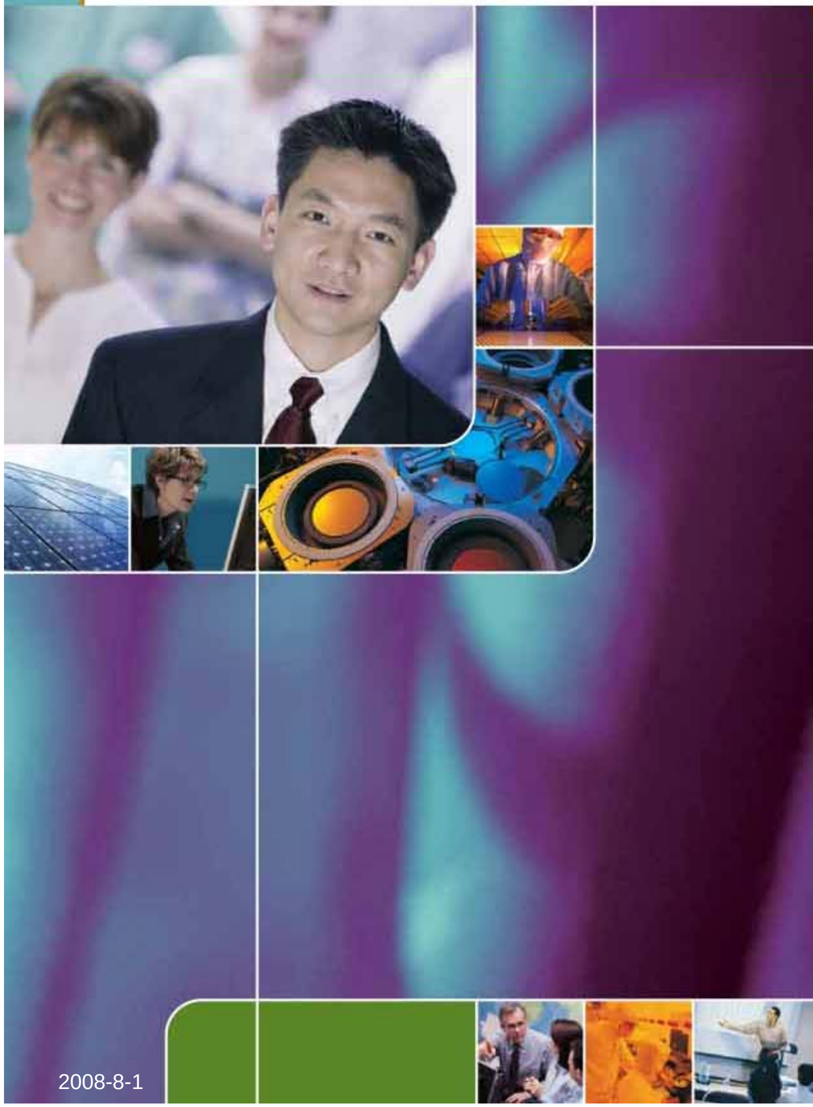
China Market Updates
Semiconductor, FPD, and PV



Mark Ding 丁辉文

President, SEMI China

Vice President, SEMI

July 19, 2008

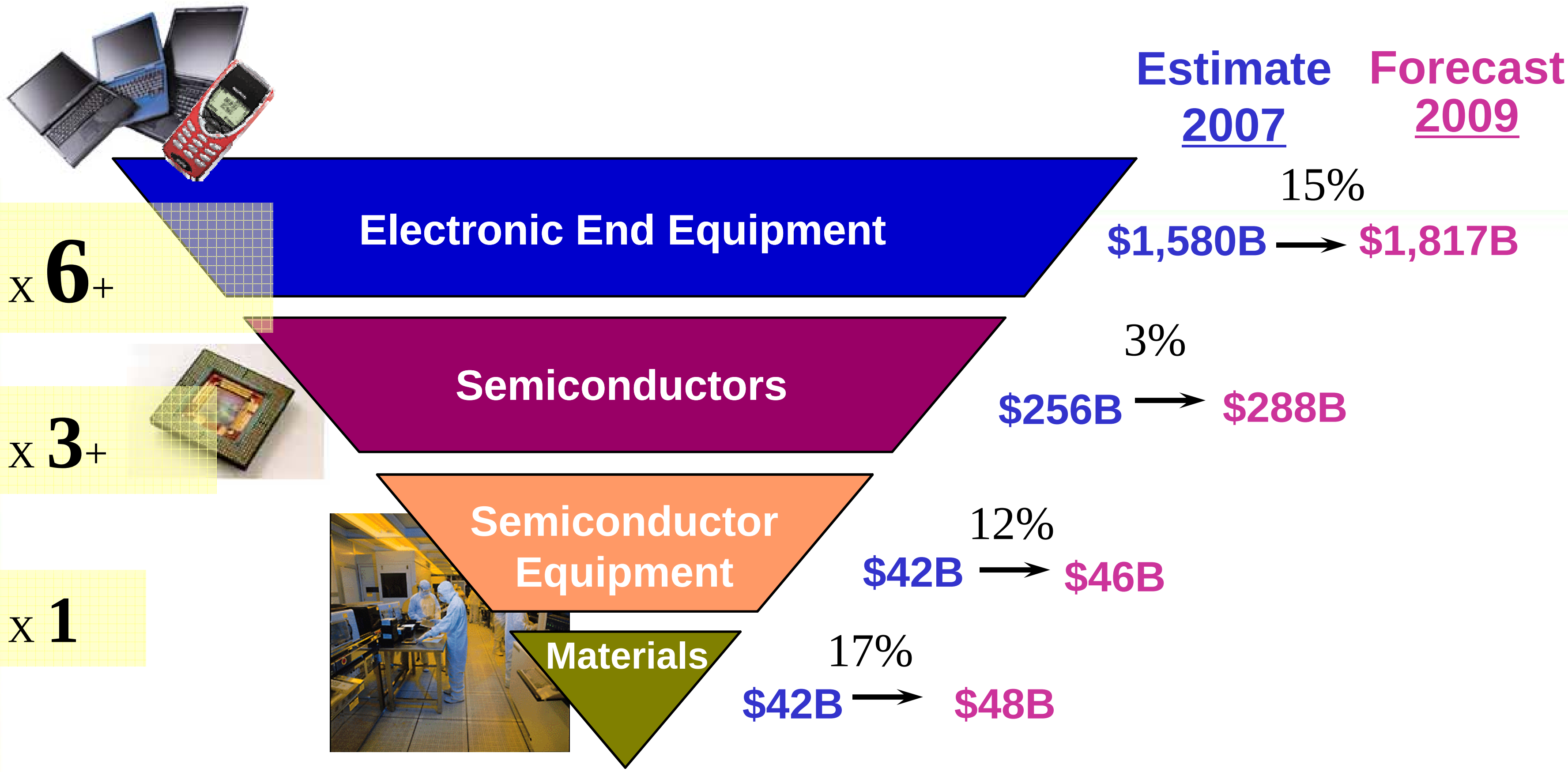
CASPA/GSA July 19 Symposium

China Market Updates

- Semiconductor: Next wave is coming
- FPD: confused market
- Photovoltaic: It is Green but very hot
- Conclusion

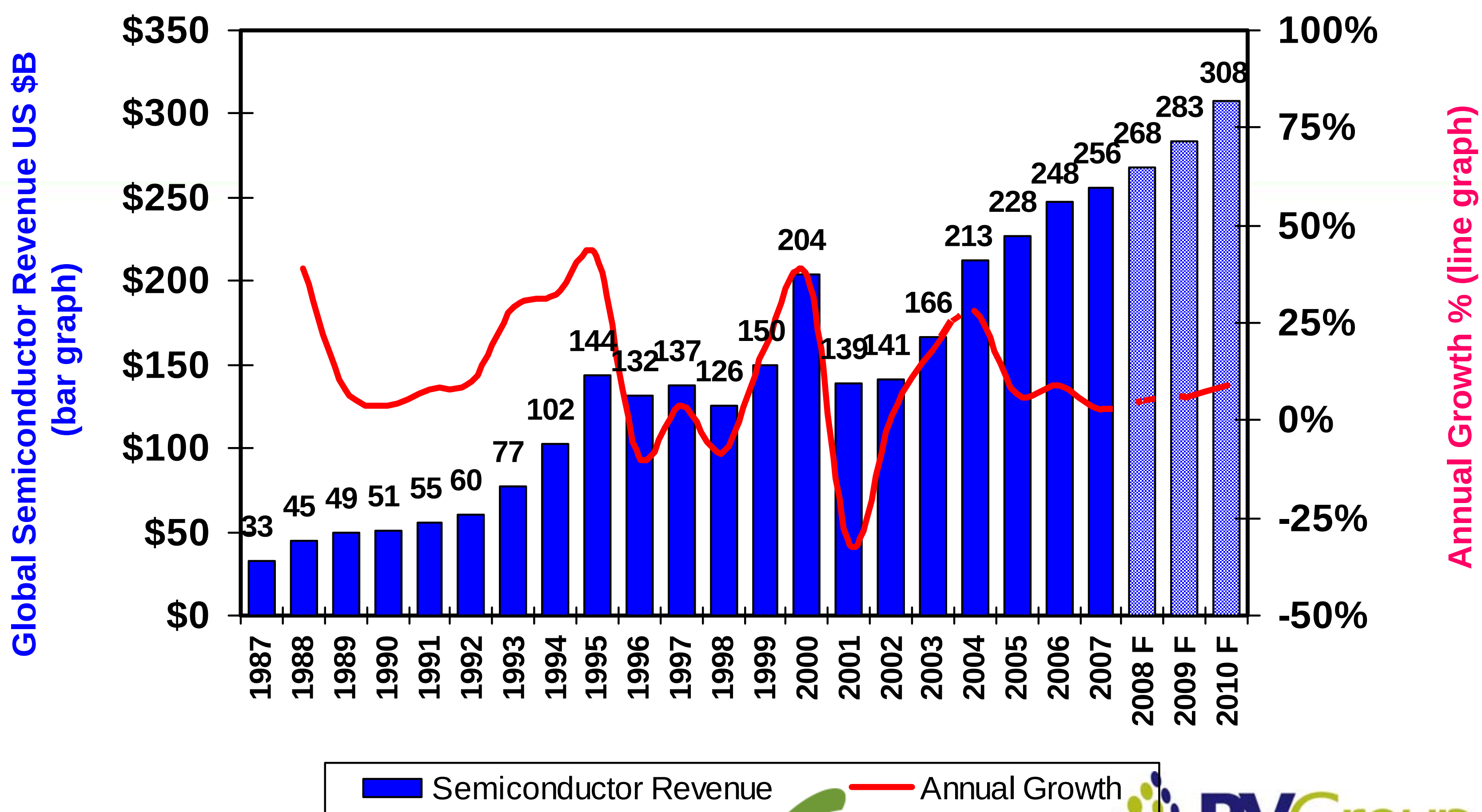
Semiconductor: Next wave is coming

The Food Chain …



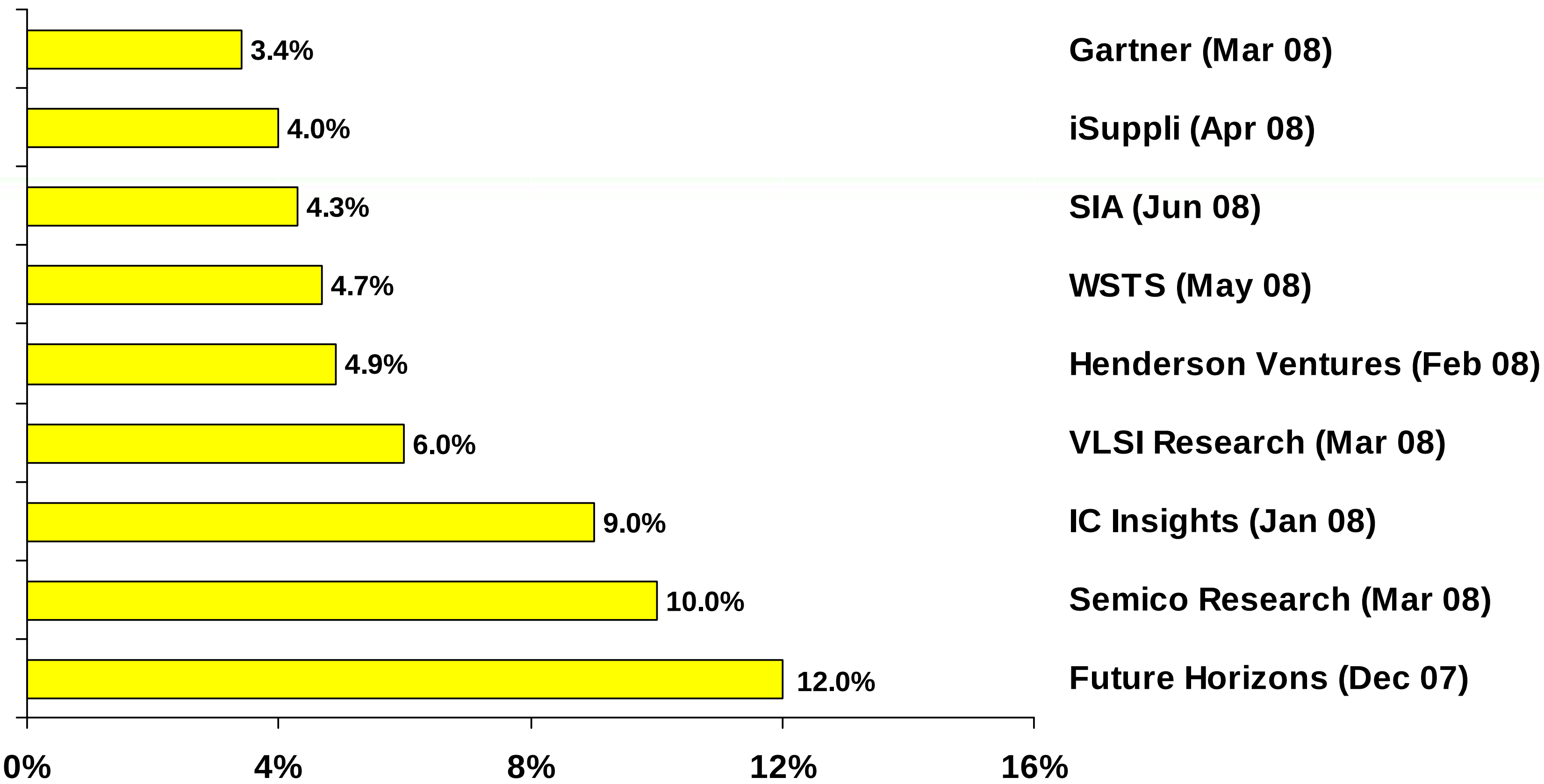
Source: SIA, SEMI and Henderson Ventures June 2007

Semiconductor Cycles



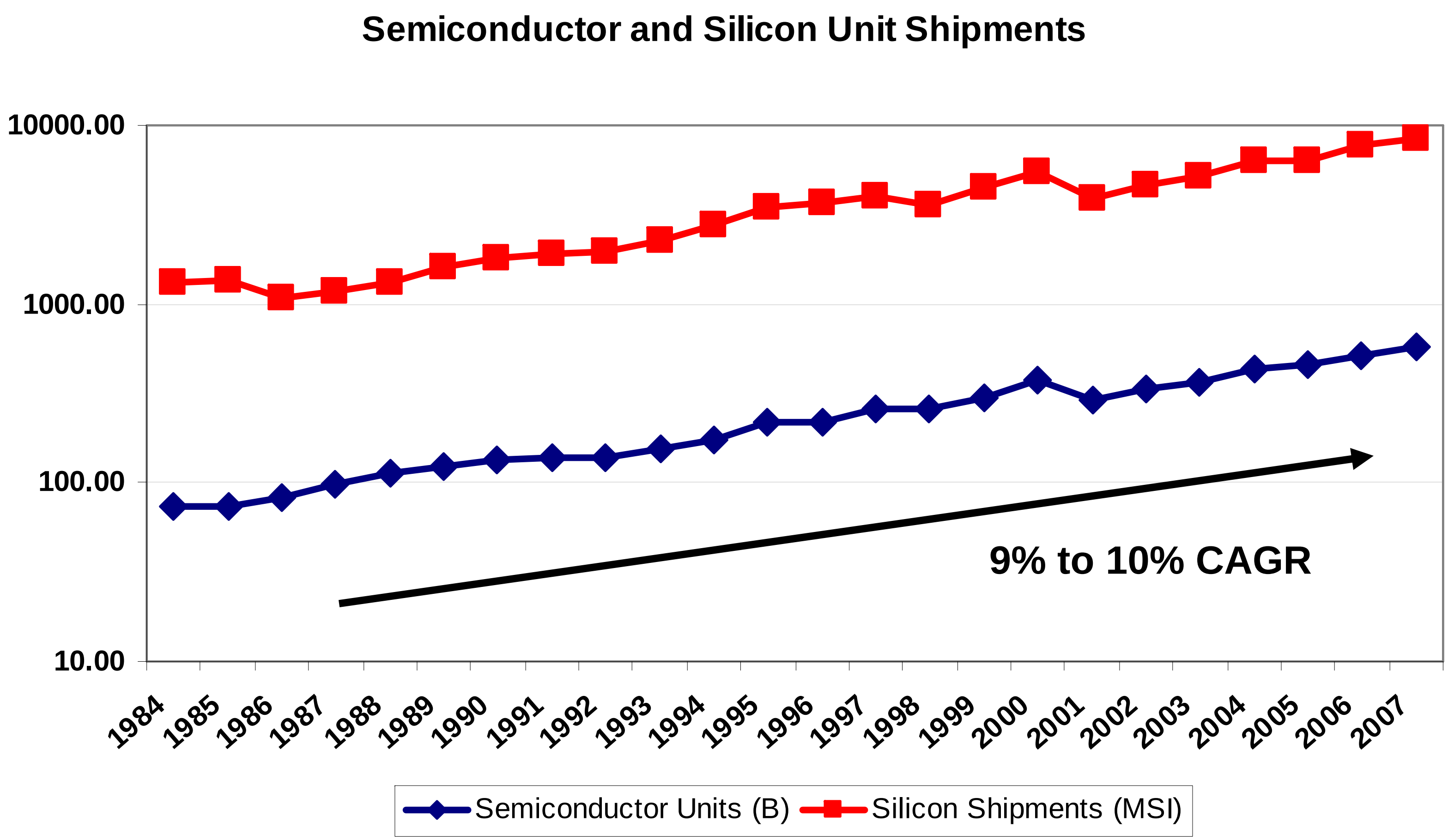
Source: SIA/WSTS historical year end reports, WSTS May 2008 Forecast

2008 Semiconductor Revenue Forecasts



Source: SEMI

Unit Trends-
On-going Demand for Devices



Source: SEMI, SIA/WSTS

Collaboration or Consolidation

- Cost of R&D increasing

Process Technology	Cost	Minimum Revenue
65 nm	$1.5B	$10B
45 nm	$2.4B	$16B
32 nm	$3.0B	$20B

Gartner, Goldman Sachs – June 2007

R&D costs Rising 25%

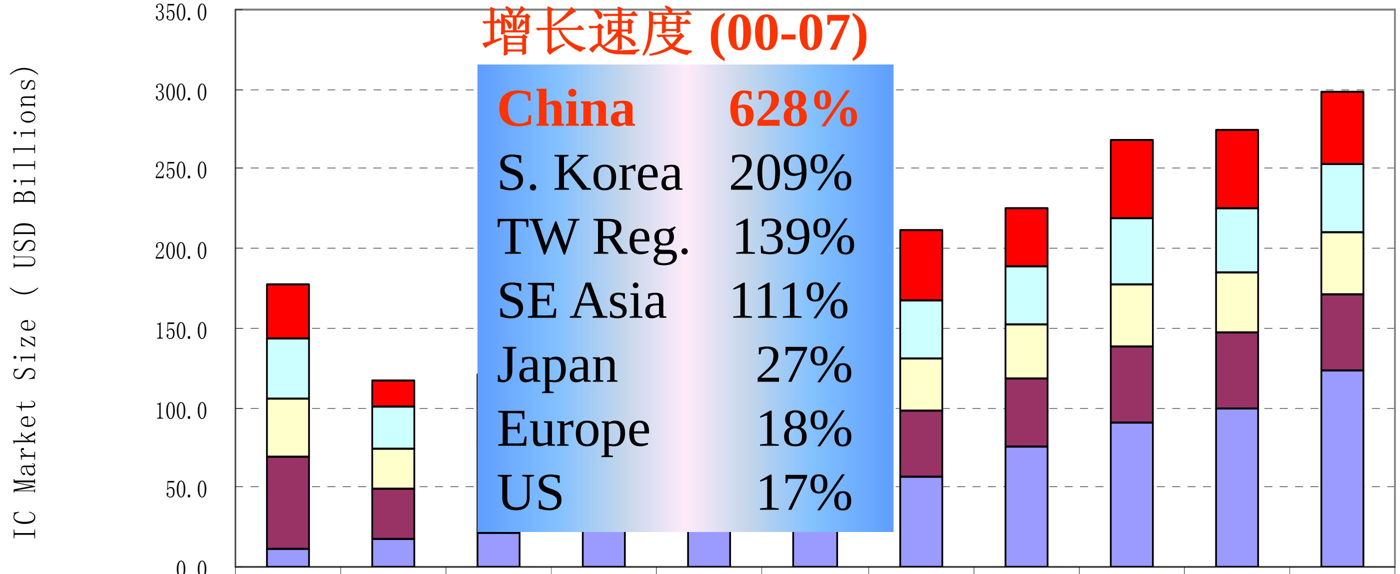
- Fab Costs increasing

Process Technology	Cost
65 nm	$ 2.5 billion
45 nm	$ 3.0 Billion
32 nm	$ 3.5 Billion

Manufacturing costs increasing 20%

Strong Demand in China

Since 2005, China is the biggest IC market.

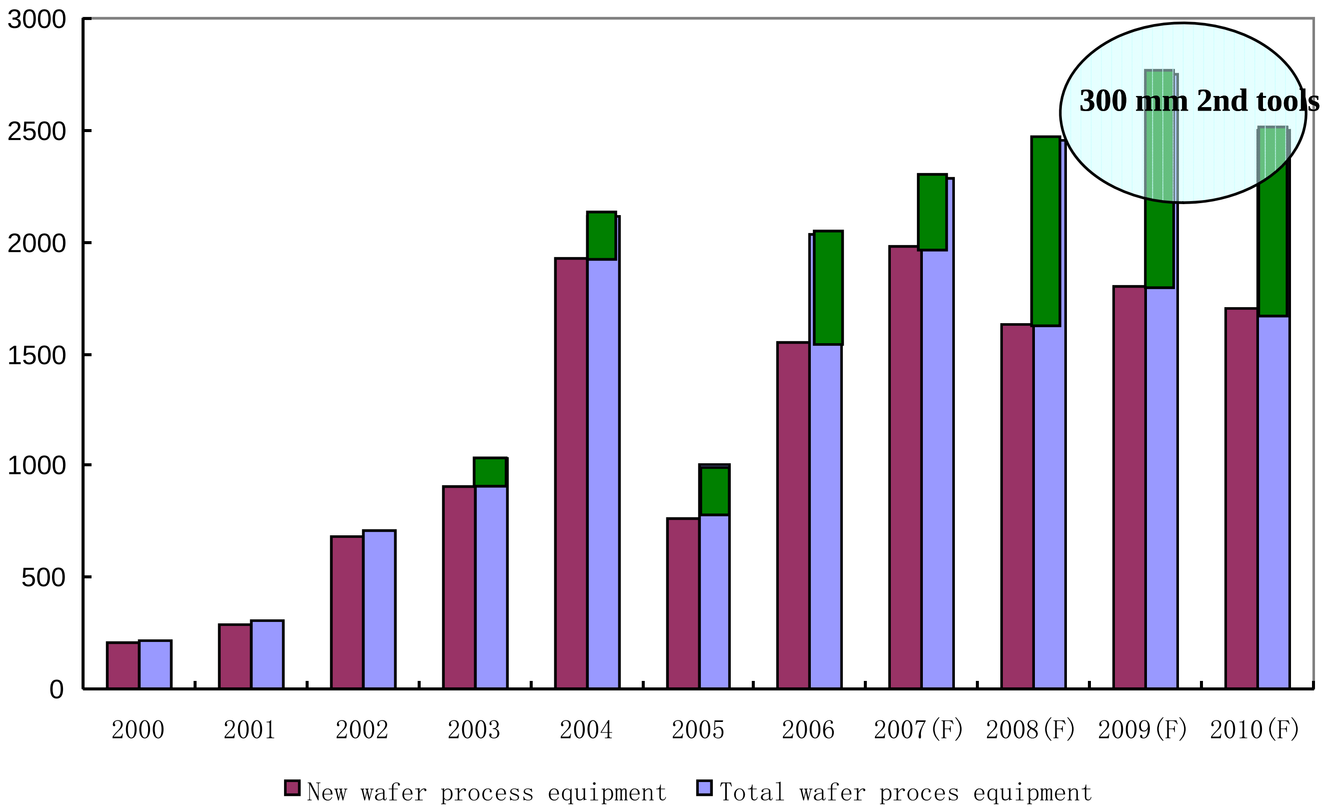


	2000	2001	2002	2003	2004	2005	2006(E)	2007(F)	2008(F)	2009(F)	2010(F)
Rest of Asia-Pacific	33.0	16.2	16.5	17.0	32.2	42.0	44.2	36.5	50.0	49.0	46.0
Japan	38.0	26.5	26.0	30.0	35.0	33.0	35.7	36.6	41.0	40.5	42.0
Europe	37.0	25.8	25.5	27.0	33.0	33.2	33.6	34.0	39.0	38.0	39.0
North America	58.0	32.0	31.0	32.0	36.0	37.2	41.2	43.5	48.0	47.0	47.8
China (Mainland)	11.0	17.0	22.0	34.4	42.9	48.0	56.5	75.3	90.5	100.0	124.0

China (Mainland) North America Europe Japan Rest of Asia-Pacific

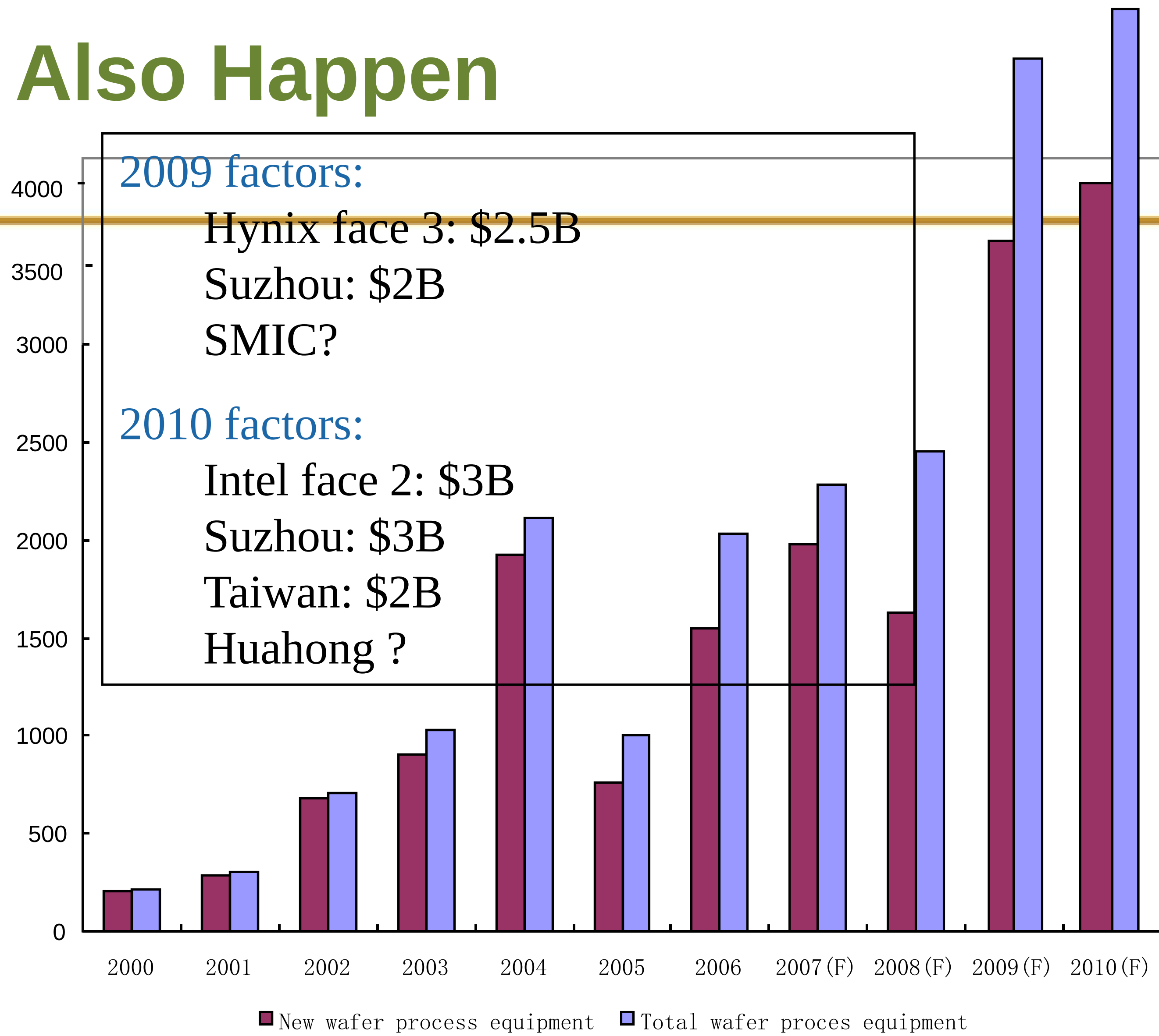
Source: March 2007 WSTS, IC Insight, CCID, SEMI, iSuppli, Gartner

China Wafer Fab Equipment Market – New and Used Tools



Source: SEMI Industry Research and Statistics, Oct. 2007

It Might Also Happen



2009 factors:

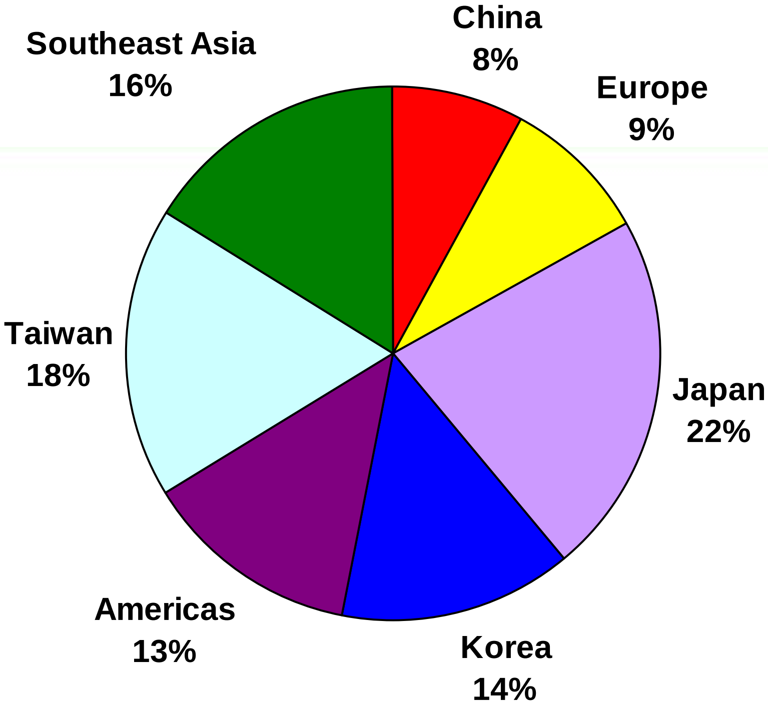
- Hynix face 3: $2.5B
- Suzhou: $2B
- SMIC?

2010 factors:

- Intel face 2: $3B
- Suzhou: $3B
- Taiwan: $2B
- Huahong ?

Source: SEMI Industry Research and Statistics, Oct. 2007

Total Regional Materials Markets



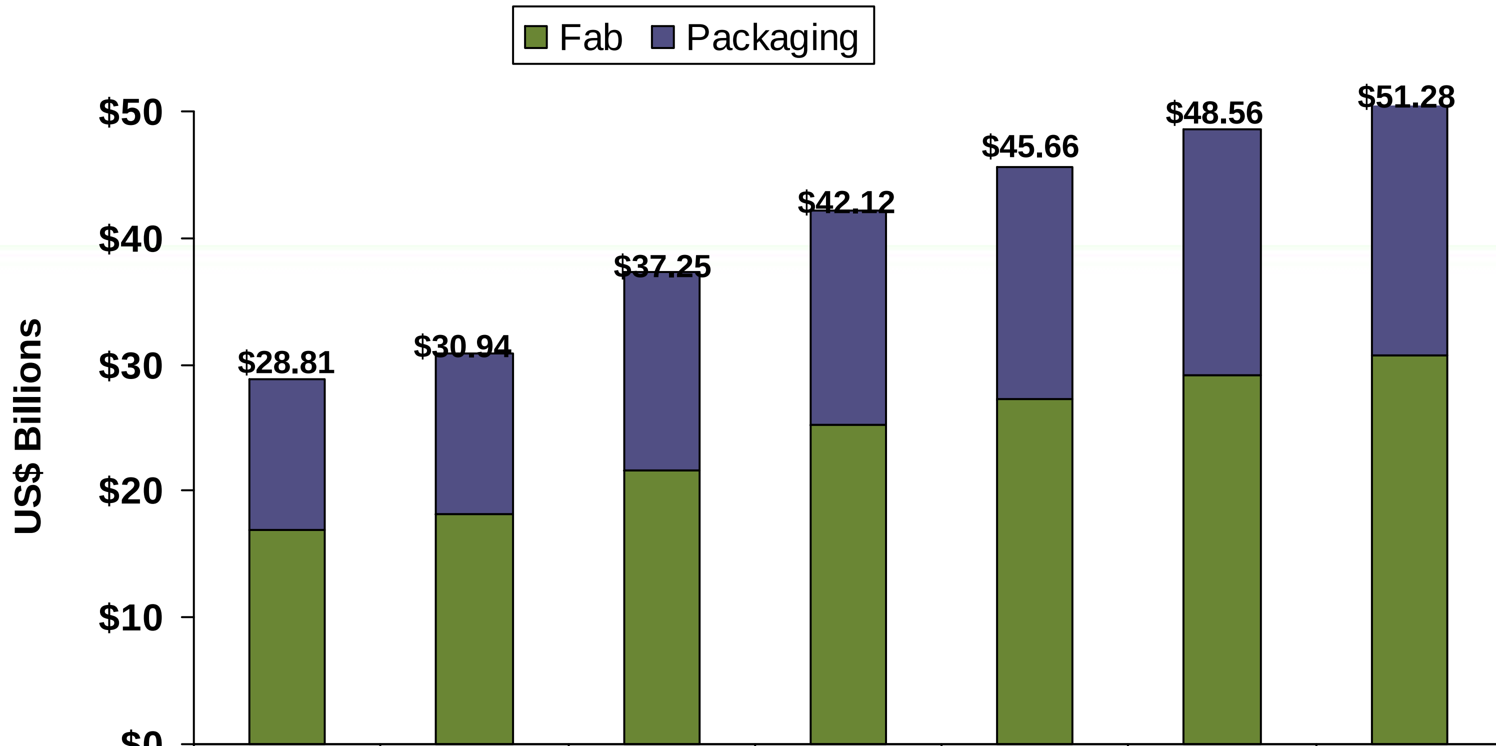
2007=$42.2 Billion

Region	2007E $B	2008F $B	% Change
China	3.24	4.10	27%
Europe	3.65	3.94	8%
Japan	9.25	10.05	9%
Korea	6.05	6.56	8%
Americas	5.63	6.07	8%
Taiwan	7.68	8.64	13%
Southeast Asia	6.71	7.52	12%
Total Regions	42.21	46.88	11%

Totals may not add due to rounding

Source: SEMI Materials Market Data Subscription November 2007

Materials 2008 Forecast By Segment

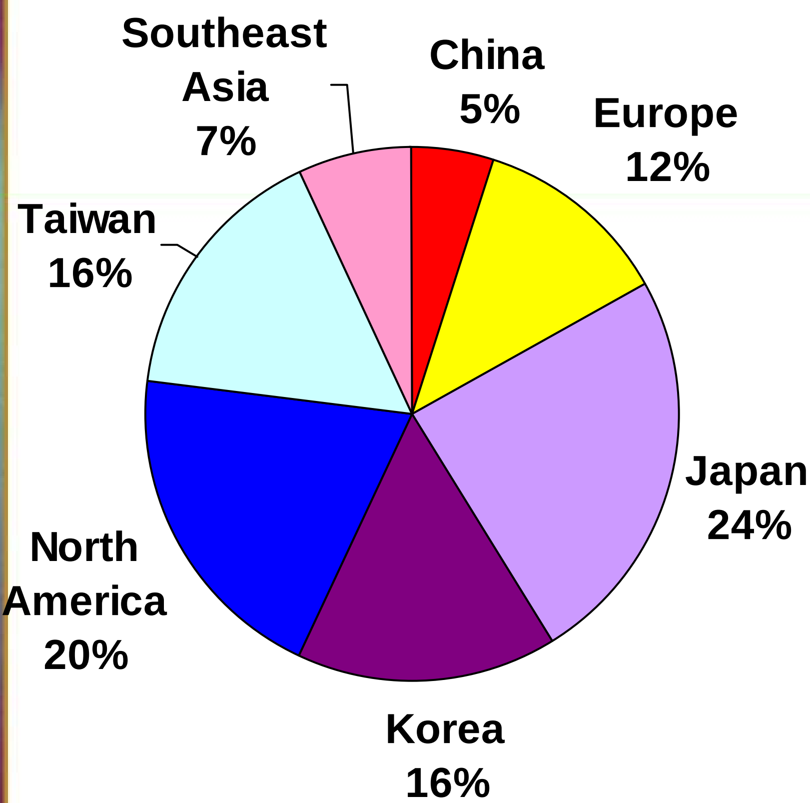


	2004	2005	2006	2007	2008 F	2009 F	2010F
Packaging	11.95	12.77	15.54	16.92	18.44	19.47	20.60
Fab	16.86	18.17	21.70	25.20	27.22	29.09	30.69

Totals may not add due to rounding.

Source: SEMI Materials Market Data Subscription May 2008, Global Semiconductor Packaging Materials Outlook-2007/2008 Edition

Regional Fab Materials Markets



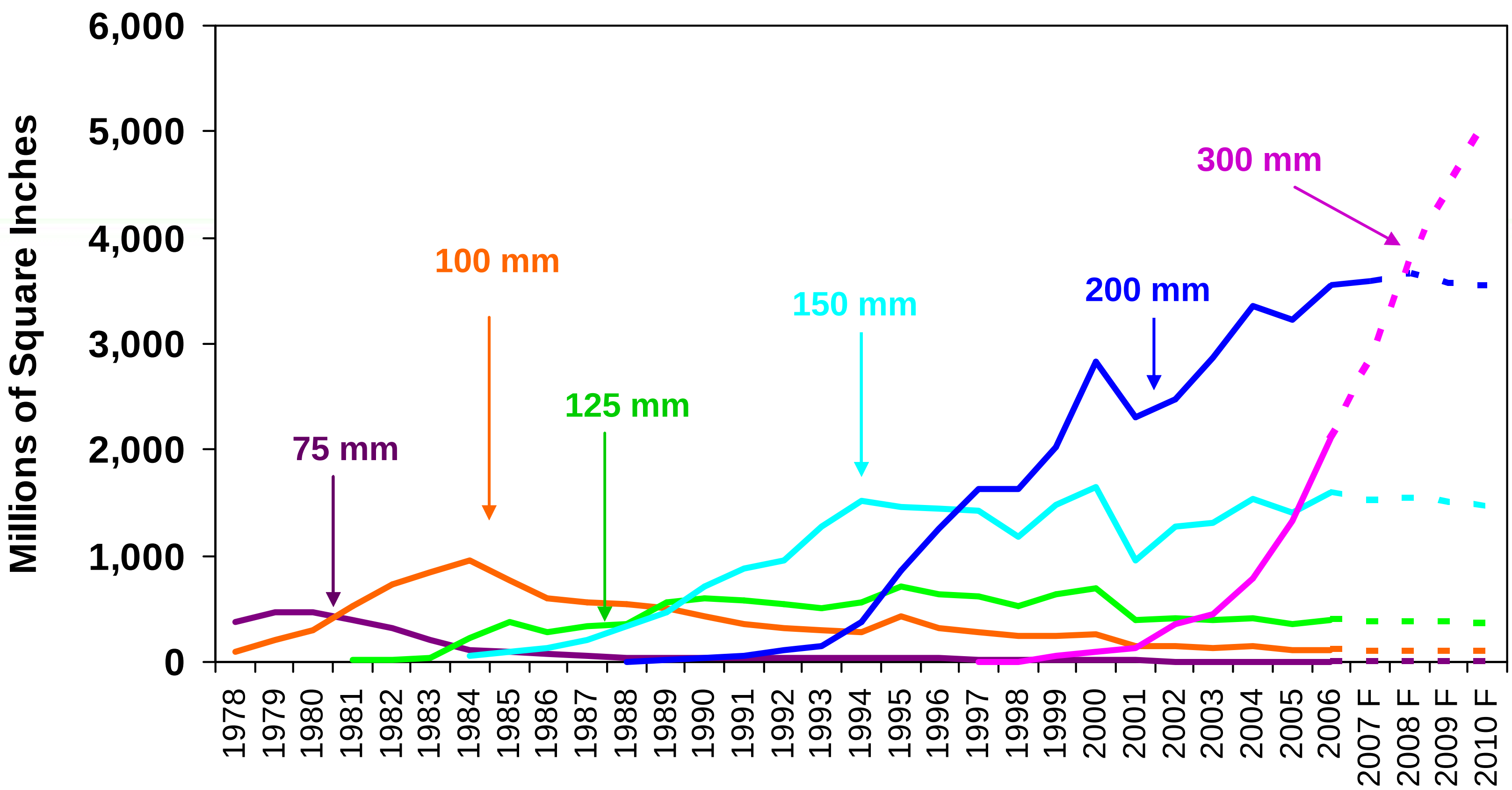
2007E = $25.3 Billion

Region	2007E $B	2008F $B	% Change
China	1.27	1.71	35%
Europe	3.01	3.27	9%
Japan	6.14	6.79	11%
Korea	4.07	4.49	10%
North America	5.05	5.47	8%
Taiwan	4.05	4.60	14%
Southeast Asia	1.71	2.09	22%
Total Regions	25.30	28.42	12%

Totals may not add due to rounding

Source: SEMI Materials Market Data Subscription November 2007

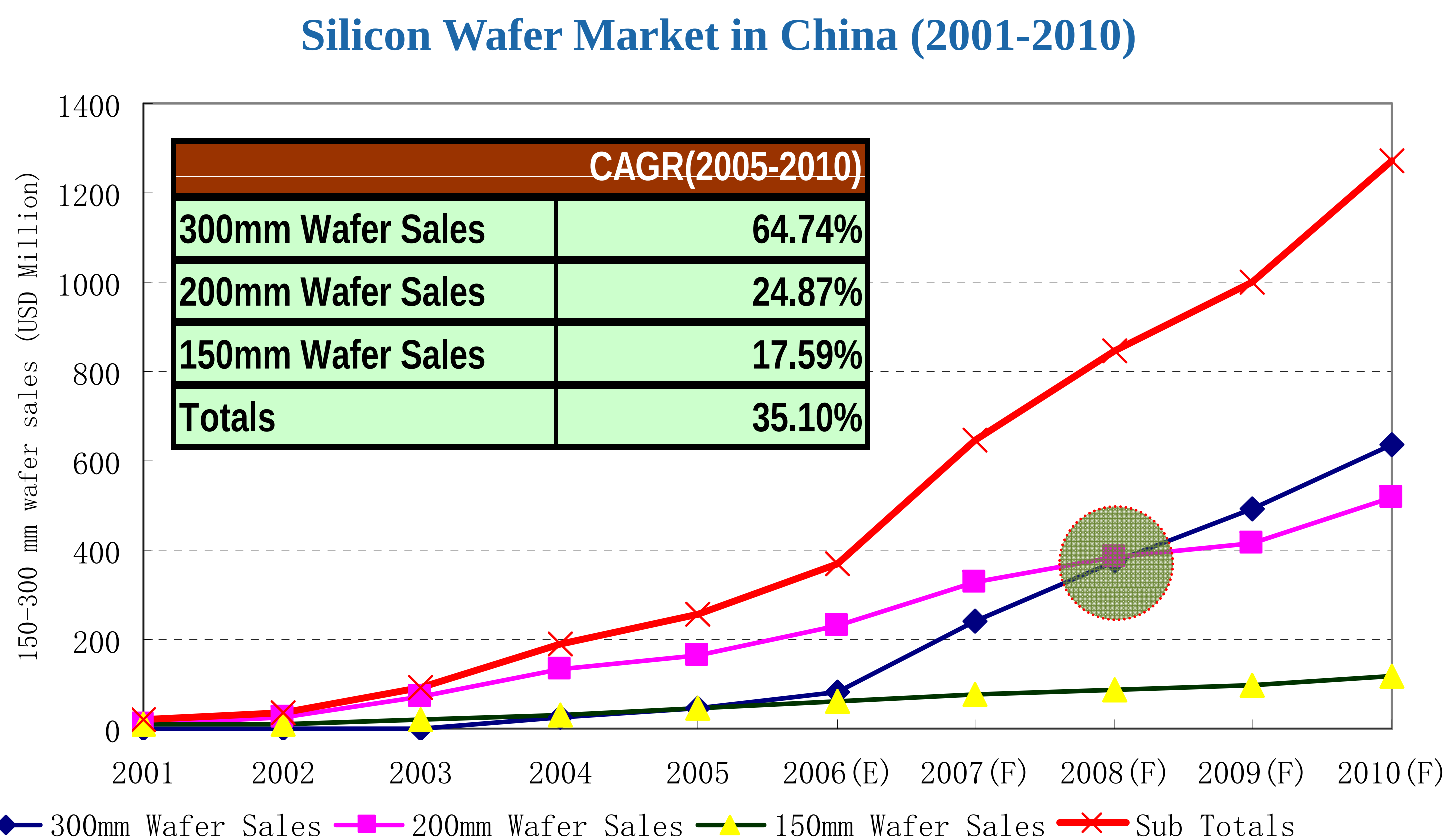
Global Silicon Wafer Diameter Trends



Includes polished, epi and non polished wafers. Excludes reclaim and SOI.

Source: Rose Associates 1978 to 1995; SEMI SMG 1995 to 2006; SEMI SMG consensus forecast 2007 to 2010

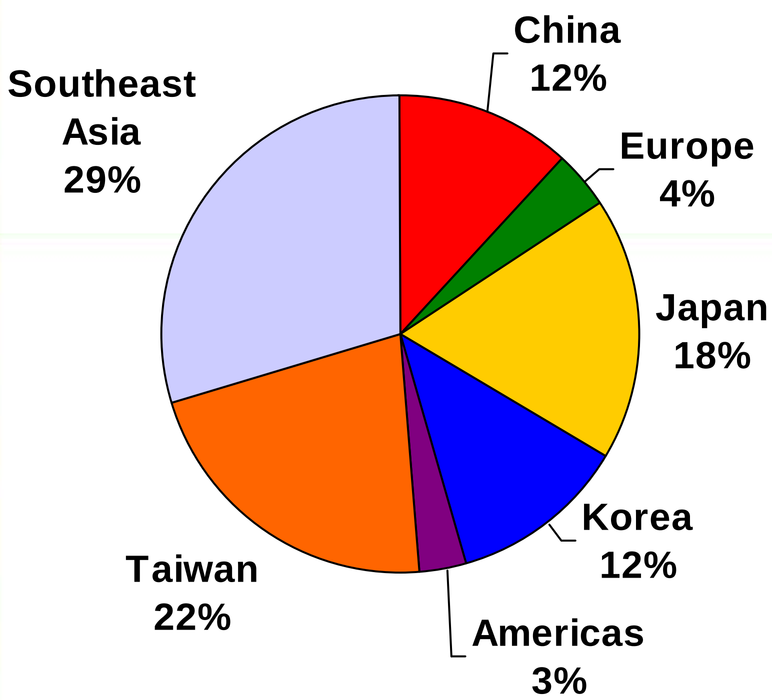
China Silicon Wafer Market Review



	CAGR(2005-2010)
300mm Wafer Sales	64.74%
200mm Wafer Sales	24.87%
150mm Wafer Sales	17.59%
Totals	35.10%

Source: SEMI Industry Research and Statistics, Oct. 2007

Regional Semiconductor Packaging Materials Markets



2007 Estimate = $16.9 Billion

Region	2007E $B	2008F $B	% Change
China	1.98	2.39	21%
Europe	0.64	0.67	5%
Japan	3.11	3.25	5%
Korea	1.97	2.07	5%
Americas	0.58	0.60	3%
Taiwan	3.64	4.03	11%
Southeast Asia	5.00	5.43	9%
Total Regions	16.92	18.44	9%

Totals may not add due to rounding

Source: SEMI Materials Market Data Subscription October 2007, Global Semiconductor Packaging Materials Outlook-2007/2008 Edition

Future of Semiconductor Industry

- For IC Manufacturing:
  - ASP ↓ Profit ↓ ⟶ Cut Cost
- For Equipment:
  - R&D ↑ Complexity ↑ ⟶ Higher Cost
- PV industry competes in human resources and capital funding
- Positive factors
  - China government will give more support to semiconductor industry
  - New leader in Taiwan
  - Japan-China relationship is warming up
  - China is a stable country

Domestic Fab Equipment Supplier Profile
-- Differentiation between Two Types of Supplier

Differentiation	Traditional Supplier	New Supplier
Company Size	~1000 people	~200 people
Talent	Master & PhD<=10% / Low labor cost	50%>=Master / High labor cost
Capital & Revenue	Self-Sufficiency	Funding/VC/Loan
Target Market	Mainland-China	Global Market
Technology	100-200mm/ >=0.25um	200-300mm/ <=100nm
IP	Self-Developed/ Collaboration	Self-Developed/License

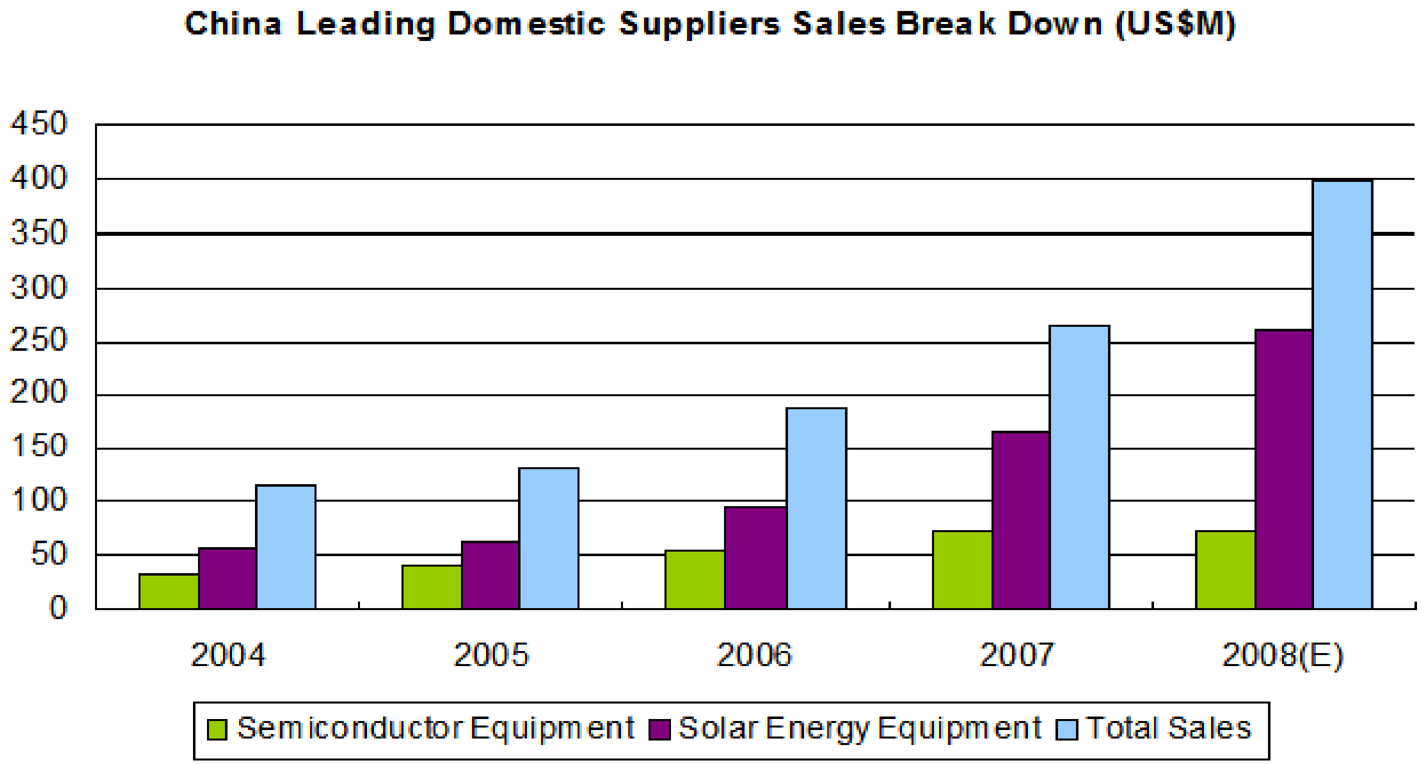
Source: "China Domestic Fab Equipment Suppliers" 2008 June, SEMI

Domestic Fab Equipment Suppliers Overview

Products Segment	Company			
Exposure & Write Equipment	SMEE	CECT 45	CECT 48	
Photoresist Processing Equipment	SevenStar	SIAYUAN		
Etch Equipment	AMEC	NMC	Sevenstar	CETC 48
Surface Conditioning Equipment	SevenStar	CETC 45	SIAYUAN	
Thermal Process Equipment	SevenStar	CETC 48		
Ion Implant Equipment	ZKX	CETC 48		
Thin Film Deposition Equipment (CVD/Sputter/Electroplating/electro deposition)	AMEC	NMC	Hiway	SKY
Inspection & Measurement Equipment	2 Start-up			
CMP Equipment	CETC 48	CETC 45	ACM	
Other Wafer Processing (OWP)				
Wafer Manufacturing	LZR	XAUT	JYT	JingYi

Source: "China Domestic Fab Equipment Suppliers" 2008 June, SEMI

China Leading Domestic Supplers Sales Break Down

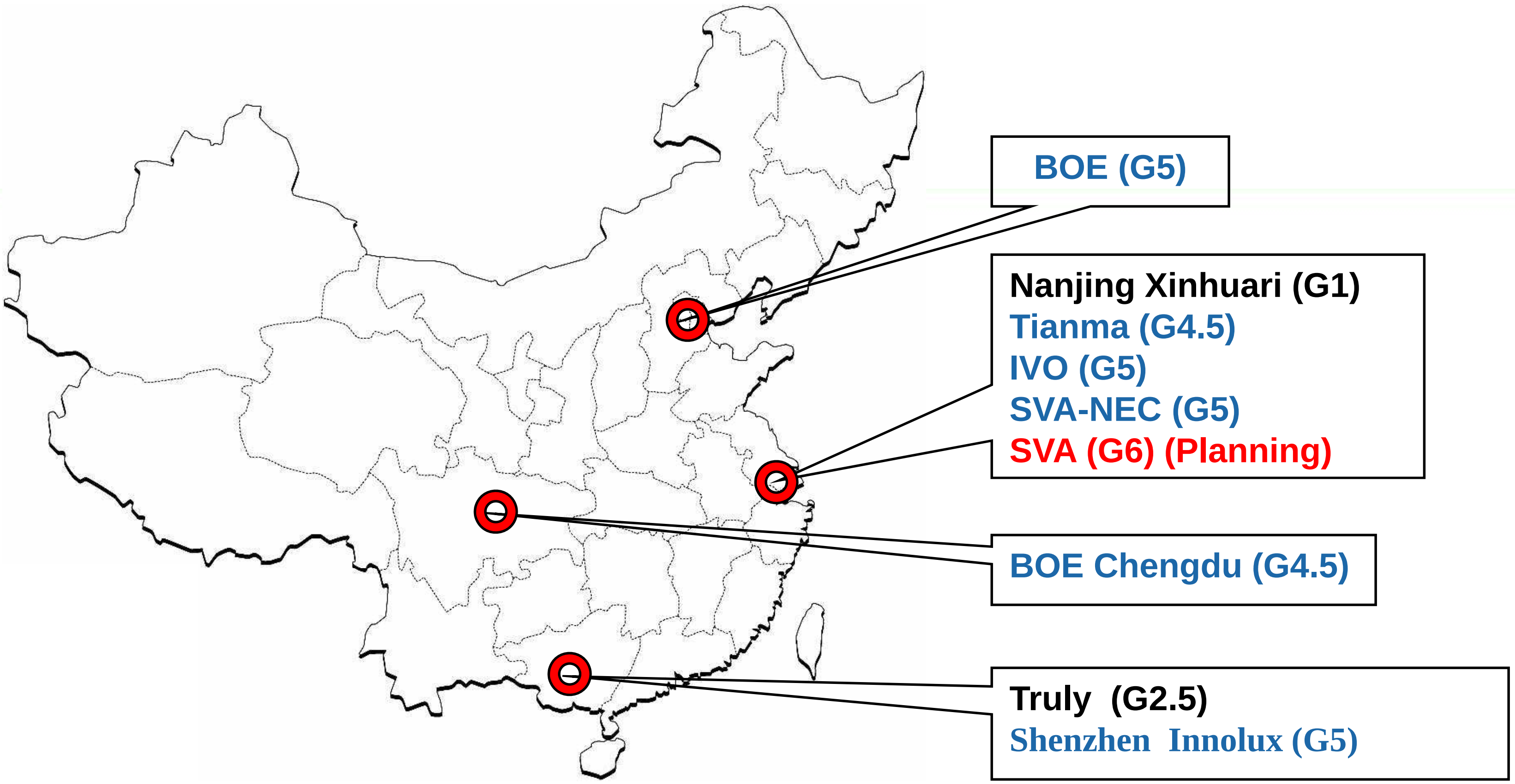


	2005	2006	2007	2008(E)
Semiconductor Equipment Growth Ratio	21%	38%	32%	1%
Solar Equipment Growth Ratio	9%	52%	75%	57%
Total Growth Ratio	16%	42%	40%	50%

Source: "China Domestic Fab Equipment Suppliers" 2008 June, SEMI

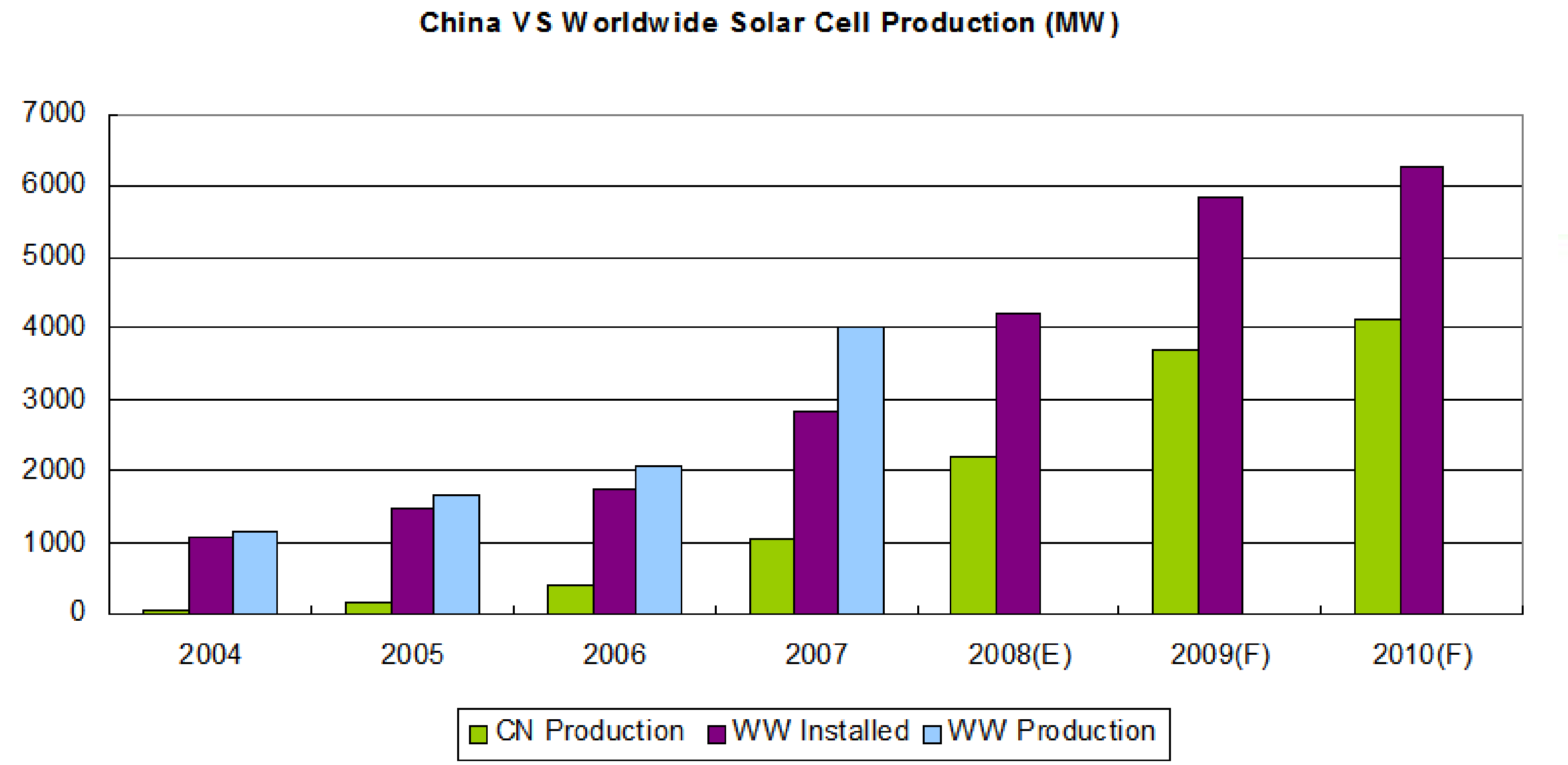
FPD: confused market

Good Year for China FPD



Photovoltaic: It is Green but very hot

China VS. Worldwide Solar Cell Production



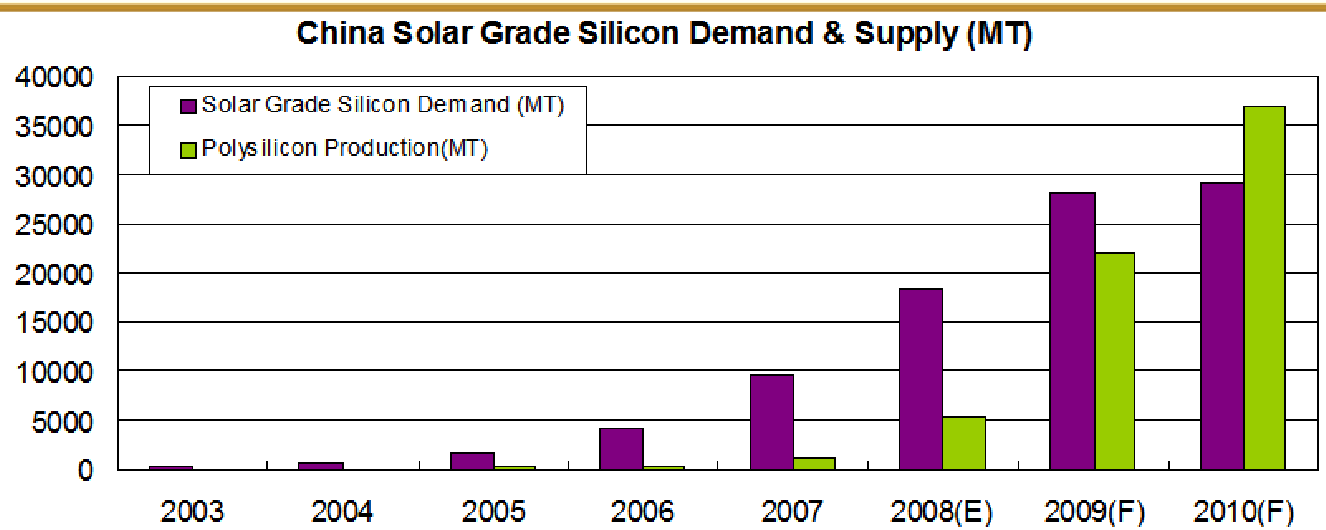
	2004	2005	2006	2007
CN Production (MW)	53	145	420	1050
CN of WW Production (MW)	5%	9%	20%	26%

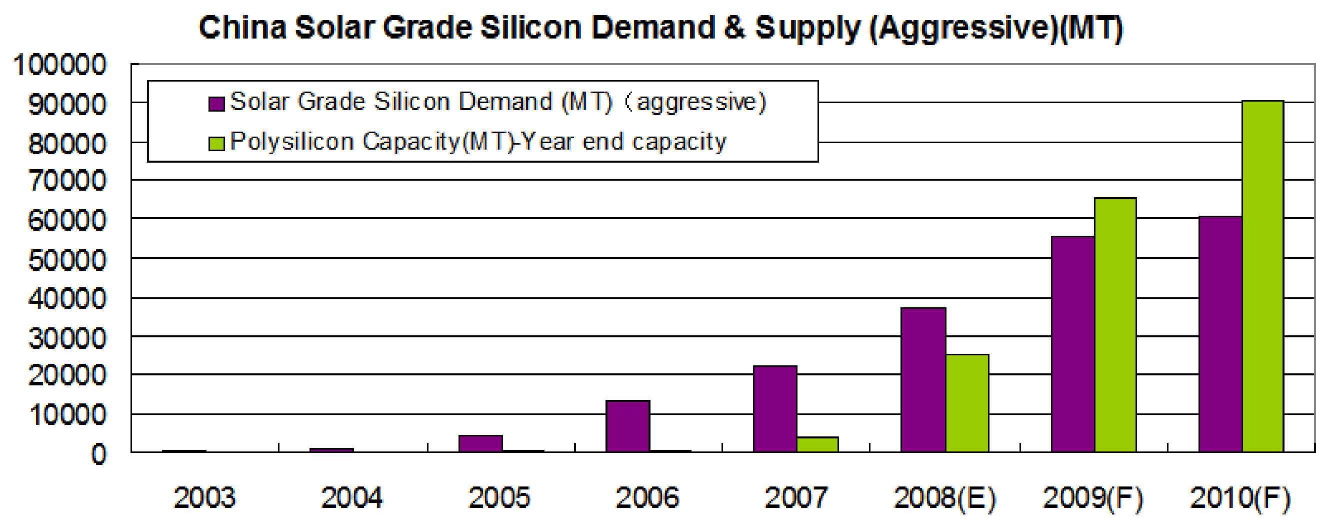
Source: SEMI, Solarbuzz 2008

10 Companies IPO in two years

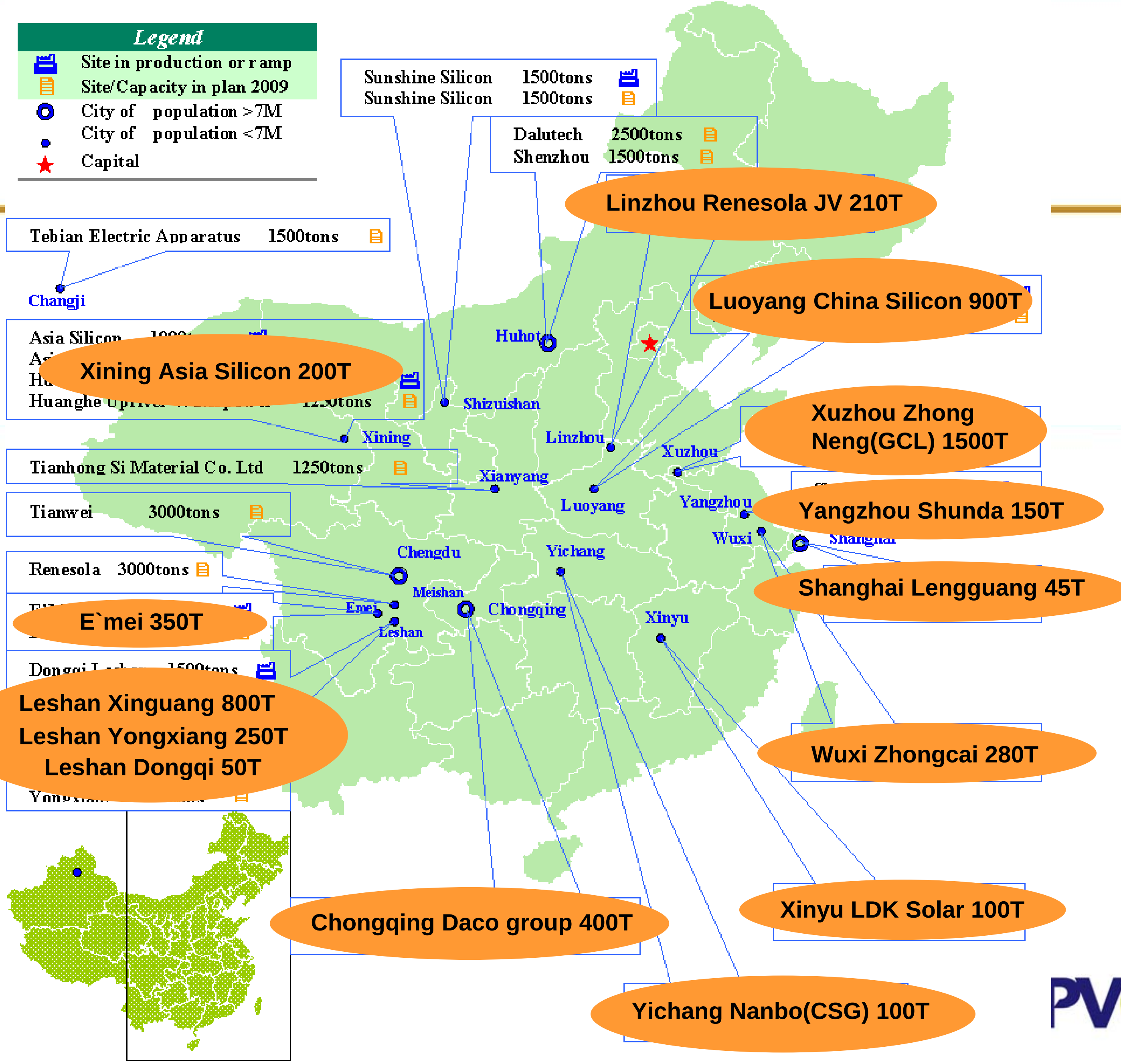
Company	Stock Market	Raise Money (M$)
Suntech	NY	400
YinLi	NY	390
Trina	NY	98
Renesolar	LD	50
China Sunergy	Nasdaq	93.5
Solarfun	Nasdaq	150
CSI	Nasdaq	110
LDK	NY	400
Jetion	LD	60
Jing'ao	Nasdaq	225

China Solar Grade Silicon Demand & Supply





Source: SEMI, Company Report, Solarbuzz



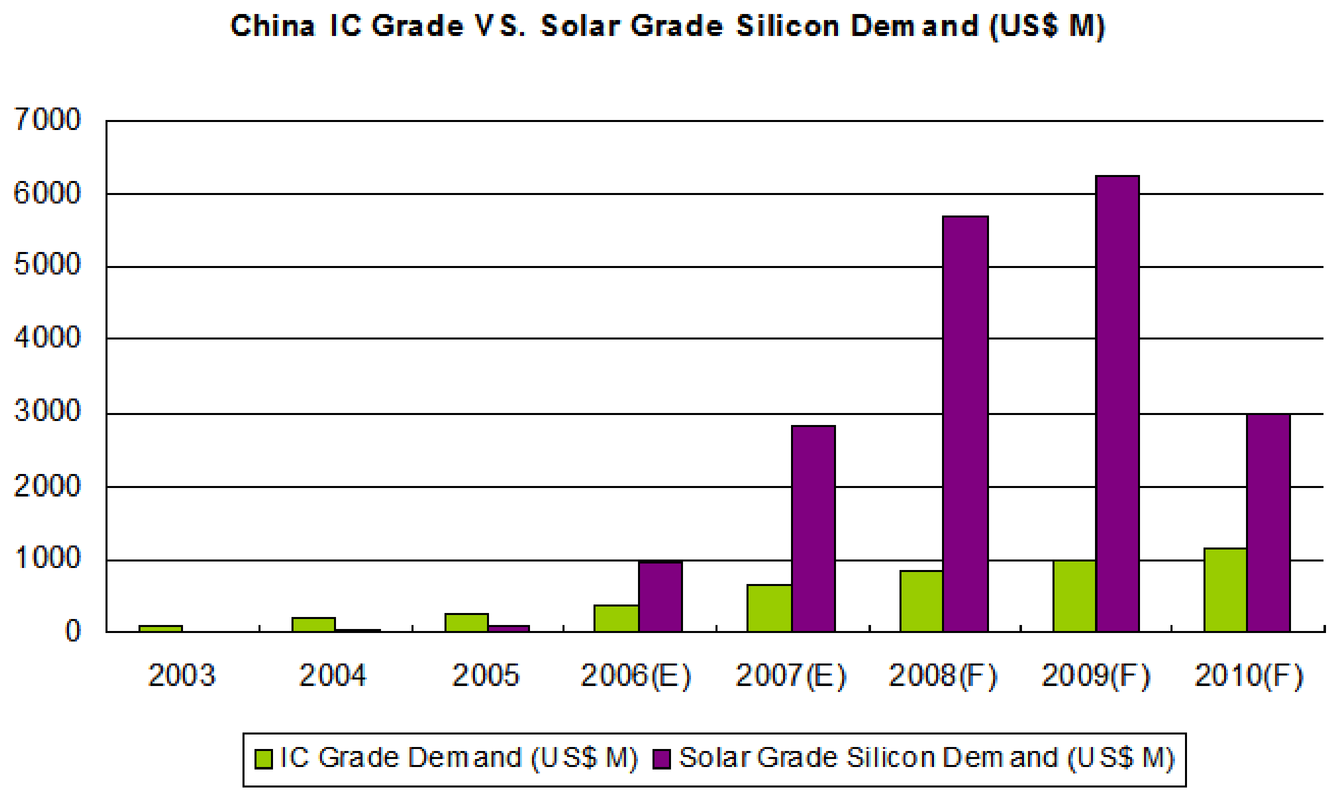
semi

PVGroup
an initiative of SEMI

Source: SEMI

2008-8-1

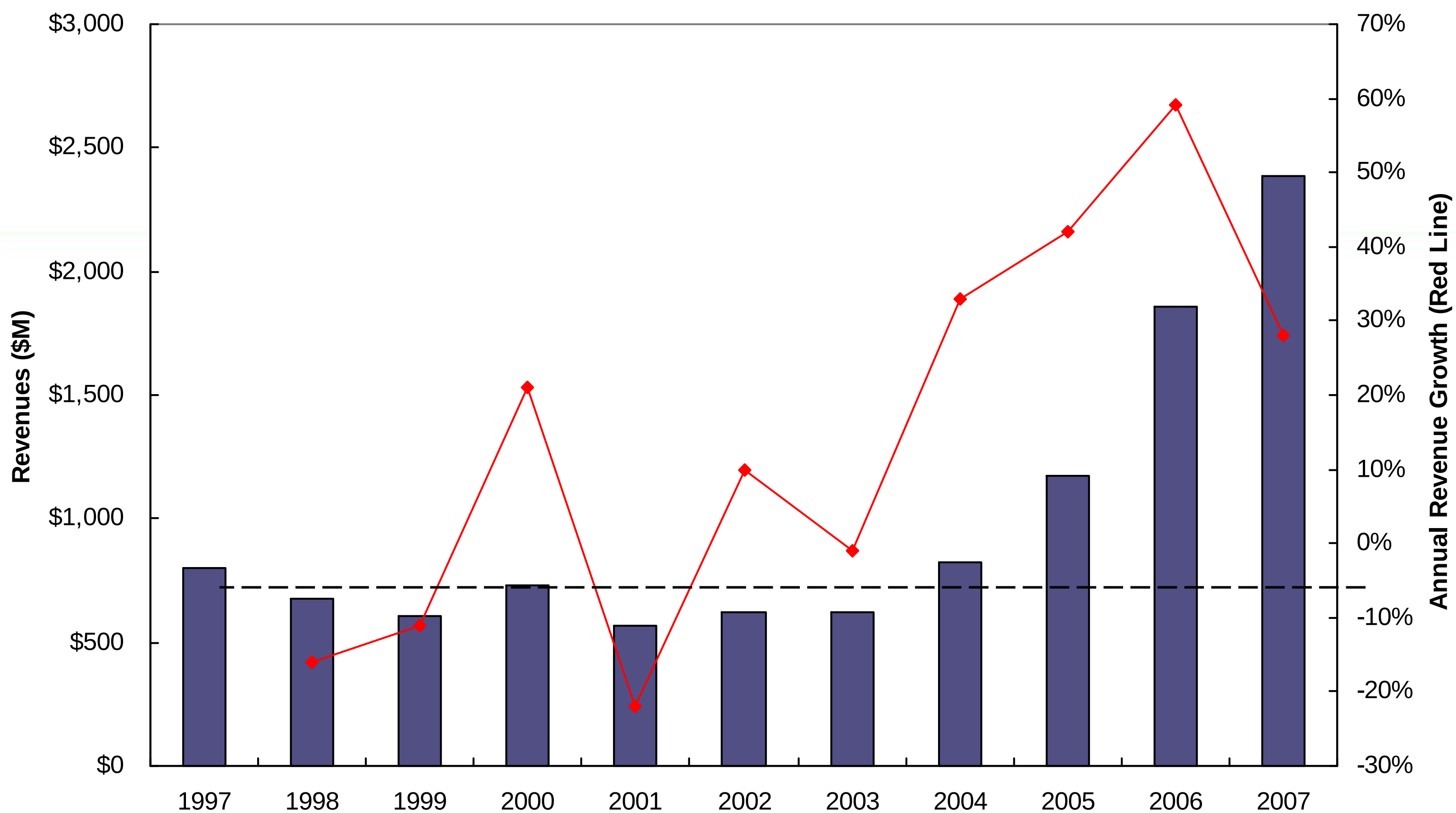
China IC Grade VS. Solar Grade Silicon Demand



	2004	2005	2006(E)	2007(E)	2008(F)	2009(F)	2010(F)
IC Grade Demand Growth Ratio	103%	34%	45%	74%	31%	18%	15%
Solar Grade Silicon Demand Growth Ratio	723%	251%	765%	192%	102%	10%	-52%

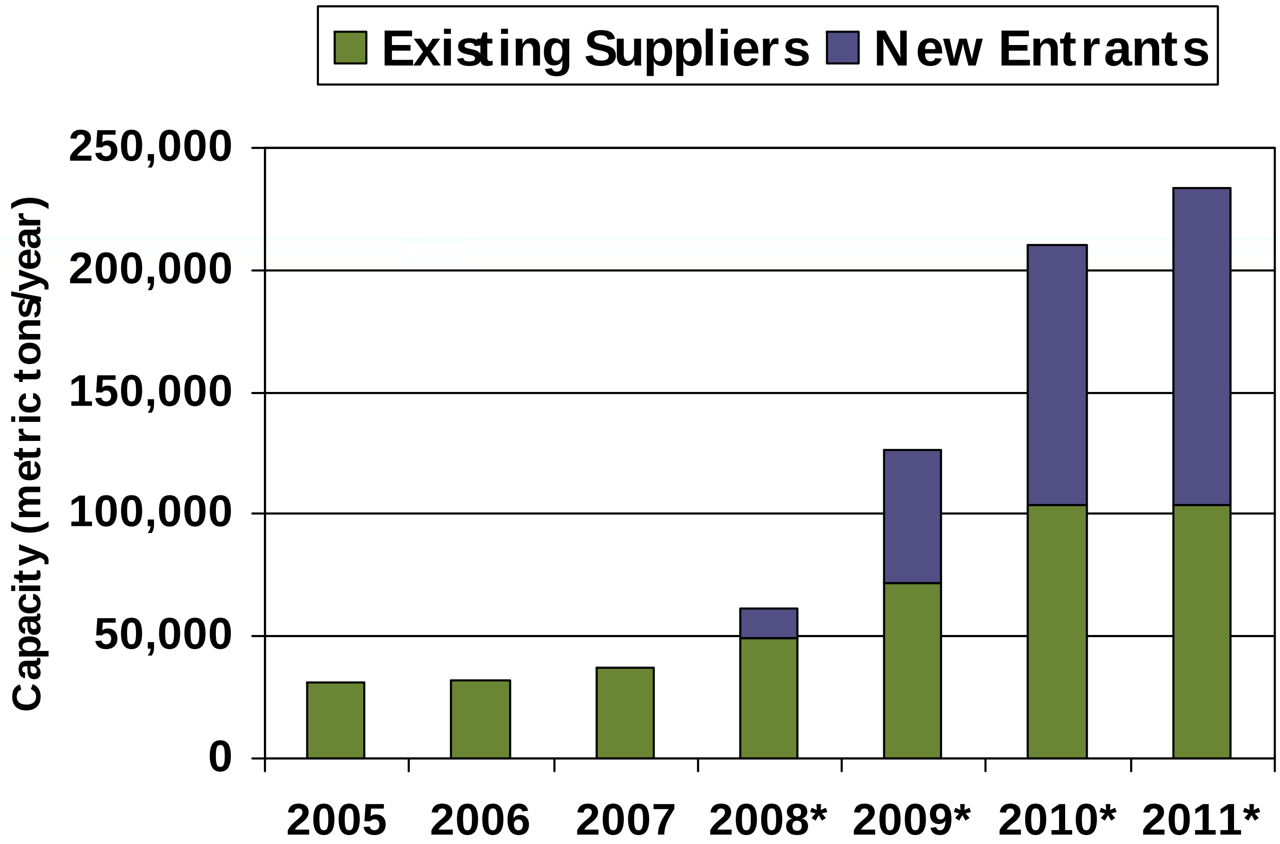
Source: SEMI, Company Report

Polysilicon Market Revenue Trends



Revenues includes captive and merchant markets; solar and semiconductor applications.

Polysilicon Capacity



* Announced capacity

Source: SEMI March 2008

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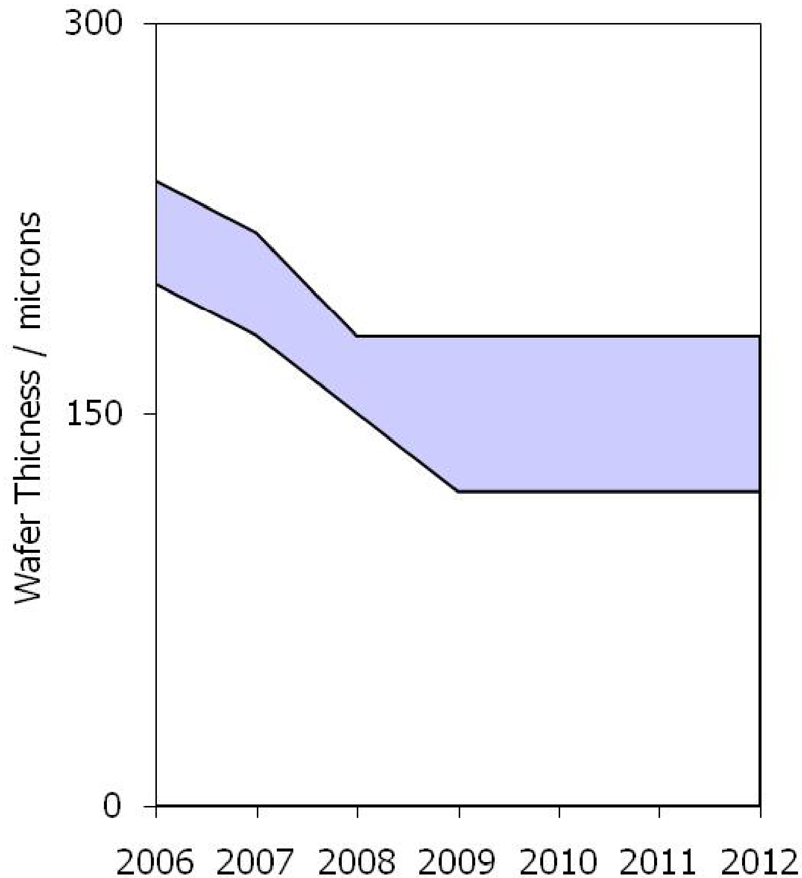
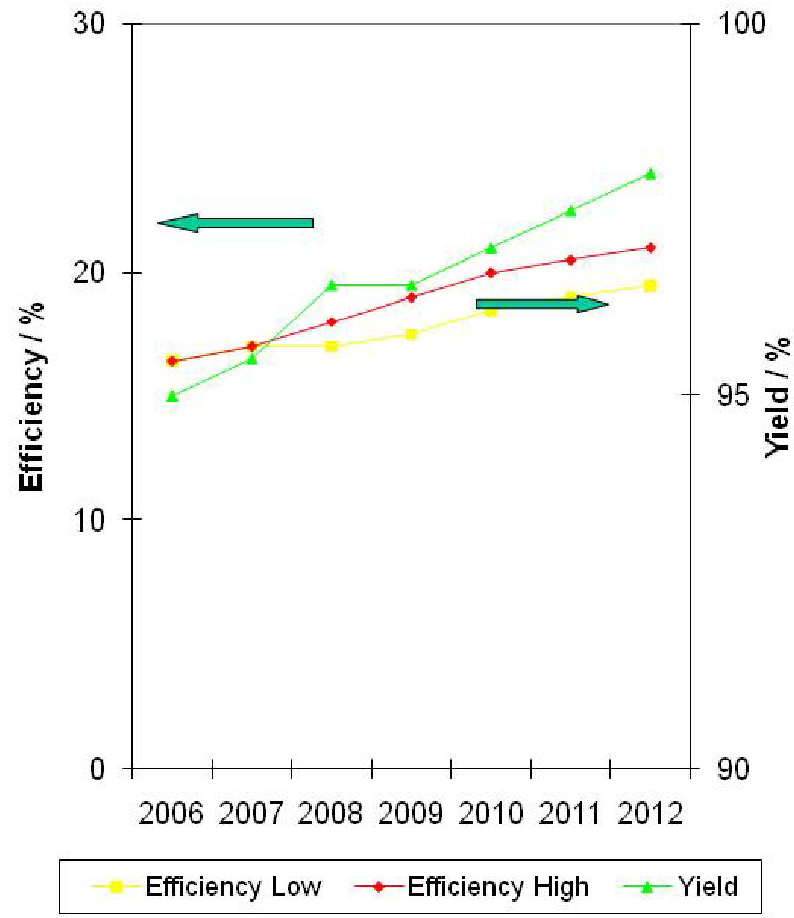
Monocrystalline Consensus Roadmap





Source: LINX VORTEX CONSULTING- Advanced Chemicals For Photovoltaic Cells and Modules

Consideration for Sustainable Business

- Short term strategy
  - Quick return on investment in Polysilicon and other material
  - Time to market is money
- Long term thinking
  - What if Polysilicon price reduces to $60, 40, and 25?
  - What if thin film mass production with efficiency of 18%?

Economies of Scale

Economies of scale in monolithic silicon cell manufacture

- 20 – 60 MW plants:
  - Limited automation, and batch based operations
  - High labor content with proportionally lower CAPEX
  - Optimized in low labor cost regions (China, Asia Pacific etc.)

- 300 – 400 MW plants:
  - Increased levels of automation
  - Multiple, parallel, in-line process lines
  - CAPEX heavy
  - Benefits of operations management, line balancing and strong supplier infrastructure

- 500 – 1,000 MW plants:
  - Close to 100% automation
  - Multiple, parallel, in-line process lines
  - CAPEX dominated
  - Sophisticated of operations management, line balancing and strong supplier infrastructure critical to operations

Source: LINX VORTEX CONSULTING- Advanced Chemicals For Photovoltaic Cells and Modules

Conclusion

Global Semiconductor is in single digit growth

China remains to be high potential market

Rapid growth of PV industry challenges semiconductor industry on funding and HR

Another wave of opportunity comes for overseas returned talent

Thank You!