



Strategies & Realities for Turkish steel long products

Metal Bulletin and WSD's Steel Success Strategies
Conference 2013

Where East Meets West

6 February 2013, Istanbul (Turkey)



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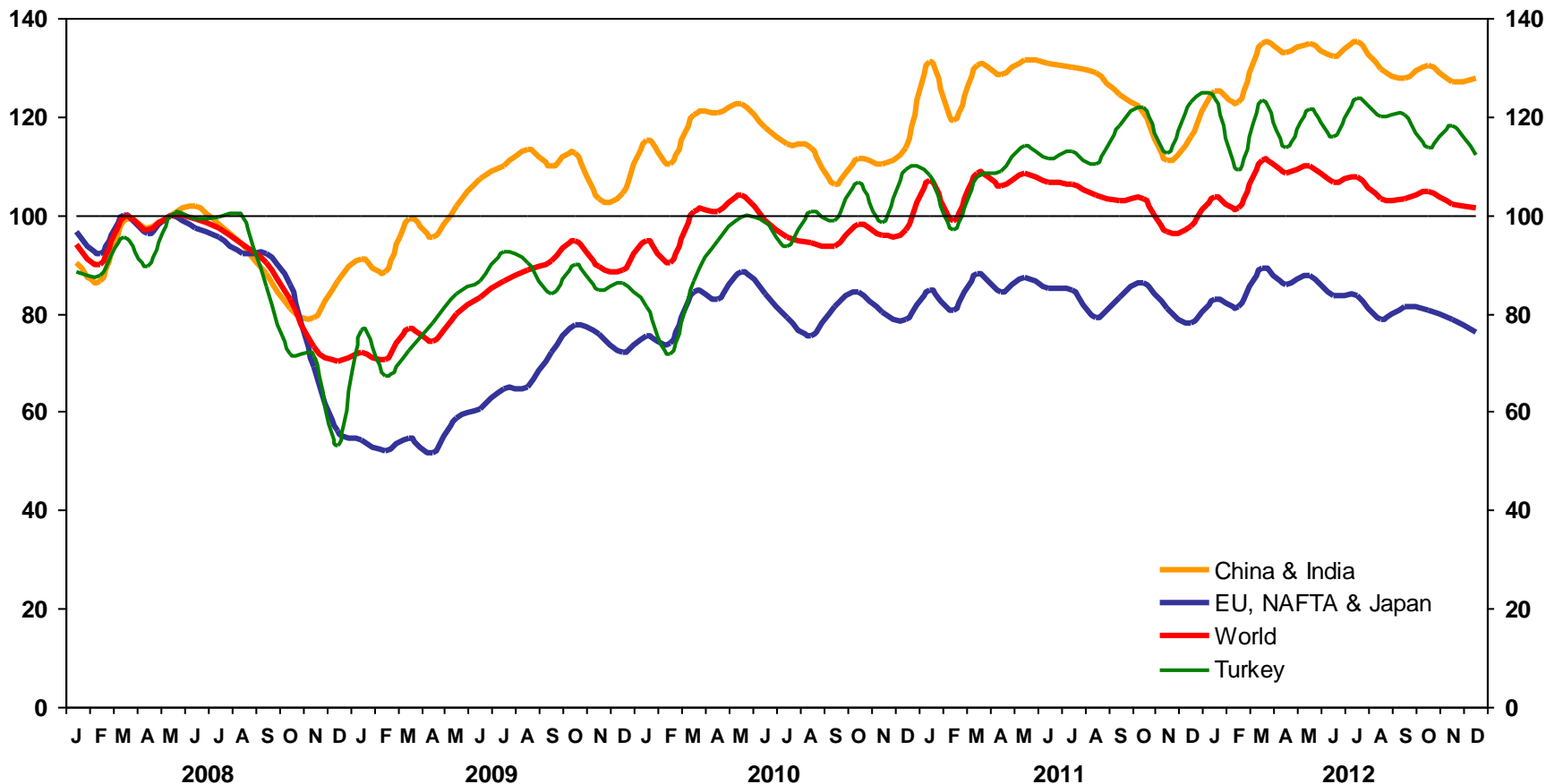
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Contents

- **Turkish steel in the context of East and West**
- Domestic market outlook for long products
- Strategies and realities for Turkish exports of long products
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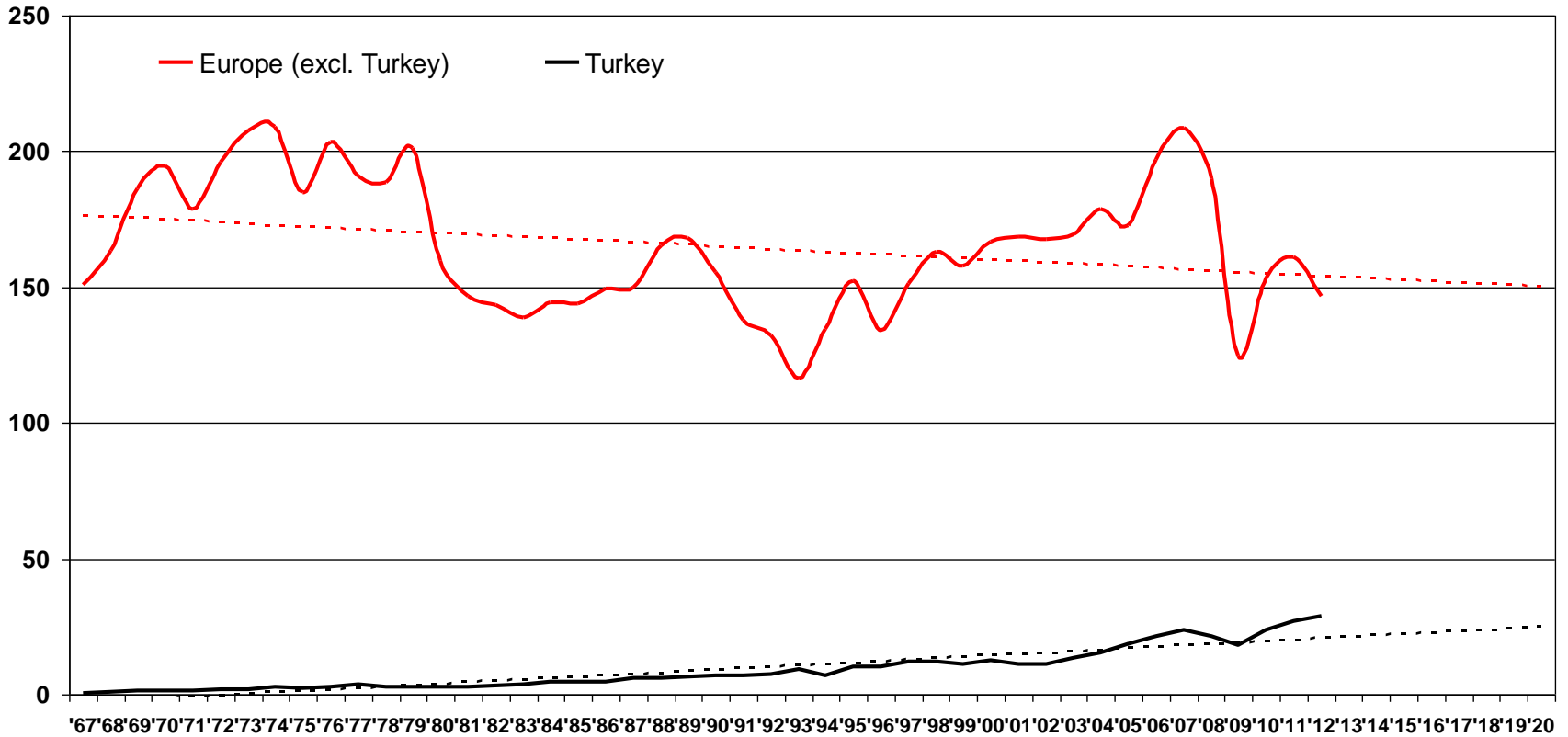
Turkish steel output has held up relatively well, and is actually one of the fastest growing regions in terms of steel production

Crude steel output, index (May 2008 = 100)



Also in terms of market growth, Turkey is more “East” than “West”

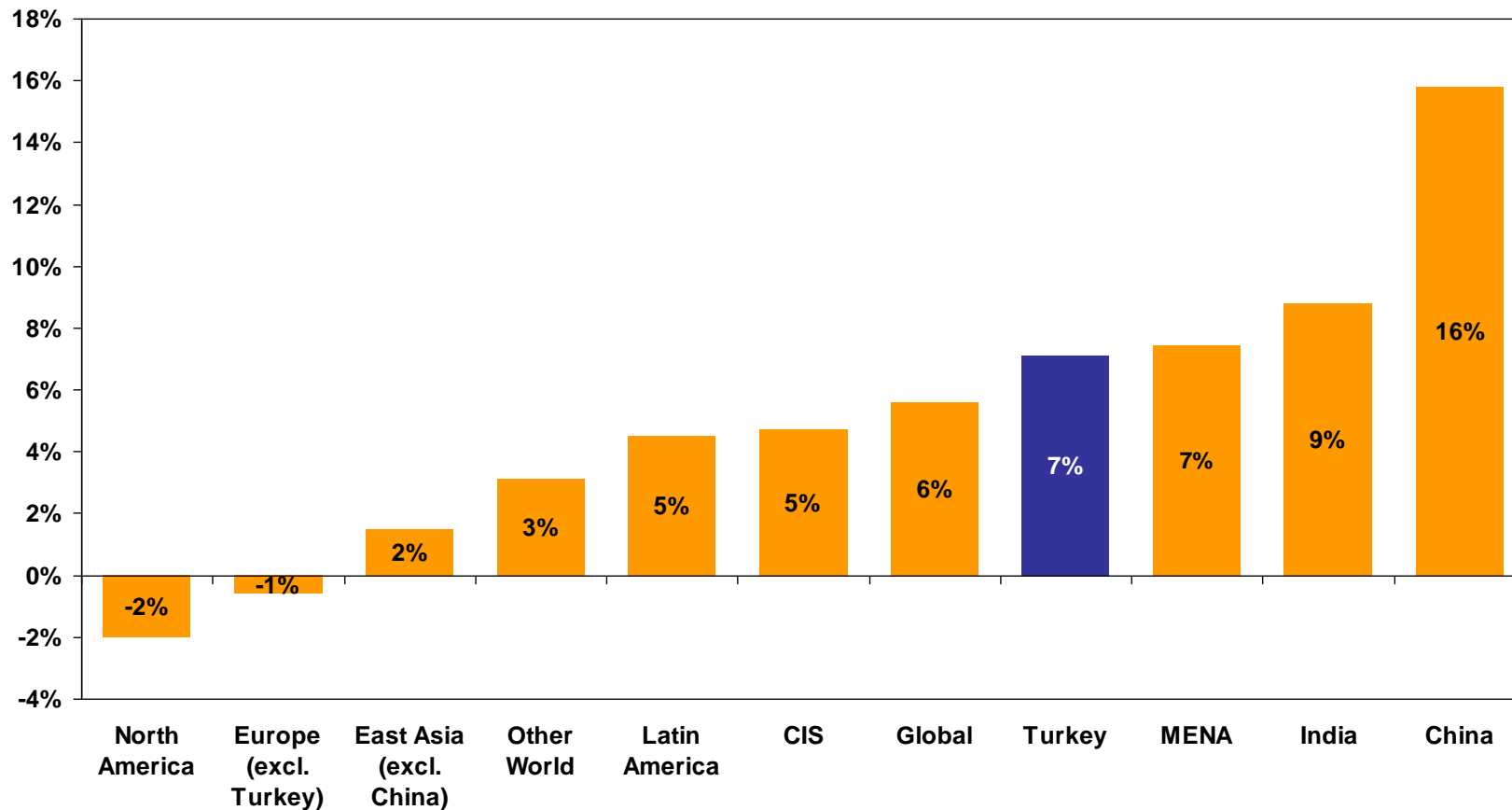
Finished steel consumption (mln tonnes)



Source: WSA, SteelConsult

Indeed, Turkey is one the fastest growth markets in steel around the world

Finished steel consumption, CAGR 2000-2011

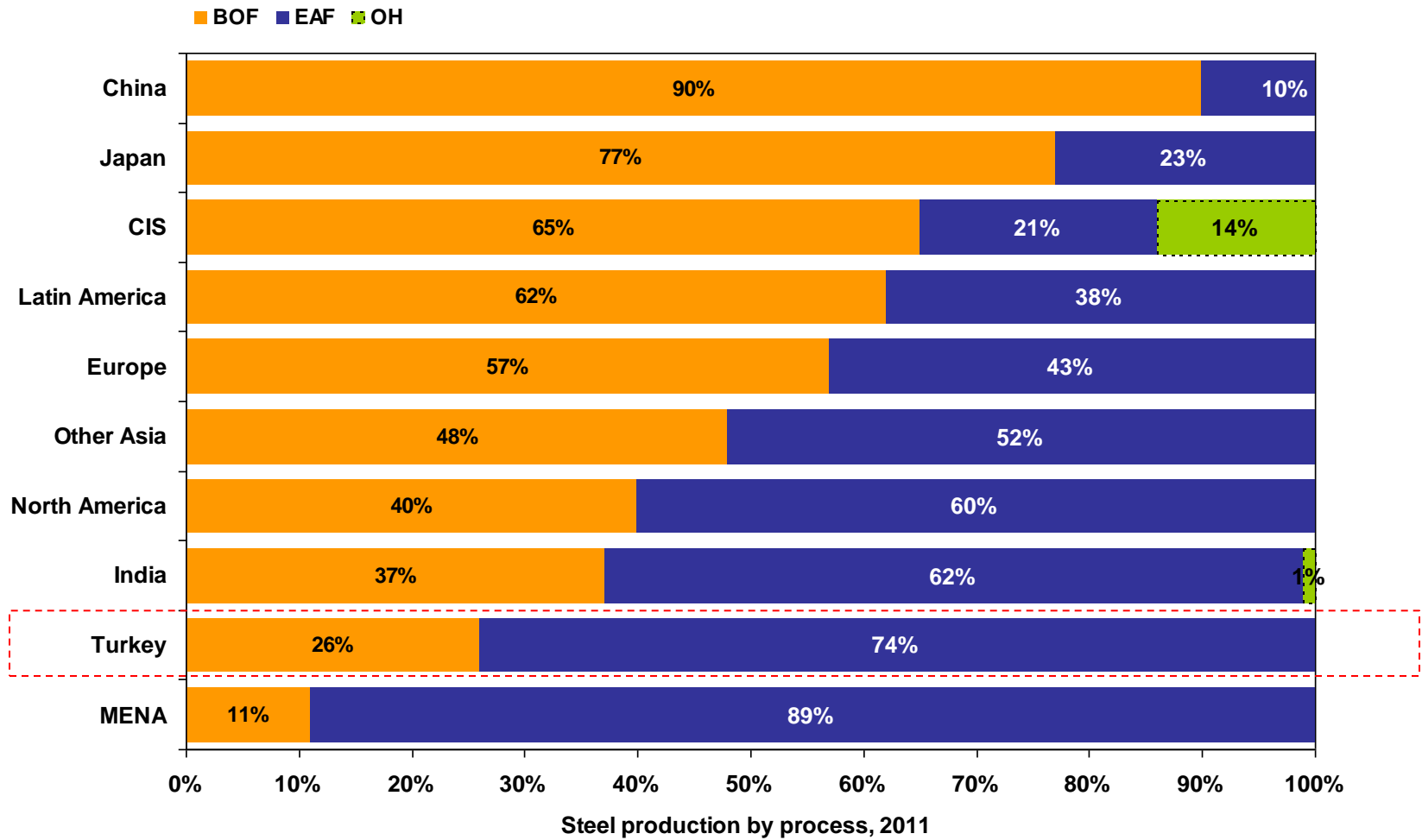


Source: WSA, SteelConsult

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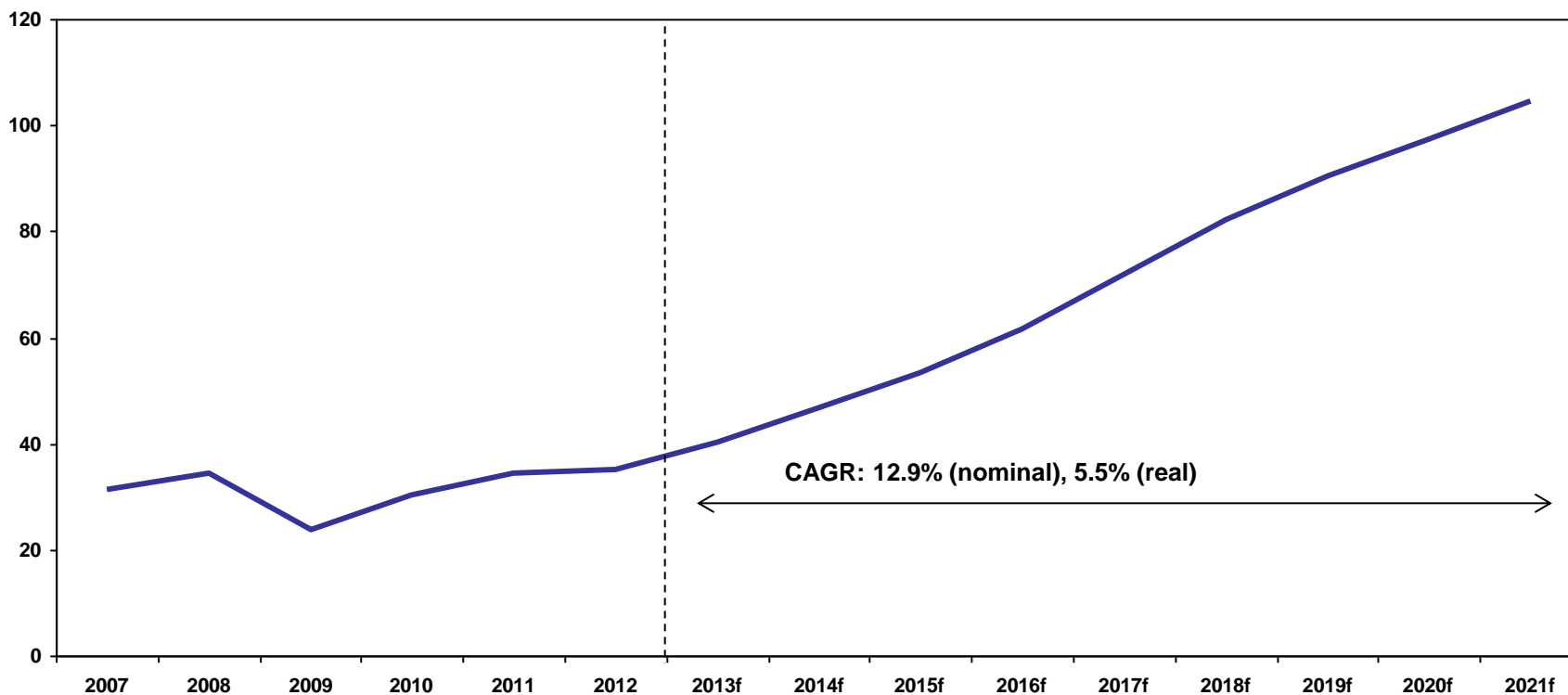
Turkey has one of the highest shares of EAF (and long products) output in the world



Source: WSA, SteelConsult

The domestic market outlook for long products in Turkey is favourable into the long term, with construction industry value forecast to increase at a firm (real) growth rate of 5.5% per year in the coming decade, though there are large differences in growth prospects between different construction segments

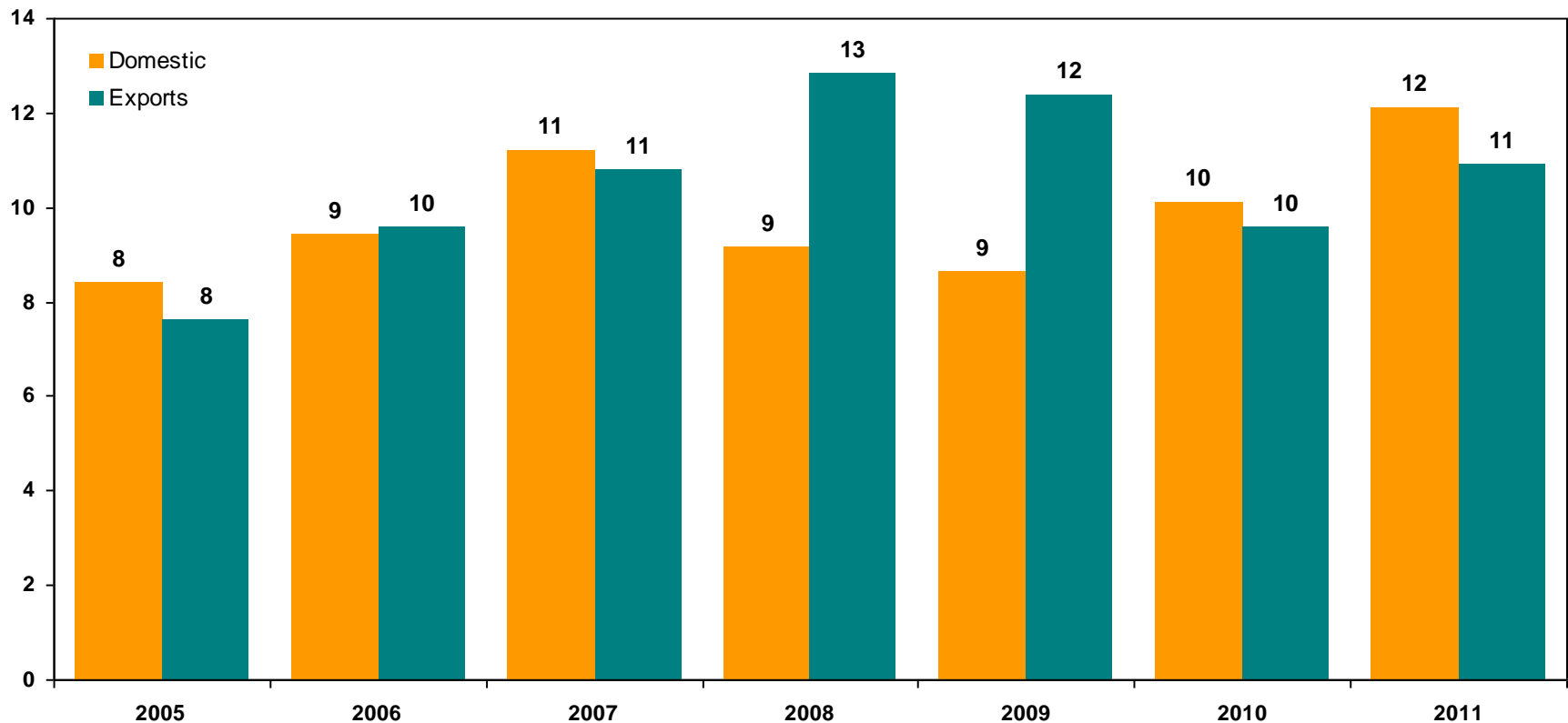
Construction industry value Turkey (bn US\$)



Source: BMI, SteelConsult

However, Turkey has a very large steel industry, with over 50% of longs output being produced for export, not for the domestic market. For Turkish longs mills, at least as important as the domestic outlook, is the outlook for export markets

Turkish domestic supplies and exports of long products (mln tonnes)



Source: UN Trade Stats, Erdemir, SteelConsult

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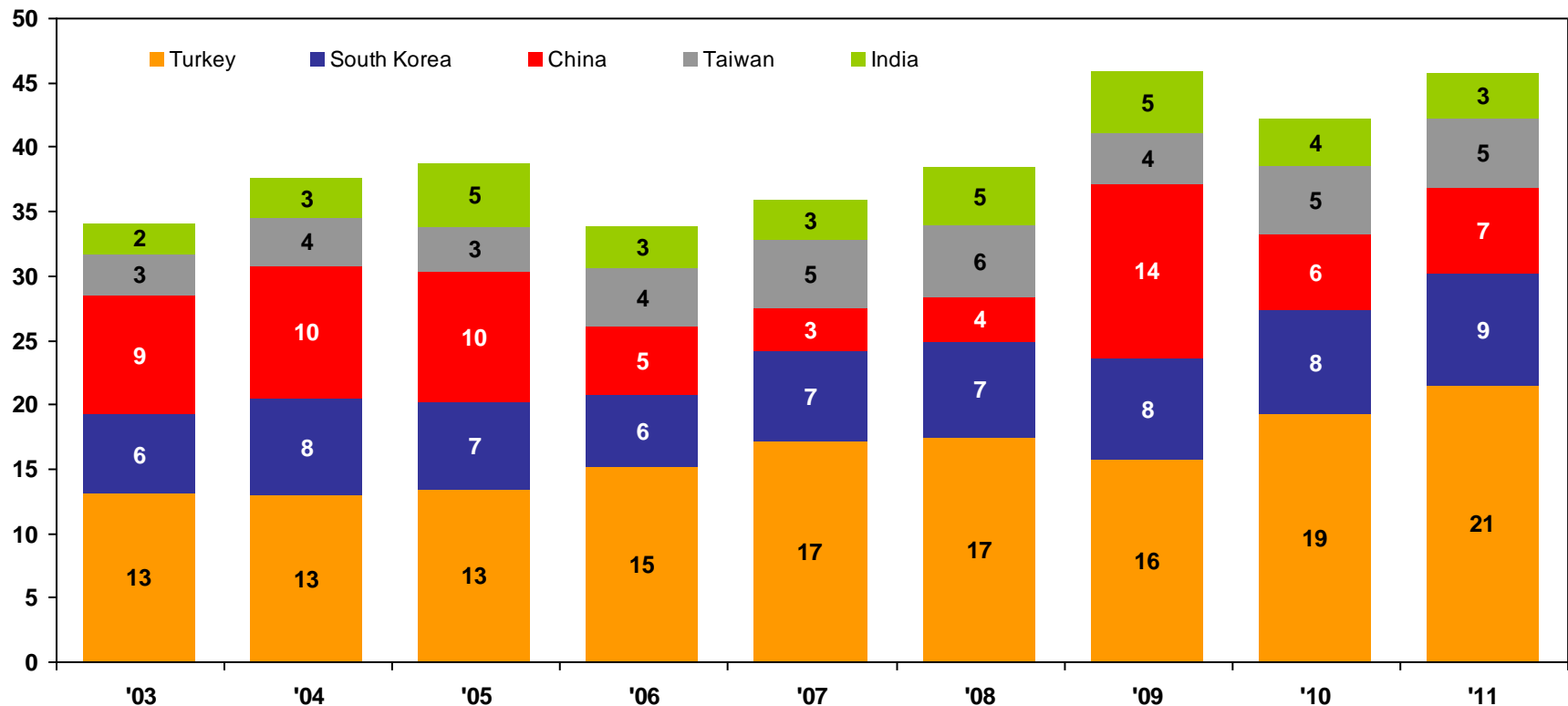
Turkey's long product export business model is mainly based on importing scrap from North America, the CIS and Europe, and re-exporting finished longs (and some billet) to other markets



Source: SteelConsult analysis
Notes: *data based on average 2006-2011

As a result, Turkey is by far the largest single importer of scrap in the world, accounting for about 20% of the international market for scrap

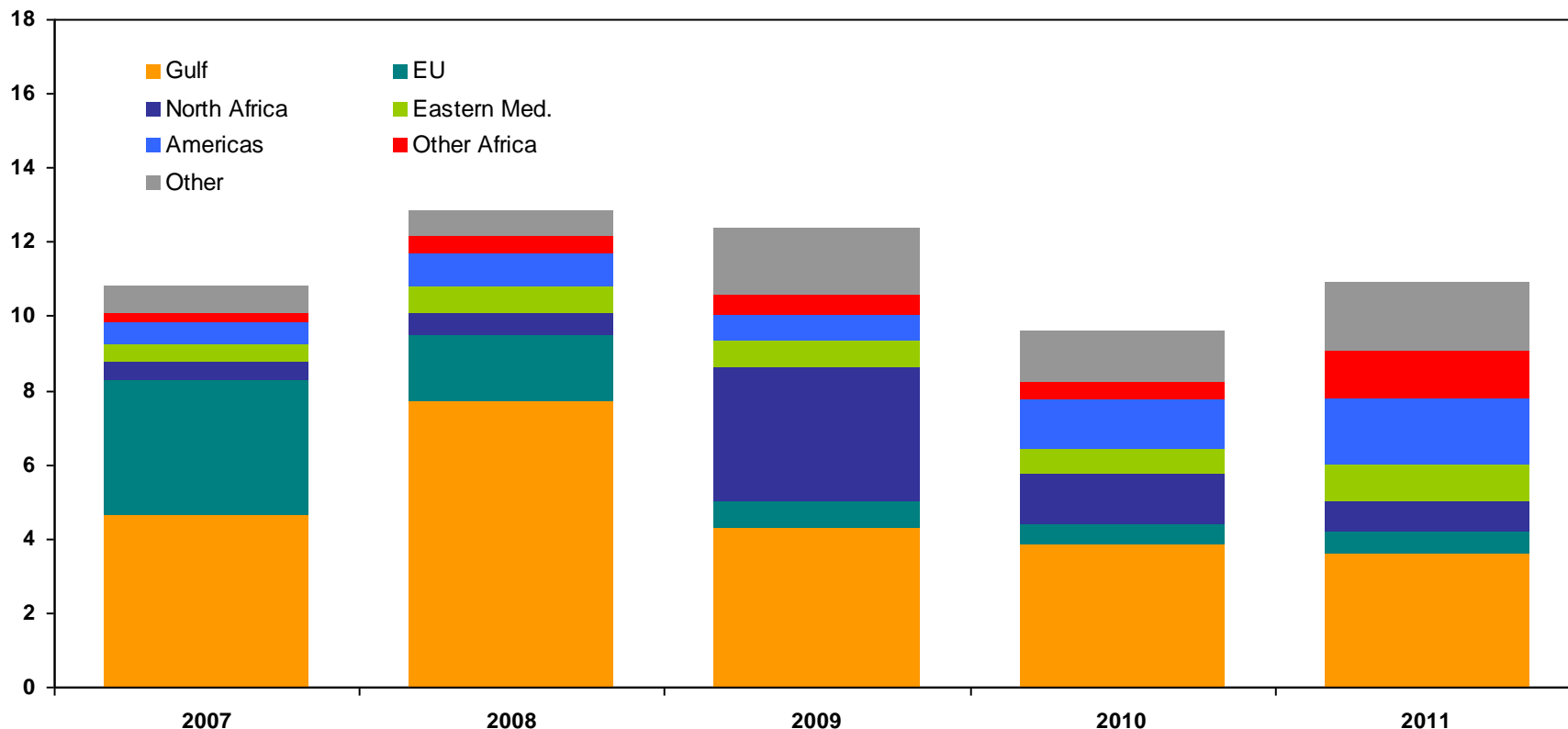
Main importers of scrap (mln tonnes)



Source: WSA, SteelConsult

Reality #1: Shifting markets - Turkish mills have lost significant volumes in their main export markets in recent years, but have so far been able to find new outlets. What are the main markets for Turkish exports in the future?

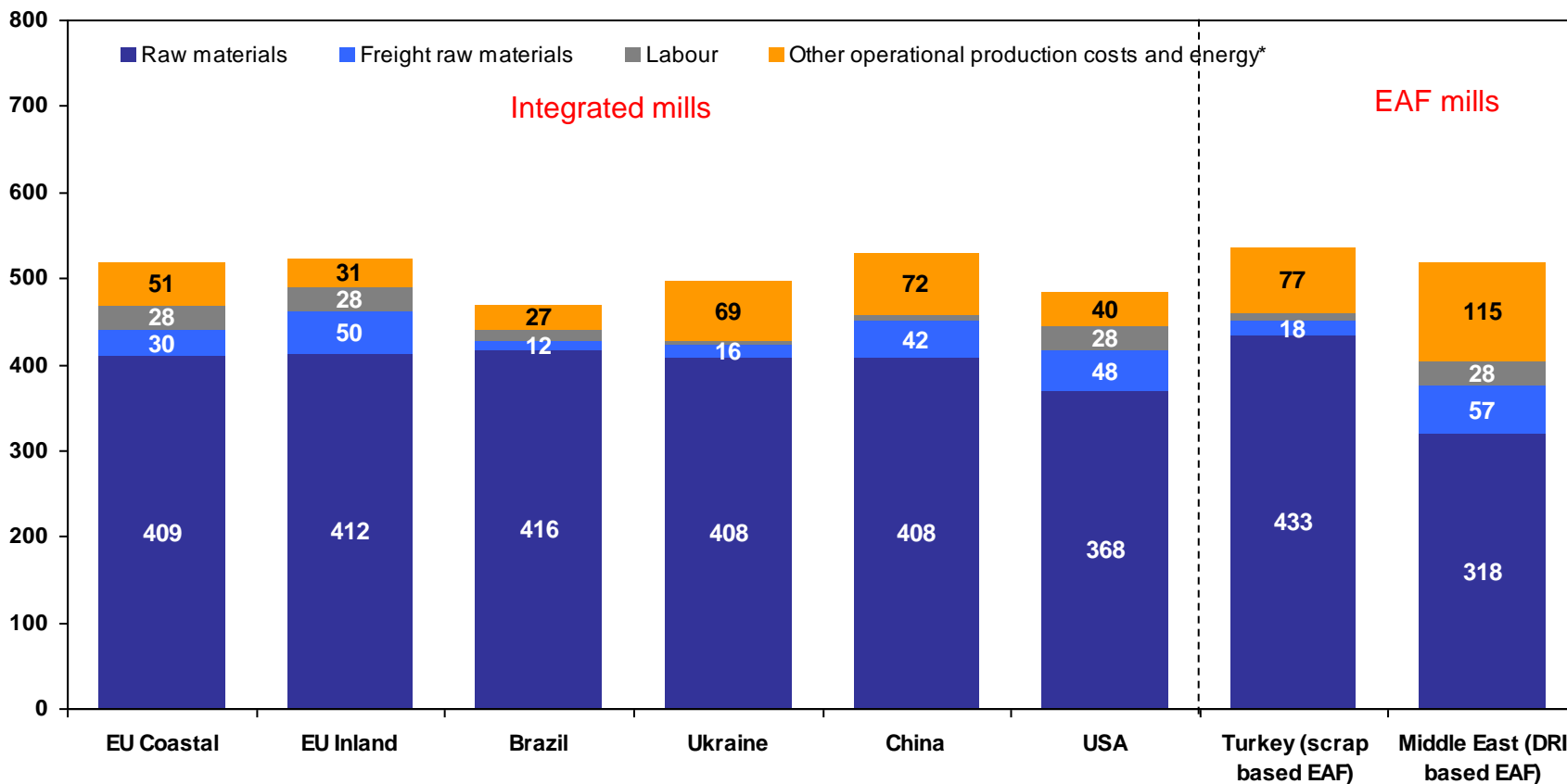
Turkish exports of long products by destination (mln tonnes)



Source: UN Trade Stats, SteelConsult

Turkish EAF steel mills are competitive in their own domestic market, but face fierce international competition in export markets, especially when scrap prices are high compared to sinter feed, pellet and coal prices...

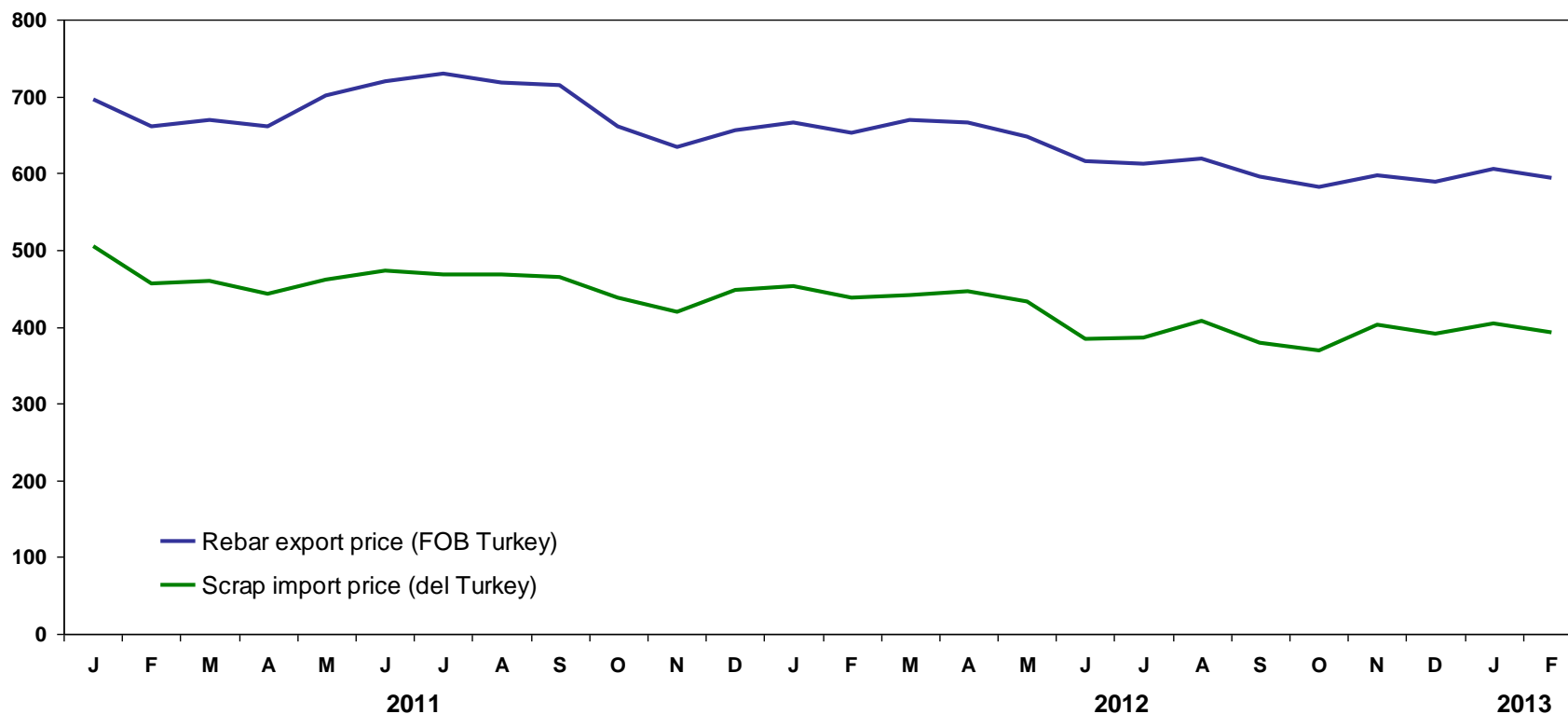
Operational production cost/t slab/billet, US\$/t, 2012 (annual average)



Source: SteelConsult analysis
 Note: *including credits for offgases

In addition, Turkish mills have little flexibility to manage costs and margins, apart from cutting output when margins are too low, and shifting production to off-peak hours

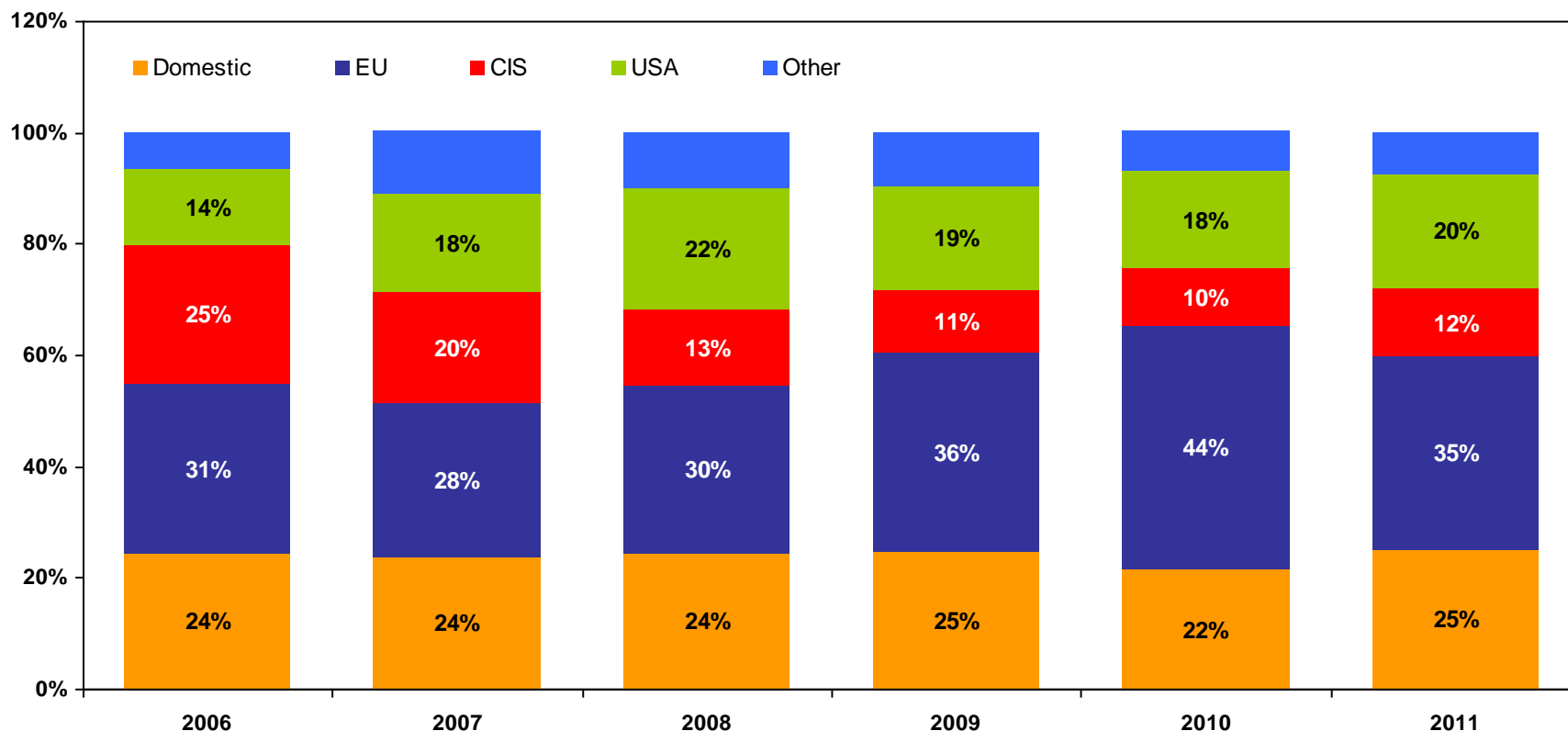
Prices Turkish mills (US\$/t)



Source: Platts/SBB

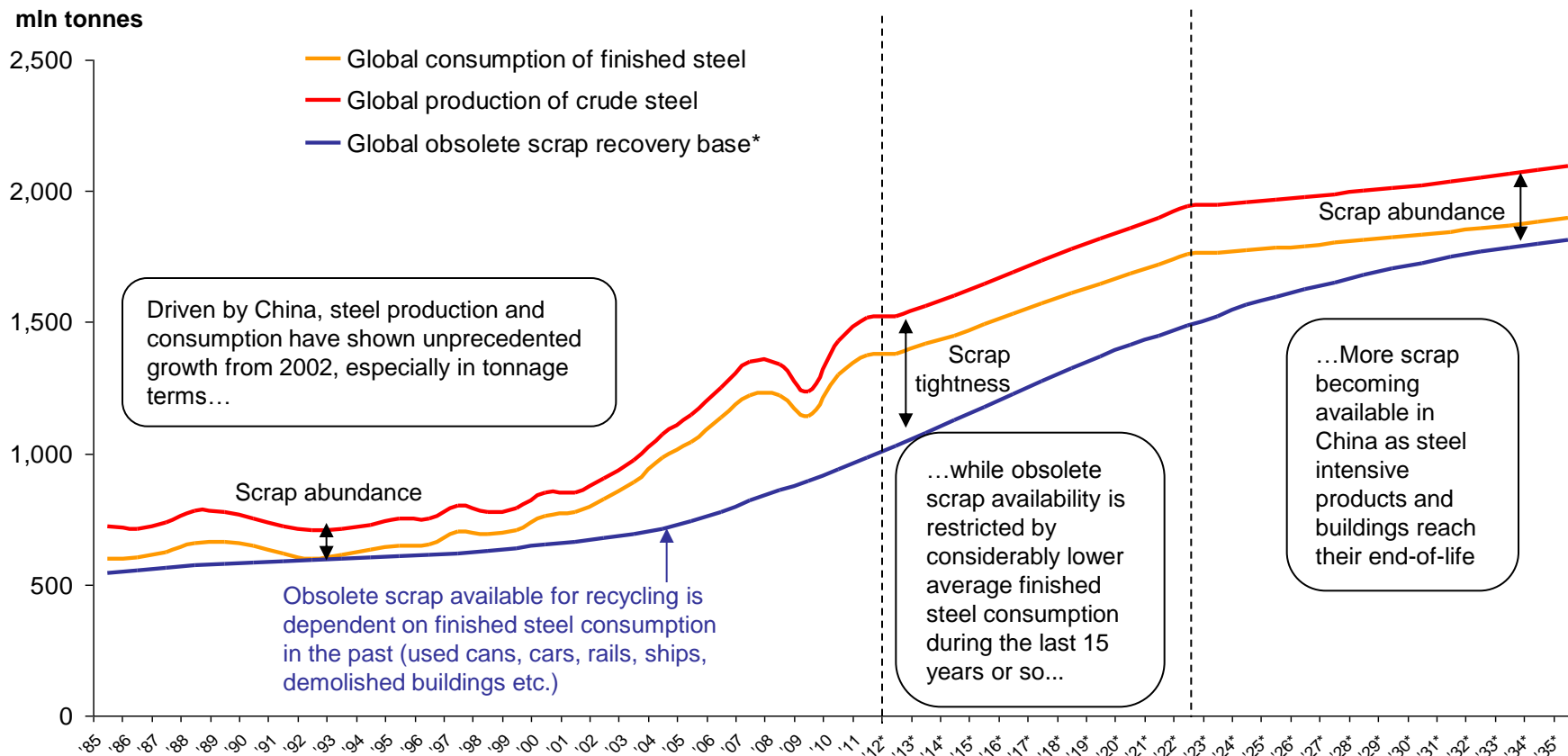
Reality #2: Tightened scrap supply: Global scrap availability has tightened significantly in the last decade. Turkish mills have so far managed to replace diminished supply from the CIS by material from the EU and the US. How will future global scrap availability develop, and where will future scrap come from?

Turkish scrap sourcing by origin (%)



Source: UN Trade Stats, SteelConsult

Current scrap availability is dependent on steel consumption in the past. Due to China’s rapid surge in steel output in the last decade, the world is currently facing tightness in scrap. More scrap will become available once China’s scrap cycle catches up with steel output

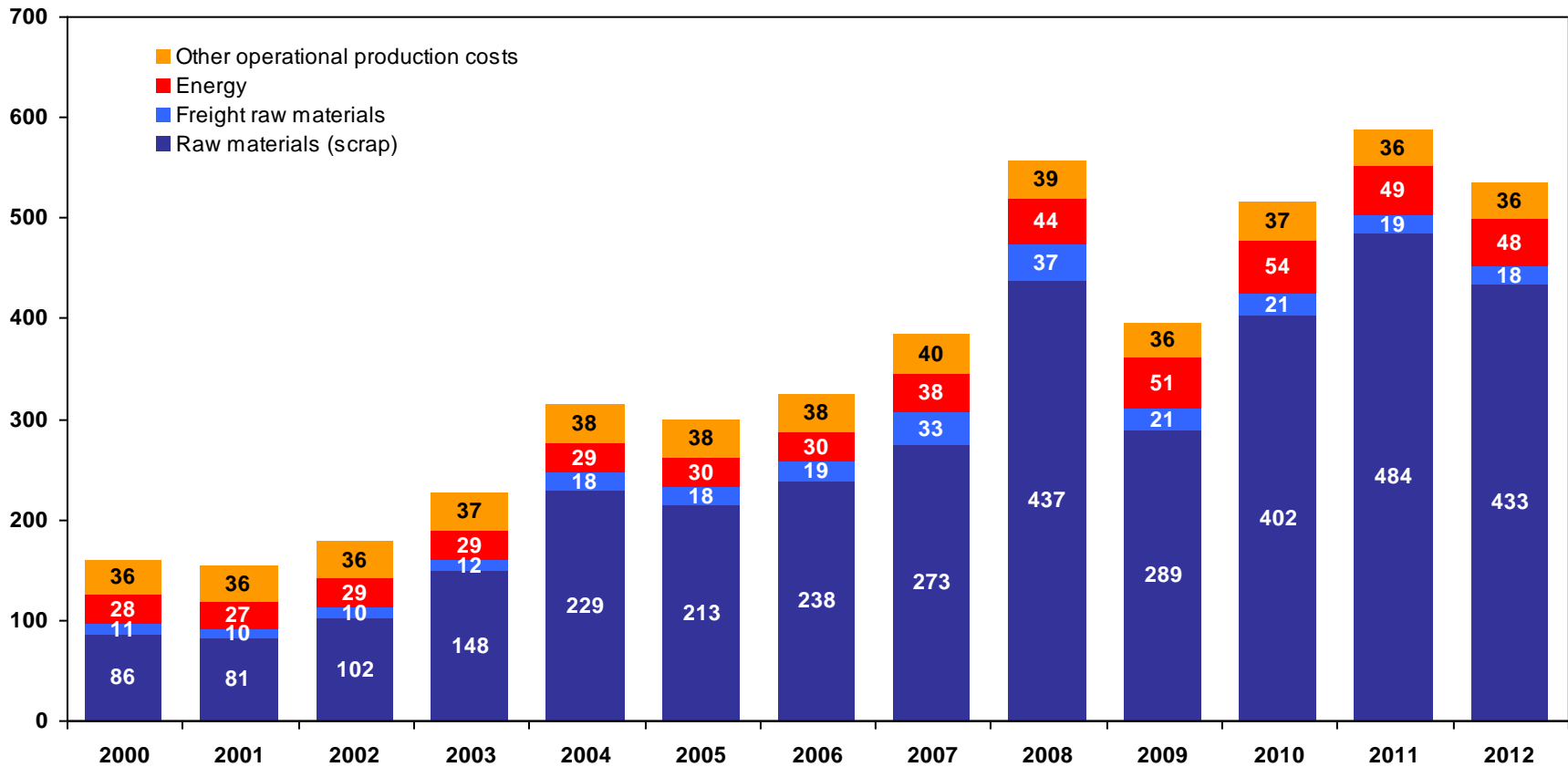


Source: WSA, SteelConsult analysis

Notes: *Calculated as moving average of finished steel consumption during previous 15 years, indicative only

Turkish mills have seen production costs increase sharply in the last decade. Scrap costs are the main factor, but the cost of electricity, which is the main conversion cost, has also risen steeply since 2006

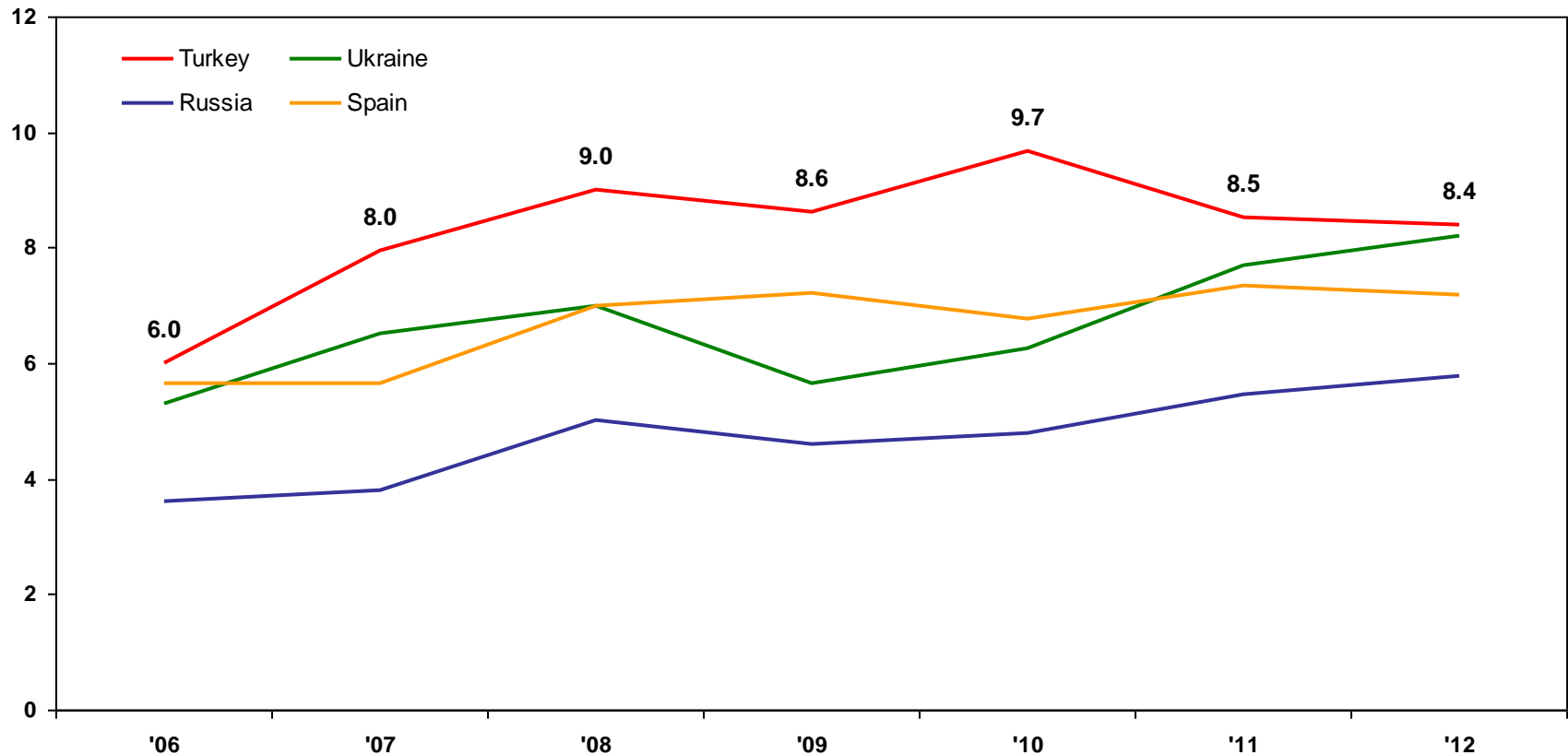
Operational production cost/t billet, Turkish EAF based mill, US\$/t



Source: SteelConsult analysis

Reality #3: Rising electricity costs - The price of power in Turkey has risen sharply in recent years, impacting strongly on Turkish EAF production costs, though the difference with other countries has fallen back somewhat, and some mills have mitigated rising power costs by investing in their own in-house power plants

Electricity price large industrial users* (US¢/kWh)



Source: Eurostat, SteelConsult

Note: Industrial users consuming > 150,000 MWh, prices excl. VAT

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Conclusions (1)

- Despite even stronger growth in capacity, and also having its own economic challenges, Turkey has seen strong growth in its steel market and output in recent years.
- The outlook for the domestic market remains favourable, certainly compared to many other parts of the world, both in the short and long term.
- Moreover, strong construction related investments in Turkey, esp. in the infrastructural and energy & utilities sectors, are forecast to lead to (real) growth of 5.5% per annum on average between 2012 and 2021, and associated growth in domestic steel long products requirements, though downside risks remain.
- However, Turkish longs mills are also highly dependent on developments in export markets for their finished products on one hand, and developments in the international scrap market, on the other hand.
- Indeed, Turkish longs mills have managed to weather a number of tough realities in recent years:
 - **Export opportunities have fallen strongly** in the key markets of the Gulf, North Africa and Europe, and remain under pressure, but new outlets were found in the Americas, other parts of Africa and other markets.

Conclusions (2)

- Turkish competitiveness is highly dependent on scrap costs, and **international scrap supply has tightened** in the last decade. The key question for Turkish EAF based producers is how global scrap markets will develop in the future, in particular what will be the impact of the three main drivers that, in our view, will shape this market in the next 10-20 years: the Chinese scrap cycle, shale gas and DRI availability, and increased use of scrap by integrated mills as a result of CO₂ emissions costs.
- **Rising electricity costs** in Turkey have been mitigated by adjusting output to off-peak hours and some mills have invested in their own in-house power plants. Power is the main conversion cost for Turkish EAF mills, and while the gap has narrowed with some other countries, prices are still relatively high. Turkey is planned to see a lot of investment in its energy sector in the coming years, but energy consumption will also rise: How will electricity costs develop further?

Thank you for your attention!



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