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Euromines External Newsletter

February 2016

Europe's Energy and Climate Change Policy

A crucial EU competitiveness issue

Climate Change Agreement

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A new Climate Change Agreement – December 2015

After two long weeks of negotiations the Paris agreement was finally approved on the evening of Saturday 12 December 2015 after four years of negotiations. The Agreement will replace the Kyoto Protocol starting 2020.

The COP21 outcome is made of two parts, both legally-binding: the COP Decision (pages 1-20) that sets out the process of how to put the agreement into effect and the Agreement itself (pages 21-32) setting out the provisions for global action on climate change.

187 countries, including all major economies, have submitted national emissions reduction plans ahead of COP21, representing 98.6% of total global emissions. These post-2020 national plans – **Intended** Nationally Determined Contributions (INDCs) - will be turned into NDCs from 2020 onwards when the Paris agreement starts being implemented.

Europe still taking the lead

The EU has declared the strongest target in terms of absolute emission reduction which will be -40% greenhouse gas emissions by 2030 compared to 1990.

The US target is to reduce emissions by 26% to 28% in 2025 from 2005 levels, but the specific means the administration proposed to get there would only yield about half that. And some such as the Clean Power Act is being challenged under the Supreme Court of Justice.

The Chinese government pledged to peak its emissions “around 2030” and to increase “non-fossil fuels in primary energy consumption to around 20%” by 2030.

Assessing the achievements

In the Paris Agreement context, “transparency” corresponds to the requirements that are needed to hold countries accountable for their commitments so that their efforts can be assessed. Before Paris there were two parallel transparency processes: one for developed countries, and a less strin-

gent one for developing countries. The Paris Agreement merged them in a single system requiring all countries to work towards the same standards of transparency and accountability.

Efforts on all sides?

The Agreement does not include and special conditions for countries, treating them all equally. At best, Article 4 invites countries to do mitigation efforts that represent the highest possible ambition taking into account CBDRs and their national circumstances.

Many questions still open

Many questions are still to be answered after the agreement: Will it set the right signals for investors? Will there be a US ratification of the Paris Agreement without congressional approval? What implications will it have for the EU’s 2030 climate target? Will there be a mechanism to address the fact that the EU has higher costs for industry that can result in investment and carbon leakage? Will there be initiatives to develop international carbon markets?

Industrial sectors such as the mining industry that are in direct competition worldwide are very concerned that the level playing field is still not existing and that the Paris agreement is still not addressing it.



The EU's policy on the Energy Union

The "Energy Union" is based on the three long-term objectives of EU energy policy: security of supply, sustainability and competitiveness. To reach these objectives, the Energy Union focuses on five mutually supportive dimensions:

- Energy security, solidarity and trust;
- The internal energy market;
- Energy efficiency as a contribution to the moderation of energy demand;
- Decarbonisation of the economy; and
- Research, innovation and competitiveness.

All these dimensions are areas that require more integration and coordination across Europe. The adopted action plan should be followed-up and reviewed as time progresses to ensure that it keeps responding to evolving challenges and new developments.

The Commission is currently working on a number of issues in this area and when it comes to diversification of energy sources the Commission and

some Member States seem to be intent on phasing out coal in the EU. However, it should not be forgotten that the aim of diversification is to make Europe less dependent on outside suppliers and this cannot be achieved with renewables only.

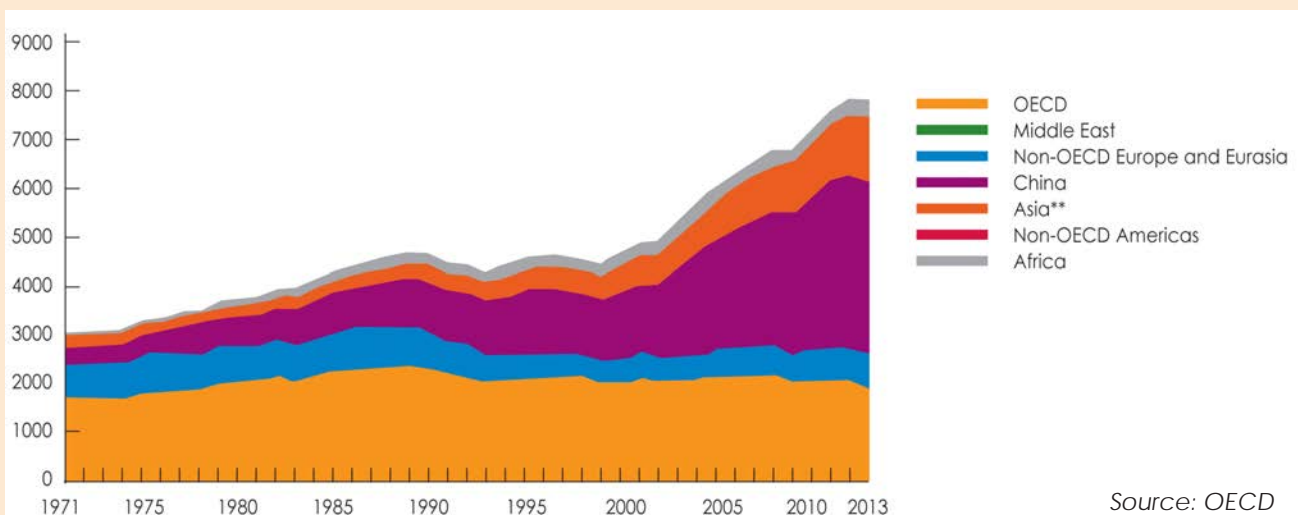
The downstream users of energy are concerned that the strong political signal will in turn result in an even weaker energy infrastructure and higher prices. Without accompanying measures it also increases the environmental and health and safety risks since needed investments will be redirected. A more comprehensive strategy and a number of measures will be needed:

Growth and competitive energy and its availability across the EU

Existing conventional energy generation is here to stay for some time and hence modernisation and new solutions need to be developed for higher efficiency in energy production.

Therefore it is also important to invest in the development of clean coal as well as the useful use of CO₂. Much more research will be needed in this area.

Coal production 1971-2013 by region (Mt), China no 1



The EU's policy on the Energy Union 2/2016

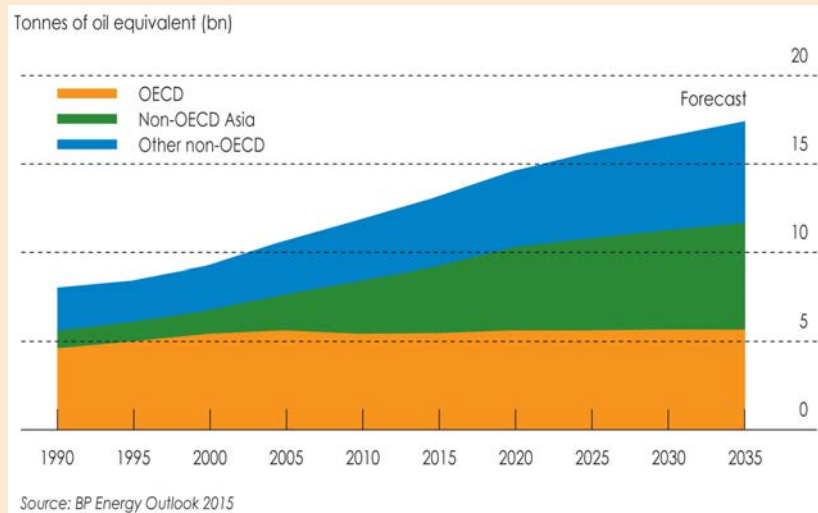
China - a couple of key factors to be considered:

- Coal: the largest energy sector,
- Oil: 2nd, largest net oil importer by 2014
- Total wind capacity of 98 GW in June 2014,
- China's oil consumption growth = 1/3 of world's oil consumption growth in 2013,
- Government opened up renewable energy to private & foreign investors,
- China world's largest photovoltaic market in June 2014.

Russia - a couple of key factors to be considered:

- Entire economy dependent on oil & gas production,
- Oil revenues = 45 % of government's budget in 2014,
- 4th-largest generator of nuclear electricity in the world,
- aiming for 1.5GW of solar by 2020.

Primary Energy Consumption



Bettercoal Code

The Bettercoal Code sets out the ethical, social and environmental principles and provisions that members of Bettercoal expect organizations producing coal in their supply chain to align with.

The Bettercoal Code has been developed through a global public consultation process involving coal producers, trade unions, social and environmental organisations, governments, mining related service providers, and utility companies around the world.

The Code covers ethical, social and environmental principles and provisions that are relevant to coal mining companies, including:

- General performance requirements, including management systems;
- Business ethics performance, including disclosure;

- Human and labour rights, social performance, including health and safety;
- Environmental performance.

Current members are: ESB, DONG Energy, DRAX, EDF, EDP, ENEL, Fortum, gasNatural fenosa, engie, Iberdrola, RWE, Uniper, Vattenfall.

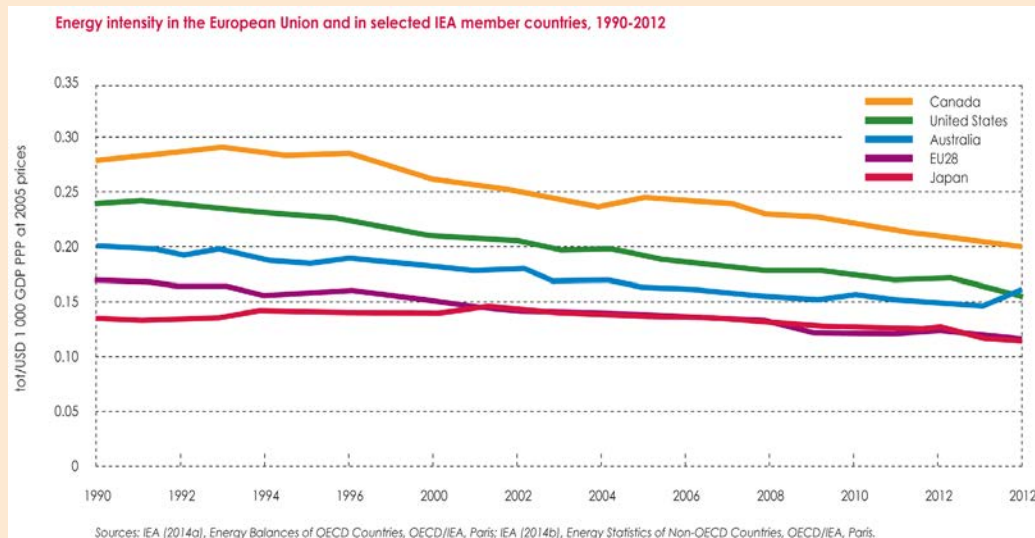
Alternative Energy

Alternative energy generation requires new networks and raw materials.

Special attention should be given to critical and other metals for strategic energy as well as other modern technologies. A shortage of specialised metals could be a potential bottleneck to the deployment of low-carbon energy technologies (nuclear, solar, wind, bioenergy, tide energy) and new applications in XXI Century technologies (IT, embedded systems, sensors, robotics and automation in mining operations).

Energy Efficiency Directive (EED) - Stakeholder consultation

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The EU has already achieved a high energy efficiency rate. However, if further improvements are to be made it will only come through two axes; technology and consumer behaviour.

- Increasing energy efficiency in the buildings sector;
- Transport represents more than 30% of final energy consumption in Europe;
- Realising its energy efficiency potential requires a continued focus on tightening CO₂ emission standards for passenger cars and vans post-2020, and on measures to increase fuel efficiency and reduce CO₂ emissions for heavy duty vehicles and buses;
- Electrification of transport is important to break oil dependency and to decarbonise transport, especially for road (short and medium distance) and rail transport.

The Commission has just conducted a stakeholder consultation on the revision of the energy efficiency.

Main criticism of the industry

- Although the EED is meant to be complementary to the other legislation in the field such as the Effort Sharing Decision, other energy efficiency legislation (on buildings, products and transport) and the Emissions Trading System Directive (ETS). For example, it tries to increase energy efficiency by decreasing energy consumption while, at the same time lowering carbon emissions, it is cost-inefficient and it

generates market distortions by being unevenly implemented across the EU and hinders the market competitiveness and the Single Market.

- The EED narrowly focuses on the problem of energy security and does not include the international climate and environmental dimensions of energy efficiency.
- The EED focuses on energy savings (targets) rather than on energy efficiency.
- Energy efficiency should be defined as energy consumption in relation to economic indicators such as the production index.
- Energy efficiency should be calculated over the lifespan and performance of a product.

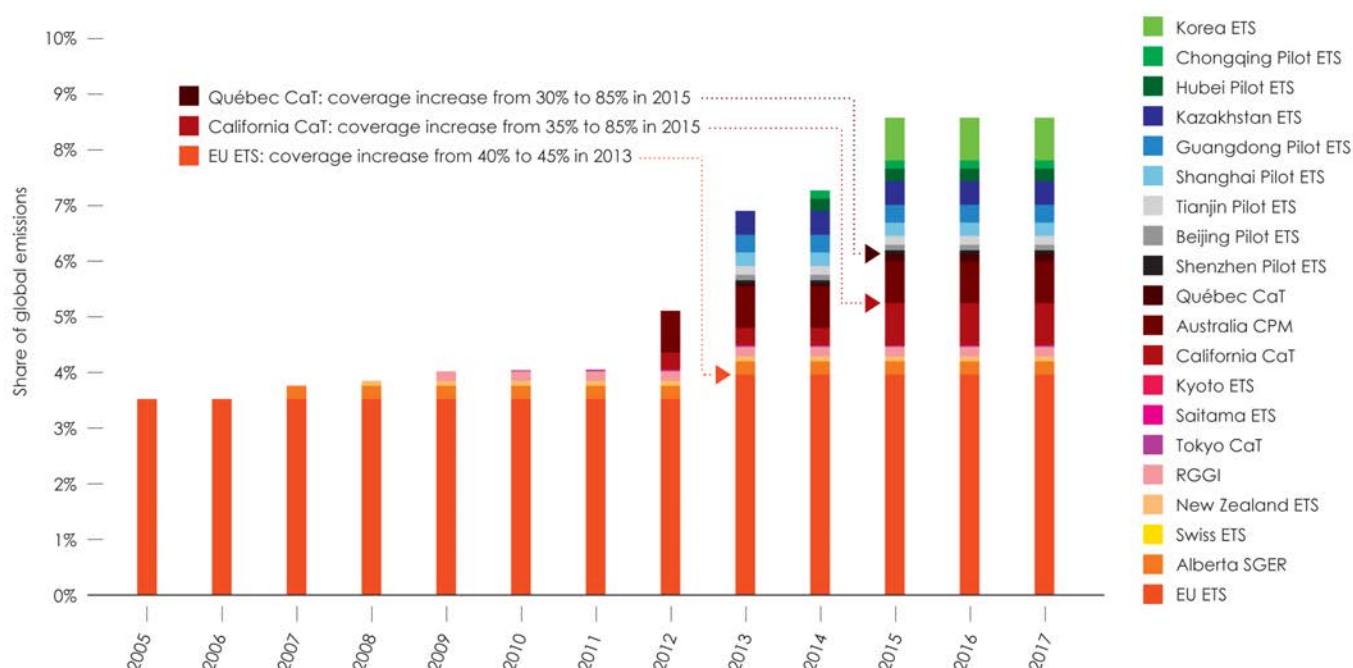
For the building sector the Commission is proposing to enhance energy efficiency by stimulating the rate of building refurbishment, particularly for buildings for low income tenants or owners being particularly slow. Heating and cooling remains the largest single source of energy demand in Europe. The Commission will therefore carry out a review of the Energy Efficiency and Energy Performance of Buildings Directives to create the right framework for further progress in delivering energy efficiency in buildings. Based on the on-the-ground experience in the Member States, the Commission intends to support ways to simplify access to existing financing to make building stocks more energy-efficient. Investments in buildings' efficiency are amongst the most profitable for citizens and industry today.

Emissions Trading System Directive (ETS) Revision - Stakeholder Consultation

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All ETS regimes jointly only address less than **10%** of the overall emissions which can be allocated to industry. And all industrial emissions account for only **8-9 %** of total emissions.

Regional, national, and sub-national emissions trading schemes: share of global emissions covered



Source: Ecofys and World Bank

On 14 January 2016 the COMMISSION STAFF published its WORKING DOCUMENT on STAKEHOLDER FEEDBACK on the revision of the Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments.

The Commission proposal contains the main three objectives:

- **Increasing the pace of emission reduction:** the cap (overall number of emission allowances) **will decline at an annual rate of 2.2% from 2021 onwards**, compared to the current 1.74%.
- Making **carbon leakage rules** more targeted: revising the system to focus on the **approximately 50 sectors** at highest risk of relocating their production outside the EU due to climate policies (carbon leakage), setting aside a considerable number of free allowances for new and growing installations, ensuring better alignment between free allocation and production figures, updating benchmarks to reflect technological advances since 2008.

- **Funding for low-carbon innovation and energy sector modernisation:** support mechanisms will be established to help the industry and power sectors meet the innovation and investment challenges of the transition to a low-carbon economy. The Innovation Fund will extend existing support for the demonstration of innovative technologies in renewable energies and carbon capture and storage (CCS) to innovation in industry. The Modernisation Fund will facilitate investments in modernising the power sector and wider energy systems and boosting energy efficiency in 10 lower-income Member States. The derogation from full auctioning allowing the optional handing out of free allowances to modernise the power sector in these lower-income Member States will also continue to be available.¹

¹ COMMISSION STAFF WORKING DOCUMENT STAKEHOLDER FEEDBACK on the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments {COM(2015)337 final}, Page 1

The ETS revision and the increasing pace of emission reduction

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Main conclusions:

- Support was expressed for the ETS in general, with the power sector particularly indicating support for the Market Stability Reserve (MSR) and the increase of the annual emission reduction rate (the so-called linear reduction factor) from 1.74% to 2.2%. **At the same time, many industry stakeholders expressed concerns regarding the impact of the ETS on their competitiveness and, in this context, some of them welcome the continuation of free allocation and carbon leakage measures beyond 2020.**²
- The competitiveness concerns range from issues of a more general nature (e.g. need for predictability, industrial sectors are approaching limits to reduce emissions with existing technologies, overlapping or interlinked national/EU policies, lack of comparable measures/systems in third countries), to more sector-specific ones (e.g. high share of electricity costs in total production costs in the case of the non-ferrous metals sector, need to ensure sufficient allowances are auctioned in the case of the power sector).
- Concerning the Innovation Fund, several industry stakeholders welcome the broadening of the scope to include industry and some also welcome that part of the funds might be provided before 2020, and support the higher funding rates proposed. Moreover, several industry stakeholders call for carbon capture and use (CCU) to also be eligible.³

Industry's needs

Overall it is fair to say that the industry has serious concerns about the revision and the proposed changes.

1. It will be important to have free allowances in the future in order to secure future growth of new and most efficient installations, and to avoid the application of the cross-sectoral correction factor;
2. Allocation of allowances should be driven by realistic industrial activity levels to support

economic growth and to prevent under or over allocation;

3. Realistic benchmarks would be crucial and the level of ambition for emission reductions should be in line with technological progress to ensure European industry's competitive edge;
4. It will be important to getting the carbon leakage list right allowing for the future development of industry in Europe.
5. Harmonising compensation for indirect costs is the only way to avoid intra-EU distortions on the Single Market;
6. Making the innovation fund fit-for-purpose by improving the eligibility criteria and removing the financial risk for companies wishing to invest in innovation projects and focusing on the ETS sectors.

The EU's Carbon Leakage List

Sectors that are at risk relocating their investments or closing in light of the increasing energy costs in the EU because of the pass-on costs for CO₂ allowances from energy suppliers are currently on the so-called Carbon Leakage List and are concerned that the proposed revision of the Directive will threaten their status and thus their competitiveness.

Many sectors therefore have embarked on new assessments of their trade and CO₂ intensity in order to prove that they are really under threat from international competition that does not have to comply with such stringent regulations and does not have comparable incurred costs due to climate change policies.

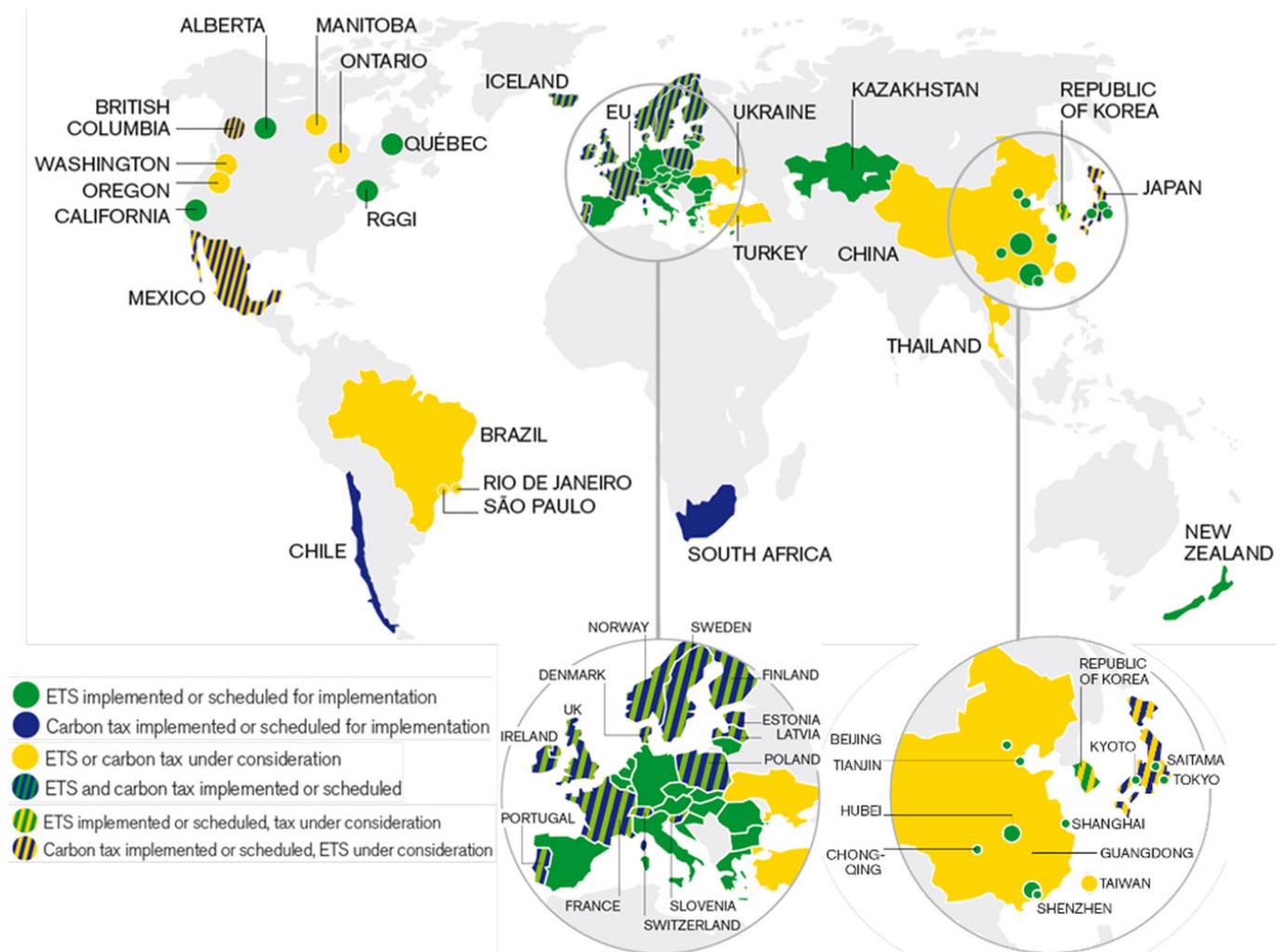
² COMMISSION STAFF WORKING DOCUMENT STAKEHOLDER FEEDBACK on the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments {COM(2015)337 final}, Page 2

³ COMMISSION STAFF WORKING DOCUMENT STAKEHOLDER FEEDBACK on the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments {COM(2015)337 final}, Page 3

The EU's Carbon Leakage List

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Overview of existing, emerging and potential regional, national and subnational carbon pricing instruments (ETS and tax)



Source: World Bank Group (2015) *State and trends of carbon pricing 2015*. Report prepared jointly by the World Bank and Ecofys.

On 15 July, 2015, the European Commission published its proposed changes to Phase 4 of the EU ETS, which will run from 2021–2030. This includes changing the criteria to assess the risk of CL to a quantitative criterion which is based on trade and emissions intensity (for further details on this criterion, refer to Annex 3):

- Trade intensity is a proxy for the ability of a sector's ability to pass on a cost increase to consumers without losing significant market share. For sectors where there is little trade, business covered by carbon pricing do not compete with business that are not affected by carbon pricing, meaning that the risk of CL is small.
- Emissions intensity is a measure for the cost increase that can be attributed to carbon pricing, including direct and indirect emission costs.

Industries which meet this criterion will be placed on the so-called "CL list". This proposal does not include any changes to the current support system for indirect carbon costs.

Assessment of Trade and Emissions intensity

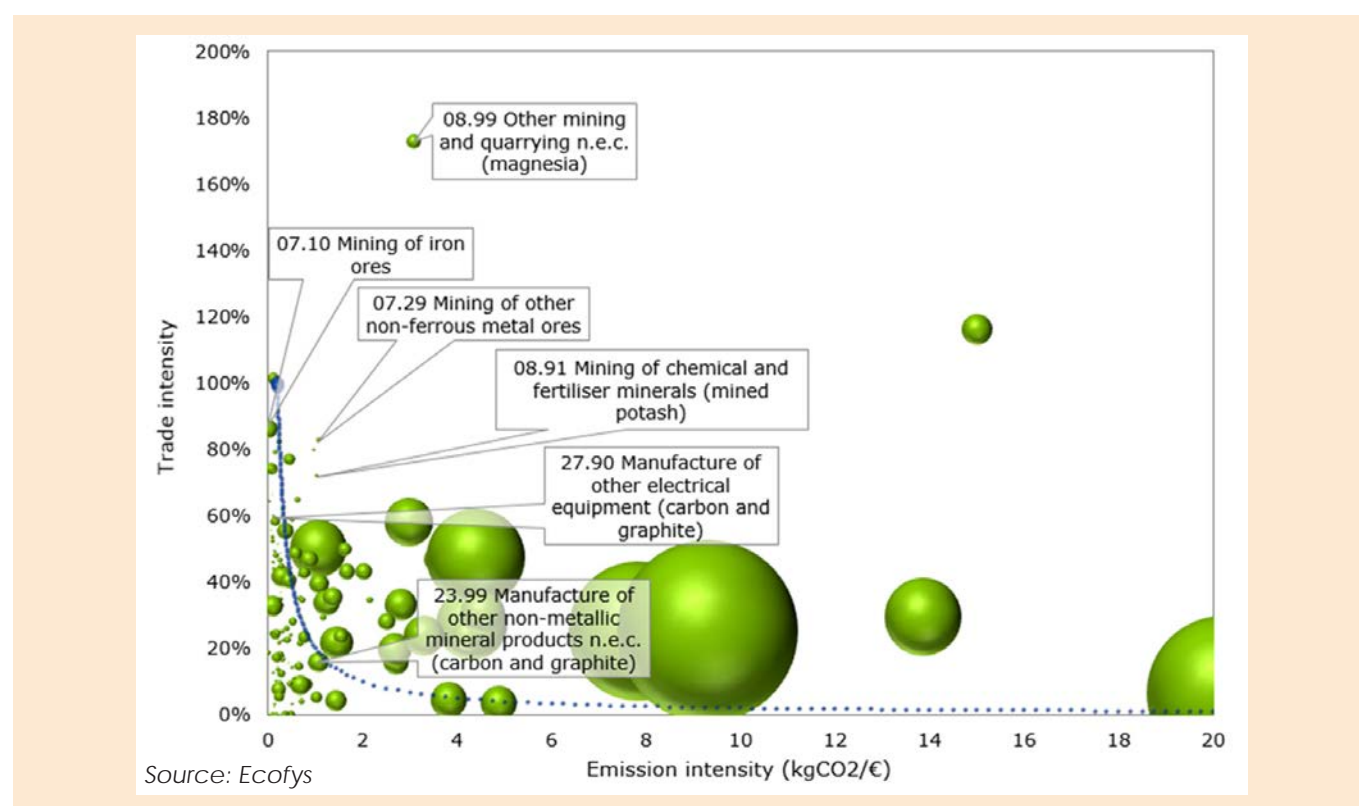
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Ecofys conducted an assessment for Euromines which came to the following conclusion:

- For the various sub-sectors of Euromines trade intensity could be identified which gave the following picture: Iron ore (84%), non-ferrous metal ores (83%), Mined Potash (70%), Magnesia (178%). This is not surprising since many commodities are being imported into Europe.

When it came to the assessment of the emission intensity the picture looked like this:

NACE level CL indicator from EC data. Bubble size indicates the size of the sectors emissions.



Process emissions are particularly significant for magnesia since CO₂ is the result of the chemical conversion. They account for over 50% of direct emissions. This result indicates that it will be difficult for sectors like these to improve their emissions intensity to match the rate of decline of free allowances anticipated in phase 4 of the EU ETS, leading to exposure to a greater risk of CL.

Recommendations

- To ensure carbon leakage status for the carbon and graphite sector, the European Commission needs to continue its current stance of permitting PRODCOM level assessments. It is recommended that the carbon and graphite sector highlights the high emissions intensity and trade intensity ratio of feedstock production, and embarks on a data collection exercise to produce evidence for this over the relevant time period.
- For sectors with high share of process emissions (e.g. magnesia and carbon and graphite feedstock) recalculation of benchmark levels would be more appropriate than the proposed generic cuts to benchmarks. A separate fund of free allowances for process emissions is also a potential solution for this issue. For other sectors, eventually the reassessment of benchmarks would be more appropriate.
- R&D support for technologies which can deliver emission intensity or electricity intensity improvements, following a more structured review of opportunities.

The European Technology Platform on Sustainable Mineral Resources

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EUROPEAN TECHNOLOGY PLATFORM ON SUSTAINABLE MINERAL RESOURCES

The ETP Sustainable Mineral Resources has established already its strategic ambitions related to the climate change and energy efficiency goals:

Strategic Ambition 2 (mineral extraction from land and sea bed deposits)

- Energy efficient transportation in the mine/quarry;
- Energy efficient mining and quarrying .

Strategic Ambition 3 (mineral processing)

By 2020 Europe has identified new ore, mineral and concentrates processing technologies that will allow step changes in energy, water and emissions intensity and will allow treating more complex and lower grade (primary and secondary) mineral resources. These technologies, including energy efficient crushing and grinding technology, will pave the way for expanding European business and future advanced jobs.

- Mineral processing technologies: energy efficiency plus higher yield recovery, waste reduction;
- Backfilling techniques to increase use of waste, increase efficiency and addressing stability, and subsidence;
- New separation technologies, especially in dry conditions (currently limited performances while it could significantly reduce water consumption)
- Innovative energy-efficient screening, classification and de-watering technology

Strategic Ambition 4 (metallurgy/metals recovery)

To meet tomorrow's challenges, new metallurgical processes shall:

- converge towards the optimal trade-off between energy efficiency, greenhouse gas

emission (including CO₂) and optimization of a resource, whether in one process or thanks to a network of processes in the area (region, country, EU)

For extractive metallurgy, these objectives can be achieved by focusing on three aspects:

- Support efforts to improve the energy efficiency and limit the environmental impact of existing processes (including capturing of greenhouse gases and recuperation of energy in slags and off-gases of pyrometallurgical processes, optimizing energy use in electro-metallurgical or electrochemical processes, regeneration of electrolytes etc.). Additionally, improve recovery of trace elements (range and yields) from thermodynamically difficult material mixes.
- Enhance cooperation and integration to minimize waste of resources and energy consumption on a system wide scale. This can be achieved by supporting the use of by-products rich in valuable metals that are not inherent to the system as feed material in other plants/processes.
- Optimise metal yields and energy efficiency of metallurgical processes;

Strategic Ambition 5 (Recycling)

- Efficient sorting, pre-treatment and metallurgy of complex multi-metallic and material wastes including functional surfaces (LCDs, photovoltaic, ...) and the interface optimisation (addressing interdependencies of the steps by using a systems approach)

The ETP SMR together with the Forest Platform has now been awarded an EU project called "VERAM" under Horizon 2020 to establish also a Roadmap for the raw materials sector (primary and secondary) till 2050.

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Euromines

Euromines is the recognized representative of the European metals and minerals mining industry. The members' main objective is to promote the industry and maintain their relations with European institutions at all levels. Euromines provides services to its members with regard to EU policy and forms a network for cooperation and the exchange of information throughout the sector within Europe. The association also supports contacts with the mining community throughout the world.

Euromines members are large and small companies who with their subsidiaries in Europe and in other parts of the world provide jobs to more than 350,000 people. Their activities and operations produce more than 42 different metals and minerals.

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