

EU Climate Policy and Electricity Market

Developing a Climate Change Lens to analyze and inform the EU debate on the reform of the Electricity Market Design

Explanatory note: *This publication is part of the first deliverable of ERCST's project on EU Climate Policy and Electricity Market.*

Concept

This note aims at introducing the concept of creating a framework for analyzing the European Commission (EC) proposal on electricity market reform through the lens of Climate Change Policy.

This framework will provide stakeholders with a tool and means for examining relevant elements of the proposal through a climate change perspective.

To this end, the ERCST team is developing a two-dimensional framework matrix, which includes the following:

- On the **vertical axis** are the issues or elements to be examined, **provisions** in the EC proposal on Electricity Market Reform
- On the **horizontal axis** are different criteria, **desirable outcomes** wanted to be achieved; These can be climate related or not.

This analysis consists of looking at how the elements of the vertical axis, in interaction with EU-ETS and other climate policies, impact (positively or negatively) on the desirable outcomes given on the horizontal axis.

Developing a climate change lens to examine the elements of the EC proposal and their impacts on the desirable outcomes, could be seen as having a three-dimensional matrix, which would include specific climate policies.

The first step of the analysis consists of looking at the interactions of the electricity market design elements with the EU-ETS and CBAM policies, as a package, as well as the interactions of these elements with the Renewable Energy Directive (RED). The second step aims at analyzing how these interactions impact on the desirable outcomes.

The first section of this document will introduce and define the different constituent elements of the matrix. Will then follow an overview of the ERCST preliminary results, in a form of a qualitative impacts scoring matrix. Impacts are ranked using a +/- scoring system.

Definitions

- **Desirable Outcomes** *(What do we want the interactions between Climate Changes Policies and Electricity Market to achieve?)*
 - **Short term/Long term signals for decarbonization** : Ensuring Short-term/Long-term price signals for decarbonization provide incentives for actions and investments towards decarbonization ambition's targets.
 - **Competitive advantage**: Ensuring EU industries remain internationally competitive to avoid industries leakage.
 - **Affordability**: Ensuring all consumers can access energy at the moment of need, at a cost that does not expose them to the risk of serious negative consequences
 - **Security of Supply**: Ensuring the availability of energy at all times in various forms, in sufficient quantities, and at reasonable and/or affordable prices
- **Electricity Market Design Provisions** *(What are the key elements of the EMD that interact with the EU Climate Policies?)*
 - **Short-term Pricing Mechanism**: The wholesale market in the EU is a system of marginal pricing, also known as pay-as-clear market.
 - **Emergency Market Interventions**: The EU put in place a set of emergency intervention to address the energy crisis: inframarginal revenue cap, tax on windfall profit, and measure for reducing electricity demand.
 - **Long-term Pricing Mechanisms**: include Power Purchase Agreements (PPAs), Contracts for Differences (CfDs), and Forward Markets.
 - **Balancing and Reliability Schemes**: include Capacity Remuneration Mechanisms (CRMs) and Flexibility Option (Storage and Demand-Side Management)

Analyzing the impacts of the EMD provisions on the Desirable Outcomes through the Climate Change Perspective

<i>Desirable Outcomes</i> <i>EMD Provisions</i>	I. Short-term signals for decarbonization	II. Long-term signals for decarbonization	III. Competitive advantage	IV. Affordability	V. Security of Supply
1. Short-term Pricing Mechanisms					
Pay-as-clear (marginal pricing)	+	-	+	+	+
2. Emergency/Short-term Market Interventions					
Iberian Exception/Inframarginal Revenue Cap	-	-	+	+	0
Windfall Profit Tax	0	-	+	+	0
Peak Demand Reduction	+	+	+	+	+
3. Long-term Hedging Instruments					
PPAs	0	+	+	+	+
CfDs	0	+	+	+	+
Forward Markets	0	+	+	+	+
4. Balancing & Reliability Schemes					
Capacity Remuneration Mechanism	+	+	+	+	+
Flexibility Options (Storage and Demand Side Management)	+	+	+	+	+

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