

13th

Middle East Iron & Steel *Conference*

Gilles Calis, SteelConsult International

Cost competitiveness of steelmaking in the GCC:
who will supply future growth?

SteelConsult
—International—

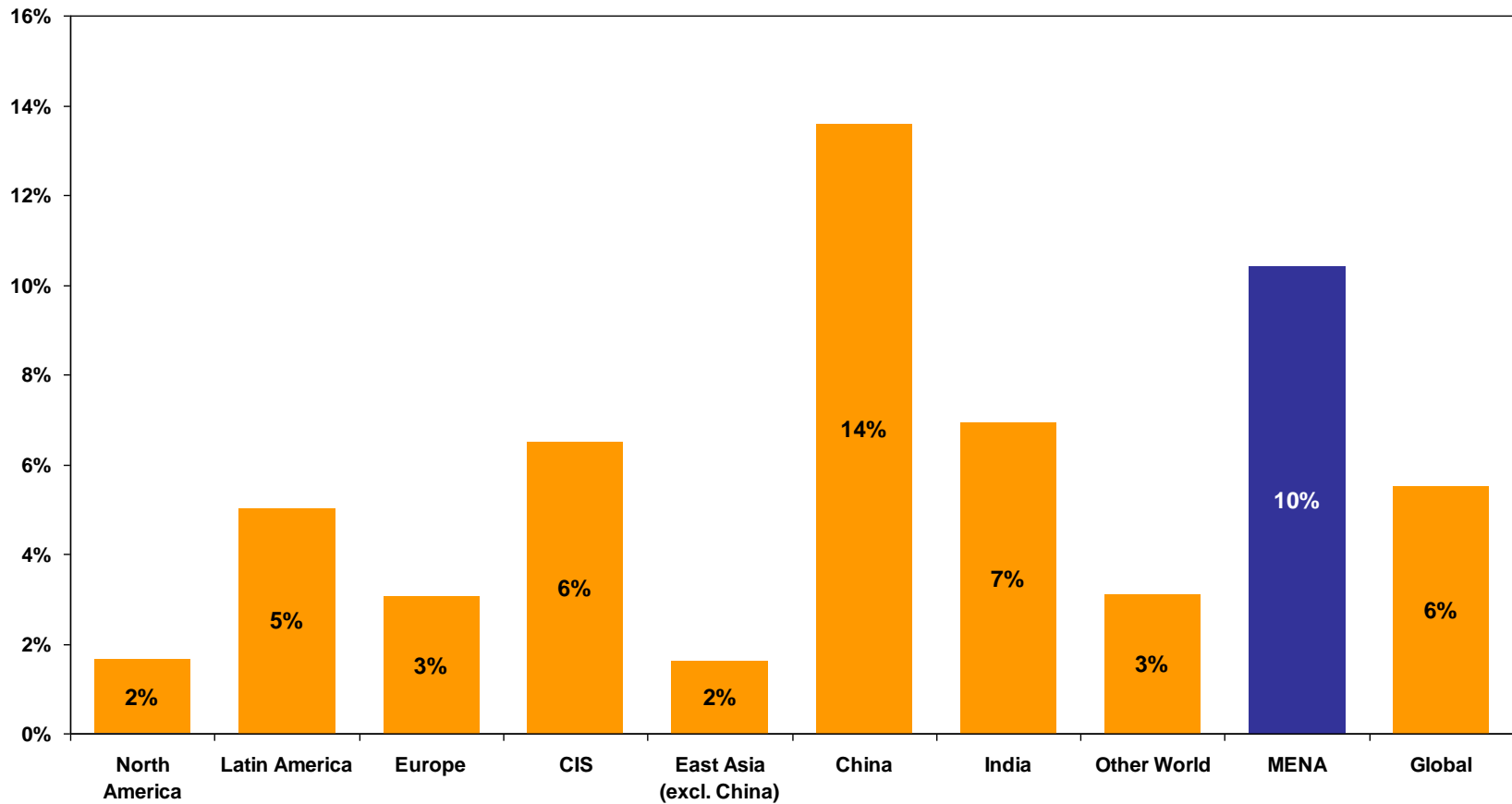
About SteelConsult International

- We know the steel industry and market
- Senior consultants with background in the steel industry
- Extensive databases
- We offer a complete package for analyses and decision making
- Our clients include top-10 players in the global steel, raw materials and equipment supplying industries

Services	Product Areas	Why SteelConsult?
• Strategic Consulting	• Steelmaking Raw Materials	• Specialized in Iron & Steel
• Market Research	• Semis	• Background in the steel industry
• Financial Modelling	• Flat Products	• Contact network
• Cost and Feasibility Studies	• Long Products	• Commitment
• Customer Satisfaction Surveys	• Processed Products	• Languages: 

The MENA steel market has shown fast growth during the last decade

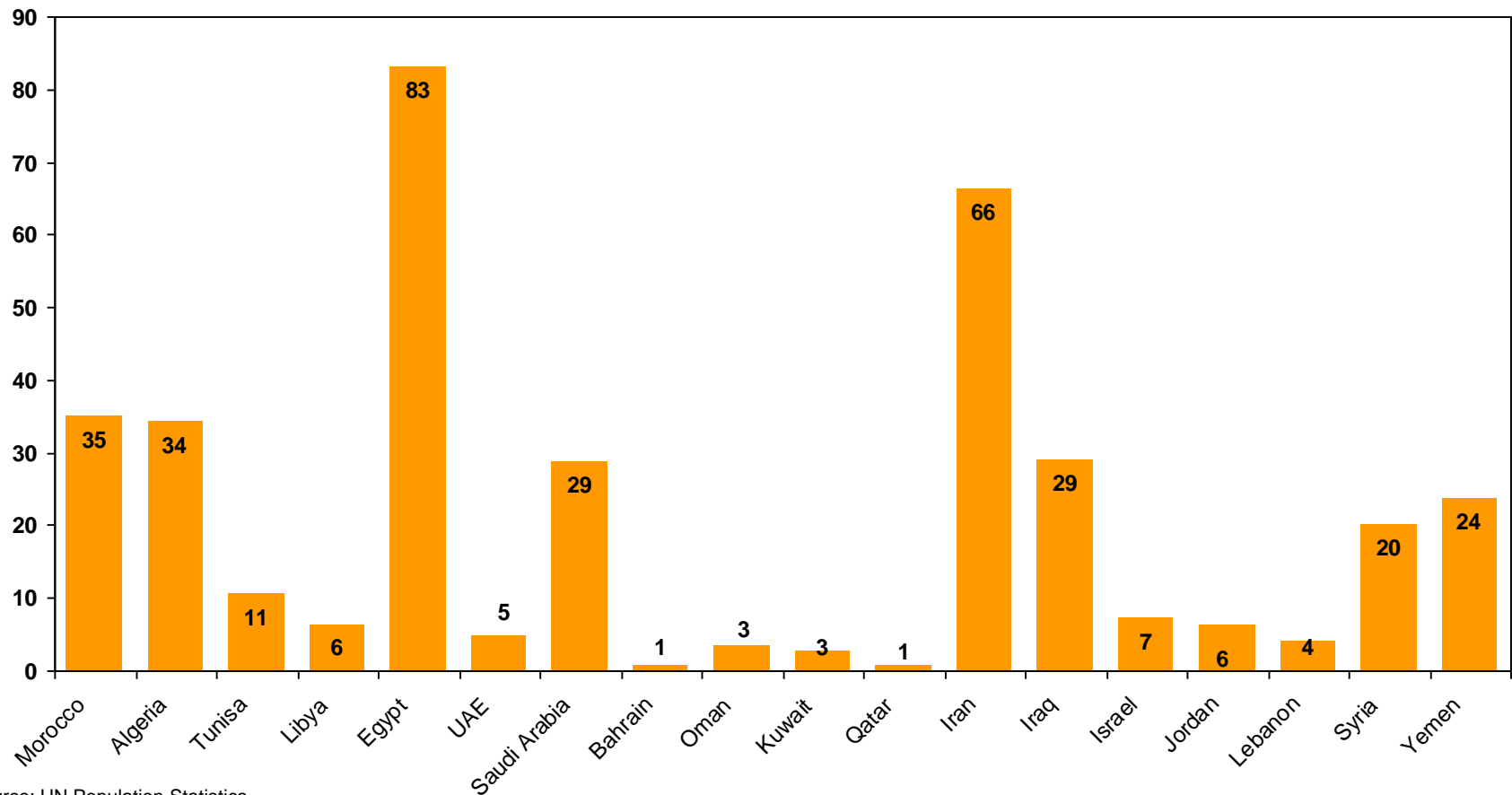
Finished steel consumption, CAGR 1995-2008



Source: WSA

Despite also being hit by the crisis, the long term outlook for the region is favorable. It has a market potential of 365m consumers...

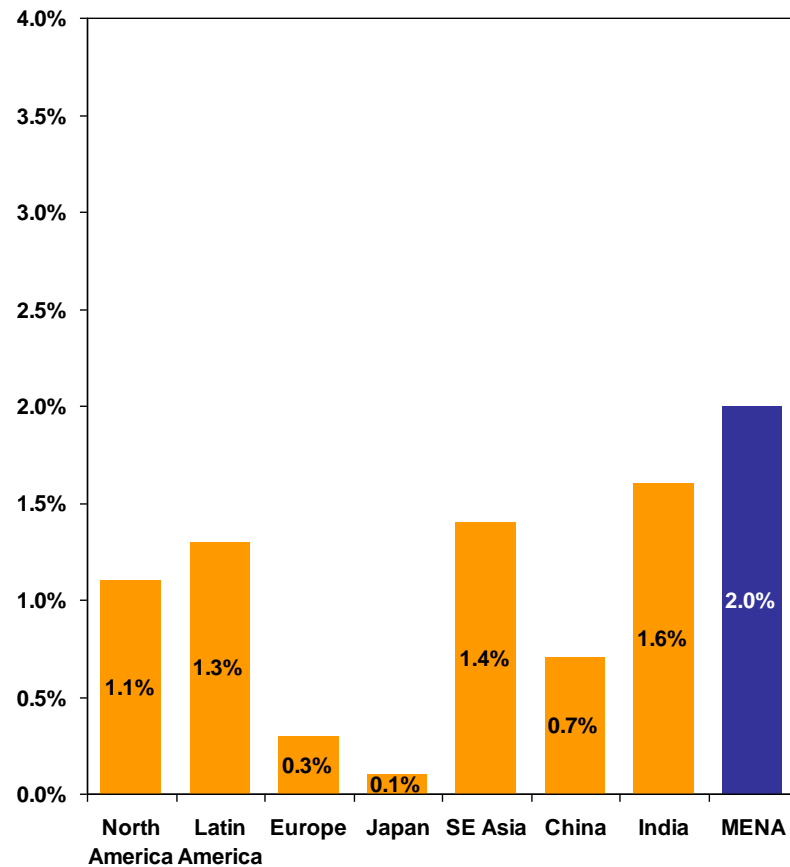
Population, 2008/2009 (mln)



Source: UN Population Statistics

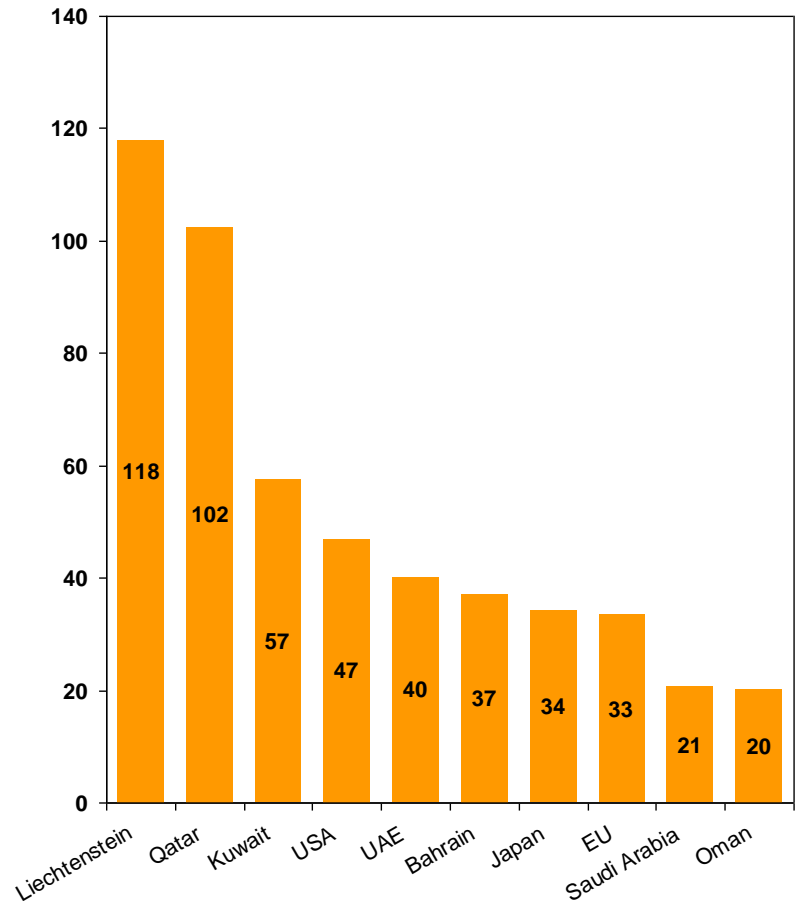
A fast growing population and rising GDP/head

Population, CAGR 1995-2008



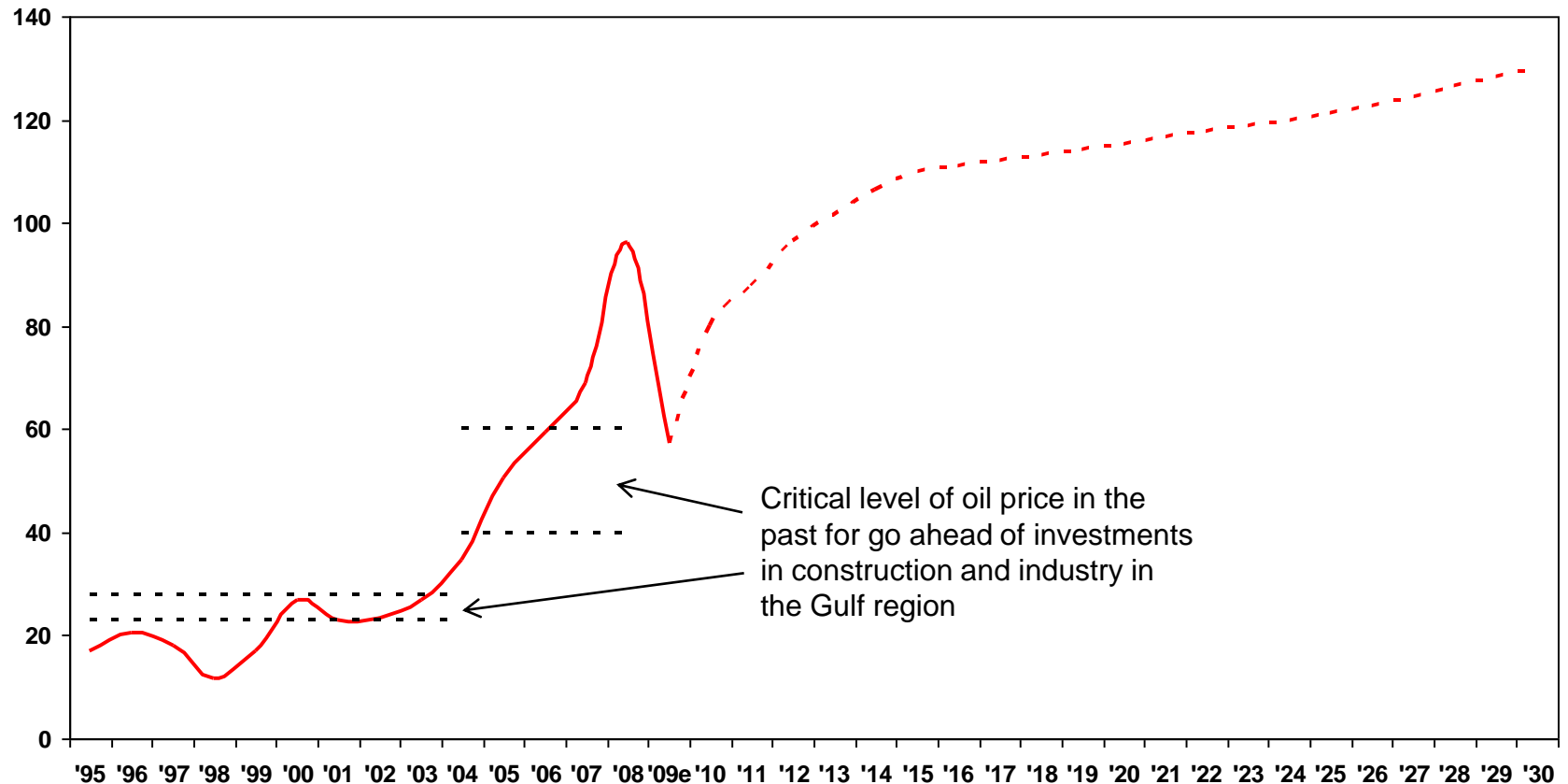
Source: UN Population Statistics, CIA World Fact Book

GDP/head (PPP), 2008 (1,000 US\$)



The main driver of economic development and demand for steel in the region, the price of oil, is forecast to recover to levels above \$100/bl

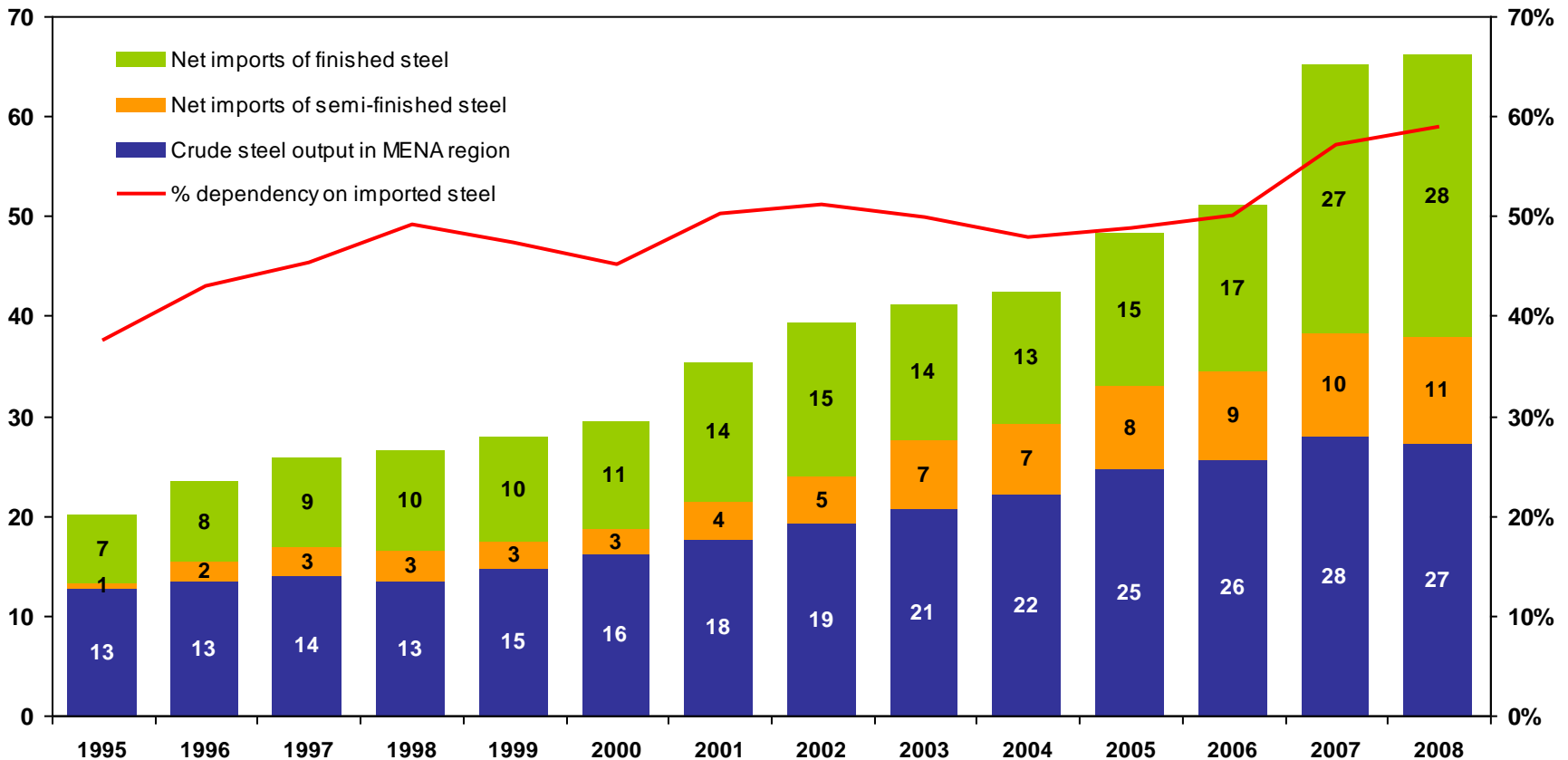
Oil price (annual average), US\$/barrel



The region is a large and growing importer of steel...

Supply of steel in MENA region by source (m tonnes)

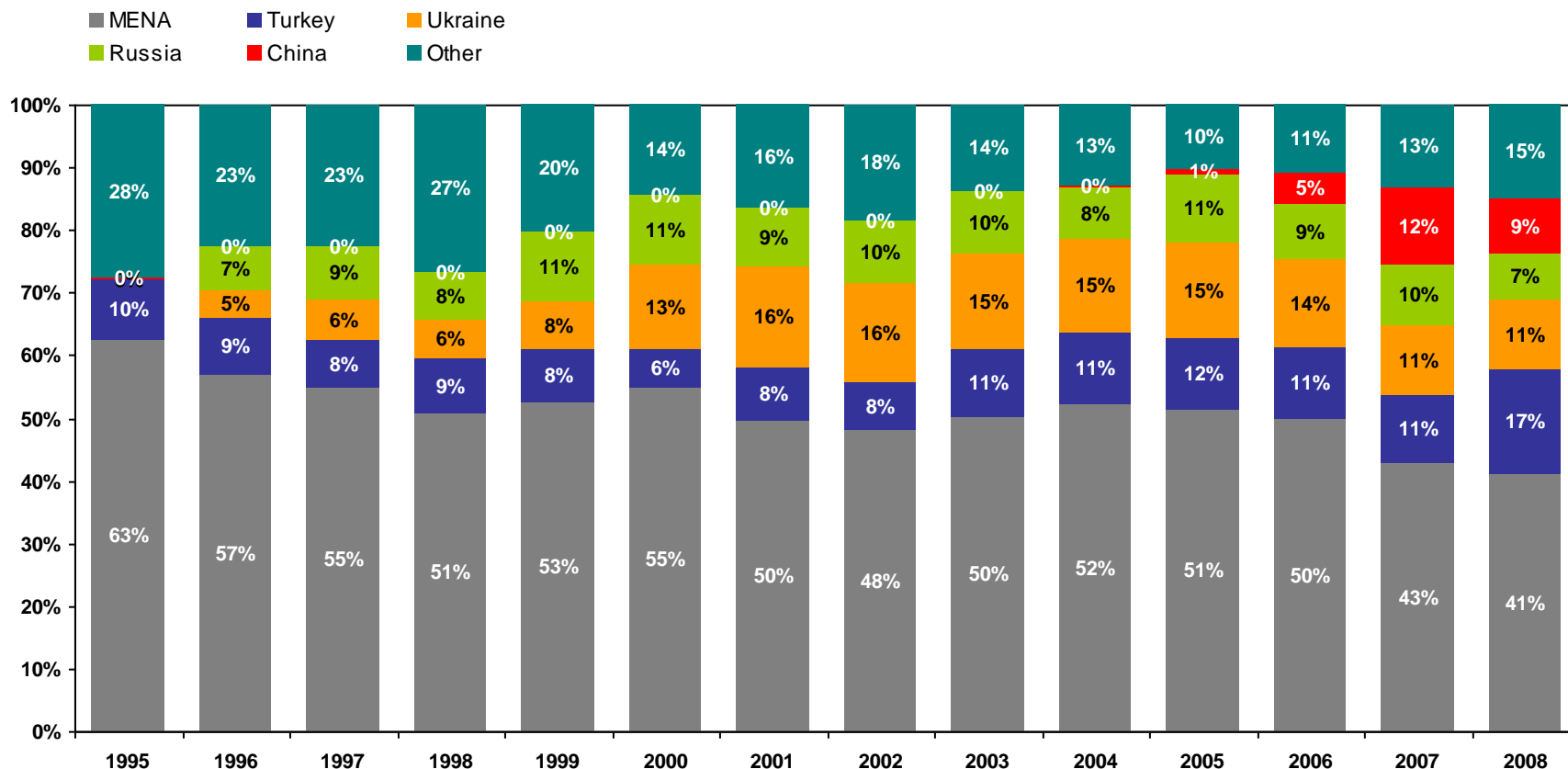
% of steel requirements imported from outside



Source: SteelConsult, ISSB, UN trade statistics

45% of steel is supplied by just 4 foreign countries: Turkey, Ukraine, Russia and China

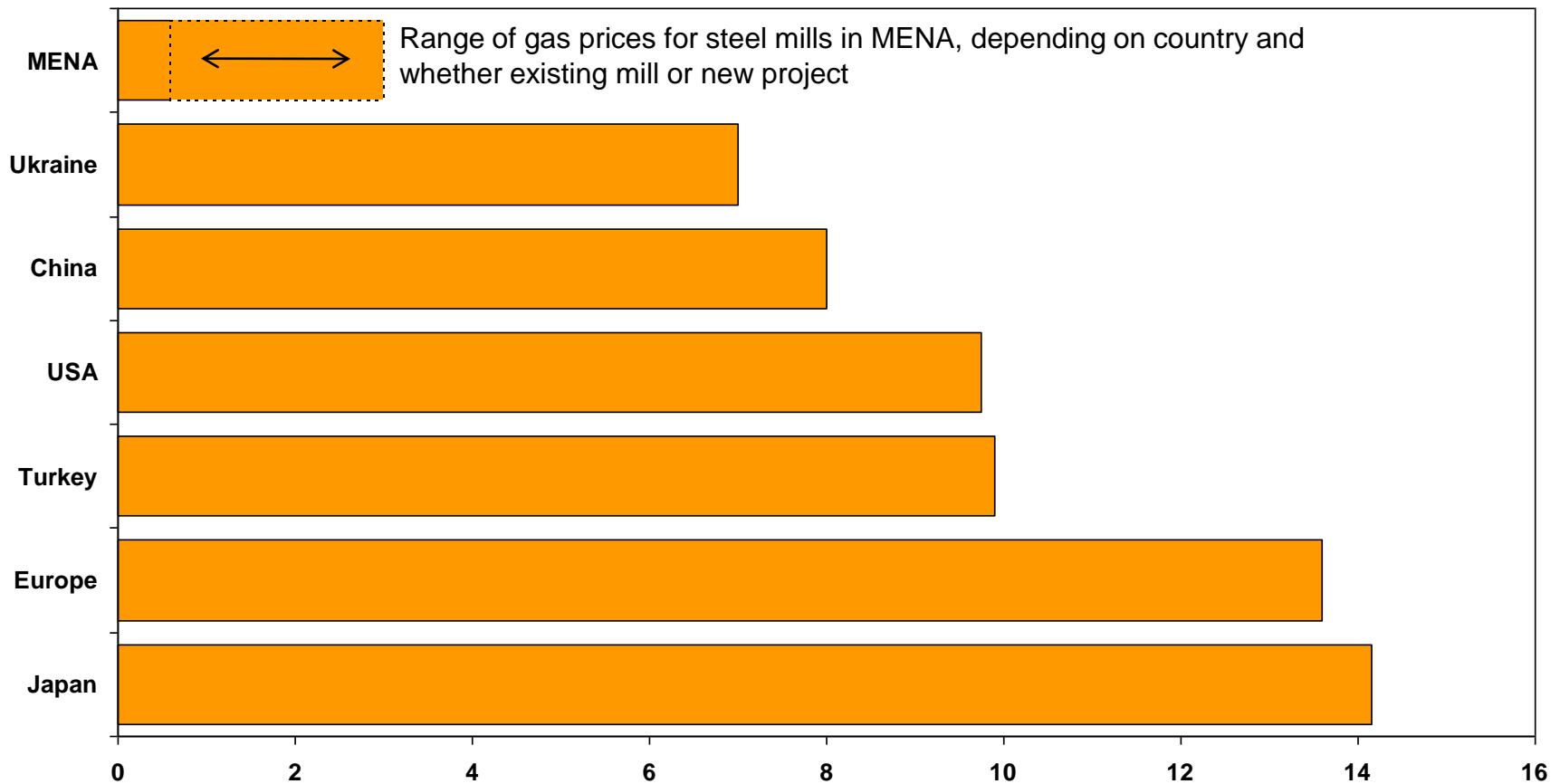
Supply of steel consumed in MENA region by source of crude steel production (%)



Source: SteelConsult, ISSB, UN trade statistics

Natural gas is lowest cost in the world...

Natural gas cost for industry by country 2008 (US\$/Mbtu)



Source: International Energy Agency (IEA), SteelConsult

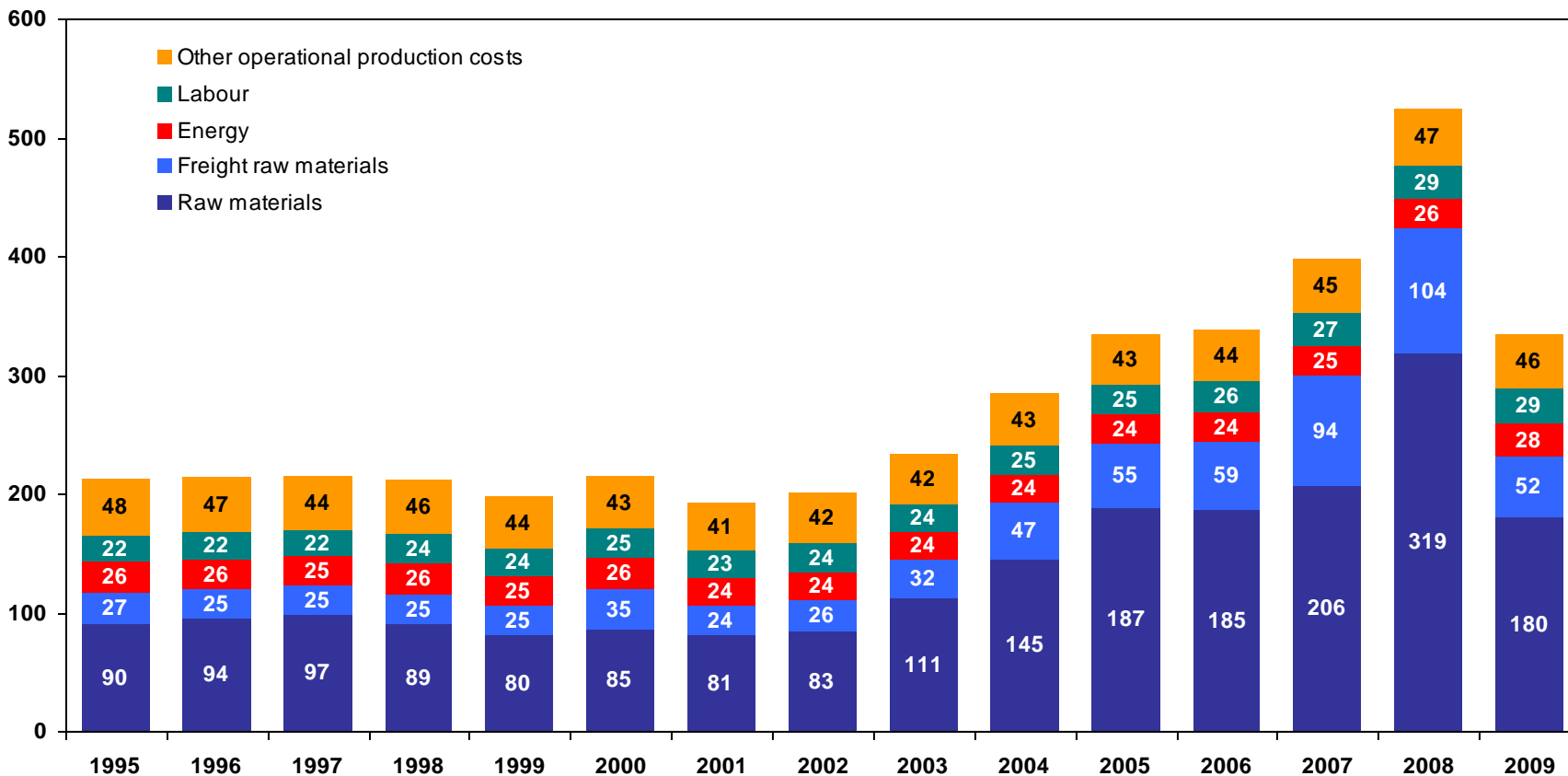
However, MENA mills do not compete with other DRI mills in other countries, but with BFs in the CIS and China, and scrap fed EAFs in Turkey

- MENA DRI based mills do not compete with DRI mills in other countries, but with integrated mills in Ukraine, Russia and China and with scrap based EAFs in Turkey
- The 200km radius around Donetsk alone holds 49BFs and 45m tpy of steel capacity
- Turkey has over 15 significant scrap fed EAF based producers with combined capacity of >20m tpy
- More important for competitiveness than the price of natural gas in these countries, are the prices for coal/coke, scrap and freight



MENA steelmakers have seen costs of steelmaking jump since 2002, driven mainly by rising raw materials costs and freight

Operational production cost/t billet, GCC* DRI/EAF based mill, US\$/t

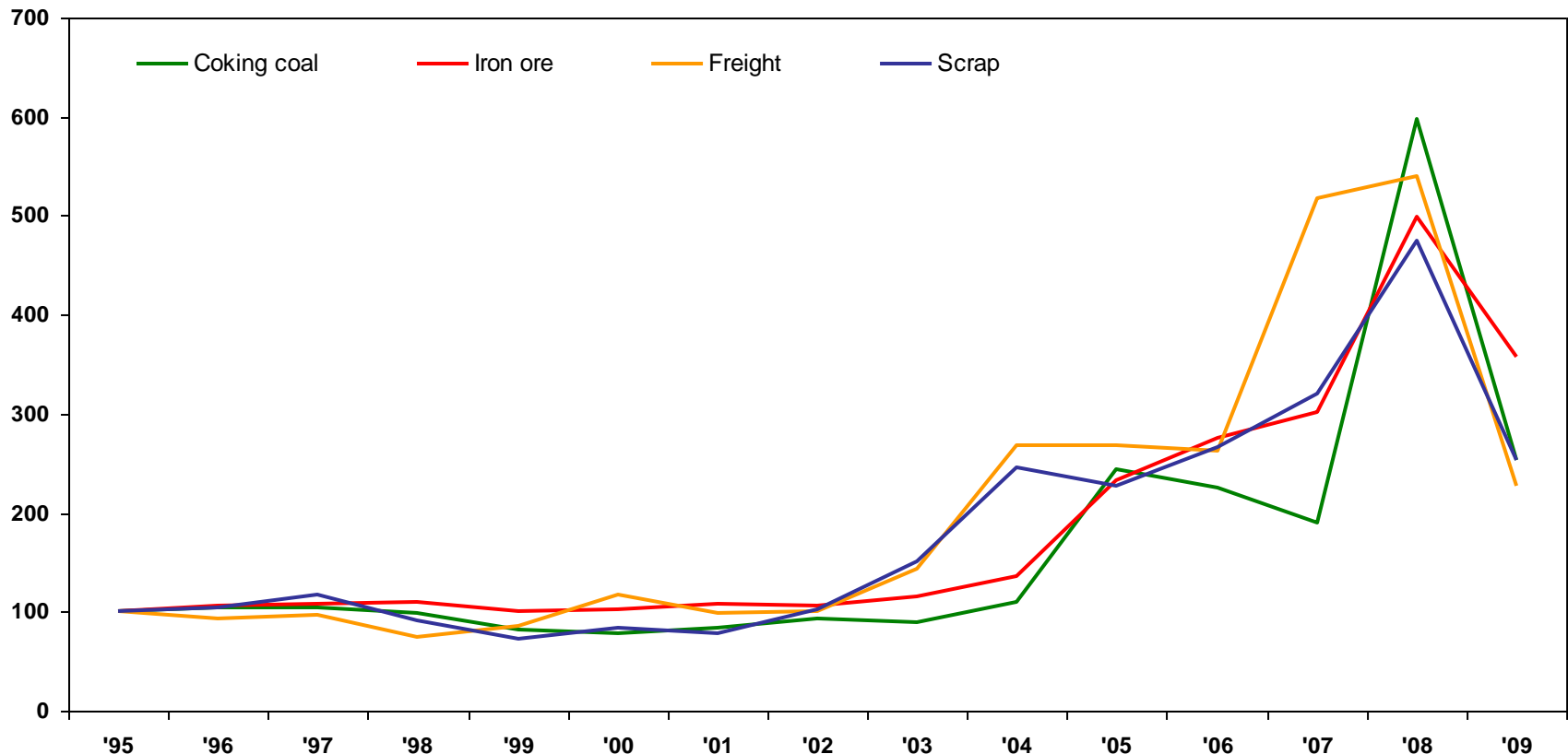


Source: SteelConsult analysis

Note: *Weighed average of main steel mills incl. partial hot DRI charge from 2007

Essentially, MENA mills are competing with the price of coking coal in Ukraine, Russia and China and the price of scrap delivered to Turkey

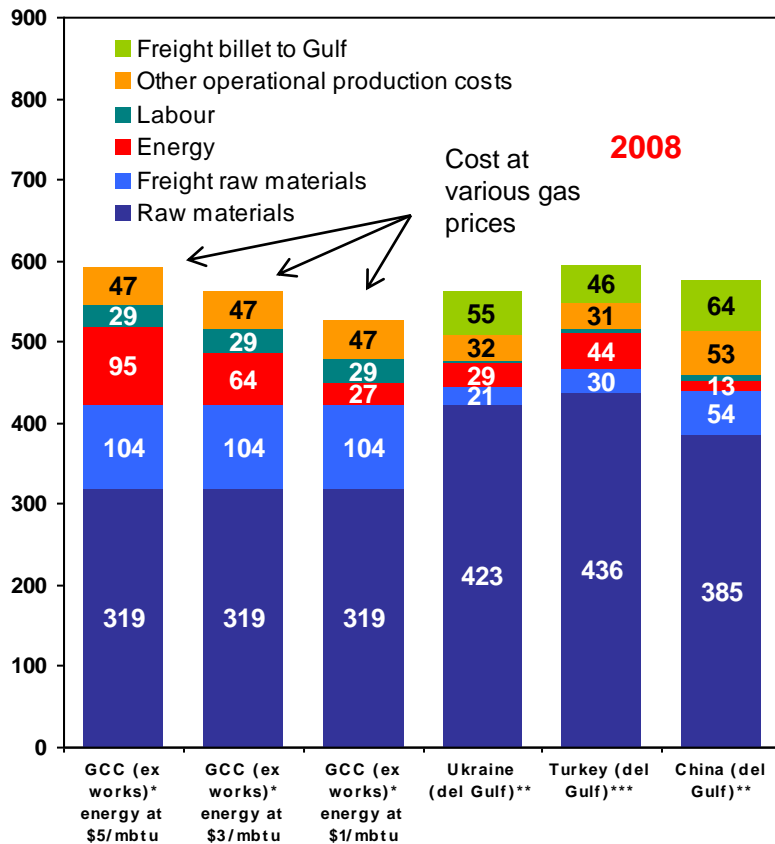
Development of steelmaking cost drivers (index, 1995=100)



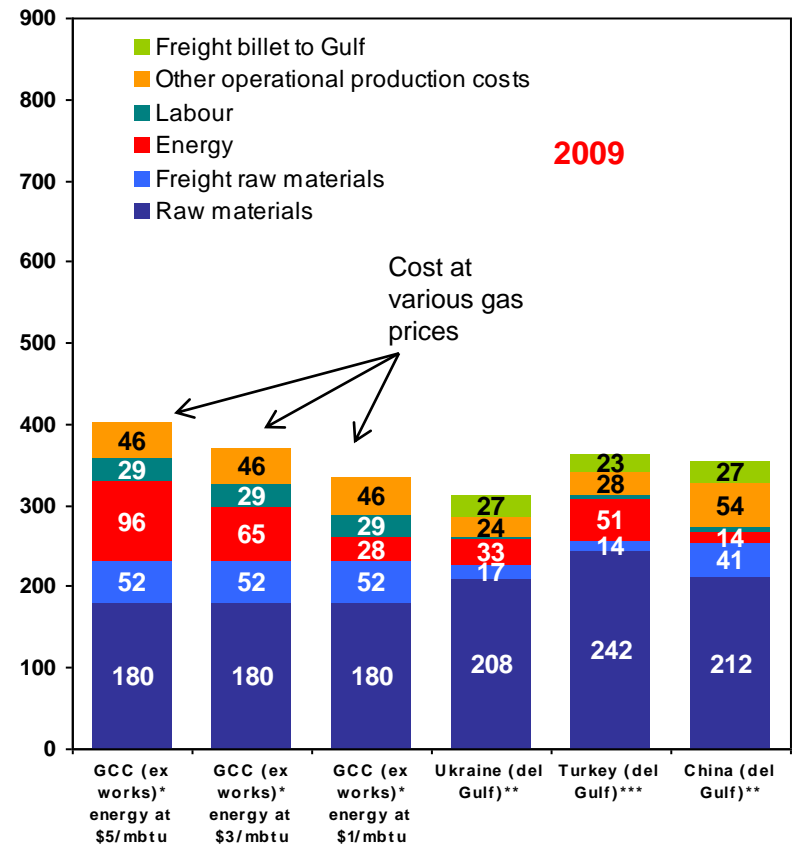
Source: SteelConsult analysis, MB, SBB

With low cost gas, local production is competitive

Operational production cost/t billet, US\$/t, 2008



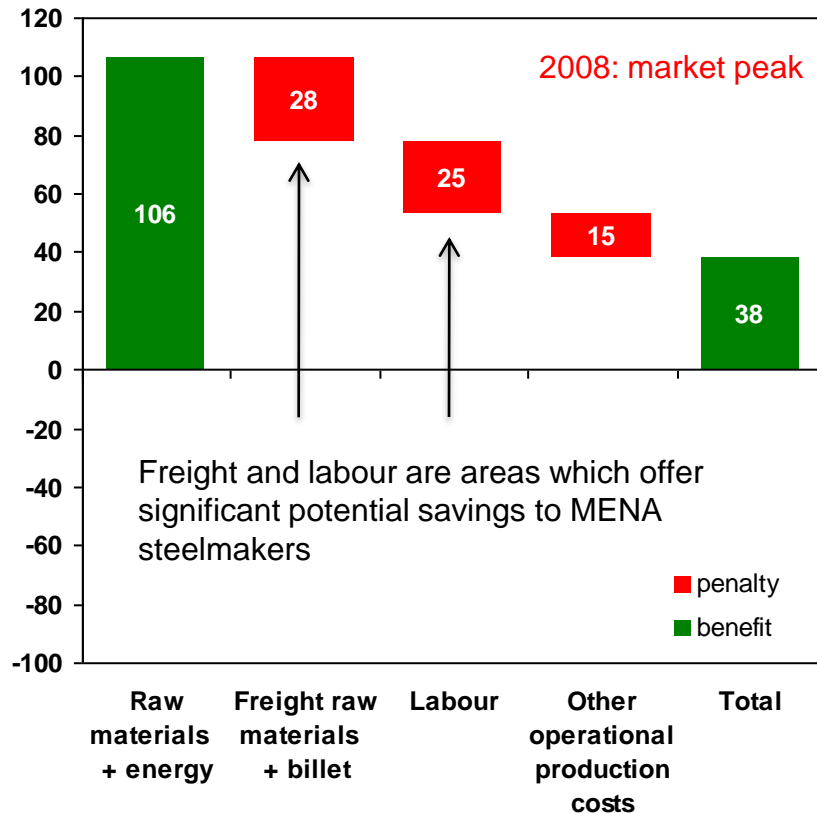
Operational production cost/t billet, US\$/t, 2009



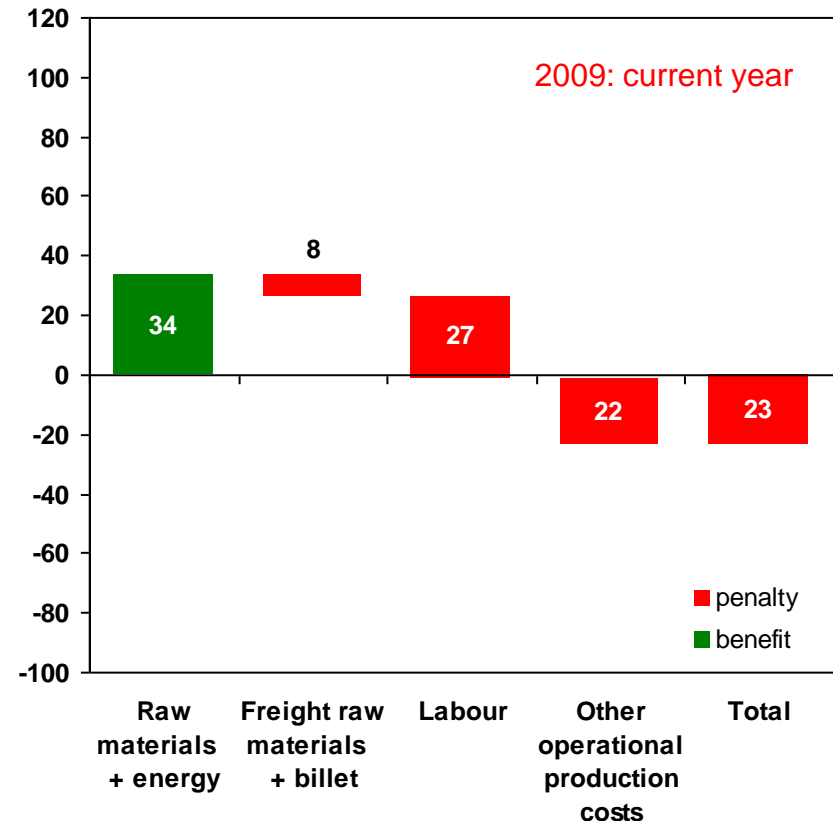
Source: SteelConsult Notes: *DRI/EAF mill **Integrated mill ***scrap based EAF Import tariffs have been left out of consideration

The MENA region's low energy/reductant cost is essential to offset cost disadvantages in other areas, in particular for freight and labour

Cost benefits of producing in GCC* vs. Ukraine** for supply to GCC region, US\$/t billet, 2008



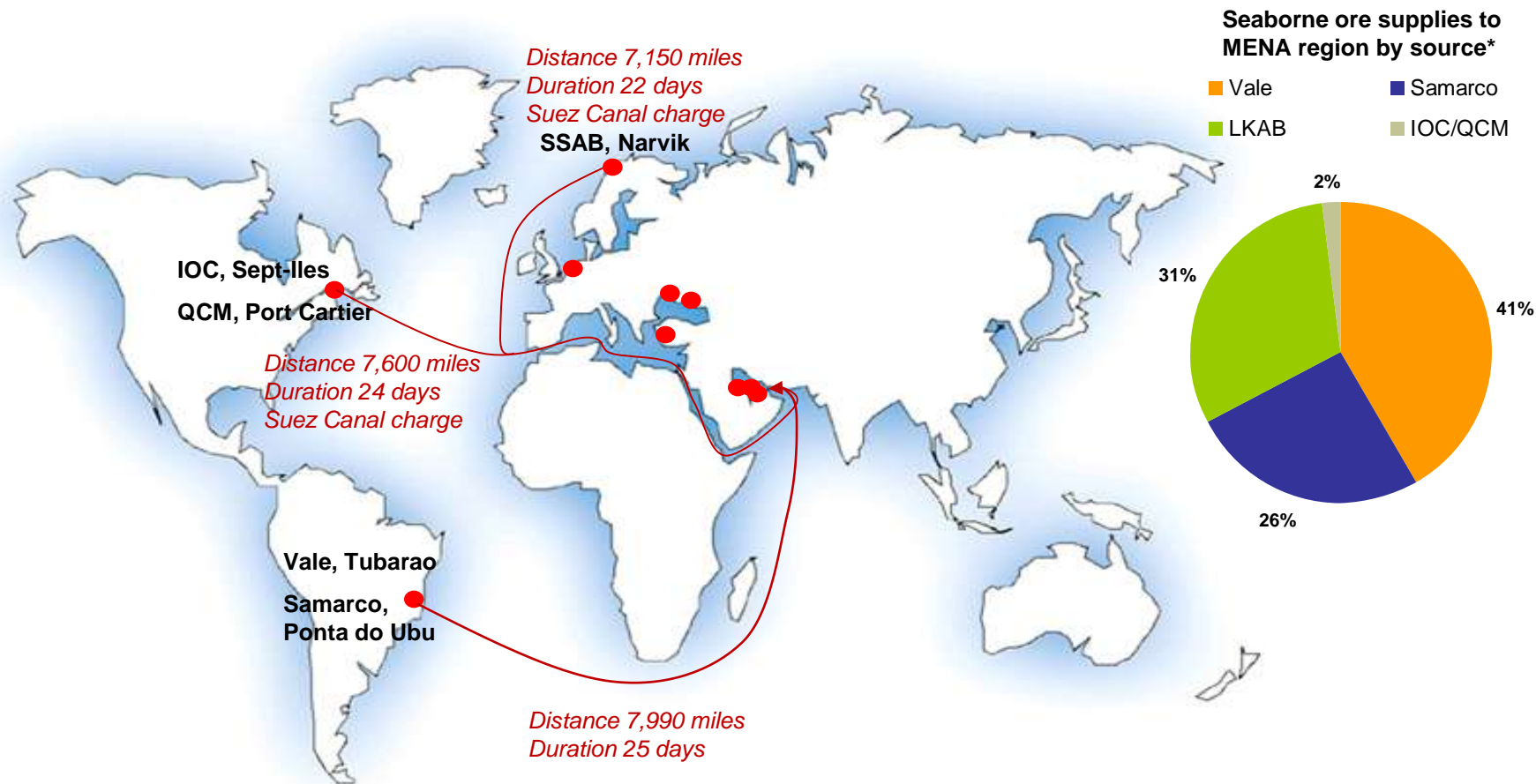
Cost benefits of producing in GCC* vs. Ukraine** for supply to GCC region, US\$/t billet, 2009



Source: SteelConsult analysis

Notes: *DRI/EAF mill **Integrated mill

Shipping distances for DR quality iron ore to the Gulf are long and vessel size is restricted



Source: SteelConsult analysis, ISSB

Notes: *incl. GIIC Bahrain, data based on average 1995-2006

Ukraine has local ore and coal and, though local railway tariffs are rising, freight costs remain limited compared to seaborne freight

- Ukraine's iron ore reserves are close to the Black Sea coast, at upto 500km distance. Russian mines are about 1,000km from Ukraine's ports.
- Ukraine also has a considerable coal mining industry, though its reserves are of lower quality.
- Both ore and coal mines are located close the country's steel industry in the Donetsk region.

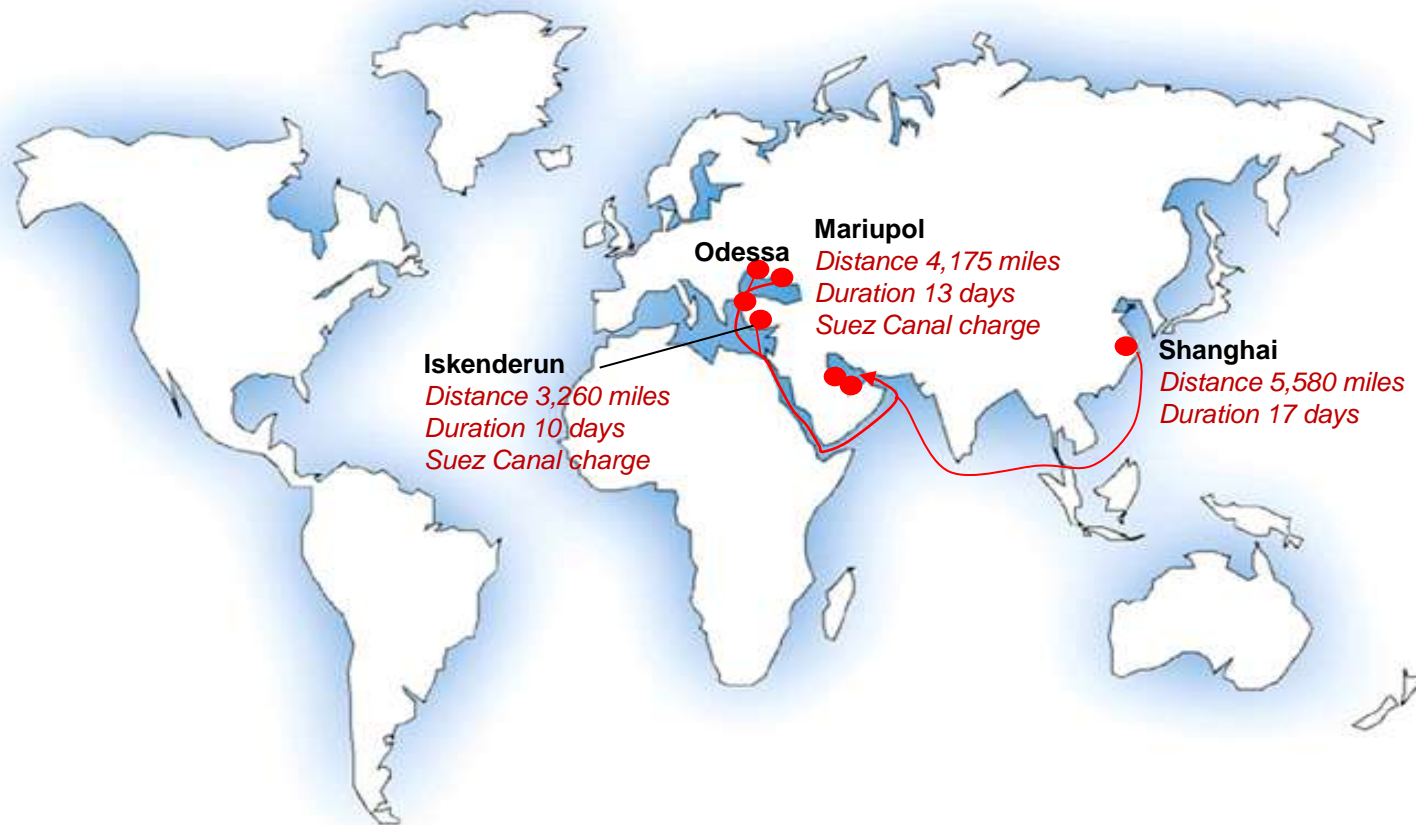


Turkey has scrap locally and imports from North America, the CIS and Europe, distances are much shorter than for DR quality ore to the Gulf



Source: SteelConsult analysis, ISSB
Notes: *data based on average 1995-2006

Distances to ship billet (or rebar) from Ukraine and Turkey to the Gulf are also relatively modest



While possibilities to reduce energy, raw materials and labour costs are limited, there are ways to reduce freight costs



- Vale's plant under construction in Sohar is outside the Strait of Hormuz with water depth of 22-23 meters, and is accessible to 400,000dwt vessels
- Redistribution to Gulf countries beyond Strait of Hormuz possible by smaller ships, only last 200-300 miles done by Panamax/Handymax
- Large scale operation, also allowing discharge speed benefits
- Investment cost is huge, but operational cost benefits are significant

Conclusions

- The region has been one of the star performers in terms of market growth during the last decade. Whilst also hit by the crisis, fundamentals should support fair growth in the medium to long term, though not back to pre-crisis growth rates.
- The international cost competitiveness of steel production in the MENA region is a fine balance between the costs of iron ore pellets, freight and natural gas vs scrap, coking coal and electricity.
- Low energy costs are essential for MENA mills to offset other 'natural' competitive disadvantages steelmakers in the region have to face, mainly high costs for freight of iron ore and for labour.
- Local gas availability has become increasingly tight and prices are under mounting upward pressure due to rising domestic requirements, expanding gas export infrastructure and rising international prices.
- Provided local plants continue to have access to low cost gas, which cannot be taken for granted, they are well positioned to retain or even increase their share of the market.
- However, Ukrainian and Turkish mills, in particular, have been suppliers to the region for decades and have a strong position in the MENA market. Large amounts of established (over)capacity are present in these countries and the MENA region will remain an attractive destination.

Conclusions

- Freight has indeed been one of the main cost inflators for steel production in the MENA region in recent years. While priorities may be different in the short to medium term, we recommend MENA mills to take actions to reduce freight costs, especially in view of the next market upturn.
- Vale is providing an interesting example by investing in the industrial and distribution complex in Oman.
- Similar initiatives in countries with deep water access near the Gulf region - in addition to Oman, possibilities may exist in Pakistan and India - may be interesting for MENA based mills, possibly in co-operation with raw materials suppliers.

Thank you for your attention!

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