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AREVA Renewable Business Group OVERVIEW

Credit Suisse Future of Energy Conference

June 2010

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Vice President Operations, AREVA Renewable North America

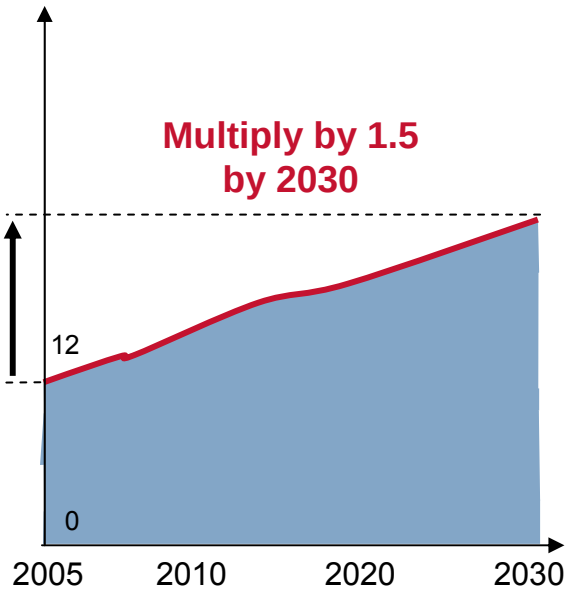
Agenda

- **Nuclear and Renewables are the only two CO_2-free solutions to world energy challenges**
- **AREVA Renewable Strategy**
- **AREVA Renewable Portfolio**
  - Bioenergy
  - Offshore Wind Power
  - Hydrogen and Energy Storage
  - Concentrated Solar Thermal
- **Conclusion**

The world energy sector is facing 3 major challenges

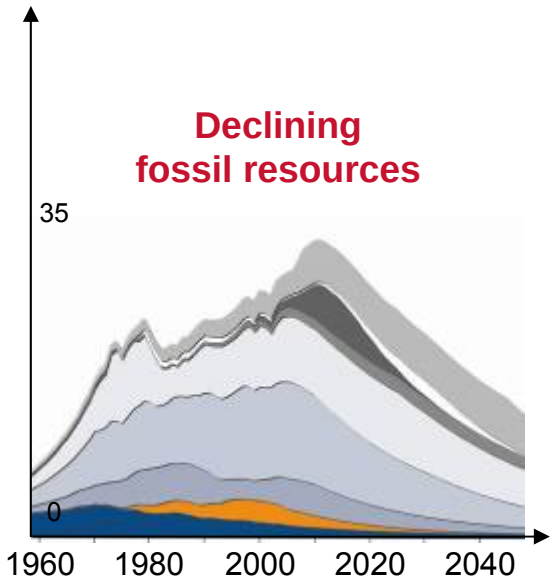
Energy demand

Energy demand (in Gtoe)



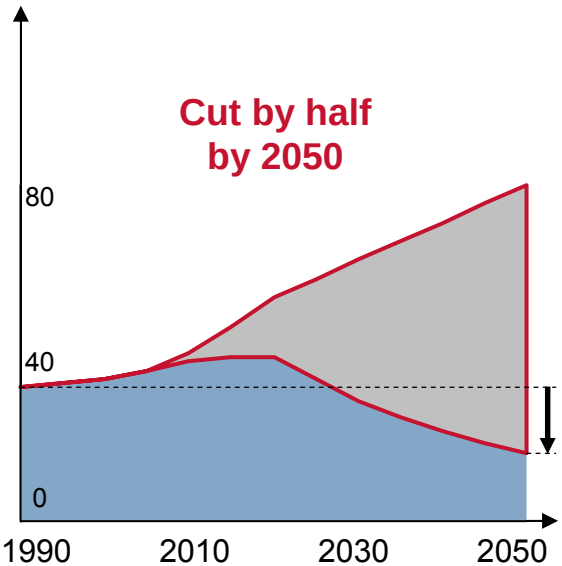
Oil & Gas availability

Oil and Gas production (Gboe/year)



GHG emissions

GtCO2eq/yrv



AREVA captures growth through its low carbon strategy aligned with world energy challenges

Energy demand x 1.5

+

Fossil resources ↘

+

CO_2 emissions / 2

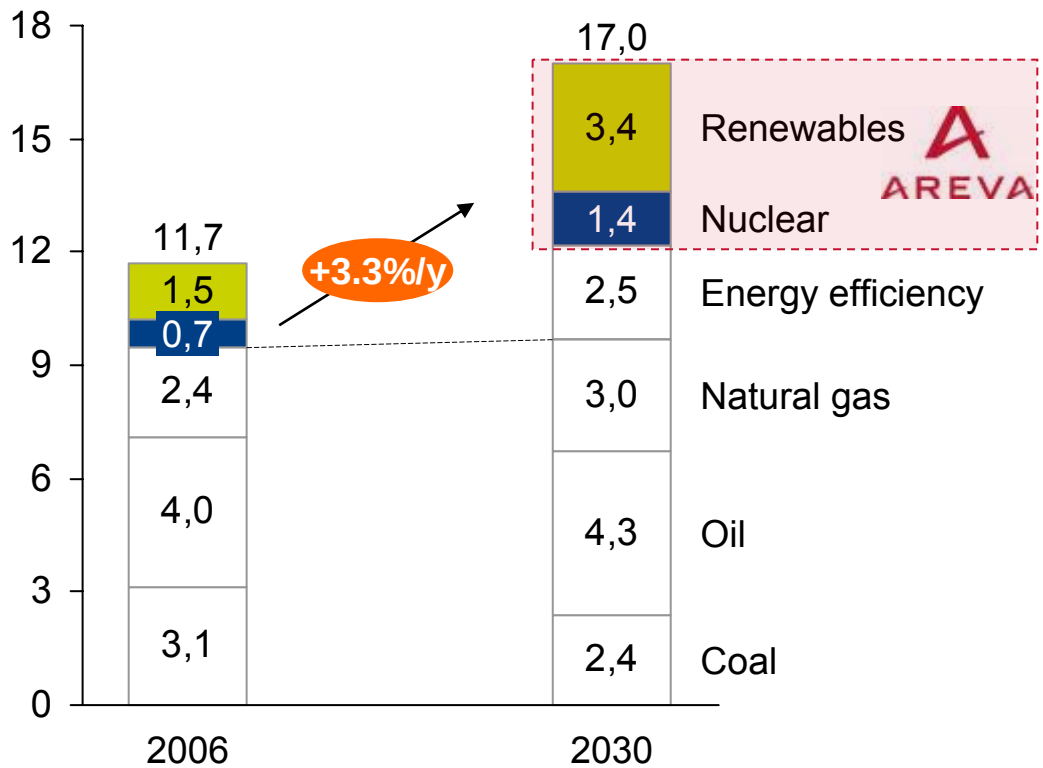
=

Our mission:

Enabling everyone to have access to even cleaner, safer and more economical energy

Global energy mix

Billions of metric tons of oil equivalent / year



Source: World Energy Outlook 2008 stabilization 450 ppm" scenario, AREVA

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AREVA is a global leader in solutions for CO_2-free power generation

Nuclear and Renewables key figures in 2009

€43.3Bn backlog

€8,529M sales

€647M op. income*

44,817 people

* Excluding OL3 provision of €550M recorded in H1 2009

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AREVA Renewable Strategy
Renewable Energies within AREVA

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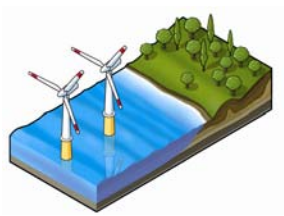
- Mining/Front End
- Reactors & Services
- Back End
- Renewables
- T&D*

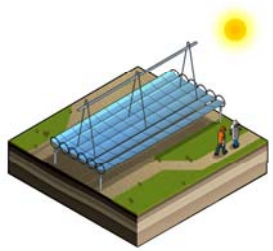
AREVA Renewable

Bioenergy



Offshore Wind

H2 & energy storage



Solar Thermal

*Activity in the process of divestment

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2012 Objectives

AREVA Renewable Strategy
AREVA business ambitions in Renewables

Bioenergy

- Global strategy involving partnerships and fleets of high capacity biomass power plants
- 500 MW of projects to be supplied between now and 2012

Offshore Wind Farm

- Supplying and installing 80 turbines with a 400 MW output
- Increasing production capacity from 100 to 200 turbines per annum

Concentrated Solar Thermal

- Acquisition of Ausra (February 2010)
- Proposing solar thermal power plants incorporating Ausra technology and AREVA's EPC expertise
- 100 MW of projects to be supplied between now and 2012

Energy Vector and Storage

- Marketing decentralised systems for storing and generating power with or without renewable energy sources
- CO_2 –free production of hydrogen for industrial applications

Backlog target for 2012

> €5bn

By building a CO_2-free energy solutions portfolio, AREVA emerges as one of the top three Renewables players in the world

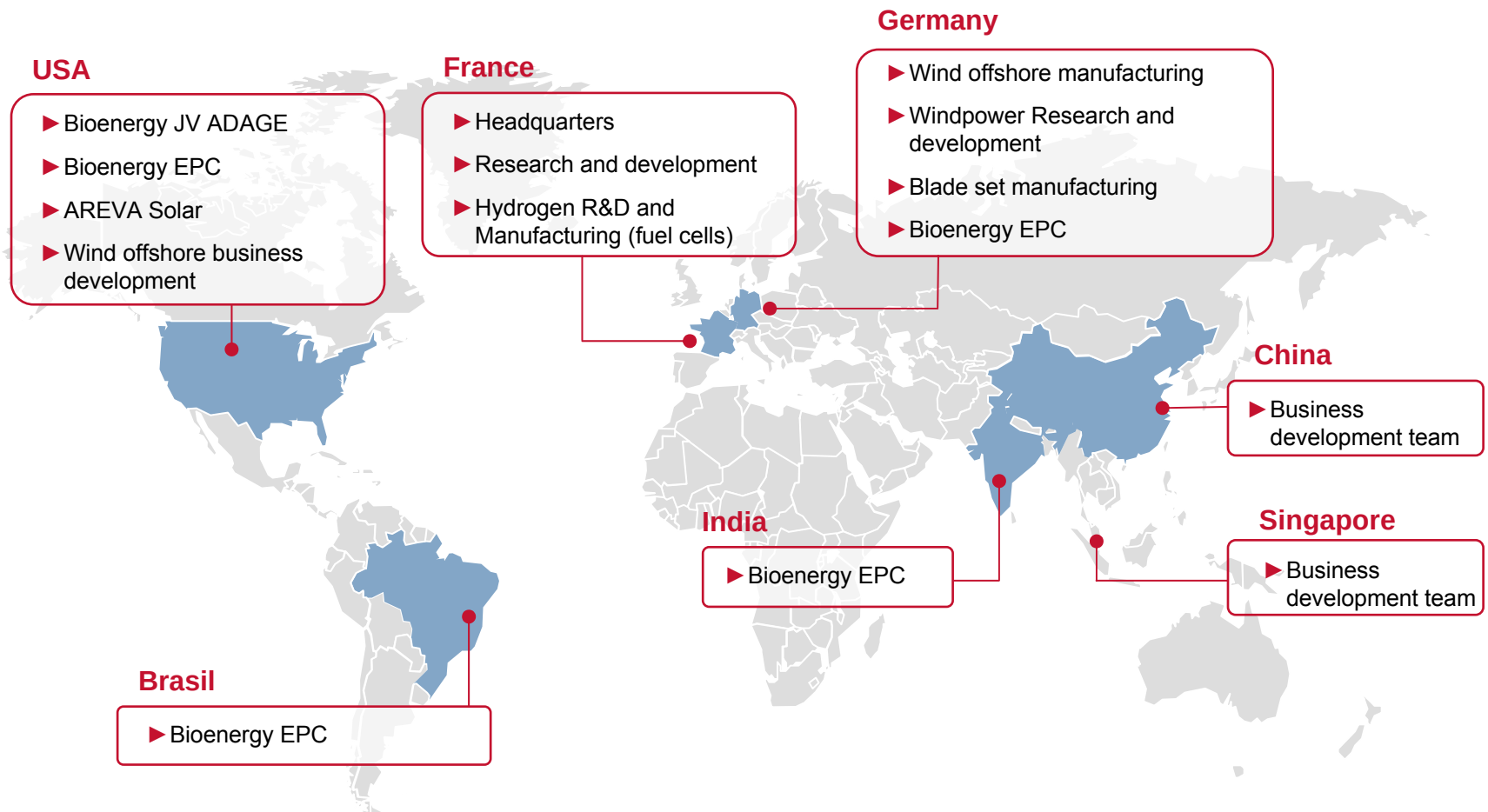
	Wind		Bioenergy	Solar		Geothermal	Hydrogen / storage
	Onshore	Offshore		CPV	CSP		
AREVA	✓	✓	✓	✓	✓		✓
SIEMENS	✓	✓	✓	✓	✓	✓	
GE Energy	✓	✓	✓	✓		✓	✓
MITSUBISHI HEAVY INDUSTRIES, LTD.	✓	✓	✓		✓	✓	✓
TOSHIBA				✓		✓	✓
HITACHI Inspire the Next				✓			✓

Our Vision: Leadership driven by Innovation

- **Create a worldwide reference for market leadership in the renewable energies portfolio to help AREVA group lead in CO_2-free solutions**

- **Lead with innovation:**
  - Deliver breakthrough Grid-parity solutions by 2012
    - Base-load like performance curve and cost by combining with H2 energy storage
    - Hybrid Renewables generation and co-generation with fossil fuel sources
    - Dispatchable Renewables fully integrated in Smart Grid
  - Step-change CSP efficiency & output by leveraging AREVA group technologies, like Heat Exchange and Cooling systems
  - Deliver next generation of hybrid Onshore & Offshore Turbines, leveraging AREVA blade technology

Geographical footprint aligned with market opportunities



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Bioenergy
Nearly 2,500MW installed worldwide

Germany

2 biogas
+ **5** mine gas
power plants for
57 MWe

USA

12 biomass
power plants for
600 MWe
in project

ADAGE

Thailand

2 Biomass
power plants for
20 MWe

Brazil

83 biomass
power plants for
2,296 MWe

India

3 biomass
+ **2** waste heat
power plants for
47 MWe

Chile

1 biomass
power plants for
10 MWe

98 Power plants
under operation or construction

2,430 MWe
total installed capacity

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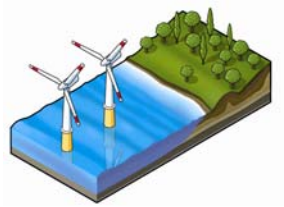
Bioenergy
An innovative business model to serve the US market: ADAGE

Anne Lauvergeon and Jim Rogers (Duke Energy CEO) with Bill Clinton for ADAGE launch

Duke Energy AREVA

ADAGE

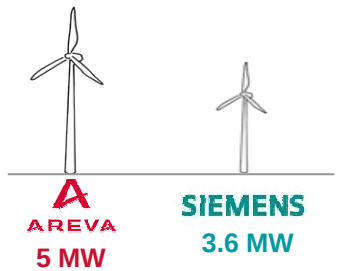
- **Leverages long-lasting relations between AREVA and Duke Energy in Nuclear power**
- **Plans to develop twelve 50 MW biopower energy plants in the continental U.S. for green electricity customers from wood waste**
- **Launched in Sept 2008 by AREVA and Duke Energy at the Clinton Global Initiative**
- **Combines the strength of the two major energy companies:**
  - AREVA will design and build biomass power plants
  - Duke Energy Generation Services (DEGS), a business unit of Duke Energy that owns and develops renewable energy, will manage operations



Offshore Wind Power
AREVA offers a unique Offshore value proposition

AREVA Wind M5000 turbine

- **The most powerful offshore turbine on the market (5 MW)**
  - A leading edge position on a market favourable to high power turbines



- **A wind turbine designed specifically for harsh sea conditions**
- **A light-weight structure, providing customer with**
  - A facilitated installation and maintenance
  - The best weight / power ratio available on the market
- **Offshore wind activities covering**
  - Design, manufacturing, assembly, and commissioning of the off-shore turbines
  - Maintenance services
  - Logistics
- **~€1,000M orders secured**

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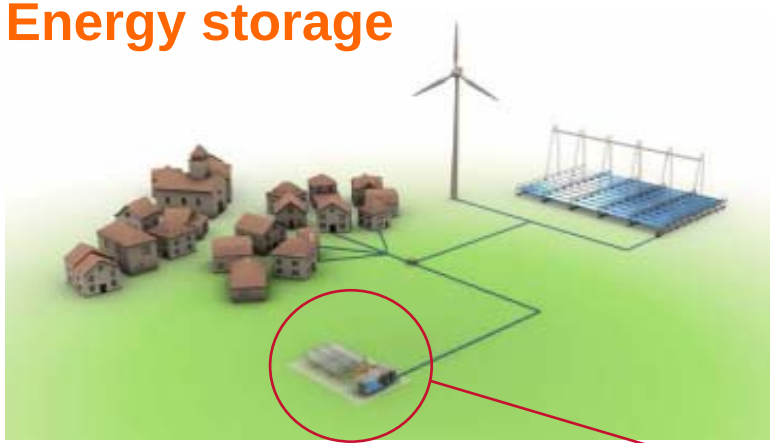
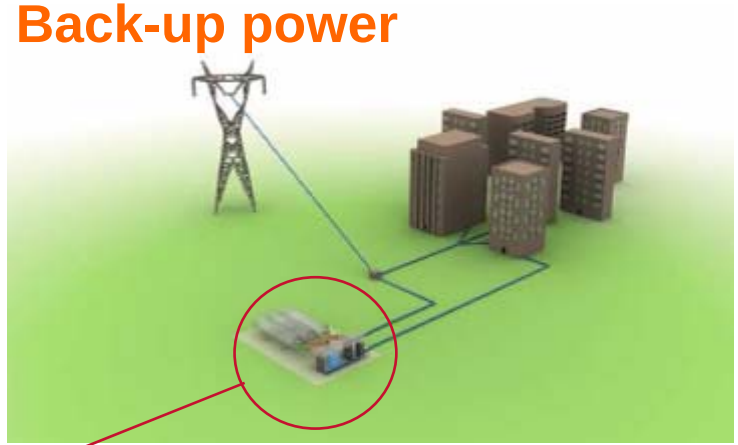
Hydrogen and Energy Storage
AREVA solution for back-up power and distributed energy storage: Greenergy Box

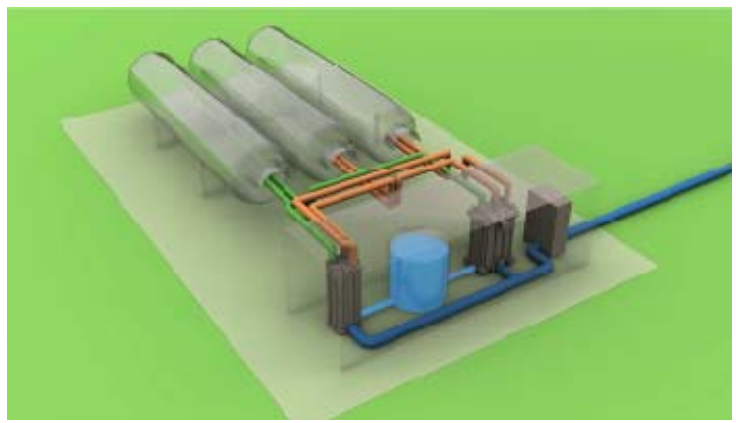
Energy storage



Back-up power



greenergy box



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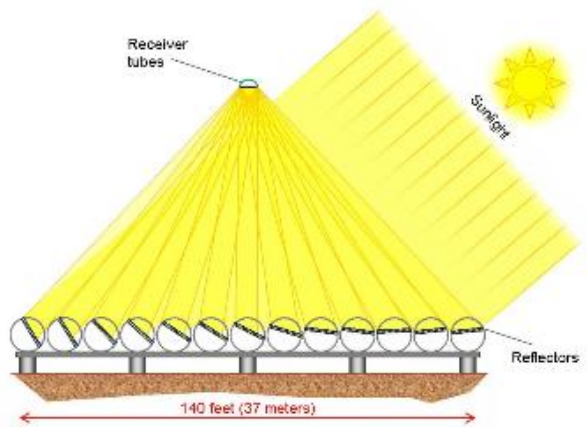
Concentrated Solar Thermal
Among all renewable technologies, Solar CSP has strongest synergies with nuclear

Solar CSP field

Steam production and management: AREVA core expertise

- **Among the different solar technologies, Solar CSP, as opposed to solar photovoltaic, is the closest to AREVA activities and expertise**
  - AREVA acquired CSP company, Ausra in April 2010, renamed AREVA Solar
  - Solar CSP technology is about high temperature steam production and management, which are core competences of the nuclear technical field
  - A similar customer base of utility customers, as opposed to solar PV which mainly targets individual homes

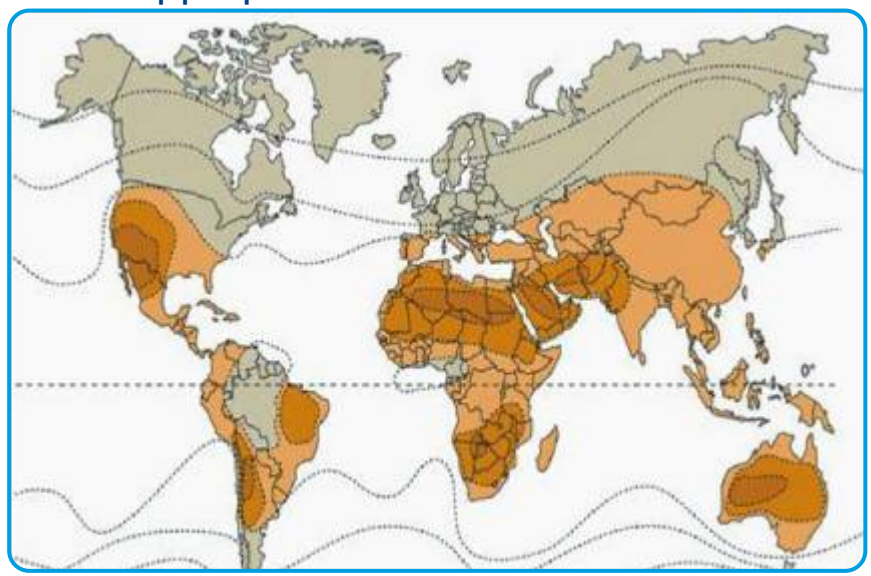
The principle of solar direct light concentration

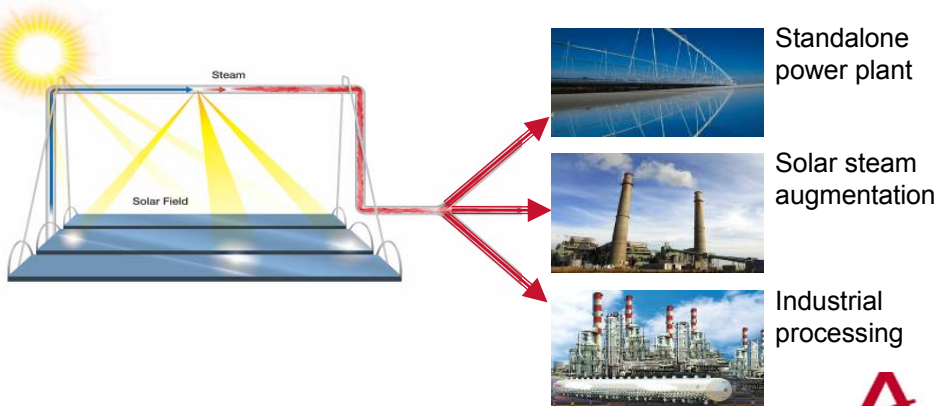


Concentrated Solar Power
A promising market

- **An emerging market with a >50% annual growth rate:**
  - 400 MW sales for Solar CSP equipment in 2007
  - Over 1,000 MW in construction in 2009
  - 9,000 MW sales expected in 2012
- **Current market in developed and sunny regions encouraged by public aid**
  - California, Spain, India, Middle East
- **Further potential in ...**
  - Mediterranean, Australia, Africa, India, China
- **Steam Generated from Concentrated Solar Power is used:**
  - To drive steam turbines or
  - To provide working steam to a variety of industrial applications

Most appropriate areas for Solar thermal





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Conclusion

Our key strengths

- Portfolio approach across wide range of technologies combined with global market reach
- Valuable assets and expertise
- Support of AREVA Group

Our key opportunities

- US market: Stimulus package
- Offshore Wind: NW Europe
- Solar: US, India, Australia, South Africa
- Biomass: Regional opportunities
- Hydrogen: Technologies enabling storage/hybrid renewable solutions
- With crisis receding, surging oil prices