



## **Nucleareurope response to the Call for Evidence:**

### **Electricity markets – removing barriers to power purchase agreements**

nucleareurope welcomes the European Commission's initiative to strengthen and develop markets for long-term Power Purchase Agreements (PPAs). PPAs are an important instrument for reducing exposure to short-term price volatility, strengthening investment incentives in electricity generation, and contributing to more stable electricity prices for industry and other end consumers. Indeed, PPAs have been repeatedly recognised as a vital tool for financing new clean energy assets and reducing exposure to volatile short-term electricity markets.

The previous Commission's recommendation is clearly focused on supporting the objectives of the Renewable Energy Directive (EU) 2018/2001, as amended by Directive (EU) 2023/2413. This has contributed to a rapid expansion of renewable electricity generation in the EU, which is a positive development from a climate perspective. At the same time, nucleareurope notes that in 2024, 23% of electricity generation in the EU came from nuclear power, making it the largest single source. Nuclear therefore represents a substantial share of the EU's clean electricity production and contributes significantly to security of supply, system stability, and reducing greenhouse gas (GHG) emissions. It remains a central pillar of clean energy in Europe and should be properly reflected in the discussion concerning PPAs. An ever-growing number of Member States have plans to include nuclear in their energy transition policies suggesting that the role of nuclear in the internal energy market is expected to rise.

Therefore, nucleareurope wishes to emphasise the importance of ensuring that regulatory developments are designed in a way that guarantees **technology neutrality and a robust electricity system**, in which firm, dispatchable and clean electricity generation, such as nuclear, is also given appropriate conditions to contribute to the EU's energy and climate objectives. As such, the development of PPA markets must not be exclusively oriented towards renewable electricity generation but also take into account the needs of other clean technologies with high capital costs and long investment timelines. Furthermore, such an approach would be in line with the revision of the EU's climate targets for 2040, adopted in December 2025, which highlights the need to take into account the "technological neutrality

### **PPAs and nuclear**

Regulation (EU) 2019/943 on the internal market for electricity, as amended by Regulation (EU) 2024/1747, emphasises the importance of long-term contracts, such as PPAs and two-way Contracts for Difference



(CfDs), in enabling risk hedging and providing stable investment conditions. In this respect, the Regulation is technology-neutral. In practice, however, PPA markets in the EU are currently dominated by wind and solar projects. This is due to shorter construction times, lower upfront capital requirements, and regulatory frameworks that are largely tailored to renewable generation, for example through guarantees of origin and specific support mechanisms. However, the objective of PPAs is broader: **to promote the development of clean, reliable and affordable electricity supply, while reducing the dependence on imported fossil fuels and ensuring long-term price stability.**

Nuclear is characterised by:

- very high upfront investment costs,
- long construction and depreciation periods (which are counterbalanced by its long operating life of around 60-80 years), and
- a strong need for long-term revenue stability.

Despite this, there is currently limited guidance on how PPAs can be used to support investments in nuclear, which risks constraining the technology's ability to contribute to the EU's long-term climate and security-of-supply objectives.

### **Market design and system perspective**

The recommendation also addresses challenges related to increasing price volatility and a growing number of hours with zero or negative electricity prices. These phenomena are closely linked to the rapid expansion of variable electricity generation and the lack of sufficient end-use electrification. In this context, we wish to highlight the importance of ensuring that market design also properly values:

- firm and dispatchable generation,
- long-term security of supply, and
- system services such as frequency control and voltage stability.

Nuclear contributes significantly to these system benefits, which are currently not fully reflected in electricity pricing or in the design of PPA markets.

### **Recommendations**

In light of the above, nucleareurope recommends the following:

1. The development of PPA markets should adopt the principle of technology-neutrality, in line with the intentions of the Electricity Market Regulation. They should ensure openness of PPA markets to all technologies that contribute to EU energy security, competitiveness and climate objectives. The



reference only to renewable PPA design and the lack of nuclear PPAs runs contrary to market design rules.

2. Keeping climate ambitions high sends an imperative market signal. Continued commitment to the European Green Deal and a robust post-2030 energy and climate framework is essential. Ambitious targets (such as a 90% GHG reduction by 2040 and full implementation of EU energy and transport rules) should not be seen as a cost: they send investment signals that create markets, attract capital, and drive innovation.
3. The Commission's continued work should analyse how PPAs and other long-term contractual arrangements can also be used to support investments in firm, dispatchable and clean electricity generation, including nuclear. In the context of the targets envisaged by industrial policy, namely hydrogen production or Sustainable Aviation Fuels, as well as data centres, all of which require a constant supply of clean power, the European Commission should recognise sector-specific demand for firm capacity PPAs (with physical delivery) in its guidance to Member States. In general, the specific needs of longer-dated PPAs must be more broadly recognised, with appropriate credit support instruments made available for such contracts
4. Member States should be provided with clearer guidance on how national regulatory frameworks can remove barriers to long-term contracts for technologies with long investment horizons.
5. Access should be facilitated to EU and EIB risk-mitigation tools for long-term contracts in the nuclear sector, analogous to those available for renewable PPAs. The EU Electricity Market Regulation already identifies PPA credit guarantees at EU and national level as an important tool to incentivise PPAs. Implementation of such schemes at a national level remains limited even though it can be considered a low-hanging fruit that is more easily set up. Furthermore, the Commission should explicitly include nuclear under similar EIB PPA de-risking facilities and other EU wide guarantee schemes, as is the case for renewables.
6. Contract durations of 20 years must be considered for nuclear PPAs, consistent with the debt repayment phase of nuclear power plants. Such durations would align contract terms with both the economic lifecycle of industrial off-takers and the capital repayment period required for new nuclear reactors, providing the revenue visibility and stability required to support project financing.
7. The concept of a cross border PPA is undermined by the difficulty to secure the price spread between the two countries (a spread that is even more significant as these two markets evolve differently). Although some industrial consumers may wish to source electricity from a neighbouring country to benefit from more attractive prices, they are effectively prevented from doing so. They cannot manage the associated interconnection price risks. To address this barrier, TSOs could provide long-term transmission rights (LTTRs) with corresponding maturities. The Commission should conduct an in-depth analysis of how to facilitate cross-border PPAs, which can be a means of deepening the Energy Union and facilitating decarbonization.
8. System levies and network tariffs – namely transmission and distribution charges and fees related to ancillary services – could potentially be reduced or rationalised for off-site PPAs. These additional costs, which do not apply to on-site PPAs, have the potential to increase the final electricity price and reduce contract attractiveness. Since on-site PPAs are often not feasible due to geographical,



urban planning, or technical constraints, off-site PPAs represent an essential contractual solution for industrial off-takers especially in the case of nuclear power plants.

9. The scope of the consultation currently only covers “financing new clean installations” but PPAs should also be made available to lifetime extension and refurbishment projects given that they are the fastest and most affordable way of increasing clean energy generation volumes.
10. Guarantees of Origin certificates: Many industries and data centers need 24/7 access to clean energy. Nuclear PPAs provide an excellent option in this respect, but only if EU certification exists. A technology neutral 24/7 Clean Electricity Certification system, including nuclear, should be implemented by all Member States