MED-EMIP

Euro-Mediterranean
Energy Market Integration Project

Germany

France

Lebanon

Belgium

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Euro - Mediterranean
Energy Market Integration Project

The Mediterranean Solar Plan of the UfM Opportunities and Barriers

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MED-EMIP mandate in one sentence

MED-EMIP is expected to be the catalyst of the reinforcement of EU-MPC energy cooperation, with particular emphasis on energy security and sustainability, through enhanced dialogue and information exchange.

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State of Play of the Transmission Infrastructure

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The transmission system

Open “cuts”: Turkey-Syria

Open “cuts”: Libya and Egypt

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State of Play of Market

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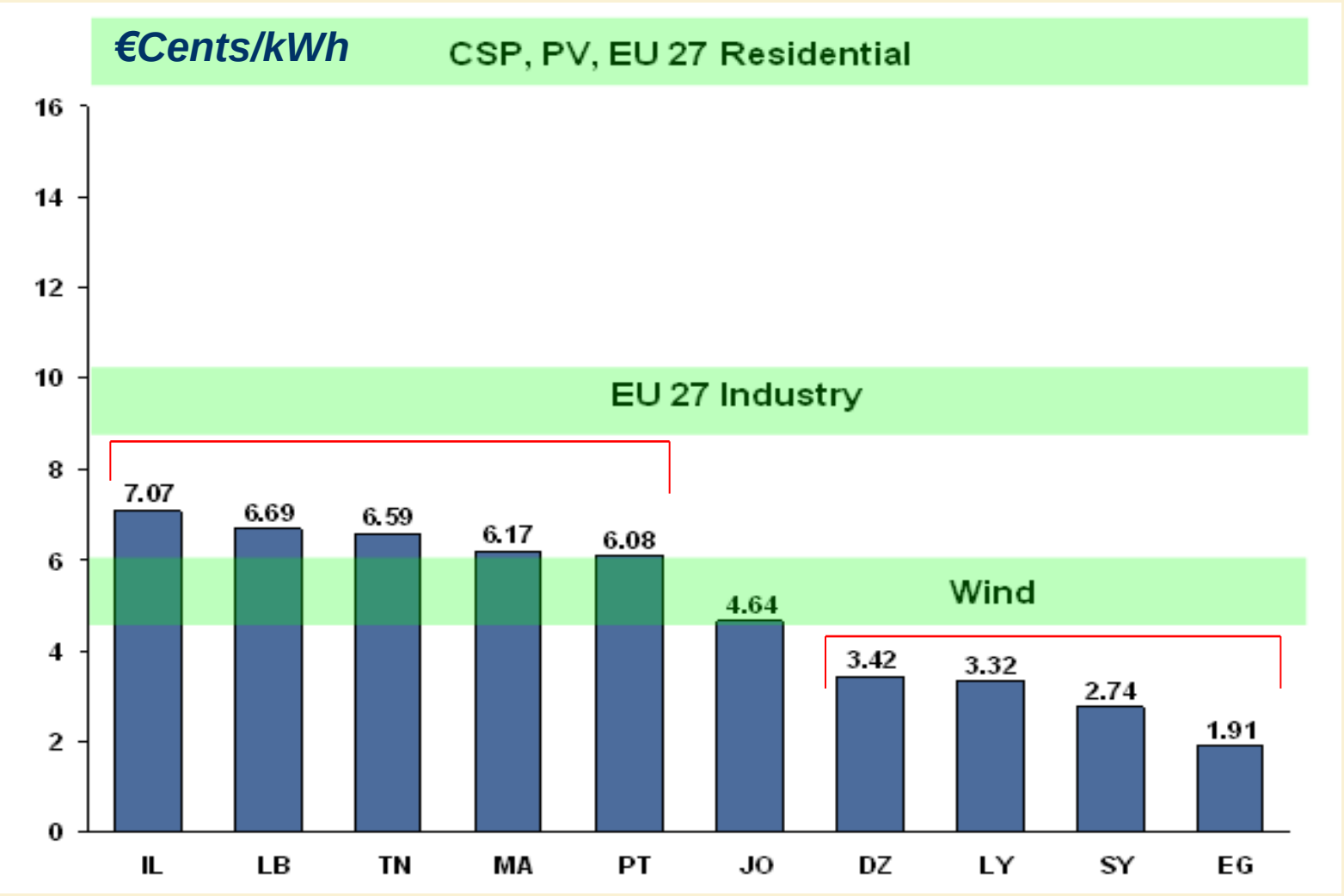
Tariff comparison: Export or home consumption ?



IS =Israel

LB=Lebanon

TN= Tunisia

MA= Morocco

PT= Palestine

JO= Jordan

DZ= Algeria

LY=Libya

SY=Syria

EG =Egypt

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“Twice the sun” competitive advantage of the “South”

800 kWh

N

Twice the sun

1600 kWh

S

20 €cent / kWh (full cost recovery plus same profit stays here)

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…and the story may continue as follows

Emerging solar power industry with export potential

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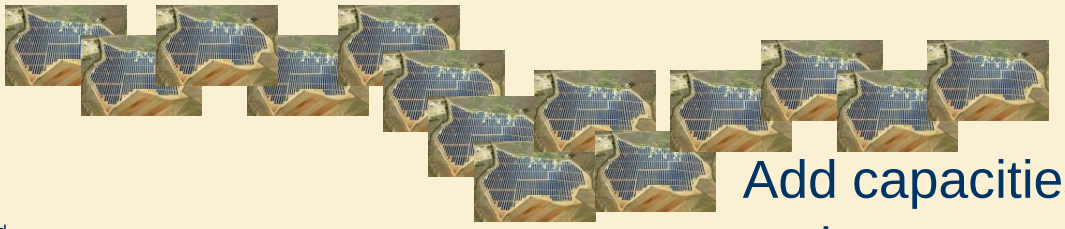
…and the story may continue further



Add capacities in the South and export part of it

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Two competing solar technologies PV and CSP

Photovoltaic (PV)

1 kW – 1000 MW

Concentrating Thermal Solar Power (CSP)

50 MW – 1000 MW

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Future price development predictions

PV: The technology has since 2009 and will even more in the future win the price battle with CSP based on generation costs per kWh electricity. It will even compete with wind power generation costs in 10 years.

However

CSP: Has the advantage of also generating electricity at night and to provide “firm” power. Furthermore the option to also thermally desalinate water is attractive for the region and required in any case to ensure an adequate water supply in the region in the future.

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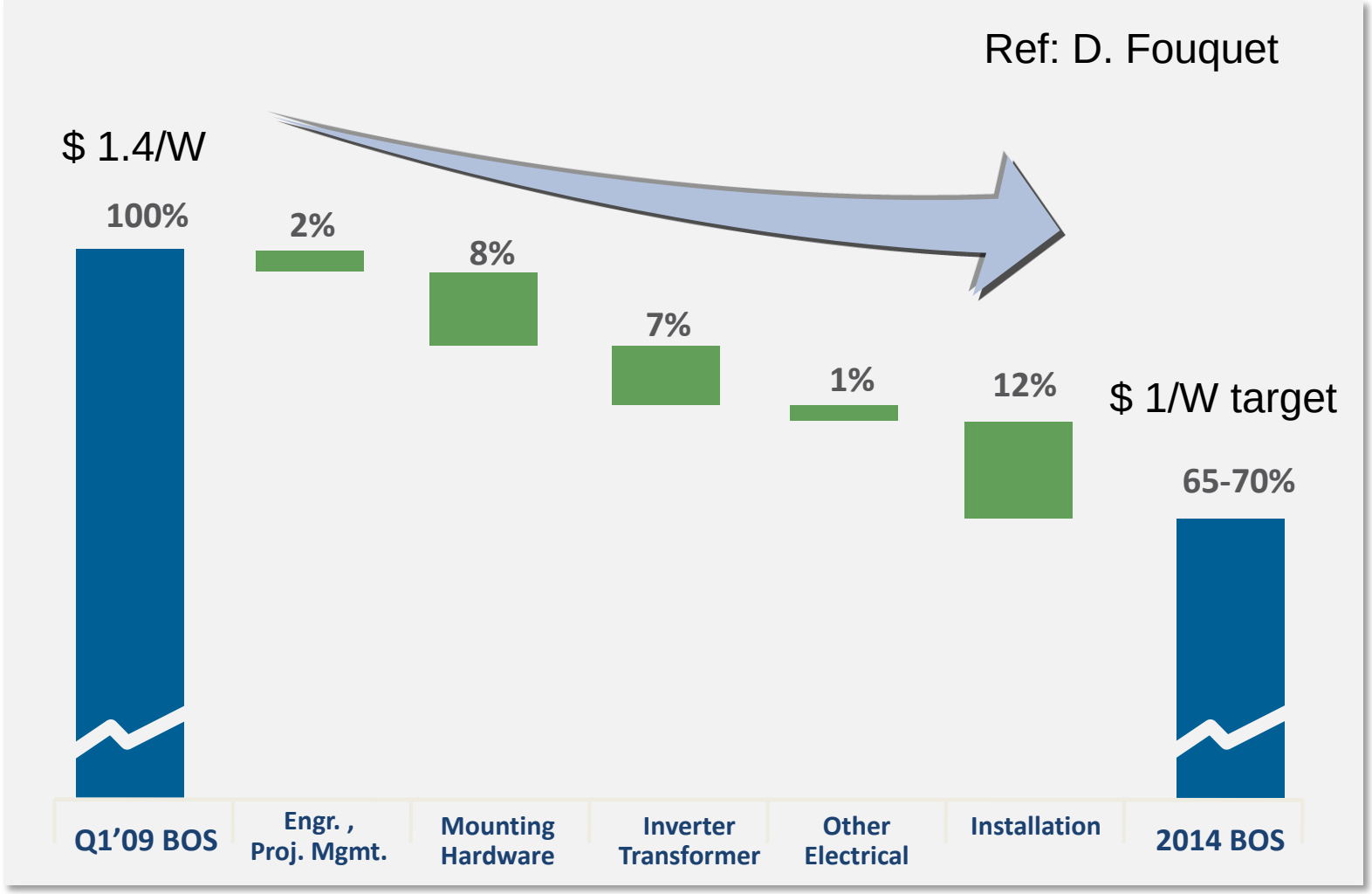
Balance of System* Cost Reduction Roadmap (CdTe PV)



* Includes standard EPC costs; excludes site-specific and development costs, as well as interest during construction

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One final observation

The 10 most southern countries Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, Israel, Palestinian Territories, Syria and Lebanon are as a GROUP deficient in electricity and this situation has worsened in the last 3 years.

There is little electricity available to exchange among the countries and any new fossil fuel or renewable energy based capacity addition is mostly needed for home consumption in most countries.

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Conclusions and outlook

- A modest 5000 MW solar power capacity addition over 10 -15 years in the South with its more favorable sunshine condition is realistic and would cost a minimum of € 20 billion.

- To attract financing and lower the risk for private investors as well as put some confidence into the market a “feed-in-tariff” or a variable incremental cost coverage reimbursement scheme would be helpful in the host country.

- If export is an option the importing EU country could negotiate import of solar electricity at a special rate under the so far not tested provisions of the Article 9 of the RES directive of the EU.

- The basic policy issue in the South, West, East and the North is: How much more is a consumer willing to pay for it .

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"I have never learned anything from a person who has agreed with me

THE END

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