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Sustainability Growth Innovation*

Position Paper

A renewal of the Electricity Market Design to cope with the EU climate ambition

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SGI Europe Position on the revision on the Electricity Market Design

In 1995, the European Union created the Electricity Internal Market with the aim of developing competition in generation investment and in electricity supply. Now, with the recent invasion in Ukraine, cutting Europe significantly off from its gas supply resources as well as the intensifying climate change events, Europe will increasingly rely on its electricity value chain combined with renewable and decarbonised gases to become the first carbon-neutral continent in 2050. Reconsidering the electricity market design will therefore be needed as present objectives of the Electricity Internal Market are for the most part different and do no longer fully reflect the current challenges.

SGI Europe believes that the new revised market design must offer stable prices of low-cost and low-carbon sources to consumers and anchor this at the root of the needed evolutions. Every measurement taken when revising the Electricity Market Design (EMD) must address the security of supply in the energy sector to not harm consumers and the economy throughout the European Union.

Becoming carbon neutral requires huge investments in the whole energy value chain, the present crisis is an accelerator of the process

To become carbon neutral by 2050, the EU requires major changes in the whole energy value chain: the goal is **first to consume less energy**, and then **consume low carbon energy**. Safeguarding this goal, electricity will have a key role to play along-side with low-carbon technologies, renewable and decarbonised gases district heating systems (wherever economically feasible) as well as a new hydrogen market. The European Commission long-term reference scenario (LTS, 2018) assesses that Europe will need to produce twice more electricity in a carbon free economy than it does today while decreasing its final energy demand by 40% compared to 2016.

The pathway, towards a full climate neutral EU by 2050 with ambitious 2030 targets both on European and national levels, needs further investments into a new energy system where:

- **Energy efficiency shall guide the quantity of energy to be consumed**
- **There is no further use of fossil fuels**
- **and electricity based on low-carbon technologies is massively deployed to decarbonise end-uses and the economy**

A massive wave of investments awaits Europe

To remain on track with the Paris Agreement, investments in the power sector needs to be at least double in the next decade according to the International Energy Agency (IEA)¹, to build large amounts of low carbon power plants, nuclear, renewables, low-carbon technologies and decarbonised gases (including hydrogen) and electricity storage facilities must be taken into consideration to invest in distribution and transmission

¹ International Energy Agency (2022) "An updated roadmap to Net Zero Emissions by 2050," in World Energy Outlook 2022, pp. 163.
<https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf>

networks, and also in flexibility sources. The important role of district heating and cooling must be strengthened, using every possible low-carbon source such as waste to energy as well as waste heat from third parties. Huge investments are required to develop these facilities across Europe.

Meanwhile, consumers will play a growing role in the energy transition both through their investments to decarbonise end-uses and through their participation in the growing need for flexibility in the electricity system to support short-term supply/demand balances and thus control their bill. Huge investments on the customers' side are also needed, both for energy efficiency and for electrified technologies for end-uses.

Finally, the ongoing war in Ukraine and climate change have emphasised the need to accelerate an efficient transition, while ensuring energy independence, security of supply, and protection of consumers through affordable prices.

Adding a new layer of long-term contracts will stabilise prices while the present market guarantees the efficient operation of the electric system

The current electricity market was built 30 years ago, in a very different context of overcapacity of mainly fossil-based assets. At the time, the goal was to create competitive markets between generators and retailers. It was a very different scope compared to today.

The current market design works well for short-term optimisation (optimal dispatch of generation, or use of interconnections) and must remain unchanged. However, the market does neither ensure the stability nor the price signals needed to incentivise the investments both upstream and downstream.

Upstream, today over 70% of the investments in renewable capacities benefit from a range of support schemes: a new market design should enable to accelerate investments in renewables and in all carbon neutral assets.

We need a framework which delivers on our climate objectives and enables a cost-effective transition by adding long-term market mechanisms, in addition to the existing short-term market. It addresses the following challenges:

- **Incentivising long-term investments ensuring that public policy objectives of security of supply for consumers and decarbonisation are met**
- **Passing on to consumers a stabilised price**, reflecting the electricity more and more the low-carbon costs and encouraging the needed electrification of uses (notably in transport and heating sectors): **affordability, visibility and stability are needed**
- **Providing the right incentives downstream** to promote virtuous behaviours, such as energy savings and flexibility

We need to adapt EU market designs encouraging long-term contracts

To cope with these challenges, we need to adapt our market design to the context of increasingly volatile short-term markets and **move towards markets where more long-term contracts in the current system are encouraged, whilst respecting regional differences across the European Union.**

Such Long-term contracts mechanisms should be available for all carbon-neutral technologies such as:

- Renewables energy
- Nuclear
- Carbon Capture and Storage (CCS)
- Low carbon thermal,
- Storage
- "Blue" Hydrogen combined with Carbon Capture Storage and Utilisation (CCS/CCU)
- Green Hydrogen and other green gases
- Hydrogen2 ready-Capacities

On the customers' side, long-term contracts should provide stable long term price signals required for end-users' investments in energy efficiency and electrification: Those investments are as capital-intensive with long life spans as investments in generation and grids. It also allows to reflect the real generation mix costs.

This should also include to provide the right incentives downstream to promote virtuous behaviours, such as energy savings and flexibility.

Hence, the debate must be: what type of long-term arrangements next to the long-term market can we find to make Europe a safe-space for long-term investments between all actors, generators, suppliers, customers, public authorities, private investors?

A range of approaches are possible at national level to implement such model: centralised and decentralised models, and a wide range of long-term contracts models can be implemented (Contracts for Difference, Regulated Asset Base, Feed-in Tariff, PPAs, variable network tariffs, etc.) with specific type of risk sharing between actors.