



## **PV Crystalox Solar**

### **2009 Preliminary Results**

**25 March 2010**

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## **Contents**

2009 Overview

Financials

Operational Review

Global PV Markets

Strategy

Outlook

Q&A

## *Resilient performance despite challenging trading conditions*

### **Market Overview**

- Oversupply in all parts of the value chain led to strong downwards pressure on prices
  - 2009 module installations at 6.43GW up 6% from 2008
  - Global module prices fell 40% during 2009
  - More positive outlook for 2010

### **Key Metrics**

- Wafer shipments
  - Volume up 4% to 239MW (2008: 230MW)
  - Average pricing down 17% to €0.99/W (2008: €1.19/W)
- Revenues and EBIT in line with expectations
- Margins impacted
  - Positive: Cost reductions and yield improvements
  - Negative: Pricing pressure, Bitterfeld start up costs and negative currency impact
- Bitterfeld polysilicon production commenced
- Market dynamics and contracted volumes support expansion of production facilities





## Financials

- Revenues of €237.3m (2008: €274.1m)
- EBIT excluding currency impact and Bitterfeld costs was €67.4m (2008: €106.5 m)
  - Currency loss of €8.3m
  - Bitterfeld costs of €17.4m (net loss)
- Reported EBIT €41.7m (2008: €142.8m)
- Free cash flow of €3.3 million (2008: €22.9m)
- Net cash of €70.2m at 31 December 2009 (31 Dec 2008: €81.1m)
- Final dividend of €0.02 per share (2008: €0.04)

# Financial Highlights

(€000)	H1 2009	H2 2009	31-Dec-09	31-Dec-08	Change
<b>Total Revenues</b>	<b>121,594</b>	<b>115,726</b>	<b>237,320</b>	<b>274,095</b>	<b>-13.4%</b>
EBIT*	41,839	25,597	67,436	106,466	-36.7%
Currency (loss)/gain	-13,694	5,397	-8,297	36,315	-122.8%
Bitterfeld costs	-6,609	-10,790	-17,399	–	–
EBIT	21,536	20,204	41,740	142,781	-70.8%
Earnings	16,396	13,163	29,559	103,194	-71.4%
Earnings per share (euro cents)	4.0	3.2	7.2	25.2	-71.4%
Cash flow from operating activities	8,618	-5,098	3,521	107,828	-96.7%
Net Cash balance	77,508	70,150	70,150	81,117	-13.5%

\* Excluding currency impact and Bitterfeld

## Key financial – Summary Income Statement

### Income statement (€000) Year to 31 December 2009

(€000)	31-Dec-09	31-Dec-08	Change
<b>Total Revenues</b>	<b>237,320</b>	<b>274,095</b>	<b>-13.4%</b>
EBIT exc Bitterfeld and currency impact	67,436	106,466	-36.7%
Bitterfeld loss	-17,399	–	–
EBIT excluding currency (losses)/gains	50,037	106,466	-53.0%
Currency (losses)/gains	-8,297	36,315	-122.8%
Earnings Before Interest & Tax (EBIT)	41,740	142,781	-70.8%
<b>Net interest income</b>	<b>776</b>	<b>4,442</b>	<b>-82.5%</b>
<b>Earnings before taxation</b>	<b>42,516</b>	<b>147,223</b>	<b>-71.1%</b>
<b>Taxation</b>	<b>-12,957</b>	<b>-44,029</b>	<b>-70.6%</b>
<b>NET INCOME</b>	<b>29,559</b>	<b>103,194</b>	<b>-71.4%</b>
Basic Earnings per share (Euro cents)	7.2	25.1	-71.3%



## Summary consolidated balance sheet

(€m)	31-Dec-09	31-Dec-08	31-Dec-07
Current Assets	216.1	234.3	243.9
Non-current Assets	151.5	139.6	42.4
<b>Total Assets</b>	<b>367.6</b>	<b>373.9</b>	<b>286.3</b>
Current Liabilities	67.0	86.3	77.6
Non-current Liabilities	40.5	42.9	17.2
Share Cap & Non-dist Reserves	80.7	79.7	78.7
Profit & Loss Reserves	179.4	165.0	112.8
<b>Total Liabilities and Shareholder Equity</b>	<b>367.6</b>	<b>373.9</b>	<b>286.3</b>

## Summary cash flow & net cash/(debt) analysis

(€m)	31-Dec-09	31-Dec-08	31-Dec-07
Adjusted earnings before tax	45.3	143.0	71.4
Tax paid	-40.4	-32.7	-21.4
Changes in working capital	-2.8	7.6	11.6
Net cash from investing activities	1.2	-79.8	-25.6
<b>Free cash flow*</b>	<b>3.3</b>	<b>22.9</b>	<b>36.0</b>
Loans	15.1	-27.5	-13.4
Dividends/IPO proceeds etc	-24.6	-18.4	71.2
Net interest	0.8	4.4	3.3
Effect of foreign exchange	8.9	-32.4	-10.7
<b>Net cash flows from financing activities</b>	<b>0.3</b>	<b>-73.9</b>	<b>-50.3</b>
<b>Net change in cash in period</b>	<b>3.6</b>	<b>-51.1</b>	<b>86.4</b>
Cash and equivalents, start of year	96.8	147.9	61.5
Cash and equivalents, end of period	100.4	96.8	147.9
Group loans	-30.3	-15.7	-39.6
<b>Cash / (net debt)</b>	<b>70.2</b>	<b>81.1</b>	<b>108.3</b>

\* Free cash flow defined as net cash from operating activities less cash used in investing less interest received

## Currency (Loss)/Gains

(€m)	31-Dec-09	31-Dec-08
Revaluation of cash balances	-2.7	16.9
Revaluation of Group loans	-1.3	11.3
Revaluation of Group advances	-1.9	-
Debtor/creditor revaluation	-2.8	0.4
Revaluation of suppliers/customers deposits	-0.4	7.7
<b>Total currency (loss)/gain</b>	<b>-8.3</b>	<b>36.3</b>

## Drivers of EPS

<b>euro cents</b>	<b>H1 2009</b>	<b>H2 2009</b>	<b>31-Dec-09</b>	<b>31-Dec-08</b>
Performance	10.2	6.2	16.4	26.0
Currency (loss)/gain	-3.4	1.4	2.0	8.9
Bitterfeld Start-up	-1.6	-2.6	-4.2	
Net Finance Costs	0.2	0.0	0.2	1.1
Taxation	-1.4	-1.8	-3.2	-10.8
<b>EPS (Basic)</b>	<b>4.0</b>	<b>3.2</b>	<b>7.2</b>	<b>25.2</b>
<b>EPS (Adjusted for currency and Bitterfeld)</b>	<b>7.5</b>	<b>4.0</b>	<b>8.7</b>	<b>16.3</b>
<b>Basic shares average (000s)</b>	<b>409,637</b>	<b>409,637</b>	<b>409,637</b>	<b>409,637</b>





## **Operational review**

- **Sales volumes up by 4% to 239MW**
  - Strong growth in H2
- **Strong pressure on average wafer price**
  - H1 €1.22/W
  - H2 €0.83/W
- **Strengthening of Japanese Yen**
  - Impact on pricing and costs
- **Focus on major PV companies**
  - 86% of revenues to customers in Japan, Germany and China
  - Our top 5 customers accounted for 80% of sales
- **Ingot production capacity now at 400MW**
  - Adjusted for improved yields
- **Polysilicon manufacturing facility in Bitterfeld**
  - Production commenced in July 2009
  - Quality targets reached in August
  - On track for 1800MT in 2011

- **Polysilicon supply**
  - Average contract price €37/kg
  - Bitterfeld fully loaded target price €39/kg in 2010 and €27/kg in 2011
- **Long standing relationships with major PV companies**
  - They have global reach to access markets as they develop
- **Internal ingot production technology**
  - Lower capital cost
- **Well positioned on cost**
  - Yields enhanced across production chain
  - Improved procurement of crucibles, wire, slurry etc
  - 10–15% reduction in wafer production cost expected in 2010



## Silicon production at Bitterfeld



## Silicon production at Bitterfeld



- Production ramp-up started in July with low volume to optimize process and quality.
- 150 MT produced in 2009 , quality as good as standard material.
- Plant meets target design parameter for safety, throughput and quality.

# Silicon production at Bitterfeld

- Fully-functioning fence-to-fence operation established with Evonik: High-purity chlorosilanes delivered and HCl sent back by pipeline.
- High capacity utilization established for chlorosilanes and process gases distillation and separation.
- Key equipment for conversion of  $\text{SiCl}_4$  to  $\text{SiHCl}_3$  works well and meets targets for conversion rate and energy consumption.
- High safety record of plant operation established.



- Stable silicon deposition process established that meets design parameters for deposition rate, energy consumption and purity. Continuous process optimization is carried out.
- Average of 65 MT per month produced in the first two month 2010, expected to more than double by end of the year.
- 1800 MT target for 2011 remains unchanged
- High quality of silicon established with our customers. Wafers produced from Bitterfeld silicon performed as well as wafers from high-purity standard material
- Our target fully loaded production cost for 2011 remains at €26-27/kg





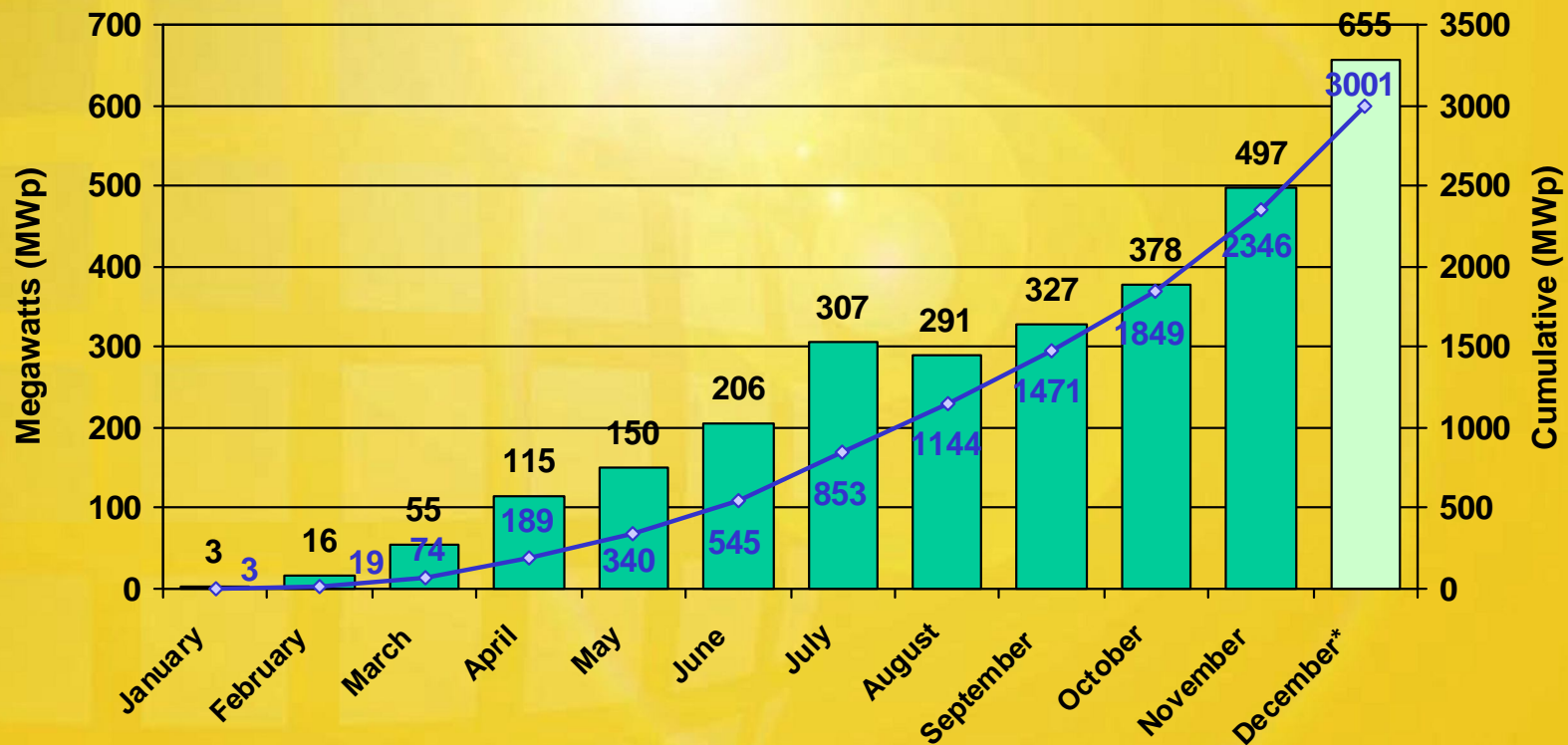
## Global PV Markets



- H1 characterised by global economic downturn and financial crisis with reduced customer demand for small PV roof-top systems and difficulties in financing large scale (multi-MW) systems
- H2 saw large surge in installations especially in Germany stimulated by lower pricing and in anticipation of reduction in FIT scheduled for January 2010
- Estimates for installed systems world-wide for 2009 are 6.43GW according to Solarbuzz up 6% from 2008
- Lower demand and increased production capacities in all steps of the value chain resulted in strong pressure on PV-system prices

# 2009 PV Installations Germany

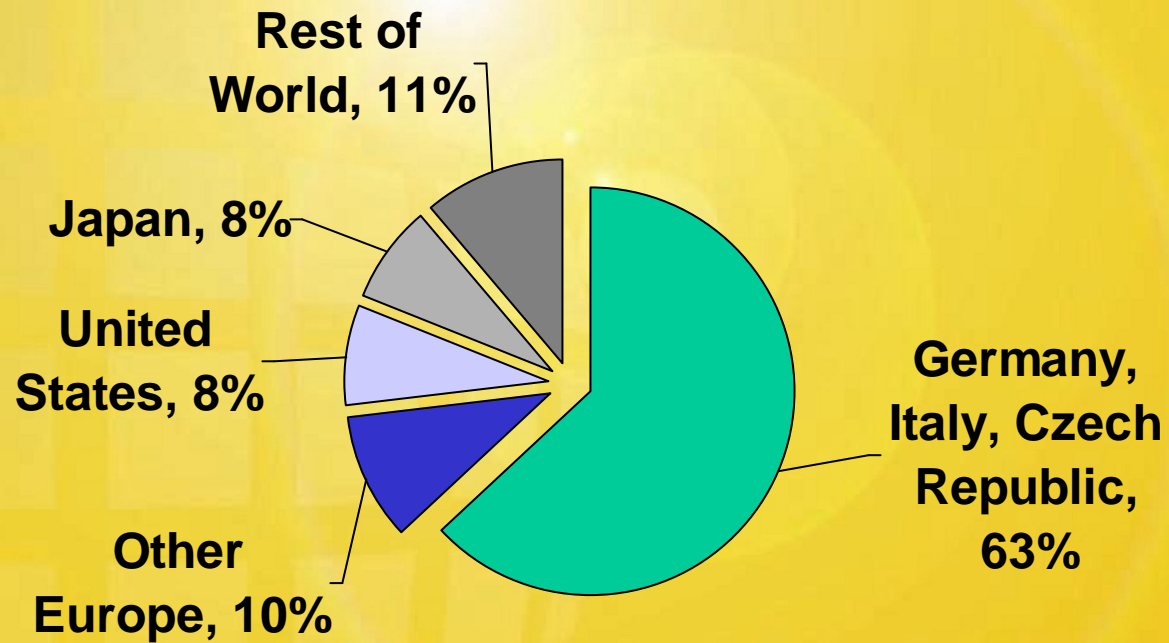
Germany: PV installations in 2009 Megawatts (MW)



Source: Jan–November.: German Electricity Regulator(Bundesnetzagentur)  
December: estimate

# 2009 Global PV Installations

Photovoltaic market in 2009 – 6.43GW

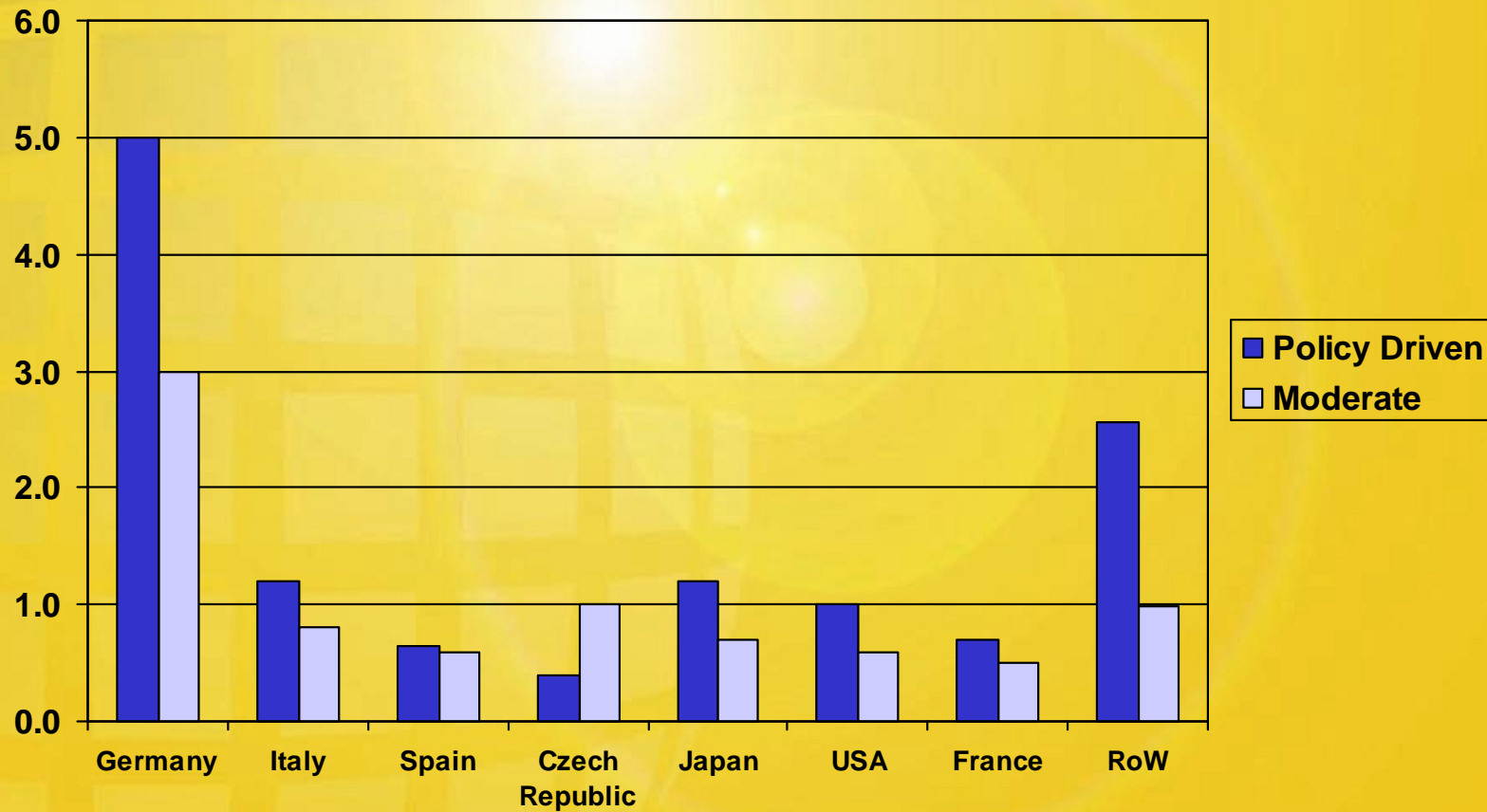


SOURCE: Solarbuzz, a division of the NPD Group

# PV Installations forecast

2010: Moderate 8.2GW

2010: Policy Driven 12.7GW



Source: EPIA



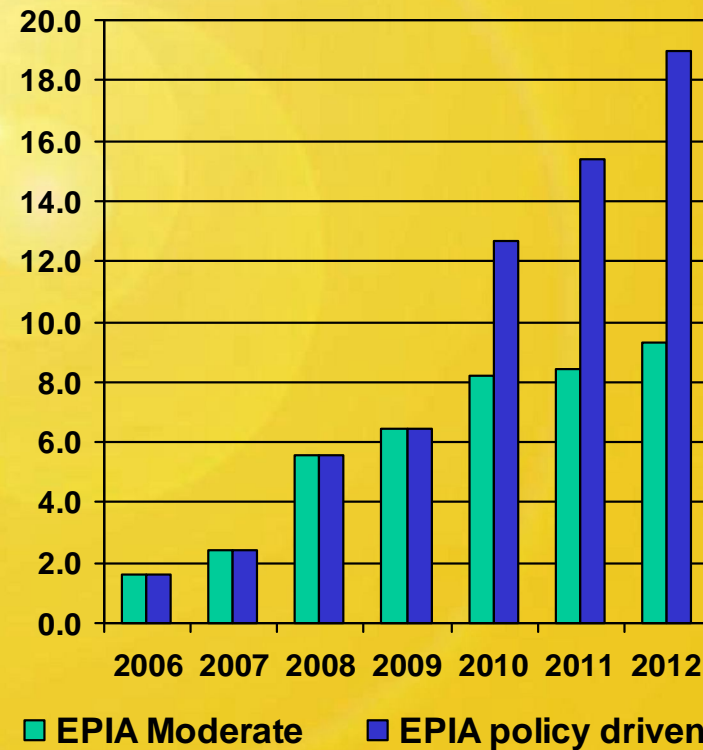
# Growth in the long term

## Key drivers for solar electricity market



## Substantial growth potential for solar electricity

Global annual photovoltaic new installations (GW) 2006–12E



Source: EPIA (European Photovoltaic Industry Association), 2010

# Political commitment to sustain further growth in solar electricity

*Governments have put in place subsidy schemes to promote photovoltaic electricity development*

## USA

- Federal 30% investment tax credit
- State initiatives
  - California
  - NY
  - New Jersey
  - Arizona
- Net metering in 42 States

## UK

- feed-in tariff starts in April 2010
- £0.41/kWhr for domestic rooftops
- 25 year timeline with tariffs linked RPI

## Germany

- Revision of FITs envisaged by government
- 16% cut for roof top installations
- No program cap

## Japan

- JPY9bn subsidy program reintroduced in 2009.
- Feed-in tariff started in 2009.
- 28GW target by 2020

## Canada

- Launch of first FIT in Ontario effective 2010
- Can\$0.44-0.80 for ground and roof mounted projects
- Domestic content of 60% from 2100

## China

- Golden Sun program provides 50% subsidies
- 1.8GW target for 2020

## Spain

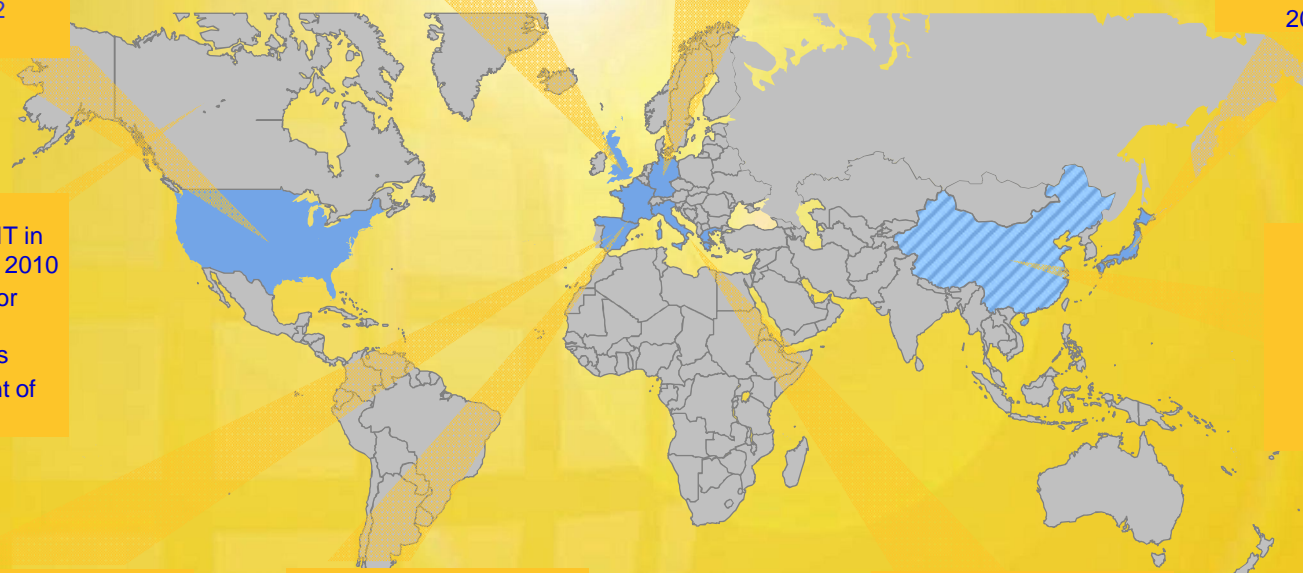
- Feed-in tariff of €0.33/kWhr (capped at 500MW)

## France

- €0.50/kWhr feed-in tariff for BIPV
- FIT revised for 2010
- Stable FIT until 2012

## Italy

- €0.35-0.48/kWhr FIT with 2% annual decrease
- 20-year contract
- 1200MW program cap





## Strategy

- **Operate new Bitterfeld polysilicon plant at full capacity**
- **Enhance relationships with existing customers**
  - Retain flexibility of wafer production by using sites in the major world markets
  - Utilising our ability to rapidly address changes in customer needs
- **Focus on further development of the leading crystalline silicon processing technology**
  - Working with customers to increase product quality and develop next generation of wafer technology
- **Continued focus on operating cost reduction**

**Strengthen position as a leading pure-play solar wafer manufacturer**





## Outlook

- **Stronger demand environment in H1 2010**
  - Expected shipment volumes in the range of 145-155 MW
  - Pricing pressure continuing-expected ASP range of €0.67-€0.70/W
- **Well positioned in Germany and Japan-set to be largest markets in 2010**
  - Germany – Strong growth in H1 prior to cut in FIT in H2, market size 3-5GW
  - Japan – expected to double to 1GW
- **Continued focus on cost reduction**
  - Bitterfeld progressing to plan with fully loaded production costs expected to be broadly in-line with spot market levels by 2010
  - 10-15% wafer cost reduction expected through higher wafer yields and lower wafering costs
- **Expansion of ingot production capacity to meet increased market demand**
  - 70MW capacity to be added to start production in H1 2011
- **Mid-term market drivers remain positive**
  - PV market to show minimum 2.5x growth by 2014 (source: Solarbuzz)
  - Encouraging growth prospects in Japan, US, Italy and UK
  - Moving towards grid parity

- **Resilient performance in difficult market in 2009**
  - **Successfully managed volatility**
- **Robust cash position**
- **Experiencing stronger demand in H1**
- **Well positioned for the medium term and beyond:**
  - **Solid fundamentals**
  - **Strong balance sheet**
  - **Flexible and competitive manufacturing costs**
  - **Longstanding customer base**



## Q&A