China's Photovoltaic Industry
An Overview

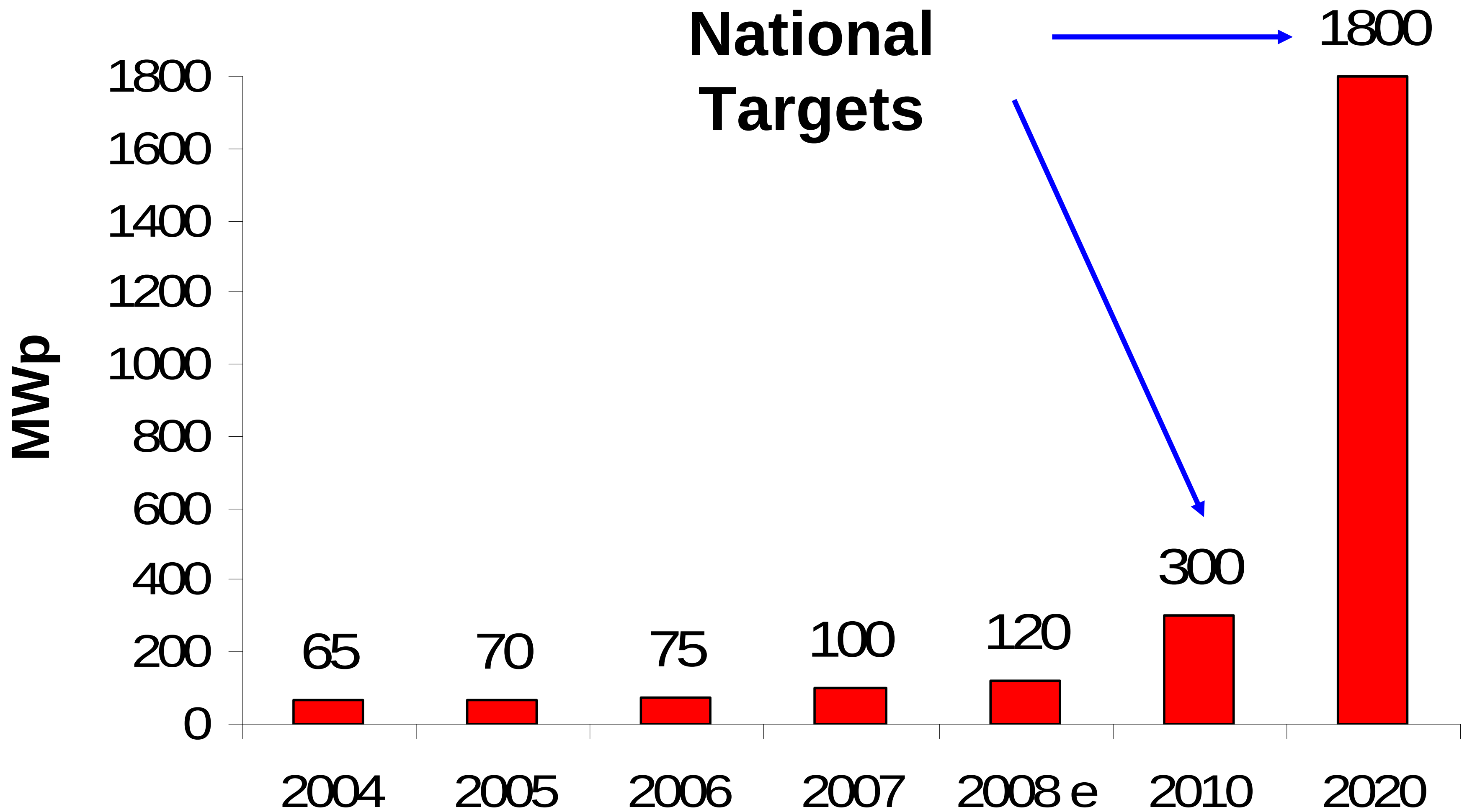
European Chamber of Commerce in China, August 6, 2008

EU-China Energy & Environment Programme
Frank Haugwitz

Political Framework Conditions

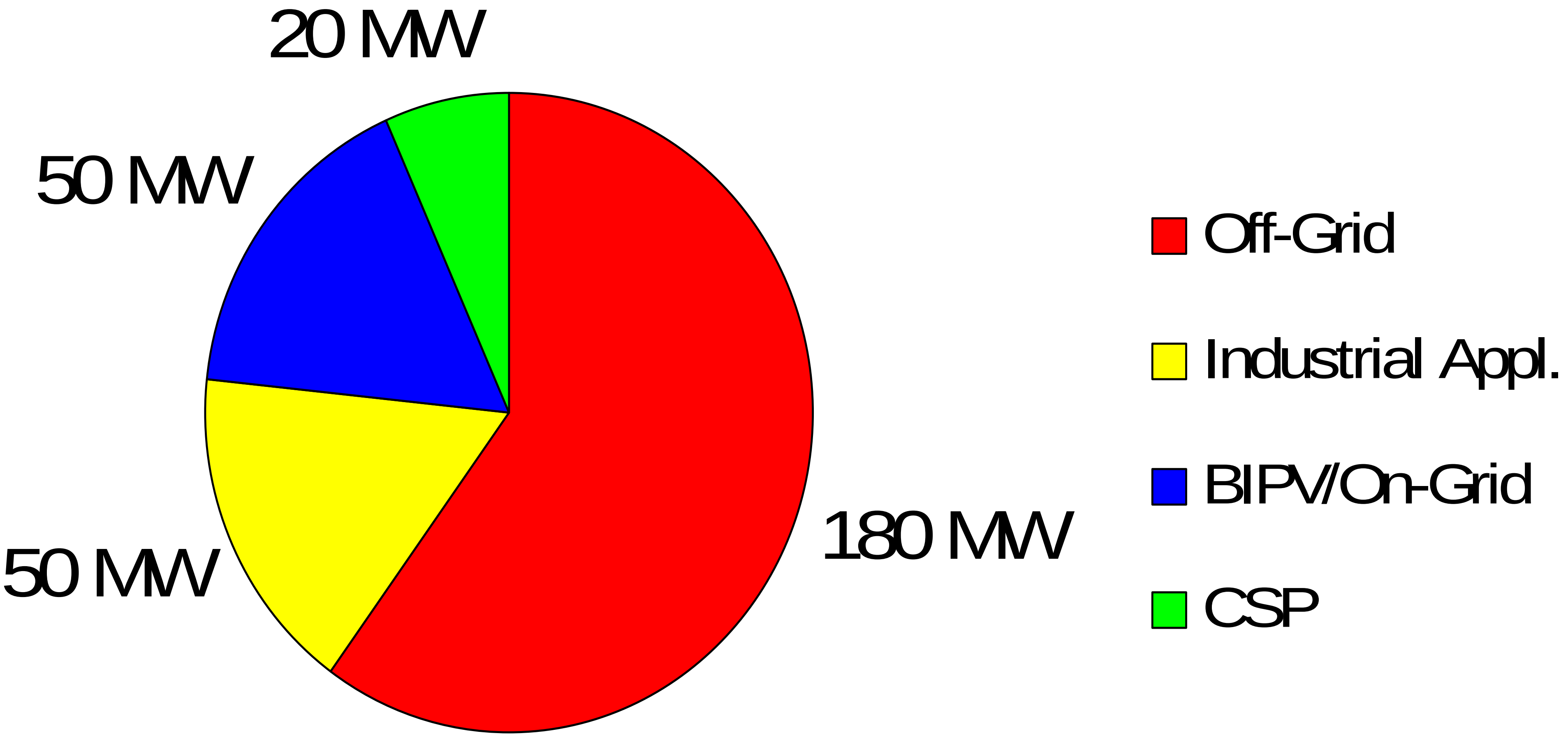
- Jan. 06 RE-Promotion Law came into effect
- PV is among the top priorities
- State Council established RE Development Fund
- Long-term Scientific & Technological Dev. Plan
- Sept. 07 Mid and Long-Term Targets announced

Market Development (2004-2020)



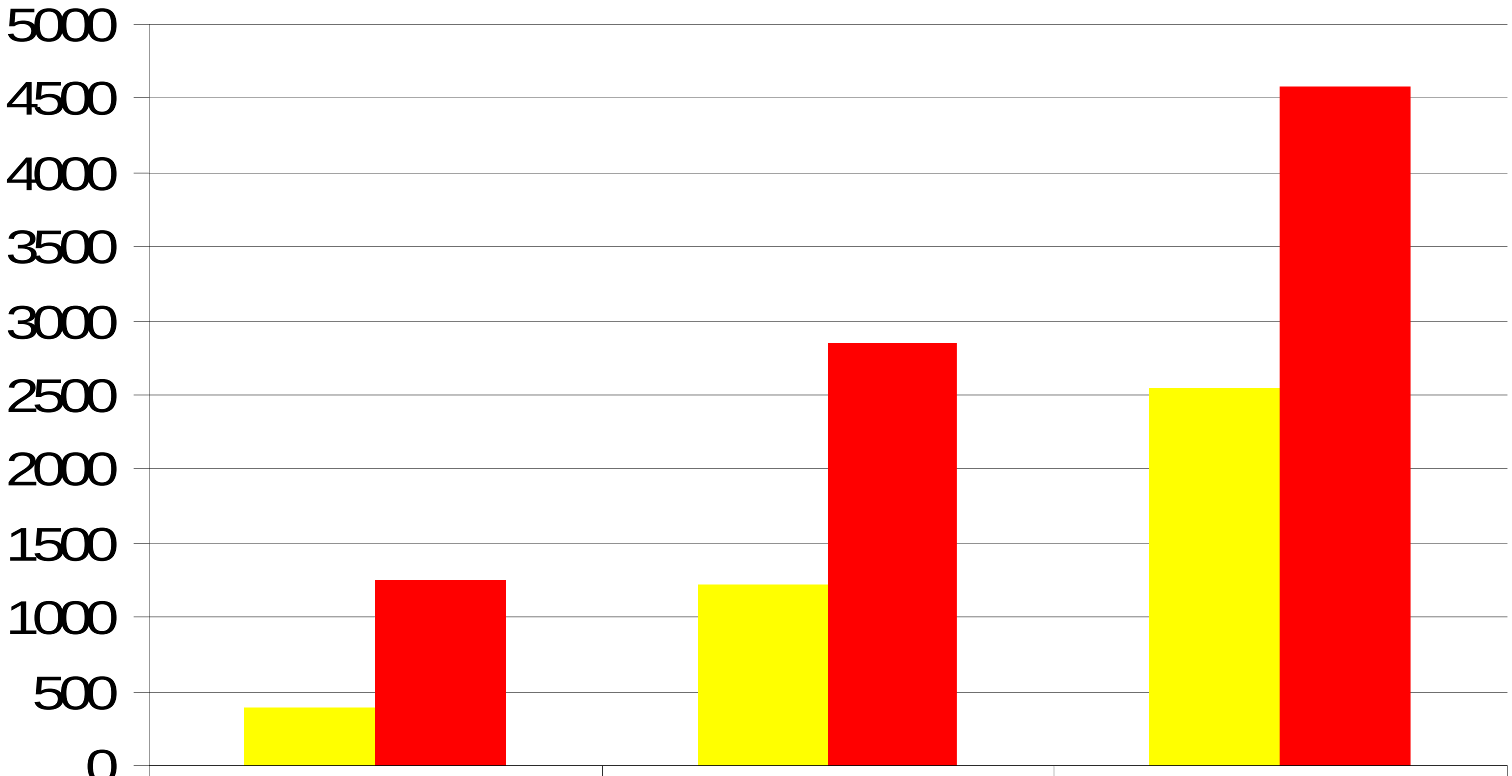
Source: China PV Industry Association, own estimate

PV – Market by 2010 (Est.)




Energy from the Desert

Cell & Module Prod.-Capacity (2005-2007)



	2005	2006	2007
Cells (MW)	388	1221	2549
Modules (MW)	1250	2850	4580

Source: ENF, own figures

Strengths vs. Weaknesses

Unskilled labour 1 €/hrs	Limited skilled labour
Lower Costs for Construction, Lease Land, and Electricity	Lack of Quality Consciousness
Income Tax Holidays / VAT Refund	80% of production technologies imported
OEM Manufacturer Ambitions	Lack of Transparency regarding Market Stakeholder
Willingness to constantly improve production process	Moderate govt. budget for R&D
Domestic prod. technologies could further reduce costs	Limited Poly-Silicon Production Expertise & Capacities

Summary & Outlook

Political Framework Conditions

- Targets, Programmes & Investments confirms the political commitment to promote the utilization of PV

Industrial Development

- Potential to be the Future Global Centre of Production
- Future domestic silicon supply will further enhance cost-competitiveness
- Concentrating Solar Power is gaining attention

Market Development

- In the near future moderate market demand expected
- Highly dependent on EU / US Markets in the foreseeable future

Contact Details

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China Renewable Energy Information

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Taiwan

Political Framework Conditions

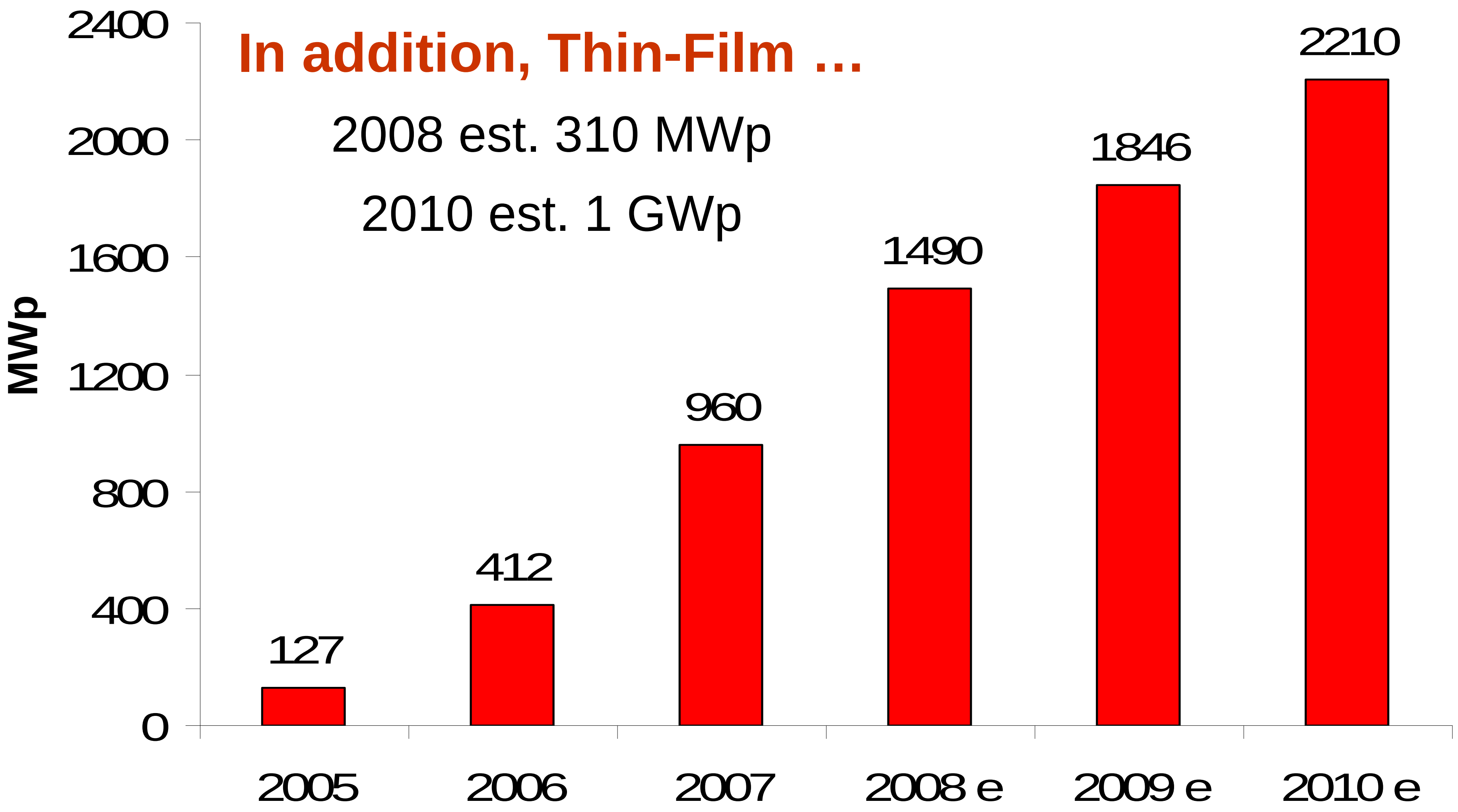
- Natl. Plan 10% of electricity consumption from RE by 2010
- 2010: Natl. Target is 31 MWp
- Residential Investor Programme (50% subsidy)
- Renewable Energy Development Act (FiT) under discussion

Status and Perspectives of Market Development

- 2007: 10 MWp, moderate annual growth rate
- 2015: 320 MWp, domestic HH Prog. under discussion
- By 2030 approx. 1/3 of population uses PV (4,5 GWp)

Source: PV Status Report 2007, JRC, Sun & Wind Energy, 4/2007

Cell-Prod. Capacity (2005-2010)



Sources: CLSA, Solarplaza, DigiTimes, own figures

Industry Development

Perspectives

- 2nd largest Semiconductor Industry (Flat panel, LED Display)
- Since 1997 est. € 550 Mio. invested (R&D, Industry)
- Annual Turnover est. € 3,2 Bill. by 2010
- Highly dependent on foreign poly-silicon supply
  $\approx$ 98% of wafers imported and 97% of cells exported
- Increasing Investment in Poly-Silicon Facilities (e.g. Taiwan Semiconductor (2009/5000 t/a), Big Sun, E-ton, Motech)
- Increasing Investment in China (Motech, Panjit, Wafer Works)

Source: TAITRA, ITRI, DigiTimes