

# **Global Outlook for PET Resin**

**GSI PET DAY**

**Artimino 5th October 2006**

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**PCI (PET Packaging, Resin & Recycling) Ltd**

# PET Market Outlook

- Global Overview
- Europe: Changing Pattern of Supply
- Other Regional Market Balances

# PET Market Prospects

## World PET Resin Consumption: 2006

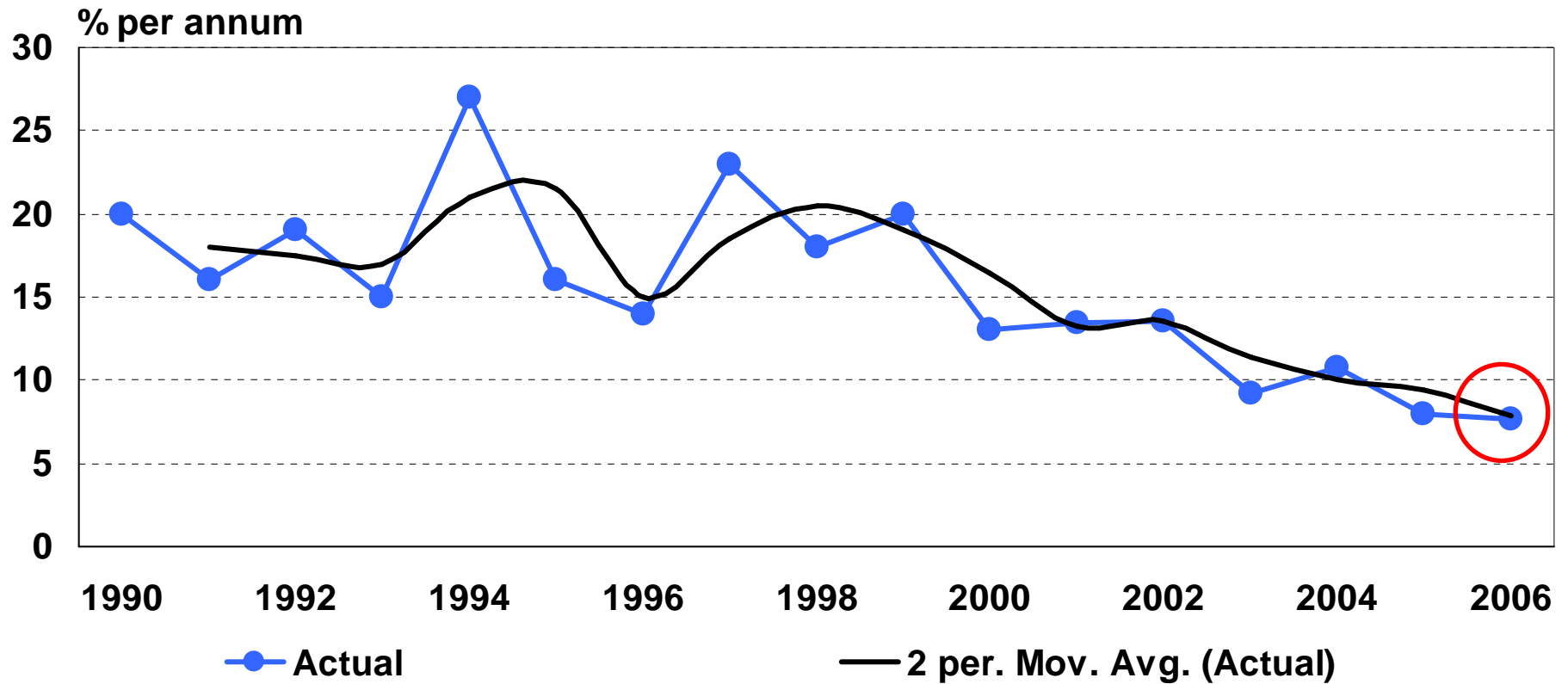
	Total Demand '000 Tonnes	Increase on 2005		Proportion of World Total
		'000 Tonnes	%	
North America	3,660	195	5.6	29.7
South America	951	58	6.5	7.7
Europe	3,631	259	7.5	30.2
Africa/Mid East	738	67	9.8	6.1
Asia Pacific	3,228	304	10.4	26.2
<b>TOTAL</b>	<b>12,309</b>	<b>883</b>	<b>7.7</b>	<b>100.0</b>

# PET Market Prospects

## World PET Resin Consumption: 2006

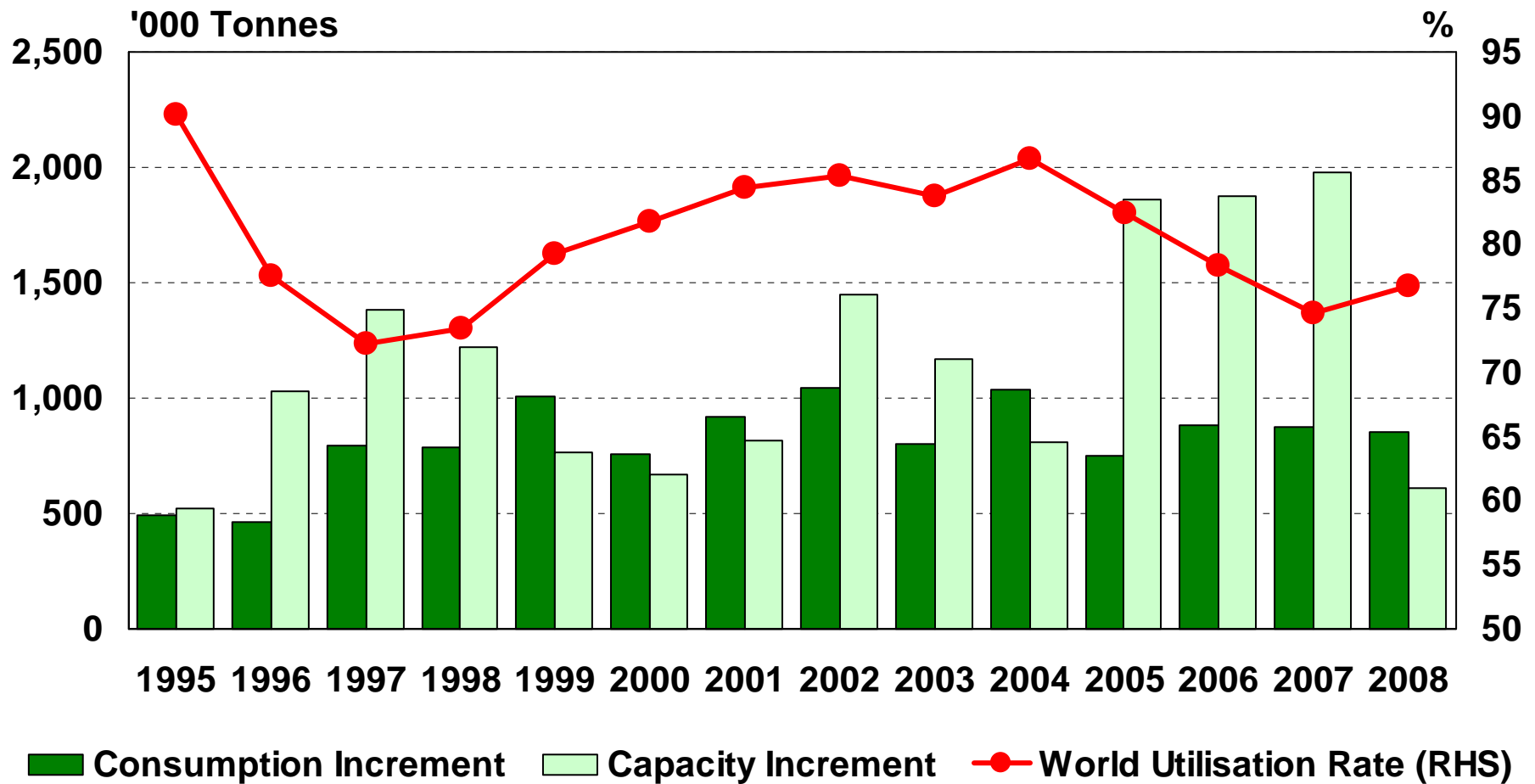
	Total Demand '000 Tonnes	Increase on 2005		Proportion of World Total
		'000 Tonnes	%	
CSD	4,526	245	5.7	36.8
Water	3,236	239	8.0	26.3
Other Drinks	2,244	211	10.4	18.2
Food	1,151	97	9.2	9.3
Non Food	541	52	10.6	4.4
Sheet	1,257	106	9.2	10.2
RPET	-646	-67	11.6	-5.2
<b>TOTAL</b>	<b>12,309</b>	<b>883</b>	<b>7.7</b>	<b>100.0</b>

# PET World Market Growth



Source: AJN1202a/at

# PET Business Cycle



Source: AJN1035a/at

# PET Market Prospects

However:

- Projects do exist for
  - Middle East
  - Black Sea States
  - North America and
  - Asia

And

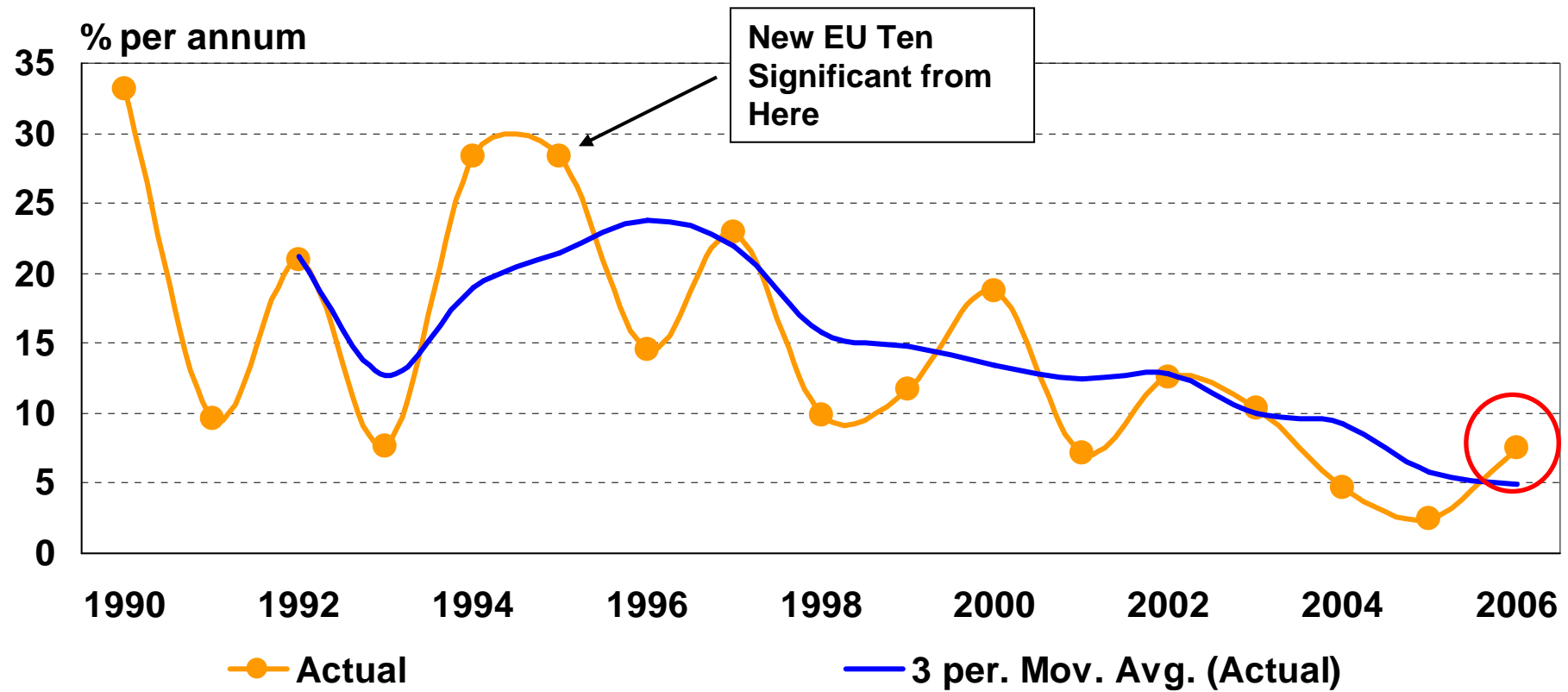
- Rationalisation in Asia.....

And

- Capacity creep can add 30% for new plants

# PET Market Prospects

## PET West European Market Growth

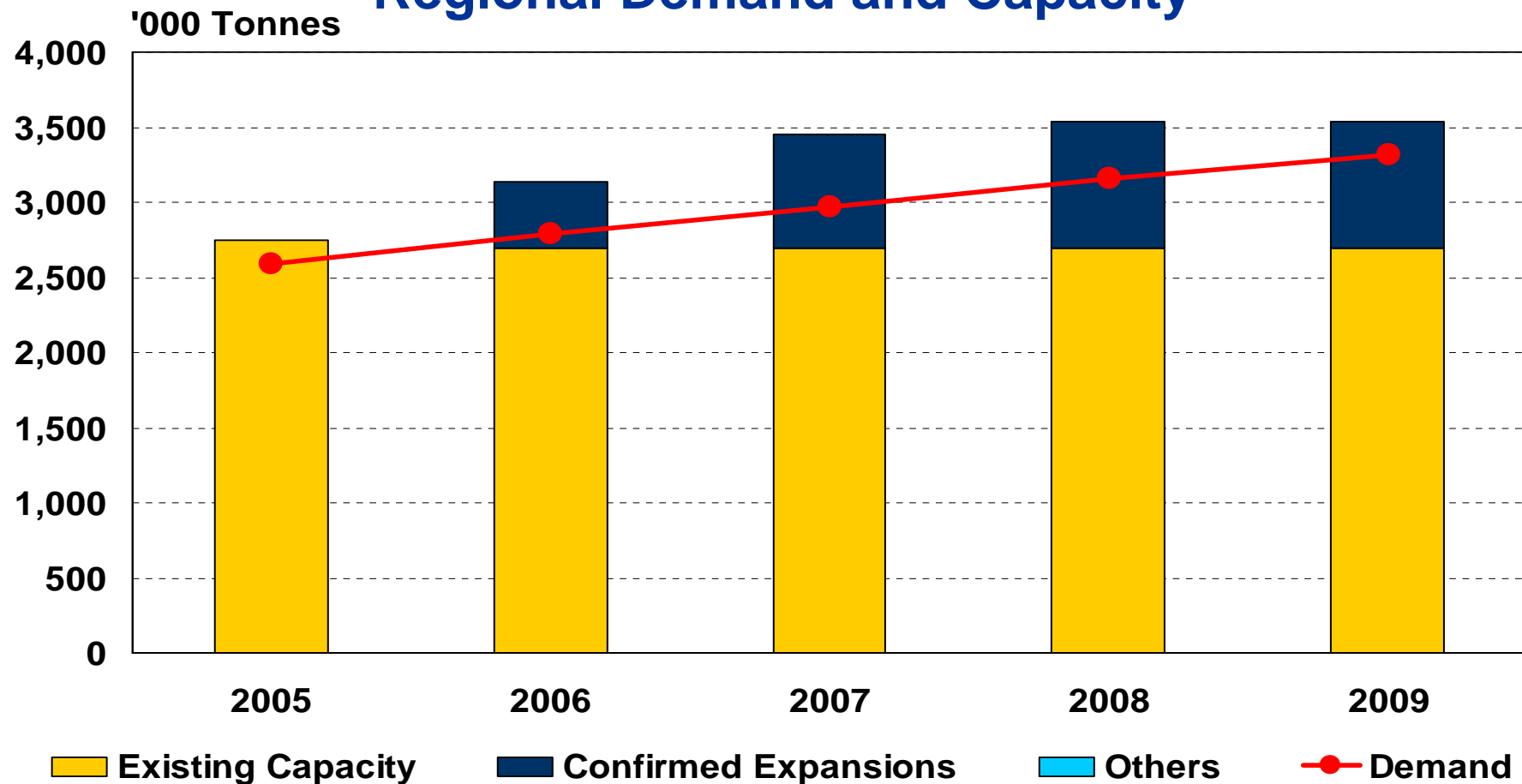


Source: AJN1202a/at

# PET Market Prospects

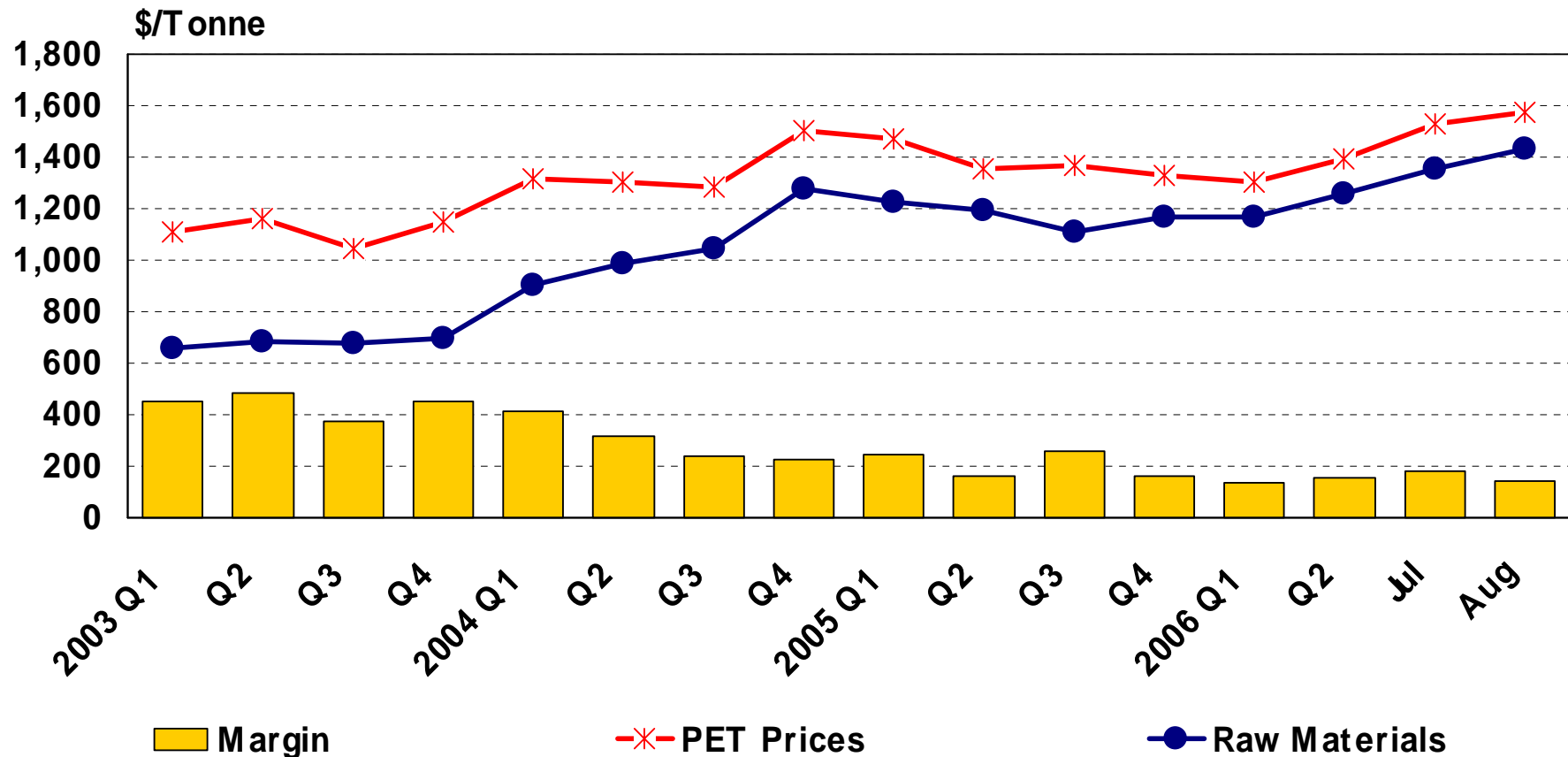
## West Europe Market Balance

### Regional Demand and Capacity

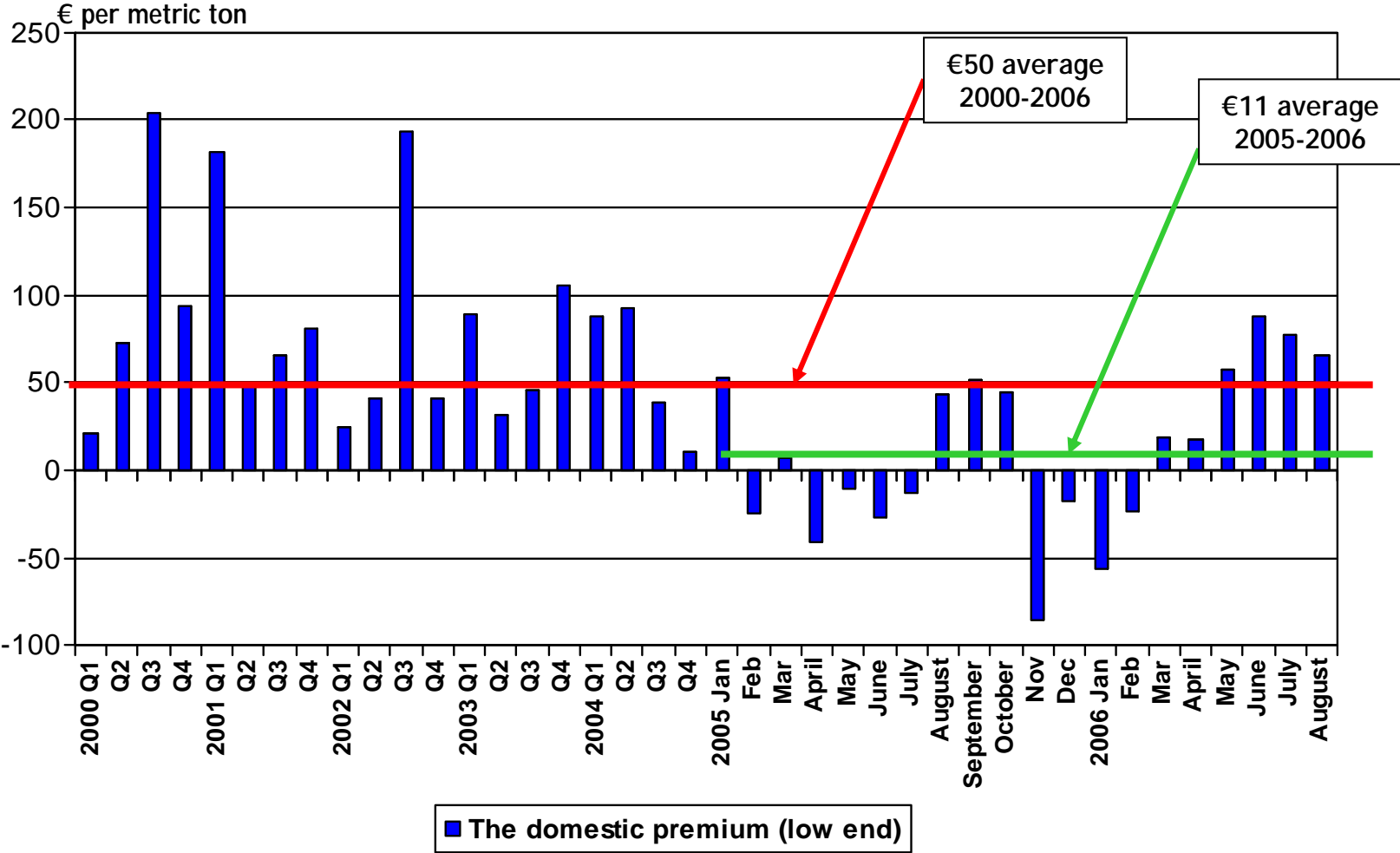


# PET Producer Earnings Under Pressure

## Europe PET Producer Margins



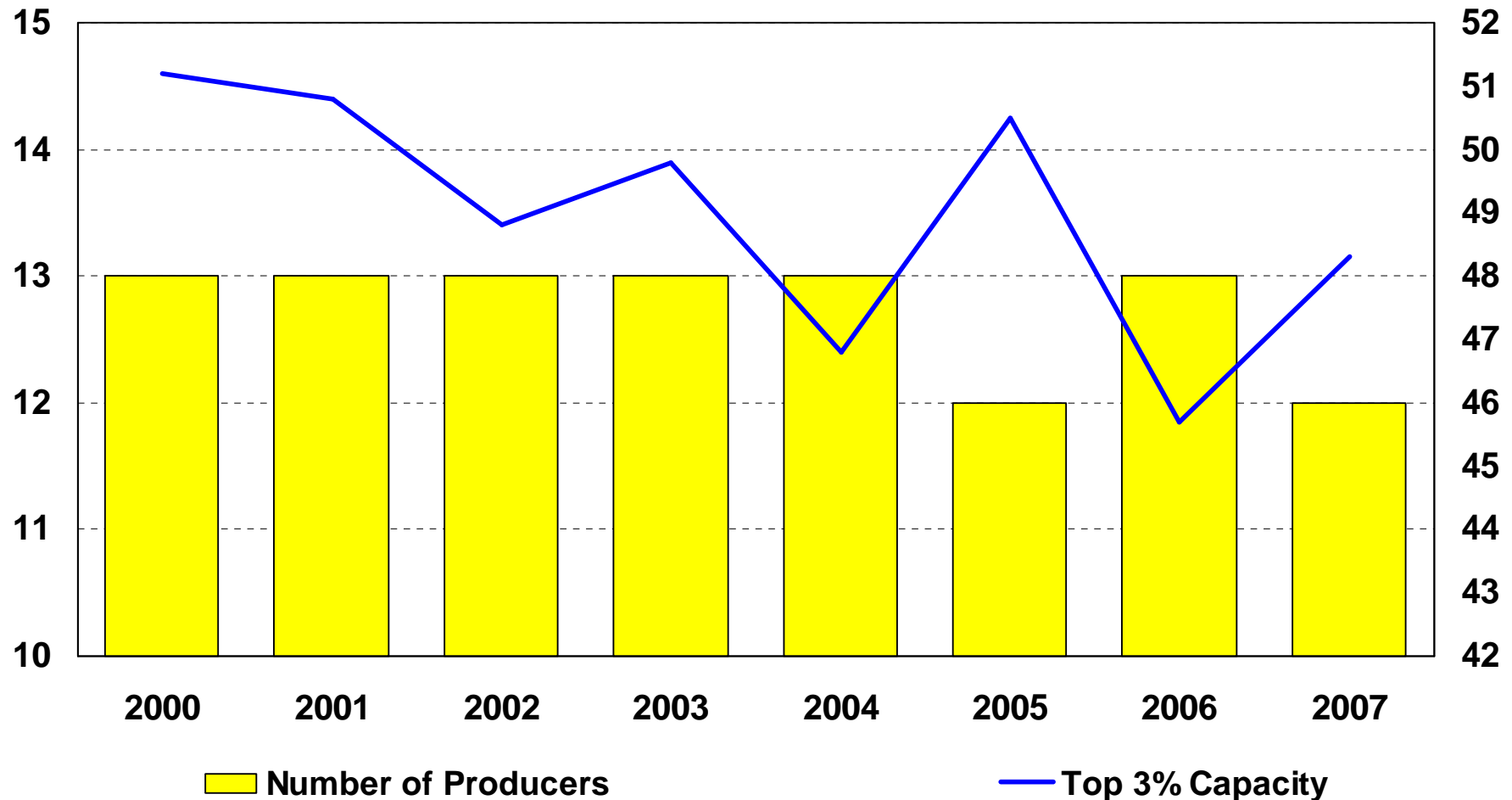
# Domestic Premium



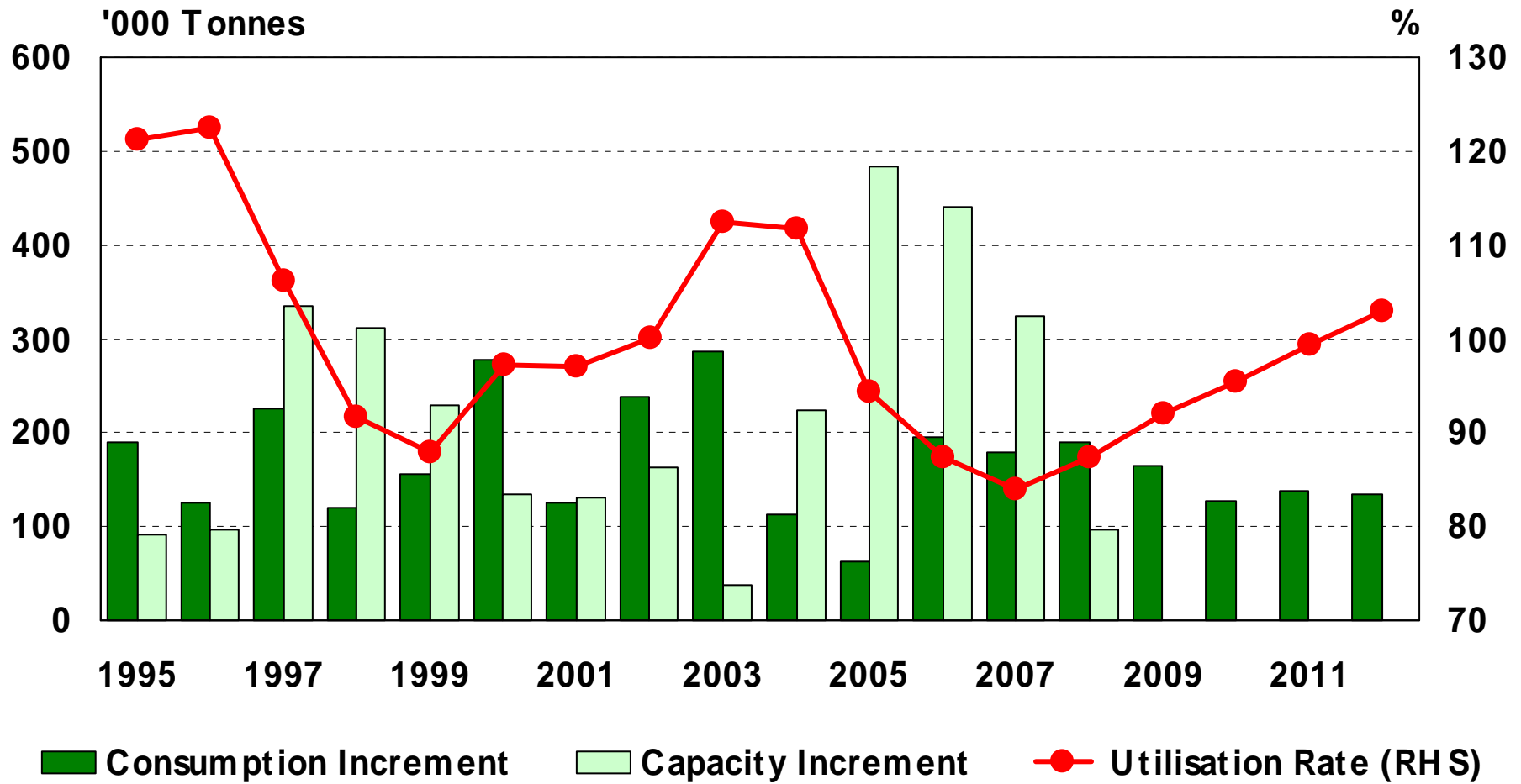
# A Period of Major Changes....

- Five new suppliers in last four years
- Several new large scale plants
- Limited plant closures, more upgrading
- Some consolidation by Selenis of
  - Catalana
  - Aussapol
  - VPI
  - Advansa
- Eastman strategy
  - Earnings above the cost of capital in its integrated facilities
  - Integrex makes it lowest cost producer (including Asia ddp)
  - review of its non integrated assets
- 750 kt mega plant still a possibility

# PET Industry Concentration : how significant ?



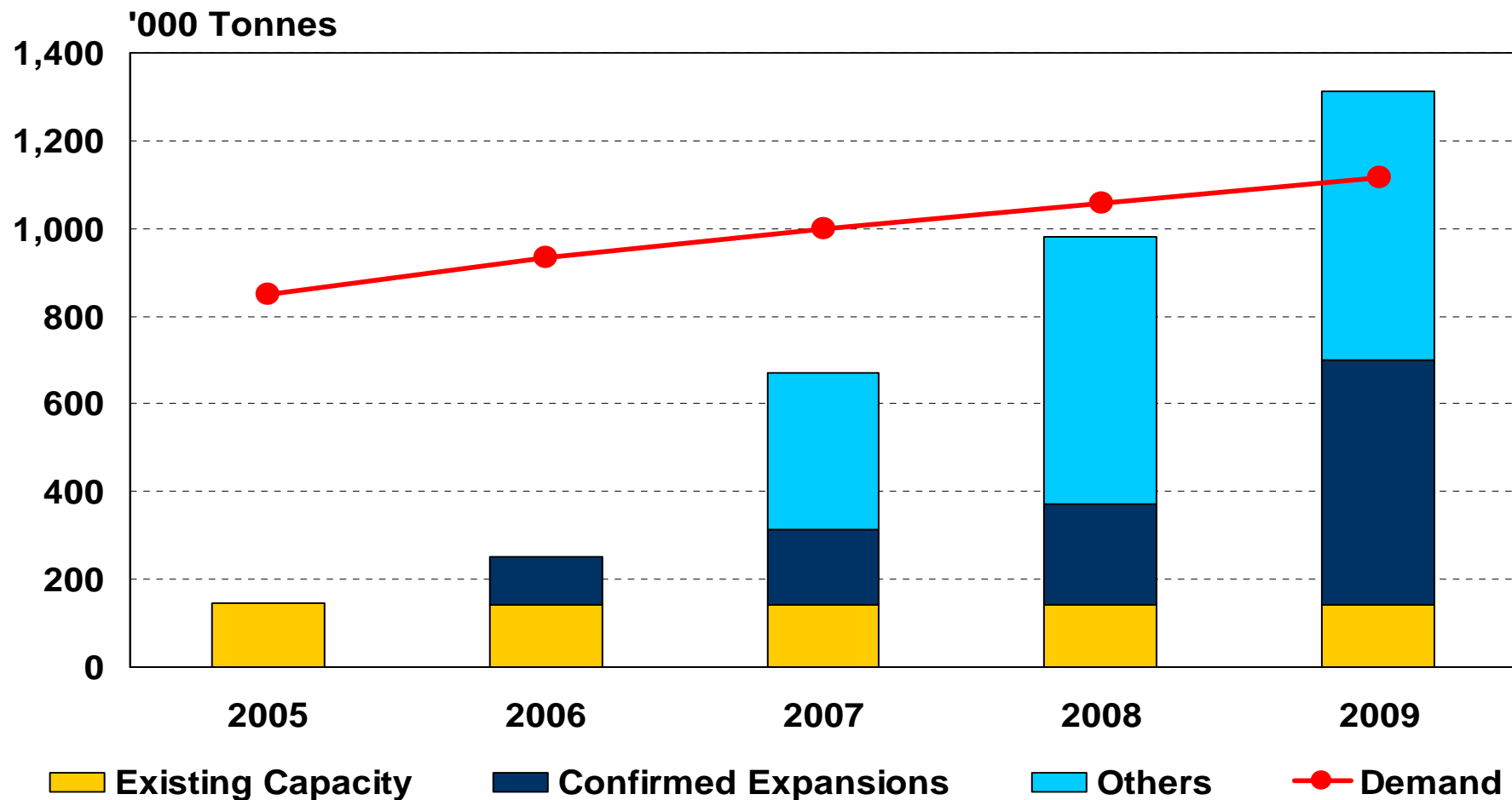
# PET Business Cycle – West Europe Base Case 5%



Source: AJN1035a/at

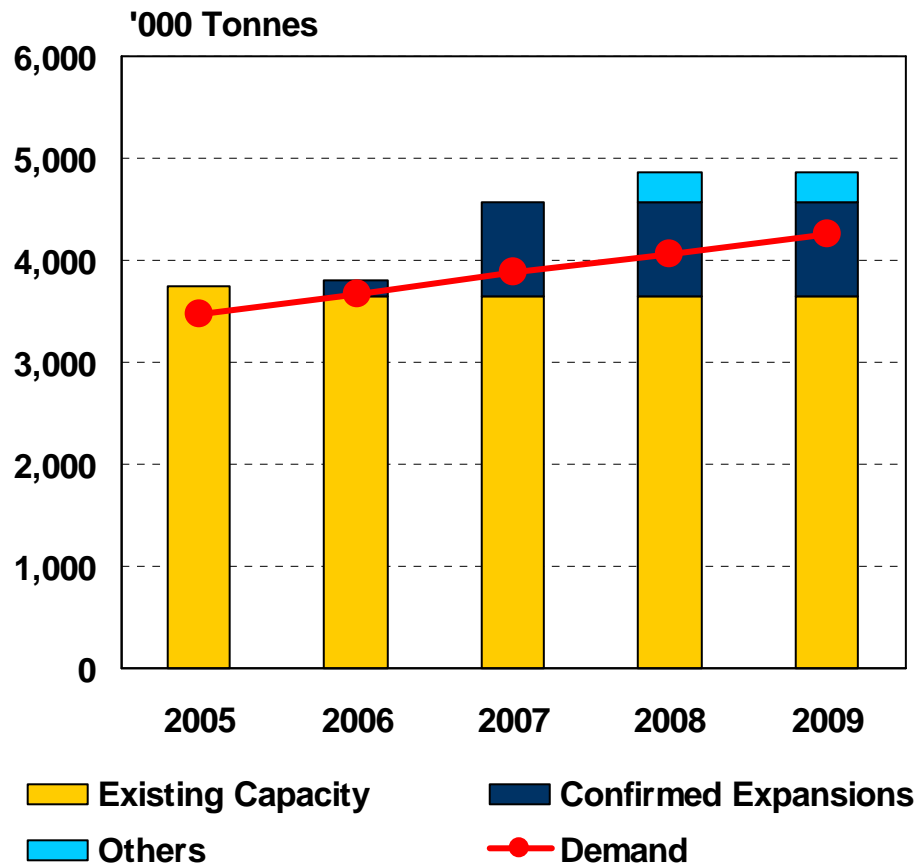
# PET Market Prospects

## East Europe Market Prospects



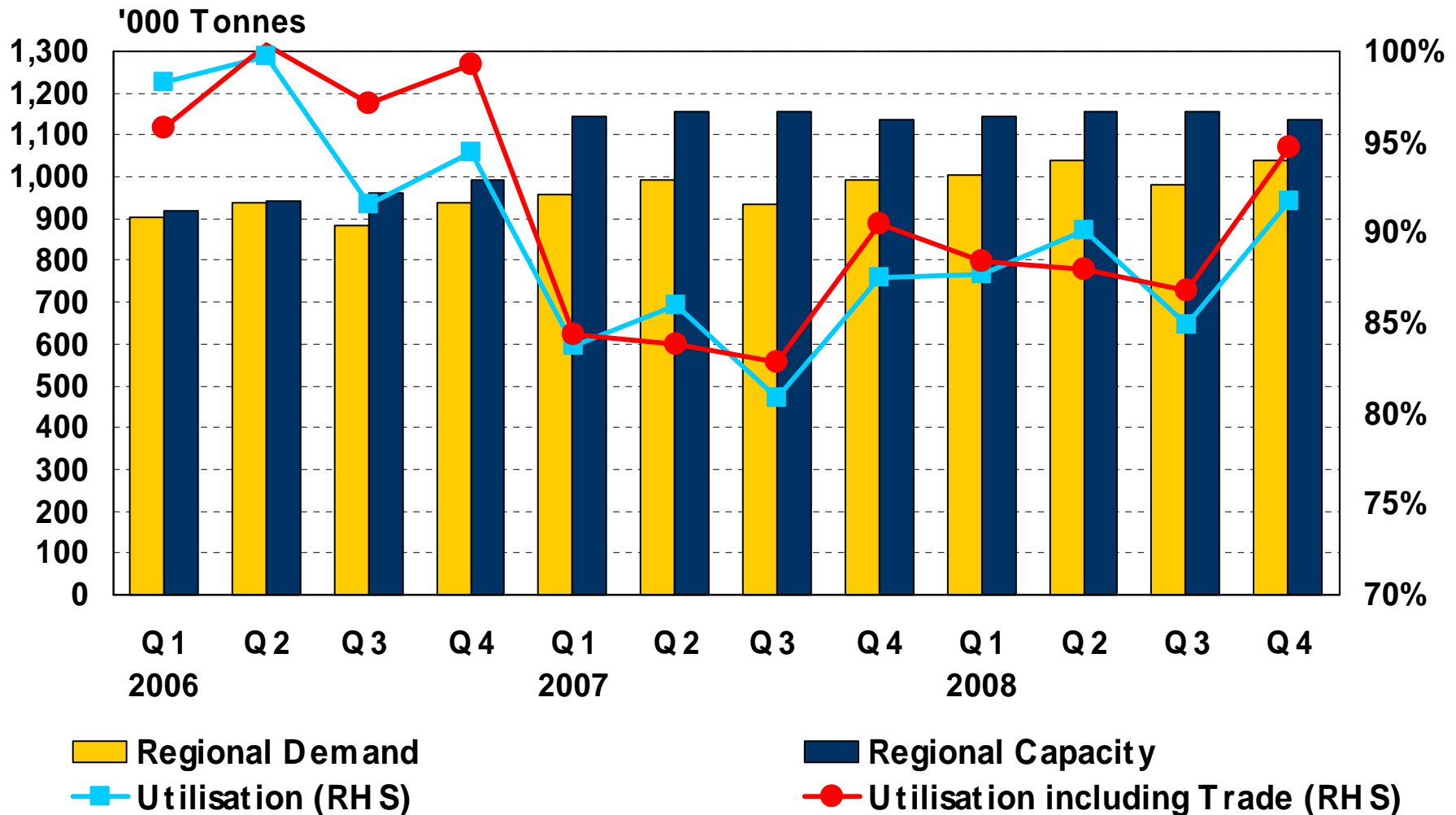
# PET Market Prospects

## North American Market Projection



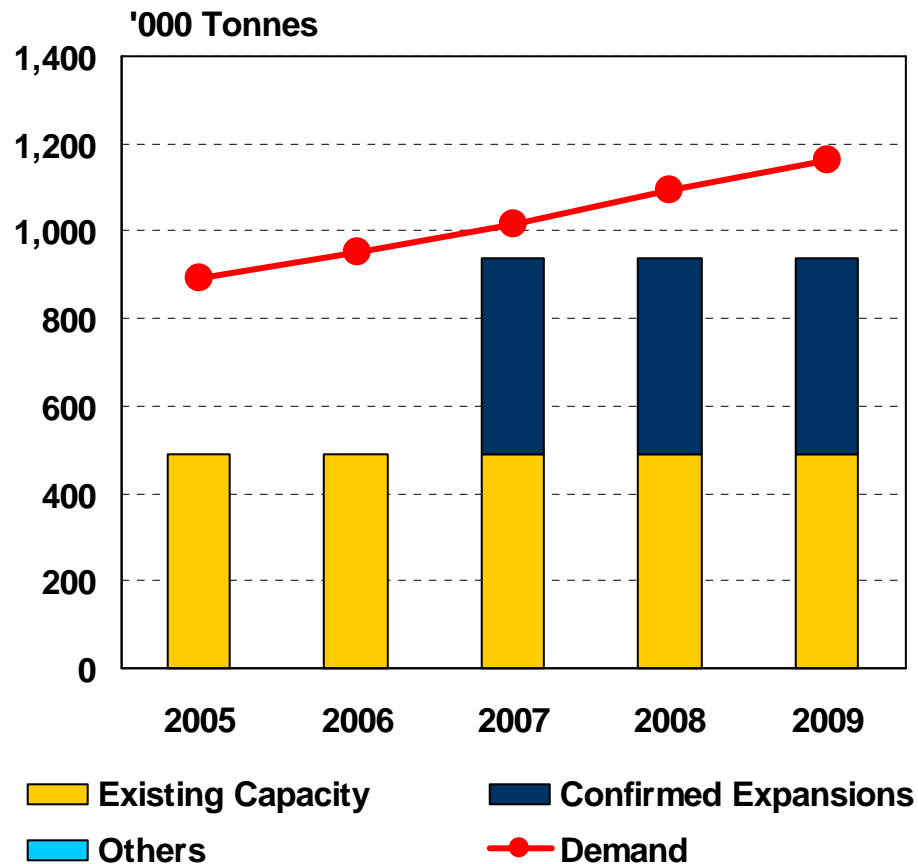
- Growth in 2006
  - 5.6% North America
  - 5.1% USA
- Projected growth North America
  - 2006 – 2011 : 4.9%
  - 2006 – 2015 : 4.4%
- Confirmed expansions by Wellman, Eastman, Invista, Indorama and DAK add 900,000 tonnes
- Indorama looking at 300 kt for 2008
- Two investments employ new technology without SSP
- Market long in 2007-2008

# North America Short-Term Market Balance



# PET Market Prospects

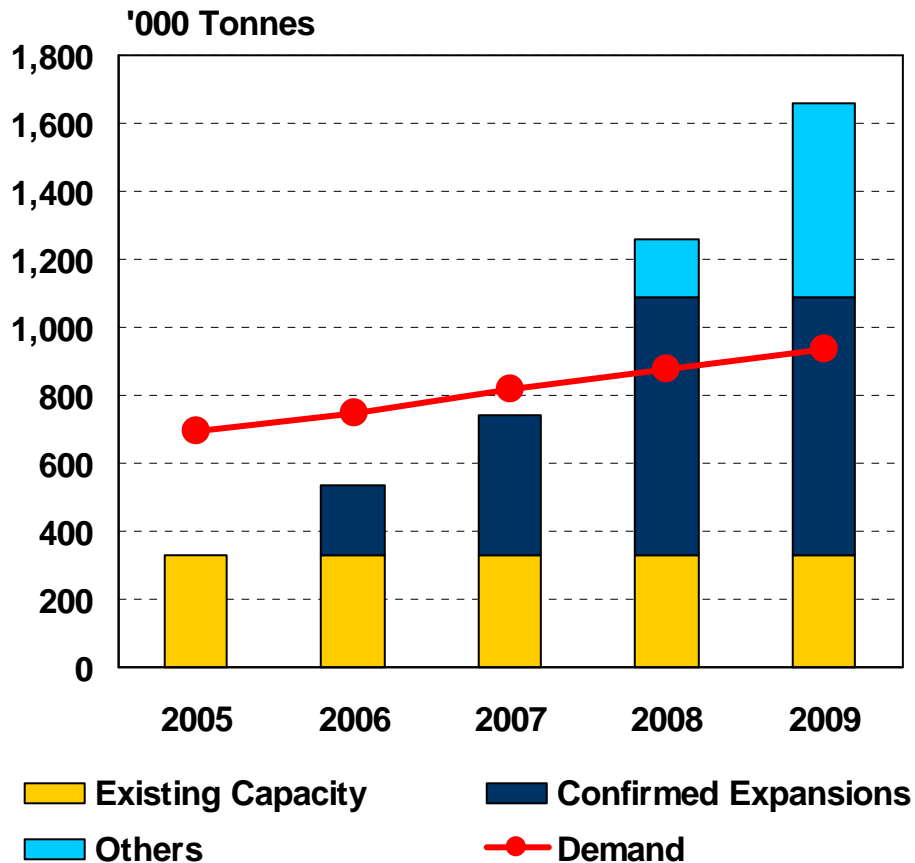
## South American Market Projection



- Growth projections
  - 2006 – 2011 : 7.5%
  - 2006 – 2015 : 8.3%
- M&G project of 450,000 tonnes on stream at the end of 2006
- May add preform capacity
- Expansion will reduce export potential for North American and Asian suppliers with potential rebound on North American market in 2007
- Import duties by Brazil on Argentina up to \$640 and US \$314-890 per tonne now confirmed

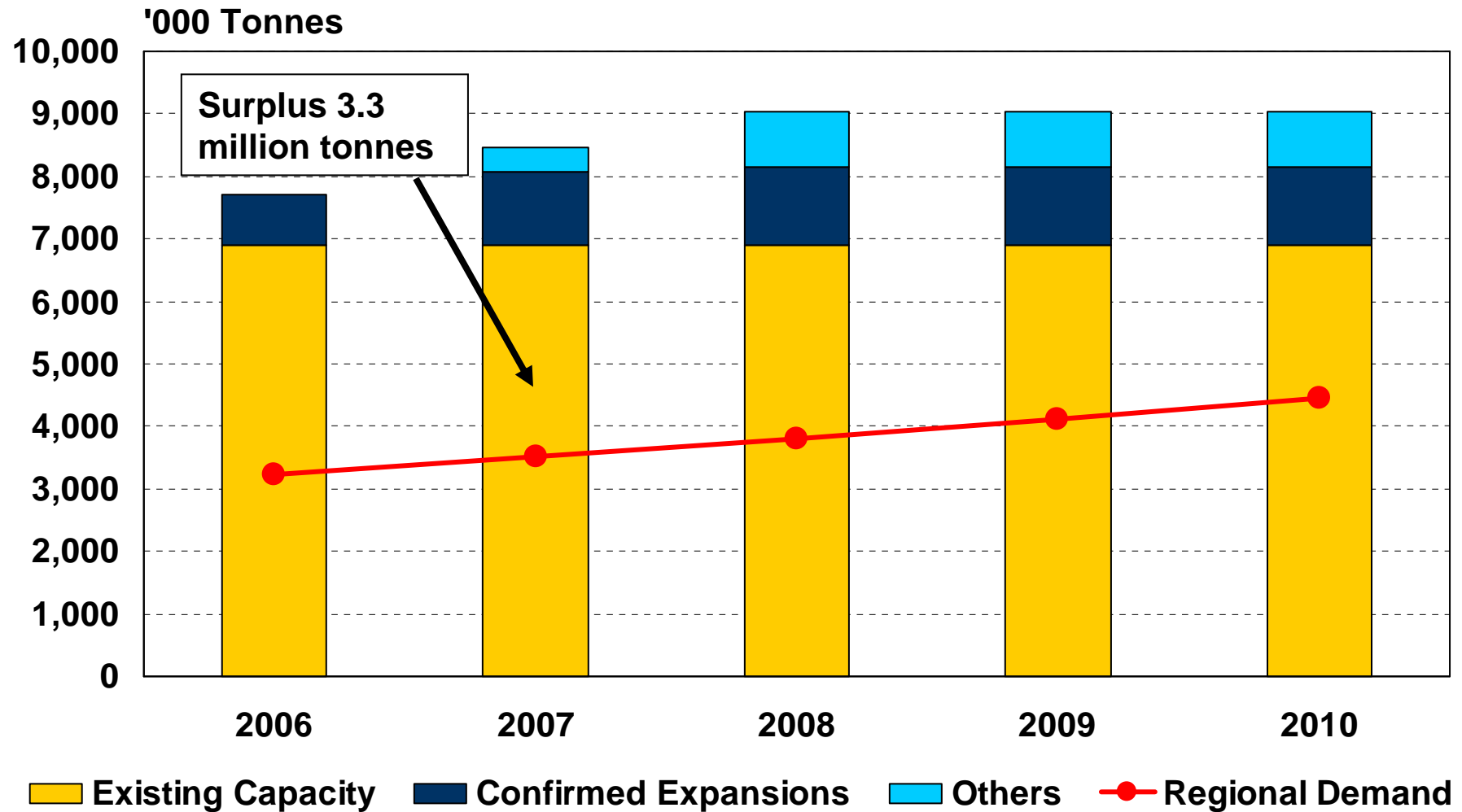
# PET Market Prospects

## Africa/Middle East Market Projection

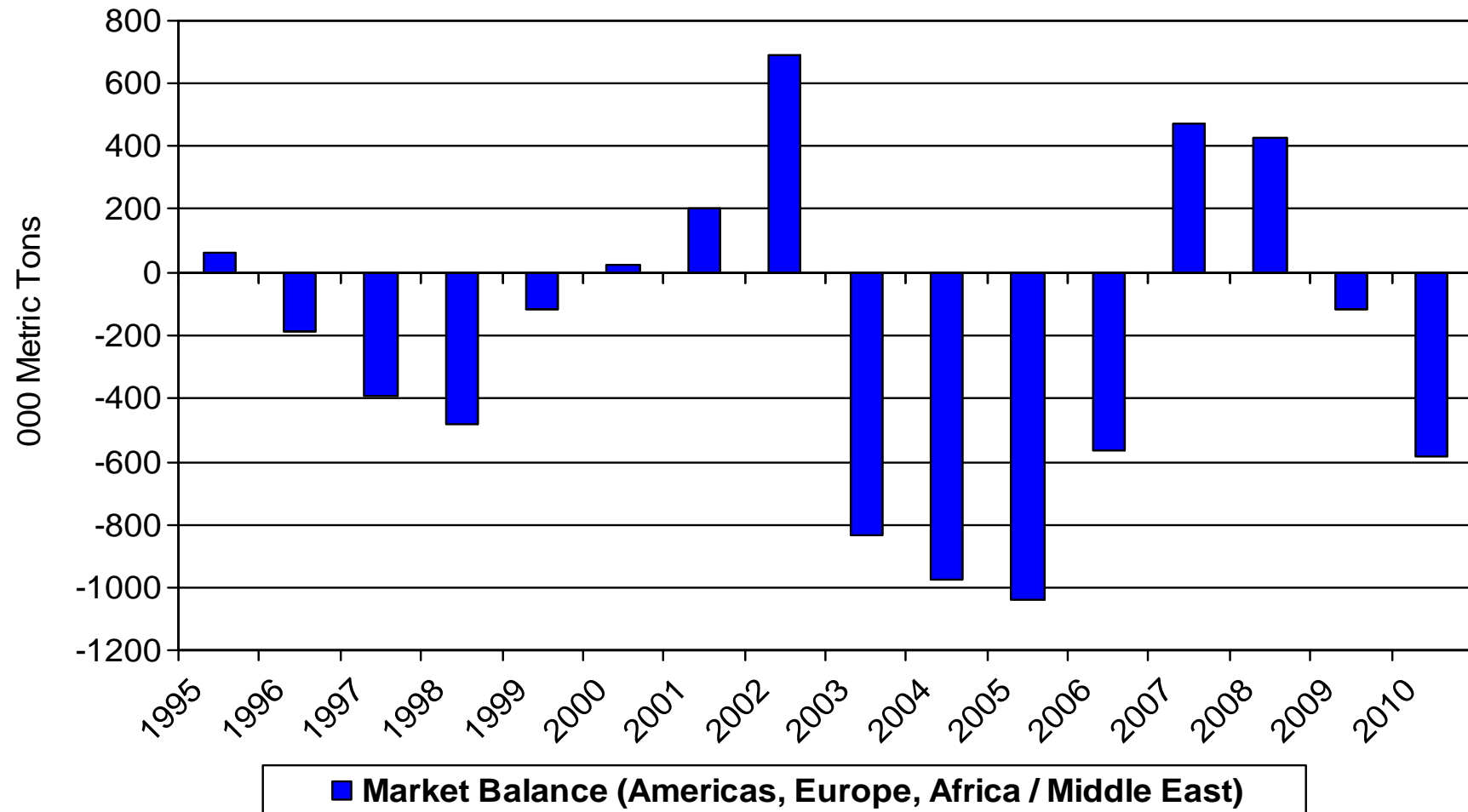


- Projected growth 2006 – 9.7%
- Growth projections
  - 2006 – 2011 : 8.2%
  - 2006 – 2015 : 8.7%
- All NPC PET lines running this year
- JBF (UAE) also going ahead for 2007
- Sabic to convert all polymer capacity to PET, and looking at a further 400kt
- Other projects exist
- Regional surplus 2008; much targeted on South Europe and Central Asia

# Asia Domestic Market Balance

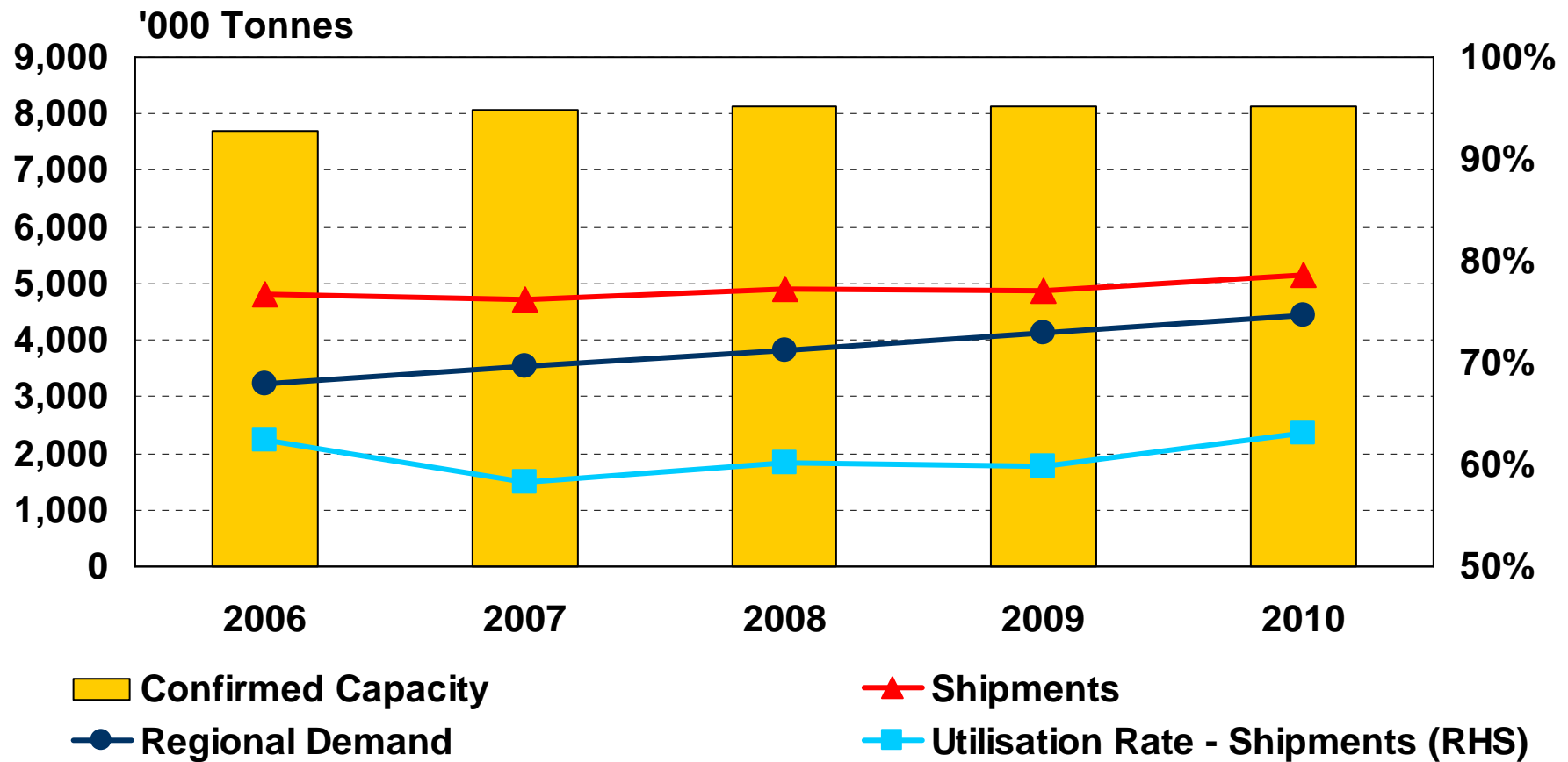


# Market Balance outside Asia



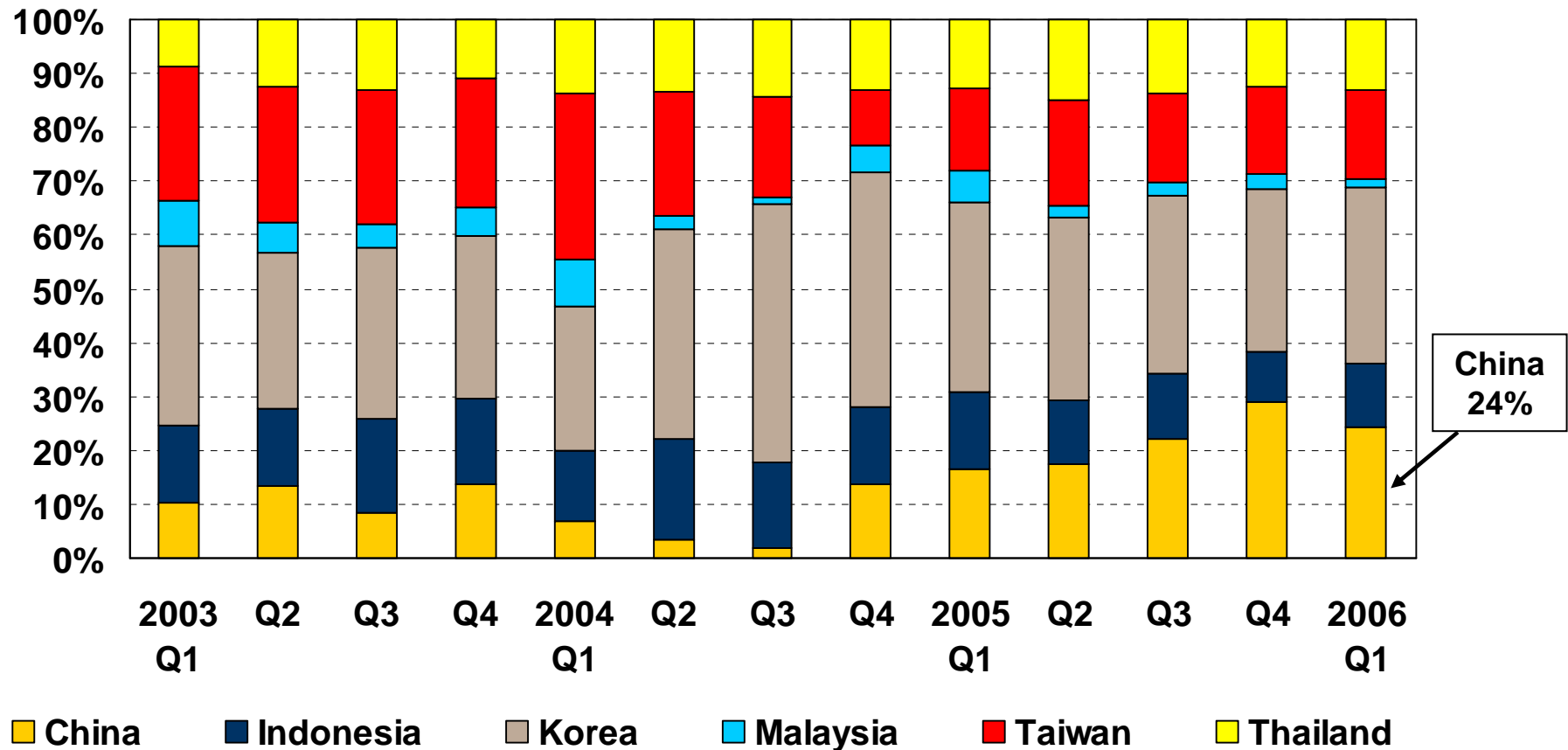
# PET Market Prospects

## Asia Market Projection

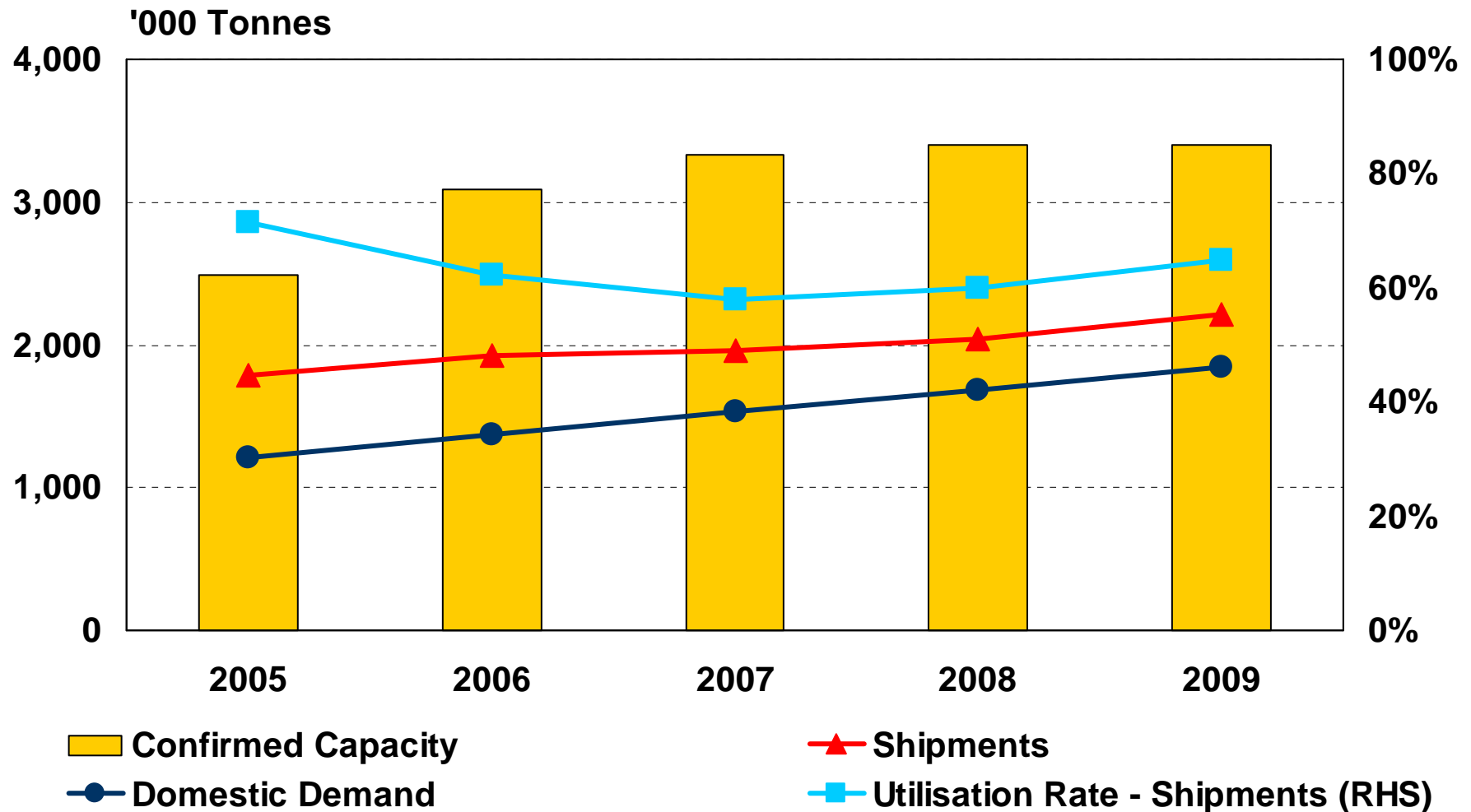


# PET Market Prospects

## China % Share of Total Asia Exports

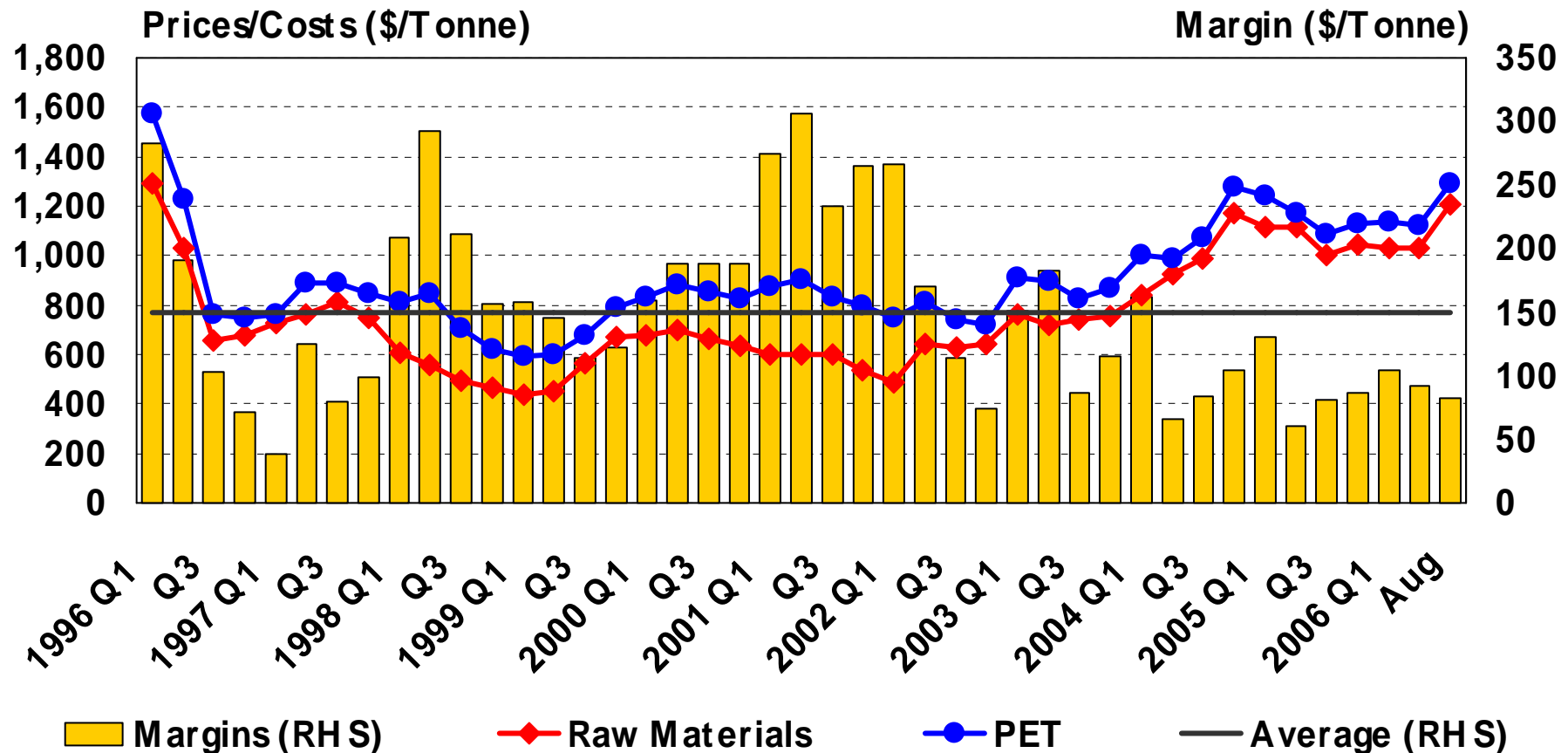


# China Market Balance



# PET Market Prospects

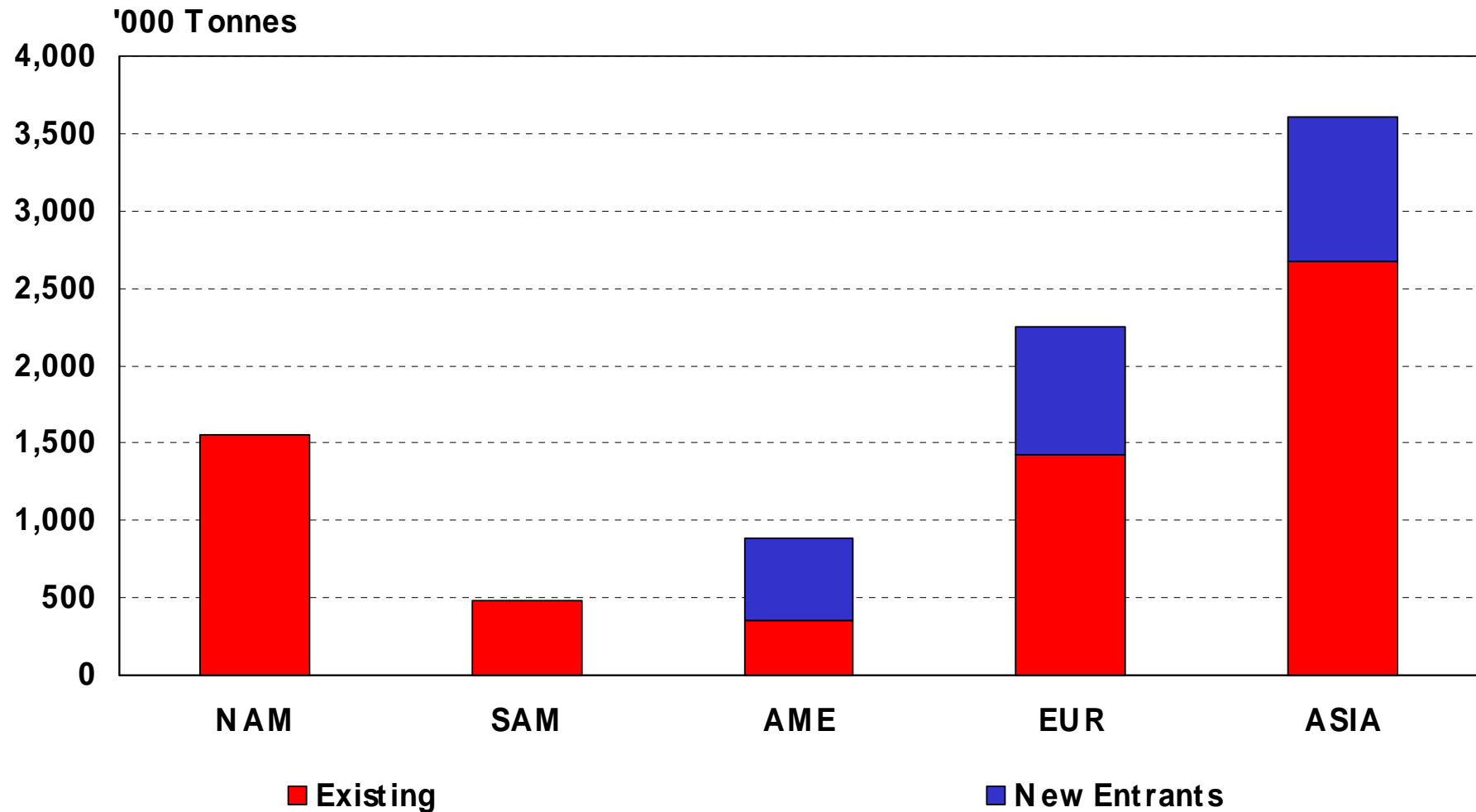
## Asian PET Producer Margins (Exports)



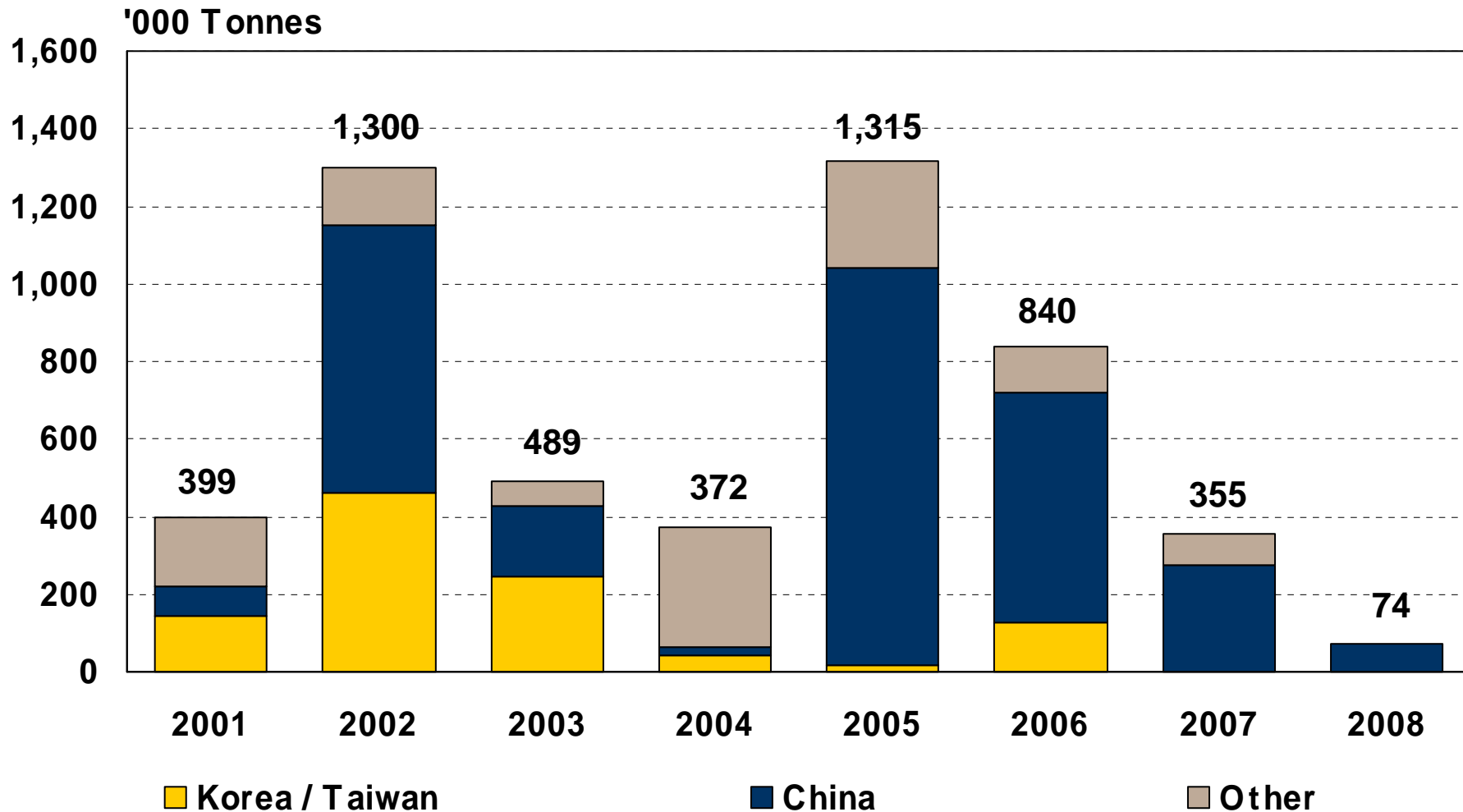
# The Next Investment Cycle

- Lessons from the past
  - Who has invested ?
- What are the dynamics ?
  - Growth
  - Balances
  - Maintaining Position
  - Geography
  - Fibre conversion
- When ?
- How much ?
- What configuration ?
  - Size
  - Integration
  - Technology
- Who will invest ?
- Will China reinvest ?

# Lessons From The Last Investment Cycle

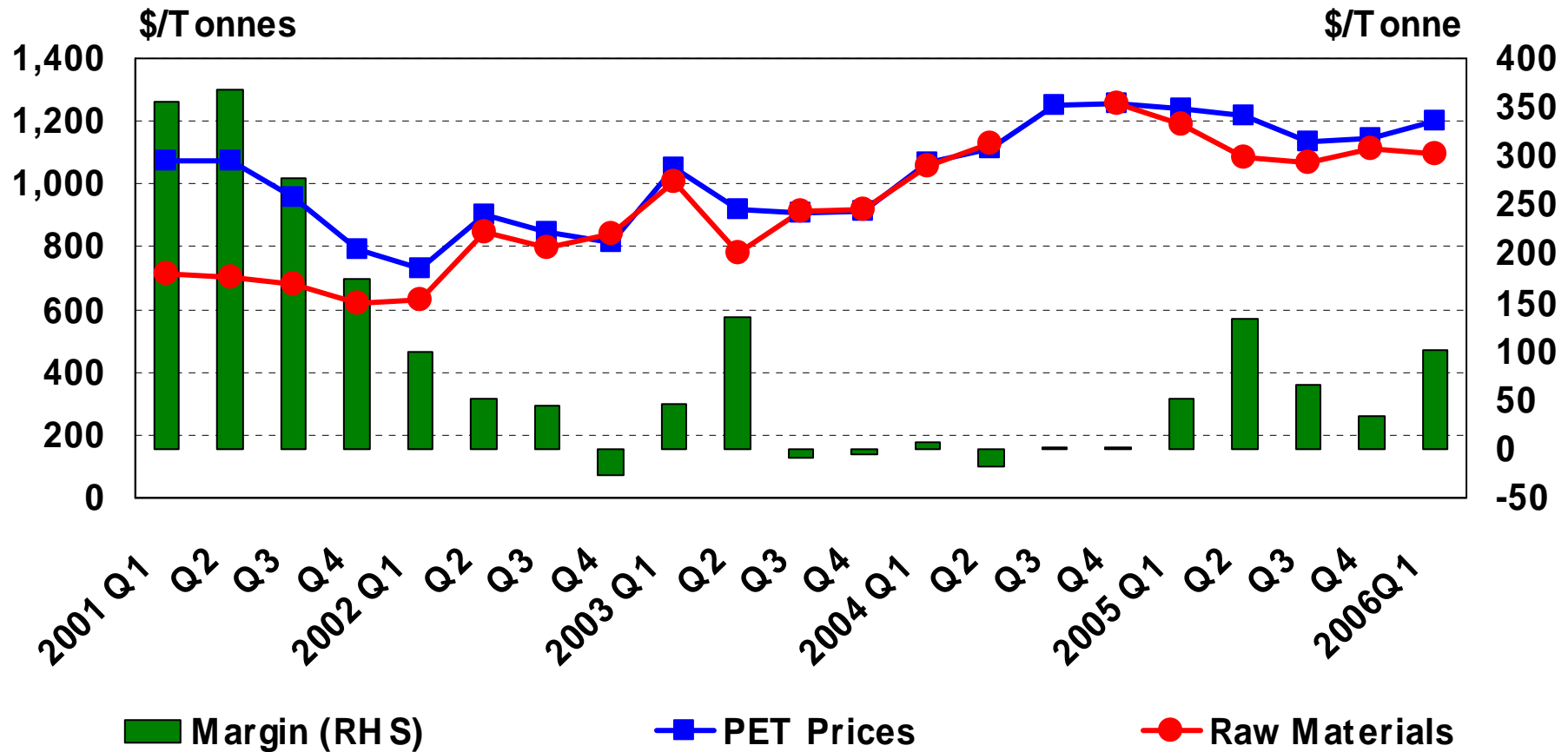


# Incremental Growth in Asia PET Capacity



# Why Did China Invest?

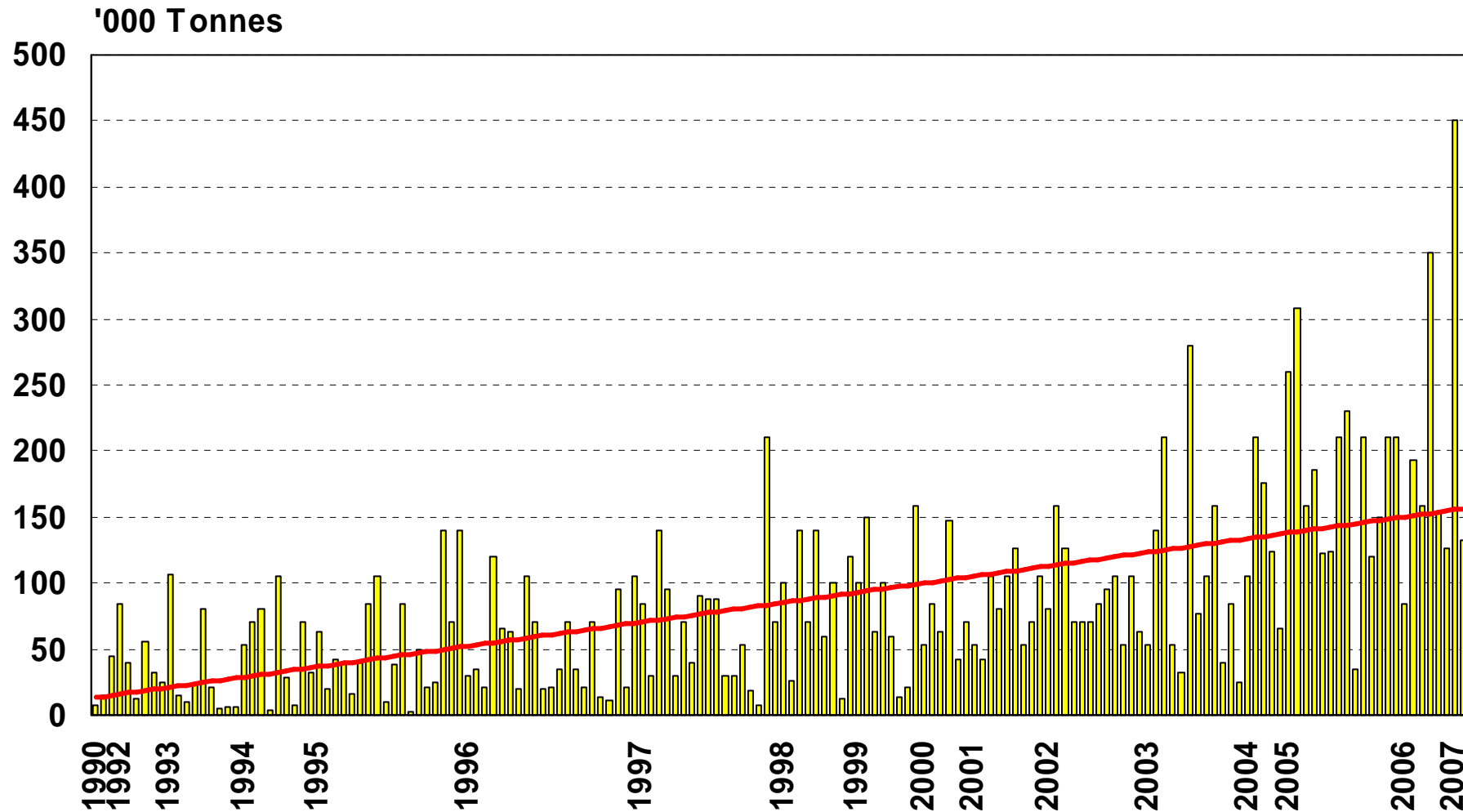
## China PET Price and Margins Domestic Market



# Why Did China Invest? And Will It Again?

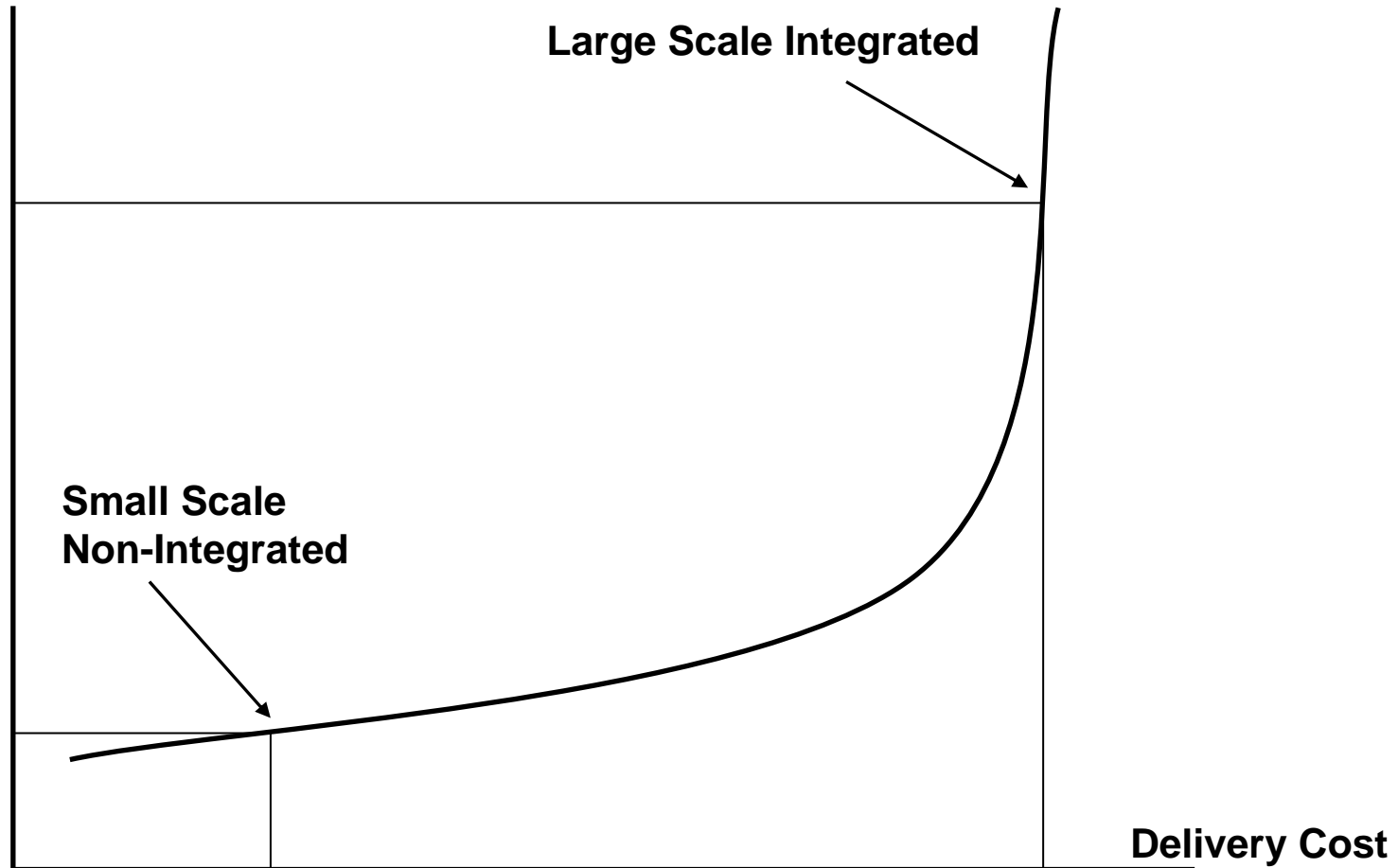
Then	Now
High margins	Low margins
Mistaken impressions of the size/potential of domestic market	For more realistic
No (central) government controls on (PET) investment	No change
Regional politicians investment targets	No change
Bank scrutiny lacks rigour	
<ul style="list-style-type: none"> <li>- Nationalised banks</li> <li>- High savings rate</li> <li>- Political leverage</li> </ul>	<ul style="list-style-type: none"> <li>- No change</li> <li>- No change</li> <li>- No change</li> </ul>
Cost advantage on	
<ul style="list-style-type: none"> <li>- Labour</li> <li>- Investment constructions costs</li> <li>- Raw Materials</li> </ul>	<ul style="list-style-type: none"> <li>- Raw material advantages are intermittent, unpredictable and transitory</li> </ul>
Non market factors	No change

# PET Capacity Expansions Growth in Scale



# Do Small Producers Have a Future ?

Scale/Integration



# Conclusions

- Europe supply balance moving to more domestic supply, but
- Earnings still heavily influenced by Asian prices
- Globally, PET close to the bottom end of the cycle
- Next investment phase based on
  - Integration to raw materials and scale
  - Proximity to local markets