CLEAN AIR TASK FORCE

What is needed to unlock decarbonisation of industrial energy users with nuclear energy in Poland

Overview

In 2025, Clean Air Task Force hosted convenings and bilateral conversations with decision-makers from Poland's major industrial energy consumers, energy system planners and regulator, Ministry of Energy, and the European Commission. These discussions aimed to coalesce around the recommendations on what is needed (at national and European level) to unlock SMR deployment not only in Poland but also the wider Central and Eastern European region. The initiative was formed with the intention of increasing the momentum towards technology neutrality within the EU and national frameworks to accelerate industrial decarbonisation. **This document is a synthesis of recommendations based on the views and perspectives of the participating stakeholders.**

From the Polish State

MUST HAVES

1. High-level, durable political support – acknowledging SMRs as a strategic priority in national energy strategies

2. The Polish state should maintain flexibility and avoid prescriptive approaches to financing models, allowing project developers to choose options that best align with their organisational objectives and investor requirements. Tools under consideration include:

   - Flexible Contract for Difference (CfDs): A model with a strike price that can be adjusted during construction and operation to account for cost escalation for first 1-5 units of a specific design.
   - Power Purchase Agreements (PPAs): With potential state-backed guarantees to ensure bankability.

3. Ensure national coordination of SMR deployment in Poland. The following functions could be delivered by either public or private entities:

   - Technology down-selection aiming to deploy multiple units (e.g. 5-15) of the same design to capitalise on learning and send a strong signal to supply chains
   - Demand aggregation through buyers' clubs and industrial hubs
   - Providing energy as a service for industrial and other consumers who are not equipped to invest in or own generation assets

4. Establish a workforce development framework that recognises the staffing requirements arising from SMR deployment.

   - Begin planning, developing, and implementing programmes alongside financing, regulatory, and policy phases of SMR development to ensure the workforce is ready for the deployment and operational phase.

5. Anticipate and proactively address the permitting and regulatory challenges at national level that are associated with deploying SMRs on industrial sites, adjust policy regimes accordingly, and explore the opportunities offered by the Net-Zero Industrial Act (NZIA – EU manufacturing regulation) legislation in this respect. This includes:

   - Set clear, consistent guidelines for siting, licensing, and operating SMRs near industrial sites. Conduct regulatory impact assessments to spot and address bottlenecks in permitting. Streamline and align permitting procedures across jurisdictions and regulators, and consider how NZIA strategic projects can contribute.
   - Clarify regulations on nuclear safety, security, and environmental impact; promote and encourage collaboration between regulators, industry, and stakeholders to share information and best practices; and consider using NZIA regulatory sandboxes.
   - Create policies and incentives—such as tax credits, grants, or other support—to promote SMR deployment at industrial sites, considering NZIA Valleys and Acceleration Areas.

NICE TO HAVE

6. Reform regulatory processes to facilitate direct line connections, allowing for smoother and simpler direct connections between a generator and large industrial users.

7. Clarify the legal status of nuclear heat to define and integrate "nuclear heat" into the national energy system. Integrate heat and power regulations at the national level – to simplify and enable use of nuclear heat for district heating applications.

8. Offer state grants/loans for project development (e.g., public assistance for site preparation/ pre-FID costs)

From the EU

MUST HAVES

1. Project development and deployment funding from existing EU funds and upcoming MFF 2028-34 (e.g., Innovation Fund, Just Transition Fund or EU Competitiveness Fund)
2. State Aid process should be relaxed (in a way similar to renewables technologies) or accelerated, standardised and time bound to avoid additional uncertainty and blocking private investment
3. Recognition of the contribution of nuclear technology under the EU level decarbonisation goals
4. Do not limit low-carbon and low-emissions options in relevant EU policies (e.g., RFNBO, Electricity Market Directive)

NICE TO HAVE

5. Explore the option of European Investment Bank (EIB) providing default guarantees for Power Purchase Agreements (PPAs) for project derisking
6. Voluntary framework for multi–member state regulatory alignment
7. Increased EURATOM funding for R&D
8. Electricity market reform: nuclear energy technologies should be fairly valued for additional attributes such as reliability and dispatchability
9. Use inclusive language e.g., 'decarbonised' or 'low–carbon' energy in future EU regulations

Beyond the above, multiple opportunities exist to draw on synergies across the Central and Eastern Europe (CEE) region:

- The pilot SMR project licensed in a first willing country could serve as a nucleus for learning, trust-building, and proof-of-concept. A coordinated approach within the CEE region with orderbook on reproduction of the successful pilot project will be key.
- Invest in supply chain and industrial capabilities so that CEE countries capture part of the downstream value in manufacturing, maintenance, or component supply.
- Pursue joint procurement/coordinated demand across multiple CEE countries to overcome fragmentation and improve economies of scale.

Glossary:

FOAK – First-of-A-Kind
FFOAK – First-Few-of-a-Kind
FID – Final Investment Decision
CfD – Contract for Difference
SMR – Small Modular Reactor