



# Library Note

## Leaving the European Union: Euratom

The European Atomic Energy Community (Euratom) was established alongside the European Economic Community (EEC) in the 1950s. The UK became a member of both on 1 January 1973. Euratom is a distinct legal entity from the European Union, but the two bodies have a shared institutional framework.

Euratom was founded to contribute to the formation and development of Europe's nuclear industries, to guarantee high safety standards and to prevent nuclear materials intended principally for civilian use from being diverted to military use. It provides the basis for the regulation of civilian nuclear activity, implements a system of safeguards to control the use of nuclear materials, controls the supply of fissile materials within EU member states and funds research into nuclear fission and nuclear fusion. Euratom has signed a number of international agreements with third countries on nuclear research (both fission and fusion), the peaceful use of nuclear energy and nuclear safety.

The Government introduced the [European Union \(Notification of Withdrawal\) Bill](#) in the House of Commons on 26 January 2017. The Bill would give the Prime Minister power to notify the European Council of the UK's intention to withdraw from the European Union, under the procedure set out in Article 50 of the Treaty on European Union. The Explanatory Notes prepared by the Department for Exiting the European Union state that the Bill would also provide for the UK to leave Euratom, although Euratom is not mentioned in the Bill itself. The Government's position is that the way in which Euratom and the EU are uniquely legally joined means that triggering Article 50 also entails giving notice to leave Euratom. This is disputed by some lawyers, who argue that the nexus between the Treaty on European Union and the Euratom Treaty creates a parallel but separate process for leaving Euratom.

An amendment that would have preserved the UK's membership of Euratom was defeated at the Bill's committee stage in the House of Commons. Similar amendments have been tabled for the committee stage in the House of Lords which is scheduled to take place on 27 February and 1 March 2017.

Concerns have been expressed about the implications of leaving Euratom for the future of the nuclear industry and nuclear research in the UK—particularly the Joint European Torus (JET), a European Commission-funded nuclear fusion experimental facility located at the Culham Centre for Fusion Energy in Oxfordshire—as well as the UK's future nuclear cooperation with other countries. The Government has stated that the UK's future relationship with Euratom will be a matter for the Brexit negotiations, but that leaving Euratom does not affect the Government's aim of seeking to maintain close and effective arrangements for civil nuclear cooperation, safeguards, safety and trade with European and international partners.

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## I. What is Euratom?

### I.1 Foundation of Euratom

The European Atomic Energy Community, better known as Euratom, was established alongside the European Economic Community (EEC) in the 1950s. The Treaty Establishing the European Economic Community and the Treaty Establishing the European Atomic Energy Community, known collectively as the Treaties of Rome, were signed in March 1957 and came into force on 1 January 1958.<sup>1</sup> The six founding states—Belgium, France, Germany, Italy, Luxembourg and the Netherlands—looked to nuclear energy as a means of tackling the general shortage of conventional energy in the 1950s.<sup>2</sup> Joining together to form Euratom was intended to allow these states to invest jointly in the costs of developing nuclear energy.

The Brussels Treaty of 1965, also known as the ‘Merger Treaty’, brought together the institutions of the EEC and Euratom, as well as those of the third European Community, the European Coal and Steel Community (ECSC), which had been established by the Treaty of Paris in 1951. The three Councils of Ministers (EEC, ECSC and Euratom) were replaced with a single Council, and the Commissions of the EEC and Euratom and the High Authority of the ECSC were replaced with a single Commission.<sup>3</sup> The administrative merger was supplemented by the institution of a single operative budget. From then on, the three communities shared the same institutions and had the same membership, although they remained legally distinct.<sup>4</sup>

The UK became a member of both the EEC and Euratom on 1 January 1973. A single accession treaty, signed in 1972, covered its entry to both communities.<sup>5</sup>

Euratom has remained legally distinct despite subsequent changes to the EEC and the ECSC. Following the Maastricht Treaty of 1992, the European Community (EC) formally replaced the EEC, and the EC became one of the three pillars of the European Union. The ECSC Treaty expired in 2002, fifty years after it came into force.<sup>6</sup> Its functions and powers were absorbed by the EU.<sup>7</sup> Today, Euratom is governed by the EU’s institutions, but it retains its own separate legal personality.<sup>8</sup>

### I.2 What Does Euratom Do?

#### Treaty Objectives and Tasks

Eur-Lex, the EU’s legal database, summarises the general objective of the Euratom Treaty as:

[...] to contribute to the formation and development of Europe’s nuclear industries, so that all the member states can benefit from the development of atomic energy, and to ensure security of supply. At the same time the Treaty guarantees high safety standards for the public and prevents nuclear materials intended principally for civilian use from

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<sup>1</sup> Eur-Lex, ‘[Treaty Establishing the European Atomic Energy Community \(Euratom\)](#)’, accessed 21 February 2017.

<sup>2</sup> *ibid.*

<sup>3</sup> Eur-Lex, ‘[Treaty Establishing the European Coal and Steel Community, ECSC Treaty](#)’, accessed 21 February 2017.

<sup>4</sup> House of Commons Library, [The European Union: A Guide to Terminology, Procedures and Sources](#), 19 April 2016, p 6.

<sup>5</sup> [Treaty of Accession of Denmark, Ireland and the United Kingdom, 1972](#).

<sup>6</sup> Eur-Lex, ‘[Treaty Establishing the European Coal and Steel Community, ECSC Treaty](#)’, accessed 21 February 2017.

<sup>7</sup> *ibid.*; and BBC News, ‘[The European Coal and Steel Community Turns 60](#)’, 10 August 2012.

<sup>8</sup> Eur-Lex, ‘[Treaty Establishing the European Atomic Energy Community \(Euratom\)](#)’, accessed 21 February 2017; and European Commission, ‘[Nuclear Energy](#)’, accessed 21 February 2017.

being diverted to military use. It is important to note that Euratom's powers are limited to peaceful civil uses of nuclear energy.<sup>9</sup>

Article 2 of the Euratom Treaty sets out the following tasks for Euratom:

- a) Promote research and ensure the dissemination of technical information.
- b) Establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied.
- c) Facilitate investment and ensure, particularly by encouraging ventures on the part of undertakings, the establishment of the basic installations necessary for the development of nuclear energy in the Community.
- d) Ensure that all users in the Community receive a regular and equitable supply of ores and nuclear fuels.
- e) Make certain, by appropriate supervision, that nuclear materials are not diverted to purposes other than those for which they are intended.
- f) Exercise the right of ownership conferred upon it with respect to special fissile materials.
- g) Ensure wide commercial outlets and access to the best technical facilities by the creation of a common market in specialised materials and equipment, by the free movement of capital for investment in the field of nuclear energy and by freedom of employment for specialists within the Community.
- h) Establish with other countries and international organisations such relations as will foster progress in the peaceful uses of nuclear energy.

## Nuclear Safety

Euratom provides the basis for the regulation of the safety of civilian nuclear activity (eg power generation, research and medical use), the management of radioactive waste and the decommissioning of nuclear power plants, and radiation protection measures.<sup>10</sup> Examples of relevant legislative measures include:

- Nuclear Safety Directive ([Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations](#)).
- Directive for the Management of Radioactive Waste and Spent Fuel ([Council Directive 2011/70/Euratom of 19 July 2011](#)).
- Basic Safety Standards Directive ([Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation](#)).

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<sup>9</sup> Eur-Lex, '[Treaty Establishing the European Atomic Energy Community \(Euratom\)](#)', accessed 21 February 2017.

<sup>10</sup> European Commission, '[Nuclear Energy](#)', accessed 21 February 2017.

## Nuclear Safeguards

The Euratom Treaty established a nuclear material control system, known as Euratom Safeguards, to ensure that fissile nuclear materials (plutonium, uranium and thorium) are not diverted from their intended use as declared by the users.<sup>11</sup> Legitimate users range from uranium enrichment, fuel fabrication, nuclear power generation and reprocessing plants to holders of small stocks of materials in industry, research or medicine. The European Commission has described the Euratom Safeguards as follows:

Euratom Safeguards in the European Union have two main objectives: ensuring that nuclear material is not diverted from its intended use as declared by the users, and guaranteeing that the Community complies with its international obligations concerning the supply and use of nuclear materials, including the non-proliferation of nuclear weapons.

The Euratom Treaty obliges operators of nuclear installations to supply the European Commission regularly with detailed information about their installations and the nuclear material in their possession.

The Commission has wide-ranging powers to apply nuclear safeguards. It can, for instance, send inspectors to all the places in the EU where declared nuclear materials are located. In case of infringements, the EU can impose sanctions directly on the users of nuclear materials.<sup>12</sup>

## Nuclear Fuel Supply Security

The Euratom Supply Agency (ESA) controls the supply of fissile materials within EU member states. ESA has described its mandate and core activities as follows:

Article 52 of the Treaty established ESA to ensure a regular and equitable supply of nuclear fuels to EU users in line with the objectives of Article 2(d). To this end, ESA applies a supply policy based on the principle of equal access of all users to ores and nuclear fuel. It focuses on improving the security of supply to users located in the EU and shares responsibility for the viability of the EU nuclear industry. In particular, it recommends that Euratom utilities operating NPPs [nuclear power plants] maintain stocks of nuclear materials and cover their requirements by entering into long-term contracts that diversify their sources of supply in order to prevent excessive dependence of EU users on any single, third-country supply source. Diversification should cover all stages of the fuel cycle, from mining to fuel fabrication.

ESA's mandate is, therefore, to exercise its powers and, as required by its statutes, to monitor the market in order to make sure that the activities of individual users reflect the values set out above.

The Euratom Treaty requires ESA to be a party to supply contracts for nuclear material whenever one of the contracting parties is an EU utility, an operator of a research reactor in the EU, or an EU producer selling nuclear material. When concluding supply contracts, ESA implements the EU supply policy for nuclear materials. ESA also has a right of option on nuclear materials produced in the Member States.

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<sup>11</sup> European Commission, [Nuclear Safeguards](#), October 2014, p 3.

<sup>12</sup> *ibid.*

Under the Euratom Treaty, ESA also monitors transactions involving services in the nuclear fuel cycle (conversion, enrichment and fuel fabrication). Operators are required to submit notifications giving details of their commitments. ESA verifies compliance with the upstream contract and acknowledges these notifications.<sup>13</sup>

## Nuclear Research

The provisions of the Euratom Treaty enable multi-annual research framework programmes to be funded from the EU budget.<sup>14</sup> The current Euratom Research and Training Programme is part of Horizon 2020, an EU framework programme which has nearly €80 billion available over the period 2014–20 to fund research and innovation.<sup>15</sup> Although Horizon 2020 covers a seven-year period, Euratom programmes are limited by the Euratom Treaty to five years, so the Euratom programme covers the period 2014–18.<sup>16</sup> The Euratom Programme has a budget of €1.6 billion (in 2013 prices) to fund nuclear research and training activities:

- Fusion energy research (€728 million).
- Research on nuclear fission, safety and radiation protection (€316 million).
- Activities of the Joint Research Centre (JRC) in the field of nuclear waste management, environmental impact, safety and security (€560 million).<sup>17</sup>

Switzerland and Ukraine (non EU/Euratom member states) are associated countries under the Euratom Programme and can participate and apply for funding under the same conditions as EU member states.<sup>18</sup>

From this funding, the Euratom Programme provides €424 million to EUROFusion to manage and fund European fusion research activities on behalf of Euratom.<sup>19</sup> EUROFusion is a research consortium of representatives established in 2014 from 26 EU member states (excluding Luxembourg and Malta), Switzerland and Ukraine.<sup>20</sup> Member states provide a similar level of funding to EUROFusion, giving it an overall budget of €850 million for the period 2014–18.<sup>21</sup> All EUROFusion research activities are based on the [Roadmap to the Realisation of Fusion Energy](#), published in 2012, which set out a research roadmap for supplying fusion electricity to the grid by 2050.<sup>22</sup>

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<sup>13</sup> European Commission, [Euratom Supply Agency Annual Report 2015](#), 2016, p 13.

<sup>14</sup> European Commission, [‘Euratom Energy: What We Do’](#), accessed 21 February 2017.

<sup>15</sup> European Commission, [‘What is Horizon 2020?’](#), accessed 21 February 2017.

<sup>16</sup> Council of the European Union, [Euratom Programme for Nuclear Research \(2014 to 2018\)](#), 16 December 2013, 17898/13.

<sup>17</sup> *ibid*; and Council of the European Union, [‘Council Regulation on the Research and Training Programme of the European Atomic Energy Community \(2014–2018\) and Complementing the Horizon 2020 Framework Programme for Research and Innovation’](#), 9 December 2013, 16463/13. The Joint Research Centre is the European Commission’s science and knowledge service. Its headquarters are in Brussels and it hosts specialist laboratories and research facilities in Geel (Belgium), Ispra (Italy), Karlsruhe (Germany), Petten (Netherlands) and Seville (Spain) (European Commission, [‘JRC in Brief’](#), 18 July 2016).

<sup>18</sup> European Commission, [‘Research and Innovation: Participant Portal H2020 Online Manual’](#), accessed 21 February 2017.

<sup>19</sup> EUROFusion, [‘Budget’](#), accessed 21 February 2017.

<sup>20</sup> EUROFusion, [‘EUROFusion’](#), accessed 21 February 2017. Ukraine joined the consortium as of 1 January 2017.

<sup>21</sup> EUROFusion, [‘Budget’](#), accessed 21 February 2017.

<sup>22</sup> EUROFusion, [‘The Road to Fusion Electricity’](#), accessed 21 February 2017.

The EUROfusion programme has two main aims:<sup>23</sup>

- **Preparing for ITER experiments:** ITER is a project to build the world's largest 'tokamak', a magnetic fusion device designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers the sun and stars.<sup>24</sup> The ITER agreement was signed in 2006 by China, the EU, India, Japan, South Korea, Russia and the US, and building of the tokamak has been underway in France since 2010. The official start of ITER operation is scheduled for December 2025.<sup>25</sup>
- **Developing concepts for DEMO:** DEMO is a demonstration fusion power reactor planned to follow ITER by 2050.<sup>26</sup>

### International Agreements

Euratom has signed international bilateral agreements on nuclear fission research and development cooperation, as well as agreements on the peaceful use of nuclear energy and nuclear safety, with a number of countries, as shown below.<sup>27</sup>

Country	Date in Force	Comment
Argentina	1997	Peaceful uses
Australia	1982	Nuclear materials
Canada	1959 1998	Peaceful uses Nuclear research
China	2008	Research and development in peaceful uses
Japan	2006	Peaceful uses
Kazakhstan	2003 2009	Nuclear safety Peaceful uses
Russia	2002	Nuclear safety
South Africa	Signed July 2013	Peaceful uses
Ukraine	2002 2006	Nuclear safety Peaceful uses
USA (Department of Energy)	1996 2003	Peaceful uses Nuclear research
USA (Nuclear Regulatory Commission)	1999	Nuclear safety research

(Source: European Commission, '[Legal Pillars and Instruments](#)', accessed 22 February 2017; and European External Action Service, '[Treaties Office Database](#)', accessed 20 February 2017)

In addition to the multilateral ITER agreement, Euratom has also signed bilateral cooperation agreements on nuclear fusion research with all ITER partners, except China, and with a number of other countries, as shown below.<sup>28</sup>

<sup>23</sup> EUROfusion, '[Preparing for ITER and Developing DEMO](#)', accessed 21 February 2017.

<sup>24</sup> ITER, '[What Is ITER?](#)', accessed 21 February 2017.

<sup>25</sup> ITER, '[When Will ITER Be Operational?](#)', accessed 21 February 2017.

<sup>26</sup> EUROfusion, '[Preparing for ITER and Developing DEMO](#)', accessed 21 February 2017.

<sup>27</sup> European Commission, '[International Cooperation](#)', accessed 22 February 2017.

<sup>28</sup> *ibid.*

Country	Date in Force	Comment
Brazil	Signed Nov 2009	
China	Under negotiation	
India	Signed Nov 2009	
Japan	1988 2007	The Broader Approach Agreement signed in 2007 covers three large research projects supporting the ITER project. The projects are to be jointly implemented by Euratom and Japan; other members of the ITER consortium may participate with the agreement of Euratom and Japan.
Kazakhstan	2004	
Russia	2002	
South Korea	2006	
Switzerland	1979 (amended 1982)	
Ukraine	2002	
USA (Department of Energy)	2001	

(Source: European Commission, '[Legal Pillars and Instruments](#)', accessed 22 February 2017; European External Action Service, '[Treaties Office Database](#)', accessed 20 February 2017; and European Commission, '[The Broader Approach](#)', 9 March 2010)

### 1.3 UK Participation

Until ITER becomes operational, the world's largest tokamak is the Joint European Torus (JET) which is located at the Culham Centre for Fusion Energy (CCFE) in Oxfordshire.<sup>29</sup> The CCFE is the UK's national laboratory for fusion research, and is owned and operated by the UK Atomic Energy Authority (UKAEA).<sup>30</sup> The EUROfusion consortium describes JET as "the only operational fusion experiment capable of producing fusion energy", and notes that "the experimental results and design studies performed by JET are consolidated to a large extent into the ITER design".<sup>31</sup> Operation of the JET facilities is provided as an in-kind contribution to the EUROfusion consortium via a contract between the European Commission and the CCFE.<sup>32</sup> Signed in July 2014, the contract is worth €283 million and is set to run until 2018.<sup>33</sup> The JET facilities are collectively used by European fusion scientists from more than 40 laboratories, coordinated by a programme management unit at Culham.<sup>34</sup> Around 500 people are employed at the JET facilities, with around 350 European scientists visiting each year to conduct research, and many from outside Europe. According to the *Financial Times*, JET would cost around £289 million to decommission.<sup>35</sup>

<sup>29</sup> EUROfusion, '[JET](#)', accessed 22 February 2017.

<sup>30</sup> Culham Centre for Fusion Energy, '[About Us](#)', accessed 22 February 2017.

<sup>31</sup> EUROfusion, '[JET](#)', accessed 22 February 2017.

<sup>32</sup> *ibid.*

<sup>33</sup> EUROfusion, '[Budget](#)', accessed 21 February 2017.

<sup>34</sup> EUROfusion, '[JET](#)', accessed 22 February 2017; and Culham Centre for Fusion Energy, '[About Us](#)', accessed 22 February 2017.

<sup>35</sup> Alex Barker, Arthur Beesley and Andrew Ward, '[UK Confirms It Will Leave European Atomic Energy Community](#)' (£), *Financial Times*, 26 January 2017.

The CCFE also runs the UK's fusion research programme, which is centred on the Mega Amp Spherical Tokamak (MAST) experiment.<sup>36</sup> The programme is funded by the Engineering and Physical Sciences Research Council and Euratom. It employs around 150 people.

According to the European Commission Community Research and Development Information Service (CORDIS) database, the UK is currently involved in twelve projects that have been awarded funding under the Euratom Programme linked to Horizon 2020.

Project	Project End Date	Coordinating Country	European Commission Funding
<b>EUROFusion:</b> Implementation of activities described in the Roadmap to Fusion during Horizon 2020 through a joint programme of the members of the EUROFusion consortium	31 December 2018	Germany	€425 million
<b>IMVR:</b> In-Vessel Melt Retention severe accident management strategy for existing and future nuclear power plants	31 May 2019	France	€4.8 million
<b>MIND:</b> Development of the safety case knowledge base about the influence of microbial processes on geological disposal of radioactive wastes	31 May 2019	Sweden	€4.2 million
<b>CONCERT:</b> European Joint Programme for the integration of radiation protection research	31 May 2020	Germany	€19.8 million
<b>Modern 2020:</b> Development and demonstration of monitoring strategies and technologies for geological disposal	31 May 2019	France	€6.0 million
<b>Cebama:</b> Cement-based materials, properties, evolution, barrier function	31 May 2019	Germany	€3.9 million
<b>SOTERIA:</b> Safe long-term operation of light water reactors based on improved understanding of radiation effects in nuclear structural methods	31 August 2019	France	€5.0 million
<b>JOPRAD:</b> Towards a joint programming on radioactive waste disposal	30 November 2017	France	€1.1 million
<b>HoNEST:</b> History of Nuclear Energy and Society	31 August 2018	Spain	€3.1 million
<b>ANNETTE:</b> Advanced Networking for Nuclear Education and Training and Transfer of Expertise	31 December 2019	France	€2.5 million
<b>INCEFA-PLUS:</b> Increasing safety in nuclear power plants by covering gaps in environmental fatigue assessment	30 June 2020	UK	€2.6 million
<b>ESSANUF:</b> European Supply of Safe Nuclear Fuel	31 October 2017	Sweden	€2.1 million

(Source: European Commission, [CORDIS Database](#), accessed 22 February 2017)

As of February 2016, 25 UK organisations had participated in Euratom projects under Horizon 2020, receiving funding of €32 million from the European Commission.<sup>37</sup>

<sup>36</sup> Culham Centre for Fusion Energy, '[About Us](#)', accessed 22 February 2017.

## 2. Brexit and Euratom

### 2.1 European Union (Notification of Withdrawal) Bill

The Government introduced the [European Union \(Notification of Withdrawal\) Bill](#) in the House of Commons on 26 January 2017. The Bill would give the Prime Minister power to notify the European Council of the UK's intention to withdraw from the European Union, under the procedure set out in Article 50 of the Treaty on European Union.<sup>38</sup> Although Euratom is not mentioned in the Bill itself, the Explanatory Notes prepared by the Department for Exiting the European Union state that the Bill also would also provide for the UK to leave Euratom:

The power that is provided by clause 1(1) applies to withdrawal from the EU. This includes the European Atomic Energy Community ('Euratom'), as the European Union (Amendment) Act 2008 sets out that the term 'EU' includes (as the context permits or requires) Euratom (section 3(2)).<sup>39</sup>

At the Bill's second reading in the House of Commons, David Jones, Minister of State at the Department for Exiting the European Union, argued that the common institutional framework shared by Euratom and the EU, "including the European Court of Justice, a role for the Commission and decision making in the Council" made Euratom and the EU "uniquely legally joined" and that "triggering Article 50 therefore also entails giving notice to leave Euratom".<sup>40</sup>

Steve Peers, Professor of EU Law and Human Rights Law at the University of Essex, has explained why this legal linkage in his view means that "in practice leaving Euratom is the inevitable consequence of Brexit":

The founding treaties [of Euratom and the EEC] were negotiated together, and they have always had the same membership. They shared some institutions from the outset in 1958, and all institutions from 1967, when the 'Merger Treaty' brought together the separate Councils and Commissions which the three Communities (the EEC, Euratom and the European Coal and Steel Community) had until then.

Since that point, the provisions on the institutions in the Euratom Treaty have been updated every time the corresponding rules in the EEC Treaty were amended. Those institutional rules are now split between the Treaty on the Functioning of the European Union (TFEU)—as the EEC Treaty is now called—and the Treaty on European Union (TEU). The link between the latter two treaties, which are the legal basis for the EU, and the Euratom Treaty, is now set out in Article 106a of the Euratom Treaty, which was inserted by the Treaty of Lisbon:

1. Article 7, Articles 13 to 19, Article 48(2) to (5), and Articles 49 and 50 of the Treaty on European Union, and Article 15, Articles 223 to 236, Articles 237 to 244, Article 245, Articles 246 to 270, Article 272, 273 and 274, Articles 277 to 281, Articles 285 to 304, Articles 310 to 320, Articles 322 to 325 and Articles

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<sup>37</sup> Department for Business, Innovation and Skills, '[UK Participation in Horizon 2020 and Framework Programme 7](#)', 6 April 2016.

<sup>38</sup> For further information about the Bill, see: House of Lords Library, [European Union \(Notification of Withdrawal\) Bill](#), 15 February 2017.

<sup>39</sup> [Explanatory Notes](#), p 4.

<sup>40</sup> [HC Hansard, 1 February 2017, col 1131](#).

336, 342 and 344 of the Treaty on the Functioning of the European Union, and the Protocol on Transitional Provisions, shall apply to this Treaty.

As you can see, Article 50 of the TEU applies to the Euratom Treaty. That could be interpreted one of two ways. First of all, it could mean that a member state is free to leave the EU but *not* Euratom (or the other way around), if it chooses. Article 50 is the exit route for leaving *either* body separately, or both of them together, as that member state desires. Alternatively, it could mean that if a member state wants to leave the EU, it *must* also leave Euratom.

Which view is correct? In my view, the answer is clear if Article 106a is read as a whole. For it does not only refer to Article 50 TEU, but also to ten other Articles in the TEU, and 85 Articles in the TFEU. A large number of these Articles refer to the EU institutions. For instance, Article 13 TEU describes the institutional framework as a whole; Article 14 sets out the basic rules of the European Parliament; Article 15 the European Council; Article 16 the Council; Article 17 the Commission; Article 18 the Foreign Policy High Representative; and Article 19 the EU Court. Equally, the TFEU Articles which apply to the Euratom Treaty make up most of Part Six of the TFEU (Article 223-334 of that Treaty), which is the ‘Institutional and Financial Provisions’. They go into more detail about issues like determining the number of Members of the European Parliament and the jurisdiction of the EU courts.

In practical terms, this would mean that if the UK left the EU but not Euratom, it would *still have* Members of the European Parliament, a Commissioner, a role on the Council, judges on the EU courts, and so on. From a legal perspective, it’s hard to believe this odd scenario was intended by the drafters of the Treaties; from a political perspective, this prospect would surely dismay those who voted to leave.

[...] So the best interpretation of the current law is that a member state must also leave Euratom if it wants to leave the EU.<sup>41</sup>

However, some nuclear energy lawyers disagree with this interpretation, and maintain that the nexus between the treaties creates a parallel but separate legal process for leaving Euratom. Jonathan Leech and Rupert Cowan have argued that:

The point turns on the meaning of Article 106a of the Euratom Treaty, which states that (amongst other things) Article 50 of the Treaty on European Union “shall apply to this Treaty”. Article 106a then goes on to explain how Article 50 is to work in context of Euratom—inserting references to Euratom and the Euratom Treaty in place of references to the EU and EU Treaties. Re-writing Article 50 in this way creates a similar but separate exit process.

If Euratom was to be included in a single Article 50 process then Article 106a of the Euratom Treaty would simply have added references to Euratom into Article 50, retaining references to the EU. It does not do this. Triggering exit from the EU therefore has no legal effect on the UK’s membership of Euratom.

There is no legal need for the UK to trigger a Euratom exit at the same time as leaving the EU, or at all.<sup>42</sup>

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<sup>41</sup> Professor Steve Peers, ‘[The UK Brexits Euratom: Legal Framework and Future Developments](#)’, EU Law Analysis Blog, 30 January 2017.

Leech and Cowan argue that although the European Union (Amendment) Act 2008 “makes clear that, in UK law, references to the EU include Euratom”—a statement made by the Government in its Brexit white paper and in the Explanatory Notes to the Bill—this cannot be read across to the Treaties.<sup>43</sup> Leech and Cowan maintain that the statement “overlooks the point that the 2008 Act does not apply to Article 50 of the Treaty on European Union—which is of course neither an Act nor an instrument made under an Act”. They go on to say that: “There is nothing in the 2008 Act to suggest that reference to the Treaty on European Union automatically includes reference to the Euratom Treaty”. In their view, the Government would need specific parliamentary authority to trigger exit from Euratom, and they suggest that “it would have been preferable to include separate authority for Euratom exit” on the face of the Bill.

It has been suggested by some that the Government’s intention to withdraw from Euratom has come as a surprise. Paul Blomfield, Shadow Minister for Exiting the European Union, said that the “revelation that the Bill will trigger our exit from Euratom” was “tucked away in the Explanatory Notes”.<sup>44</sup> He was “pretty confident that the British people did not vote against our leading role on nuclear energy, safety and research” and it “certainly was not on the ballot paper”. Patrick Grady (SNP MP for Glasgow North) said that “the command paper that the UK Government published in February last year on the impact of Brexit made no mention of coming out of Euratom”.<sup>45</sup> He felt that the UK was “being taken out of it without any warning”.

In July 2016, when asked whether the Government had any plans to leave the European Atomic Energy Community, Lord Bourne of Aberystwyth, then Parliamentary Under Secretary at the Department of Energy and Climate Change, said that: “The implications of the European referendum result for our membership of the European Atomic Energy Community have yet to be determined”.<sup>46</sup> In November 2016, in response to a parliamentary question about whether the Government intended to withdraw from the Euratom Treaty, Baroness Neville-Rolfe, then Minister of State at the Department for Business, Energy and Industrial Strategy, said that the Government was “assessing the legal and policy implications of the public’s vote to leave the EU”, including “assessing the implications for the UK’s membership of Euratom”.<sup>47</sup>

## 2.2 Attempts to Amend the Bill

An amendment that would have preserved the UK’s membership of Euratom was defeated at the Bill’s committee stage in the House of Commons. Labour’s new clause 192 would have made the process of leaving Euratom separate from the process of leaving the EU, and would have provided that nothing in the Bill affected the UK’s membership of Euratom. Paul Blomfield, Shadow Minister for Exiting the European Union, said he believed it would “fly in the face of common sense to throw away membership of an organisation that brings such unequivocal benefit”.<sup>48</sup> He pressed ministers to give “greater clarity on their intentions” because he said the Government had “so far been ambiguous” on their future plans for nuclear cooperation.<sup>49</sup> Mr Blomfield also declared that the Government’s “obsessional opposition” to the European

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<sup>42</sup> Jonathan Leech and Rupert Cowan, ‘[Brexit and Euratom: No Rush?](#)’, *World Nuclear News*, 20 January 2017.

<sup>43</sup> Jonathan Leech and Rupert Cowan, ‘[Brexit White Paper Confuses Euratom Debate](#)’, *World Nuclear News*, 8 February 2017.

<sup>44</sup> [HC Hansard, 8 February 2017, col 449.](#)

<sup>45</sup> [HC Hansard, 7 February 2017, col 371.](#)

<sup>46</sup> House of Lords, ‘[Written Question: Euratom](#)’, 7 July 2016, HL911.

<sup>47</sup> House of Lords, ‘[Written Question: Euratom](#)’, 2 November 2016, HL2652.

<sup>48</sup> [HC Hansard, 8 February 2017, col 449.](#)

<sup>49</sup> *ibid*, col 450.

Court of Justice was leading them to “rip up our membership of an organisation on which 21 percent of UK electricity generation relies and that supports a critical industry providing 78,000 jobs”.<sup>50</sup>

At second reading, Edward Vaizey (Conservative MP for Wantage) said that he and other MPs in neighbouring areas had been “inundated with countless emails” from workers at the Culham Centre for Fusion Energy who feared losing their jobs.<sup>51</sup> During the committee stage debate, he reminded the House that “the main research into nuclear fusion—the holy grail of sustainable energy” was taking place at Culham.<sup>52</sup> He described some of the issues that he believed would arise if the UK left Euratom:

[...] a requirement to conclude new bilateral cooperation agreements with the United States and approximately 20 other countries to maintain our access to intellectual property and nuclear technologies; removing the requirement for the UK to comply with Euratom’s safety regimes, which would prevent other countries from collaborating with us; and further potential delays and cost increases to the nuclear new build programme.<sup>53</sup>

He expressed the hope that the Government would publish a document explaining their strategy as soon as they were able to do so, and said that he had been engaging with ministers who were “putting in a great deal of energy” to “ensuring that the implications of our technical withdrawal from Euratom are minimised, and that we can restore our de facto membership in the coming months”.<sup>54</sup> James Berry (Conservative MP for Kingston and Surbiton) suggested that Euratom was “one of those organisations from which the other EU member states would have absolutely no interest in excluding the UK” and that therefore “a quick agreement” on the future relationship was “likely”.<sup>55</sup>

Kit Malthouse (Conservative MP for North West Hampshire) was less concerned about the UK leaving Euratom. He argued that it would “not affect [...] at all” bilateral cooperation with France, the only other “serious nuclear power in the EU”.<sup>56</sup> He believed that countries such as Japan, India and South Korea, with which the UK already had bilateral arrangements, were “really where innovations are happening in nuclear research”.

In response, David Jones restated the Government’s position that legally “it would not be possible for the UK to leave the EU and continue its current membership of Euratom”.<sup>57</sup> He explained that the Government’s aim for the future relationship with Euratom was “clear: to maintain the mutually successful civil nuclear cooperation with EU nations”. However, the exact relationship would be subject to negotiation, which he said could not start until Article 50 had been triggered. He promised to “continue to engage closely with MPs, industry and stakeholders”.

New clause 192 was defeated by 336 votes to 287, a majority of 49.<sup>58</sup>

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<sup>50</sup> [HC Hansard, 8 February 2017, col 450.](#)

<sup>51</sup> [HC Hansard, 31 January 2017, col 957.](#)

<sup>52</sup> [HC Hansard, 8 February 2017, col 471.](#)

<sup>53</sup> *ibid*, col 472.

<sup>54</sup> *ibid*, cols 472–3.

<sup>55</sup> *ibid*, col 493.

<sup>56</sup> *ibid*, col 485.

<sup>57</sup> *ibid*, col 523.

<sup>58</sup> [HC Hansard, 8 February 2017, cols 561–5.](#)

The Bill passed all its stages in the House of Commons, and is currently before the House of Lords. As of 21 February 2017, three amendments relating to Euratom had been tabled for the Bill's committee stage in the Lords, which is due to take place on 27 February and 1 March 2017.<sup>59</sup>

- Baroness Hayter of Kentish Town, Shadow Spokesperson for Exiting the European Union, has re-tabled the Labour new clause that was defeated in the Commons.
- Lord Teverson (Liberal Democrat), chair of the House of Lords European Union Energy and Environment Sub-Committee, has tabled an amendment which would mean that for the purposes of the Bill, the definition of the term "EU" would not include Euratom. This would mean that the power given to the Prime Minister in section 1(1) to notify the UK's intention to withdraw from the EU would not signify an intention to withdraw from Euratom. Lord Teverson said at the Bill's second reading in the House of Lords that there was "no mandate to leave Euratom". He argued that it "is not part of the EU and it seems that, as a country, we are in danger of cutting off our nose to spite our face for no reason".<sup>60</sup>
- Lord Lea of Crondall (Labour) has tabled a new clause which would require the Prime Minister, before triggering Article 50, to publish a report on the UK's intended negotiating approach towards ensuring continued cooperation with a number of European agencies, including Euratom.

### 2.3 Possible Implications of Brexit

The Government has said that "our precise relationship with Euratom, and the means by which we cooperate on nuclear matters, will be a matter for the negotiations" but has stressed that "it is an important priority for us" and that "leaving Euratom does not affect our clear aim of seeking to maintain close and effective arrangements for civil nuclear cooperation, safeguards, safety and trade with Europe and our international partners".<sup>61</sup>

With regard to maintaining current safeguarding standards, David Davis, Secretary of State for Exiting the European Union, pointed out at the Bill's second reading in the House of Commons that the UK would remain a member of the International Atomic Energy Agency:

Euratom passes to its constituent countries the regulations, rules and supervision that it inherits, as it were, from the International Atomic Energy Agency, of which we are still a member. When we come to negotiate with the European Union on this matter, if it is not possible to come to a conclusion involving some sort of relationship with Euratom, we will no doubt be able to reach one with the International Atomic Energy Agency, which is possibly the most respectable international body in the world.<sup>62</sup>

<sup>59</sup> House of Lords, [European Union \(Notification of Withdrawal\) Bill: Running List of All Amendments in Committee of the Whole House Tabled up to and Including 21 February 2017](#), 21 February 2017.

<sup>60</sup> [HL Hansard, 21 February 2017, col 206](#).

<sup>61</sup> HM Government, [The United Kingdom's Exit From and New Partnership With the European Union](#), 2 February 2017, Cm 9147, p 44.

<sup>62</sup> [HC Hansard, 31 January 2017, col 820](#).

Jesse Norman, Parliamentary Under Secretary at the Department for Business, Energy and Industrial Strategy, said that the UK “remains committed to the highest standards of nuclear safety, safeguards and support for the industry, and will aim for continuity of the cooperation and standards enjoyed under Euratom membership”.<sup>63</sup>

In August 2016, the Department for Business, Energy and Industrial Strategy announced that the Treasury would underwrite funding for approved Horizon 2020 projects applied for before the UK left the European Union, even if the specific project continued beyond the UK’s departure from the EU.<sup>64</sup> The announcement did not specifically mention the Euratom programme for funding nuclear research from 2014 to 2018, but this programme is part of the Horizon 2020 framework programme.<sup>65</sup>

The UK Atomic Energy Authority (UKAEA) released a statement on 13 February 2017 in which it said that the Government’s intention to leave Euratom had “obvious implications for UKAEA—especially the continued operation of JET after 2018 and the UK’s continued participation in ITER”.<sup>66</sup> The UKAEA said it had received the following statement from Jo Johnson, Minister of State for Universities, Science, Research and Innovation:

The research done at the Culham Centre for Fusion Energy is rightly recognised as world class and it has driven UK leadership in fusion R&D for many years. The Government has no intention of compromising this position following the decision to withdraw from the Euratom Treaty. Leaving Euratom is a result of the decision to leave the EU as they are uniquely legally joined. The UK supports Euratom, and we value international collaboration in fusion research and the UK’s key role in these efforts.

Maintaining and building on our world-leading fusion expertise and securing alternative routes into the international fusion R&D projects such as the Joint European Torus (JET) project at Culham and the ITER project in France, will be a priority.

The Government is working closely with the UKAEA management and board on ways to achieve this.<sup>67</sup>

From the European side, Professor Tony Donné, the EUROFusion Programme Manager, said that “the European fusion community is extremely interested to see a continuation of the JET programme”, and that “there is also a large interest to continue the collaboration with CCFE in other areas” such as the upgrade to the MAST device.<sup>68</sup> He promised that “from our side we will do everything possible to find ways to continue our successful collaboration and to push for an extension of JET, at least until 2020, but certainly also beyond”. He also said that EUROFusion would do its best “to find smooth and adequate solutions for the people that are affected by the UK withdrawing from Euratom”.

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<sup>63</sup> House of Commons, [‘Written Question: Euratom: Membership’](#), 20 February 2017, 63612.

<sup>64</sup> Department for Business, Energy and Industrial Strategy, [‘Safeguarding Funding for Research and Innovation’](#), 13 August 2016.

<sup>65</sup> Council of the European Union, [‘Euratom Programme for Nuclear Research \(2014 to 2018\)’](#), 16 December 2013, 17898/13.

<sup>66</sup> UK Atomic Energy Authority, [‘UK Role in Fusion Following EU Exit’](#), 13 February 2017.

<sup>67</sup> *ibid.*

<sup>68</sup> EUROFusion, [‘EUROFusion Statement on Brexatom’](#), 27 January 2017.

Bernard Bigot, Director of ITER, said that there were “several ways for the UK to pursue its participation [in] ITER within the Brexit policy, if there is political will of the UK and the EU”.<sup>69</sup> He said that this could occur “either within or outside of the Euratom arrangement”.

An article in *Nature* magazine speculated on how different possible models for the UK’s future cooperation with Euratom and might affect participation in JET and ITER:

The United Kingdom could become a Euratom ‘third country’, like the United States—which has a cooperation agreement that allows it to participate in some programmes. That status would not automatically make the United Kingdom a member of ITER, however. And although Euratom is technically able to fund projects in third countries, it would be unlikely to continue funding JET. The UK Government has not said whether it would then pick up the bill for the facility.

Alternatively, the United Kingdom could become an ‘associate country’—like Switzerland, which gained this status in 2014 and participates in ITER. Under this arrangement, Euratom would be more likely to continue funding JET.<sup>70</sup>

Tom Greatrex, Chief Executive of the Nuclear Industry Association (the trade association of the UK civil nuclear industry) and a former Labour Shadow Energy Minister, said that the UK civil nuclear industry had “made it crystal clear to the Government that our preferred position is to maintain membership of Euratom”.<sup>71</sup> However, if this was not possible, he said it was “vital” for transitional arrangements to be put in place “to give the UK time to negotiate and complete new arrangements with EU member states and third countries including the US, Japan and Canada who have Nuclear Cooperation Agreements within the Euratom framework”. He said that the UK should remain a member of Euratom until such arrangements had been put in place.

Rupert Lewis, who manages policy and communications for the Nuclear Industry Association, said that leaving Euratom would pose a number of challenges to the industry:

Trading nuclear goods, materials, people and capital will become more complicated with EU member states and the other nuclear nations [...] UK involvement in nuclear research programmes will also be up in the air, and the Office for Nuclear Regulation will require more staff to undertake the safeguarding work.<sup>72</sup>

He said that there was “no need to panic at this stage” as the UK had “at least two years to negotiate a new deal or transitional arrangements”. He predicted that “for both political and economic reasons, it makes sense for a deal to be reached” as the UK “is one of a few countries that has a new build programme, unique skills and expertise in the decommissioning market and vast experience in operations”.

There have been warnings from industry experts that leaving Euratom could delay the delivery of the new nuclear power plant, Hinkley Point C. The *Guardian* reported that:

Referring to Hinkley and other nuclear projects in the pipeline, [Dr Paul Dorfman of the Energy Institute at University College London] said: “The UK nuclear industry is

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<sup>69</sup> Adam Vaughan, ‘[Brexit Will Delay New Nuclear Power Stations, Warn Experts](#)’, *Guardian*, 27 January 2017.

<sup>70</sup> Elizabeth Gibney, ‘[Researchers Shocked at UK’s Plan to Exit EU Nuclear Agency](#)’, *Nature*, 27 January 2017.

<sup>71</sup> Nuclear Industry Association, ‘[NIA Comment on EU Withdrawal Bill](#)’, 1 February 2017.

<sup>72</sup> Rupert Lewis, ‘[Eur-Outem](#)’, Nuclear Industry Association Blog, 3 February 2017.

critically dependent on European goods and services in the nuclear supply chain and their specialist nuclear skills. Leaving Euratom will inevitably increase nuclear costs and will mean further delays”.

EDF, which is building the Hinkley project and hopes to construct other plants, has told MPs that “ideally” the UK would stay in the treaty, as it provided a framework for complying with international standards for handling nuclear material.

Without mentioning Hinkley, the French state-owned company also warned that restrictions on the movement of people because of Brexit could delay delivery of new energy infrastructure.

[...] Vince Zabielski, a nuclear energy specialist at the law firm Pillsbury Winthrop Shaw Pittman, said: “If the UK leaves Euratom before new standalone nuclear cooperation treaties are negotiated with France and the US, current new build projects will be placed on hold while those standalone treaties are negotiated”.<sup>73</sup>

Doubts have been expressed about whether the two-year negotiating period provided for in Article 50 would be sufficient to put in place new arrangements for the areas currently covered by Euratom. Lawyers Rupert Cowen and Jonathan Leech suggested that “safeguards and international relations are likely to place the greatest strain on the timetable”.<sup>74</sup> They explained that:

Of the circa 50 bilateral nuclear cooperation agreements the UK has entered into since 1956 (when the European Atomic Energy Community came into being), over 30 specifically recite and rely upon UK participation in Euratom safeguards. Without demonstrably adequate safeguards key countries will simply cease trade with the UK in nuclear materials, technology and know-how. For example, absence of a Section 123 Agreement with the USA would prevent supply of key components for both the planned Hitachi-GE ABWR and Westinghouse AP1000 reactors. Absence of a nuclear cooperation agreement with Australia would cut off a key source of uranium imports. Perhaps more crucial would be maintaining supplies of medical isotopes.

If the Government continues to assert that Euratom and EU exit timetables must align then it will have two years to:

- Design, resource and implement new UK safeguarding arrangements in line with accepted international standards;
- Replace current safeguarding commitments under the NPT [Non Proliferation Treaty] (which are also predicated on Euratom membership);
- Identify and plan negotiation of replacement nuclear cooperation agreements with every country with which the UK has ongoing nuclear trade; and

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<sup>73</sup> Adam Vaughan, [‘Brexit Will Delay New Nuclear Power Stations, Warn Experts’](#), *Guardian*, 27 January 2017.

<sup>74</sup> Jonathan Leech and Rupert Cowan, [‘Brexit White Paper Confuses Euratom Debate’](#), *World Nuclear News*, 8 February 2017.

- Ensure it has the resources to conduct all of those negotiations, and be confident that those negotiations will be concluded successfully before Euratom exit takes effect.<sup>75</sup>

Describing leaving Euratom as a “legal time bomb”, Rupert Cowen suggested it might not be possible to negotiate new agreements before 2019 (the expected date for the two-year Article 50 period to run out) as they “can take considerable time to agree and ratify”.<sup>76</sup>

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<sup>75</sup> Jonathan Leech and Rupert Cowan, [‘Brexit White Paper Confuses Euratom Debate’](#), *World Nuclear News*, 8 February 2017.

<sup>76</sup> Alex Barker, Arthur Beesley and Andrew Ward, [‘UK Confirms It Will Leave European Atomic Energy Community’](#) (£), *Financial Times*, 26 January 2017.

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