



**WACKER** **POLYSILICON**

# PV-CONFERENCE ZURICH

February 24<sup>th</sup> 2010

CREATING TOMORROW'S SOLUTIONS

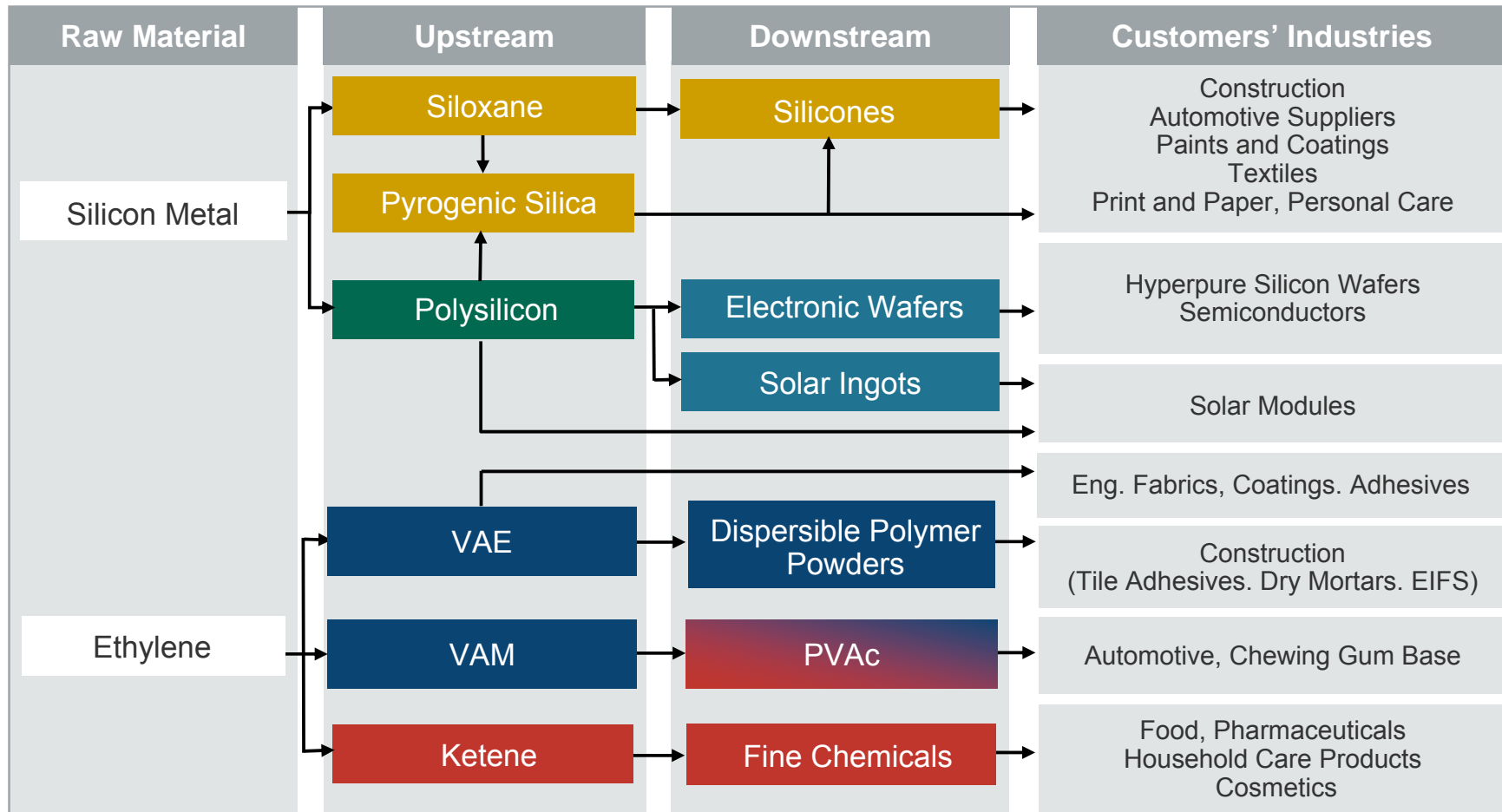
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# CONTENTS

- **Overview of WACKER CHEMIE AG**
- Introduction of WACKER POLYSILICON
- Demand Situation and Competitive Status of PV
- Supply / Demand Balance
- Summary / Outlook 2010

# WACKER: HIGHLY INTEGRATED OPERATIONS BASED ON TWO KEY RAW MATERIALS



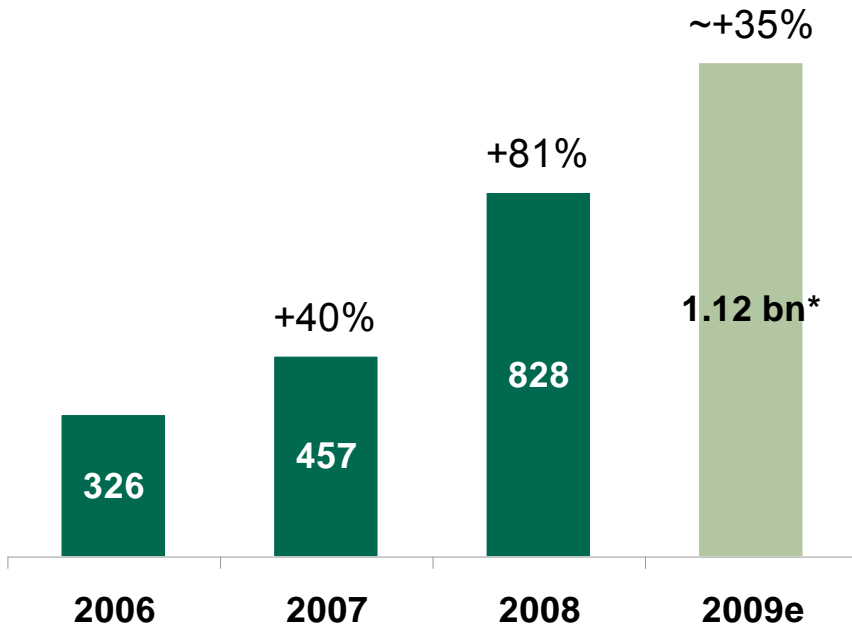
VAM = Vinyl acetate monomer. VAE = Vinyl acetate ethylene, PVAc = Polyvinyl acetate, EIFS = Exterior insulation and finishing system

# CONTENTS

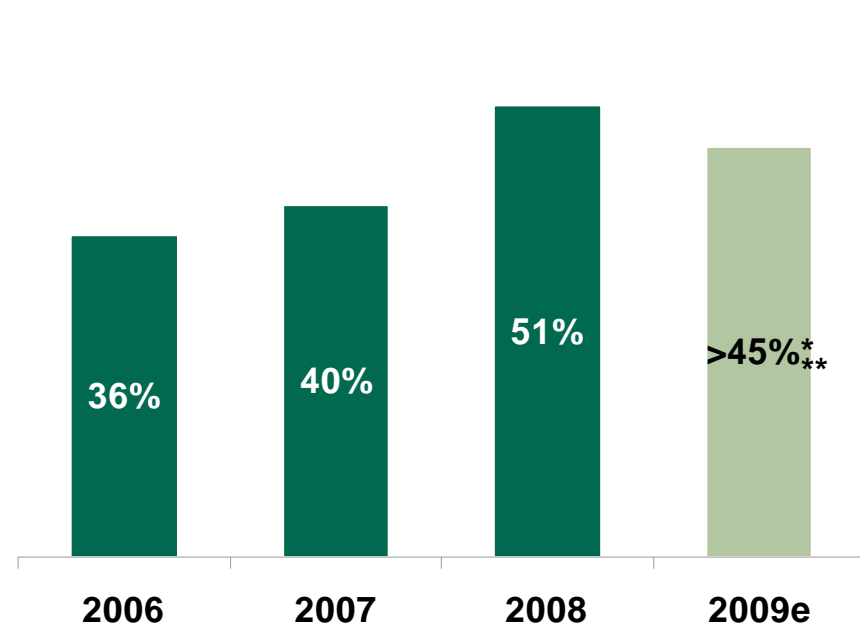
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# WACKER POLYSILICON – FINANCIAL PERFORMANCE

Sales €m



EBITDA Margin



- Ongoing strong sales development
- Ongoing aggressive capacity expansion
- Received prepayments support favorable cash position

\* unaudited

\*\* WSS one-off included

# BROADEST PRODUCT PORTFOLIO – POLYSILICON SOLUTIONS FOR ALL SILICON GROWTH TECHNOLOGIES



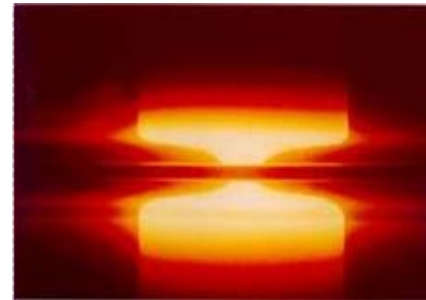
**Chunks**



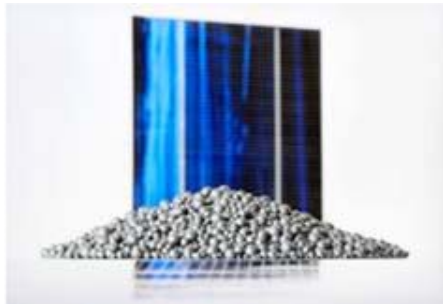
**CZ pulling,  
Casting**



**Rods**



**FZ pulling,  
CZ pulling**



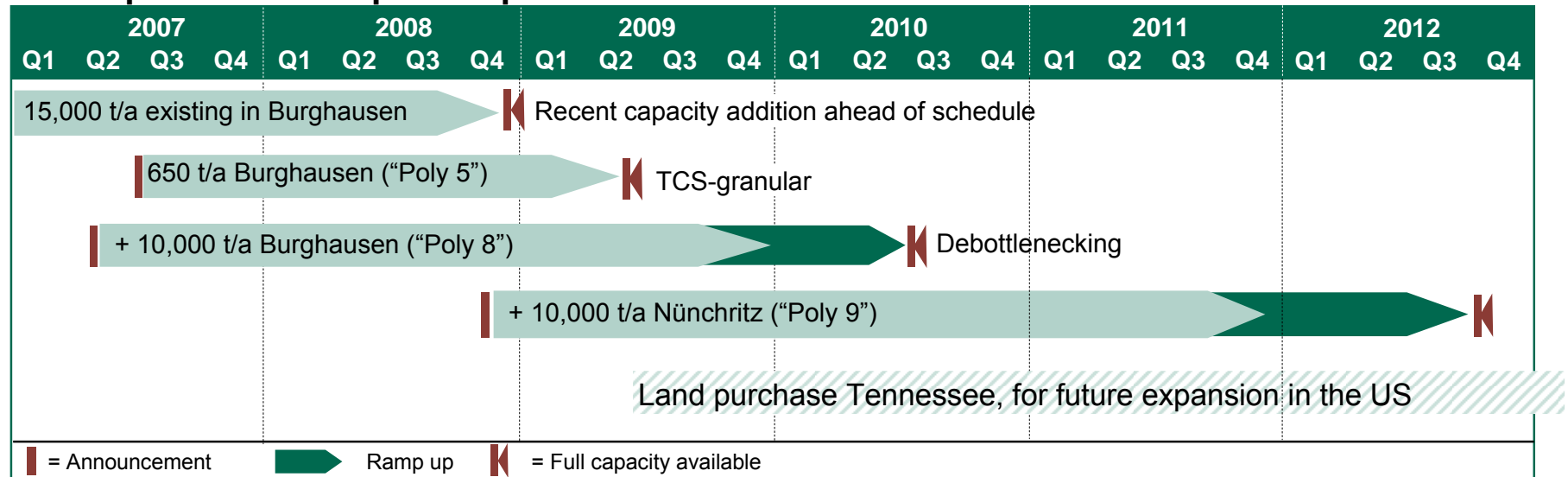
**Granules**



**EFG, String ribbon,  
EMC**

# ONGOING CAPACITY EXPANSION TO MEET OUR CUSTOMERS' DEMAND

## Development of nameplate capacities



### Construction progress "Poly 8"



June 2009  
Distillation



July 2009  
Deposition reactor hall

### Construction progress "Poly 9"



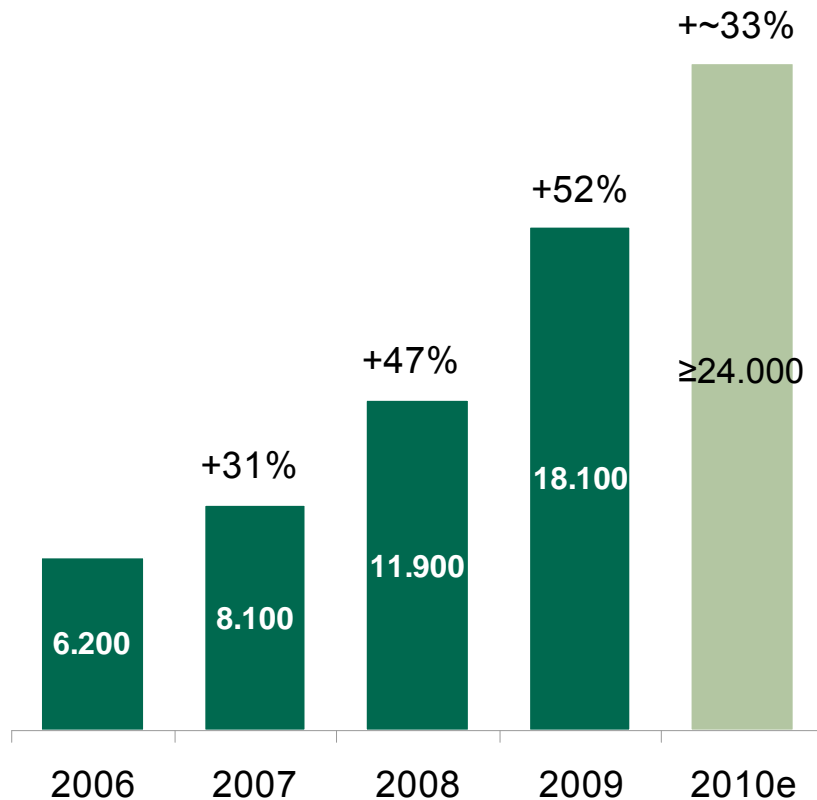
March 2009  
Site preparation



November 2009  
Deposition reactor hall

# WACKER POLYSILICON – STRONG OUTPUT INCREASE

## Polysilicon Production (MT)



**Existing capacity: ~15,000 MT**

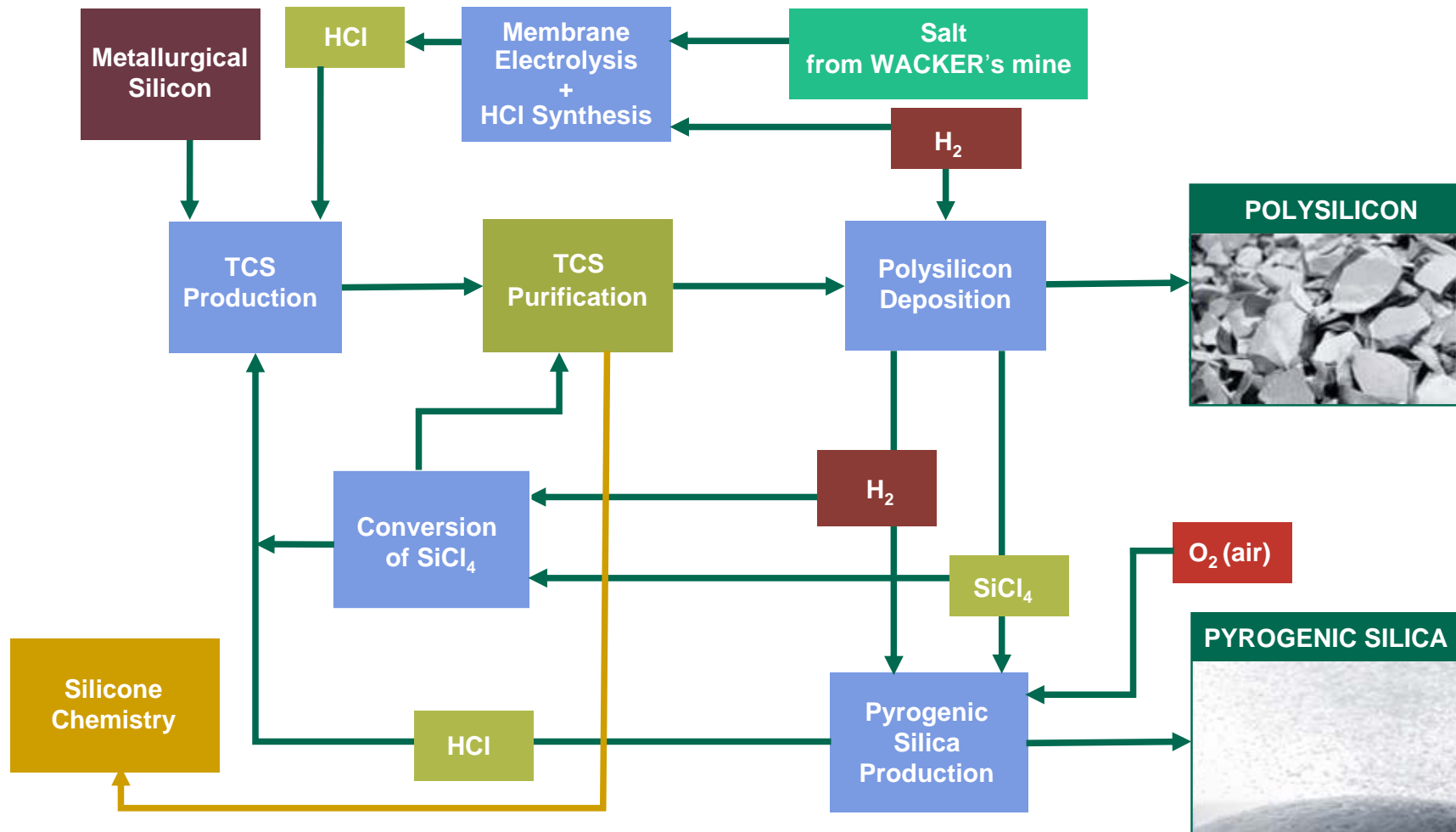
- Poly 5 Fully ramped
- Poly 7 Fully ramped

**Ongoing expansion: +20,000 MT**

- Poly 8 Well on track
- Poly 9 Well on track

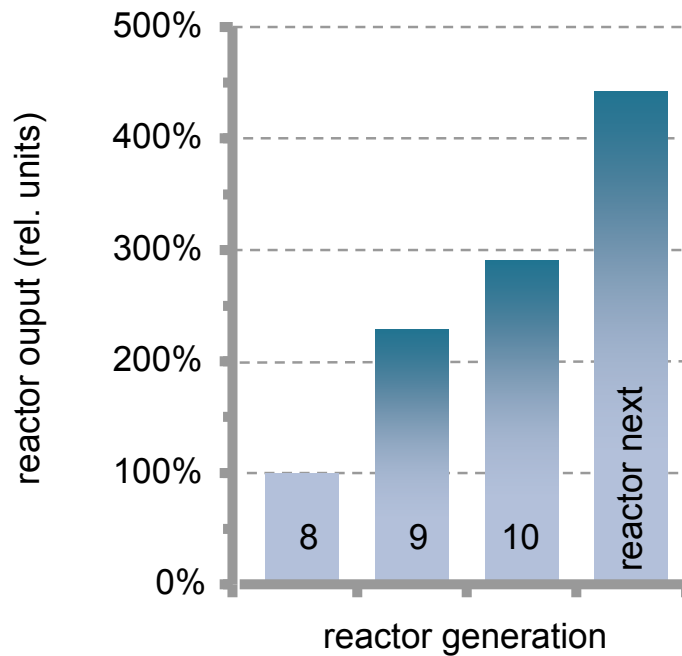
**Nameplate capacity: ~35,000 MT**

# WACKER FULLY INTEGRATED TECHNOLOGY – CLOSED LOOPS FOR KEY AUXILIARIES

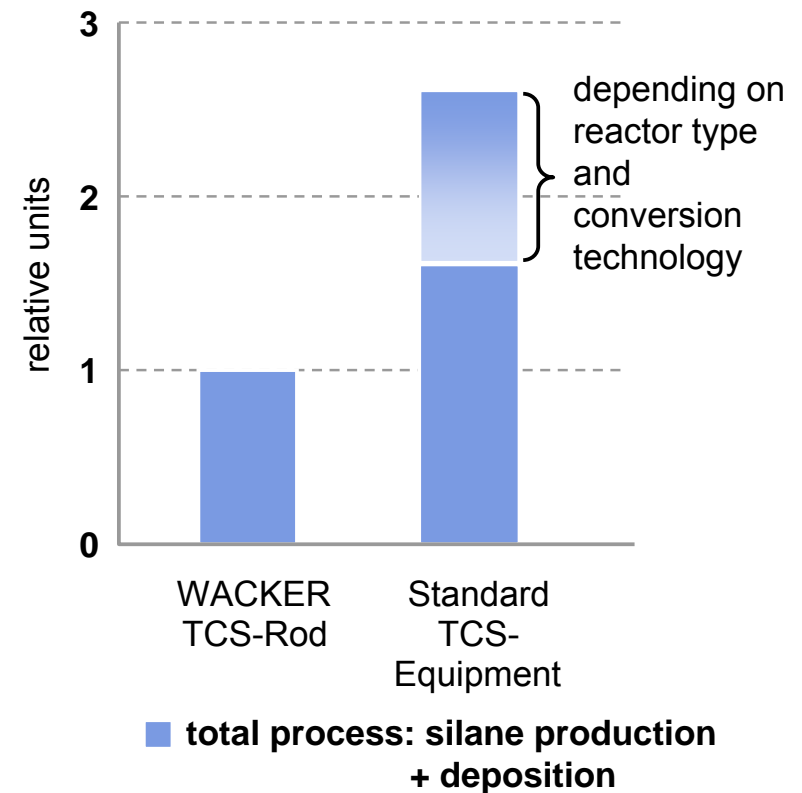


# LOW ENERGY CONSUMPTION – HIGH PRODUCTIVITY GAINS

## Development reactor output



## Energy consumption per kg solar silicon



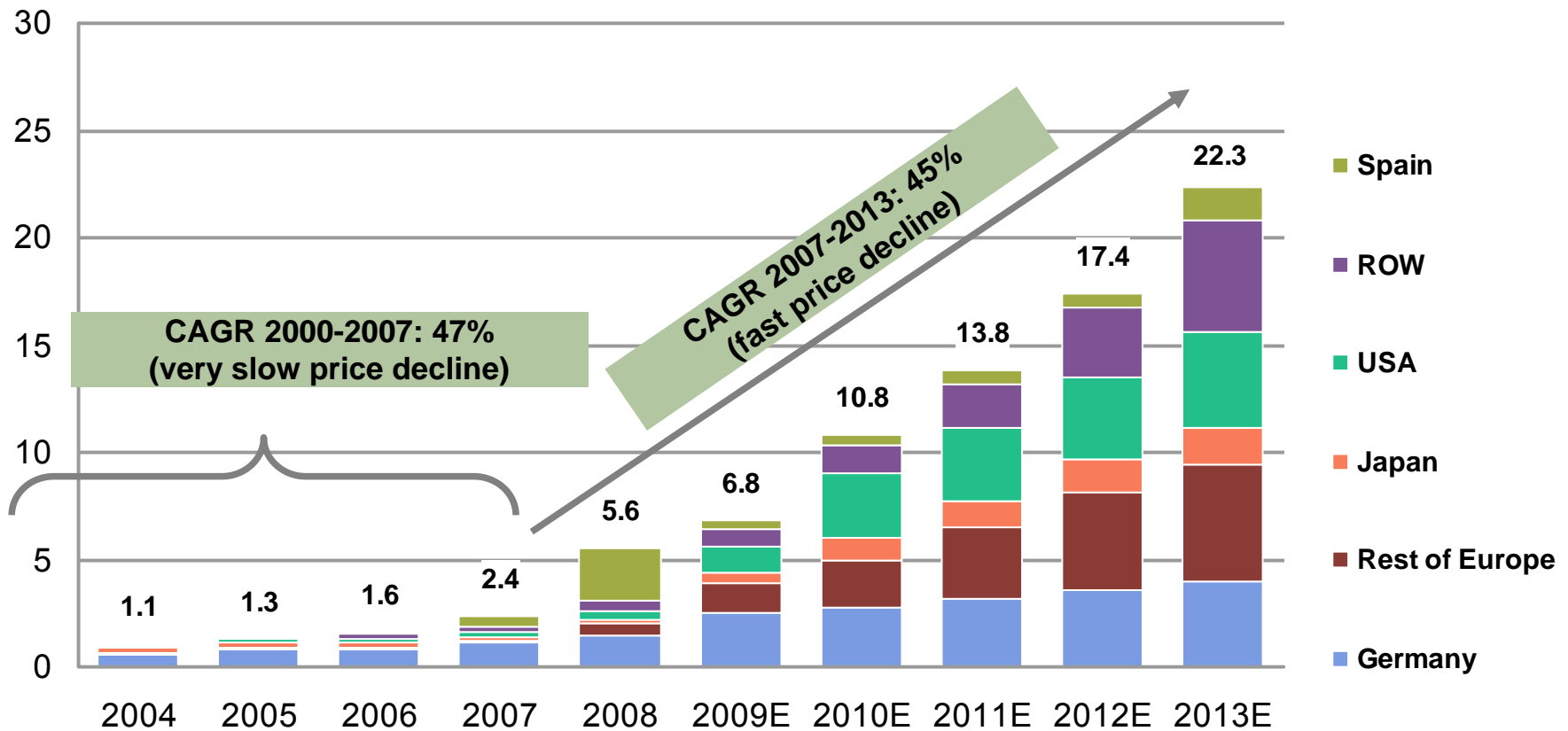
Source: GT Solar 09/2008, Centrotherm 04/2008, WACKER estimates

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# PV MARKET: EPIA EXPECTS > 40% GROWTH

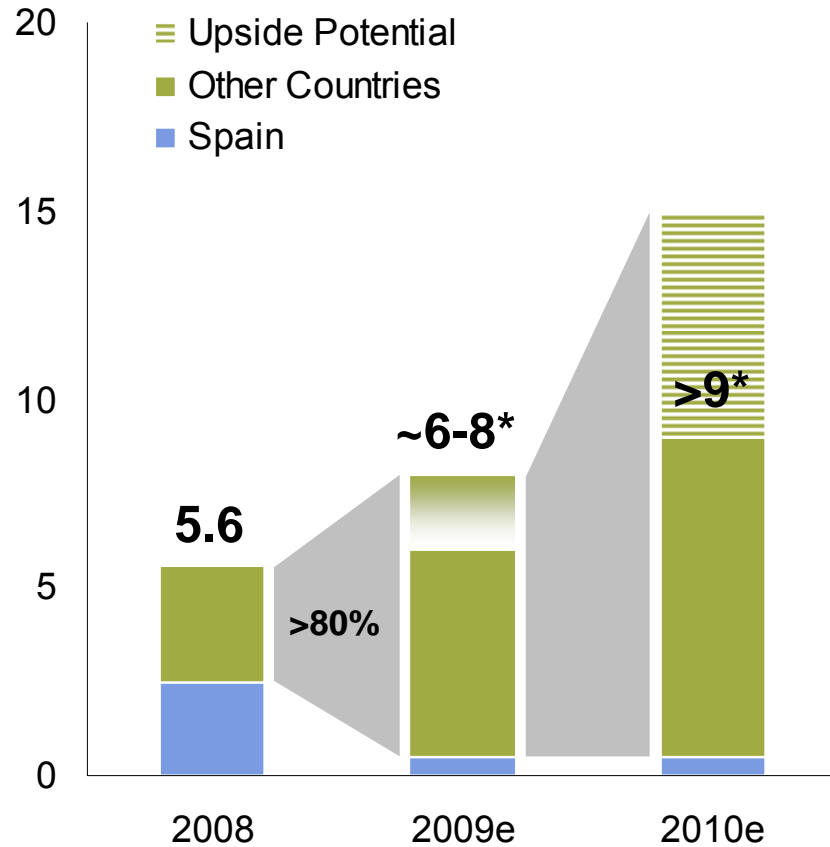
## Historical Annual PV Market Development and Forecast (GW)



Source: EPIA 03/2009

# 2009: MARKET OUTSIDE OF SPAIN GROWS MORE THAN 80%; FURTHER STRONG GROWTH EXPECTED IN 2010

## Photovoltaic-Volume (GW)



\*WACKER estimate, based on published reports

## Market 2009

- Despite unfavorable market environment (financial crisis, collapse in Spain) strong overall growth in 2009
- Top PV players reported growing shipments 2009 versus 2008 with strongly increasing capacity utilization in H2/2009

2010

- Recovery of global economy supportive
- Grid parity within reach in many markets
- Regulatory programs in many countries

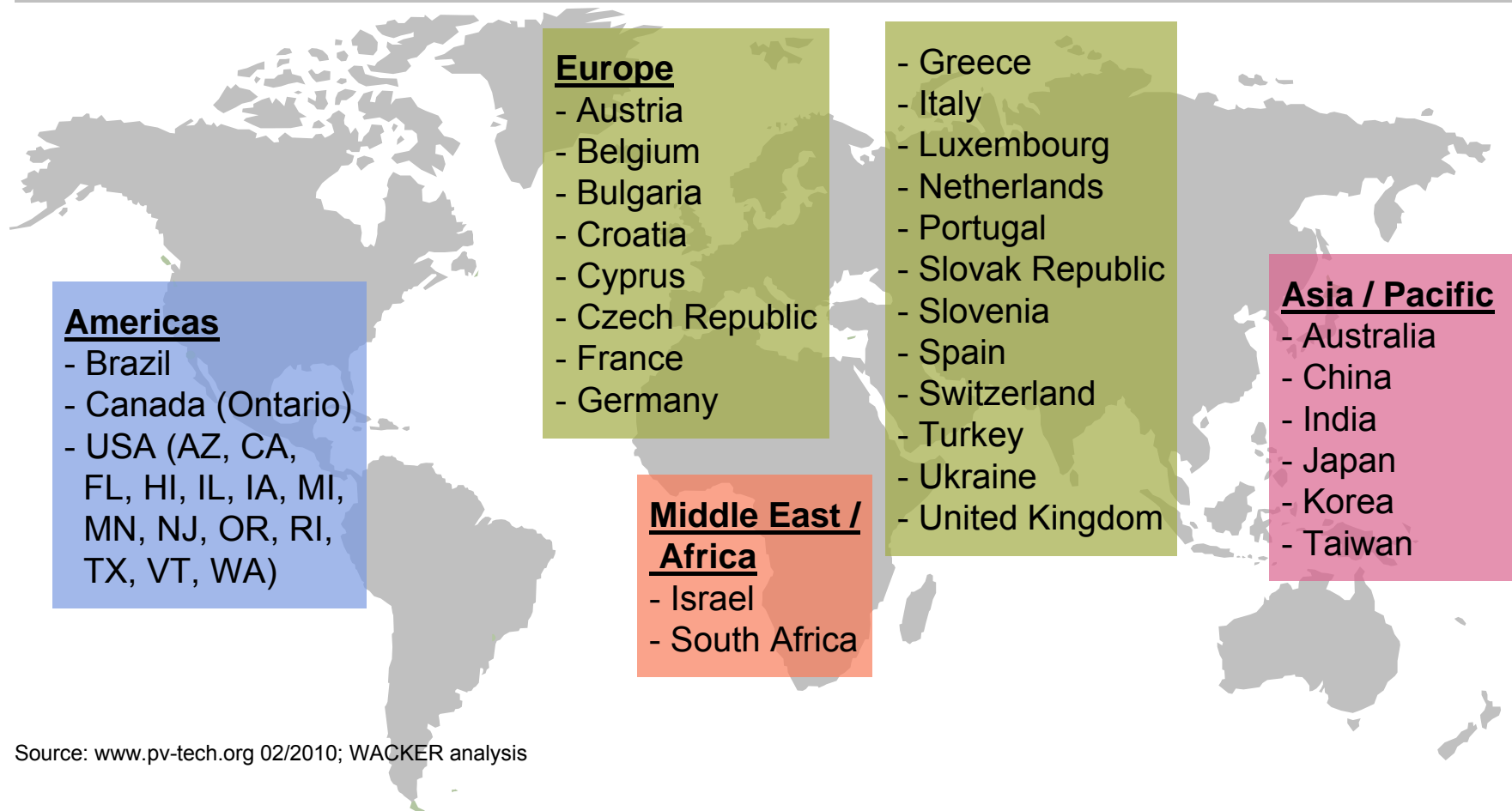
# ALL REGIONS (EX SPAIN) CONTINUE TO GROW STRONGLY

Country	New Installations (MW)			CAGR 08-10
	2008	2009e	2010e	
Germany	1,500	2,500 - 3,500	3,500 - 5,000	50-80%
Spain	2,511	500	600	-50%
Rest of Europe	492	1,000 - 1,300	1,400 - 3,000	70-150%
USA	342	600 - 1,000	1,000 - 3,000	70-200%
China	45	200 - 400	500 - 1,000	230-370%
Japan	230	~500	1,000 - 1,500	110-160%
Rest of World	439	700 - 800	1,000 - 1,500	50-85%
<b>TOTAL</b>	<b>5,559</b>	<b>6,000 - 8,000</b>	<b>9,000 - 15,600</b>	<b>30-70%</b>

Source: EPIA 03/2009, WACKER estimate

# ATTRACTIVE FEED-IN-TARIFFS IN MORE THAN 30 COUNTRIES SUPPORTING GROWTH OF PV INDUSTRY WORLDWIDE

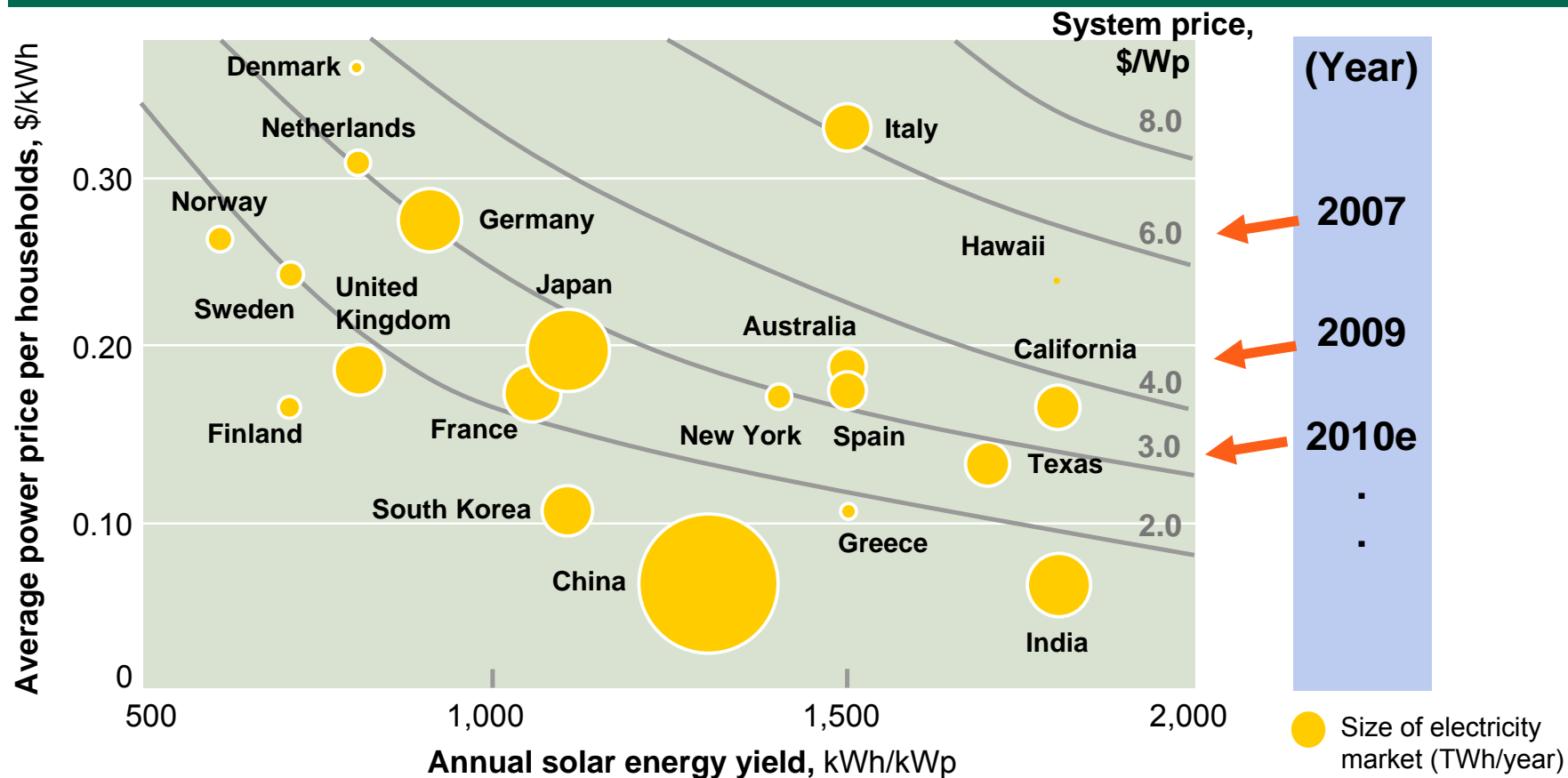
## Global Breakdown of Feed-in-tariffs per Country



Source: [www.pv-tech.org](http://www.pv-tech.org) 02/2010; WACKER analysis

# “CONSUMER GRID PARITY” WILL BE REACHED IN MANY LARGE MARKETS BEFORE 2012

## Consumer Grid Parity Analysis per Country

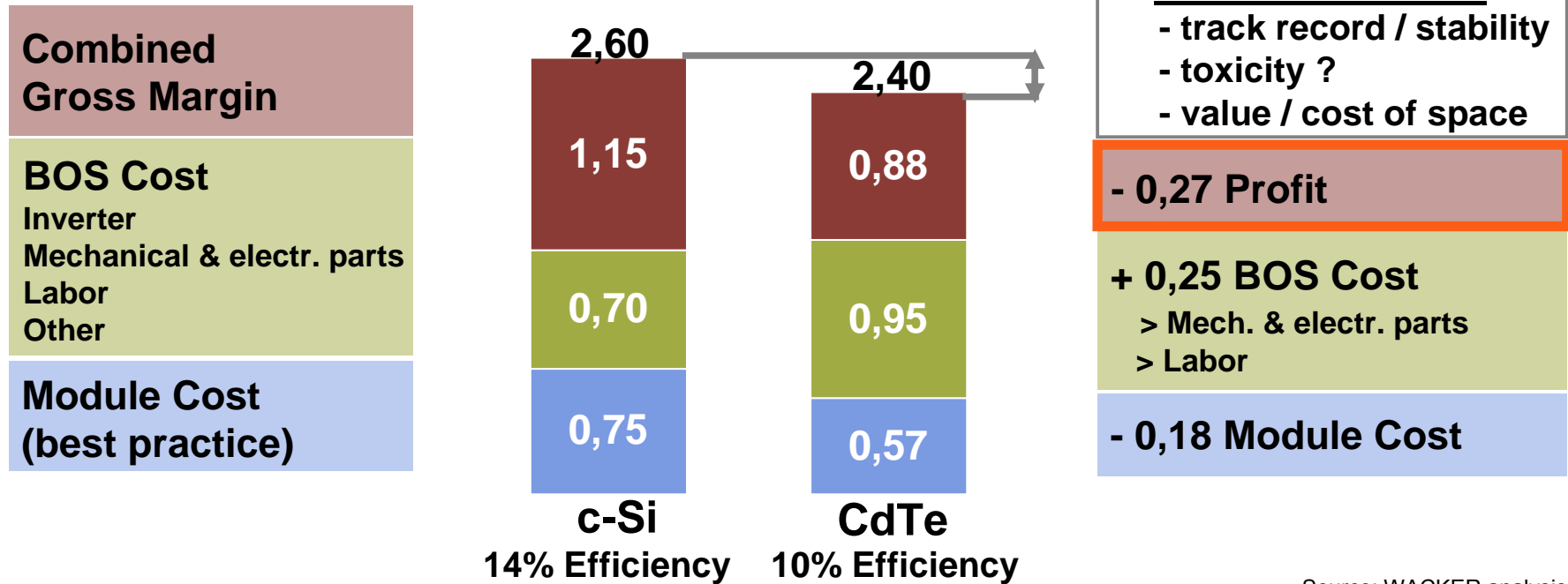


Source: McKinsey 06/2008; WACKER analysis

# THIN FILM SUFFERS FROM HIGHER SYSTEM COSTS AND LIMITED LONG TERM EXPERIENCE

Status 12/2009

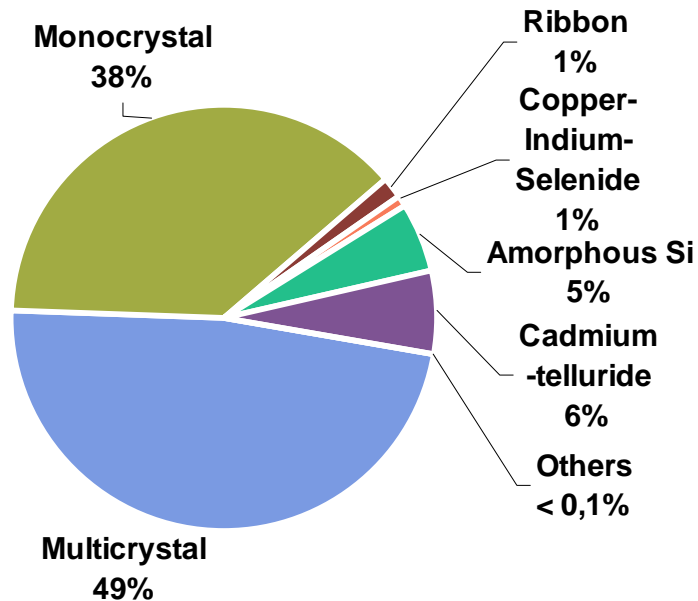
## Typical Roof Top System Cost Structure (€/Wp)



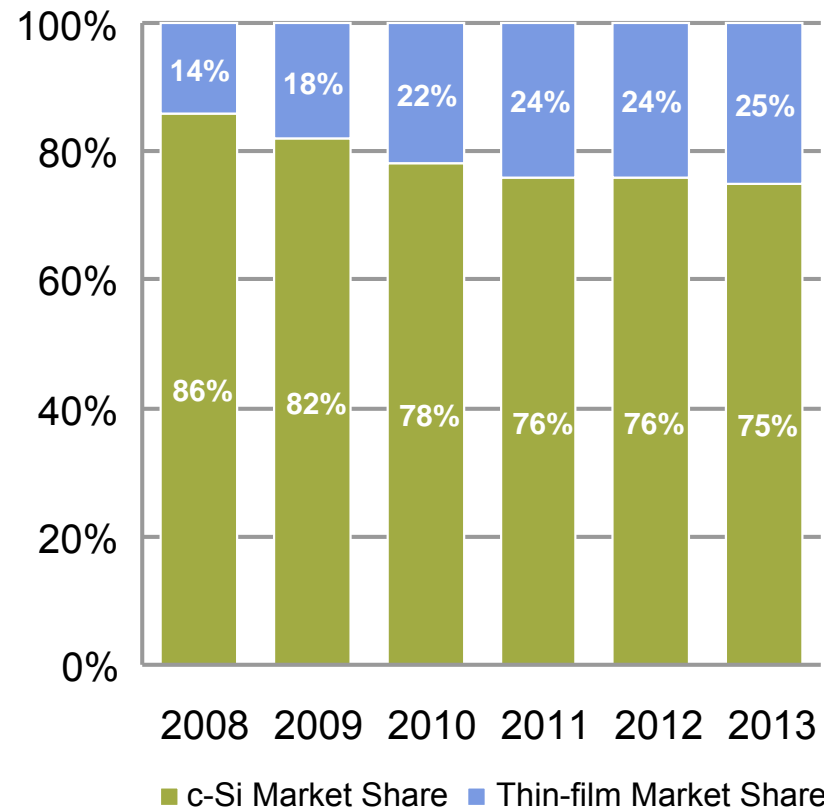
Source: WACKER analysis

# CRYSTALLINE PV WILL BE THE DOMINATING TECHNOLOGY FOR THE FORESEEABLE FUTURE

Market Structure 2008 (%)



Market Share of Cell Technologies (%)



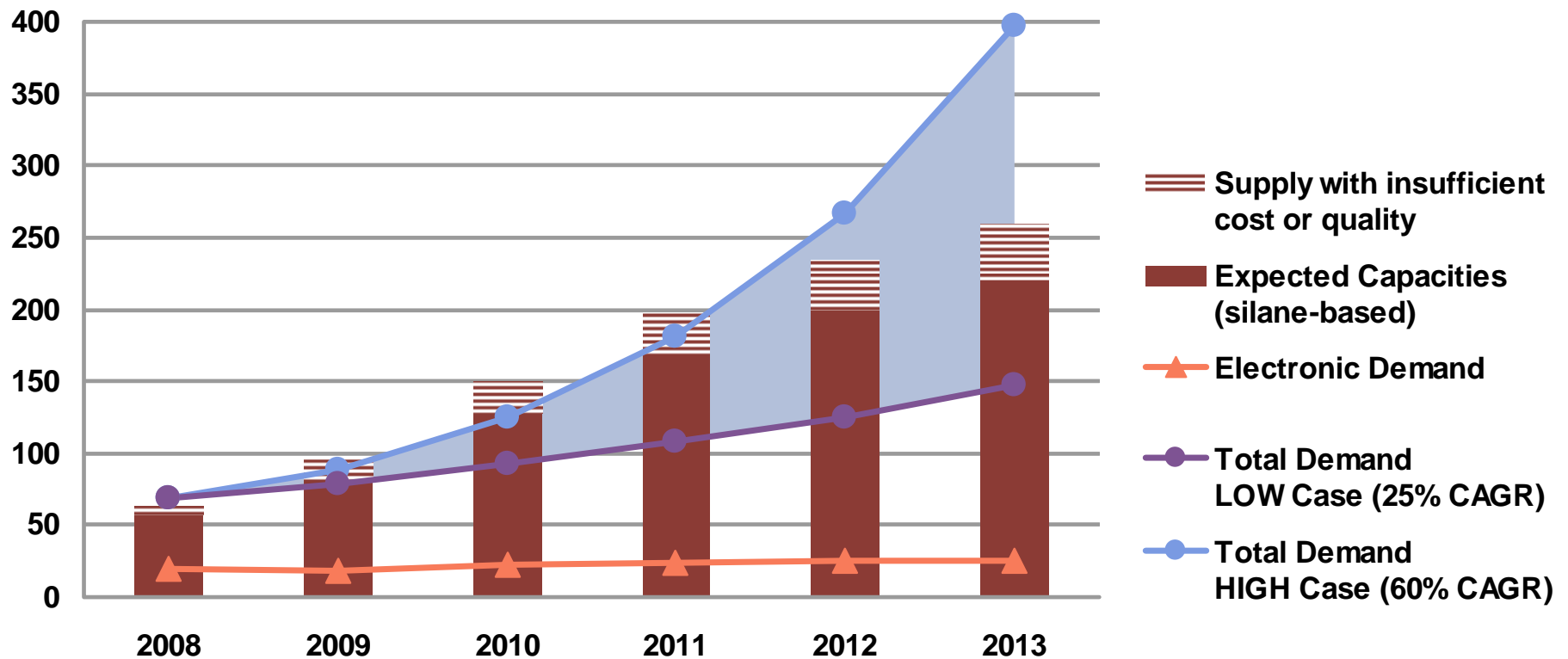
Source: EPIA 03/2009, WACKER analysis

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# “QUALITY OVERSUPPLY” WILL OCCUR ONLY IN CASE OF VERY MODERATE GROWTH RATES

Polysilicon supply and demand worldwide [kt]

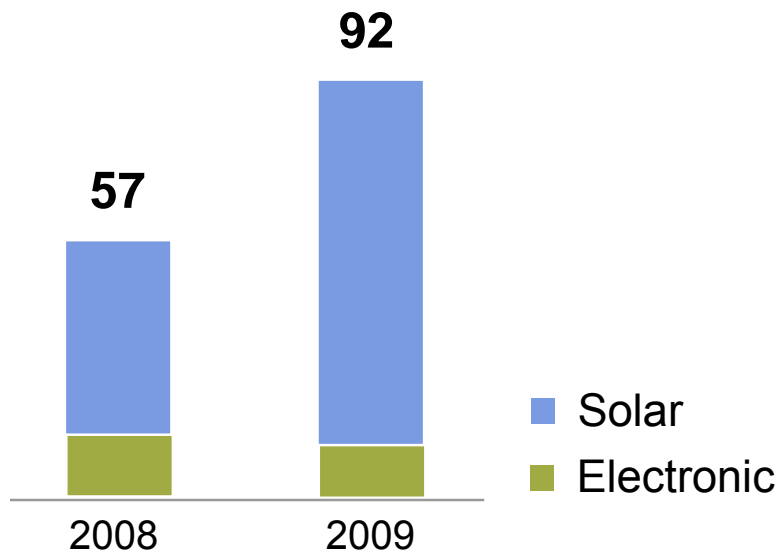


Sources Demand: Gartner 12/2009 (Electronic); WACKER analysis (02/2010)

Sources Capacities: Industry announcements and WACKER estimates (02/2010)

# GLOBAL POLYSILICON SHIPMENTS EXPECTED TO CLEARLY EXCEED 100 KT IN 2010

## Global polysilicon shipments [kt]



## Shipment estimate

SEMI shipment statistics

+ newcomer shipment (WACKER estimate)

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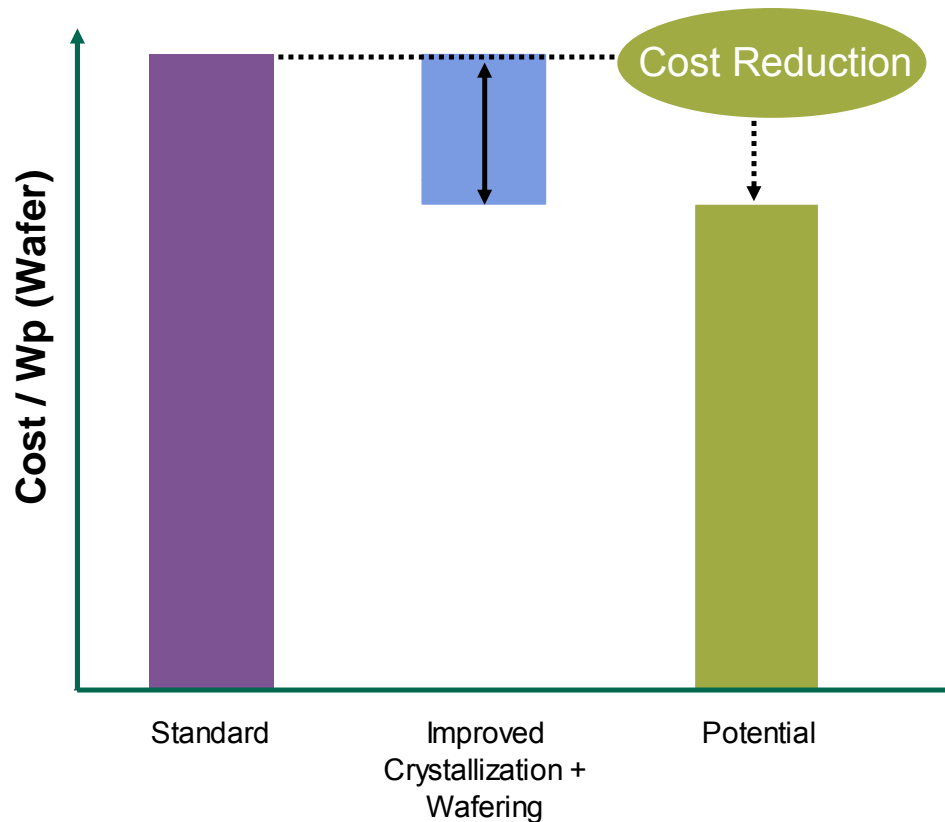
= TOTAL SHIPMENTS

Source: SEMI, WACKER estimates

**92 kt of polysilicon sold in 2009**

# HIGH QUALITY POLYSILICON LEADS TO SIGNIFICANT COST REDUCTION POTENTIAL FOR OUR CUSTOMERS

## Illustrative Cost Reduction Potential for Wafer Manufacturers\*



\*Assuming that scrap volumes from manufacturing can be reduced by 50% employing high quality polysilicon

- Perfect crystallization with high yields due to high quality polysilicon
- Low breakage rates due to improved crystal structure and mechanical stability
- High efficiencies of produced wafers can lead to even higher cost reduction potential

Source: WACKER estimates

„Flight to Quality“ continues...

# SUPPLY / DEMAND BALANCE IS NOT ONLY A MATTER OF ANNOUNCED CAPACITIES AND ANNUAL INSTALLATIONS

- Newcomers' capacity with various issues (financing, technology, cost & quality)
- Crystalline market share higher than expected
- Low quality poly leads to higher g/Wp-factors
- 4-6 months lead time: poly supply to system grid connection → pull-in effect



## SUPPLY

- = global supply announcements
- financing & technology issues
- project delays
- insufficient cost and/or quality



## DEMAND

- = electronic demand
- + annual solar installations (c-Si market share, g/Wp-factor)
- + pull-in effects

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# 2010 WILL BE ANOTHER YEAR OF GROWTH FOR POLYSILICON

## Summary / Outlook 2010

- Strong growth of global PV installations expected
- Feed-in-tariffs in more than 30 countries support growth
- Further cost reduction achieved throughout whole PV value chain
- Strong recovery of demand from electronic segment
- German FIT reduction will lead to pull-in effects in H1
- High quality polysilicon remains in short supply

# WACKER: ISSUER, CONTACT AND ADDITIONAL INFORMATION

## ISSUER AND CONTACT

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## FINANCIAL CALENDER

March 24, 2010	Full Year 2009
April 29, 2010	1 <sup>st</sup> Quarter 2010
May 21, 2010	Annual Shareholder Meeting
June 28/29, 2010	CMD, Burghausen
July 30, 2010	2 <sup>nd</sup> Quarter 2010
Nov. 5, 2010	3 <sup>rd</sup> Quarter 2010

## ADDITIONAL INFORMATION

**ISIN:** DE000WCH8881

**WKN:** WCH888

**Deutsche Börse:** WCH

**Ticker Bloomberg:** CHM/WCK.GR

**Ticker Reuters:** CHE/WCHG.DE

**Listing:** Frankfurt Stock  
Exchange  
Prime Standard

