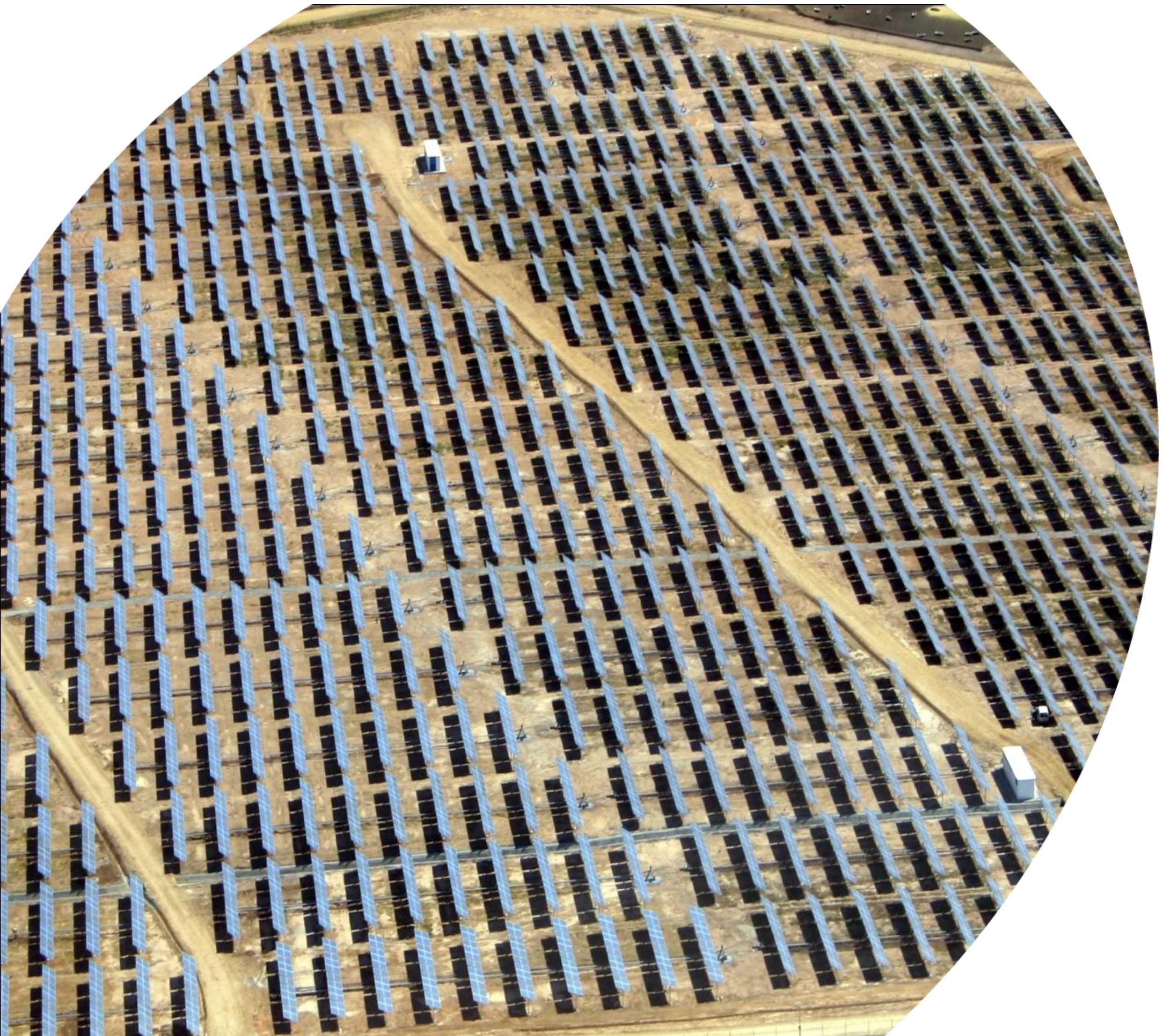
COMMENTS ON IRP 2010

Cape Town - 29 November 2010



Gestamp
Solar

Who is Gestamp?

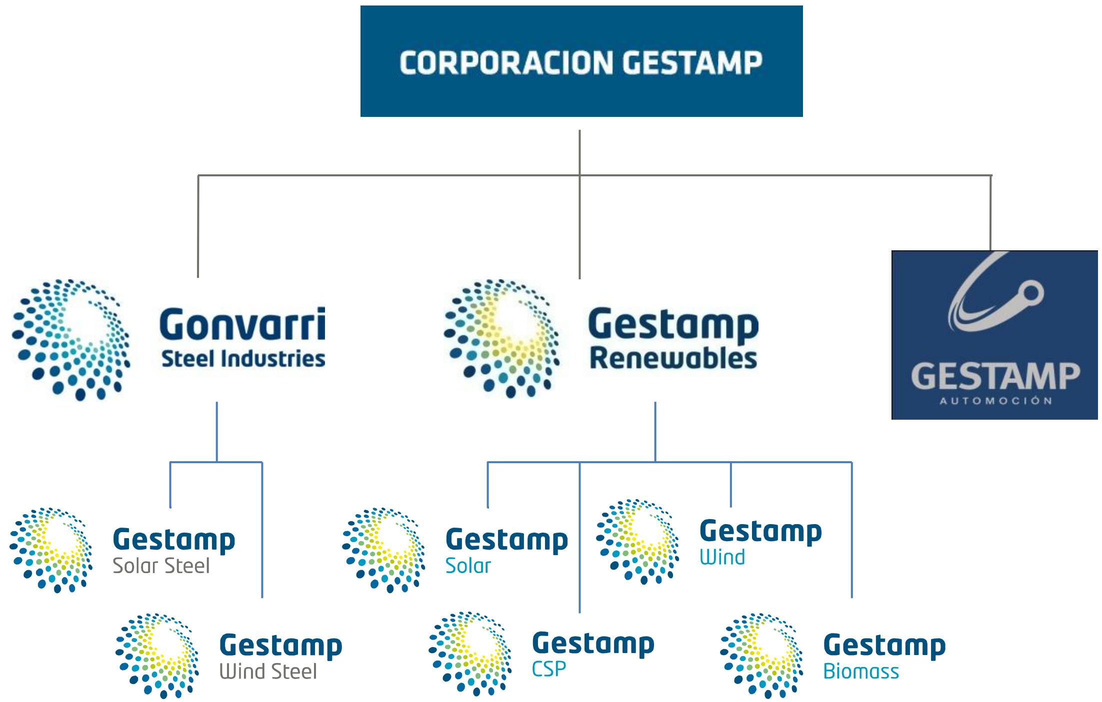
Gestamp Corporation:
- One of the largest European private industrial groups:
- Family owned (not listed)
- Presence in 25 countries
- 100 industrial plants
- Over 20.000 employees
- Turnover of USD 6.5 Bn (2008)

Gonvarri:
- European leader in Steel services
- Also manufactures wind towers and solar structures

Gestamp Automoción:
- Design, development and manufacture and stamping of metal components and structural systems for the automotive industry
- Supplier of body-in-white parts for main brands: Volkswagen, Renault, Peugeot, Mercedes, Tata, etc.

Gestamp Renewables:
- Gestamp Solar
- Gestamp CSP
- Gestamp Wind
- Gestamp Biomass

Gestamp Solar:
- Development, promotion, engineering, procurement, construction, operation, investment and financing of Solar Plants
- More than 300MW connected
- More than 1.5GW pipeline in PV / CSP
- Turnover of USD 600 Mn (2008)



We cover all Renewable Energy technologies.

Our feedback is based on pure technological and economical reasons.

We have built and operated plants totalling more than 300MW. We deal with actual data.

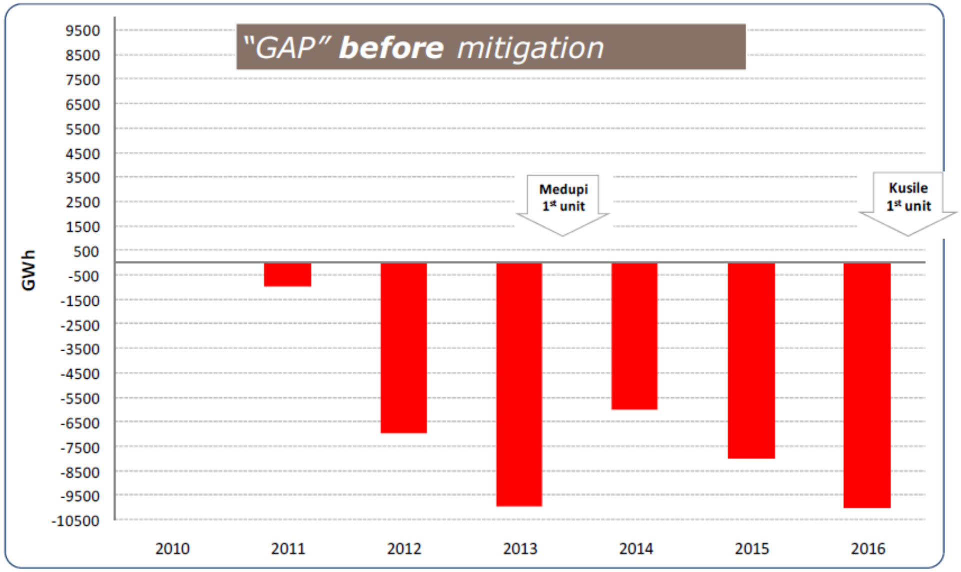
Background to IRP2010

EXCERPTS FROM IRP2010 / MTRM Plan:

- *“Current Electricity Supply / Demand situation is very tight in South Africa”*

- *“Already experienced load shedding in late 2007 and 2008”*

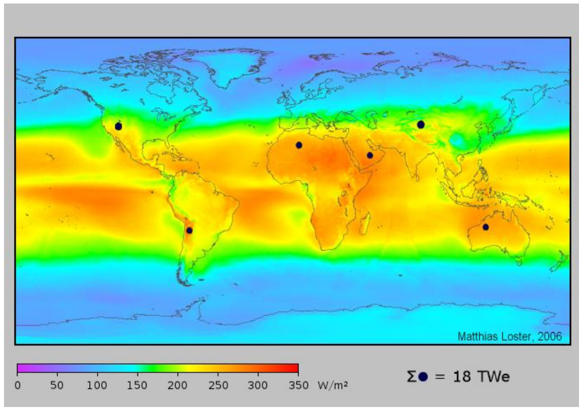
- “*Rolling blackouts are anticipated from 2011 to 2016 unless extraordinary steps are taken to accelerate the realisation of the non-Eskom generation and energy efficiency projects”*



- *“Renewable generation is urgently required”*

Renewable Energy in IRP2010

South Africa has one of the best solar resources in the world.
However, solar allocation in the IRP2010 is minimal, specially PV.

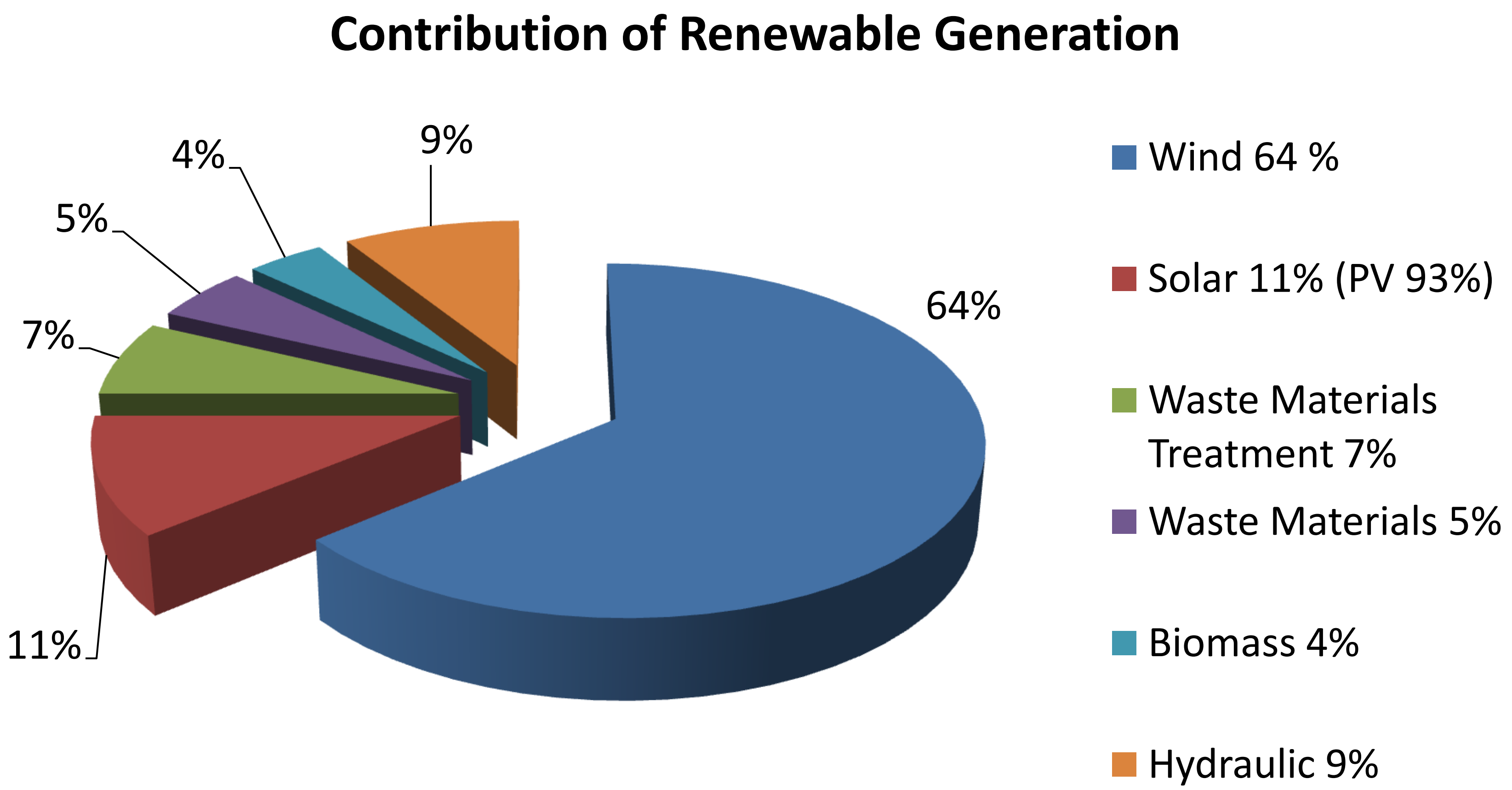


	Committed build											New build options								
	RTS Capacity	Medupi	Kusile	Ingula	DOE OCGT IPP	Cogeneration, own build	Wind	CSP	Landfill, hydro	Sere	Decommissioning	Coal (PF, FBC, Imports)	Cogeneration, own build	Gas CCGT	OCGT	Import Hydro	Wind	Solar PV, CSP	Renewables (Wind, Solar CSP, Solar PV, Landfill, Biomass, etc.)	Nuclear Fleet
	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
2010	380	0	0	0	0	260	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	679	0	0	0	0	130	200	0	0	0	0	0	103	0	0	0	0	0	0	0
2012	303	0	0	0	0	0	200	0	100	100	0	0	0	0	0	0	0	0	0	0
2013	101	722	0	333	1020	0	300	0	25	0	0	0	124	0	0	0	0	0	0	0
2014	0	722	0	999	0	0	0	100	0	0	0	0	426	0	0	0	200	0	0	0
2015	0	1444	0	0	0	0	0	100	0	0	-180	0	600	0	0	0	400	0	0	0
2016	0	722	0	0	0	0	0	0	0	0	-90	0	0	0	0	0	800	100	0	0
2017	0	722	1446	0	0	0	0	0	0	0	0	0	0	0	0	0	800	100	0	0
2018	0	0	723	0	0	0	0	0	0	0	0	0	0	0	0	0	800	100	0	0
2019	0	0	1446	0	0	0	0	0	0	0	0	0	0	474	0	0	800	100	0	0

South Africa has committed to install 1025MW of renewable energy from IPPs by 2013, producing 10.000 GWh.

PV is one of the best contributor to this target. But there is **no allocation for PV until 2016, and then only 100MW per year to share between PV and CSP!**

Renewable Energy in Spain



PV Market in Spain

YEAR	MONTH	Power Installed (MW)	Nº of Facitilies
2004	December	22	3.208
2005	December	46	5.300
2006	December	148	9.864
2007	December	690	20.286
2008	December	3.398	51.312
2009	December	3.634	51.829
2010	May	**3.864**	52.078

Germany has installed 3.8 GW PV in 2009
and 4.9 GW PV in first 8 months of 2010!

Myths abouth PV

a) The main Solar technology is CSP

IRP2010 seems to forget PV technology and tends to confuse it with CSP technology. Often, when it refers to ”solar” it really is talking about “CSP”. For example, it mentions *“solar technology is relatively new and still evolving. The current solar programme was moved one year later to lay the foundation for this new programme”.*

b) The main PV technologies are Thin Film and CPV

EPRI report shows little knowledge about PV when it focuses on Thin Film and CPV. These two technologies together represent less than 20% of installed PV[1]. Incredibly, they do not consider crystalline silicon, the dominant technology.

c) PV technology is too expensive

PV is acknowledged for much lower water usage and no CO_2 emissions, but disliked due to its high cost (REFIT of R3.94). **This is not true anymore**. EPRI report also shows the same O&M costs for PV as for CSP Parabolic Trough without storage. Anyone who understands their respective technology complexities knows this cannot be right.

d) PV is mainly for domestic rooftops

[1] EPIA, European Photovoltaic Industry Association, “Global Market Outlook for Photovoltaics until 2014” publication

FACTS on PV – Scoring criteria

Water usage

PV hardly uses any water. Just wash panels 4 times a year, if possible.
In comparison, CSP parabolic trough uses around 16 Million litres per year per MW installed.

Climate change

No CO_2 emissions. Sun provides free fuel for good. No dangerous waste.

Timeframes

CONSTRUCTION TIME: 10 MW PV plant: 4 months (produces 20 GWh/year)
50 MW PV plant: 7 months (100 GWh/year)
50 MW CSP plant: 36 months

USEFUL LIFE: Why IRP/EPRI considers 25 years for PV and 30 years for CSP?
Although tariff may be for 25 years in Spain (20 years in SA),
no doubt PV plant will continue working many years afterwards.

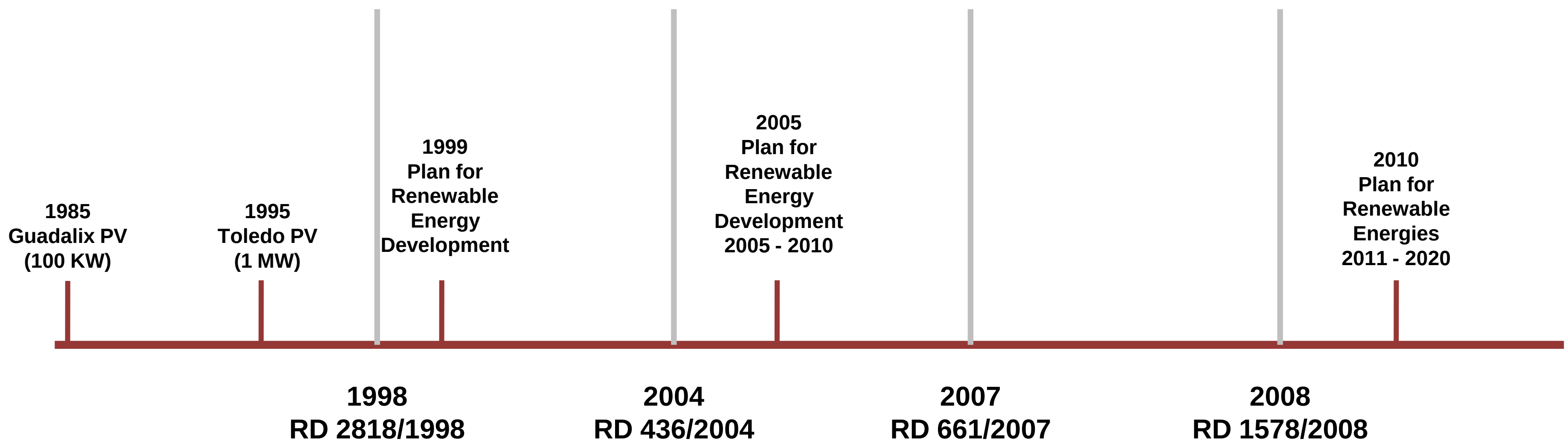
FACTS on PV – Scoring criteria

Cost

PV is now cheaper than CSP and will reduce even further due to competition. There are 489 PV manufacturers of cells, modules and thin film in 37 countries.

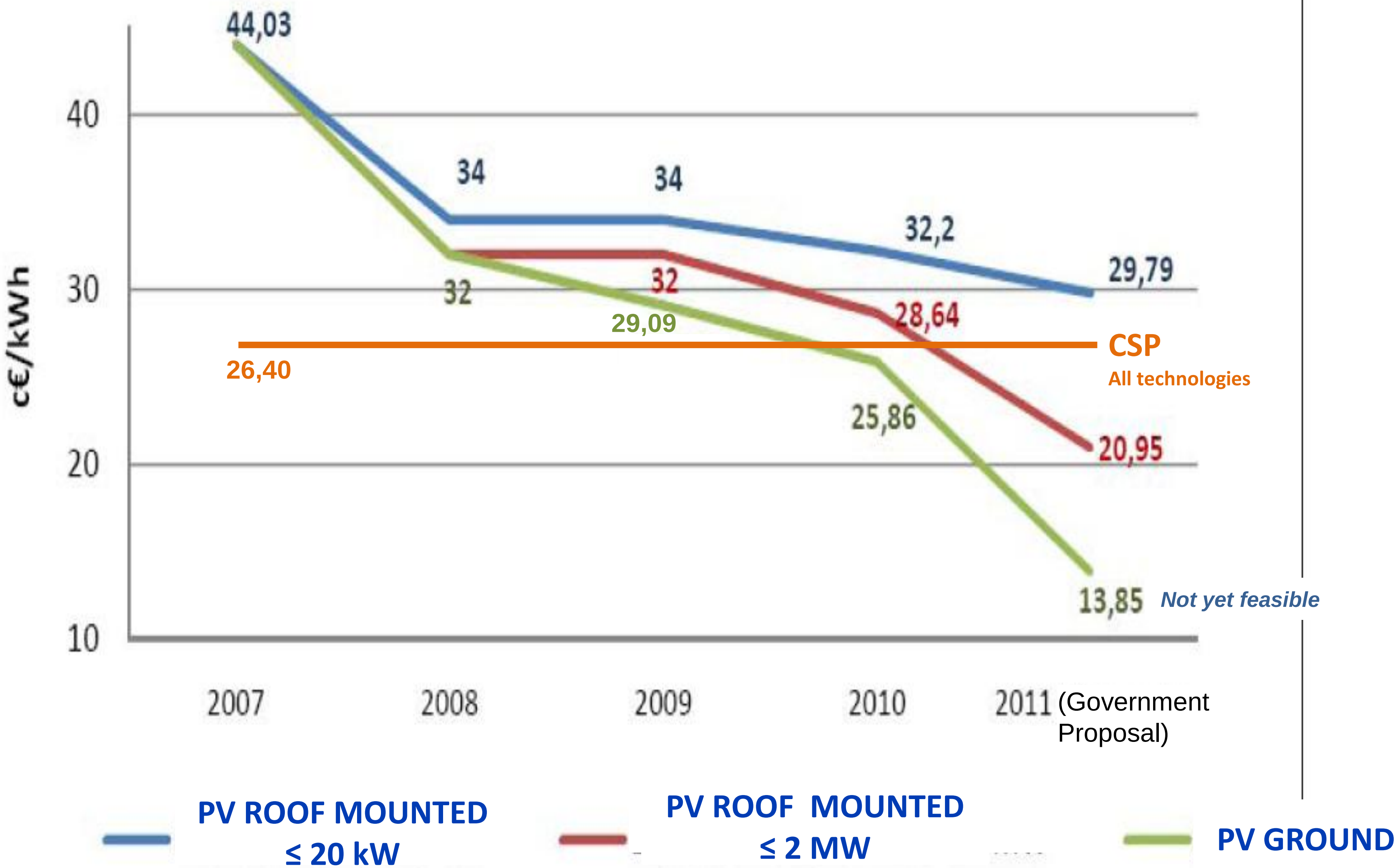
Spanish experience:

Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
Off Grid	Subsidies	**Off Grid**	Subsidies	**Off Grid**	Subsidies	**Off Grid**	Subsidies	**Off Grid**	Subsidies
Grid Connected	Unusual Sibsidies	**Grid Connected**	Subsidies + Feed in Tariff + Tax Exemption	**Grid Connected**	Feed in Tariff + Tax Exemption	**Grid Connected**	Feed in Tariff + Tax Exemption	**Grid Connected**	Feed in Tariff + Tax Exemption



VARIATIONS OF SOLAR TARIFFS IN SPAIN

TERM: 25 YEARS



FACTS on PV – Scoring criteria

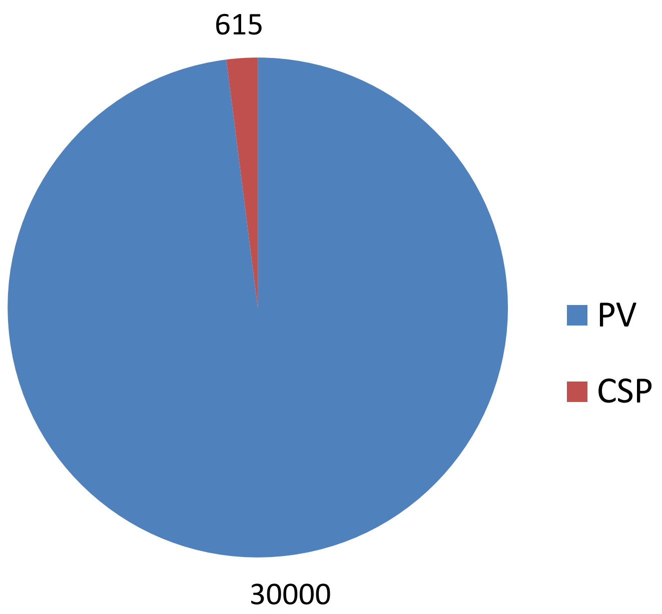
Risk or uncertainty

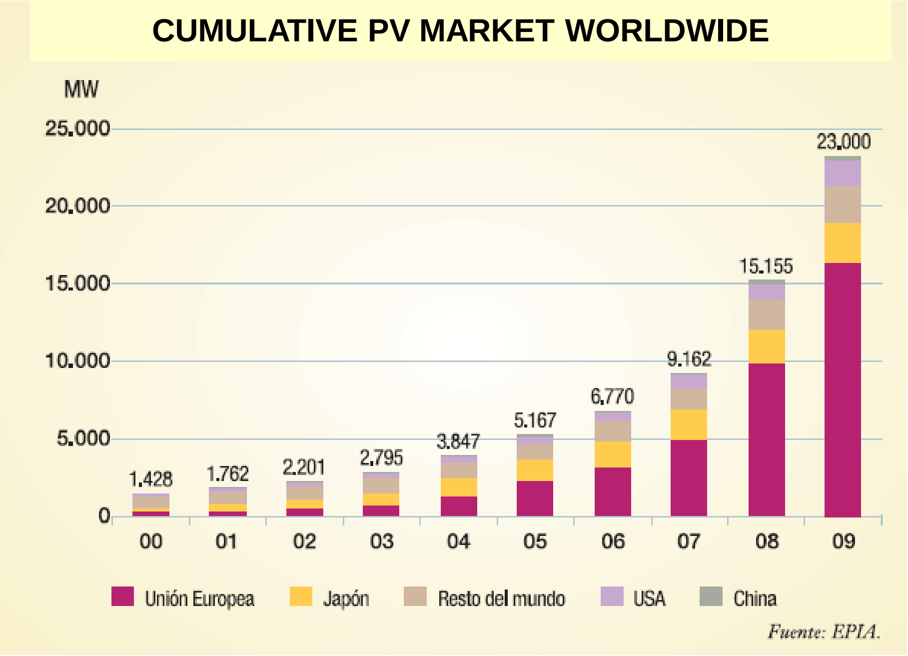
PV is fully proven technology, fully **bankable**, investors and banks are ready to finance IPPs. More than USD 100 Bn financed for PV solar plants worldwide.

We offer performance guarantees on our PV plants.

PV plants produce electricity during daily peak demand periods.

WORLDWIDE SOLAR CAPACITY INSTALLED (MW) 2010





FACTS on PV – Scoring criteria

Localisation potential

Spanish experience: large local PV industry created, multiple jobs.

- Module manufacturers: Isofotón, Atersa, Siliken.
- Inverter Manufacturers: Ingeteam
- Structures Manufacturers: HIASA (Gestamp Corporation)
- Construction Companies: Obratel (Gestamp Corporation), Acciona, Isolux
- Business Developers: Gestamp Solar.
- Engineering Firms: IDOM
- Sector Associations: AEF, ASIF, APPA

PV is the most complete Renewable Energy for South Africa in terms of local industrial content, skills and technology transfer. Around 70% could eventually be manufactured locally. Solar modules, inverters and trackers are already being produced in South Africa.

Regional Development

In the short term, South African companies will be able to vie for turn-key contracts for medium and large-scale PV farms in other African countries (Kenya, Botswana, Namibia, Egypt, etc.) and in the “DESERTEC” project in Sahara in the more distant future.

Proposed way forward

PV technology should have an allocation in the final IRP 2010 under REFIT with a **minimum of 250 MW**, without detriment of other solar technologies, wind, and/or landfill gas, i.e., minimum total Renewable Energy allocation of 1,275MW connected by the end of 2013.

The 250 MW PV allocation should allow for small, medium, and large-scale PV farms (from 1 MW to > 50 MW).

Let PV technology compete vs CSP (i.e. **use same FiT for CSP and PV**). We can use REFIT yearly review to update prices due to cost reductions.

Let the market evolve (experience in Spain: cost reduction, FiT decrease,...)

Examples of PV plants built by us

Fuente Álamo (36MW) - SPAIN

Calasparra (20MW) - SPAIN

Not just rooftops! These are utility-scale PV plants, showing PV modularity.
PV plant capacity just depends on land size and evacuation capacity available.

Thank you