

2015 EU NUCLEAR ENERGY FORECAST

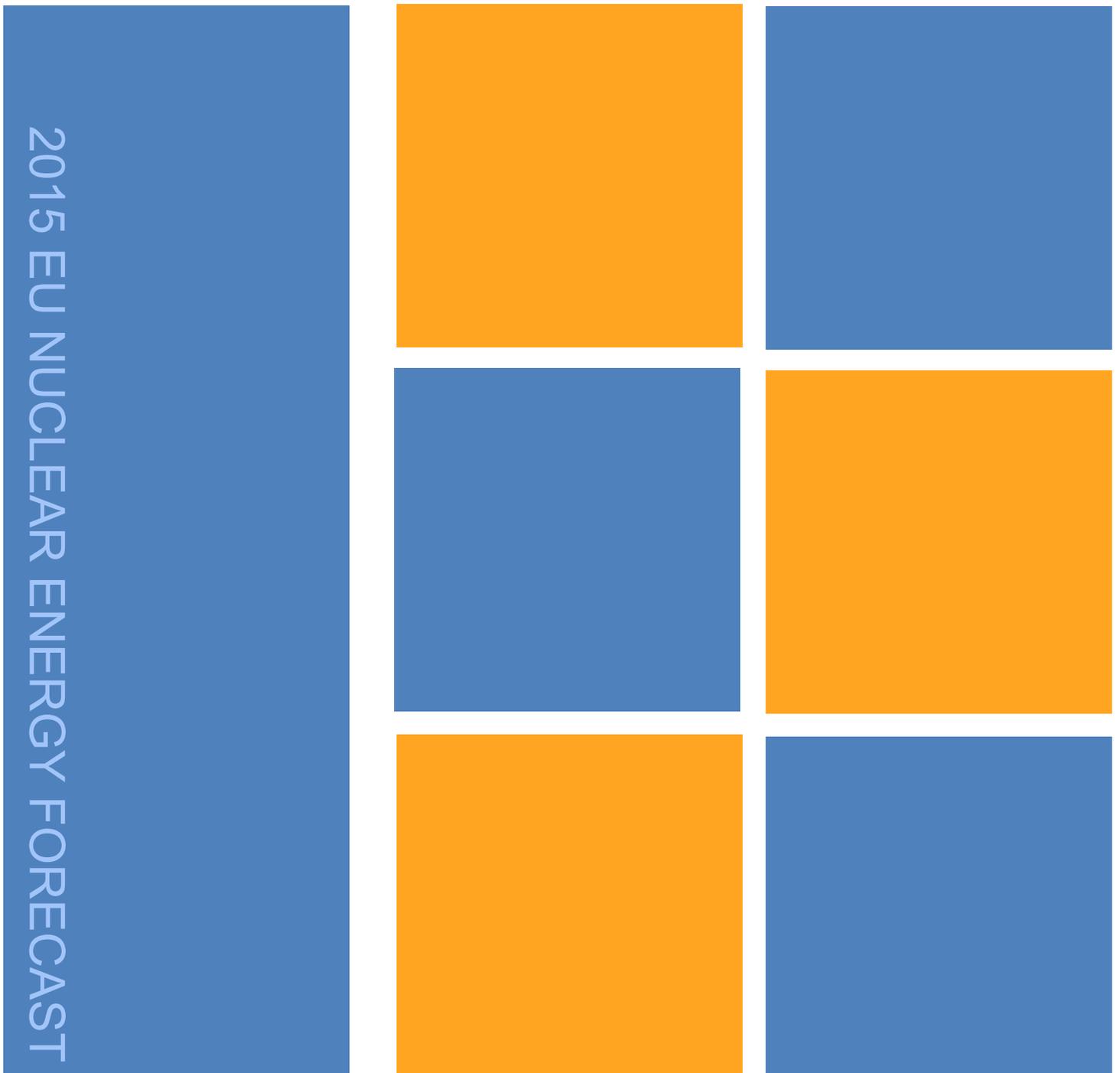


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2015: a crucial year for EU energy policy

2015 will undoubtedly be a crucial year for EU energy policy and the implications for the European nuclear industry are huge. Last year was marked by EU institutional changes and the commitment of Jean-Claude Juncker, the new European Commission (EC)'s President, to forge a European Energy Union, which will reinforce and ensure a better coordination of EU actions in the energy field.

To do so, Jean-Claude Juncker created the position of Vice-President for Energy Union filled by the Slovak Maroš Šefčovič. He will oversee a number of Commissioners including the Commissioner for Climate Action and Energy, Miguel Arias Cañete. The two portfolios of Energy and Climate Change have been merged, which is a positive development for the nuclear energy industry. Indeed nuclear power provides 27% of Europe's electricity and 53% of its carbon-free electricity. It is a competitive, reliable and base-load source of energy that will continue to make a major contribution to all three pillars of EU's energy policy (sustainability, competitiveness and security of supply) and, therefore, to the European Energy Union that will take shape this year.

Other events are likely to have an impact on nuclear-related policy. The forthcoming UN climate talks (COP 21) in December 2015, in Paris, will determine how the world will tackle the growing threat of global warming. The EU adopted a [2030 Climate and Energy Framework](#) in October 2014 and is expected to define a new governance system this year to implement its 2030 climate and energy targets. This will serve as a basis for negotiations during the UN climate summit. The EC will also publish a Communication on the Road to Paris outlining the EU's vision and expectations. As a low-carbon

energy source, nuclear energy should be part of the solution.

Another topic that is likely to remain on top of the EU agenda this year is security of energy supply, with the adoption this year of a European Energy Security Strategy (EESS). Once again nuclear as a reliable and diverse source of energy has a major role to play. This role has already been recognised by the EC in its Communication on EESS. The essential question of how to finance new energy infrastructures will, of course, remain a cornerstone of EU energy policy. Jean-Claude Juncker launched at the end of last year a new Investment Plan and nuclear projects are listed among the projects that could benefit from it. An investment decision is also expected this year for the nuclear new build project at Hinkley Point C in the UK.

Other developments are in the pipeline like the submission by Member States of national programmes (NAPROs) for radioactive waste disposal, a Communication on nuclear liability and off-site emergency preparedness, a new Illustrative Nuclear Programme (PINC), the revival of the European Nuclear Energy Forum (ENEF) etc.

Defining EU energy policy objectives

European Energy Union

In his political guidelines for the new EC, Mr. Juncker called for the creation of a European Energy Union by pooling resources, connecting networks and negotiating with one voice with third parties. Maroš Šefčovič, the new Vice-president for Energy Union, during [a speech](#) before the European Parliament's (EP) Industry Research and Energy (ITRE) Committee outlined the priorities of a European Energy Union. The EC published **on 25 February 2015** [a Proposal for a Strategic Framework for the Energy Union](#) setting out the key actions to be taken

in order to ensure energy supply security, reduce dependence on imports from third countries, further integrate national energy markets and improve participation of consumers, enhance energy efficiency, decarbonise the energy mix and promote research and innovation in the energy field. Energy Union is among the top priorities of the Latvian EU Presidency, which held a high-level Ministerial Conference **on 6 February 2015** in Riga to discuss it. The EC Proposal was discussed during the Energy Council **on 5 March 2015** and the European Summit **on 19 and 20 March 2015**.

■ 2030 Climate and Energy Framework

On 22 January 2014, the EC published a Communication on 2030 Climate and Energy Policy in which it promotes "a competitive, secure and low-carbon EU economy." To achieve these objectives it proposes a reduction of GHG emissions of 40% below the 1990 level, an EU-wide binding target for renewables of 27%, increased emphasis on energy efficiency without setting a new target, and a new set of indicators to ensure a 'secure and competitive EU energy system'. Although binding at EU level, the 27% renewables target will not be translated into national targets. The European Council adopted on 23 October 2014 the [2030 Climate and Energy Policy Framework](#). One of the most significant innovations agreed by the European Council is a new governance structure based on national plans for competitive, secure and sustainable energy that Member States will have to prepare **by 2016**. The governance will apply to greenhouse gas emission reduction in the non-ETS sectors, renewable energy and energy efficiency. The EC is expected to publish a Communication on the "New governance system for the 2030 climate and energy framework" **during the second quarter of 2015**.

The adoption of the 2030 climate and energy targets will serve as a basis for negotiations during COP 21 **in December 2015** and will enhance the credibility of

the EU as a leading party in global climate change talks.

■ European Energy Security Strategy (EESS)

On 28 May 2014, the EC published a [Communication](#) outlining its recommendations for the establishment of an EESS. Central to that strategy is the urgent need for the EU to increase its indigenous energy production, reduce its dependence upon external suppliers, and encourage diversity in the energy mix in order to meet its energy security goals. The EC's Communication recognizes that "electricity produced from nuclear power plants constitutes a reliable base-load supply of emission-free electricity and plays an important role for energy security," The draft report by EP rapporteur Algirdas Saudargas (EPP, Lithuania), was discussed in the ITRE Committee **on 21 and 22 January 2015**, and amendments could be tabled by members of the committee until **28 January 2015**. The draft report contains one specific positive paragraph about nuclear energy, several references to decarbonisation, important emphasis on European indigenous technology, and support for financing of low-carbon energy projects. The final vote on the EESS report is scheduled for **June 2015**. The EC is also expected to publish this year a legislative Proposal on electricity security of supply at EU level, which should emphasise the need to fully open capacity mechanisms to cross-border participation.

Protecting the environment & fighting climate change

■ COP 21: EC Communication on the Road to Paris)

The EC published on **25 February 2015** a [Communication on the “Road to Paris”](#) on the same day as its Energy Union Proposal: The objective of the aforementioned Communication is to outline the EU’s vision and expectations, explain partner ambition in the context of the expected 2015 international climate change agreement, and set out the EU’s further contribution to the European Council conclusions of 24 October 2014. It will serve as a basis for negotiations during the UN climate summit in Paris (COP 21) that will take place **from 30 November to 11 December 2015**. Maroš Šefčovič said in his speech in Riga on **6 February 2015** that the EU’s goal is to “convince major global players to sign up to a binding global agreement in Paris.”

■ EU Emissions Trading System

The EU emissions trading system (EU ETS) is one of the EU’s instruments for fighting climate change by reducing industrial greenhouse gas (GHG) emissions cost-effectively. It is a system for trading GHG emission allowances. The EU ETS covers more than 11,000 power stations and industrial plants in 31 countries, as well as airlines. This system favours nuclear power, which is a low-carbon technology.

The EU ETS has been deemed inefficient due, among other things, to a low carbon price. This low carbon price can be accounted for by a surplus of emission allowances allocated to Member States. Therefore, on 22 January 2014, the EC adopted [a Proposal for a Decision concerning the establishment and operation of a market stability](#)

[reserve for the Union greenhouse gas emission trading scheme](#) amending the EU ETS Directive. The reserve would both address the surplus of emission allowances that has built up and improve the system’s resilience to major demand shocks in the future. The Proposal was submitted to the European Council and the EP. The mechanism should be operational from 2021. **On 22 January 2015**, the EP Industry, Research and Energy Committee (ITRE) failed to approve Antonio Tajani’s (EPP, Italy) report that recommends maintaining the proposed start date of 2021. **On 24 February 2015**, MEPs adopted draft legislation calling for an earlier reform by the end of 2018. In parallel, the EC launched [a consultation on revision of the EU ETS Directive](#) for the period post-2020 in December 2014. This consultation lasted until **16 March 2015**.

■ Drinking water daughter Directive

[The Directive](#) laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption was adopted by the Council in October 2013. It provides indicative values for radon, tritium, and a so-called “indicative dose”, which also covers many other radionuclides. The values have an indicative function, they are not limits. The Directive will come into force **on 28 December 2015**.

Financing nuclear projects

■ EU Investment Plan

In November 2014, the EC announced the creation of a new European Fund for Strategic Investments (EFSI). This new fund will be guaranteed with public money and is expected to attract at least € 315 billion of additional investment over the next three

years (2015 - 2017) in order to boost growth in the EU.

A significant number of nuclear energy-related investment projects were included in the list of proposed priority investments that was published in the Final Report of the EU Task Force on Investment on 9 December 2014. Among the notable projects listed are three nuclear new build projects in the UK (Hinkley Point C, Moorside and Wylfa), as well as Poland's first-ever nuclear power plant construction programme. Pan-European R&D projects are also proposed including MYRRHA (Belgium), the first-ever prototype particle accelerator-driven reactor, ALLEGRO (Central Europe), a gas-cooled fast breeder reactor prototype and PALLAS (the Netherlands), a Hi-Flux research reactor that could produce over 60% of Europe's medical radio-isotopes.

The Task Force on Investment is made up the Member States, the EC and the European Investment Bank (EIB). Its brief is to identify projects that are to be financed over the next three years under President Jean-Claude Juncker's € 315 billion EU Investment Plan. **On 13 January 2015**, the EC adopted [the legislative proposal](#) for EFSI, which will be established in close partnership with the EIB. The Proposal should be adopted under the "ordinary legislative procedure" (co-decision) by the EP and Council by **June 2015** for the new investments to be activated as early as mid-2015.

Council negotiations kicked off **on 19 January 2015** in an ad-hoc Working Group established for the Investment Plan for Europe. Work in the EP is also expected to start shortly. The criteria for assessment will be specified in the Fund's investment policy. This investment policy will be in line with President Juncker's political guidelines and will be defined by the Steering Board of the ESFI. Based on the policy, an Investment Committee accountable to the Steering Board will decide which projects will receive EFSI support.

■ Community Nuclear Illustrative Programme (PINC)

The PINC is a report made by the EC providing information on the current status of nuclear energy in the EU and giving recommendations to Member States on nuclear investments. It is a requirement of the EURATOM Treaty, which calls on the EC to facilitate coordinated development of investment in the nuclear field. An updated version should be published by the EC **by the end of 2015**. The issues that are expected to be covered in this document are capacity projections, investments and financing.

■ Completing the Internal Energy Market

■ New European market design

In November 2012, the EC published [a Communication](#) assessing the state of play of the EU's internal energy market, which was meant to be completed by 2014. The Communication encouraged Member States to step up their efforts to promote the internal energy market highlighting the benefits that a truly integrated European market could bring to citizens and business. However some Member States have not yet completed their national electricity markets. "Building a single internal energy market which is highly competitive" is one of the dimensions of the proposed European Energy Union. In a speech before the EP ITRE Committee, [Maroš Šefčovič](#) said that the technical and regulatory barriers between Member States should be abolished. He added that it should be based on stronger regional cooperation. The EC should publish **in 2015** legislative proposals for a new European market design.

■ Hinkley Point C

The EC announced on 8 October 2014 that the proposed investment contract for the construction of a new nuclear power station, Hinkley Point C (HPC), in the UK, conforms to EU competition law.

The approval of the contract, which will mobilise considerable new investment in the UK, will enable the construction of the first nuclear power plant in the UK for 25 years. HPC will create around 25,000 jobs during the construction phase and 900 once operational. It will boost the UK's GDP by over €6 billion per year and generate around €130 million per year for the local economy.

HPC will provide a major boost to European industry, create a lasting industrial benefit and provide low-carbon, reliable and affordable electricity for over 5 million homes for up to 60 years. It will also avoid around 9 million tonnes of CO₂ emissions per year. [The final Decision on Hinkley Point C](#) was published on the DG Competition website **on 21 January 2015**.

However, Austria and Luxembourg are expected to launch a legal appeal against the EC decision **by mid-2015**. The court process is likely to last up to two years.

■ Dual Use Goods Export Control Regulation

The current Regulation on Dual Use Goods Export Control dates from 2009 and, from a nuclear perspective, has been the subject of two previous seminars under the ENEF umbrella. These seminars had identified a number of areas where the control of nuclear exports could be streamlined in order to improve Europe's competitiveness in this field. The EC is expected to come forward with an impact assessment and a legislative proposal **by the end of 2015**.

■ Ensuring safety and managing waste

■ Stress tests

Following on from the safety reassessment ("stress test") process, the European Nuclear Safety Regulators' Group (ENSREG) published an Action Plan in August 2012, according to which national regulators were required to prepare their national action plans by the end of 2012 in order to implement the recommendations of the safety reassessments. The action plans were peer-reviewed during an ENSREG Workshop in Brussels in April 2013.

The 2nd [ENSREG](#) Post-Fukushima National Action Plans (NACp) Workshop will take place **on 20-24 April 2015**. The final Terms of Reference and the Information Pack for the Workshop are already available.

By 31 December 2014, each country was obliged to update its original NACp to reflect developments since its issue as well as the current status of the measures and their implementation. The updated NACPs will be published on the ENSREG website. Stakeholders had the opportunity to put questions regarding the Peer Review of National Action Plans from **8 January to 28 February 2015** via the ENSREG website. ENSREG will also organise a conference on nuclear safety in Europe **on 29 and 30 June 2015**.

■ Communication on off-site emergency preparedness

An EC non-binding Communication on nuclear liability together with a paper on off-site emergency preparedness was expected to be published in 2014. In May 2014, the EC published a [Review of current offsite nuclear emergency preparedness and response arrangements in the EU and neighbouring](#)

[countries](#) conducted by ENCO, an Austrian consultancy. [The EC schedule of public consultations](#) indicates that it should launch **by the end of 2015** a consultation on Communications on nuclear off-site emergency preparedness and response.

■ Radwaste Directive

In July 2011, the European Council adopted the Directive establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste, which was proposed by the EC in November 2010. The Directive entered into force in August 2011 and the Directive should have been transposed into national law by August 2013. Member States are meant to submit their NAPROs (national programmes) for the disposal of nuclear waste to the EC by **23 August 2015**. These programmes have to include plans for the construction of nuclear waste disposal facilities. Member States will then have to update their national programme every three years. The EC is also expected to publish a report on progress made on the implementation of this Directive along with an inventory of radioactive waste and spent fuel present on the Community's territory by the end of the year. These reports will be submitted to the EP and the Council.

■ Radiation protection

On 10 January 2014, the European Commission adopted a Proposal for a Council Regulation laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency. [A revised text](#) was agreed by the Atomic Questions Group (AQG) of the Council in November 2014. The EP and the European Economic and Social Committee (EESC) are expected to adopt their Opinion on it and the Regulation should be adopted by the Council **in 2015**.

■ IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

The Latvian Presidency has indicated in [its Work Programme](#) that during its mandate **from January to June 2015** it will “dedicate efforts to the elaboration of the EU position for the Diplomatic Conference of the Convention on Nuclear Safety, and the 5th Review Meeting of the Joint Convention on the Safety of Spent Fuel and Radioactive Waste Management”. The International Atomic Energy Agency (IAEA) Convention on Nuclear Safety is currently being revised and the Council published on 20 January 2015 [a Decision](#) issuing directives to the EC for the negotiation of amendments to the Convention on Nuclear Safety in the framework of a Diplomatic Conference on the Nuclear Safety Convention. The Conference took place on **9 February 2015**. The Conference resulted in the signature of [a Declaration](#) by Contracting Parties, which is part of an ongoing international effort to strengthen nuclear safety in the wake of the Fukushima-Daiichi accident in Japan. The declaration urges Contracting Parties to report on how they implement the safety objective in the siting, commissioning and operation of nuclear power plants. The 5th Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management will also be held at the IAEA's Headquarters **between 11 and 22 May 2015**.

■ Third party liability

The EC organised from July to October 2013 a public consultation on whether common EU rules on insurance and compensation for nuclear accidents are needed. Stakeholders were also asked their views on whether those common EU rules should be

fixed through a binding law, or through non-binding recommendations. An EC non-binding Communication on nuclear liability is expected to be published in **2015**.

Boosting research and development

■ SNETP

The Sustainable Nuclear Energy Technology Platform (SNETP), which was created in 2007, aims to facilitate closer integration between researchers and industry, to enable the definition and implementation of a Strategic Research Agenda (SRA) and corresponding Deployment Strategy (DS), as well as to maintain Europe's leadership in the nuclear research sector.

The European Nuclear Gen II, III, IV Days, taking place in Brussels **from 17-19 March 2015**, is a three-day conference co-organised by SNETP and its three constituent bodies - [NUGENIA](#) (an association dedicated to the research and development of current nuclear fission technologies), [ESNII](#) (the European Sustainable Nuclear Industrial Initiative addresses the need for demonstration of Gen-IV Fast Neutron Reactor technologies) and [NC2I](#) (the European Nuclear Cogeneration Industrial Initiative). During the conference, a series of events were held including SNETP's 5th General Assembly and 15th Governing Board meeting, NUGENIA's 4th General Assembly and ESNII's Biennial Conference.

■ Horizon 2020

The European Union's [Horizon 2020](#), a €77 billion programme for investment in research and innovation, was adopted on 3 December 2013 by the Council of the EU. It includes a EURATOM section that will cover the period from 2014 to 2018. The EURATOM projects, including nuclear fusion, will be allocated around €1.6 billion.

The EURATOM programme budget is divided between fission, safety & radioprotection (€315 million); fusion excluding ITER (€728 million) and the Joint Research Centre (JRC) (€560 million). The budget also includes money earmarked for specific activities of the SNETP.

The EC launched on 11 December 2013 its first calls for projects under *Horizon 2020*. The budget allocated to these projects will amount to more than €15 billion over the first two years, including €102 million for EURATOM projects. The EC's DG for Research & Innovation published a [Work Programme](#) to cover the first two years (2014/15) of the new EURATOM programme, which lists the types of project eligible for support. The deadline for responding to the EURATOM call was 17 September 2014. The EC announced, which projects will receive Horizon 2020 funding in **February 2015**.

A proposal for support for SNETP called 'SPRINT' (Strategic Programming for Research & Innovation in Nuclear fission Technology), in which FORATOM and ENS are participating organisations, was submitted under the Horizon 2020 Euratom Fission Research Programme in September 2014. The proposal received the EC's approval in **February 2015**. The project is expected to start **by the beginning of June 2015**.

■ Education and training

SNETP published in January 2011 a report prepared by the SNETP Working Group on education, training and knowledge management (ETKM) entitled [Nuclear Education and Training, Key Elements of a Sustainable European Strategy](#). This report reviews the challenges related to nuclear education and training, the initiatives already undertaken to meet them, and the future needs. The SNETP ETKM Working Group intends to update the report this year together with the European Nuclear Education Network ([ENEN](#)).

ENEN also submitted in September 2014 a project called ANNETTE (Advanced Networking for Nuclear Education and Training and Transfer of Expertise) to the EC in the framework of the *Horizon 2020* call for proposals. In **February 2015**, the EC announced that the project would be allocated *Horizon 2020* funding.

■ Reviving the European Nuclear Energy Forum (ENEF)

During the ENEF Plenary Session in June 2014, it was agreed to rethink the objectives and the focus of ENEF in the future. A Steering Committee was set up by EC DG Energy to do so. The main objectives are to broaden participation well beyond the nuclear industry, including from public administrations, regulators, NGOs, trade unions etc., focus on a limited number of strategic topics, and ensure a good geographical balance between Member States.

At the Energy Council of 9 December 2014, several Member States (Slovakia, France, UK, Romania, Slovenia, and Lithuania) voiced their support for ENEF to remain a dedicated forum of discussion about nuclear issues. Maroš Šefčovič Vice-President for Energy Union confirmed that ENEF would continue to play a key role and that the EC would work with Member States to make sure its functioning is improved. The next plenary meeting of ENEF will take place in Prague **on 26 and 27 May 2015**.



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