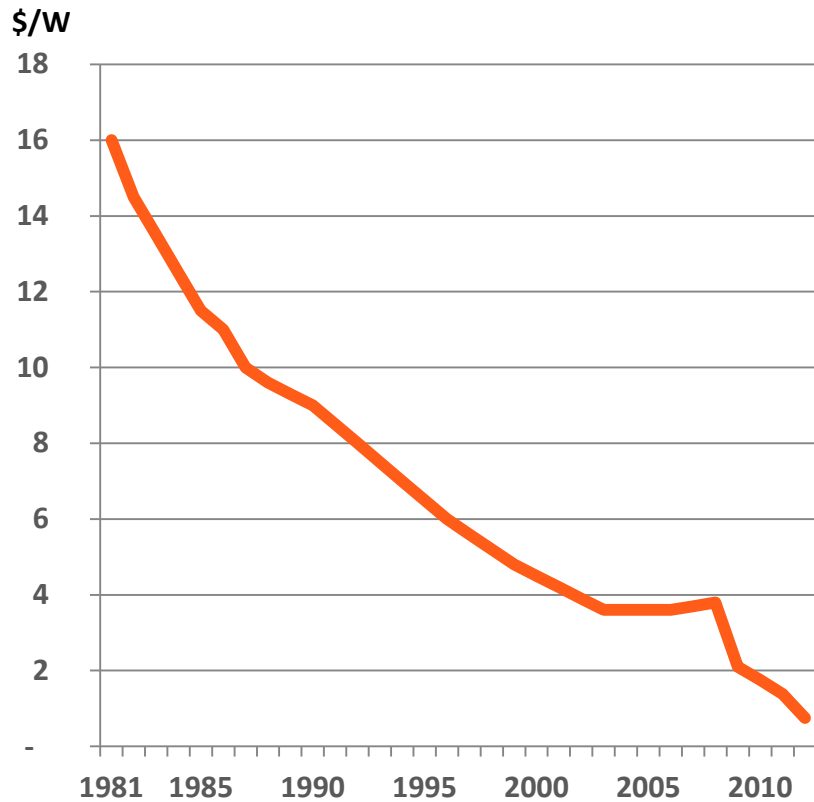
September 30th, 2013

# SOLAIREDIRECT, GLOBAL PIONEER OF COMPETITIVE SOLAR POWER ENGINEERING AND GENERATION

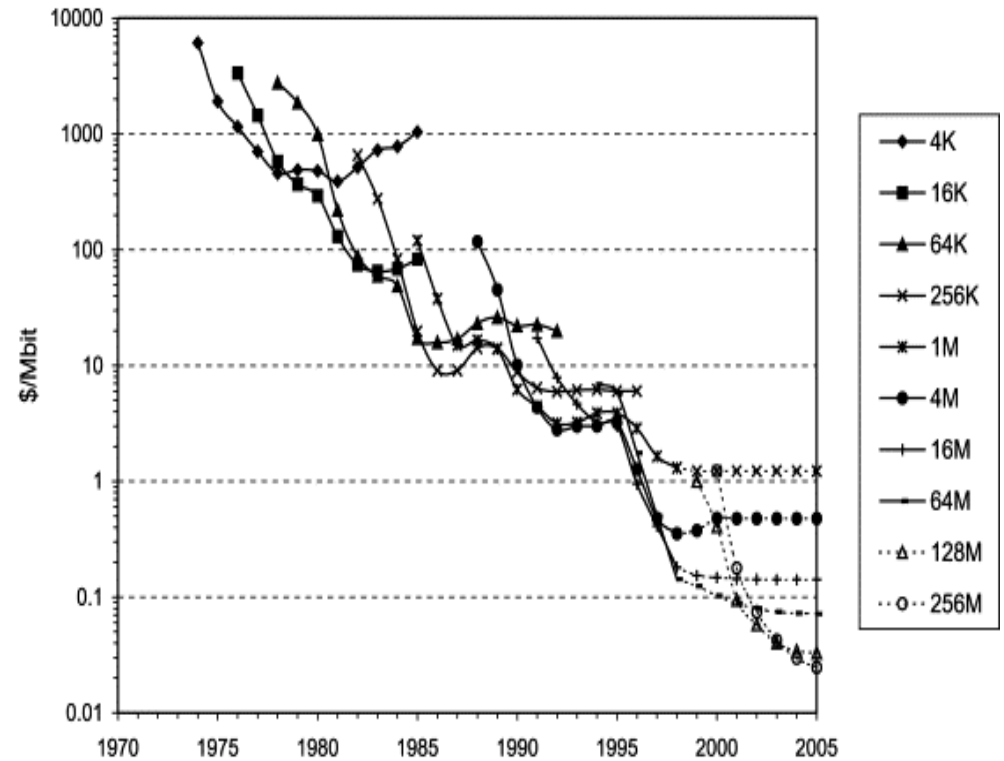
- 2006: foundation of Solairedirect  
**2013: 2<sup>nd</sup> largest solar power producer in France, in the global top 10 with 300 MW in operation/construction and 2 000 MW under development**
- Innovative integrated business model designed to cut costs and risks : project development, design and EPC, structured financing and legal engineering, O&M, power sales and grid services  
**Mission: making solar power competitive with other sources of energy**
- Public/private partnerships and local content manufacturing  
**Innovative approach in engaging communities**
- Presence in France, South Africa, India, Chile, Thailand, China and the USA  
**Best bidder in government tenders in India and South Africa with power prices as low as 85 €/MWh, innovator in private PPAs**
- Revenues of 126 M€ and net profit of 10 M€ (2012) with 250 employees  
**700 M€ raised in equity and project finance**

# THE SOLAR PARADIGM SHIFT: THE PATTERN OF PV AS AN ELECTRONIC TECHNOLOGY

Cell and module prices fall...



...following the pattern of memory chips



# SOLAR POWER: NOW AT PAR WITH THE CHEAPEST ENERGY SOURCES IN MOST COUNTRIES

Energy source	Generation costs (newly installed capacity)
<b>Solar PV (ground-mounted)</b>	<b>55 to 100 €/MWh</b>
Coal (imported)	50 to 80 €/MWh
Gas (imported)	55 to 110 €/MWh
Fuel/Diesel (imported)	100 to 250 €/MWh
Nuclear (EPR)	90 to 120 €/MWh
Wind (onshore and offshore)	55 to 180 €/MWh

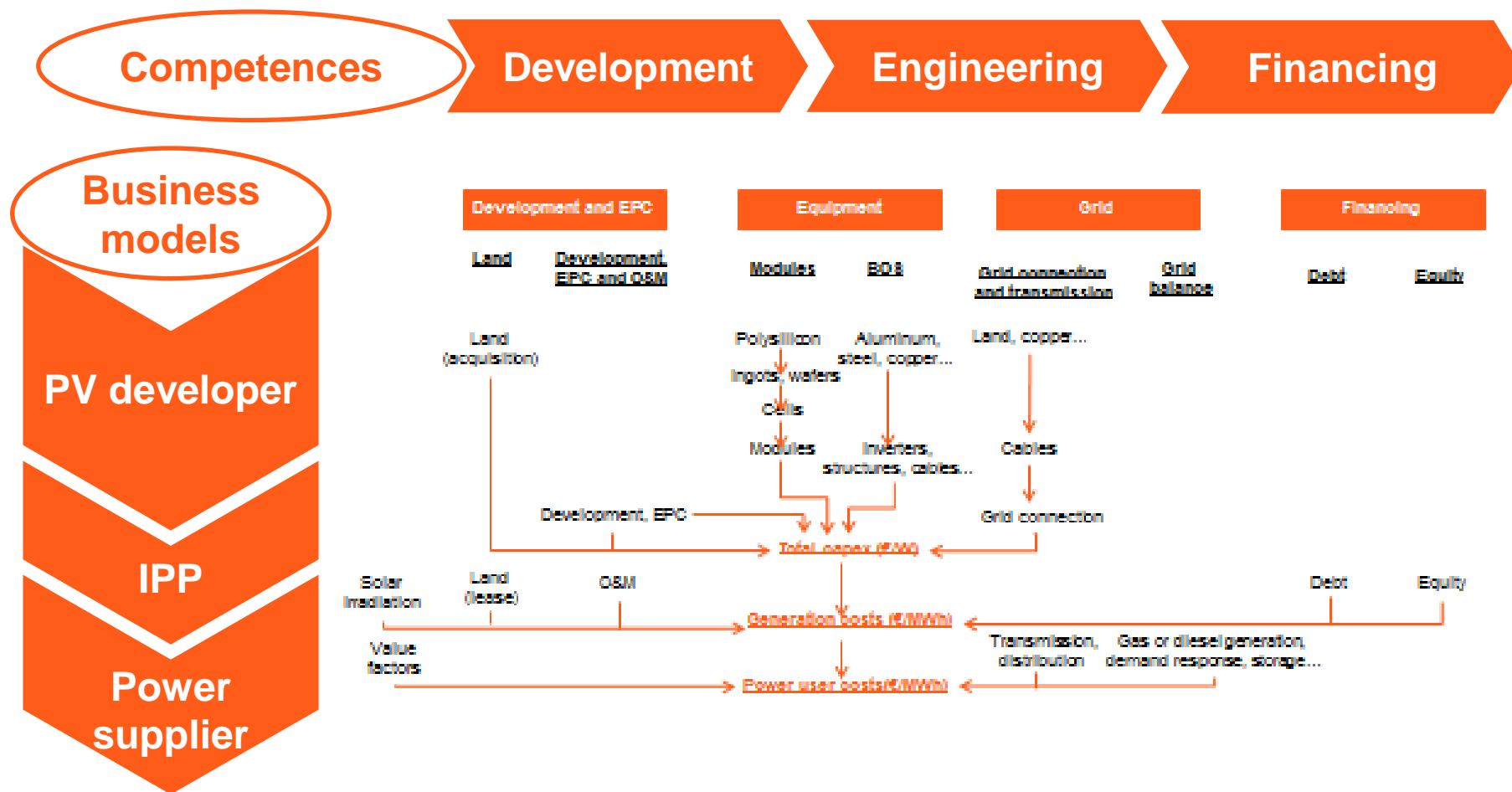
# THE NEW BUSINESS MODELS OF COMPETITIVE SOLAR: A FEW ILLUSTRATIONS

**USA**  
PPAs with  
large utilities:  
56 €/MWh

**Chile**  
Sale to wholesale  
power markets:  
55 to 100+ €/MWh

**India**  
PPAs with large  
power users:  
80 €/MWh

# FROM DEVELOPER TO POWER SUPPLIER: EVOLVE OR RISK MARGINALIZATION



# SOLAR AS A KEY ENERGY SOURCE AND THE ADVENT OF BIG SOLAR, A NEW UTILITY MODEL

- Who can **underwrite GWs of PPAs** for long maturities and/or be a credible counterparty on wholesale power markets? Big Solar
- Who can **inspire the trust of governments** and key local stakeholders to influence planning, infrastructure and energy regulation? Big Solar
- Who can **develop and/or acquire GWs** of projects on the ground and on rooftops over the long term? Big Solar
- Who can **integrate the engineering and manufacturing value chain** and sustain cost leadership? Big Solar
- Who can **inspire trust to banks and pension funds** to raise billions of euros of debt and equity with the lowest risk profiles? Big Solar
- Who can develop and implement **innovative solar-centric power supply and service offers** across dozens of countries? Big Solar
- Who can **develop the smart grid platforms and operate local power loops** (combination of power sources, promotion of usage, demand response, storage) necessary to massively spread solar power? Big Solar

