# FIRST QUARTER 2015



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## Agenda

REC Silicon Q1 Financial Results - Market Overview - U.S. / China Trade Update	T. Torvund, CEO
Financial Overview	J. May, CFO
Expansion Update: Yulin JV	T. Torvund
Guidance Q2	T. Torvund
Q & A	

## REC Silicon ASA First Quarter 2015 Highlights

Revenues: \$74.4 M

**EBITDA:** \$24.8 M

#### **Strong Polysilicon Production**

Total polysilicon production
 FBR cash cost
 5,210 MT
 \$10.7/kg

#### Polysilicon sales volume 2,390 MT

Inventory Build 2,818 MT

Solar Grade price decline 7.9%

#### Silicon Gas Sales

- 736 MT Sales
- Prices remained stable

#### **U.S. West Coast Port slowdown**

- 9 Month slowdown impacted shipments
- Resolved late February

#### **Expansion Initiatives On-track**

Yulin JV – Investment decision approved

## REC Silicon ASA Q1 2015 Key Metrics

Financials	
Revenue	\$74.4 M
EBITDA	\$24.8 M
EBITDA Margin	33%

FBR Production	
Actual	4,503 MT
Guidance*	4,400 MT
Deviation	+2.3%

FBR Cash Cost	
Actual	\$10.7/kg
Guidance*	\$11.5/kg
Deviation	-7.0%

<b>Total Polysilicon Production</b>	
Actual	5,210 MT
Guidance*	5,300 MT
Deviation	-1.7%

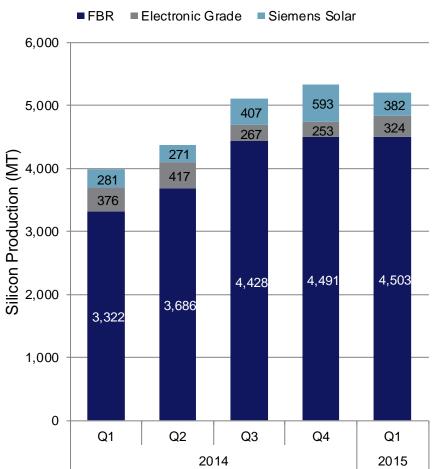
Semiconductor Production	
Actual	324 MT
Guidance*	380 MT
Deviation	-14.7%

Silicon Gases Sales Vol.	
Actual	736 MT
Guidance*	730 MT
Deviation	+0.8%

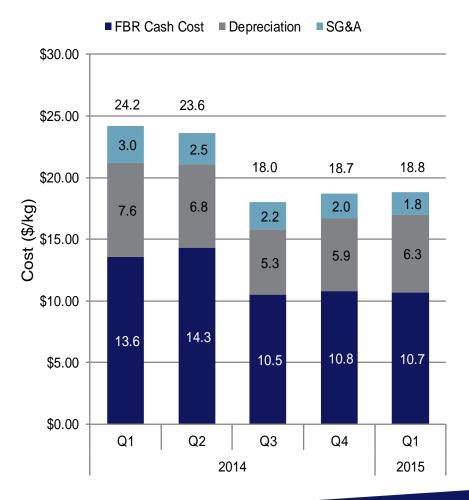
<sup>\*</sup> Guidance presented February 13, 2015

## Polysilicon Production and FBR Cost

## **Polysilicon Production**



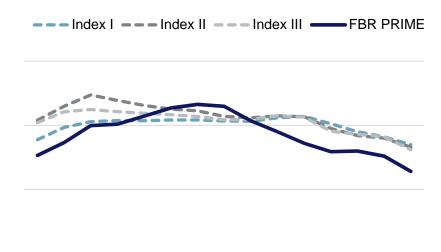
#### **FBR Cost**



## Q1 2015 Prime ASPs Compared to Spot Indices

- REC Silicon average Solar Grade sales price dropped 7.9% in Q1
- Limited quantities warehoused in China due to U.S. West Coast port slowdown
- Polysilicon sales price in March prompted sales hold

#### FBR Prime vs. Spot Indices

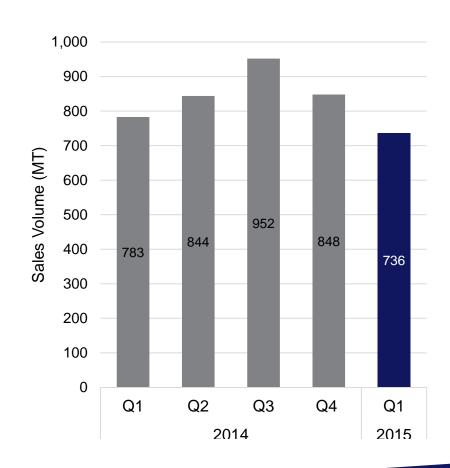




#### Q1 2015 Silicon Gas Sales

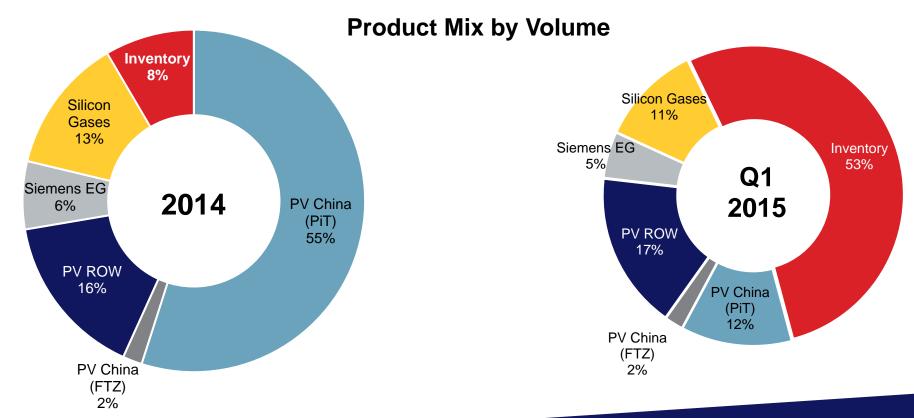
- Sales in line with expectations
  - 6MT over Guidance
- Silicon gas prices remained stable
- Competitive capacity back on line
- REC Silicon gas Q1 shipments impacted by U.S. West Coast port slowdown
  - Will also impact Q2 volumes

## Silicon Gas Sales



## Q1 2015 REC Silicon Built Finished Goods Inventory

- Weak market conditions
- Limited availability due to port slowdown
- Increased demand moving forward



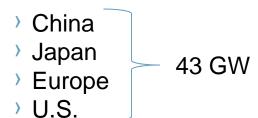


Market Outlook



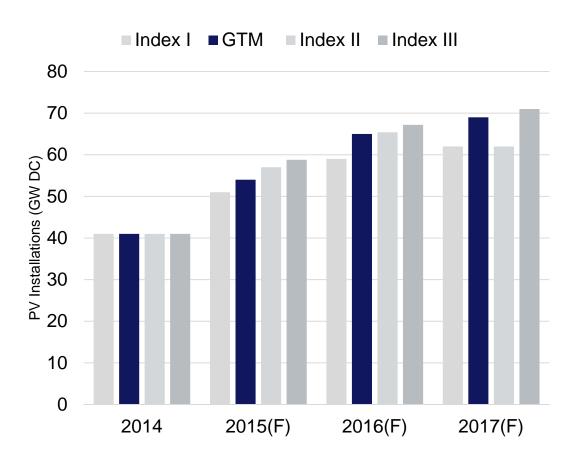
## Global PV Installation Forecasts - Indicate Strong Growth forecast

- Detailed analysis performed by GTM Research for REC Silicon
- GTM estimate 54 GW in 2015



In line with other industry analyst long-term views

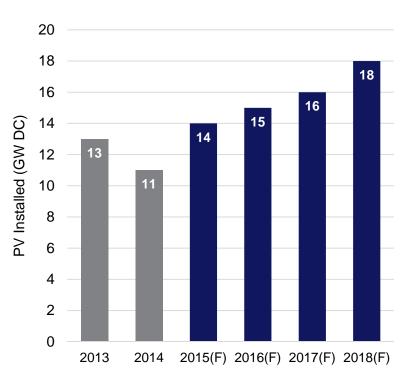
#### Global PV Demand Views



Source: GTM Research PV Pulse, April, 2015

## Regional Solar Installation Forecasts

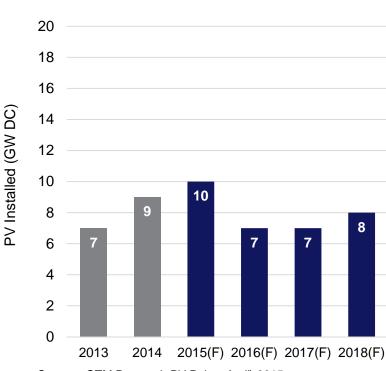




Source: GTM Research PV Pulse, April\ 2015

China announced target of 17.8 GW for 2015

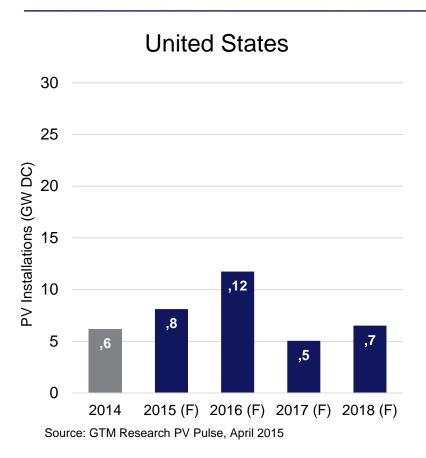
#### Japan



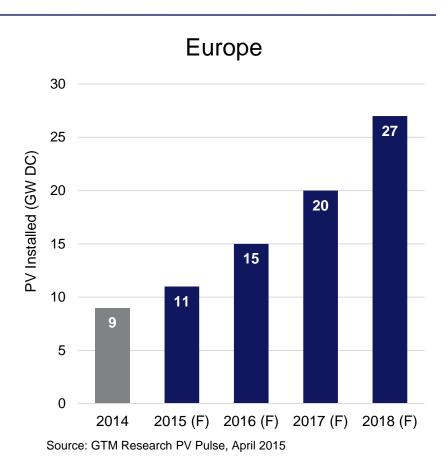
Source: GTM Research PV Pulse, April\ 2015

Solar a component in offsetting generation loss from decommissioned older nuclear plants

## Regional Solar Installation Forecasts Cont.





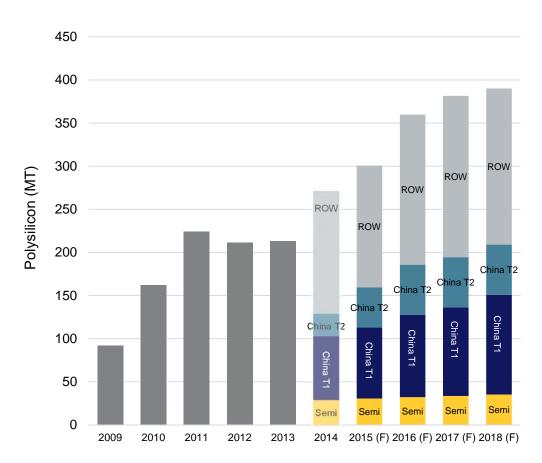


European Commission set target of 27% renewable energy consumption by 2030

## Polysilicon Shipments and Productive Capacity Expectation

- Additional capacity to come on stream in 2015-2016
- Limited capacity addition in 2017-2018
- Main capacity addition in China
- Market should be relatively balanced given predictive PV installation forecast
- Cash cost for marginal producer approximately \$25/KG

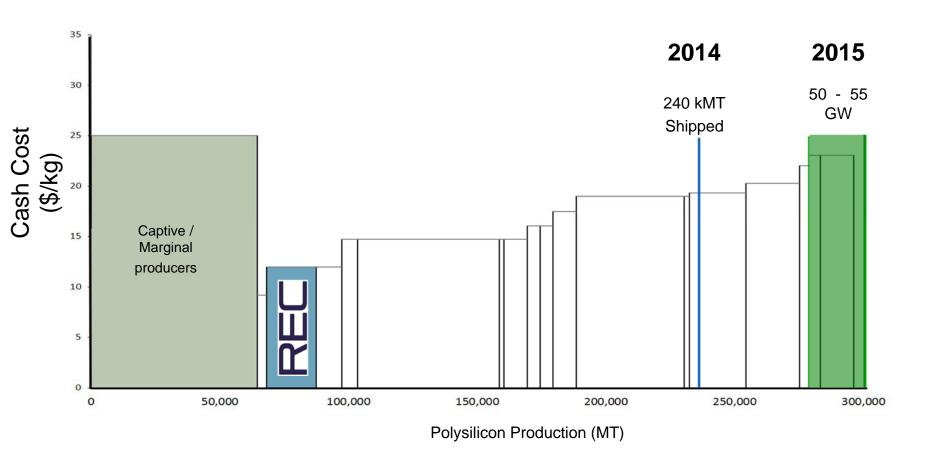
#### **Productive Capacity**



Source: Internal database, Financial reports, press releases, construction/production calculations



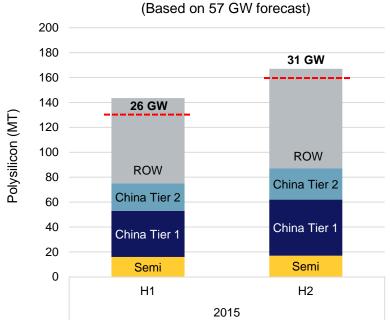
## 2015 Solar Grade Polysilicon Capacity vs. Cash Cost



## Balanced Market Expected for 2015 - Stronger H2

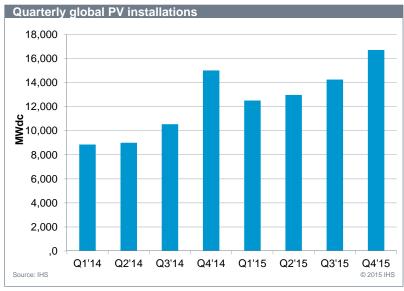
- > PV Installation growth in 2015
  - Increased demand in H2
    - H1 26 GW
    - ) H2 31 GW

## Silicon Supply and Solar Demand



Note: PV silicon demand based on 5 g/W.

Analyst PV Forecast 2015 (GW)		
I.H.S	57	
Photon	57	
GTM	54	
Deutsche Bank	54	
Energy Trend	51	



IHS - PV Integrated Market Tracker - Q1 2015



U.S. China Trade

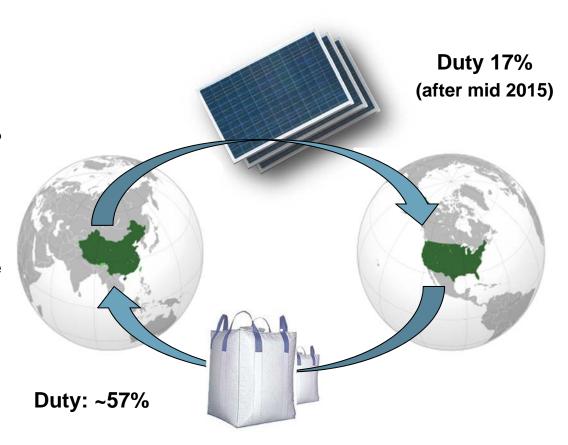
#### Current Trade Conditions between U.S. and China

#### SolarWorld Cases in U.S.

- Dec 2014 Preliminary Determination:17% Duty for Chinese produced modules
  - Final Determination expected mid-2015
- Dec 2014 Final Determination 77-90% for panels with cells produced outside in China

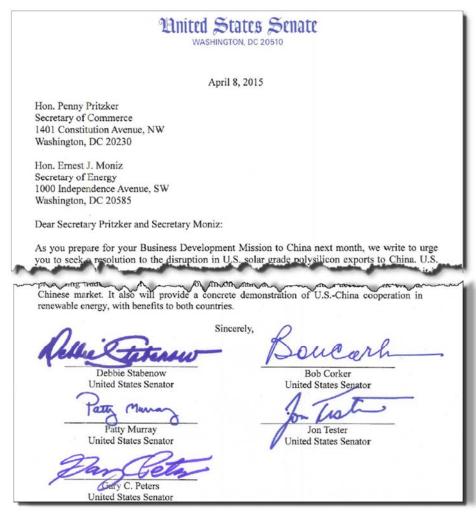
#### **MOFCOM / China DOC**

- ~57% duty will apply to all Solar grade polysilicon imported from the U.S. beginning in September, if Process in Trade is closed
- Will affect REC Silicon, Hemlock Semiconductor, and Wacker's Tennessee production



#### Trade Resolution Efforts within the United States

- U.S. & China have bilateral discussions focused on environmental co-operation, prior to UNFCC in Paris (Nov/Dec 2015)
  - Re-opening Process in Trade raised by U.S. Cabinet Ministers with Vice Premier Wang
- U.S. polysilicon producers engaged with U.S. Government agencies regarding Process in Trade and global resolution of solar trade cases
- Substantial U.S. Congressional support to resolve trade issues



Senator's letter to the DOC and DOE

#### Trade Resolution Efforts in China

#### Initiatives toward MOFCOM

- JV partner, SOE Youser Group (#142 China Fortune 200) submitted formal request with MOFCOM to reopen Process in Trade for REC and initiate interim tariff review
- Shaanxi provincial government also supports Youser Group's request
- MOFCOM has accepted and will review Youser Group's formal request

#### Importance to Youser Group

REC's continued partnership in the JV is critical to establish the JV as China's polysilicon technological and production leader

#### **REC Granular Important to China**

- Only non-integrated supplier of FBR granular to Chinese wafer producers
- Granular provides competitive advantage
- Access to FBR material is important to develop optimized wafer production processes, until JV material available

## 陕西有色金属控股集团有限责任公司文件

**陕色集团字〔2015〕54号** 

签发人: 黄晓平

陕西有色金属控股集团有限责任公司 关于恳请帮助解决引进 REC 硅料公司 先进工艺技术相关问题的请示

"Therefore, we sincerely request that MOFCOM adjust related trade sanction measures to make the project's continued operation possible. Our specified requests are as below:

- (1) MOFCOM should accept REC's request of review of AD/CVD tariffs ...
- (2) ... we sincerely request that MOFCOM and the General Administration of Customs reopen Process in Trade for REC's granular polysilicon"

Youser Group's formal request to MOFCOM (English translation)



Financial Review



## Q1 2015 Key Financial Results

#### Revenues - \$74.4 M

#### Decreased Polysilicon Revenues

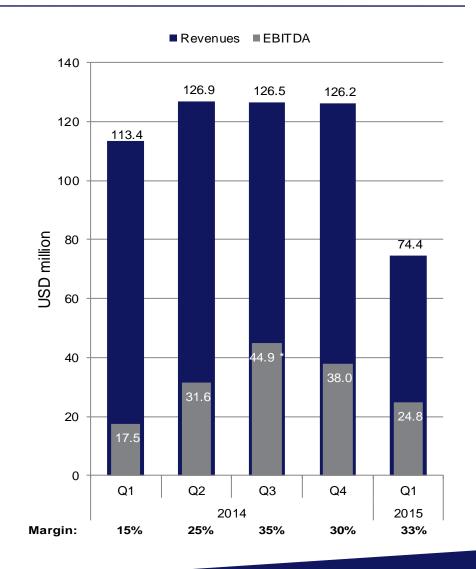
- 48% Sales volume decrease from Q4'14
- 7.9% Solar Grade price decrease from Q4'14 (Excluding Fines & Powders)

#### Silicon Gas Sales Volumes 736 MT

- 13% Sales volume decrease from Q4'14
- Stable Sales prices compared to Q4'14

#### **EBITDA \$24.8 M**

- 35% Decrease From Q4 2014
- Lower Prices
- Lower Volumes

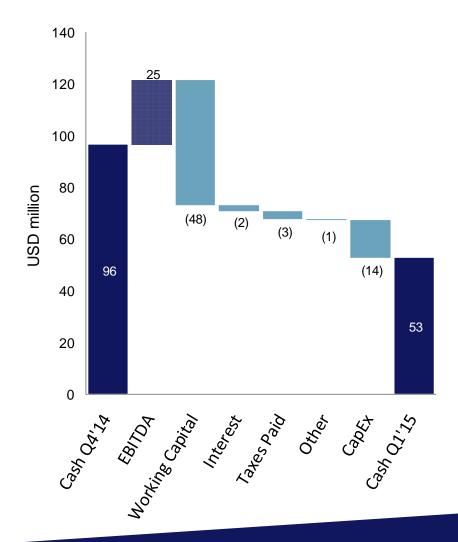


<sup>\*</sup> Excludes Special Items of USD 101 million Gain on Sale of Technology to the Yulin JV

#### Q1 2015 Cash Flows

#### Cash Outflows from Operations \$27.2 M

- Working capital increase \$48 M
  - Increased Inventories \$42.5 M
  - Increased Accounts Receivable \$1.6 M
  - Decreased Accounts Payable \$2.2 M



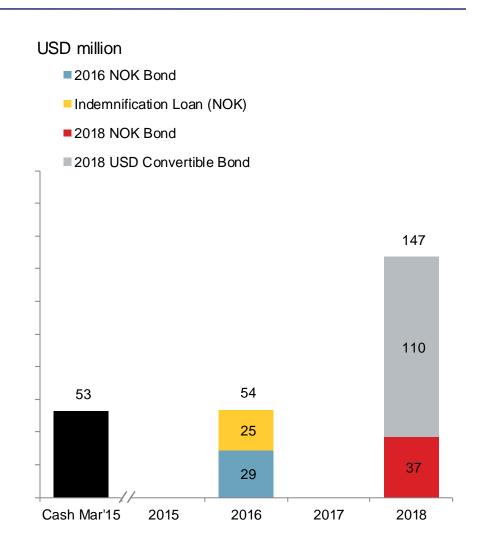
## Liquidity at March 31, 2015

#### Nominal Net Debt - \$148 M

Increased by \$36 M from Q4'14

#### Nominal Debt - \$201 M

Reduced by \$8 M in Q1'15 due to stronger U.S. dollar





Yulin JV Update



## Yulin JV – On track for start up in 2017

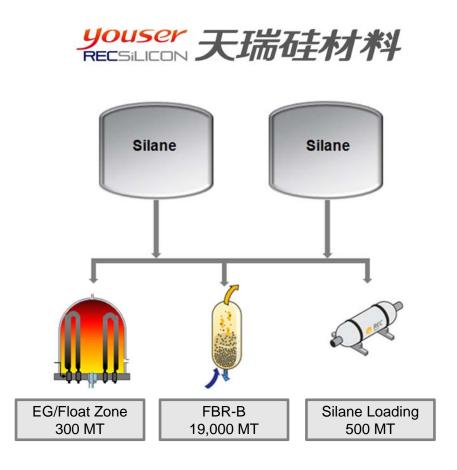


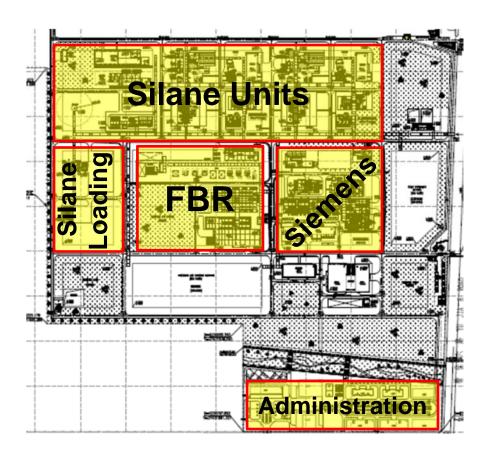
- Detailed engineering finalized, utilizing Fluor in Shanghai
- Formal investment decision approved April 24, 2015
- Long lead items have been ordered, for delivery mid 2016
- 57 Yulin JV employees will be on-site in Moses Lake and Butte for training beginning in September 2015



Yulin plant Site, March 2014

## Optimized Capacities and Yulin Plant Layout





Yulin Plant Layout

### Yulin JV Minimizing Cost & Protecting IP

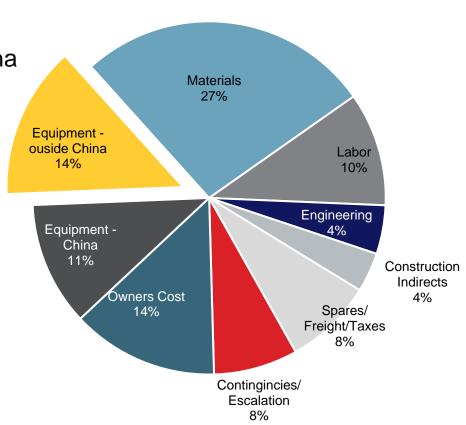


#### **Total Investment \$1.25 B**

- ~86% Total Cost Sourced in China
- ~14% likely to be sourced outside China

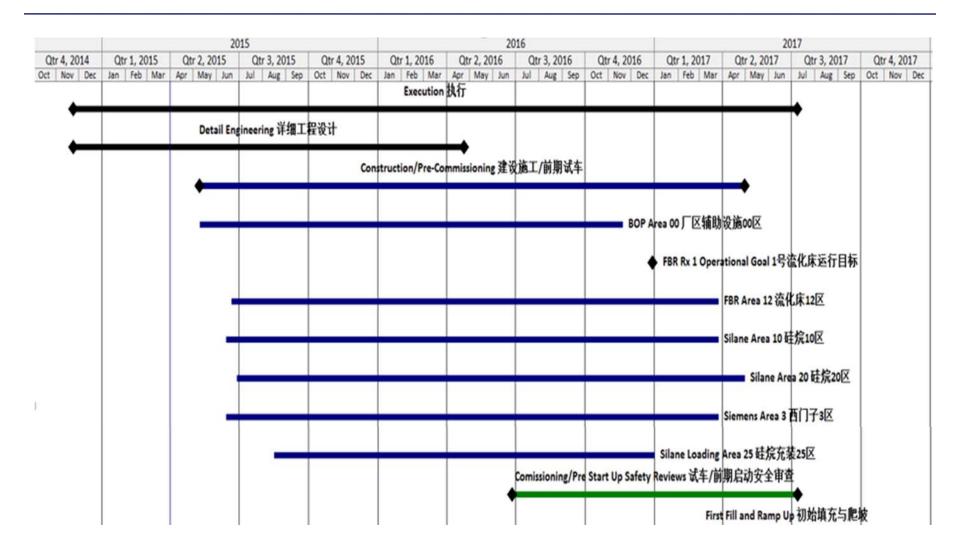
# Critical Equipment from qualified suppliers

- ) FBR
  - Fluid Bed Reactors
- Silane Unit
  - Hydrogenation reactors
  - Chlorosilane Recovery
- Siemens
  - Silane-based reactors
- Other critical components



#### Master Schedule for Yulin JV





# Key Investment Parameters (FBR and Siemens combined)



**Total Investment: \$1.25 B** 

#### **Investment Parameters:**

CAPEX: \$65/kg

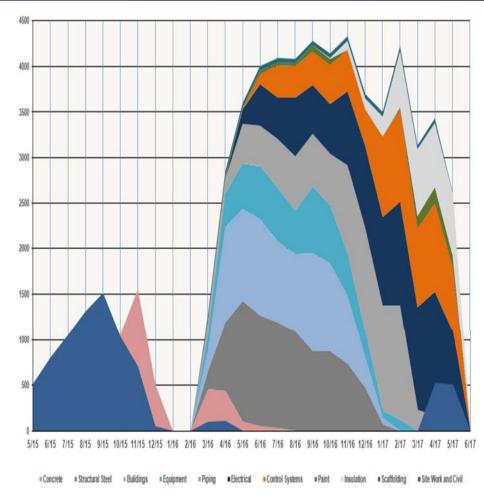
Cash Cost: ~\$9.0

Production Development

- 2017 ~ 7,300 MT

- 2018 ~ 16,300 MT

- 2019 ~ 19,300 MT



Construction - Manpower Projection



## Q2 Guidance



#### Q2 2015 Guidance

**FBR Production** 

Q2 4,350 MT

**FBR Cash Cost** 

Q2 \$11.5/kg

**Silicon Gas Sales** 

Q2 700 MT

**Semiconductor Production** 

Q2 340 MT

**Total Polysilicon Production** 

Q2 5,100 MT

СарЕх	2015
Maintenance	\$25 M
Expansion	\$60 M



July 17, 2015

