



## RESEARCH PROGRAM FOR 2023-2024 “TOWARD A NEW ELECTRICITY MARKET MODEL?”

The Chair European Electricity Markets (CEEM) at the University of Paris Dauphine – PSL supported by its partners RTE, EDF, EPEX Spot and Total Direct Energie is launching a new research program over 2023 and 2024.

This initiative will be structured around: 1) a series of workshops and conferences and 2) a call for papers for publication in the CEEM working papers and peer reviewed journal articles.

This research program will be organized as an open platform for collaboration between researchers from different academic institutions as well as practitioners with common research interests in the economics and regulation of electricity markets.

This document sets out:

- The key themes and research questions that will be addressed by the research program and its different workstreams;
- The key milestones in the program with academic conferences to discuss and communicate on the program findings and the organisation of the call for paper.

### INTRODUCTION AND MOTIVATION OF THE RESEARCH PROGRAM

The energy crisis that followed the Russian war in Ukraine has led European power markets to unprecedented levels of prices and stress. It has also triggered wide ranging policy interventions and calls for reforms of the electricity market design.

This energy and political context highlight the relevance of the research work of the Chair on European Electricity markets (CEEM) on new market models that can address the different policy objectives of supporting investment for decarbonisation, whilst ensuring security of supply and maintaining affordable costs for vulnerable consumers.

The general theme of the CEEM new research program over 2022-2024 aims at analyzing the features that make an electricity market model apt to meet the challenges of energy transition (climate change, security of supply, affordability), especially through efficient investments and pricing, and at showing how that can be articulated in a consistent model. One should keep in mind that the current target market model has been defined in the 1980s/1990s in a different context and with different policy objectives.

### PRESENTATION OF THE RESEARCH THEMES AND WORKSTREAMS

The research program will build on and deepen some of the research of the CEEM in previous years on “Hybrid electricity markets”, which aimed to explore the possible approaches that could address the new issues raised in terms of market design for supporting an affordable, secured and competitive energy transition.

The CEEM research program is structured around the following key research questions:

- **The investment challenge for a successful energy transition:** this covers both the articulation of long-term signals with short-term signals, interactions with CO2 pricing instruments and specific production support mechanisms low-carbon economy, the role of long-term contracts and their articulation with short-term markets, and the associated governance and regulation issues.
- **The articulation and coordination of a multiplicity of markets signals at different geographical levels and with finer temporal granularity.** This covers the issues related to a management of the supply-demand balance closer to real time, and to the articulation of new exchange platforms (local communities, flexibility markets, etc.) at different levels with the national and European markets.
- **Pricing issues for end users, and issues revolving around the financing of the energy transition.** This covers both the issues of electricity pricing for end consumers, both in structure and in level (role of dynamic pricing depending on the type of consumer, case of end users needing to electrify), as well as the issues of the financing of the electricity system and cost reflectivity.

In order to structure the research program and organize the different interactions of the researchers and the workshops, we propose to regroup these research questions in the classic “upstream / downstream” frame, keeping in mind that the articulation between the two is an important item of the program for addressing properly the relation between final prices and costs.

Two workstreams will therefore run in parallel and cross fertilize each other, as the issues covered are two sides of the same coin:



## Workstream 1: Decoupling of short-term wholesale price signals and long-term signals for investment

This workstream will focus on the investment challenges for a successful energy transition and the role of different types of long term contracts, e.g. PPAs, CfDs, with private or public counterparties). This workstream will cover both the articulation of long-term signals with short-term market price signals, interactions with CO2 pricing instruments and specific support mechanisms for low-carbon technologies, the design of long-term contracts and their articulation with short-term markets, and the associated governance and regulation issues. It is anticipated that this workstream will cover in particular:

- The classification and typology of “hybrid markets” to map the potential alternative approaches
- The definition of the types of long-term contracts, their pros and cons and suitability for different types of assets
- The design of the products to be procured, and the extent to which technology neutrality and competition based on attributes should be pursued
- The organisation of the planning and procurement and the role and responsibilities of different stakeholders
- The pros and cons of centralization or decentralization of the procurement

## Workstream 2: Decoupling of retail prices / consumer costs from wholesale prices and impact of long-term signals for investment on retail prices

This workstream will focus on the relationship between wholesale and retail prices, the potential hedging approaches for different types of consumers, and the cost born by different types of end users. The key issues in this workstream revolve around the passing on of the costs associated with long term contracts to end users, and the incentives that derive from the tariff structure. This includes the issues of electricity tariff design for different types of end consumers, both in structure and in levels (role and format of dynamic pricing (RTP, critical peak price, time of use, etc.) depending on the type of consumer, specific case of industrials having to electrify, etc.). The topics that will be covered include:

- The different hedging approaches for different types of end consumers, the conditions for linking production costs and the cost of sourcing, and the distributional / efficiency issues associated
- The approaches to ensure the financial balance of the system

- The tradeoff between cost reflectivity versus discrimination between different types of users based on e.g. vulnerability
- The retail pricing approaches and the different tariff construction methodologies, including two parts / non-linear tariffs, as well as the role of fixed versus variable structures
- The impact of different pricing structures on the efficient signals for consumers

## KEY MILESTONES IN THE RESEARCH PROGRAM

The objective of the research initiative is to provide a **collaborative environment** that will support the development of working papers to be published by the CEEM – and ultimately in peer reviewed energy economics academic journals.

A **call for paper** has been launched, followed by an introductory event to gather all interested parties to contribute. Researchers will be incentivized and remunerated for their participation through the usual CEEM policy to provide financial compensation for the publication of working papers and for [publication in adamic journals](#).

The research initiative will be anchored around a series of academic seminars and conferences that will support active discussion and collaboration on the different research themes. The envisaged timetable for the research program and the different conferences is as follows:

- **13/02/2023** Workshop on Workstream 1 «Decoupling of short-term wholesale price signals and long-term signals for investment», 16h30 – 19h, hybrid format online and physical in Dauphine (room A709)
- **14/03/2023** Workshop to launch Workstream 2 «Decoupling of retail prices / consumer costs from wholesale prices», 16h30 – 19h, hybrid format online and physical in Dauphine (room A709)
- **23/03/2023** Conference on consumers response to energy prices: emerging lessons from the crisis– physical event in Dauphine, 15h – 19h (Room Raymond Aron)
- **06/04/2023** Workshop- PhD students’ day, 16h30 – 19h, hybrid format online and physical in Dauphine (room A709)
- **14-15/06/2023** CEEM Annual International conference “TOWARD A NEW ELECTRICITY MARKET MODEL ?” with presentation of draft papers – physical event in Dauphine (Room Raymond Aron)