

## Cefic/ Petrochemicals Europe contribution regarding NACE 20.14

Cefic/Petrochemicals Europe proposes to the Commission to consider in its review of the EU ETS State Aid Guidelines the qualitative assessment of Petrochemicals NACE 20.14 ('Manufacture of other organic basic chemicals') for eligibility for indirect cost compensation. This sector is at the start and at the heart of the entire chemical value chain in Europe.

Today, ETS Directive rules identify NACE 20.14 for ETS phase IV as exposed sector based on both direct and indirect emissions. Based on the previous qualitative assessment, member states currently provide more than 90% of the sector (cracker capacities in EU) with financial compensation for indirect carbon costs incurred.

We believe NACE 20.14 should again qualify as eligible for indirect cost compensation in ETS phase IV since fundamentals determining the sector's carbon leakage risks have not changed. In this contribution we believe we provide sufficient evidence to make this assessment, especially as the sector only just missed the eligibility criteria (0,191 vs 0,200) and we believe we can bring sufficient additional information to the table to justify a positive qualitative assessment.

Cefic supports the Green Deal and Europe's ambition to become climate neutral by 2050. A significant part of this effort will come from electrification. Removing the current compensation for the key pillar of the European chemical industry will increase costs compared to today and make electrification even more challenging. Policy consistency is a first precondition to make the Green Deal a success, and essential to investor confidence.

The inclusion of 20.14 secures that all crackers in Europe are treated in an equal way and there is no distortion of competition inside the EU caused by the state aid guidelines that actually aim to avoid the distortion with global competitors.

### **Additional information**

Cefic/Petrochemicals Europe provides additional information in annexes supporting NACE 20.14 eligibility for indirect compensation. Separately, business data from companies will be provided in a report by NERA consultancy. We can summarise the issues raised as follows:

**A. NACE 20.14: This is a borderline case that deserves deeper assessment**

According to the Commission's draft Consultant report, NACE 20.14 with its indirect exposure indicator of 0.191 only just misses the required threshold in the draft Guidelines of 0.2. This sector deserves a deeper assessment in view of existing data uncertainties and market realities, which we can clarify.. More accurate and additional data for GVA and electricity consumption qualify 20.14 as eligible already in the quantitative assessment. The draft consultants' report rating NACE 20.14 risk of carbon leakage for indirect emissions as "low" shows blank rows where key data seem to be missing. We aim to provide this information through this consultation.

**B. Organic Chemicals (NACE 20.14) are a strategic value chain for Europe**

The Petrochemical industry accounts for some 50% of the chemical industry manufacturing output. Specifically, NACE 20.14 is a major industry in Europe, with an annual production of close to 150 Mt and sales of around € 140 billion (2018). Petrochemicals is a complex sector that comprises of 20 sub-sectors with various types of production processes and outputs. At the start of the chemical value chain is the steam cracker producing organic base chemicals such as ethylene, propylene, butadiene from which other petrochemical intermediates are made such as ethylene oxide, styrene, phenol. All these petrochemicals are the essential building blocks for most of our day to day end use products (e.g. plastics, rubbers, resins, synthetic fibers, adhesives, dyes, cosmetics, food additives, perfumes, electronics, detergents, paints and coatings) in Europe and abroad.

**C. In the current report the electricity consumption of NACE 20.14 is likely underestimated**

Only 17 Member States out of 29 (EU27, plus UK and Norway) have submitted electricity consumption data. In the Carbon Leakage Assessment of 2018 (reference years 2013-2016) the Commission used an electricity consumption for NACE 20.14 of 30.4 TWh. Three important official sources indicate a significantly higher electricity consumption for NACE 20.14. The electricity consumption of the Öko-Institut, Fraunhofer and DIW 2008 study concerning Germany extrapolated to EU-28 plus Norway amount to 50-60 TWh. In addition, the Carbon Leakage Assessment 2009 (reference years 2005-2007) shows an EU-wide electricity consumption of NACE 20.14 of 43.3 TWh. Since output volumes have not changed significantly, this strongly indicates that a volume of 30.4 TWh is estimated too low that would otherwise have already qualified the sector in the quantitative assessment.

**D. NACE 20.14 meets the COM criteria for the qualitative assessment as defined in the analytical framework:****1. Abatement potential**

NACE 20.14 has a high potential to reduce direct emissions by shifting from fuel use to electricity (see also the sectors' product benchmarks with fuel/electricity interchangeability). However, electrification will not reduce but strongly increase the sector's electricity consumption.

Level playing field: In order to avoid competition distortion within the petrochemical sectors, the interchangeability of fuel and electricity for steam crackers must be properly acknowledged. Where two installations have the same benchmarks and fuel/electricity interchangeability (e.g. NACE 20.14 has 4 products with exchangeability of fuel and electricity) a level playing field must be ensured. We illustrate by way of example how a lack of compensation could disrupt this level playing field.

- Cracker 1 has a compressor with a steam turbine (CHP gas based) - therefore uses mostly gas for its feed – and receives full free allocation for direct emissions.
- Cracker 2 has the same compressor - but uses 80% gas and 20% electricity - and receives free allocation only for 80%.

Conclusion: i) cracker 2 has a cost disadvantage (distortion) and ii) cracker 1 has an incentive to stay with gas instead of switching to low carbon electricity in the absence of indirect cost compensation. Therefore, financial compensation for indirect emissions is essential to maintain the level playing field between electro-extensive and electro-intensive production plants.

As the gradual shift towards electrification takes place, the cost base will shift even more from direct to indirect costs. To meet the Green Deal and Green Growth objectives, electrification will be incentivized with indirect compensation.

## **2. Market characteristics: NACE 20.14 under global pressure**

Markets for petrochemicals are cyclical and variable. Depending on the observed point in time and the nature and spread of Gross Value added (GVA) of reported activities, values are changing leading to a different score of direct and indirect emission intensity in kg CO<sub>2</sub>/€ GVA. The reference years used by DG Competition for GVA data (2013-2015) could systematically disadvantage petrochemicals since these are not representative for the long-term (cyclical) market characteristics. In view of EU's energy and feedstock cost disadvantages, investment in Europe is stagnating since years accompanied by EU capacity closures. In parallel, large investments and capacity increases are being realised in US, Middle East and China coming on stream in due course further increasing competitive pressures. Thus, chances of passing on EU indirect carbon costs to customers will not develop but further diminish.

## **3. Profit margins**

Market analysts (ICIS, specialised global chemical industry publication February/March 2020) suggest ethylene capacity closures by the end of 2021: Global capacity additions generated oversupply, compressed margins now putting pressure on producers "deep into the cost curve". According to ICIS Supply and Demand analysis, global ethylene capacity is expected to increase by almost as much during the next two years as it has since 2016. This further increase in supply far outpaces relatively subdued demand growth. EU NACE 20.14 plants operate at the high end of the global manufacturing cost curve and their profitability is under highest pressure. Increasing EU policy costs i.e. indirect carbon costs will weaken EU petrochemicals' competitiveness further and expose them to carbon leakage.

Additional information can be found in the attachments I and II and the NERA report.

In Annex I we have substantiated the above with more detailed data, further substantiated in the NERA report. In Annex II we present a proposal for a pragmatic qualitative assessment methodology for the sectors currently on the list/borderline cases.

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About Cefic  
Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.2 million jobs and account for 16% of world chemicals production.