TFI Outlook Conference

Sulphur Outlook

November 12, 2008

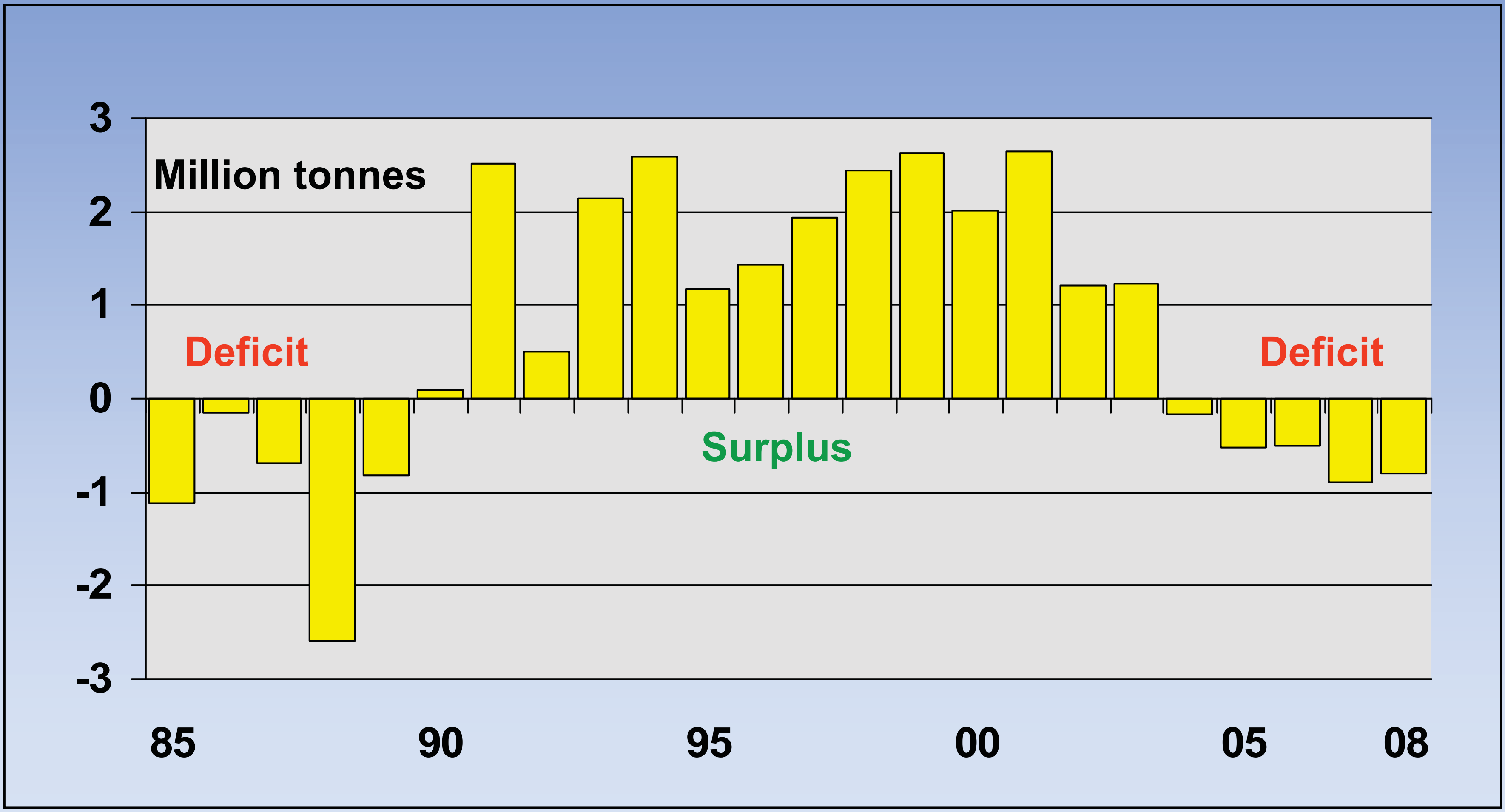
Charleston, SC

PentaSul

Forward Looking Statements

PentaSul is an independent market research organization with offices in Canada and the USA. PentaSul has a close working relationship with FRC (Fertecon Research Centre), based in London, UK. PentaSul undertakes research in the North American sulphur sector with diligence and care, but cannot accept responsibility for decisions that are made based on the information provided. Every effort has been made to avoid errors and omissions, but accuracy of prices, analysis and forecasts cannot be guaranteed.

Elemental Sulphur Balance



Source: FRC

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Why a Deficit?

Demand/Consumption

- Demand for **sulphur imports** by **China** doubled from **5.0 million** tonnes in 2003 to **10.0 tonnes** in 2008.
- **Sulphuric acid demand** worldwide also increased in the **phosphate sector** and **base metals** – copper and nickel production.

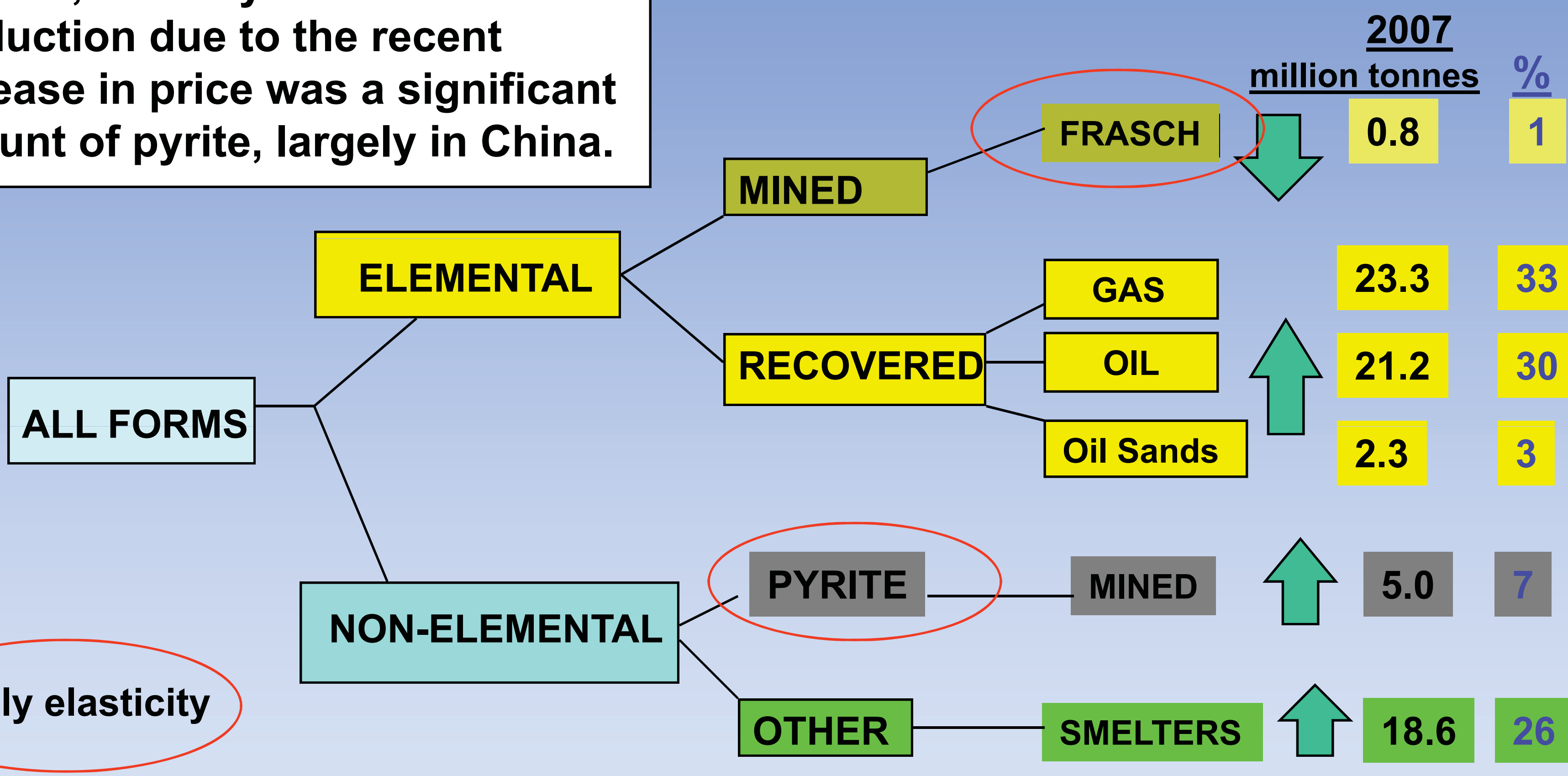
Production/Supply

- **Weak prices** early in deficit period encouraged inventory building in Canada(oilsands) and Kazakhstan.
- **Chronic delays** in sulphur production projects – cost overruns, materials shortages and lack of skilled labour.

.. by 2007 demand factors outweighed supply ability and due to the inelastic nature of sulphur supply, prices escalated.

Sulphur Production Sources

Because of the prevalence of by-product, the only increase in production due to the recent increase in price was a significant amount of pyrite, largely in China.



supply elasticity

TOTAL 71.4 million tonnes

Source: FRC

Updated July 2008

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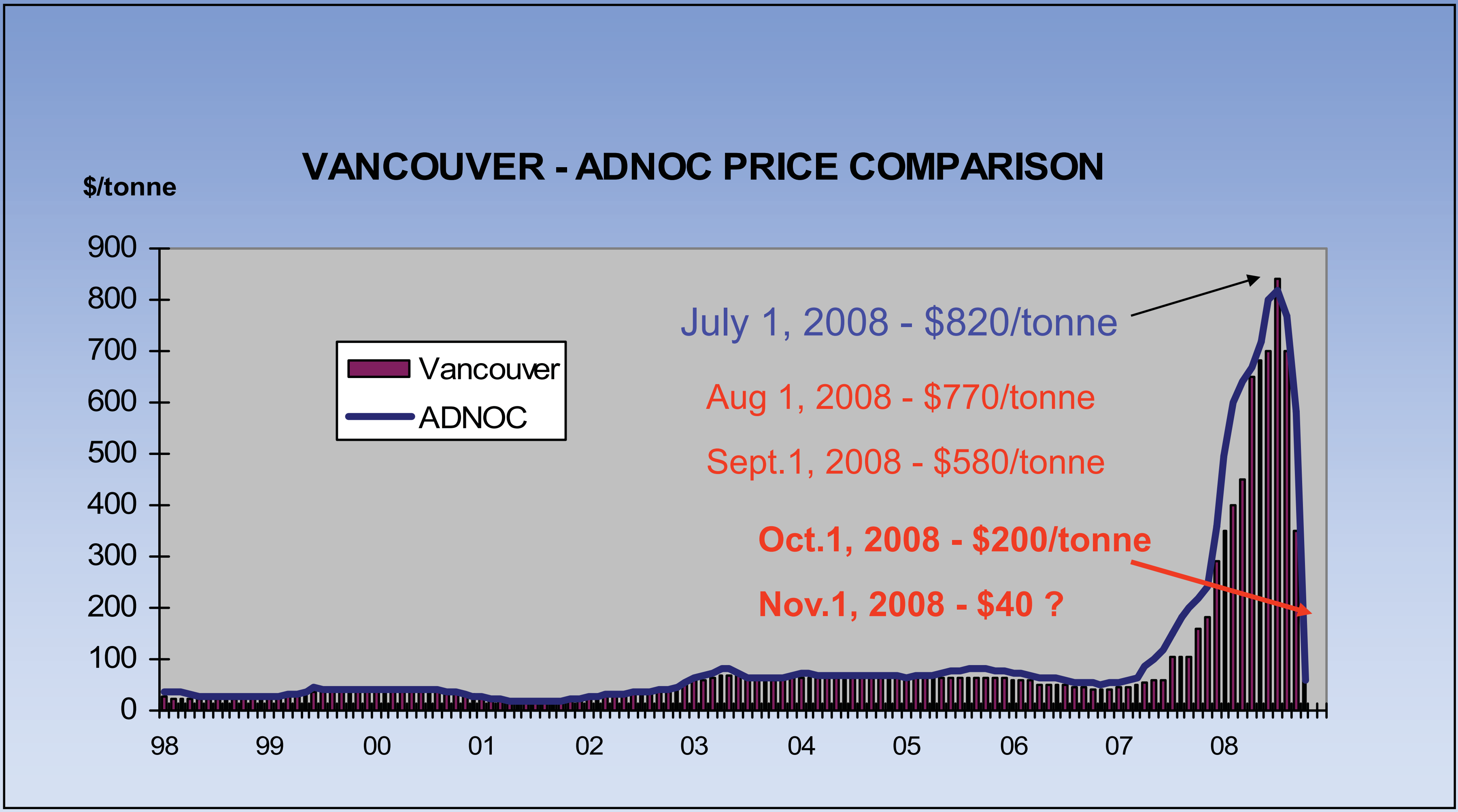
International Sulphur Prices



ADNOC – Abu Dhabi National Oil Company – Monthly Posted Price
Vancouver - Contract Price
Updated November 7th, 2008

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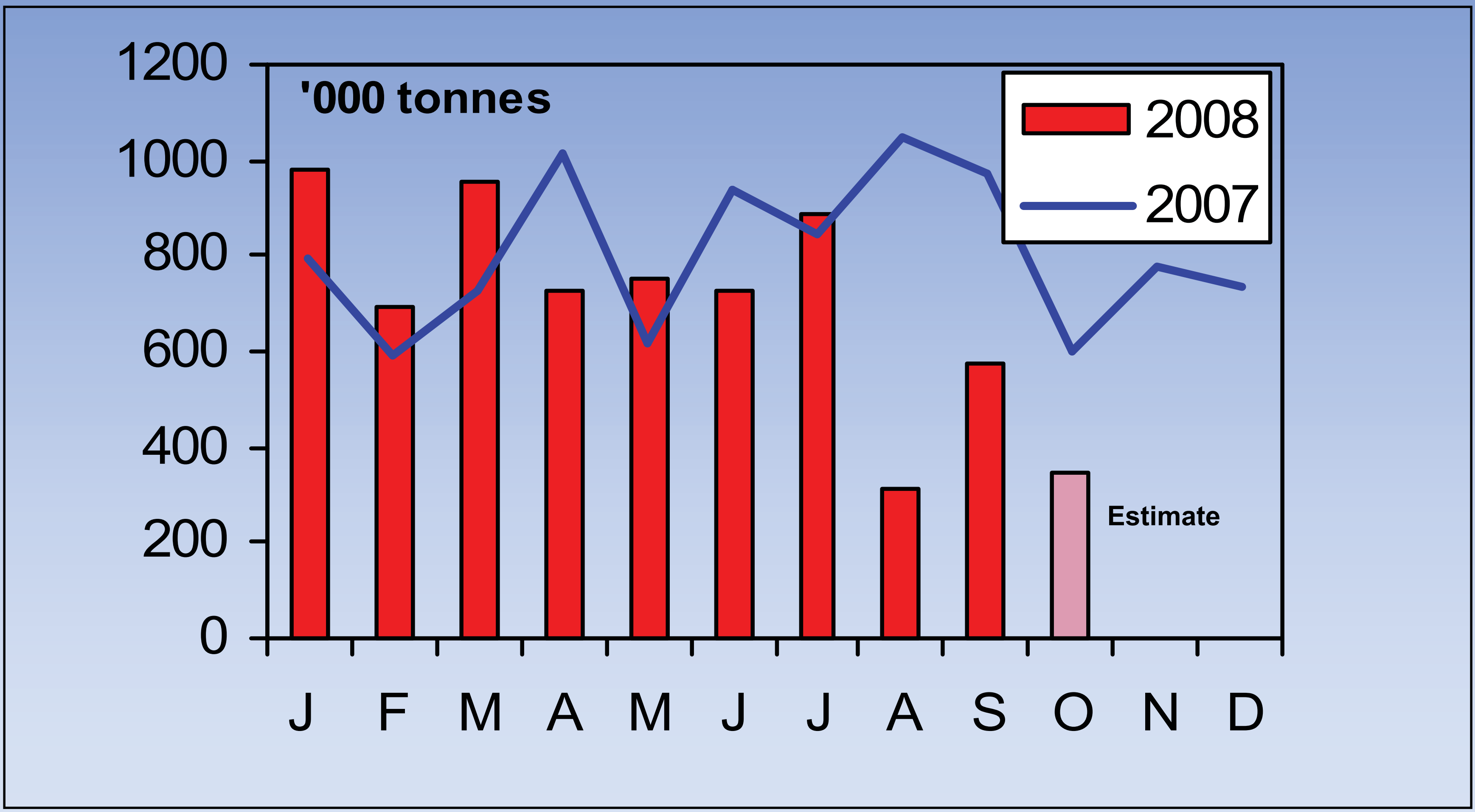
China Sulphur Imports by Month



Revised October 2008

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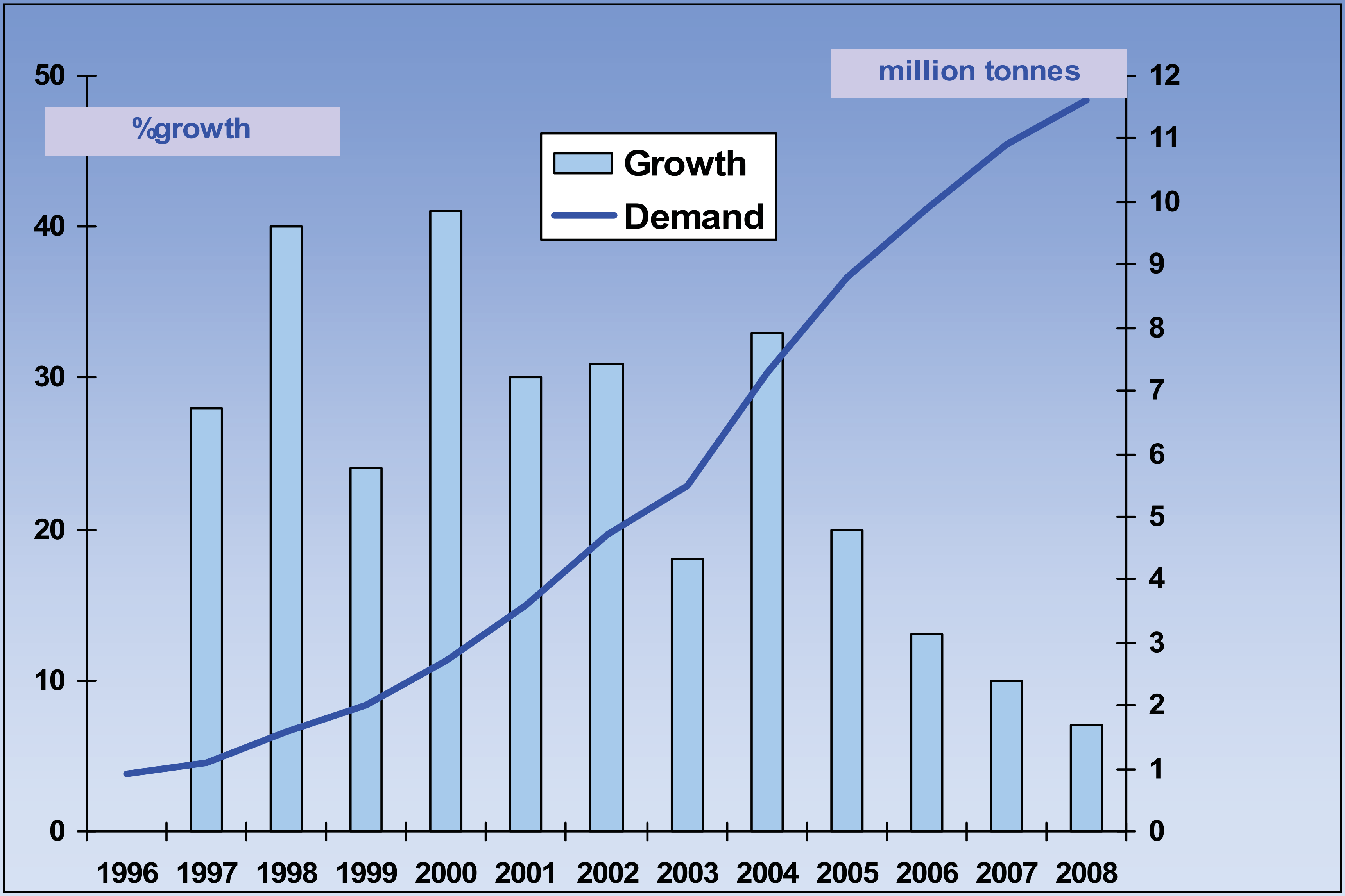
China Sulphur Consumption and Growth



Source: FRC

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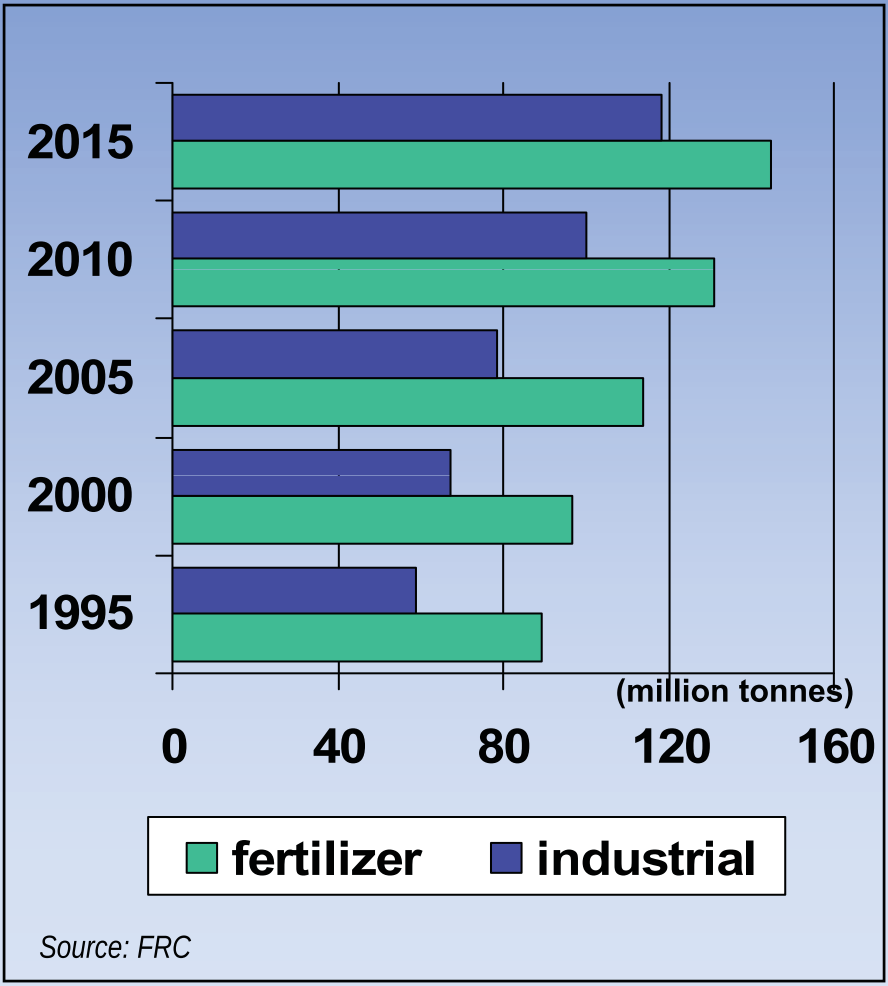
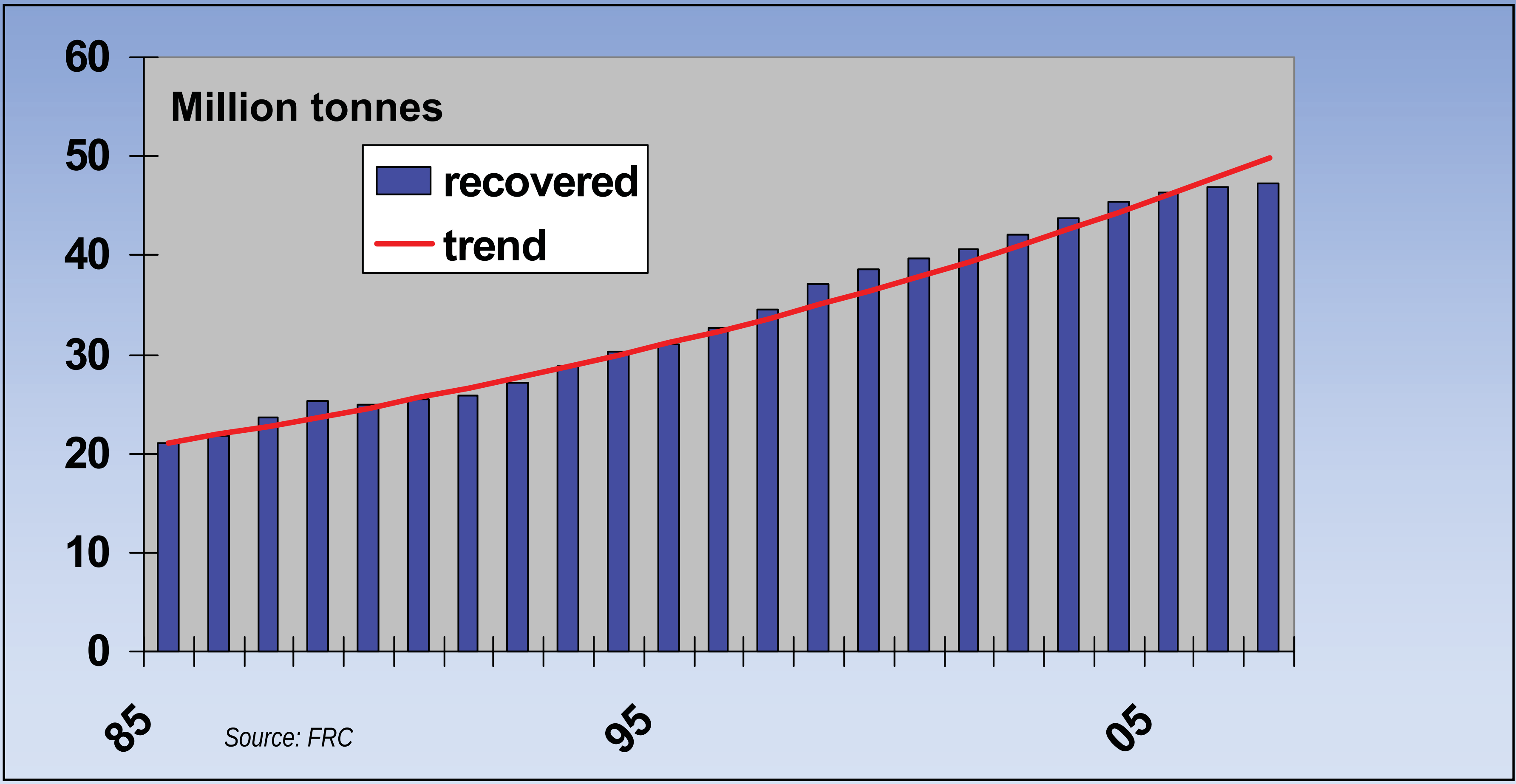
Sulphuric Acid Consumption

- In a period of good **growth.**
- **Fertilizer** use **growing** by just under **3%.**
- **Industrial** use by nearly **5%** boosted by ore leaching.
- **Growth is widely distributed** with less emphasis on China in future.



Recovered Sulphur Production Trend



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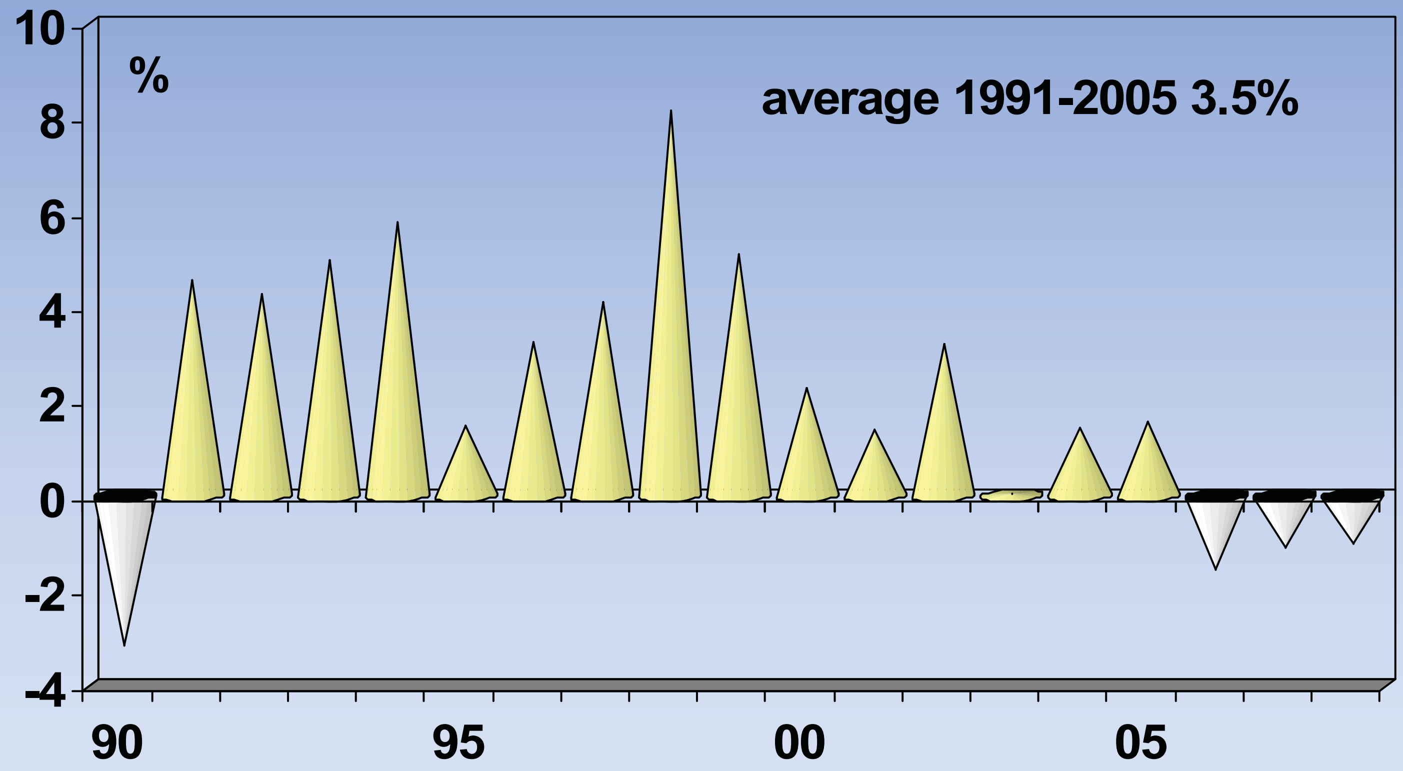
Changes in Gas Recovered Sulphur Output



Source: FRC

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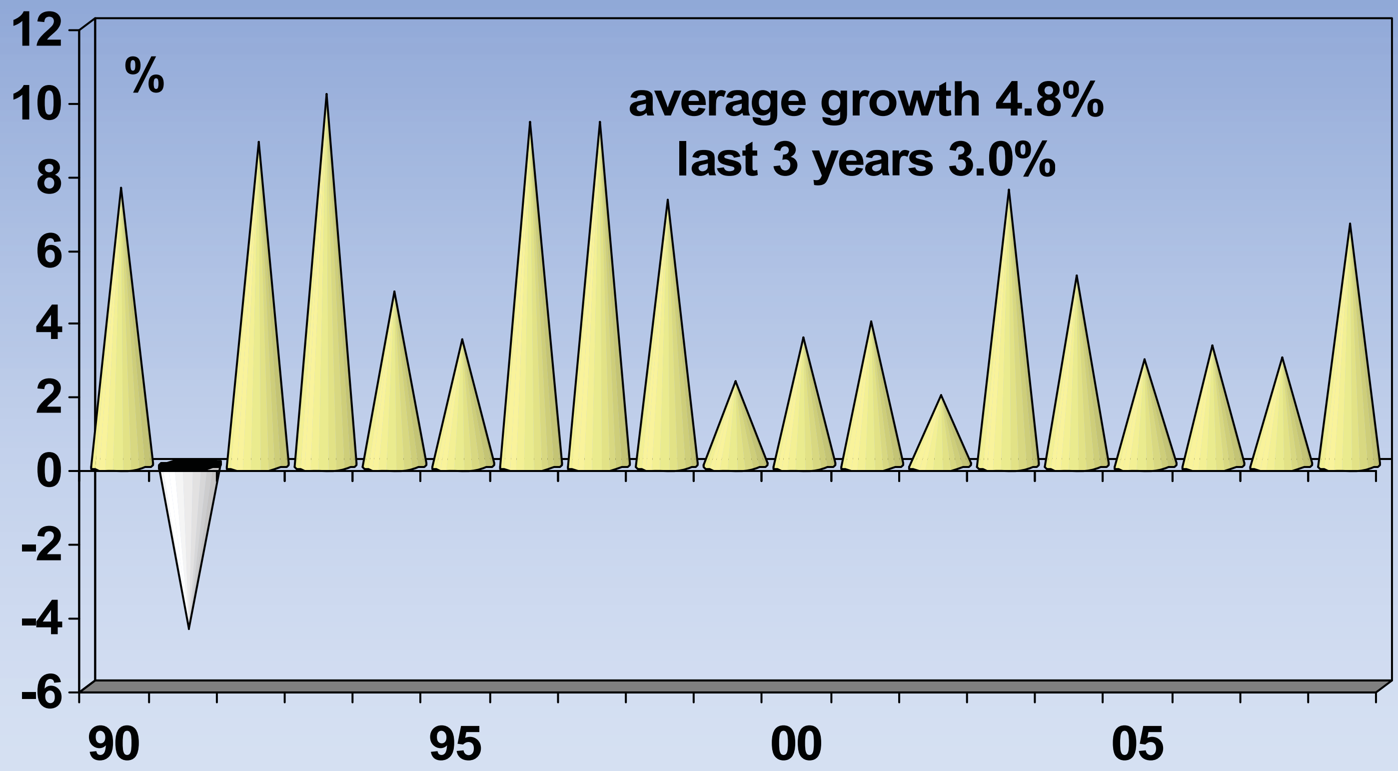
Changes in Oil Recovered Sulphur Production

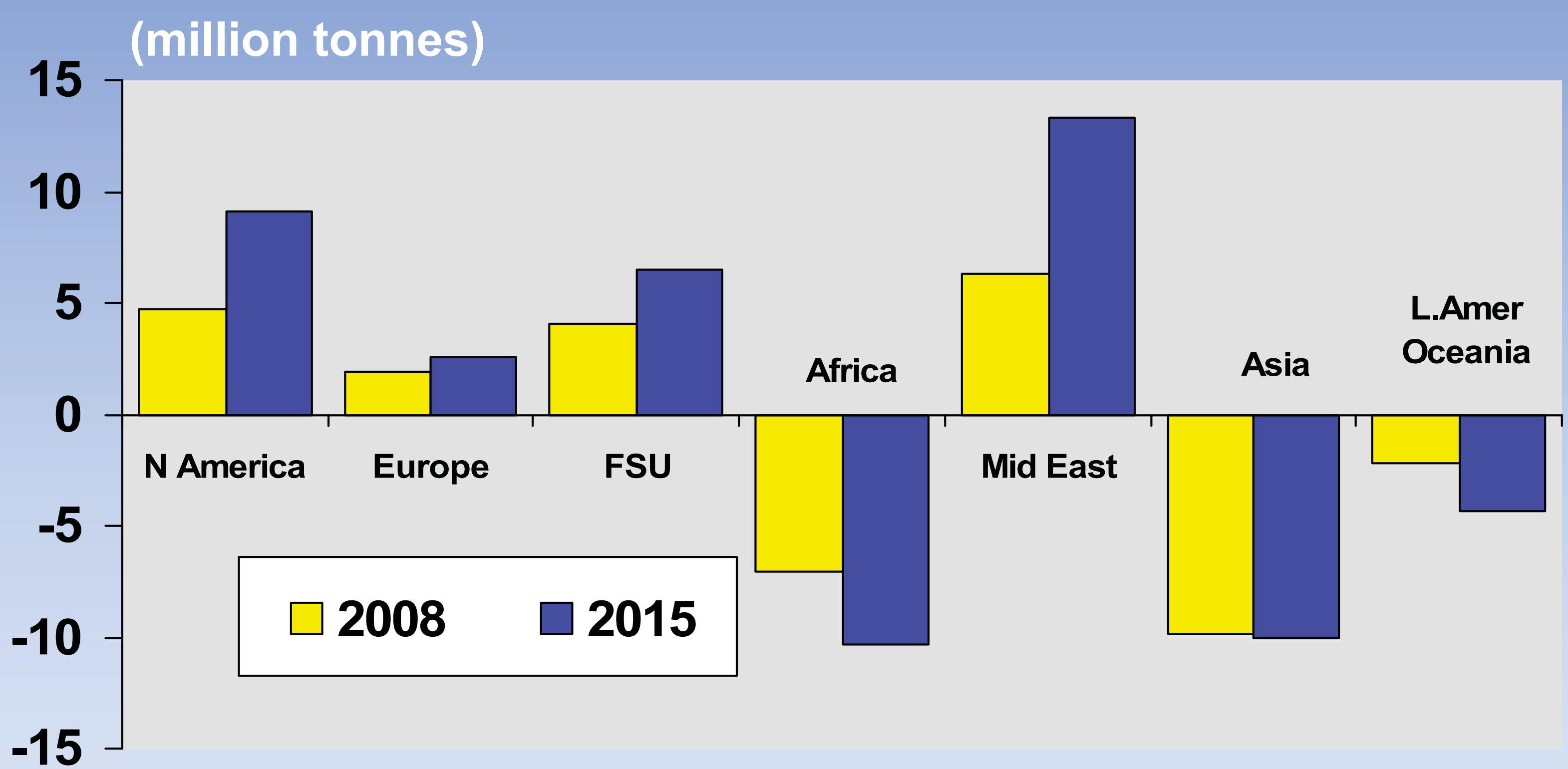


Source: FRC

Majors Inventory Disposition - 2008

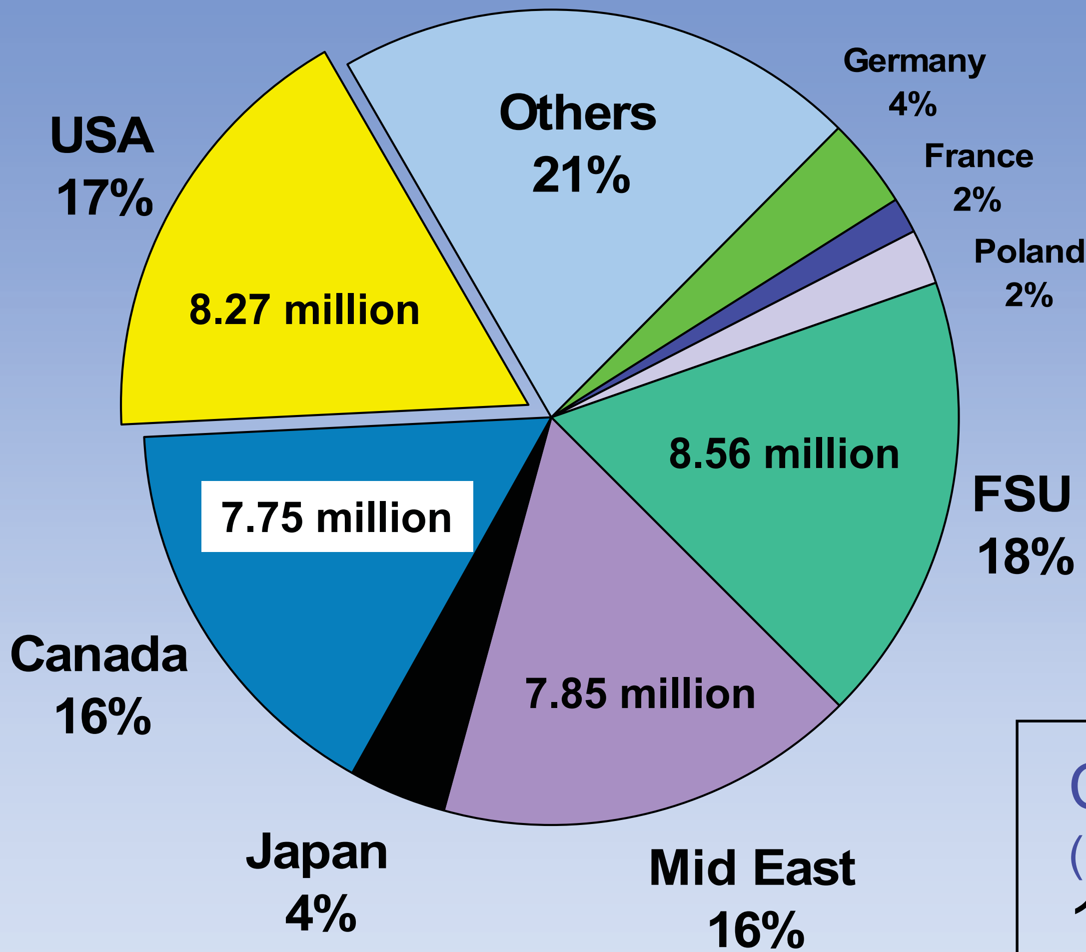
	Production	Deliveries	**Net**
	(million tonnes)		
Canada	**7.3**	**7.6**	**0.3**
Kazakhstan	**1.7**	**1.9**	**0.2**
Saudi Arabia	**3.0**	**3.3**	**0.3**
Iraq	**0.1**	**0.2**	**0.1**
TOTAL			**0.9**

Regional Sulphur Balances



Source: FRC

Elemental Sulphur Production Sources 2007



Source: FRC

Total 47.6 million tonnes

Country Rankings
(million tonnes)

1. USA – 8.27
2. Canada – 7.75
3. Russia – 6.37

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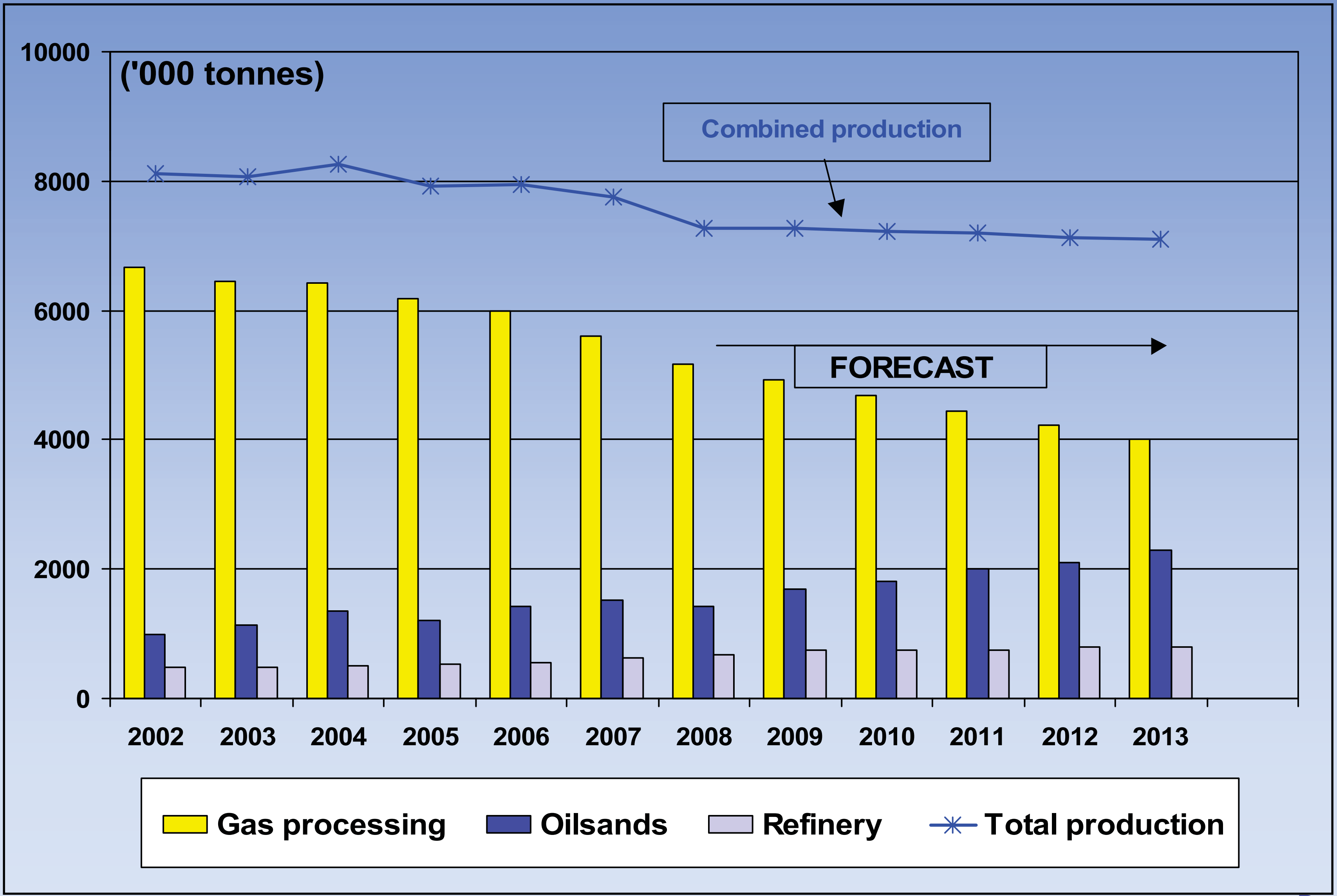
Canadian Sulphur Production 2002-2013



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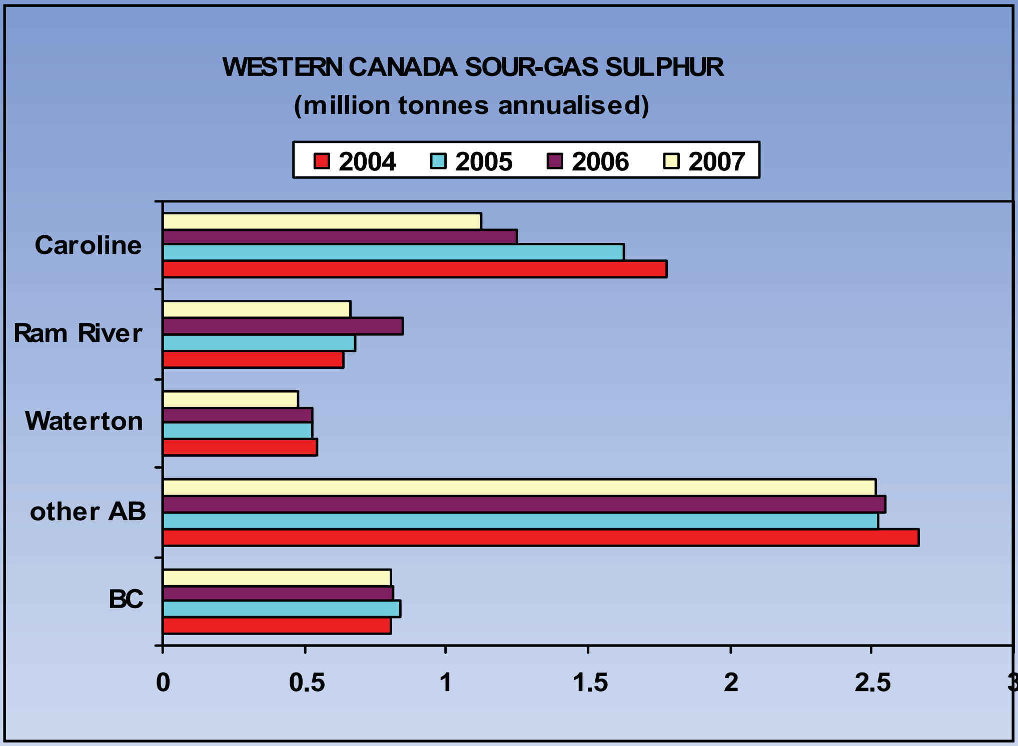
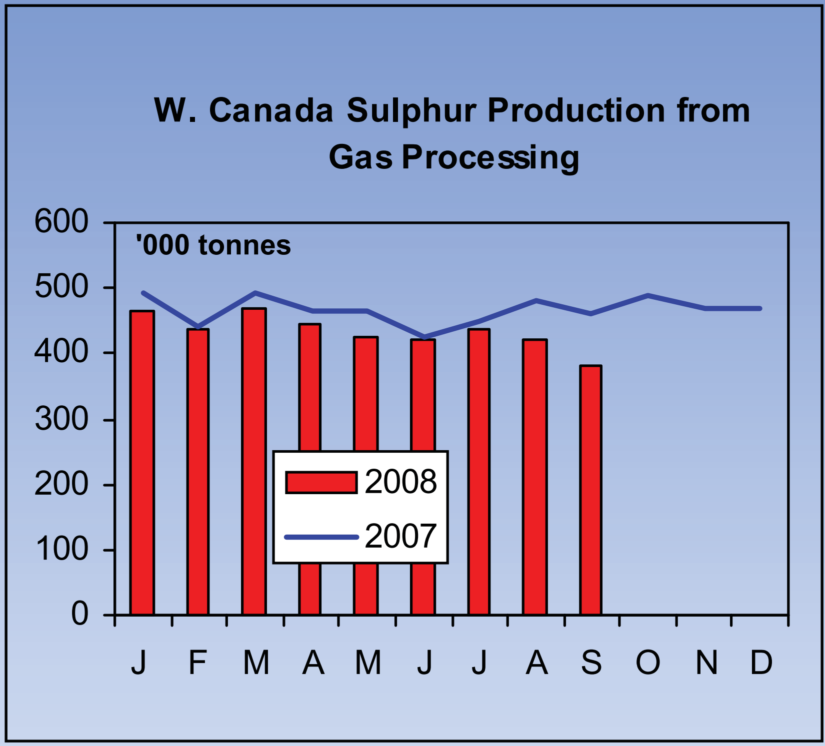
Western Canadian Gas Production





- Sulphur production from gas declined by 6.4% in 2007
- All major plants decreased in 2007 with Caroline down 10%
- 2008 January-September decline is 7.5%. Major turnaround at Shell's Waterton plant.

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Sulphur Production from Oilsands Operations

Surface Mining With upgraders	Sulphur tonnes (2007)
Syncrude	764,623
Suncor	435,683
Surface Mining No upgrader	
AOSP (Muskeg Mine)	
Upgraders	
AOSP (Scotford)	323,303
Lloydminster (Husky)	110,000
Regina SK (Co-op)	135,000
TOTAL	**1,768,609**

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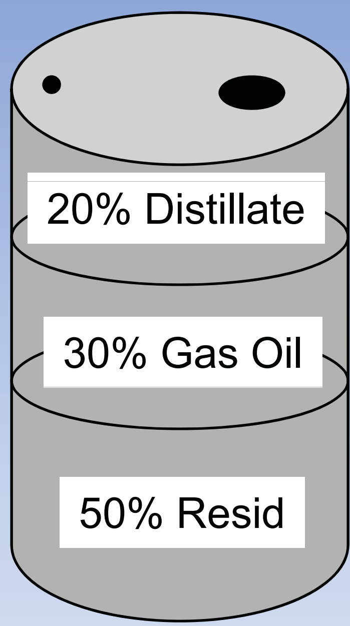
Bitumen and Synthetic Crude Composition

Bitumen



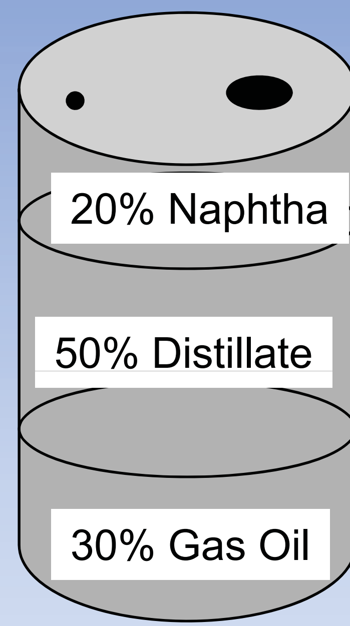
9.5^0 API

4.7% Sulphur

Upgrading

Sulphur production 6,000-7,000 tonnes per million barrels of SCO produced

Synthetic Crude (SCO)



33^0 API

0.13% Sulphur

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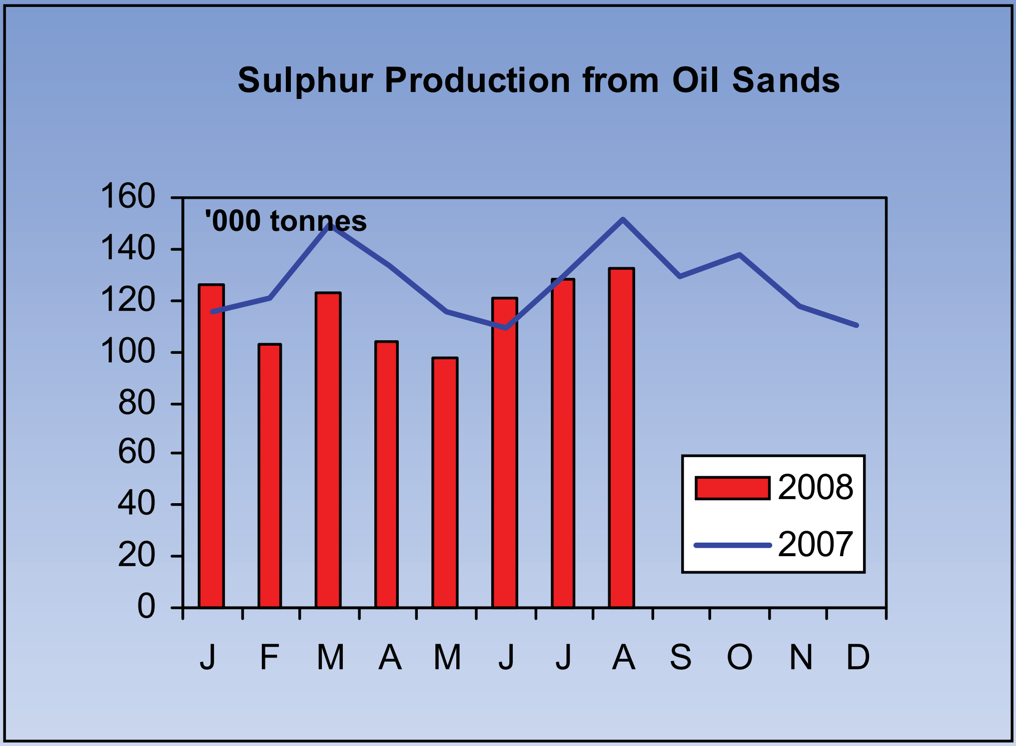
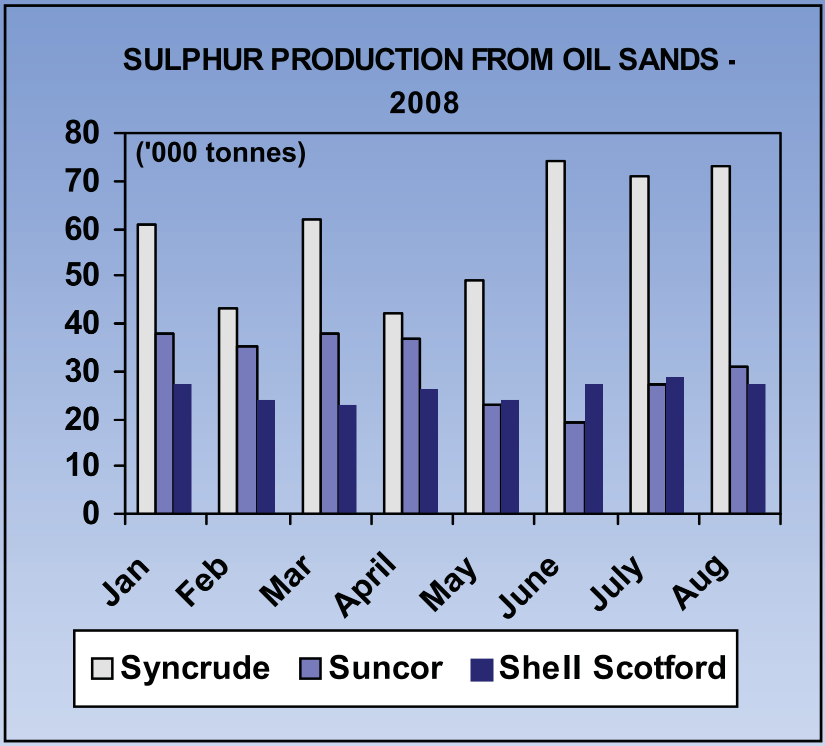
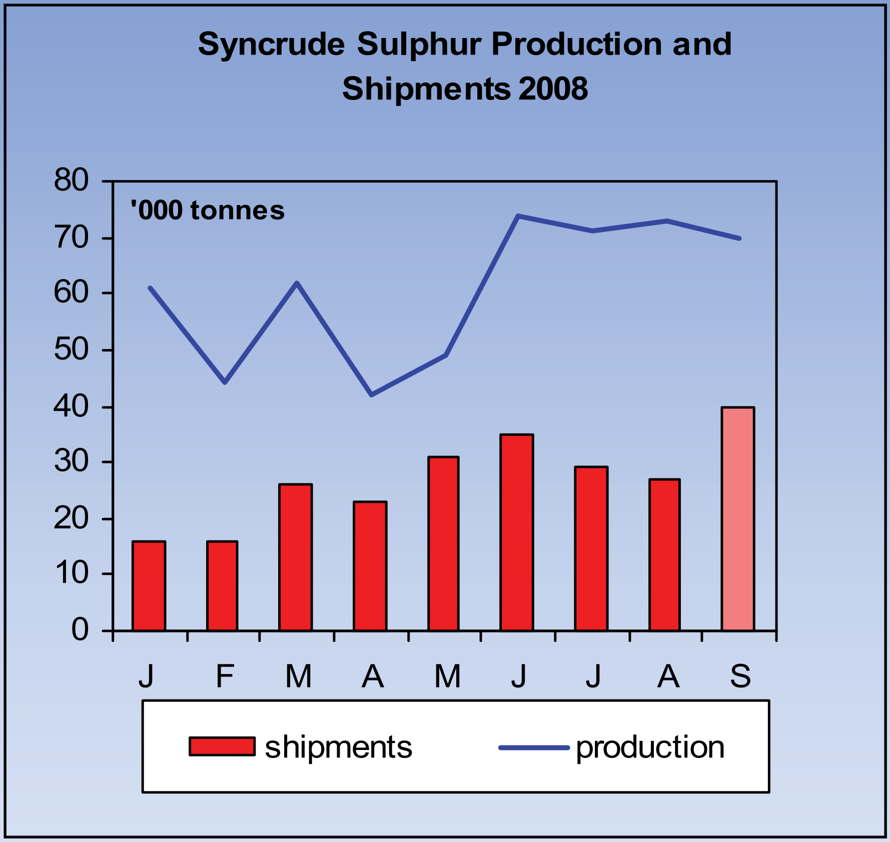
Western Canadian Oilsands Sulphur Production





- Sulphur production from oilsands down 8% in so far in 2008.
- Suncor down 14%
- Shell – Scotford down 12%

Syncrude Shipments Grow in 2008



- Sulphur production down by 6% in 2008.
- Over half of current production is being shipped to market.
- Second truck loading arm now operational.
- Consideration was being given to remelt of block which now stands at 7.7 million tonnes, now halted.
- Price collapse stops offshore shipments and threatens North American shipments.

Ft. McMurray Region Sulphur Production Forecast

FORECAST ELEMENTAL SULPHUR PRODUCTION
('000 tonnes)

		2007	2008	2009	2010	2011	2012	2013
Suncor								
Sulphur recovery 5,100 – 5,400 tonnes per million bbl/SCO								
Oil	'000 bbls/day	230	250	350	350	350	350	350
Sulphur	tonnes	**433**	**375**	**450**	**500**	**500**	**500**	**500**
Syncrude								
Sulphur recovery 6,700 tonnes per million bbl SCO								
Oil	'000 bbls/day	325	350	350	350	370	400	400
Sulphur	tonnes	**764**	**750**	**800**	**850**	**900**	**1,000**	**1,000**
CNRL								
Sulphur recovery 6,300 tonnes per million bbl SCO								
Oil	'000 bbls/day	0	0	45	110	150	175	175
Sulphur	tonnes	**0**	**0**	**100**	**250**	**350**	**400**	**400**
Nexen/Opti								
Sulphur recovery 8,900 tonnes per million bbl SCO								
Oil		0	15	37	60	60	60	60
Sulphur		**0**	**0**	**100**	**195**	**195**	**195**	**195**
TOTAL	**Sulphur**	**1,197**	**1,125**	**1,450**	**1,795**	**1,845**	**2,095**	**2,095**

Red indicates recent revisions to forecast

- **Suncor** struggles with current production, reduces capex for upgrader expansion planned for 2010/2011 – now much later.

- **Nexen/Opti** should be in production by early 2009. Has shelved Long Lake Phase 2 due 2012.

- **CNRL** plans to be on stream in early 2009 but could be delayed. Block pouring systems in place.

Up to a million tonnes of potential production removed from forecast.

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EDMONTON AREA UPGRADERS SULPHUR PRODUCTION FORECAST

('000 tonnes)

		2007	2008	2009	2010	2011	2012	2013
Scotford 1		323	354	360	500	620	620	620
Scotford 2	DELAYED							
BA Energy	SHELVED							
NW Upgrader	STALLED							
Fort Hills	DELAYED							
Synenco	CUT							
Total	DELAYED							
StatoilHydro	DELAYED							
Petro-Canada Strathcona		0	10	70	100	100	100	100
TOTAL	Sulphur	323	364	430	600	720	720	720

- Estimates run from $30-80 billion reduction in planned expenditures.
- Future prospects will be influenced by lower oil prices.
- Ability to finance major projects now an issue.
- Major reduction in capex for 2009.
- Mining projects will fare better than upgraders.

Up to 2 million tonnes/year potential production removed from the forecast

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US Refinery Sulphur Growth Projects

Company	Location	Current Sulphur ('000 tonnes)	Expansion O/S date	Sulphur Increase ('000 tonnes)
Valero	Corpus Christi, TX	190	2008	40
Valero	Norco, LA	50	2008	30
Marathon	Garyville, LA	200	2009	175
Motiva	Port Arthur, TX	175	2010	250
Total	Port Arthur, TX	70	2011	140
Valero	Port Arthur, TX	270	2011	100
Chevron	*Pascagoula, MS*	*325*	*2013?*	*250*
	TOTAL	***1280***		***985***

US Gulf

Company	Location	Current Sulphur ('000 tonnes)	Expansion O/S date	Sulphur Increase ('000 tonnes)
Marathon	Catlettsburg, KY	55	2010	90
BP	Whiting, IN	120	2011	360
Husky	*Lima, OH*	*10*	*2011?*	*250*
Marathon	Detroit, MI	25	2011	100
COP/EnC	Wood River, IL	120	2012	550
COP/EnC	Borger, TX	125	2012	100
Tesoro	Martinez, CA	70	2012	70
BP/Husky	*Toledo, OH*	*40*	*2013?*	*100*
	TOTAL	***565***		***1620***

Non USG

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Wyoming Gas Sulphur is Sliding

Wyoming Gas Plants - Sulphur Production ('000 tonnes)			
	2006	2007	I-IX 08
Carter Creek (CVX)	145	158	178
Lost Cabin (COP)	535	454	237
Whitney Canyon (BP)	139	86	0
Total	**819**	**698**	**415**

Whitney Canyon closed Sept. 2007, reserve depletion.

Lost Cabin 130,000 LT below normal in H1- 2008.

Carter Creek increases, more inlet gas

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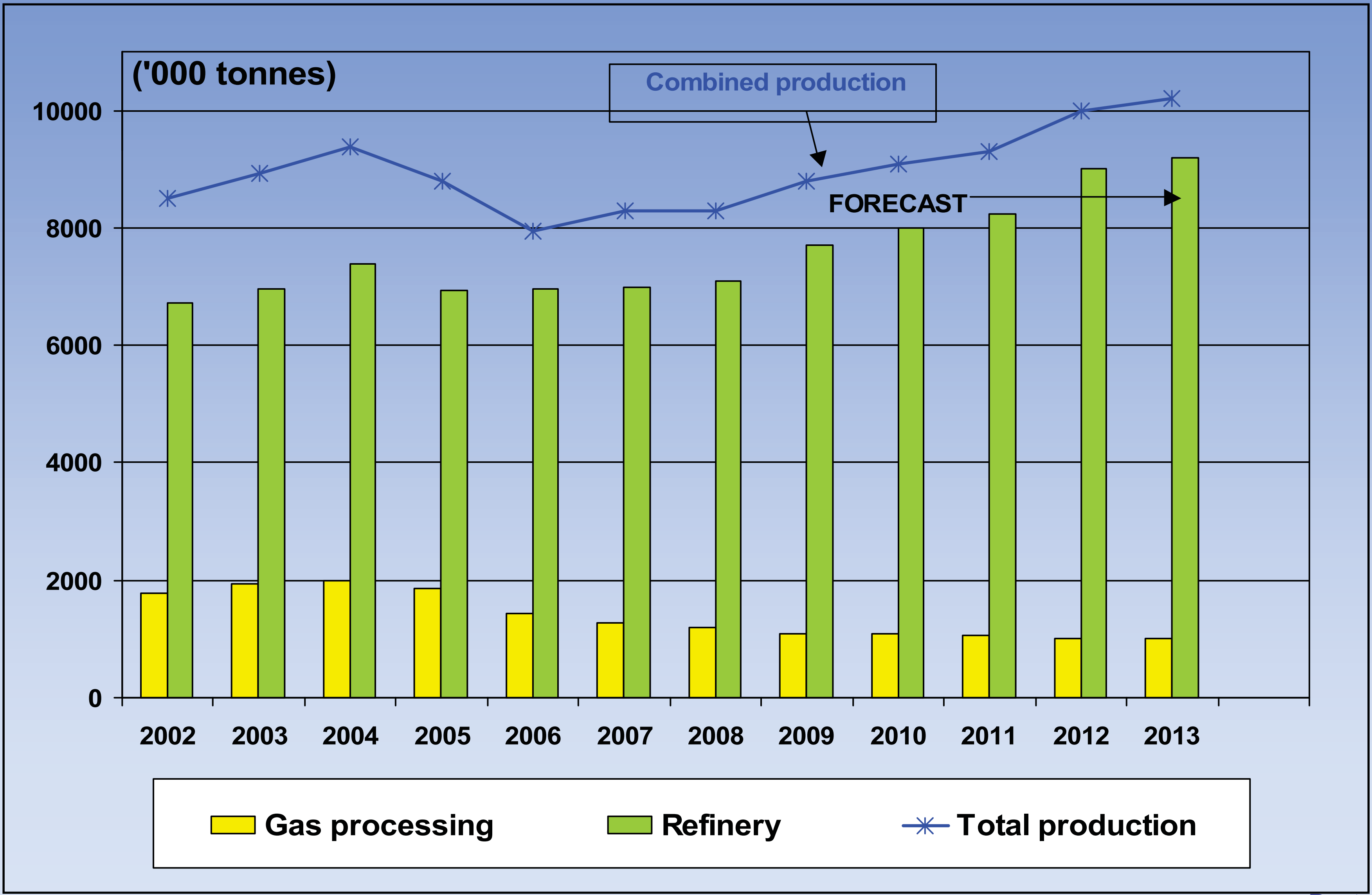
US Sulphur Production 2002-2013



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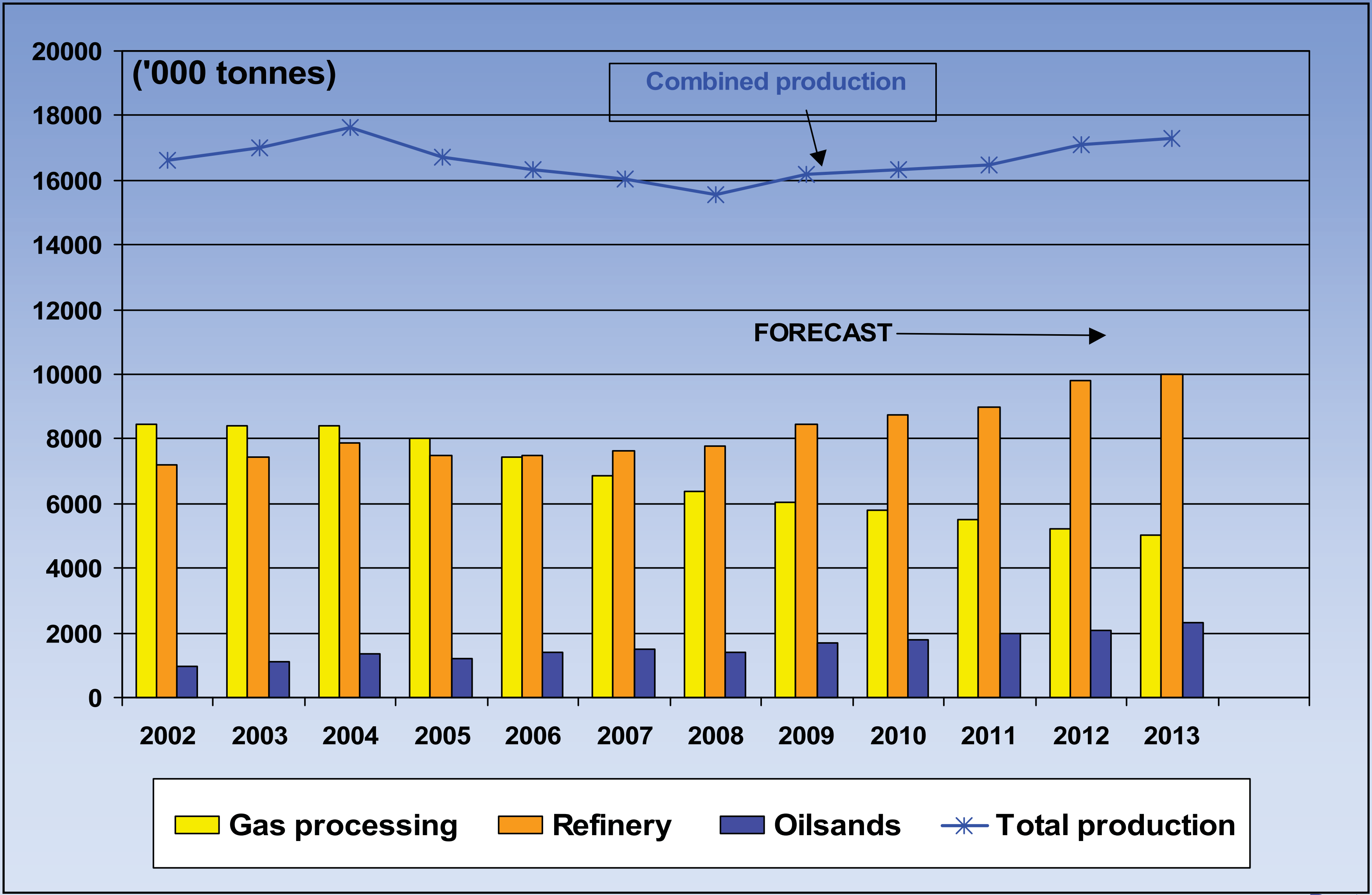
North America Sulphur Production



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Largest NA Sulphur Producers 2007

US

ExxonMobil	1,400
ConocoPhillips	1,285
Valero	1,060
Shell + Motiva	860
Chevron	665
Lyondell + CITCO	660
BP	530
Koch	400
Marathon	360
Total Top 9	7,270
Others	1,010
US TOTAL	8,280

CANADA

Shell	2,325
Syncrude	765
Suncor	432
Husky	450
ExxonMobil	430
Talisman	425
Devon	400
BP	300
ConocoPhillips	300
Hunt	280
Total Top 10	6,107
Others	1,640
Canada TOTAL	7,747

'000 tonnes

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US Sulphur Balance

	2006	2007	2008	2009	2010	2015
DEMAND	**11.25**	**11.52**	**11.5**	**11.5**	**11.8**	**12.4**
- Cons.	**9.85**	**10.00**	**10.2**	**10.0**	**10.1**	**9.0**
- Exports	**1.40**	**1.52**	**1.3**	**1.5**	**1.7**	**3.4**
- CA+	***1.10***	***1.11***	***1.1***	***1.1***	***1.1***	***1.2***
- US Gulf	***0.30***	***0.41***	***0.2***	***0.4***	***0.6***	***2.2***
SUPPLY	**11.33**	**11.15**	**11.5**	**11.5**	**11.8**	**12.4**
Recovered	**8.39**	**8.28**	**8.3**	**8.7**	**9.0**	**10.8**
- Oil Refining	***6.96***	***7.00***	***7.1***	***7.6***	***8.0***	***9.5***
- Gas Processing	***1.43***	***1.28***	***1.2***	***1.1***	***1.0***	***1.0***
- Imports	**2.94**	**2.87**	**3.2**	**2.8**	**2.8**	**1.6**
Canada	***2.10***	***2.09***	***2.5***	***2.1***	***2.1***	***0.8***
Mexico	***0.48***	***0.42***	***0.4***	***0.4***	***0.4***	***0.5***
Venezuela	***0.36***	***0.34***	***0.3***	***0.3***	***0.3***	***0.3***
STOCK CHANGE	**0.08**	**(0.37)**				

million tonnes

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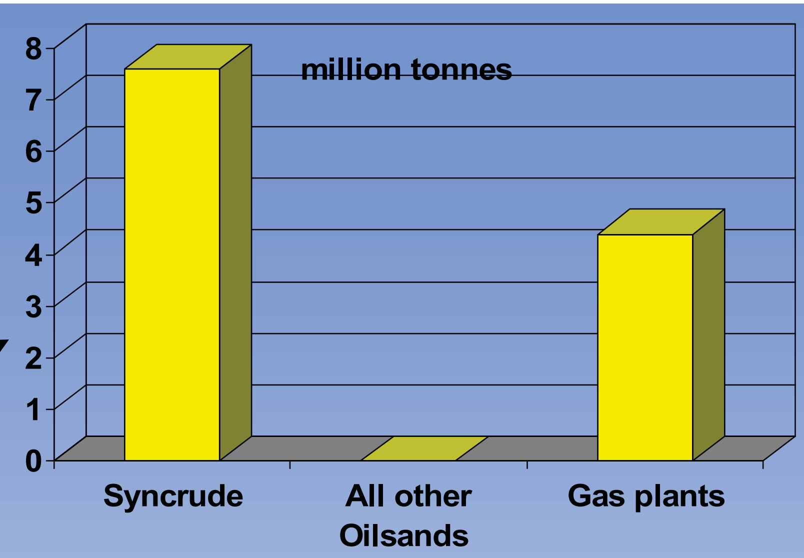
Canada Sulphur Balance



2008 (million tonnes)

Opening inventory	**12.0**	
Production	**7.3**	← **From gas, oilsands**
Shipments	**7.6**	
- Canada	0.6	← **Liquid by truck to Edmonton area**
- US	2.5	← **Liquid by rail to US Consumers**
- Offshore	4.5	
Closing inventory	**11.7**	
Inventory Additions	**0.3**	
Inventory - remelt	**(0.6)**	
Net Stock change	**(0.3)**	

Canada Sulphur Balance

(million tonnes)

	2006	2007	2008	2009	2010	2011	2012
Opening inventory	**12.8**	**12.2**	**12.0**	**11.7**	**12.1**	**12.1**	**11.5**
Production	**8.0**	**7.8**	**7.3**	**7.3**	**7.2**	**7.2**	**7.1**
Shipments	**8.6**	**8.0**	**7.6**	**6.9**	**7.2**	**7.8**	**7.5**
- Canada	0.7	0.6	0.6	0.5	0.6	0.6	0.6
- US	2.1	2.1	2.5	2.1	2.1	1.8	1.4
- Offshore	5.8	5.3	4.5	4.3	4.5	5.4	5.5
Closing inventory	**12.2**	**12.0**	**11.7**	**12.1**	**12.1**	**11.5**	**11.1**
- gas plants	**5.3**	**4.4**	**3.8**	**3.5**	**2.9**	**1.8**	**0.9**
- oilsands	**6.9**	**7.6**	**7.9**	**8.6**	**9.2**	**9.7**	**10.2**
Inventory Additions	**0.6**	**0.7**	**0.3**	**0.7**	**0.6**	**0.5**	**0.5**
Inventory - remelt	**(1.2)**	**(0.9)**	**(0.6)**	**(0.3)**	**(0.6)**	**(1.1)**	**(0.9)**
Net Stock change	**(0.6)**	**(0.2)**	**(0.3)**	**0.4**	**0**	**(0.6)**	**(0.4)**

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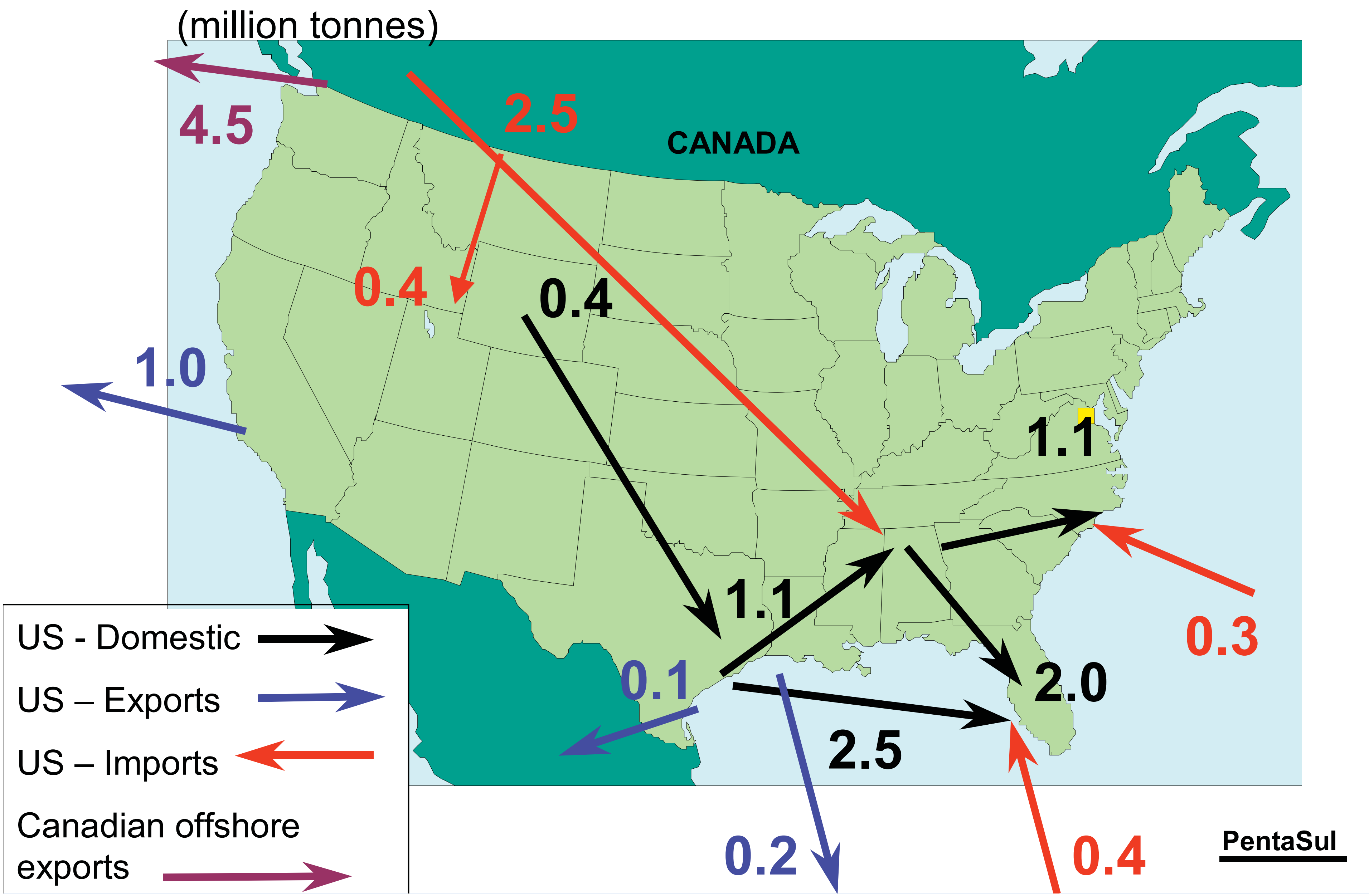
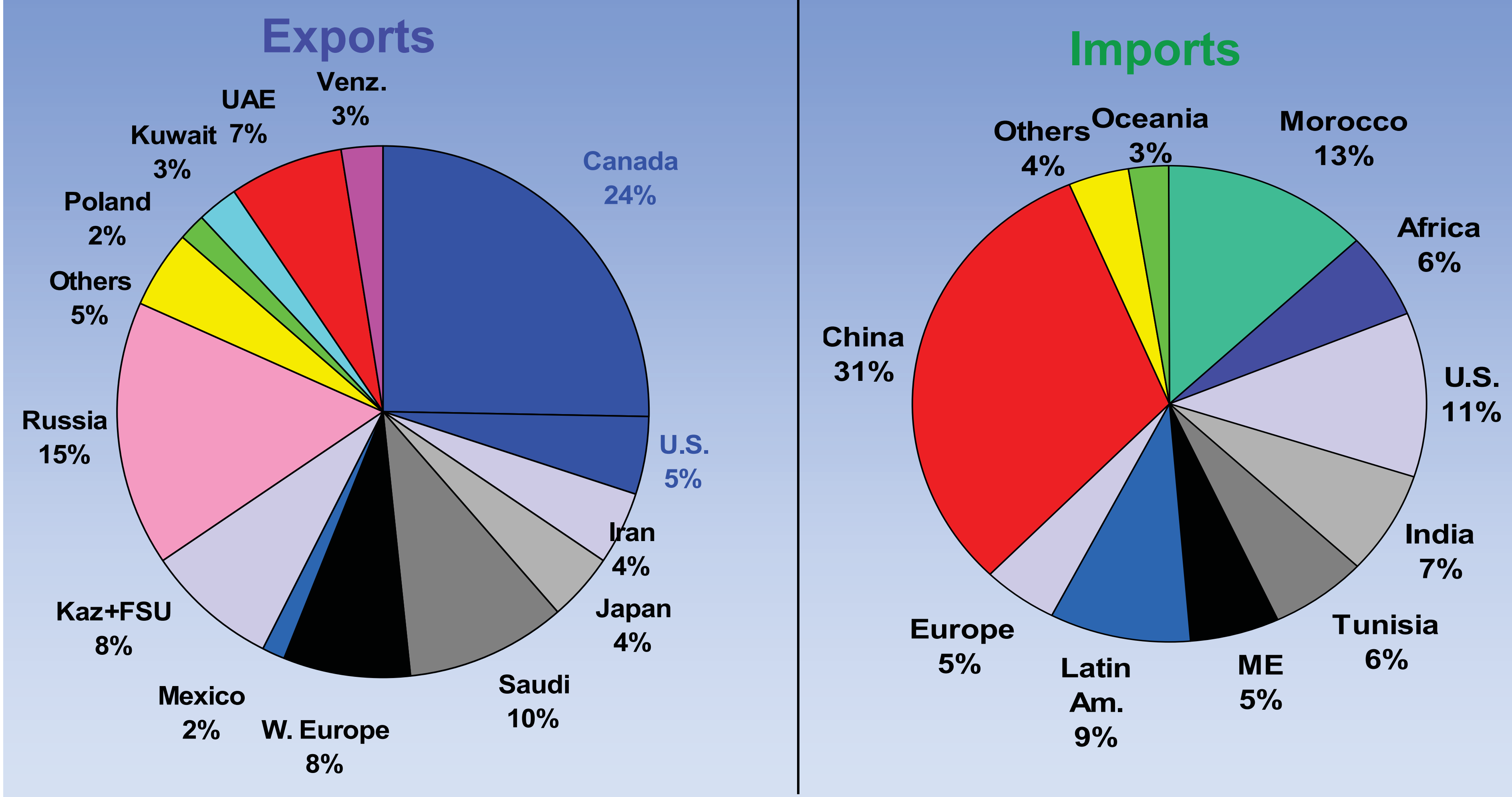
North America Long Range Sulphur Movements - 2008



Internationally Traded Sulphur - 2007



29 million tonnes

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Source: FRC February 2008

North America Offshore Exports - 2007

	Vancouver	California	USGC	TOTAL	%
				Africa	10%
Morocco	-	-	122	122	
South Africa	493	-	-	493	
Senegal	-	-	17	17	
				Asia	54%
China	2,695	686	32	3,413	
Others	47	-	-	47	
				Oceania	14%
Australia	769	-	-	769	
New Zealand	135	-	-	135	
				Latin America	22%
Brazil	810	84	194	1,088	
Chile	71	-	-	71	
Cuba	145	-	-	145	
Mexico	27	41	15	83	
Others	12	6	27	45	
TOTAL	**5,204**	**817**	**407**	**6,428**	

'000 tonnes

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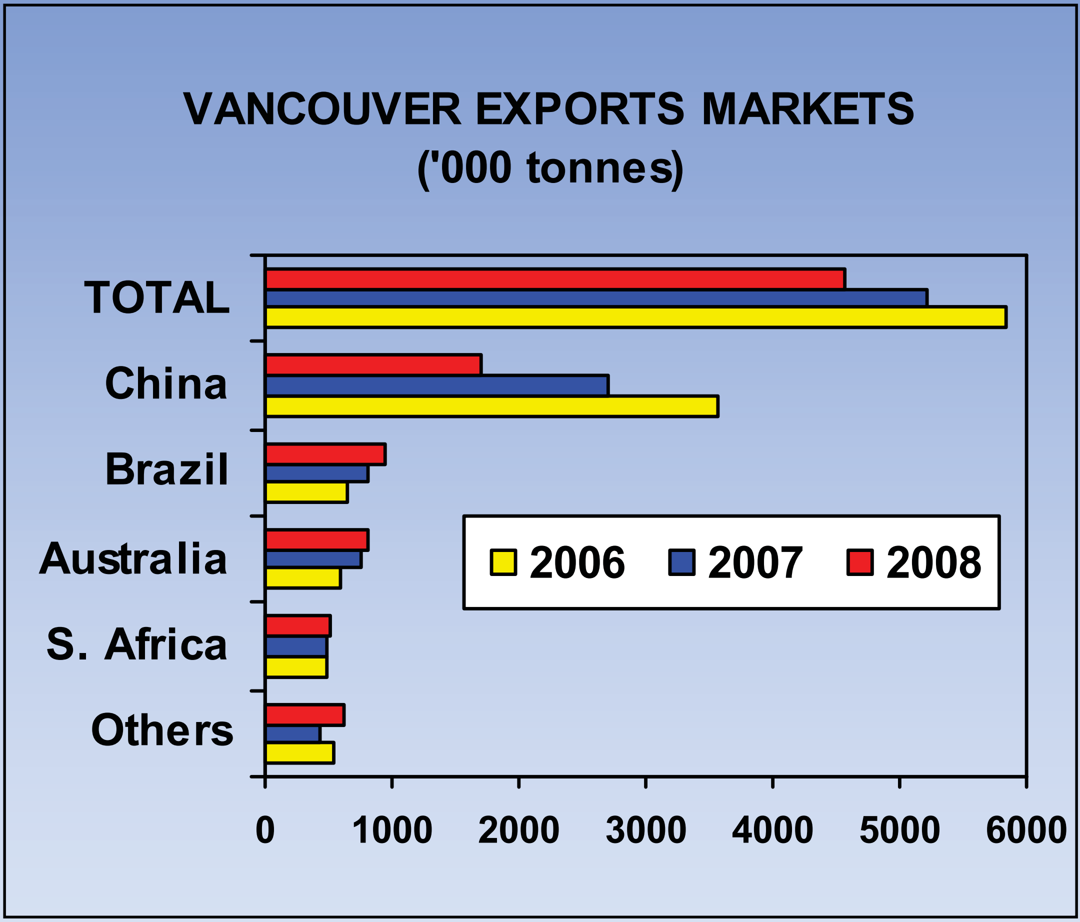
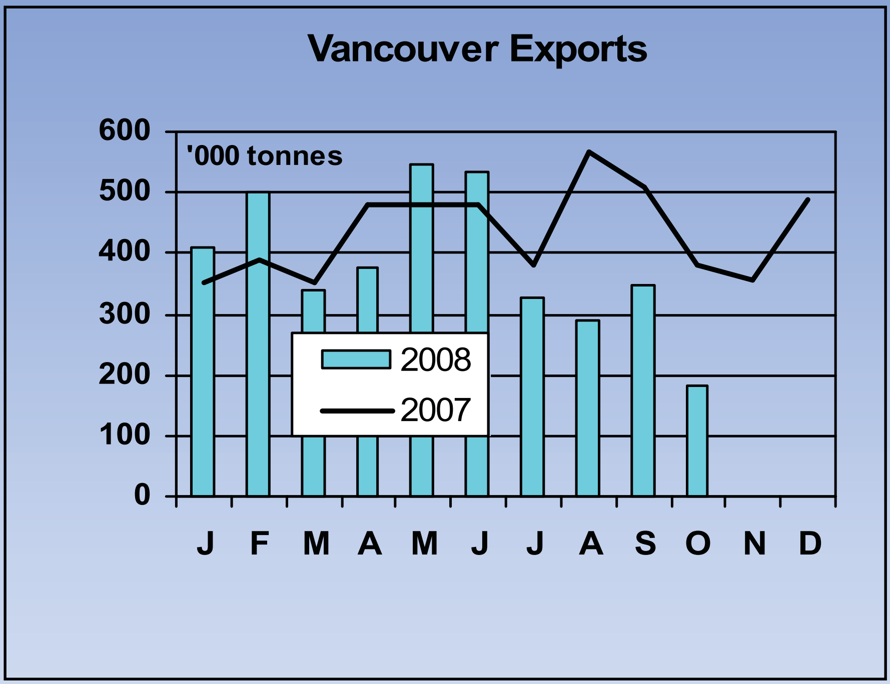
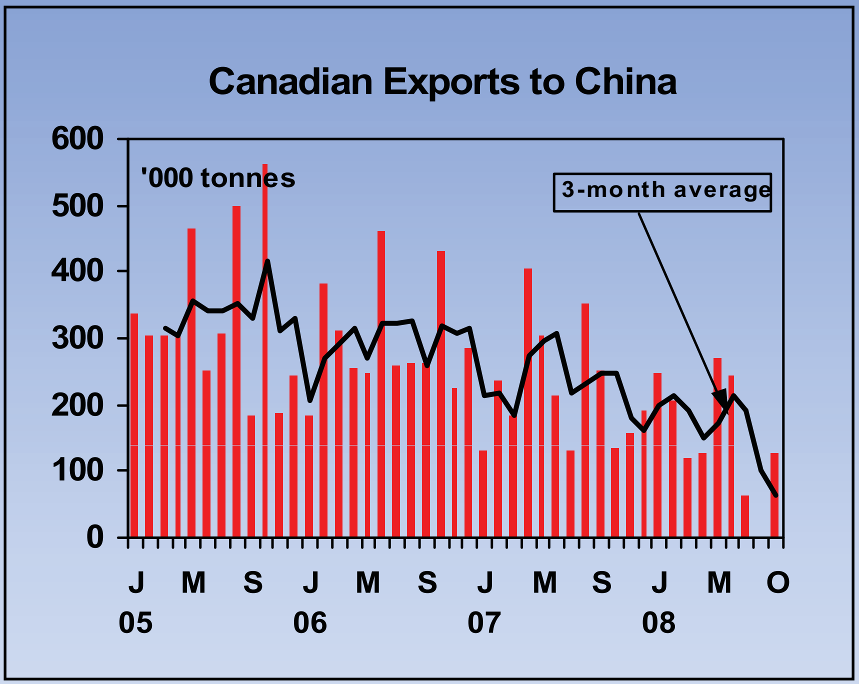
Vancouver Export Markets



- Shipments down by over one million tonnes
- Sales to China fall 50% in two years from 3.5 million tonnes to 1.7 million tonnes.
- Growth in Brazil and Australia.
- Others increase in 2008 with shipments to Mexico, USA and Israel.

Vancouver Exports Decline Sharply in 2008





- Vancouver shipments fall from 5.8 million tonnes in 2006 to an estimated 4.6 million tonnes in 2008.
- October exports only 183,000 tonnes.
- Sales to China diminish to zero in September 2008

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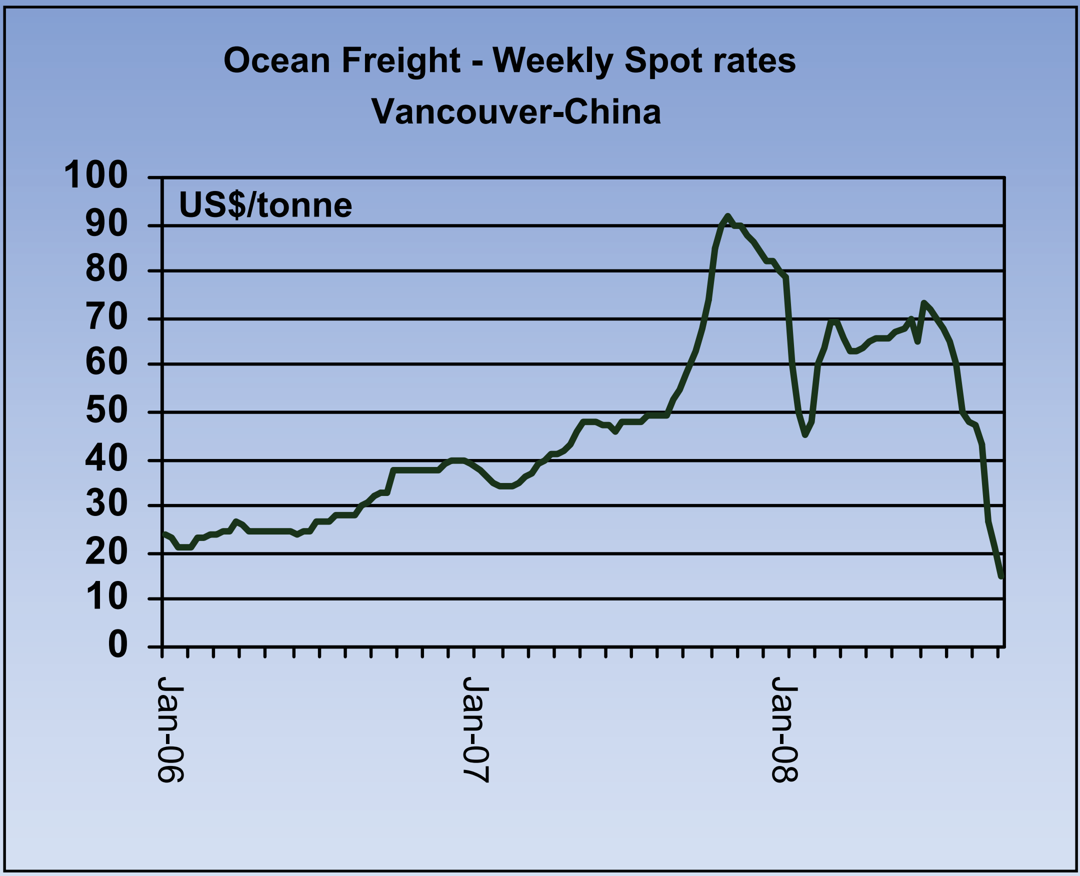
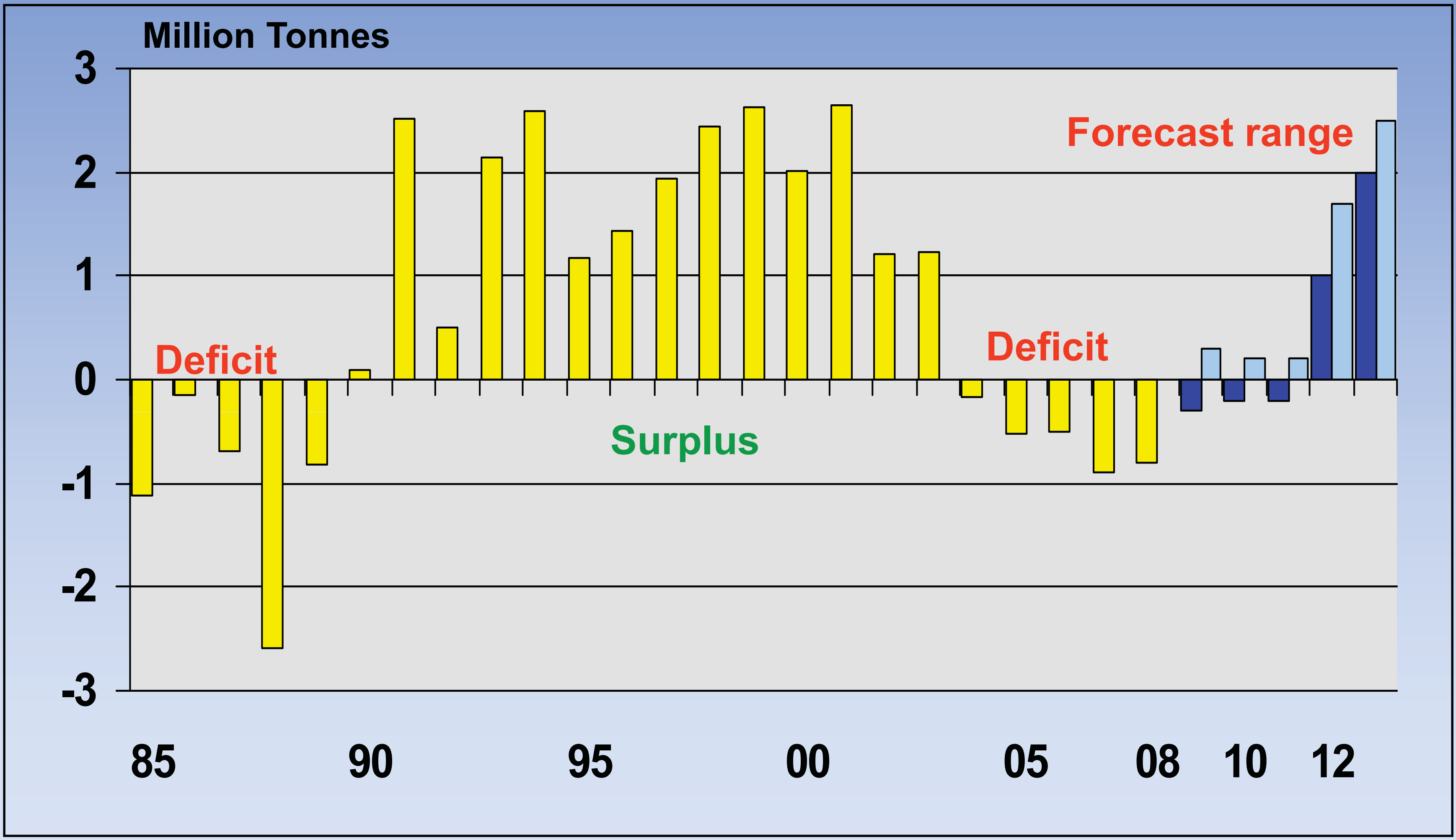
Ocean Freight Rates Collapse



- Baltic index plummets 90% since May 2008
- Recently fixtures WC to China at US$15-$20/tonne on spot basis and declining.
- High cost COAs ($50-$70/tonne) will take 6 months or so to clear the system.

Elemental Sulphur Balance - Outlook



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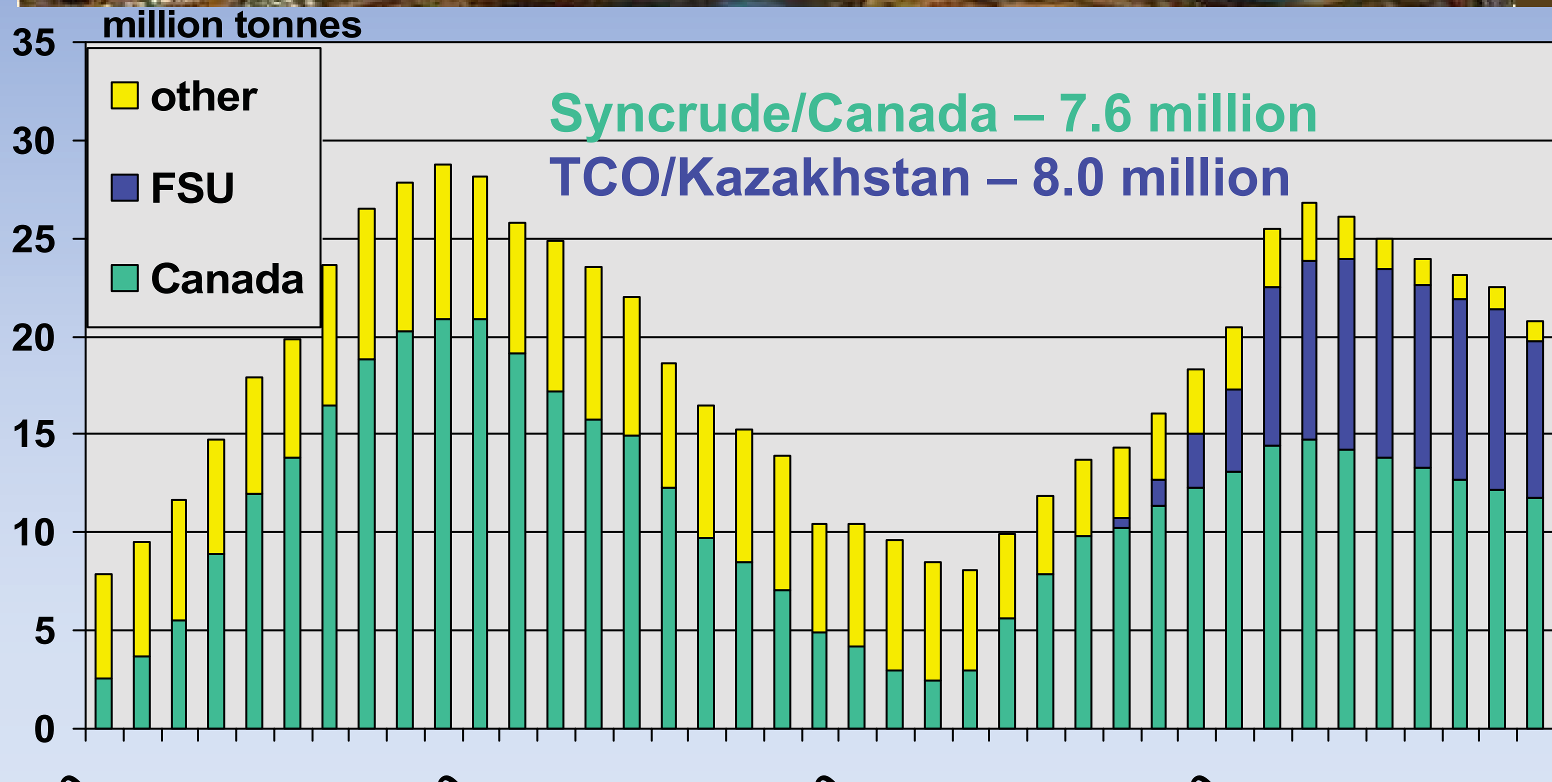
World Sulphur Stocks



Source: FRC