

OUR EXPERTISE

EMISSIONS TRADING AND CARBON POLICIES



Compass Lexecon provides expert economic advice to assess and understand the impact of carbon pricing and emission trading schemes around the globe. Our team of experts has significant experience in the design, operation, and impact assessments of emission trading schemes and carbon policies. We have developed a thorough understanding of the economic, regulatory and strategic issues associated with emissions mitigation strategies for large industrials.

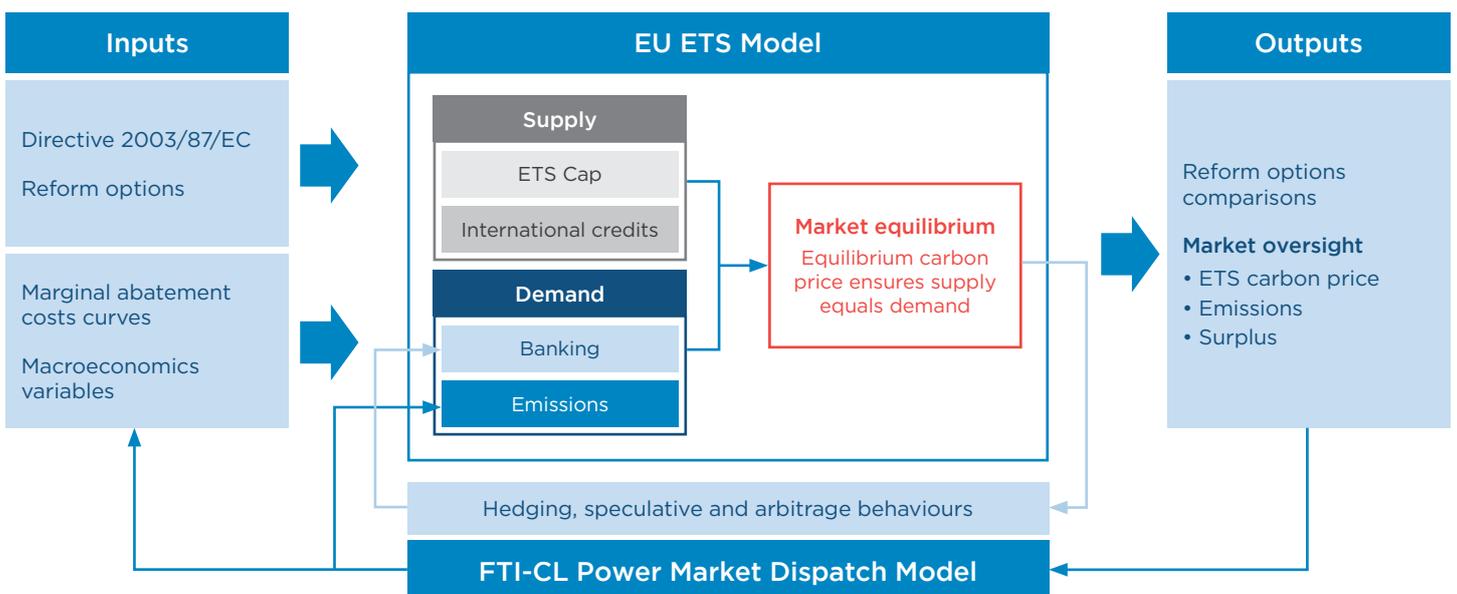
In Europe, Compass Lexecon's team of experts has worked over the past decade on a range of assignments on the European Union's emissions trading scheme (EU ETS), which is the cornerstone of the EU's policy to combat climate change. We offer solid economic and strategic analysis underpinned by our in-house EU ETS model which can be used to simulate the functioning of the ETS market.

We have also developed deep expertise in abatement options and mitigation strategies in the different industries covered by the ETS, with respect to both:

- the EU electricity sector and fuel switching potential as well as other low carbon mitigation options; and
- the energy intensive industrial activities and the EU framework and methodology for the compensation of the direct and indirect costs associated with the ETS.

OUR IN-HOUSE ETS MODEL

We have developed an in-house ETS market model articulated with our EU power sector model. The model calculates the EU ETS carbon price and emissions from the power and industrial sectors based on a detailed representation of ETS market supply and demand fundamentals. The model has been designed to replicate the actual market dynamics and the imperfect inter-temporal compliance behaviour observed from participants given the market uncertainty and complexity (see figure below).



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COMPENSATION FRAMEWORK FOR ENERGY INTENSIVE INDUSTRIALS

Our economists carried out a study for the European Commission to evaluate the State Aid framework for the compensation of indirect costs associated with the ETS for the sectors at risk of carbon leakage. We provided the EC with an independent analysis of the data and evidence on the risk of carbon leakage of 41 electro-intensive industrial sectors whose competitiveness might be negatively impacted by the ETS indirect carbon costs (through electricity prices).

We use advanced methodology to calculate the amount of aid received by eligible sectors. In particular, we have in-depth knowledge of the different parameters considered for the compensation of indirect carbon costs such as the emission factor, the aid intensity, and degressive parameters.

We also have extensive knowledge of the possible abatement strategies in the different industrial sectors covered by the ETS (see table below), as well as the market characteristics for these different sectors affecting the ability to pass through carbon costs to downstream consumers.

Ferrous and non-ferrous metals	Chemicals	Mining	Miscellaneous	
Basic iron and steel and ferro-alloys Casting of iron Aluminium Lead, zinc, and tin Copper Other non-ferrous	Industrial gases Refined petroleum products Dyes and pigments Other inorganic basic chemicals Other organic basic chemicals Fertilisers and nitrogen compounds Plastics in primary forms Basic pharmaceuticals	Hard coal Lignite Iron ores Other non-ferrous metal ores Chemical and fertiliser minerals Other mining and quarrying	Flat glass Glass fibres Ceramic tiles and flags Ceramic insulators Paper and pulp Cement Fibre optic cables Batteries Man-made fibres Leather clothes Sugar	Salt Oil and fats Starches Malt Veneer sheets Non-woven Textile fibres Synthetic rubber

MODELLING OF THE EU ETS MARKET

Impact on the ETS of the possible reforms proposed by the European Parliament and European Council: We assessed the potential effects of the Parliament and Council positions on (i) the supply of free allowances for sectors on the carbon leakage list and the impact of the Cross Sectoral Correction Factor (CSFC); (ii) the carbon price, taking into account the potential strategic behaviour by market participants; and (iii) the evolution of the allowances in the MSR in Phase 4.

Possible options for reform of the EU Emissions Trading Scheme: We were commissioned by seven EU utilities to provide fact-based evidence to highlight the urgency to reform the ETS if Europe wants to meet its climate commitments, and to provide a set of indicators to discuss the pros and cons of different options for reform of the ETS. In this study we modelled the key indicators of the EU ETS (such as the carbon price and the emission trajectory) resulting from the current EC reform proposal as well as several alternative reform options.

ETS price forecast for thermal plants revenue estimates: In the past decade, we have provided scenarios of the ETS market and modelling of revenues for thermal plants in the context of more than 20 commercial and regulatory due diligence transaction processes.

Multi-client study on EU ETS market reform: We provided fact-based evidence by modelling the impact of different approaches for reform of the European Emissions Trading Scheme, as part of the CERA policy dialogue. This study investigated a range of approaches including the possible introduction of a carbon price floor.

Potential impact of a 550gCO₂/kWh Emission Performance Standard in European capacity mechanisms: For a European association of power producers, we modelled the impact of the introduction of a 550gCO₂/kWh Emission Performance Standard in capacity mechanisms, proposed by the European Commission in the 2016 Clean Energy for all European Package. We quantitatively assessed the dynamic effect of the EPS on the functioning of European power markets, investments, system costs and CO₂ emissions.

ECONOMIC ANALYSIS OF EU ETS IMPACT ON ENERGY-INTENSIVE INDUSTRIES

Carbon prices and economic competitiveness: We were engaged by an international non-profit organisation to conduct a study of the interplay of carbon prices and economic competitiveness. We modelled the impact of the carbon prices on competitiveness in a number of the EU industrial sectors, accounting for 95% of all industrial carbon emissions, receiving exemptions from the EU ETS.

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Evolution of the emission factor underlying the indirect cost compensation for electro-intensive European industries:

We advised an association of energy intensive industries on the method of calculation of the emission factor used in the indirect cost compensation formula based on an empirical analysis of historical emission factors. We also modelled potential future emission factor in the Central Western Europe zone.

Retrospective and prospective impact assessment study on Emission Trading System State Aid guidelines:

We were commissioned by DG COMP to support in the revision of the mechanism for indirect cost compensation for sectors deemed at risk of indirect carbon leakage in phase IV of the ETS (2021-2030). First, we supported DG COMP in its evaluation of the 2012 Guidelines in mitigating the risk of carbon leakage. Second, we assessed the eligibility of 41 sectors identified as potentially at risk of carbon leakage and the amount of aid required for the eligible sectors.

EMISSIONS MITIGATION STRATEGY AND GREEN PPA

Mapping of carbon pricing globally and potential scenarios for the development of a global carbon market:

For an Australian international oil and gas exploration and production company, we provided a report and high-level executive briefings on carbon policy developments across the globe, and about the likely carbon price evolution and possible development of a global carbon market in different scenarios.

Power market forecasting & PPA support: We worked with a large technology firm to support on their procurement of renewable energy through corporate PPAs, including the negotiation of PPAs and power market modelling.

Corporate PPA market review: We reviewed corporate PPA strategies for the OEM developers across multiple markets to make strategic positioning recommendations to Nordex.

Asset optimisation strategy review: We acted as lead advisor to the chief strategy officer of a leading wind turbine OEM. The asset optimization workstream included: a market review of the corporate PPA landscape; analysis of different structures of corporate PPA; understanding the business models and risks; market sizing and forecasting of corporate PPAs; and the development of a GTM strategy.

Battery PPA market assessment: We were commissioned by a multinational investment bank to review European markets with respect to a "battery PPA" business model including market analysis and a detailed regulatory study of 10 European markets.

Strategic advisor including offtake analysis: We developed a new strategic plan and equity story for a renewables IPP. We created a specific GTM plan including direct analysis of different offtake options including corporate PPAs and potential players in the market.

Strategy & business model review: We conducted a business model validation for a leading wind turbine OEM, including the analysis of different corporate PPA arrangements and other innovative solutions.

Global Investment banks: We conducted a full evaluation and detailed review of wind farm PPA contracts in the context of two due diligence reviews of the disposal of wind farms on behalf of two global investment banks.

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