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Situation and outlook for the European Petrochemical industry

Marcelo Vollmann – Cefic (Petrochemicals Europe) – 25 June Milan/Italy

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Presentation outline

1. Petrochemicals Europe – who we are
2. Trends, challenges & uncertainties in Europe´s petrochemical industry
3. The consequences & summary

Petrochemicals Europe – Who we are

= the association of petrochemical producers in Europe

- An industry sector of Cefic
- European producers of base chemicals and derivatives
- base chemicals: 20 companies operating ~ 50 steam crackers in EU28
- derivatives ranging from acetyls, methanol, amines, etc…. to solvents
- ~ 40 units integrated with refineries

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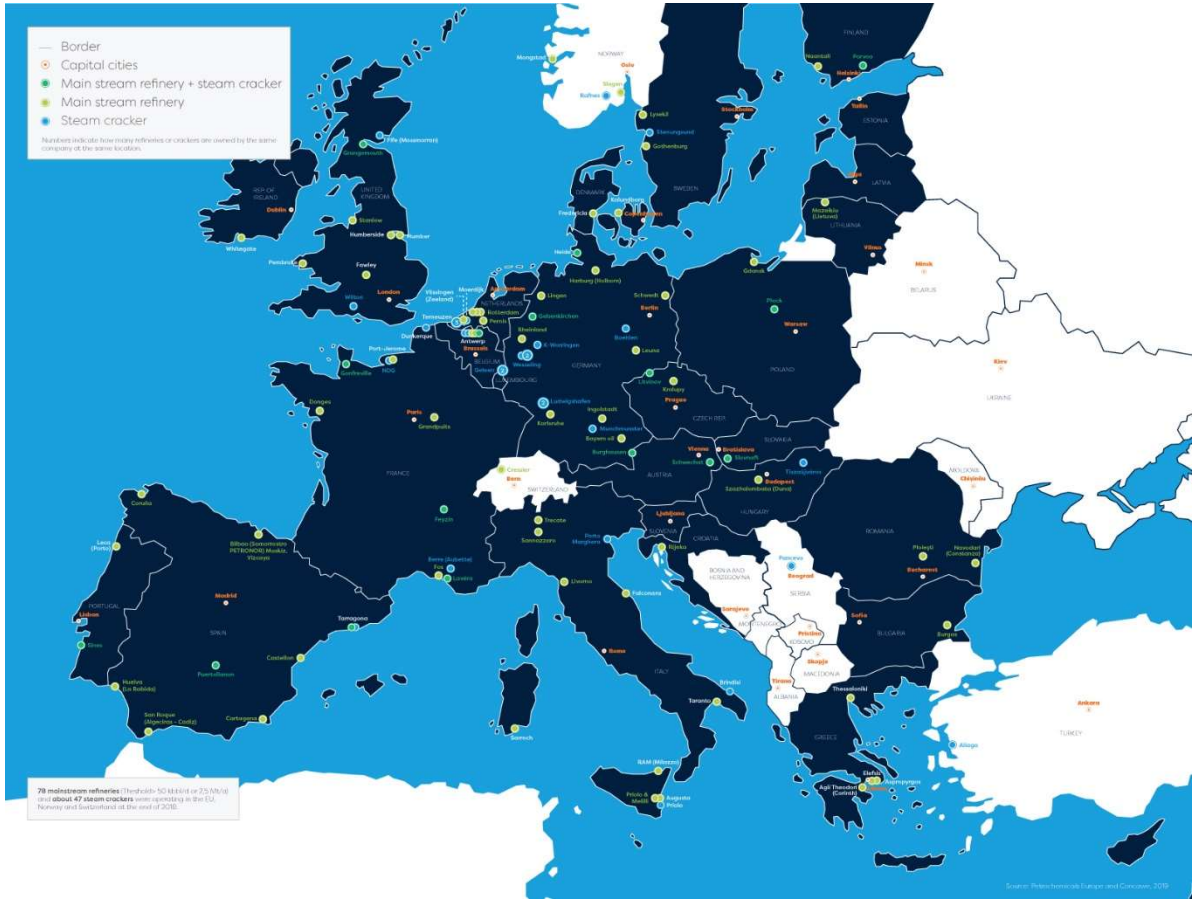
Full & Affiliated members

The Petrochemical Industry in Europe - A Short Portrait



Blue: Steam cracker
Dark green: Main stream refinery + steam cracker
Light green: Main stream refinery

More than 50 steam crackers in operation in EU 28, homogenous geographic coverage

> 300,000 direct employees; 1,2 million incl. multiplying effects

contribution to overall European GDP: 155 bn €
(= 155,000,000,000 €)

energy intense:
> 80% of production costs related to oil & gas as feedstock and energy

capital-intense
(steam cracker > 1,5 bn €)

Petrochemicals as enabling industry for many sophisticated solutions

- 95% of all manufactured goods are based on petrochemicals, such as electronics, furniture, appliances, textiles, and many more

→ benefits: sustainable solutions to energy savings and comfort, for example insulation, durable, light-weight and resistant composites, etc.

… but:

- Highly exposed to international competition (commodity business)

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Trends, challenges & uncertainties in Europe´s petrochemical industry

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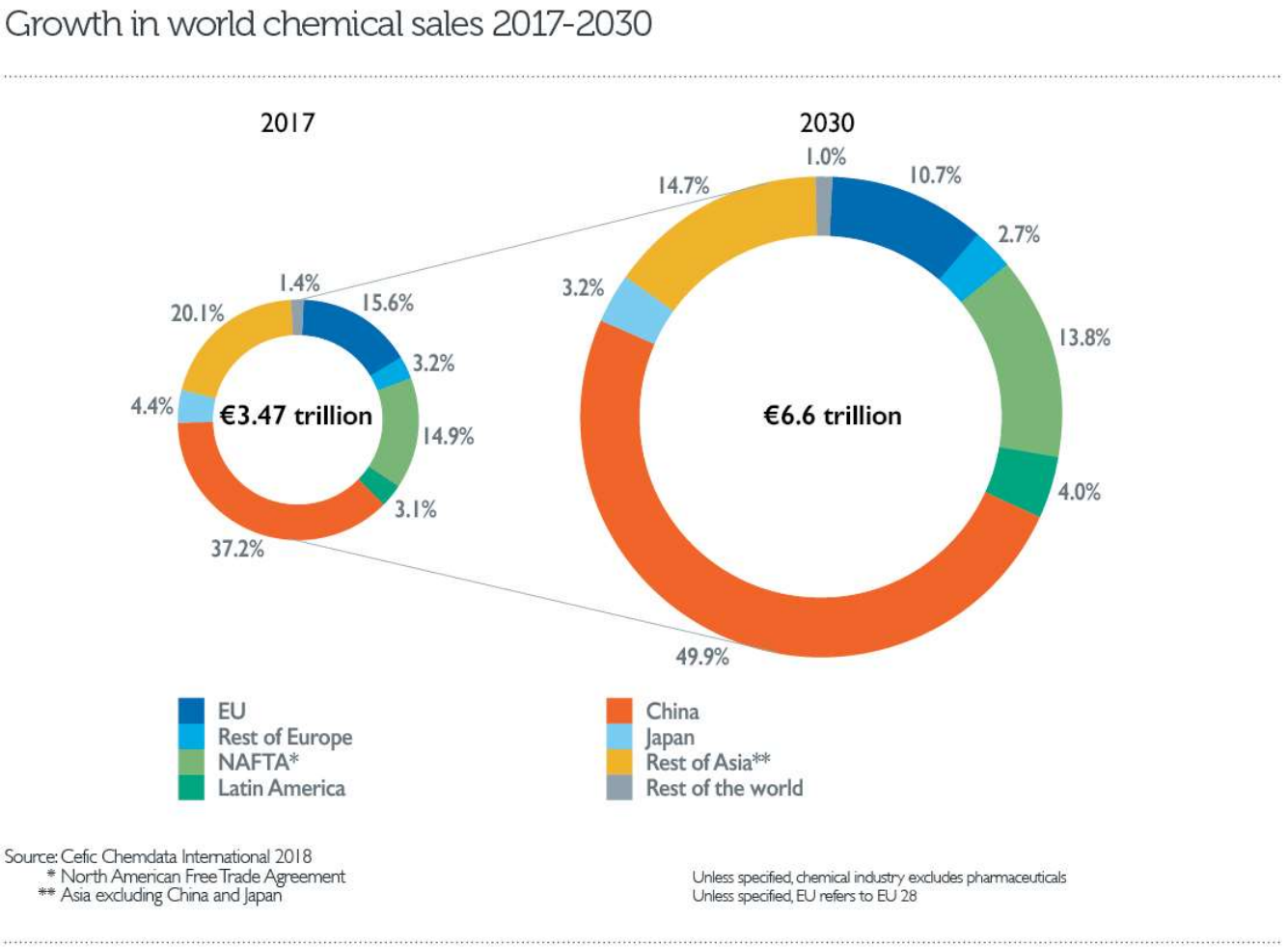
- Markets
- Trade uncertainties
- Environmental challenge
- Feedstock costs
- Energy prices
- Regulatory impact

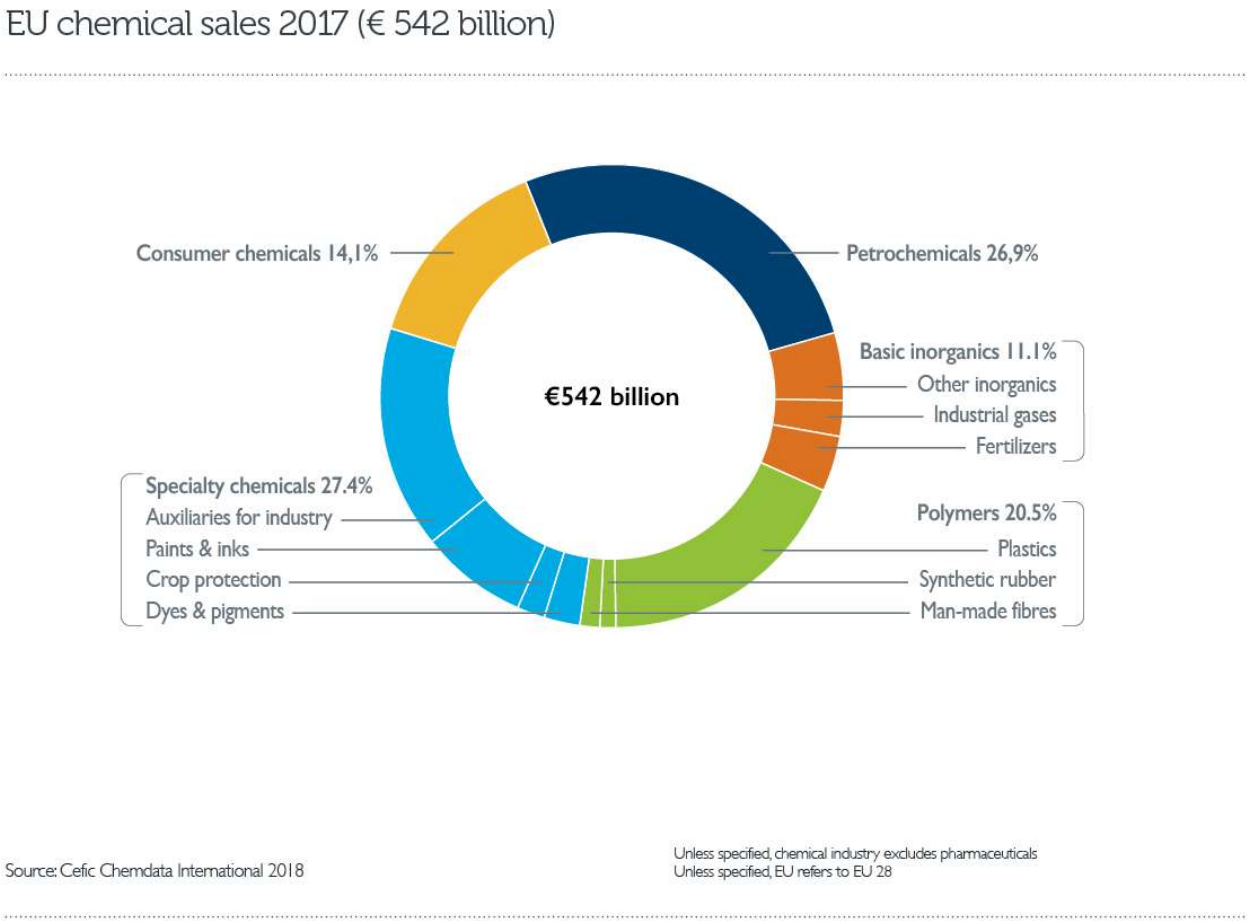
Projected growth in world chemical sales 2017 - 2030



Source: Cefic

overall chemical growth expected to continue - EU share goes down

EU chemical industry sales by sectoral breakdown



Source: Cefic

Petrochemicals are an important industry segment and mark the starting point of almost all chemical value chains.

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U.S. SECTION 301 AND RETALIATORY TARIFFS ON US-CHINA TRADE

SUMMARY

	U.S. SECTION 301 TARIFFS ON IMPORTS FROM CHINA	CHINESE RETALIATORY TARIFFS ON IMPORTS FROM THE U.S.
July 6	25% tariffs on $34B imposed (one chemical, $3.6M)	25% tariffs on $34B imposed No Chemicals
Aug 23	25% tariffs on $16B imposed $2.2B Chemicals/Plastics	25% tariffs on $16B imposed $2.0B Chemicals/Plastics
Sept 24, May 10	10% tariffs initially, then increase to 25% tariffs on $200B imposed $13.2B Chemicals/Plastics	5%, 10%, 20%, and 25% tariffs on $60B imposed, as of June 1 $8.8B Chemicals/Plastics
May 15	25% tariffs on $300 billion announced, possibly imposed by mid-July $11B Chemicals/Plastics	Unknown
Cumulative	$550B $26.5B Chemicals/Plastics	$110B $10.8B Chemicals/Plastics

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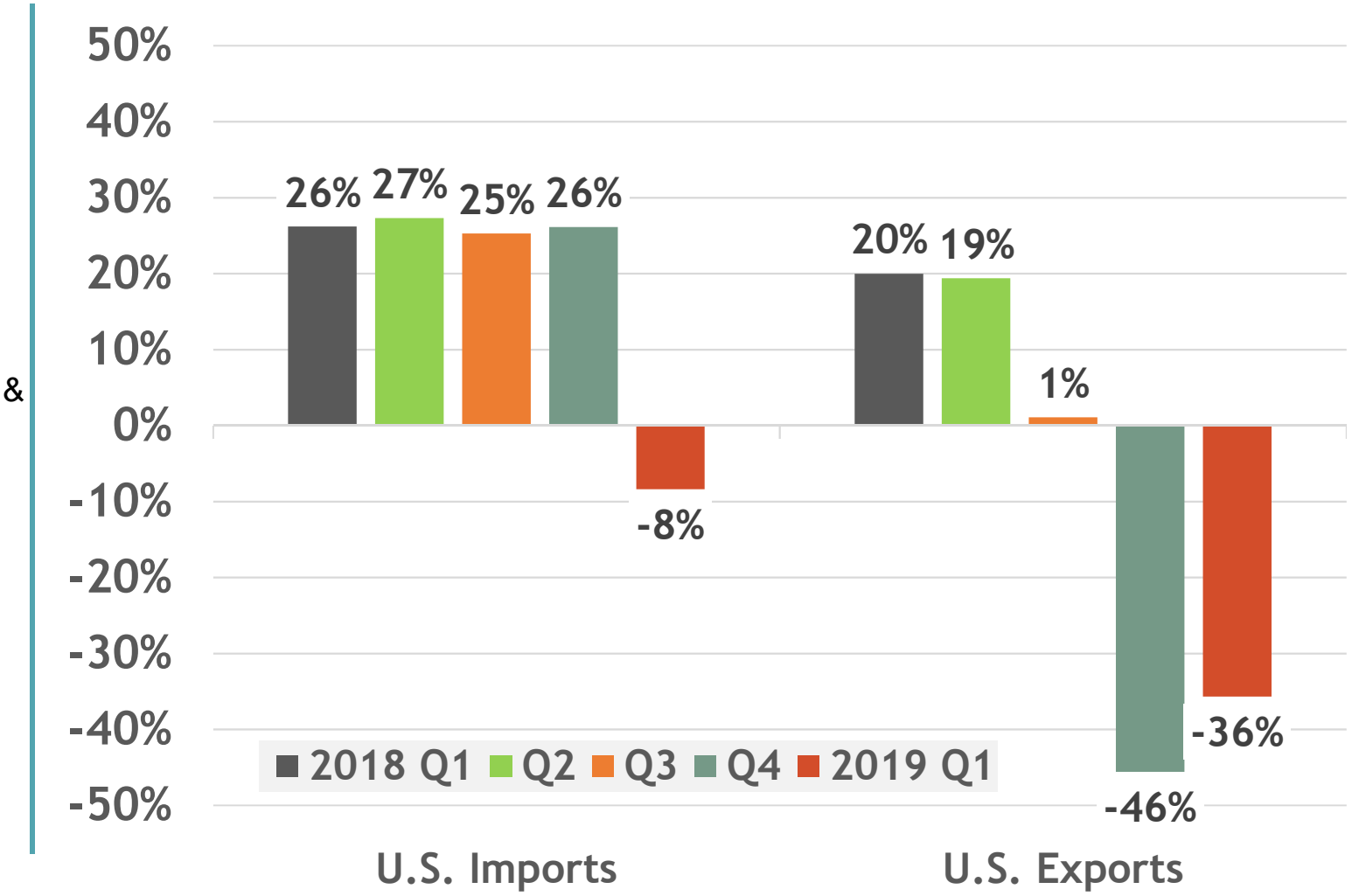
US-CHINA

BULK PETROCHEMICALS & INTERMEDIATES TRADE

Year-over-Year Growth Comparisons



Source: ACC, June 2019

Uncertainties

The US side:

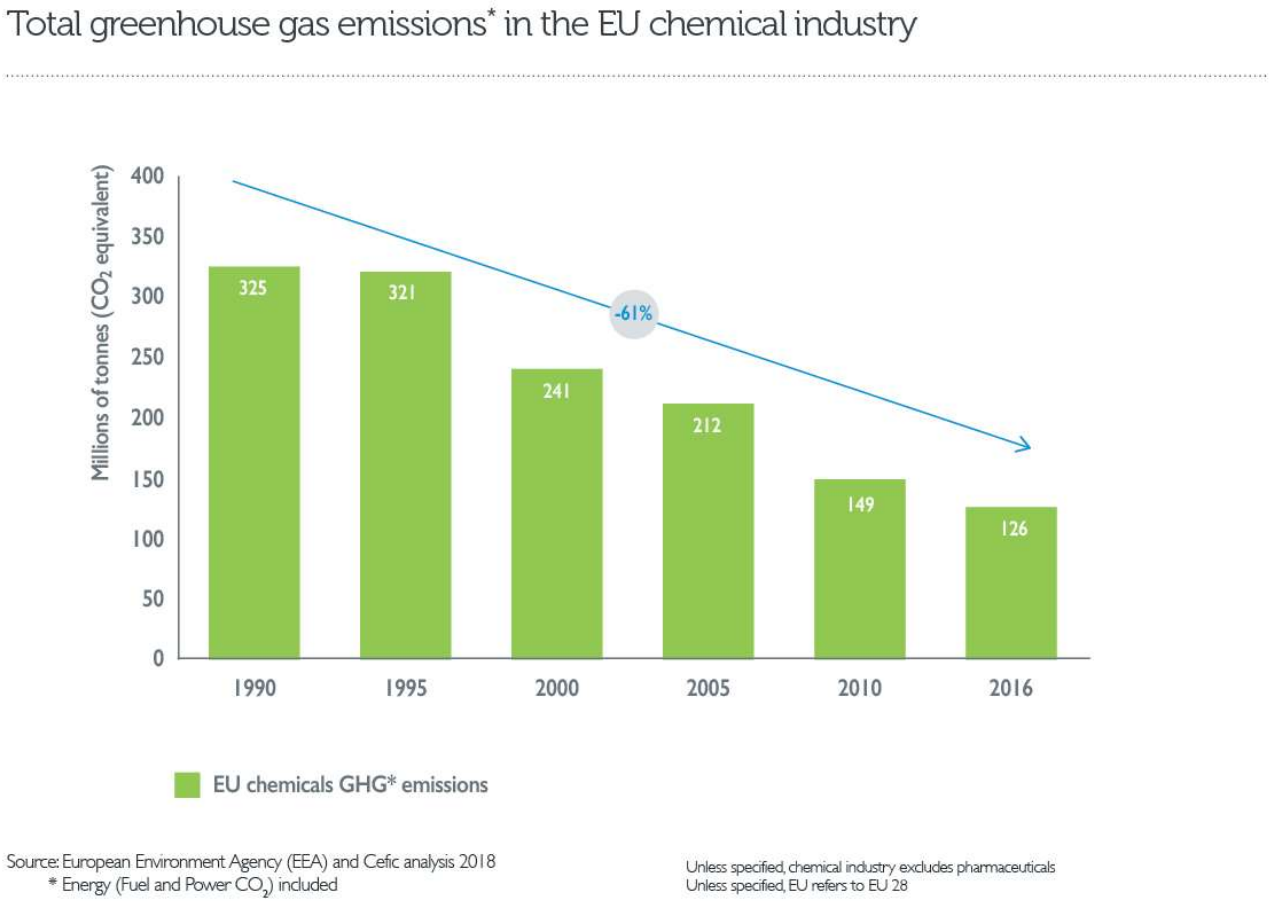
- US – EU trade tensions
- Weakening of WTO

- USA & the Paris agreement
- Corporate tax reform

Brexit:

Petrochemicals = 30% of chemical trade between UK and EU

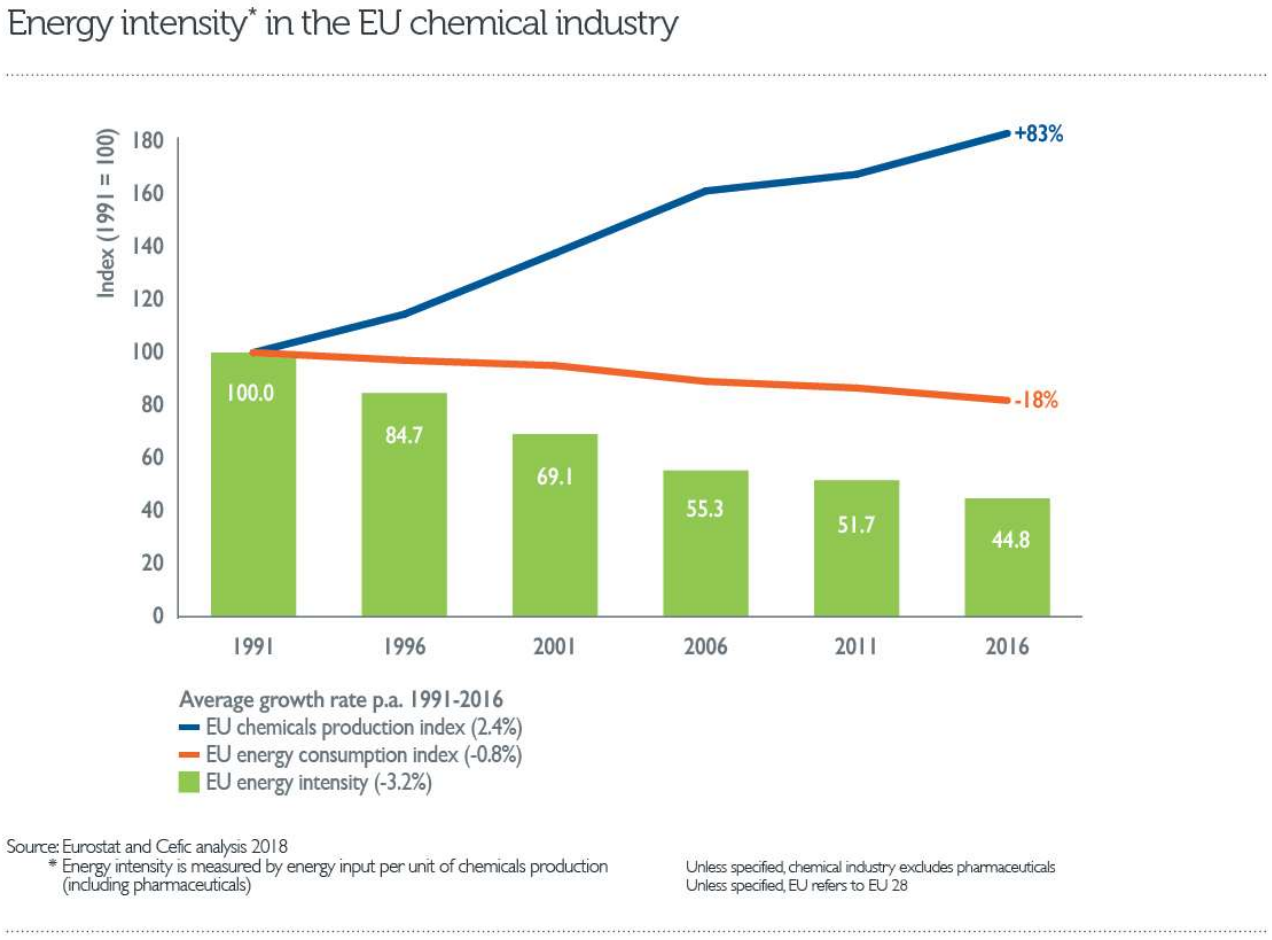
Total greenhouse gas emissions of the EU chemical industry 1990-2016



The eco footprint of Europe´s chemical industry has substantially improved:
~ 85% more production with 60% less GHG emissions!

Energy intensity of the chemical industry…

~ 80% more production with ~ 55% less energy consumption



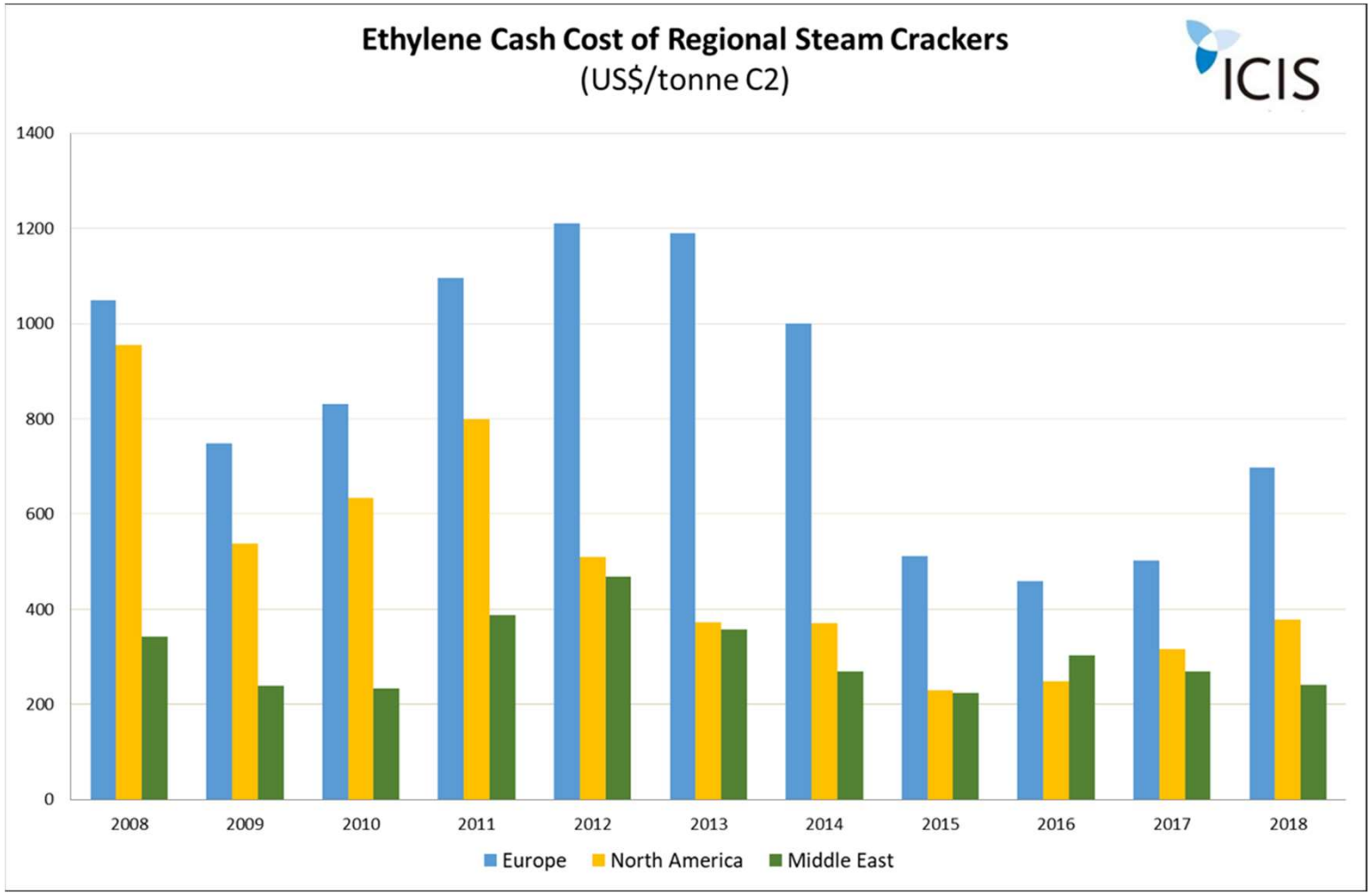
… is significantly better than industry average

Energy intensity: chemicals vs total industry

Source: Eurostat and Cefic analysis 2018
* Including pharmaceuticals

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

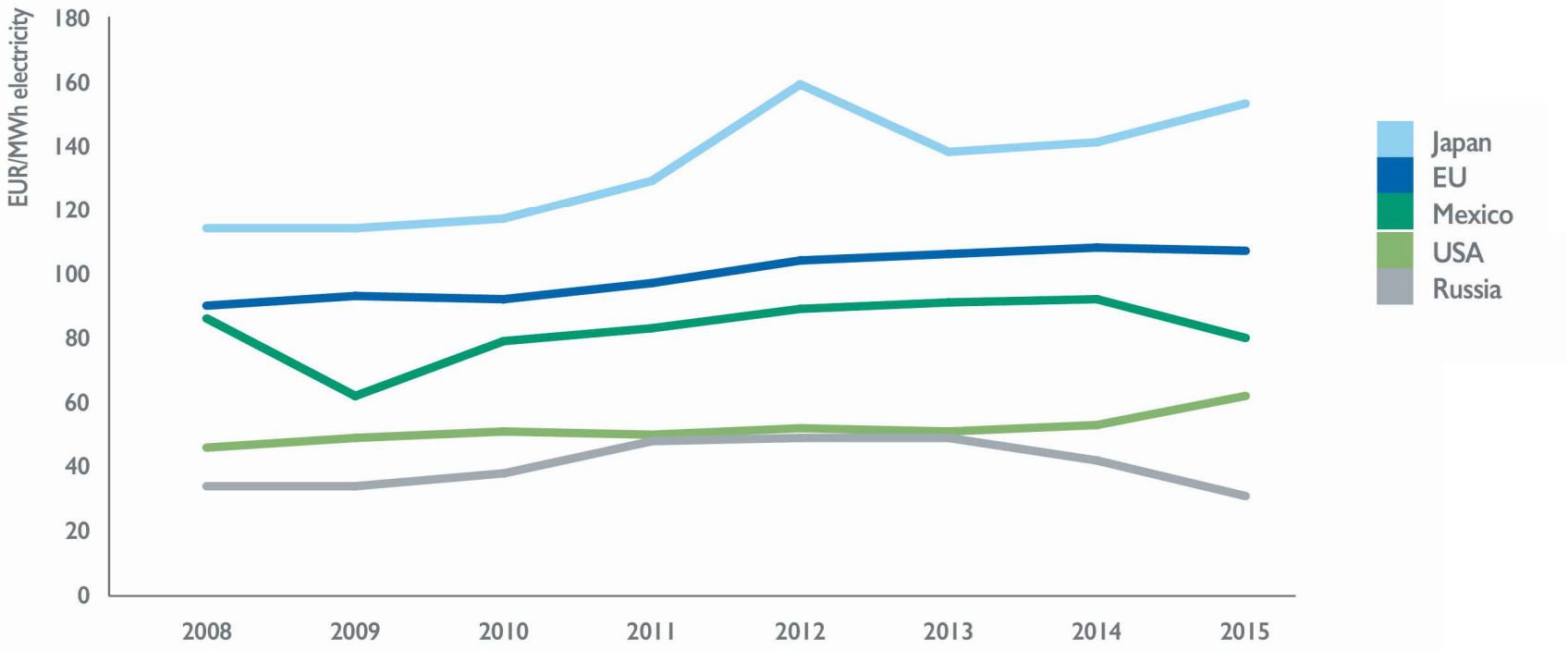
The competitiveness challenge



The oil price drop has brought some welcome relief; however, the structural challenges in Europe remain.

The EU average electricity prices were 1.7 times those of the USA and 3.5 times those of Russia

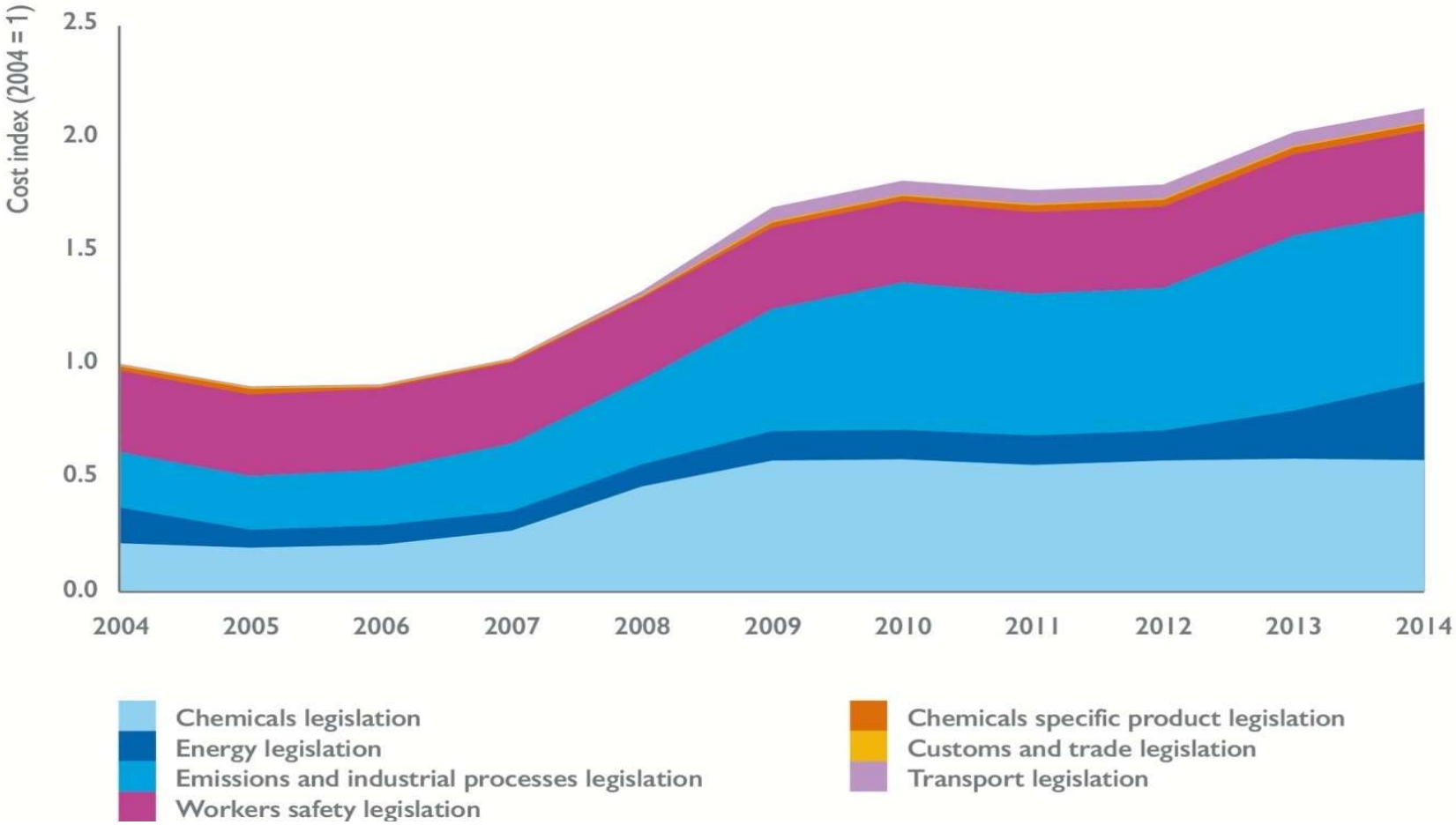
International average electricity prices



Source: EU Commission Report, "Energy prices and costs in Europe", COM(2016) 769 (page 10)
Unless specified chemical industry excludes pharmaceuticals
Unless specified EU refers to EU28

Regulatory costs* in Europe are steadily rising

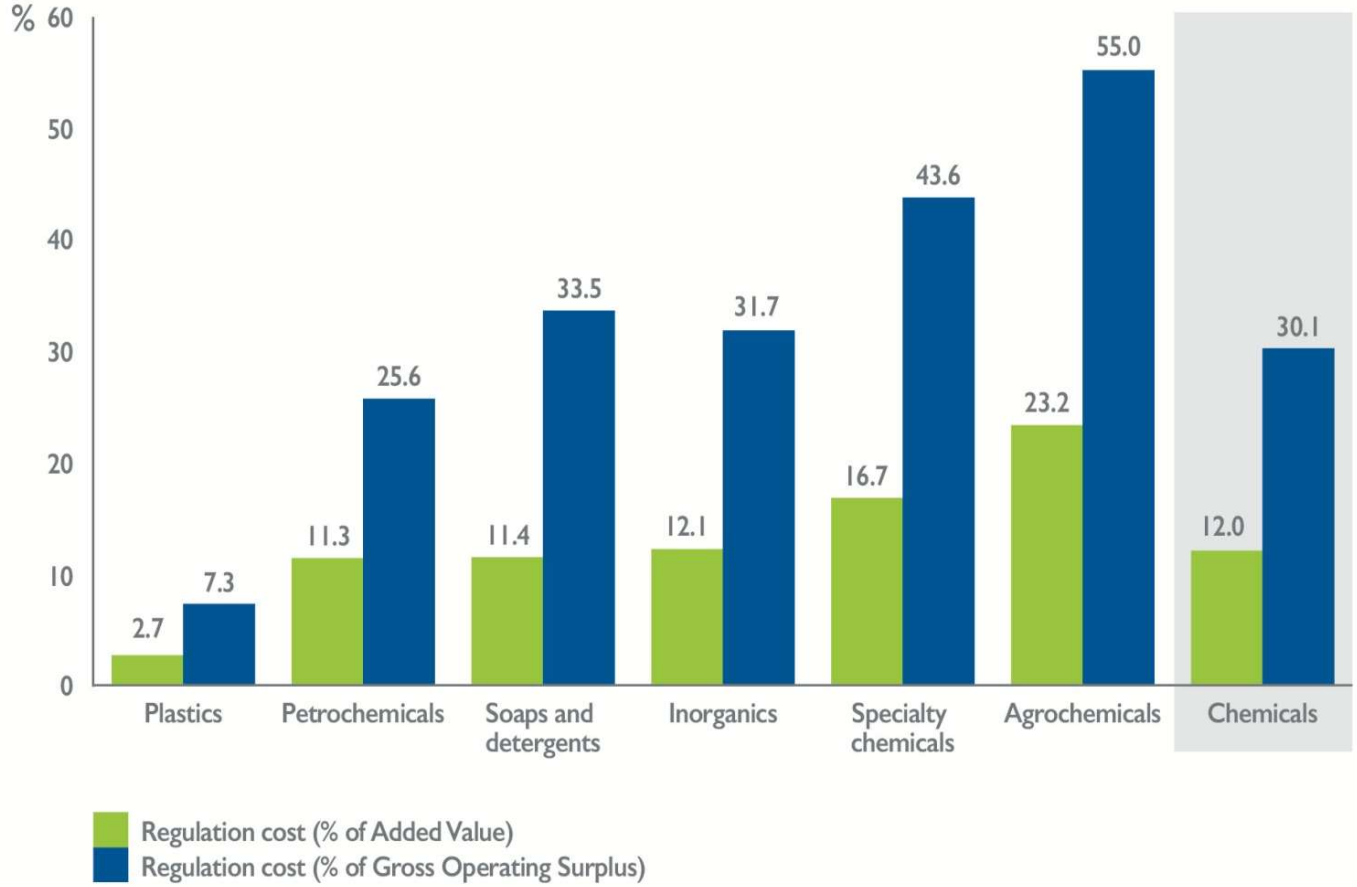
Major milestones: REACH (2007), CLP (2008), Seveso III (2012) and ETS Phase 3 (2013)



* Source: CCA by EU Commission, DG Grow, Technopolis, December 2015

Regulatory cost impact on the competitiveness of Europe´s chemical sectors

EU regulatory cost* for the chemicals sector

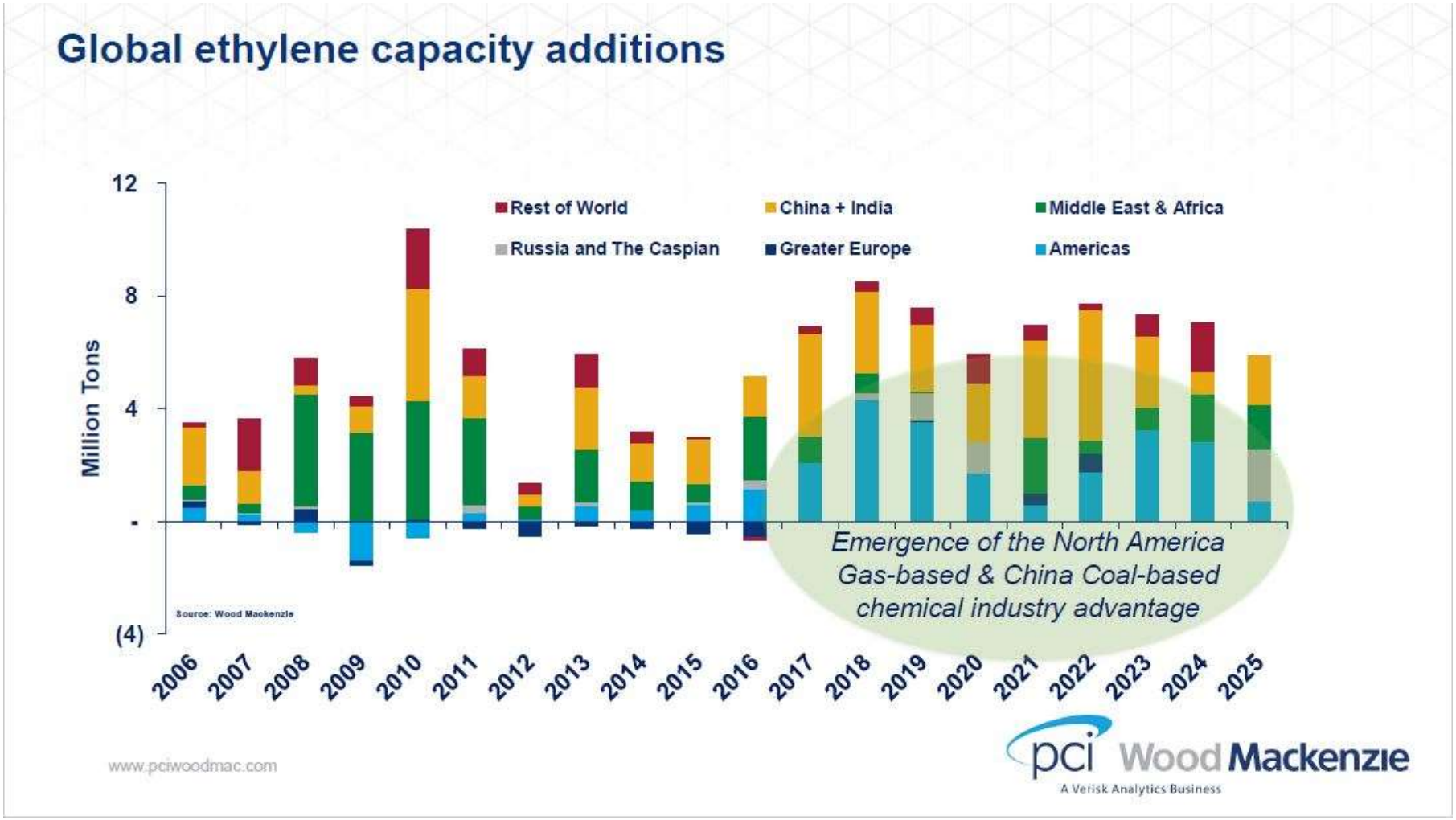


Source: EU Commission Report, "Cumulative Cost Assessment, (CCA) for the EU Chemical Industry" (11 July 2016)

* Average cost per year (2004-2014)

Consequences and conclusion

New investments – everywhere outside Europe



Summary

Competitiveness Pros and Cons for Europe

- ☺ Large integrated domestic market with strong customer industry clusters
- ☺ High international orientation and global network to external customer industries
- ☺ Until now availability of skilled and motivated workers and scientists
- ☺ Continued strategic restructuring efforts (flexibility to globalised markets)
- ☺ Strong innovation efforts will generate new growth clusters: Efficient Energy use, health and new materials which could solve upcoming societal mega challenges

- ☹ Low "new consumers" population growth in the EU => low demand growth for chemicals in general - elderly population, shrinking working age classes, high saturation levels.
- ☹ High energy and feedstock costs vs. Middle East and now the US => EU is facing an upcoming wave of petrochemical capacity additions, especially in Middle East and US
- ☹ High Regulatory Compliance Costs (e.g. REACH, Seveso, IED, 7th EAP…)
- ☹ Lack of a "Common Industrial Policy" or a "Common Energy Policy"

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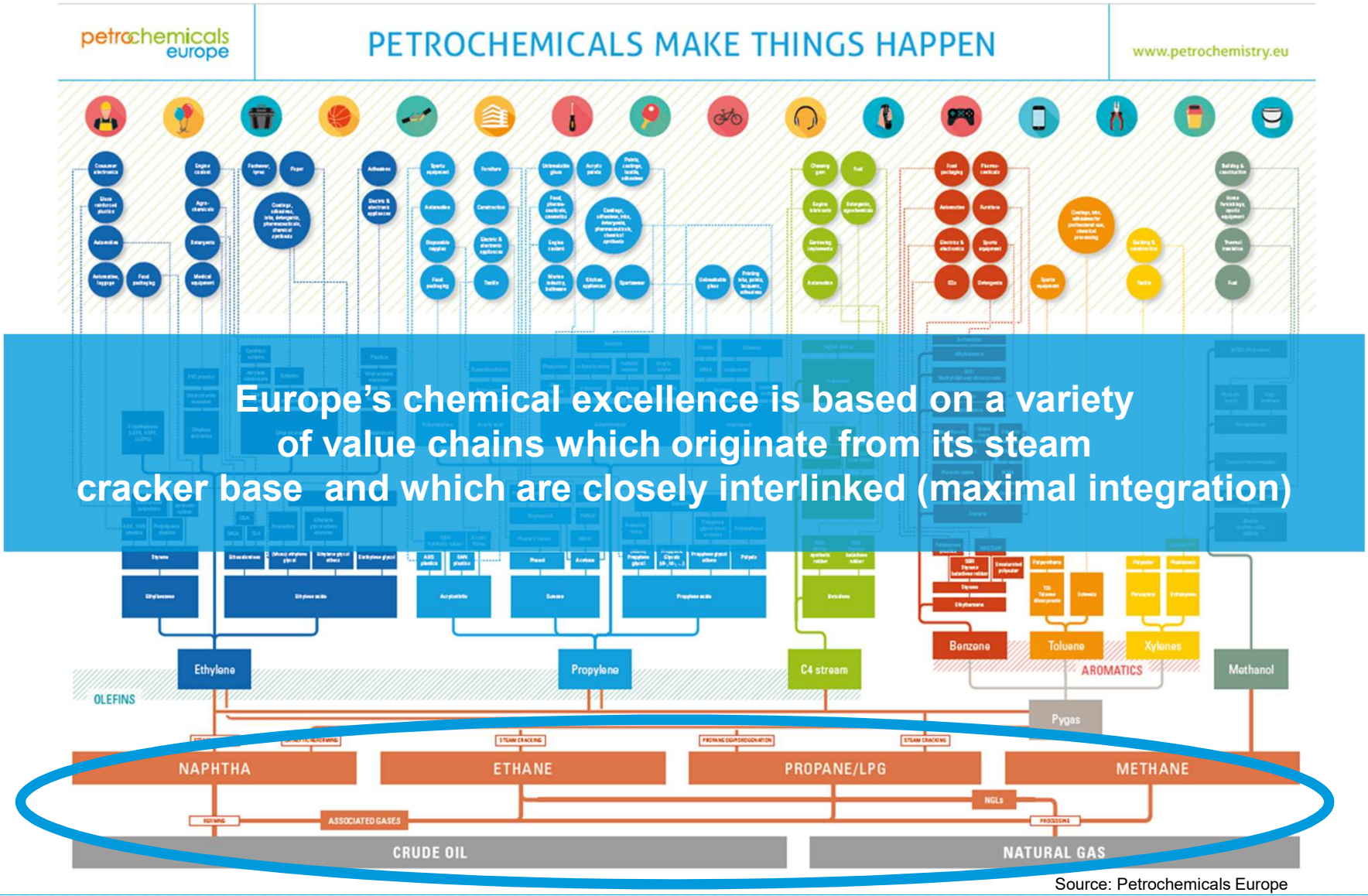
Annex

Europe – home of petrochemical excellence



Source: Petrochemicals Europe