FORATOM
THE VOICE OF THE EUROPEAN NUCLEAR INDUSTRY

THE BREXIT IMPACT ON NUCLEAR ENERGY

To avoid disruption across the whole nuclear fuel cycle, the EU should work closely with the UK Government to

- Establish a new Nuclear Agreement with the UK as soon as possible, and arrangements for free trade in the nuclear sector
- Continue co-operation and collaboration on nuclear policy and regulation (including safety)
- Implement a transition period to minimise any disruption to the civil nuclear sector activities across the EU
- Allow for the free movement of nuclear skills to and from the UK
- Negotiate a new agreement that would allow the UK to continue to be involved in the Euratom R&D programmes
- Confirm validity of contracts already approved by the EC and the Euratom Supply Agency for the supply of nuclear materials between EU suppliers and the UK.

NUCLEAR INDUSTRY IN NUMBERS

Accounts for **27%** of electricity in the EU

Almost **50%** of low-carbon electricity

Supports around **800.000** jobs

Turnover of **70bn** per year

Introduction

The UK government has decided to leave the European Union and the European Atomic Energy Community (Euratom) as part of the Brexit process. This paper outlines the potential impact of this decision on the nuclear industry in the EU Member States.

The paper concludes that, to avoid disruption across the whole nuclear fuel cycle, the European Union should work closely with the UK Government to ensure that appropriate arrangements are in place. FORATOM welcomes that Euratom issues are well identified in the first phase of the negotiation. Given the relatively short timescale before the UK is scheduled to formally leave the EU and Euratom, FORATOM calls for a rapid start of the negotiation on the next arrangements and – as appropriate – on necessary transition arrangements which should be decided at an early stage to provide legal certainty to the industry.

The European nuclear industry is a strategic sector for the European economy with a turnover of €70bn per year supporting around 800.000 jobs. Nuclear energy accounts for 27.5% of electricity in the European Union and almost half of its low-CO2 electricity, and is an indispensable contributor to its energy and climate goals. Providing large scale reliable low carbon baseload electricity, it makes a major contribution to the EU's security of supply and reaching the targets set by the COP 21 climate conference held in Paris, 2015.

Background

Euratom has been a mutually beneficial agreement for all of the EU Member States (MSs) since it was established in 1957 by Belgium, France, Germany, Italy, Luxembourg and the Netherlands.

Since its creation, Euratom has established a common market within the EU for nuclear goods, services and workers, promoted research and development, encouraged trade with key nuclear markets outside of the EU through a number of Nuclear Co-operation Agreements (NCAs), and created a European-wide safeguards regime. The nuclear industry across the EU has benefitted from these arrangements.

Given the international nature of the industry the European nuclear market would be significantly affected by any cliff edge to the Euratom arrangements after the UK's withdrawal. The following paragraphs outline a number of steps to take to ensure that this cliff edge is avoided.

Safeguarding

Safeguarding is primarily an issue for the UK Government, which is seeking a new Safeguarding agreement (Voluntary Offer Agreement) that will need to be agreed by the International Atomic Energy Agency (IAEA) before its membership of Euratom ceases.

However, it is clearly in the wider strategic interests of all parties that an appropriate safeguard regime continues to operate in the UK. **To facilitate this, there will need to be a degree of discussion and co-operation between the EU, UK and IAEA to ensure a smooth transition to new UK Safeguarding arrangements. The EU should ensure that this work happens in a timely manner.**

Without a new Safeguarding arrangement, an NCA between the EU and the UK or other similar arrangement will not be possible and normal nuclear business and supply chains will inevitably be disrupted.

Nuclear Agreement with the UK

The UK is a key nuclear market for the European nuclear industry and it is important, to protect its business interests, that the EURATOM agrees an NCA or other similar nuclear arrangement with the UK before it becomes a third country. What is more, it will be important that the European nuclear industry's interest be well preserved in the general EU trade and investments arrangements with the UK. Maintaining a privileged market access to the UK market for the European nuclear industry is necessary to give a competitive edge to EU nuclear sector.

There are significant supply chain opportunities for European companies across the value chain:

- The UK has a new build programme underway which could be worth more than EUR 68bn. At Hinkley Point C (HPC), the first of the UK's nuclear projects, a third of the construction value is expected to come from the EU27, over EUR 5bn worth of contacts have already been signed with companies based in the EU27 and the value will inevitably rise even further. Large industrial projects are also platforms for European companies to make strategic partnerships with global nuclear companies, providing a route to other markets worldwide.
- While the UK has full front-end fuel cycle capabilities, other European companies will contribute to supporting the secure supply of front-end fuel cycle services (uranium, enrichment, fuel fabrication) to the UK nuclear fleet, including HPC.
- The UK already has an annual decommissioning budget of more than EUR 3.4bn, and the country's nuclear decommissioning programme and expenditure will expand significantly from the mid 2020's as the existing nuclear generation fleet starts to close.
- In operating and maintaining the UK's existing nuclear fleet, EDF Energy spends over EUR 43m with EU27 countries and this excludes the significant spend on fuel and associated components, currently sourced from a global supply chain including EU27 suppliers.

In addition, the success of the UK nuclear new build programme and particularly the first project HPC, is of broader strategic importance for the EU nuclear sector following the delivery challenges at Flamanville in France and Olkiluoto in Finland. It is a European project that will provide a strong platform (e.g. skills, expertise, experience, programme management) for the further nuclear new build to be delivered across the EU as part of required energy transition to deliver the low carbon generation mix, decarbonisation and security of supply objectives.

Continued close cooperation and sharing of knowledge, experience, expertise and R&D (see later) will also be important for Europe if it is to maintain its position as a global leader in the nuclear industry, particularly faced with increased competitive pressure from the rest of the world.

Given the importance of the UK market for the European nuclear industry and associated EU27 industries and to ensure continued access to supply chain opportunities, the EU should conclude a Nuclear Co-operation Agreement before the UK formally leaves Euratom.

Export Controls

The main legal basis for controls on dual-use goods within the European Union is the EU Dual-Use Regulation, with the process for obtaining a licence for movements of nuclear fuel and components/systems/technology/information (Category 0 items) between member states being a relatively straightforward process (i.e. Government to Government assurances allowing Governments to sign the licence on behalf of the counterparty).

In view of the international nature of the nuclear industry it is important for both the EU and UK that the existing arrangements are preserved and trade is not hindered post Brexit. They should therefore negotiate a similar arrangement to that which exists currently to facilitate efficient ongoing trade and cooperation between the UK and EU member states.

Access to Skills

A key benefit of the current Euratom arrangements is the provision for the free movement of nuclear industry workers. This allows nuclear workers in the EU to work in the UK, and UK nuclear workers to work in the EU. The global nature of the industry and shortage of specialist skills means this has been a reciprocal benefit for the UK and the EU.

Whilst the UK government's broader Brexit position assumes an end to free movement and the UK leaving the single market, continuance of the current close cooperation and knowledge sharing within the European nuclear industry is crucial to its long-term success both in the UK and the EU. In view of the UK's comprehensive new build and decommissioning programmes, ease of travel for European nuclear skills will be important if companies based in the EU27 are to maintain their competitive advantage.

Against this background it is important that the EU works closely with the UK to ensure continued free movement of nuclear workers.

Research & Development (R&D)

Once the UK has left Euratom it will no longer be entitled to participate in the Euratom Research and Training Programme complementing the Horizon 2020 Framework Programme but given the importance of its contribution, it is vital a relationship is maintained. The UK has been an important member of this Euratom programme and its valuable work on the JET, ITER and wider projects can contribute to the future success of these projects. For example, the EU's nuclear fusion test reactor, the Joint European Torus (JET) is based in Oxfordshire at the Culham Centre for Fusion Energy.

The UK and the EU benefit equally from shared access to facilities, material, people and data which are essential for developing cutting edge technology and innovation. The UK has a strong science base and track record of valued EU and international collaboration and contribution, and it is important to ensure the world class expertise and cooperation between the UK and the EU is not damaged nor decades of progress put at risk.

The EU should work closely with the UK Government to put in place agreements to ensure EU and international collaboration in R&D continues. This should include any necessary transition arrangements. The cost to the UK for this continuing involvement could be calculated on the basis of the UK's current budget submission.

Maintain UK engagement in the development of EU nuclear policy & regulation

The UK has a robust safety regime implemented by its independent Office for Nuclear Regulation, and its decision to leave Euratom will not result in the industry being less safe. Similarly, safety standards in the Euratom Community will not be impacted by the UK's withdrawal. The basic safety standards required under the Euratom Treaty are ultimately derived from the international standards under the auspices of the IAEA which will continue to apply in the UK and EU27 once the UK has left the Euratom Community.

However, the international nature of the nuclear sector means that going forward close co-operation and collaboration on safety and other regulatory matters is vital. The industry faces significant challenges and opportunities in the years ahead.

The EU and the UK should strive to continue to work closely together on nuclear policy and regulatory issues. In particular there needs to be continued UK engagement on safety and regulation issues via WENRA and ENSREG (if at all possible), and on broader policy issues via a new UK-Euratom consultative body.

Ownership of Material and Supply Contracts

With the aim of ensuring all EU members have access to them the Euratom Treaty includes special provisions granting ownership of all special fissile material within the EU to the Euratom Community. The Euratom Supply Agency (ESA) has legal option over such materials produced in member states, and an exclusive right to conclude contracts relating to the supply of such materials, whether coming from inside or outside the EU. The Treaty also provides that exports of special fissile materials outside of the EU require a European Commission decision.

To avoid any disruption to the European nuclear industry it is important that the ownership of the special fissile materials within the UK is clarified. The EU's position paper indicates title will pass to those with the right to use the material, unless they are a member of Euratom (in which case title will remain with the ESA).

The negotiations must also promptly clarify the rules applicable to existing fuel supply contracts between the current EU 27 and UK companies. It is clear that new contracts signed after the UK exits Euratom will require a Commission decision, but there is an expectation within the supply chain community (EU-27 / UK customers and suppliers) that all existing contracts already approved/concurred will not require any further ESA/Commission approvals (i.e. including approved contracts that will now be delivered after the UK exits Euratom)

With a view to avoiding significant legal and commercial uncertainty across the nuclear supply chain, it should be made clear that existing contracts for the supply of nuclear material between operators in the UK and Euratom will remain valid and not require any further approvals.

Recommendations

To avoid disruption to the European nuclear industry **it is important to:**

1. **ensure a smooth transition from the current Euratom safeguards arrangement to a new UK regime**
2. **establish a new Nuclear Agreement with the UK as soon as possible, and arrangements for free trade in the nuclear sector**
3. **allow for the free movement of nuclear skills to and from the UK**
4. **negotiate a new agreement that would allow the UK to continue to be involved in the Euratom R&D programmes**
5. **continue co-operation and collaboration on nuclear policy and regulation (including safety)**
6. **confirm validity of contracts already approved by the EC and the Euratom Supply Agency for the supply of nuclear materials between EU suppliers and the UK.**
7. **implement a transition period to minimise any disruption to the civil nuclear sector activities across the EU**

Yves Desbazeille takes up reins as FORATOM Director General

In August, Yves Desbazeille became the new Director General of FORATOM. Over the last five years he has been representing the energy interests of EDF at EU level. This has provided him with an in-depth knowledge of the EU institutions and Brussels' stakeholders and of the energy and climate stakes for Europe. Prior to that Yves has been involved in different businesses and responsibilities at EDF including nuclear engineering, hydro and thermal power projects in France, the USA and Asia.

About us

The European Atomic Forum (FORATOM) is the Brussels-based trade association for the nuclear energy industry in Europe. The membership of FORATOM is made up of 15 national nuclear associations and through these associations, FORATOM represents nearly 800 European companies working in the industry and supporting around 800,000 jobs.

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