



EUROPEAN SOLAR POWER IN AN EVOLVING MARKET

James Watson, CEO

St. Gallen 22 May



30 years of
Excellence & Leadership

Copyright picture: Solarimpulse

Who we are



GDF SUEZ



SUNPOWER



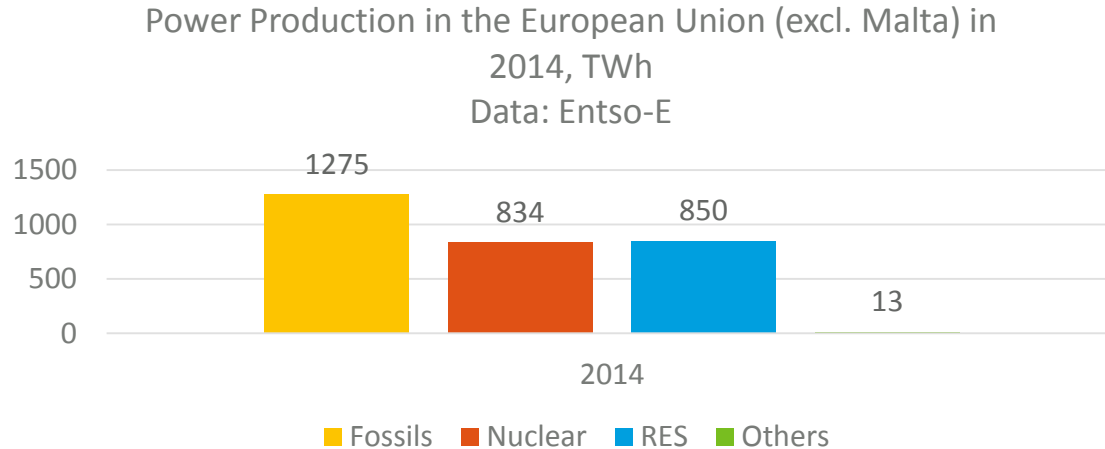
30 years of
Excellence & Leadership

Preparing tomorrow



Renewables, a major power player in Europe today

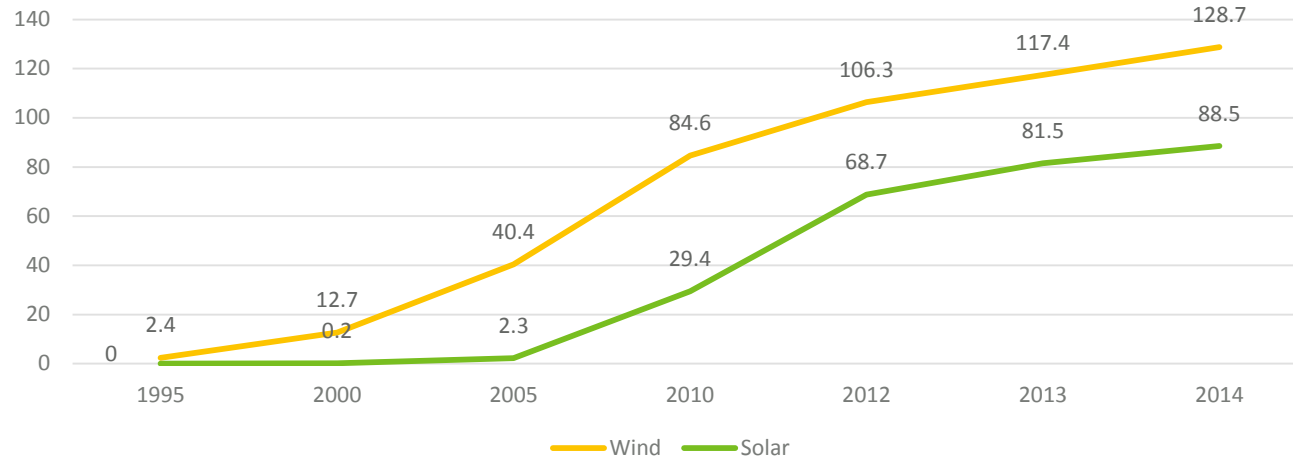
In 2014 and for the first time, RES produced more power than nuclear in Europe



RES growth mainly driven by solar and wind

Wind and solar installed capacity EU 28 (1990-2014), GW

Data: EU Energy figures (2014), EWEA and EPIA



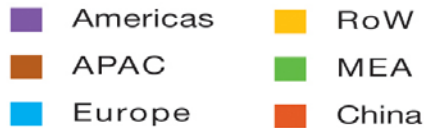
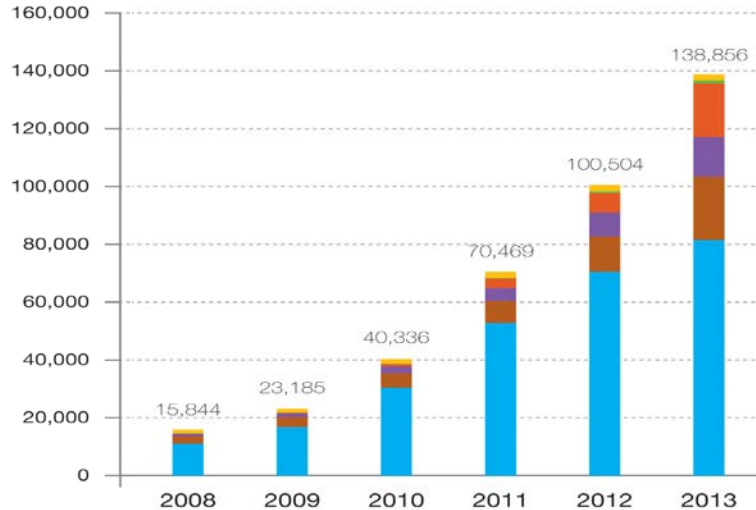
01

Status and outlook for solar power

“I think there is a world market for maybe five computers”

Attributed to Thomas Watson – CEO of IBM in 1953

Solar power is becoming mainstream globally



+40 GW

TOP 3 MARKETS IN 2014

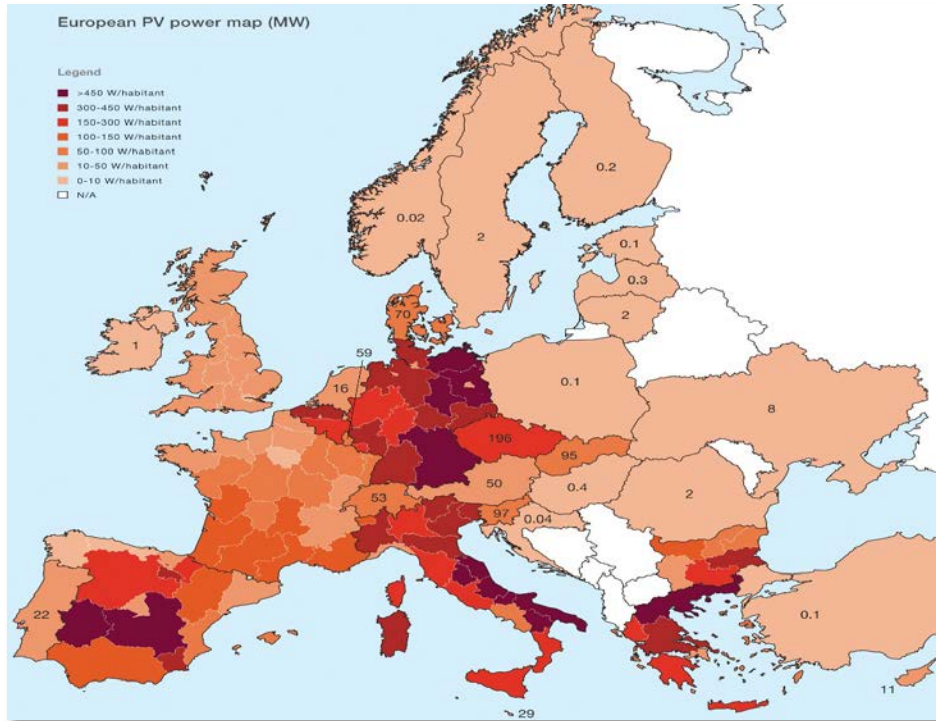
CHINA
JAPAN
USA

Europe: the cradle of solar power

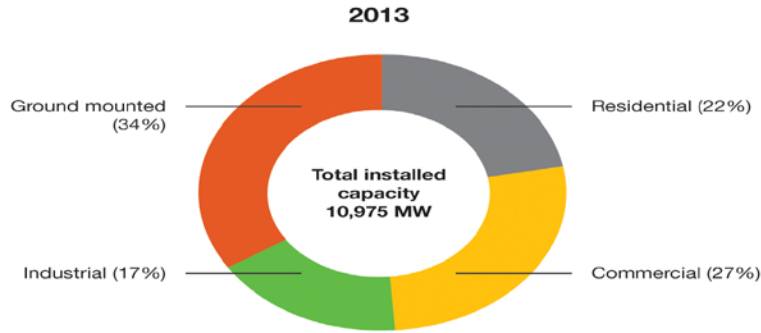
**90 GW
Installed**

3,3% Electricity

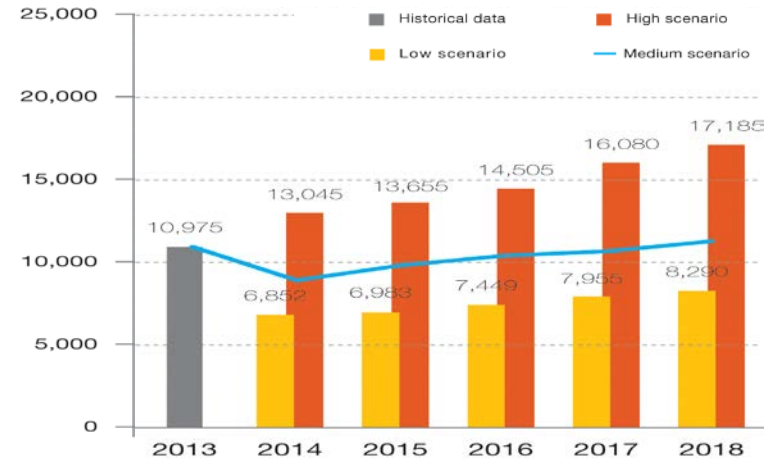
**4 MILLION
SOLAR SYSTEMS**



Solar power outlook in Europe



PV ROOFTOPS ≈ 66 % OF THE MARKET



**THE EU MARKET IS STABILISING AROUND 7 GW,
THIS TREND IS EXPECTED TO CONTINUE**

02

The European energy transition: survival of the fittest?

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change"

Charles Darwin – English Naturalist

Reality check: solar is a low cost, low carbon technology

2000
800 €/MWh

2014
120 €/MWh

2030
<70 €/MWh

180,000
MW

1721,000
MW

129 MW

And what it means for the consumer



Source: Sharp



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Excellence & Leadership

Unlock self-consumption potential

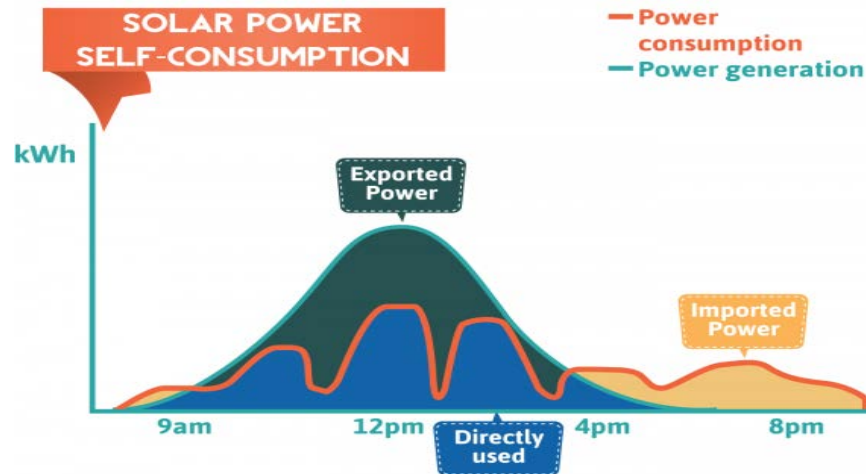
“OUR VISION IS OF AN ENERGY UNION WITH **CITIZENS** AT ITS CORE,

WHERE CITIZENS **TAKE OWNERSHIP** OF THE ENERGY TRANSITION

BENEFIT **FROM NEW TECHNOLOGIES** TO REDUCE THEIR BILLS

PARTICIPATE ACTIVELY **IN THE MARKET**”

The Energy Union, The European Commission, 25 February 2015



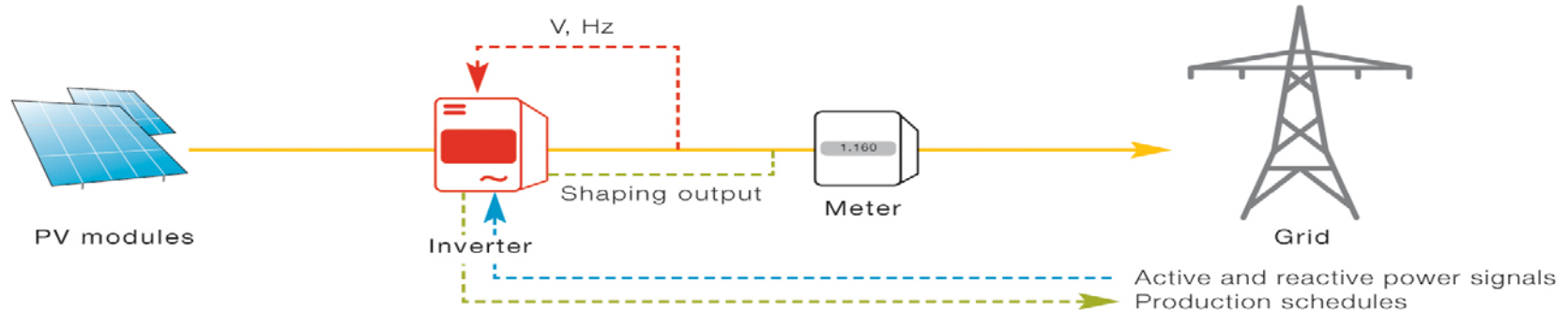
Source: SolarQuotes 2014

Adapt business models

*“The new energy world is about **customer orientation**, smart grids, **renewables**, **distributed generation**, and technical innovations”*

Johannes Teissen, CEO OF E.ON

Solar power, a smart troublemaker for grids?



**THE SECOND MOST DEPLOYED “SMART GRID TECHNOLOGY”
AFTER SMART METERS**

CHALLENGES TRANSFORMED IN OPPORTUNITIES

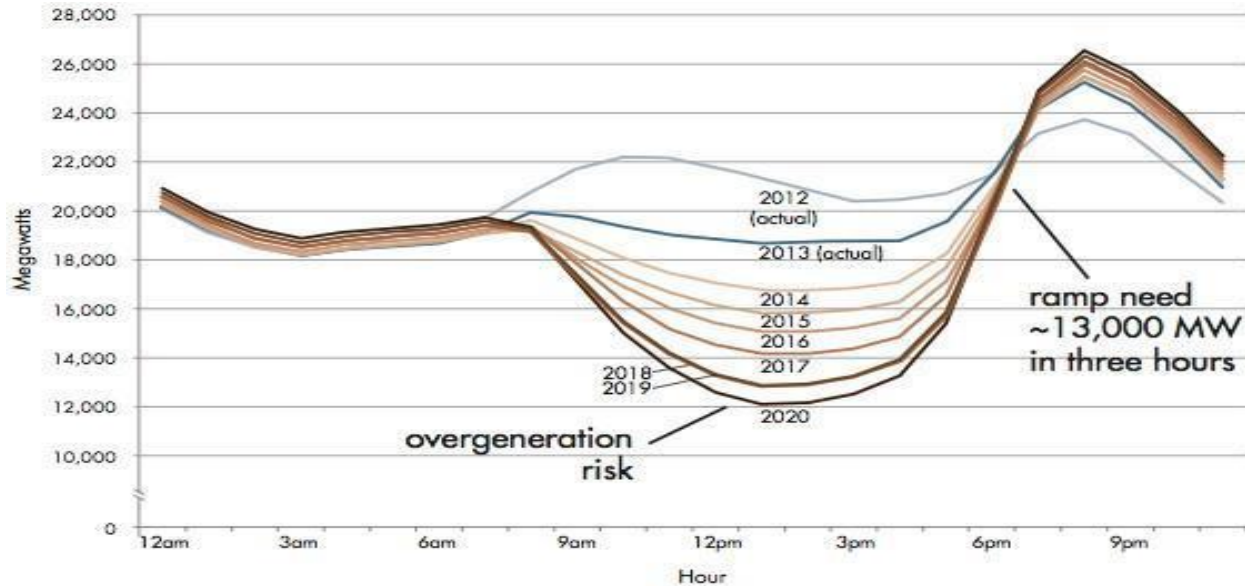
Ensure fair access to markets



'No sooner landed, in his den they found the Triple porter of the Stygian sound, Grim Cerberus, who soon began to rear His crested Snakes, and armed His bristling hair.'

Virgil (describing Cerberus)

What we need: a much more flexible energy system



Example California: residual load development with increasing shares of PV

PAVING THE WAY FOR THE ENERGY TRANSITION

A look at your future:
www.epia.org

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