



2017

Annual Activity Report

**Directorate-General
for Energy**

Foreword

Introductory message by the Director-General

In 2017, DG Energy actively contributed to all five Energy Union dimensions and supported negotiations on the eight legislative proposals under the Clean Energy for all Europeans Package adopted by the Commission in November 2016. These legislative proposals, once finalised and put into effect, will shape European energy policy and our energy system for the years to come, making the clean energy transition a reality, making good progress on our Paris Climate Agreement goals but also ensuring further economic growth and the creation of new jobs and opportunities. Important milestones have already been reached with a first agreement between the co-legislators on one of the files, namely the Energy Performance of Buildings Directive, in December 2017.

Moreover, DG Energy continued to carry out its crucial work in all fields of energy policy, pursuing the principle of 'energy efficiency first', supporting Europe to be the world number one in renewables, guaranteeing a fair deal for European consumers and addressing the societal issues arising from the clean energy transition.

This Annual Activity Report (AAR) provides a detailed outline of our achievements in 2017 relative to the objectives set in DG Energy's Strategic Plan 2016-2020 and Annual Management Plan 2017. While part 1 sets out our main policy achievements in the past year, part 2 provides insights on how we reached these and provides information about the management of the allocated resources as well as the internal organisation of the Directorate-General.

For more information on the activities of DG Energy, please visit our website:

<https://ec.europa.eu/energy/>

I wish you an interesting reading!

Dominique Ristori

Director-General of DG Energy

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THE DG IN BRIEF

Under the political guidance of Commissioner Arias Cañete and Vice-President Šefčovič, the Directorate-General for Energy (hereafter 'DG ENER') is responsible for developing and implementing the **European energy policy**.

DG ENER is responsible for developing and implementing the energy-related aspects of the **Energy Union Framework Strategy**¹, one of the ten priorities of Commission President Juncker. DG ENER proposes, implements and reviews legislation and initiatives under the Energy Union framework strategy, focusing on its five key dimensions:

- Energy security, built on solidarity and trust between EU countries
- A fully functional internal energy market
- Energy efficiency as a contribution to moderation of energy demand
- Decarbonisation of the economy, including renewable energy
- Research, innovation and competitiveness

The DG promotes secure, sustainable, competitive and affordable energy for all EU citizens. It does so by creating the conditions for an integrated energy market which works for citizens, by ensuring energy efficiency first and making the EU a world leader in renewable energy sources. Its policies contribute to the decarbonisation of the European economy and help the EU to meet its ambitious 2020 and 2030 energy and climate targets.

Among its other tasks, the DG proposes legislation or ensures implementation of the EU legislative framework for the safe use of nuclear energy, ensures the application of the Euratom Treaty, and supports the secure and peaceful use of non-power applications using nuclear material. Finally, the DG contributes to the development of nuclear fusion energy technologies through the International Thermonuclear Experimental Reactor (ITER) project.

The main spending programmes in 2017 that supported the work of the DG ENER were:

- The **ITER project and ITER related activities through Fusion for Energy (F4E) programme**, which accounted for more than half of DG ENER's spending in 2017 (53.4% of total spending or EUR 717.68 million). ITER aims at demonstrating fusion as a viable and sustainable source of energy. ITER is being built in South of France with the support of seven international partners that represent half of the world's population (Euratom, the United States, Japan, South Korea, China, India and Russia). The Euratom contribution to the ITER International Organization (IO) for the construction phase of the project (EUR 6.6 billion until 2020) is channelled through the Joint Undertaking, Fusion for Energy, located in Barcelona, Spain.
- The **'Nuclear Decommissioning programmes'** for nuclear power plants in Bohunice (Slovakia), Ignalina (Lithuania) and Kozloduy (Bulgaria), accounting for 26.35% of DG ENER's spending. Financial support is managed either through national agencies or by the European Bank for Reconstruction and Development (EBRD).
- The **'European Energy Programme for Recovery' (EEPR)**, accounting for around 11.07% of DG ENER's spending. EEPR was established in 2009 to address both Europe's economic crisis and European energy policy objectives. EEPR spending is used to co-finance EU energy projects relating to gas and electricity infrastructure, offshore wind energy and carbon capture and storage.
- **Research programmes** (Intelligent Energy – Europe Programme, 7th Framework Programmes for Research and Technological Development and Horizon 2020), accounting for around 3.7% of DG ENER's spending. These research programmes are directly contributing to the achievement of the Europe 2020 targets by supporting

¹ COM(2015) 80 Final, 25.2.2015

projects for the development of renewable technologies, decarbonisation and energy efficiency.

- The '**Trans-European Energy Network' (TEN-E)**, accounting for around 0.54% of DG ENER's spending via the Connecting Europe Facility (CEF). The programme supports the effective implementation of the internal energy market by financing trans-European networks to carry electricity and gas.
- DG ENER also devotes 1.32% of its budget to Euratom related tasks such as **Nuclear safeguards**.

The European Fund for Strategic Investments (EFSI) 2015-2018 finances strategic energy infrastructure, energy efficiency, and renewable energy projects. As of 31 December 2017, a substantial number of EFSI projects have been approved, for a total investment of €256.1 billion, of which €52.6 billion directly targeting the energy sector. The energy sector ranks first in EFSI infrastructure financing, where it accounts for around 32% of EFSI operations. Given its success, an amending regulation was approved in Q4 2017, extending the investment timeline from mid-2018 to the end of 2020 and increasing the investment target to at least EUR 500 billion. In addition, improvements aim to ensure that the fund's support covers as many EU countries as possible and that it finances a wider range of sectors than before, including those related to climate-related action. The amended regulation entered into force at the beginning of 2018.

DG ENER has **632 staff**, including external staff (contract agents and SNEs). Three Directorates (A, B and C), accounting for half of the staff, are based **in Brussels**: they deal with energy policy and related statistical and economic analysis, international relations, interinstitutional and communication aspects, internal energy market and infrastructure, renewables, research and innovation, and energy efficiency. The other two Directorates (D and E) are based **in Luxembourg** (with the exception of the ITER Unit, which is part of Directorate D but based in Brussels) and cover nuclear safety, spent fuel and radioactive waste, decommissioning, radiation protection and ITER as well as nuclear safeguards.

The work of DG ENER is supported by the 'Shared Resource Directorate' (SRD), shared with and technically assigned to DG MOVE, which has 117 staff in 2017 in Brussels and Luxembourg, dealing with financial resources (including budget), operational finances and project financing, informatics and logistics, assurance and supervision and with document management/archiving.

All this work is supported by the two Executive Agencies for Innovation and Networks (INEA) and for Small and Medium-sized Enterprises (EASME); by the Euratom Supply Agency (ESA); by the regulatory Agency for the Cooperation of Energy Regulators (ACER); and the Fusion for Energy (F4E) Joint Undertaking

EXECUTIVE SUMMARY

The Annual Activity Report is a management report of the Director-General of DG Energy to the College of Commissioners. Annual Activity Reports are the main instrument of management accountability within the Commission and constitute the basis on which the College takes political responsibility for decisions as well as for the coordination, executive and management functions it exercises, as laid down in the Treaties².

a) Key results and progress towards the achievement of general and specific objectives of the DG (executive summary of section 1)

In 2017 significant steps were taken to i) implement the vision set out in February 2015 Commission Communication on the 'Framework Strategy for a resilient Energy Union with a forward-looking climate change policy' and the accompanying Roadmap and ii) to make sure that the proposals adopted by the Commission in November 2016 in the Clean Energy for All Europeans Package are adopted swiftly, while preserving the necessary ambition and coherence of each and overcoming the challenge of simultaneous negotiations on a wide range of interlinked proposals. More than 95% of the initiatives for DG ENER set out in the Roadmap published a little over three years ago have been delivered upon, which underlies the huge progress made.

The actions conducted by DG ENER in 2017 contributed to achieving progress in all five dimensions of the Energy Union, namely in the areas of energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonising the economy (including promotion of renewable energy), as well as furthering research, innovation, and competitiveness. The DG delivered substantial progress for this priority of President Juncker to build a resilient Energy Union with a forward-looking climate change policy and contributed to the other priorities of President Juncker, most notably to providing a new boost for jobs growth and investment.

Key achievements 2017 grouped by the six specific objectives of the DG's Strategic Plan:

Concerning **specific objective 1: Contribution to security of supply, based on solidarity and trust**, the new Decision on Intergovernmental Agreements in energy and the new Security of Gas Supply Regulation, negotiated in record time, entered into force respectively in May and in October 2017 thus strengthening the resilience of the European gas system. Substantial progress was made over the last year regarding the interinstitutional negotiations on the proposed Regulation on risk preparedness in the electricity sector (one of the Clean Energy legislative proposals) leading to the agreement of a general approach by the Council in December. Important steps were taken to implement the EU strategy on liquefied natural gas and storage presented in November 2016, as well as in the area of cyber security. Furthermore, a mid-term evaluation of the Oil Stocks Directive was finalised in November 2017.

In the international field, important security of supply-related initiatives took place in 2017, notably regarding the Commission's support to the reform process in the Energy Community and the Eastern Partnership summit in Brussels in November 2017.

Regarding the work on **specific objective 2: Further work towards a well-functioning and fully integrated internal energy market, including with interconnectors**, 2017 was a major year with important progress being made regarding the negotiations on the recast Electricity Directive and the recast Electricity Regulation with agreement on a general

² Article 17(1) of the Treaty on European Union.

approach reached in December, and negotiations on the recast ACER regulation progressing throughout the year (all three legislative proposals under the Clean Energy package). Moreover, DG ENER already finalised one of the deliverables of the 2018 Commission Work Programme with the presentation in November 2017 of a proposal to amend the Gas Directive aiming at ensuring that all pipelines entering EU territory comply with EU rules. In the area of infrastructure, the Commission adopted in November the DG's proposed 3rd list of Projects of Common Interest as well as a Communication on strengthening Europe's energy networks.

Important progress was made regarding the Clean Energy enabling framework: the 'Clean Energy for EU Islands initiative' was launched in May under the Maltese Presidency (all relevant EU Member States and the Commission signed the declaration) with the Inaugural Forum taking place in September; the 'Coal Regions in Transitions Platform' was launched in December; the EU Energy Poverty Observatory officially went online in January 2018 and the Covenant of Mayors passed the 1000 mark in terms of cities committed to 2030 energy and climate targets.

In relation to **Specific Objective 3: Promoting the moderation of energy demand**, significant progress was made, especially regarding the Energy Performance of Buildings Directive on which a political agreement was reached in record time by the co-legislators in December despite the challenges, including that of negotiating the other elements of the Clean Energy for All Europeans package. This was the first legislative proposal of the Clean Energy for All Europeans Package to be finalised. A general approach was reached in the Council in June regarding the Energy Efficiency Directive. In the area of products, the revised Energy Labelling framework legislation entered into force in August 2017 including a revision of the labels, which are easier to understand.

As concerns **Specific Objective 4: Promoting the decarbonisation of the EU energy mix and the increase of energy production from low Carbon Energy Sources, in particular renewables**, a general approach on the revised Renewable Energy Directive (a Clean Energy proposal) was reached in December 2017. The 2017 Renewable Energy Progress report was presented in November. DG ENER pursued work towards enhanced regional cooperation between Member States as envisaged in the Renewable Energy Directive.

With regards to **Specific Objective 5: Tapping the job and growth potential of the energy sector and further developing energy technologies (Horizon 2020), including ITER and the safe and secure use of nuclear energy**, DG ENER presented several initiatives in 2017. These include *inter alia* the follow-up of the 2016 energy prices and costs report, which was presented to various stakeholders and work on the implementation of the Strategic Energy Technologies Plan, which continued throughout the year. International cooperation, notably in the context of the Clean Energy Ministerial, was intensified.

Further, in 2017 DG ENER advanced its work in the nuclear area and adopted in May the final Nuclear Illustrative Programme (PINC). The DG continued *inter alia* to ensure an effective implementation of the nuclear safety and radiation protection framework with a first topical peer review being conducted. The nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia advanced despite challenges. Concerning the implementation of nuclear safeguards in 2017, on the basis of existing data no major issues about unverified safeguards reports arose.

In 2017, DG ENER took important steps to improve the supervision and governance of the ITER project finalised a comprehensive strategy on this matter. A Communication on the EU contribution to a reformed ITER project was published confirming the EU's support to the project and launching the inter-institutional discussions on the new ITER baseline, while the work at the ITER site itself progressed well, despite the challenges of a technologically complex, first-of-a-kind, large scale international project, with the schedule of first plasma in 2025 being confirmed and 50% of the physical work needed for first plasma being completed.

Concerning **Specific Objective 6: Implementation and follow-up on the overall Energy Union strategy**, the DG focused its work on the negotiations of the Governance

Regulation (one of the Clean Energy legislative proposals), where agreement on a general approach in Council was reached in December 2017 and trilogues started in early 2018. The proposal for a repeal of the Regulation concerning the notification of investment projects in energy infrastructure was another deliverable that will help to reduce administrative burden on Member States and stakeholders. DG ENER continued to provide technical assistance to Member States on the drafting of their integrated national energy and climate plans and contributed in 2017 to the drafting of two reports on the State of the Energy Union, published in February and November 2017 respectively. In this framework and as an annex to the 3rd State of the Energy Union, the Commission also produced 28 country fact sheets providing detailed information on the situation in the energy and climate sector for each Member State.

With all these important accomplishments in 2017, DG ENER continued to contribute to the overall achievement and delivery of President Juncker's priority of a resilient Energy Union with a forward-looking climate change policy and made progress on all six specific objectives set out in the DG's Strategic Plan 2016-2020 and the Annual Management Plan 2017³. With this, more than 95% of the initiatives for which DG ENER is responsible set out in the Energy Union Roadmap have been delivered at the end of 2017⁴. DG ENER contributed to accelerating the modernisation of Europe's economy. Once all proposals under the Clean Energy for All European Package come into effect, they will allow European consumers, workers and business to benefit fully from the energy transition to a low-carbon and energy efficient economy while ensuring that this transition is achieved in a socially fair manner.

The key results achieved in the framework of each of the six specific objectives of DG ENER are summarised in the following table:

Specific objective	Main results in 2017
Specific Objective 1: Contribution to security of supply, based on solidarity and trust	- Adoption of the Security of Gas Supply Regulation - Adoption of the Intergovernmental Agreement Decision - General Approach on the Regulation on Risk Preparedness in the electricity sector - Mid-term evaluation of the Oil Stocks Directive - Mandate Nord Stream 2
Specific Objective 2: Further work towards a well-functioning and fully integrated internal energy market, including with interconnectors	- General Approaches for Electricity Directive and Electricity Regulation - Proposal to amend the Gas Directive - Communication on Strengthening Europe's energy networks - 3rd List of Projects of Common Interest - Progress on enabling measures
Specific Objective 3: Promoting the moderation of energy demand	- Political agreement on revision of the Energy Performance of Buildings Directive - General Approach on the Energy Efficiency Directive - Entry into force of the Energy Labelling Regulation
Specific Objective 4: Promoting the decarbonisation of the EU energy mix and the increase of energy production from low Carbon Energy Sources, in particular renewables	- General Approach on the Renewable Energy Directive - Renewable Energy Progress Report - Launching of the Clean Energy for EU islands initiative - Launching of the Coal regions in transition platform
Specific Objective 5: Tapping the job and growth potential of the energy sector and	- Organising Sustainable Energy Investment Forums and broadening regional cooperation fora (CESEC) to energy efficiency and renewables

³ Annual Management Plan 2017, DG ENER, available at:

https://ec.europa.eu/info/sites/info/files/management-plan-ener-2017_en.pdf.

⁴ The only output to still be delivered is the proposal for a Council Regulation (Euratom) updating information requirements of Article 41 of the Euratom treaty, which is foreseen in DG ENER's Management Plan 2018 for adoption in the 2nd quarter of 2018.

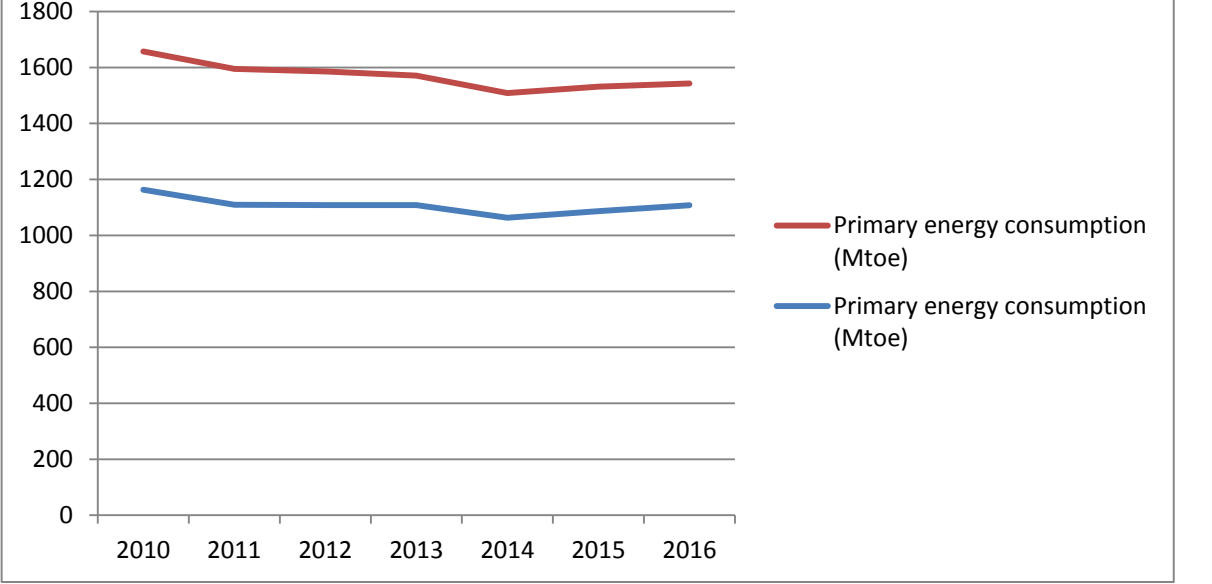
further developing energy technologies (Horizon 2020), including ITER and the safe and secure use of nuclear energy	- High level conference on financing the clean energy - Final Nuclear Illustrative Programme (PINC) - Report on Implementation of Spent fuel and Radioactive Waste Directive - Effective implementation of the reinforced EU nuclear safety and radiation protection framework - Supervision and governance of ITER improved - Implementation of Euratom safeguards.
Specific Objective 6: Implementation and follow-up on the overall Energy Union strategy	- General Approach on Governance Regulation - 2nd and 3rd State of the Energy Union including 28 country fact sheets - Proposal to repeal of the Regulation concerning the notification of investment projects in energy infrastructure

b) Key Performance Indicators (KPIs)

DG ENER has chosen five key performance indicators in its Strategic Plan 2016-2020 to monitor the policy performance and the DG's most significant achievements over time.

DG ENER's Key Performance Indicators:																														
Key Performance Indicator	Target (or milestones)	Latest known results as per Annual Activity Report																												
Most relevant KPI 1 Renewable energy share (RES) in gross final EU energy consumption (%) <i>(source: Annex 1b of Dir. 2009/28/EC)</i>	20% by 2020	RES share in 2016: 17% (Eurostat data) ⁵																												
RES share <table><thead><tr><th>Year</th><th>RES share (%)</th></tr></thead><tbody><tr><td>2004</td><td>8,5%</td></tr><tr><td>2005</td><td>9,0%</td></tr><tr><td>2006</td><td>9,6%</td></tr><tr><td>2007</td><td>10,5%</td></tr><tr><td>2008</td><td>11,1%</td></tr><tr><td>2009</td><td>12,4%</td></tr><tr><td>2010</td><td>12,9%</td></tr><tr><td>2011</td><td>13,2%</td></tr><tr><td>2012</td><td>14,4%</td></tr><tr><td>2013</td><td>15,2%</td></tr><tr><td>2014</td><td>16,1%</td></tr><tr><td>2015</td><td>16,7%</td></tr><tr><td>2016</td><td>17,0%</td></tr></tbody></table>			Year	RES share (%)	2004	8,5%	2005	9,0%	2006	9,6%	2007	10,5%	2008	11,1%	2009	12,4%	2010	12,9%	2011	13,2%	2012	14,4%	2013	15,2%	2014	16,1%	2015	16,7%	2016	17,0%
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Most relevant KPI 2 Energy Efficiency	20% by 2020 Primary energy consumption not	1 542 Mtoe in 2016 In 2016, the primary energy consumption of the Union was only																												

⁵ Data for 2017 is not yet available.

Primary energy savings achieved in 2020 measured against the baseline (%) <i>(source: Article 3 of Directive 2012/27/EU and NEEAPs 2014)⁶</i>	more than 1 483 Mtoe	4% above its primary energy consumption target of 1 483 Mtoe for 2020. In 2016, the final energy consumption (1 108 Mtoe) of the Union was only slightly above the final energy consumption target of 1 086 Mtoe for 2020⁷.																								
 <table border="1"> <caption>Primary energy consumption (Mtoe) from 2010 to 2016</caption> <thead> <tr> <th>Year</th> <th>Primary energy consumption (Mtoe)</th> <th>Primary energy consumption (Mtoe)</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>1650</td> <td>1150</td> </tr> <tr> <td>2011</td> <td>1600</td> <td>1100</td> </tr> <tr> <td>2012</td> <td>1580</td> <td>1100</td> </tr> <tr> <td>2013</td> <td>1550</td> <td>1100</td> </tr> <tr> <td>2014</td> <td>1500</td> <td>1050</td> </tr> <tr> <td>2015</td> <td>1520</td> <td>1080</td> </tr> <tr> <td>2016</td> <td>1550</td> <td>1100</td> </tr> </tbody> </table>			Year	Primary energy consumption (Mtoe)	Primary energy consumption (Mtoe)	2010	1650	1150	2011	1600	1100	2012	1580	1100	2013	1550	1100	2014	1500	1050	2015	1520	1080	2016	1550	1100
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Most relevant KPI 3 Degree of Energy prices convergence in the EU⁸	Convergence of wholesale electricity and gas prices both for industry and household in the EU internal energy market.	Latest data 12/2017: Standard deviation for industrial consumer having a medium level of annual electricity consumption (between 500 MWh and 2,000 MWh): December 2012: 0.3095 December 2013: 0.2788 December 2014: 0.2884 December 2015: 0.2841 December 2016: 0.2472 December 2017: 0.2648⁹																								

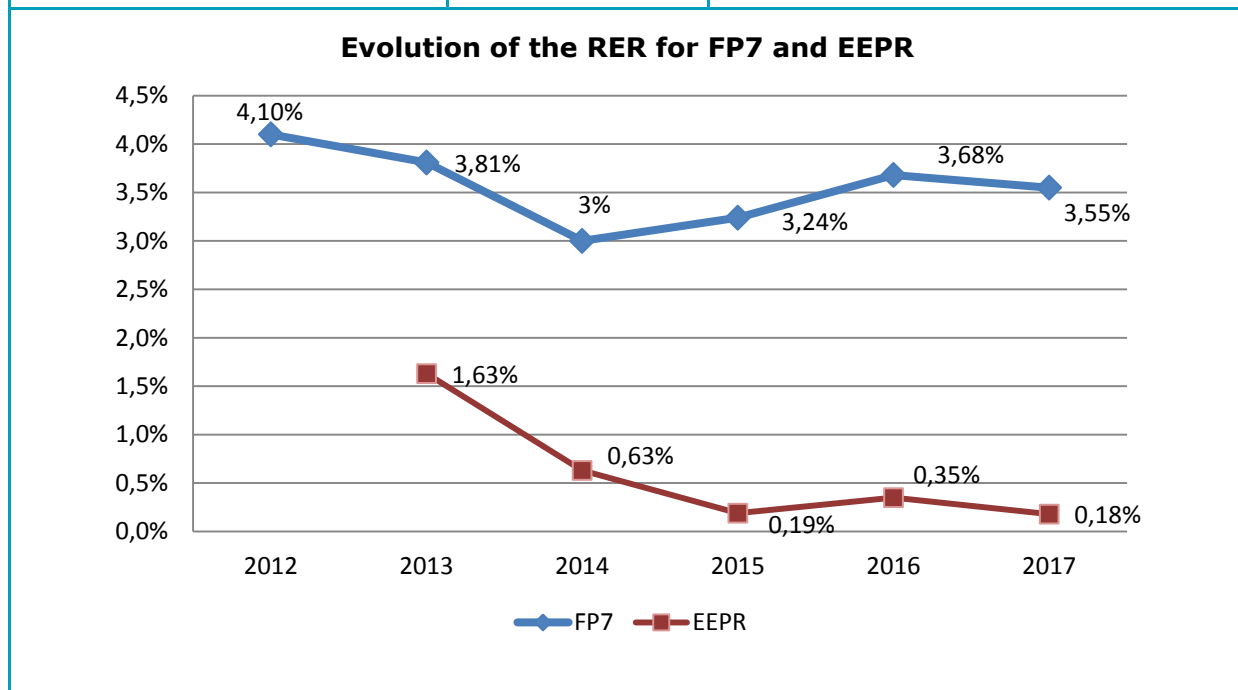
⁶ Baseline is PRIMES 2007 in 2020, which includes policies to be implemented up to 2006 with an oil price of \$61 per barrel and reference year 2005. Calculated as Gross Inland Consumption minus Final Non-Energy Use Consumption. Source: Eurostat, Commission studies.

⁷ Data for 2017 is not yet available.

⁸ These indicators represent the ratio of the most and the least expensive EU member state regarding the retail electricity and gas prices households and industrial consumers pay (data are given half-yearly, the last available one represents the first half of 2014). The aim of presenting of this indicator is to provide a metrics for the convergence of retail electricity and gas prices in the EU internal energy market, decreasing ratios should result in better convergence.

⁹ While there is no single reason for the slowdown of electricity price convergence in 2017, wholesale electricity prices that strongly influence energy supply costs within retail prices also showed larger deviations in this period, mainly due to a general increase in fuel costs and local events affecting wholesale market prices, which filter to retail prices as well. Also, price regulation at retail level may partially eliminate the impact on the wholesale markets and thus result in an increasing divergence between countries where it is applied and where it is not applied, resulting in an observed higher standard deviation of retail prices.

		Standard deviation for industrial retail natural gas prices for medium level of annual gas consumption (between 2,778 MWh and 27,880 MWh): December 2012: 0.1680 December 2013: 0.1502 December 2014: 0.1162 December 2015: 0.1373 December 2016: 0.1577 December 2017: 0.1516¹⁰
Most relevant KPI 4 Security of supply Member States (MS) having reached the 10% electricity interconnection target ¹¹	25 MS in 2018 26 MS by 2020	17 MS were at or above the 10% electrification interconnection target on 31 December 2017.
Most relevant KPI 5 Residual error rates (EEPR and FP7) <i>(source: DG ENER SRD.1)</i>	<2%	RER EEPR 2017: 0.18% RER FP7 2017: 3.55%



¹⁰ The reasons for the increased standard deviation in 2016 and 2017 are that there were some statistical outliers with unusually high or low prices reported for these years that lead to an increase in the standard deviation.

¹¹ The European Council of October 2014 called for all Member States to achieve interconnection of at least 10% of their installed electricity production capacity by 2020. This means that each Member State should have in place electricity cables that allow at least 10% of the electricity that is produced by their power plants to be transported across its borders to its neighbouring countries.

c) Key conclusions on Financial management and Internal control (executive summary of section 2.1)

In accordance with the governance arrangements of the European Commission, (the staff of) DG ENER conducts its operations in compliance with the applicable laws and regulations, working in an open and transparent manner and meeting the expected high level of professional and ethical standards.

The Commission has adopted a set of internal control standards, based on international good practice, aimed to ensure the achievement of policy and operational objectives. The financial regulation requires that the organisational structure and the internal control systems used for the implementation of the budget are set up in accordance with these standards. DG ENER has assessed the internal control systems during the reporting year and has concluded that all the components are implemented and functioning well, except for component 3 'Control Activities', that is, in line with DG BUDG guidance, deemed to be partially present due to the issues noted regarding principle 11. Please refer to Section 2.1.3 for further details.

In addition, DG ENER has systematically examined the available control results and indicators, including those aimed to supervise entities to which it has entrusted budget implementation tasks, as well as the observations and recommendations issued by internal auditors and the European Court of Auditors. These elements have been assessed to determine their impact on the management's assurance as regards the achievement of control objectives. Please refer to Section 2.1 for further details.

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance albeit qualified by a reservation concerning the Seventh Framework programme (FP7).

d) Provision of information to the Commissioner

In the context of the regular meetings during the year between the DG and the Commissioner on management matters, also the main elements of this report and assurance declaration, including the reservation envisaged on FP7, have been brought to the attention of Commissioner Arias Cañete, responsible for Energy and Climate Action.

1. KEY RESULTS AND PROGRESS TOWARDS THE ACHIEVEMENT OF GENERAL AND SPECIFIC OBJECTIVES OF THE DG

General Objectives and achievements

The Strategic Plan for DG ENER for the period from 2016-2020¹² sets out, in line with the priorities of President Juncker and the State of the Union Addresses, the general objective for DG ENER to promote a resilient Energy Union with an ambitious climate policy at its core. Furthermore, DG ENER contributed to the other priorities of President Juncker, most notably to a new boost for jobs growth and investments, a deeper and fairer internal market and Europe as a stronger global actor. The Energy Union itself is composed of five dimensions¹³ that are closely interrelated and mutually reinforcing and that were specified in the Energy Union Framework strategy.

The Strategic Plan of DG ENER identified the following threefold scope of the Energy Union. These objectives are also the general objectives for European energy policy:

- **Security of Supply:** To enhance the conditions for safe and secure energy supply in a spirit of solidarity between Member States, ensuring a high degree of protection for European citizens;
- **Sustainability:** to promote sustainable energy production, transport and consumption in line with the Europe 2020 strategy's targets and with a view to the 2030 Energy and Climate Framework;
- **Competitiveness:** To contribute to setting up an energy market providing citizens and businesses with affordable energy, competitive prices and technologically advanced energy services.

In line with the Energy Union Framework Strategy¹⁴ and to fully reflect its five dimensions, DG ENER's Strategic Plan for 2016-2020 defined the following **six specific objectives** in order to meet all three overall objectives of energy policy:

- 1) Contributing to security of supply, based on solidarity and trust;
- 2) Further work towards a well-functioning and fully integrated internal energy market, including with interconnections;
- 3) Promoting the moderation of energy demand;
- 4) Promoting the decarbonisation of the EU energy mix and the increase of energy production from low Carbon Energy Sources, in particular renewables;
- 5) Tapping the job and growth potential of the energy sector and further developing energy technologies (Horizon 2020), including ITER and the safe and secure use of nuclear energy;
- 6) Ensure the implementation and follow-up on the overall Energy Union Strategy.

Overall, **2017 was an intense and important year for the delivery for the Energy Union**. Building on the work done in 2016, notably the presentation of the Clean Energy for All Europeans Package on 30 November 2016 — the largest package of legislative

¹² Strategic Plan 2016-2020, DG ENER, available at:
http://ec.europa.eu/atwork/synthesis/amp/doc/ener_sp_2016-2020_en.pdf

¹³ These five dimensions are: Energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonising the economy; and research, innovation, and competitiveness.

¹⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank; A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy; COM(2015) 80 final; Brussels, 25 February 2015.

proposals regarding energy policy ever presented by the Commission — the focus of DG ENER in 2017 was on accompanying the negotiations by the co-legislators of the proposals. Despite the challenge of proposing the biggest legislative review of energy policy and the need to uphold the ambition as well as the coherence of the proposals, tremendous progress was achieved in this respect in 2017 on all legislative files. This culminated in the preliminary agreement on 19 December 2017 on the Energy Performance of Buildings Directive (EPBD) and resulted in the achievement of General Approaches by the Council on nearly all legislative proposals (except for the proposed Regulation on the European Union Agency for the Cooperation of Energy Regulators [ACER]) in December 2017 and the adoption of committee reports by the Committee on Industry, Research and Energy (ITRE), respective joint ITRE/ENVI (Committee on the Environment, Public Health and Food Safety) committees for the proposed Energy Efficiency Directive, Renewables Directive and Governance Regulation.

None of the significant risks for the DG identified in the Annual Management Plan 2017 materialised in the course of 2017.

Specific Objective 1: Contribution to security of supply, based on solidarity and trust

As the EU remains vulnerable to external energy shocks, energy security is at the heart of the Energy Union. 2017 was an important year in strengthening the supply security of the EU with the remaining important proposals from the 2016 Security of Supply Package being finalised.

A key milestone in this aspect was the final adoption of the **Regulation concerning measures to safeguard the security of gas supply**¹⁵ on 25 October which significantly strengthens the resilience of the European gas system. After the entry into force of the Regulation on 1 November 2017, DG ENER undertook a number of actions together with the Gas Coordination Group in order to facilitate its implementation by Member States. Notably, it provided support to set up the regional risk analysis groups and prepared a recommendation on the technical, legal and financial arrangements between Member States for the application of the solidarity mechanism. This Commission support ensures not only the proper implementation of the regulation — particularly important so as to ensure an effective regional cooperation in order to analyse common risks and agree on joint preventive and emergency measures — but also ensures that the mechanism of solidarity between Member States is effective and guarantees gas supplies to the most vulnerable users in a severe gas crisis. Thereby it greatly enhances the resilience of the European gas supply system in the case of major supply crisis.

Another important milestone was the entry into force of the **new Decision concerning Intergovernmental Agreement (IGA) between Member States and third countries in the field of energy**¹⁶ on 2 May 2017. According to the new rules, Member States will have to notify the Commission their Intergovernmental Agreements in the field of gas and oil with non-EU countries before concluding them. Its key objective is to increase transparency on the gas market, make sure Intergovernmental Agreements are in line with EU law and strengthen the EU's resilience to gas supply disruptions.

Important progress was made in 2017 regarding the interinstitutional negotiations on the proposal under the Clean Energy for All Europeans Package for a **Regulation on Risk Preparedness in the electricity sector**¹⁷, which aims at ensuring that Member States work together to prevent and manage electricity crisis situations. DG ENER accompanied

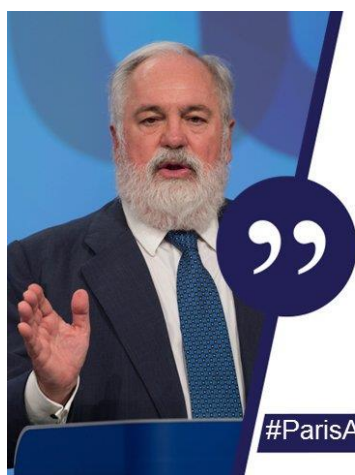
¹⁵ Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010.

¹⁶ Decision (EU) 2017/684 of the European Parliament and of the Council of 5 April 2017 on establishing an information exchange mechanism with regard to intergovernmental agreements and non-binding instruments between Member States and third countries in the field of energy, and repealing Decision No 994/2012/EU.

¹⁷ Proposal for a Regulation of the European Parliament and of the Council on risk-preparedness in the electricity sector and repealing Directive 2005/89/EC; COM(2016) 862 final, Brussels, 30 November 2016.

the negotiations on this proposal, which started in January 2017, and a general approach by the Council could be ensured on 4 December 2017 with the Parliament vote foreseen in early 2018. The important progress made on the file in 2017 and the challenges presented by the simultaneous negotiations of several interlinked files sets the base for a successful conclusion of the negotiations by the co-legislators.

Regarding the important issue of **cyber security**, DG ENER organised together with DG CNECT in March 2017 a high-level round table on the main challenges for cyber security in the energy system in the framework of the official celebrations marking the 60th anniversary of the European Treaties in Rome. The DG continued its work with expert groups including wide stakeholder consultations in analysing vulnerabilities and cyber risks in the energy system. A study on the evaluation of risks of cyber-incidents in the



The EU will strengthen its existing partnerships and seek new alliances from the world's largest economies to the most vulnerable island states.

Commissioner Miguel Arias Cañete

#ParisAgreement



The DG has **reinforced the international dimension** of the Energy Union in 2017, notably in view of the development of alternative suppliers and routes of energy supply. Cooperation with the US continued. The Eastern Partnership Summit in Brussels in November 2017 confirmed the political priorities of enhancing energy interconnectivity and the need to strengthen work on sustainable energy. Furthermore, it agreed on 20 deliverables for 2020

Source: https://twitter.com/EU_Commission/status/870369040816115713

and in the margins of the Summit a new EU-Armenia Comprehensive and Enhanced Partnership Agreement was signed which should foster energy cooperation and legislative approximation in the areas of nuclear safety, renewables, energy efficiency and electricity legislation. Regarding the Southern neighbourhood, the strategic energy partnerships with Algeria and Egypt progressed. The annual EU-China Energy Dialogue was restarted in 2017 back-to-back to the EU-China Summit in June and focused on renewables, energy efficiency and market design. Relations with Russia continued in a significantly reduced format, while the situation in Ukraine and its potential implication for Europe's energy security continued to be a high priority area together with achieving progress on the implementation of energy reforms in Ukraine.

Specific Objective 2: Further work towards a well-functioning and fully integrated internal energy market, including with interconnectors

2017 was a major year for advancing the important work towards a well-functioning and fully integrated internal energy market benefiting EU citizens and industry. The focus of DG ENER was on the follow-up to the legislative proposals presented as part of the Clean Energy for All Europeans Package, namely the proposals for a **recast Electricity Regulation¹⁸, a recast Electricity Directive¹⁹ and a recast ACER (Agency for the Cooperation of Energy Regulators) Regulation²⁰**. Important progress on these files was made strengthening the creation of an internal market for energy. This is important in order to deliver a secure, sustainable and cost-effective energy system across the entire EU and to ensure full and effective integration of the renewable energy needed to

¹⁸ Proposal for a Regulation of the European Parliament and of the Council on the internal market for electricity (recast); COM(2016) 861 final; Brussels, 30 November 2016.

¹⁹ Proposal for a Directive of the European Parliament and of the Council on common rules for the internal market in electricity (recast); COM(2016) 864 final; Brussels, 30 November 2016.

²⁰ Proposal for a Regulation of the European Parliament and of the Council establishing a European Union Agency for the Cooperation of Energy Regulators (recast); COM(2016) 863 final; Brussels, 30 November 2016.

meet the EU's targets and to allow for the secure supply of electricity and gas. The close cooperation between DG ENER and the co-legislators allowed overcoming the challenges presented by the simultaneous negotiation of the files and cumulated in the reaching of general approaches for the Electricity Directive and the Electricity Regulation by the Council on 4 December and allowed the European Parliament to schedule votes for the three acts in the ITRE committee in early 2018.

In the field of gas, the Commission presented on 8 November 2017 a **proposal to amend the Gas Directive**²¹ with the aim of clarifying that EU energy legislation applies to all gas pipelines to and from third countries up to the border of the EU's jurisdiction, thereby ensuring that all pipelines entering EU territory comply with EU rules. With this proposal, DG ENER already delivered on one of the deliverables foreseen in the Commission Work Programme 2018 for the completion of the Energy Union.

DG ENER continued its work in 2017 to remove regulatory barriers to cross-border trading in electricity and gas by adopting the last outstanding legislative implementing acts (so-called **network codes** and guidelines).

On 23 November 2017, together with the 3rd State of the Energy Union (see under Specific objective 6), the Commission adopted the **Communication on strengthening Europe's energy networks**²². The Communication was informed by the work of the expert group on the 15% interconnection target set up by the Commission in March 2016 in order to address the challenges of meeting the target. The group recommended new thresholds for considering the development of additional interconnectors by measuring the interconnection levels in relation to the peak consumption, installed renewables production and market integration. This Communication also contained the findings of the assessment carried out in line with Article 17 of the TEN-E Regulation.



Source: https://twitter.com/EU_Commission/status/934024687868358656

A **3rd list of Projects of Common Interest (PCI)**²³ was presented by the Commission together with the Communication and will constitute the basis for eligibility of funding proposals under the Connecting Europe Facility (CEF) Energy in the years 2018 and 2019. When designing the list, substantial efforts were made by DG ENER in order to streamline the process and align it with the European Networks of

Transmission System Operators (ENTSOs) and ACER processes. Furthermore — with the help of the JRC — a simplified yet more robust PCI assessment methodology was developed and the process substantially optimised while being more transparent and inclusive, thereby improving economy and efficiency of EU action.

The **Innovation and Networks Executive Agency (INEA)** continued to support the work of DG ENER in 2017 and contributed to the development of the multiannual work programme for granting financial aid in the field of trans-European energy infrastructure

²¹ Proposal for a Directive of the European Parliament and of the Council amending Directive 2009/73/EC concerning common rules for the internal market in natural gas; COM(2017) 660 final; Brussels, 8 November 2017.

²² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions; Communication on strengthening Europe's energy networks; COM(2017) 718 final; Brussels, 23 November 2017.

²³ Annex to Commission Delegated Regulation (EU) .../... amending Regulation (EU) No 347/2013 of the European Parliament and of the Council as regards the Union list of projects of common interest; C(2017) 7834 final; Brussels, 23 November 2017.

under the **Connecting Europe Facility (CEF)** for the period 2014-2020. The INEA mandate covers the energy part of CEF programme where DG ENER defines the policy, the strategy objectives and the priority areas of action, while INEA manages the entire project lifecycle. In the framework of CEF, the proposals received under the 2nd call at the end of 2016 have been evaluated and a selection decision was adopted in March 2017. All the 18 grant agreements resulting from this call have been signed until the end of 2017. The 2017 call for proposals has been launched in April 2017 with a budget of EUR 800 million made available to support PCIs in the areas of electricity, smart grids and gas infrastructure. Until the deadline for submissions in mid-October, a total of 25 eligible proposals have been submitted and are currently being evaluated²⁴.

Throughout 2017 important and substantial progress was made regarding the Energy Union **enabling framework**:

- **The Clean Energy for EU Islands** Inaugural Forum took place in Chania/Crete



DG Dominique Ristori at the Clean Energy for EU Islands Forum in Chania
(source: <https://twitter.com/ristori20/status/911248378855555073>)

on 22 September 2017 following up on the signature of the political declaration on Clean Energy for EU Islands by the Commission and 14 Member States in Valetta/Malta on 18 May. The initiative aims at accelerating the clean energy transition on islands while boosting their economic activity and benefitting local populations thereby showcasing the benefits of the energy transition.

In order to reach these aims, the initiative promotes replicable and scalable projects with funding from private sector and relevant existing EU funding and provides technical assistance.

²⁴ For more information on CEF, please refer to the respective Programme Statement for CEF available in: The draft general budget of the European Union for the financial year 2018, Working Document Part I, Programme Statements of operational expenditure, COM(2017) 400, Brussels, May 2017.

- **The Coal Regions in Transition Platform** was officially launched on 11 December in Strasbourg. It is designed to assist Member States and regions in



Launching of the Platform for Coal Regions in Transition in Strasbourg on 11 December 2017

source: <https://twitter.com/Energy4Europe/status/940274500813369344>

tackling the challenges of maintaining jobs and growth in communities affected by the planned and ongoing closure of coal mines and the commitment of some Member States to phase out coal. The Platform enables multi-stakeholder dialogues on policy frameworks and financing. It covers areas such as structural transformation, the deployment for

renewables, eco-innovation and advanced coal technologies.

- **The Covenant of Mayors** passed the mark of 1000 in terms of cities committed to 2030 energy and climate targets bringing the total number of signatories to 9100 with projected average greenhouse gas emissions of 23% by 2030. In addition, the **Global Covenant of Mayors** has been further operationalised with a Secretariat set up in Brussels and the initiative being promoted worldwide including at the One Planet Summit in Paris and a Covenant of Mayors day held at the United Nations Framework Convention on Climate Change (UNFCCC) 23 Conference of the Parties (COP-23).
- DG ENER in 2017 developed the **EU Energy Poverty Observatory** which officially went online on 29 January 2018. It will assist Member States in identifying, measuring and addressing energy poverty.

Specific Objective 3: Promoting the moderation of energy demand



Agreement on the EPBD

(source: https://twitter.com/MAC_europa/status/943169004851646464)

In 2017 important progress was made regarding the energy efficiency files with general approaches being agreed on for the revised **Energy Efficiency Directive**²⁵ and for the revised **Energy Performance of Buildings Directive (EPBD)**²⁶ in June. With the co-legislators reaching a political agreement on the revision of the **EPBD** in December 2017 the first legislative proposal of the Clean Energy for All Europeans Package could be brought to a closure, which represents a very swift and good result given the challenging need to

keep the coherence of the file with the still outstanding proposals. The agreement by the co-legislators includes comprehensive long-term renovation strategies and roadmaps in order to speed up building renovation and the decarbonisation of the building stocks by mid-century. It includes *inter alia* a solid financing component, provisions on deploying recharging infrastructure for e-mobility in buildings and an optional indicator for measuring the smart readiness of buildings. The agreed texts are expected to be formally approved by Parliament and Council in early 2018.

2017 also brought important progress in the area of products, where the revised **Energy Labelling Regulation**²⁷ entered into force on 1 August 2017. The new rules provide for a return to the more effective and easier to understand A to G labels for energy efficiency. Moreover, it will introduce a product database by 1 January 2019 in order to support market surveillance activities by Member States.

DG ENER actively contributed to the process leading to the publication by Eurostat of an updated guidance note on the recording of energy performance contracts (EPCs) in government accounts in September 2017. The revised guidance note clarifies the accounting rules applied to the treatment of energy performance contracts. This significantly increases the possibilities for public bodies to use energy performance contracts, by including and clarifying the circumstance in which these contracts can be recorded off government balance sheets.

In its work on energy efficiency but also regarding the general objective of competitiveness, DG ENER is supported by the **Executive Agency for SMEs (EASME)**, which in 2017 implemented two call deadlines for energy efficiency as part of Horizon 2020 – Societal Challenge 3 and continued managing the legacy of the Intelligent Energy Europe programme. In 2017, three Concerted Actions were ongoing: on the EPBD, on the Renewable Energy Sources Directive and on the Energy Efficiency Directive. In addition, EASME managed seven tenders under Horizon 2020 contracts, among which a tender on sustainable energy financing contributing to the Smart Finance for Smart Buildings initiative.

²⁵ Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on energy efficiency; COM(2016) 761 final; Brussels, 30 November 2016.

²⁶ Proposal for a Directive of the European Parliament and of the Council amending Directive 2010/31/EU on the energy performance of buildings; COM(2016) 765 final; Brussels, 30 November 2016.

²⁷ Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU.

Specific Objective 4: Promoting the decarbonisation of the EU energy mix and the increase of energy production from low Carbon Energy Sources, in particular renewables

The work of DG ENER in 2017 in the area of decarbonisation and renewable energy sources focused on the negotiations of the recast of the Directive on the promotion of the use of energy from renewable sources (**Renewable Energy Directive²⁸**) for the period after 2020 as adopted by the Commission in November 2016 as part of the Clean Energy for All Europeans Package. A general approach on the recast of the directive was agreed on by the Council in December 2017, while the responsible committees in the European Parliament (ITRE and ENVI) adopted their reports in November, respectively October 2017. Trilogues on the text are scheduled to start in February 2018.

The annual edition of the **European Sustainable Energy week** took place from 19 June to 25 June 2017. It is the most important event of the European Commission dedicated to sustainable energy policy issues. During the EU's Sustainable Energy Week, public authorities, energy agencies, research organisations, NGOs, businesses, and private consumers had the chance to exchange ideas and best practices about providing secure, clean and efficient energy.

In addition, DG ENER in 2017 continued to work towards enhanced **regional cooperation** between Member States on support schemes, including the use of the cooperation mechanism as envisaged in the Renewable Energy Directive. A number of Member States pursued negotiations in this area with Luxemburg signing the first two agreements on statistical transfers with Lithuania and with Estonia for meeting the 2020 targets for renewable energy.

2017 saw and intensive activity regarding **international cooperation** on renewables and support to EU business in new market opportunities for renewables deployment outside the EU. For example, the Commission organised several bilateral dialogues and business forums including an EU Energy Day at the Expo 2017 in Astana. Another major event was the EU Energy Day at COP-23 in Bonn. DG ENER also continued to ensure a coordinated EU position for both the IRENA (International Renewable Energy Agency) Council and General Assembly and to take an active role in agenda setting and work plan proposals in order to address the challenges and ensure that renewable energy is high on the international agenda.

Specific Objective 5: Tapping the job and growth potential of the energy sector and further developing energy technologies (Horizon 2020), including ITER and the safe and secure use of nuclear energy

5.1 Competitiveness

In 2017 DG ENER continued to foster the competitiveness of the EU energy system as one of the DG's general objectives and followed up on the 2016 **Energy prices and costs report** by presenting it to various stakeholders. Furthermore, the preparation of the 2018 version of the biannual report was launched, mainly via the initiation of a study in order to collect and analyse new updated data on energy prices, costs and subsidies, which will feed into the next version of the report.

²⁸ Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (recast); COM(2016) 767 final; Brussels, 30 November 2016.



Speakers at the Clean Energy Financing Conference

(source: <https://twitter.com/Energy4Europe/status/927884099095793665>)

Concerning **financing**, a high level conference on clean energy financing was organised on 7 November 2017 together with the European Parliament with the participation of several high-level speakers including EP President Tajani and Commission Vice-Presidents Šefčovič and Katainen as well as Commissioners Miguel Arias Cañete, Oettinger and Bulc. The event brought together more than a thousand policy makers, stakeholders from

the investor community and market participants.

2017 also saw a series of **Sustainable Energy Investment Forums** being organised across Europe in order to showcase best practices in developing investment projects and programmes in sustainable energy, and engage dialogue with the financial sector, public authorities, and all stakeholders involved in delivering investments in sustainable energy. The aim of the Sustainable Energy Investment Forums is to work with national stakeholders in order to boost large-scale investment and financing for sustainable energy.

Broadening the scope of regional cooperation fora to energy efficiency and renewables also contributes to tapping the job and growth potential of the energy sector. In September 2017, under the Commission Initiative on Central and South-Eastern European Energy Connectivity (CESEC), the Ministers of the region signed a Memorandum of Understanding (MoU) which complements the existing CESEC initiative and includes a joint approach on energy efficiency and renewable development. It incorporates specific actions to boost renewables and investment in energy efficiency in a region with vast growth potential in these areas

5.2 Research and Innovation

In 2017 the work on the **Strategic Energy Technologies Plan (SET Plan)** continued with temporary working groups being set up to concretise the ambitious research and innovation targets under each of the ten priority areas that were identified in the 2015 Communication on an integrated SET Plan²⁹ as well as the development of Implementation Plans for each of the ten SET Plan actions.

In 2017, the EUR 360 million supervised by DG ENER under **Horizon 2020** were mainly disbursed under the open calls for proposals covering 'Competitive low-carbon energy', 'Smart cities and communities', 'Energy Efficiency', 'Stimulating the innovation potential of SMEs for a low carbon and efficient energy system' and the 'Fast track to innovation for energy'. The Horizon 2020 Work Programme for the period 2018-2020 was adopted in 2017 taking into account the results of the interim evaluation and addressing the challenges identified. Under the Horizon 2020 Work Programme 2017, 20 new projects were selected (of which 18 granted) as well as 1 ERA-NET project in the field of low carbon energy dealing with smart electricity grid and storage. Moreover, three lighthouse

²⁹ Communication from the Commission towards an Integrated Strategic Energy Technology (SET) Plan: Accelerating the European Energy System Transformation; C(2015) 6317 final; Brussels 15 September 2015.

projects were selected under Smart cities covering energy, ICT and transport aspects.

Implementation of remaining projects under the European Energy Programme for Recovery (EEPR) continued, especially regarding offshore wind projects entering the last phases of implementation. However, in November 2017 the grant agreement between the last ongoing **carbon capture and storage (CCS)** demonstration project ROAD in the Netherlands was terminated due to the lack of further financial support by the partners of the joint venture.

International cooperation in the area of research and innovation on clean energy technology development continued with a series of events and initiatives being put forward in 2017, notably in the context of the **Clean Energy Ministerial** policy discussions and through the various technology collaboration programmes under the **International Energy Agency** (IEA). DG ENER contributed to the Mission Innovation meeting in 2017, enabling the EU to play a key role in driving ahead the pledges for doubling investment in clean energy and in implementing seven major 'Innovation Challenges' by co-leading two of them (on the conversion of sun light to fuels and other forms of chemical energy storage and on emissions-free heating and cooling).

5.3 Nuclear Energy (Promoting the safe and secure use of nuclear energy and ensuring the peaceful use of civil nuclear materials for their intended purposes)

In May 2017, DG ENER adopted the latest **Nuclear Illustrative Programme (PINC)**³⁰ after receiving the opinion of the European Economic and Social Committee and addressing the challenges identified. The PINC provides a full overview of developments and investments needed in the nuclear field in the EU for each step of the nuclear lifecycle with a 2050 horizon. DG ENER also continued its work in 2017 regarding the foreseen proposal for updating the notification requirements for nuclear investment projects under **Article 41** of the Euratom Treaty. The initiative, for which adoption has been postponed to 2018, aims at taking into account the challenges and concerns related to security of supply while ensuring full compliance with Euratom safety requirements. Furthermore, it aims at enhancing the efficiency of the procedure and at providing greater transparency to all stakeholders.

Work in 2017 continued to ensure effective implementation of the **reinforced EU nuclear safety and radiation protection framework**. The Commission is supporting the Member States in transposing the amended Nuclear Safety Directive (NSD)³¹, the revised Basic Safety Standards (BSS) Directive³² and the Euratom Drinking Water Directive (E-DWD)³³ into national law. This is done *inter alia* through the organisation of bilateral meetings, dedicated workshops as well as through the European Nuclear Safety Regulators Group (ENSREG) with a focus on ensuring the adequate implementation of the nuclear safety objective on the prevention and mitigation of accidents enshrined in the amended NSD. This work also included the facilitation of the effective implementation of the **first topical peer review** under the NSD on 'ageing management of nuclear power plants', which was officially launched in February 2017. Reports to the Commission and to ENSREG under this exercise had to be submitted until 31 December 2017 and for 2018 a peer review workshop and a subsequent report are foreseen.

The Commission adopted in May 2017 the **first report**³⁴ on the implementation of the

³⁰ Communication from the Commission, Nuclear Illustrative Programme presented under Article 40 of the Euratom Treaty – Final (after opinion of EESC); COM(2017)237 final; Brussels, 12 May 2017.

³¹ 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.

³² 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, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom.

³³ Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.

³⁴ Report from the Commission to the Council and the European Parliament on progress of implementation of Council Directive 2011/70/EURATOM and an inventory of radioactive waste and spent fuel present in the Community's territory and the future prospects; COM(2017) 236 final; Brussels, 15 May 2017.

Directive for the responsible and safe management of spent fuel and radioactive waste³⁵ providing a comprehensive overview of the current situation of spent fuel and radioactive waste management in the EU including an inventory of waste present on the EU's territory. The report contributed to an informed and transparent discussion on the investment needs and the management of nuclear liabilities in the back-end of the fuel cycle and on the safe and responsible management of the back-end of the fuel cycle, including shared disposal, in an effort to avoid undue burdens to future generations.

In June 2017, the Commission presented to the European Parliament and the Council the third report on the **implementation of the nuclear decommissioning assistance programme to Bulgaria, Lithuania and Slovakia**. It also adopted the 2017 annual work programmes and associated financing decisions, allocating EUR 138 million for the implementation of the actions. In line with expectations set for the current Multiannual Financial Framework (MFF), Bulgaria, Slovakia and Lithuania have progressed effectively and efficiently in the decommissioning of their reactors. Despite challenges and setbacks due to the programmes' complexity, the management system has proven an increasing ability to anticipate emerging issues and cope with them as needed. Given the progress and the new momentum of decommissioning activities, substantial additional payment credits (some EUR 204 million) were requested to the budgetary authority and paid in the second half of 2017. The recommendations from the Internal Audit Service were fully implemented and the recommendations resulting from the European Court of Auditors special report were implemented in line with the response plans³⁶ (see also section 2.1.1).

Concerning non-power applications, DG ENER has launched a study on medical, industrial and research applications of nuclear and radiation technologies. The study — together with a conference to be organised in March 2018 — form the basis for the development of a Strategic Agenda for Medical, Industrial and Research Applications of Nuclear and Radiation Technology (**SAMIRA**).

With regard to the **external dimension of nuclear energy policy**, DG ENER in close



cooperation with the JRC continued its efforts in support of the implementation of risk and safety assessments (stress tests) of nuclear power plants in EU Neighbouring Countries. Work in 2017 focused in particular on the preparations for the implementation of the stress test for the Ostrovets nuclear power plant in Belarus, where the national stress test report was submitted to the Commission and to ENSREG by the Belarussian authorities in October 2017. Despite the challenges, an agreement was reached during the year on the practical arrangements for conducting the peer review, which is foreseen for March 2018. In

Progress in Implementation of JCPoA opening doors for cooperation on sustainable energy (source: https://twitter.com/MAC_europa/status/858235317085667328)

support of the **Joint Comprehensive Plan of Action (JCPoA) with Iran**, the Commission organised two high-level seminars for Iranian decision makers addressing the themes of nuclear governance, nuclear safety and waste management as well as international nuclear cooperation.

³⁵ Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste.

³⁶ For more information on the nuclear decommissioning project, please refer to the respective Programme Statements for the nuclear decommissioning assistance programme in Bulgaria and Slovakia respectively for the nuclear decommissioning assistance programme in Lithuania available in: The draft general budget of the European Union for the financial year 2018, Working Document Part I, Programme Statements of operational expenditure, COM(2017) 400, Brussels, May 2017.

Concerning the **implementation of Euratom Safeguards**, concrete figures for 2017 are not yet available, but according to unit reports no case of nuclear material diversion appears to have occurred in 2017. 88% of the inspected nuclear facilities satisfied the Commission's safeguards criteria, which represents a decline in positive safeguards conclusions and is below the 95% target. This decline was partly based on the performance of nuclear operators and on a strict interpretation of safeguards, meaning that also formal failures would lead to negative conclusions.

5.4 Developing Nuclear Fusion Technologies (ITER)

Since its start in 2007, the ITER project, a technologically complex, first-of-a-kind, large-scale international project, has faced significant challenges as regard its costs and delays. However, the progress made in 2017 confirmed the robustness of the actions undertaken to address these issues.

In 2017, DG ENER finalised a comprehensive strategy to **improve the supervision and governance of the Fusion for Energy (F4E) Joint undertaking**. The strategy sets out the supervision needs and objectives as well as the tools, working methods and procedures needed to achieve them, thus addressing the risks and challenges for ITER not to be completed according to the plan, on budget and under the technical specification of the project's baseline. Moreover, the strategy will contribute to the assurance building regarding the effectiveness of the cost containment measures deployed by F4E, the appropriateness of its budgetary execution and of its management of procurement issues³⁷.

In addition, in June 2017, the Commission published a **Communication on the EU contribution to a reformed ITER project**³⁸, thereby confirming the support to the project and launching the inter-institutional discussions on the new ITER baseline (cost, schedule and scope) in view of obtaining a mandate authorising the Commission to approve the new baseline at Ministerial ITER Council level.

The **works at the ITER site itself are progressing well** within the demanding schedule and in a technically challenging context of a first-of-its-kind project. The 21st ITER Council meeting in November 2017 confirmed that the project remains on schedule for first plasma in 2025 and in late November it was announced that a completion rate of 50% of the total physical work (design, manufacturing, construction, assembly and installation) needed for first plasma has been reached. Challenges ahead include maintaining the right focus on the critical path projects and ensuring the future financing of the projects up to its completion³⁹.

³⁷ For more information on the ITER project, please refer to the respective Programme Statement for ITER available in: The draft general budget of the European Union for the financial year 2018, Working Document Part I, Programme Statements of operational expenditure, COM(2017) 400, Brussels, May 2017.

³⁸ Communication from the Commission to the European Parliament and the Council, EU contribution to a reformed ITER project; COM(2017) 319 final; Brussels, 14 June 2017.

³⁹ See also section 2.1.1.2.2 (E) as regards the Management, the implementation and the supervision of the project.



ITER Industry Day

Source:

<https://twitter.com/ristori20/status/937666668498702338>

developing spin-off products for exploitation outside fusion, for example in aviation and high-tech instruments like nuclear magnetic resonance scanners used in the health sector. Thereby, ITER is fully contributing to the agenda for jobs, growth and investment which lies at the core of the Juncker priorities.

DG ENER organised an **ITER Industry Day** in December, demonstrating the already positive impact of the project on jobs, growth and innovation, in particular for European industries and SMEs, which are involved in the conception and construction and therefore enjoy a solid international cooperation and participation in innovative markets. Over the last ten years, F4E has awarded almost 1000 contracts and grants all over Europe for a total value of approximately EUR 4 billion. The benefits of ITRE expand way beyond the broader energy sector with industry participating in the project

Specific Objective 6: Implementation and follow-up on the overall Energy Union strategy

In 2017, DG ENER focused its work under this specific objective on the negotiations by the co-legislators regarding the **Regulation on the Governance of the Energy Union**⁴⁰, proposed in November 2016 as part of the Clean Energy for All Europeans Package. The DG was able to overcome the challenges presented by the extensive interlinkages of the proposals with the other Clean Energy for All Europeans files and the need to keep the ambition high. It ensured swift and timely negotiations of the proposal, which lead to the adoption of the report on the Governance Regulation by the joint ITRE/ENVI Committee of the European Parliament on 7 December followed by the adoption of a general approach on the Governance Regulation by the Council on 18 December. Trilogues are starting in early 2018. Linked to the work on Governance, the DG also ensured that the interlinkages and coherence among all the proposals presented as part of the Clean Energy for All Europeans Package pending before the co-legislators were kept to the highest extent possible.

In order to reduce administrative burden on Member States and stakeholders as well as to ensure the regulatory fitness of the energy acquis, a proposal for the **repeal of Regulation 256/2014**⁴¹ concerning the notification of investment projects in energy infrastructure was adopted by the Commission in December 2017.

⁴⁰ Proposal for a Regulation of the European Parliament and of the Council on the Governance of the Energy Union, amending Directive 94/22/EC, Directive 98/70/EC, Directive 2009/31/EC, Regulation (EC) No 663/2009, Regulation (EC) No 715/2009, Directive 2009/73/EC, Council Directive 2009/119/EC, Directive 2010/31/EU, Directive 2012/27/EU, Directive 2013/30/EU and Council Directive (EU) 2015/652 an repealing Regulation (EU) No 525/2013; COM(2016) 759 final; Brussels, 30 November 2016.

⁴¹ Proposal for a Regulation of the European Parliament and of the Council, Repealing Regulation (EU) No 256/2014 of the European Parliament and of the Council concerning the notification to the Commission of investment projects in energy infrastructure within the European Union; COM(2017) 769 final; Brussels, 19 December 2017.



*"We remain committed to completing the **#EnergyUnion** by the end of this Commission's mandate.*

*By 2019, the Energy Union must no longer be a policy but a **daily reality**, benefitting every European citizen."*

Source: <https://twitter.com/MarosSefcovic/status/934022214101454849>

In 2017, DG ENER also contributed to two reports on the **State of the Energy Union**. The second report on the State of the Energy Union was presented on 1 February 2017⁴² and the third State of the Energy Union report on 23 November 2017⁴³. For the second one, DG ENER provided an overview of the state of play of the Energy Union along its five dimensions and a report on key indicators for measuring the

progress of the Energy Union. For the third State of the Energy Union, the DG prepared annexes on policy observations at Member State, regional and EU level and summarising the state of Progress towards National Energy and Climate Plans. Furthermore, the Commission produced 28 country fact sheets that provide a detailed overview of the situation in the energy and climate sector for each Member State.

DG ENER continued in 2017 to contribute to the **European Semester process** and provided input to the country reports, but no country specific recommendations in the energy area were proposed.

For a complete overview of the DG's performance in relation to the objectives and indicators set out in the Strategic Plan 2016-2020 and the Annual Management Plan 2017 please see the performance tables in Annex 12.

⁴² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, Second Report on the State of the Energy Union; COM(2017) 53 final; Brussels, 1 February 2017.

⁴³ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, Third Report on the State of the Energy Union; COM(2017) 688 final; Brussels, 23 November 2017.

2. ORGANISATIONAL MANAGEMENT AND INTERNAL CONTROL

This section answers to the question *how* the achievements described in the previous section were delivered by the DG. This section is divided in two subsections.

The first subsection reports the control results and all other relevant information that support management's assurance on the achievement of the financial management and internal control objectives. It includes any additional information necessary to establish that the available evidence is reliable, complete and comprehensive; appropriately covering all activities, programmes and management modes relevant for the DG.

The second subsection deals with the other components of organisational management: human resources, better regulation principles, information management and external communication.

2.1 Financial management and internal control

Assurance is an objective examination of evidence for the purpose of providing an assessment of the effectiveness of risk management, control and governance processes.

This examination is carried out by management, who monitors the functioning of the internal control systems on a continuous basis, and by internal and external auditors. Its results are explicitly documented and reported to the Director-General. The reports produced are:

- the reports by the Authorising Officers by Sub-Delegation (AOSDs);
- the reports from Authorising Officers in other Directorates-General managing budget appropriations in cross-delegation;
- the reports on control results from entrusted entities in indirect management as well as the result of the Commission supervisory controls on the activities of these bodies;
- the contribution of the Internal Control Coordinator, including the results of internal control monitoring at the Directorate-General level;
- the reports of the ex-post audit;
- the limited conclusion of the internal auditor on the state of control and the observations and recommendations reported by the Internal Audit Service (IAS);
- the observations and the recommendations reported by the European Court of Auditors (ECA).

These reports result from a systematic analysis of the evidence available. This approach provides sufficient guarantees as to the completeness and reliability of the information reported and results in a complete coverage of the budget delegated to the Director-General of DG ENER.

Section 2.1. reports on the control results and other relevant elements that support management's assurance. It is structured into (2.1.1) Control results, (2.1.2) Audit observations and recommendations, (2.1.3) Effectiveness of the internal control systems, and resulting in (2.1.4) Conclusions as regards assurance.

2.1.1 Control results

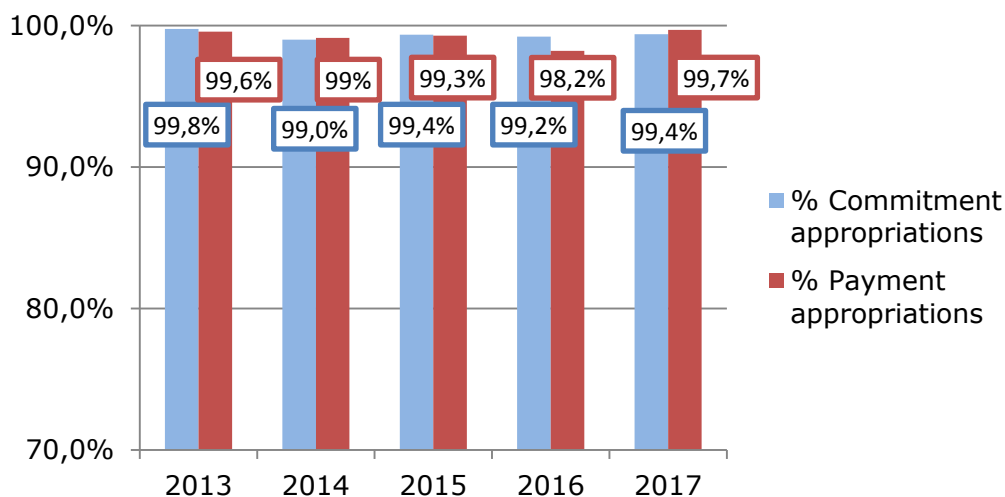
This section reports and assesses the elements identified by management that support the assurance on the achievement of the internal control objectives⁴⁴.

The DG's assurance building and materiality criteria are outlined in the Annex 4 of the AAR. Annex 5 outlines the main risks together with the control processes aimed to mitigate them and the indicators used to measure the performance of the control systems.

2.1.1.1. Overview of the 2017 budget execution

The total payments of DG ENER in 2017 amount to EUR 1.343 billion, the vast majority being operational as the administrative part only accounts 1%.

The following chart shows the execution of DG ENER's appropriations⁴⁵ over time. In 2017 DG ENER absorbed 99.39% of the commitment appropriations and 99.69% of the payment appropriations.

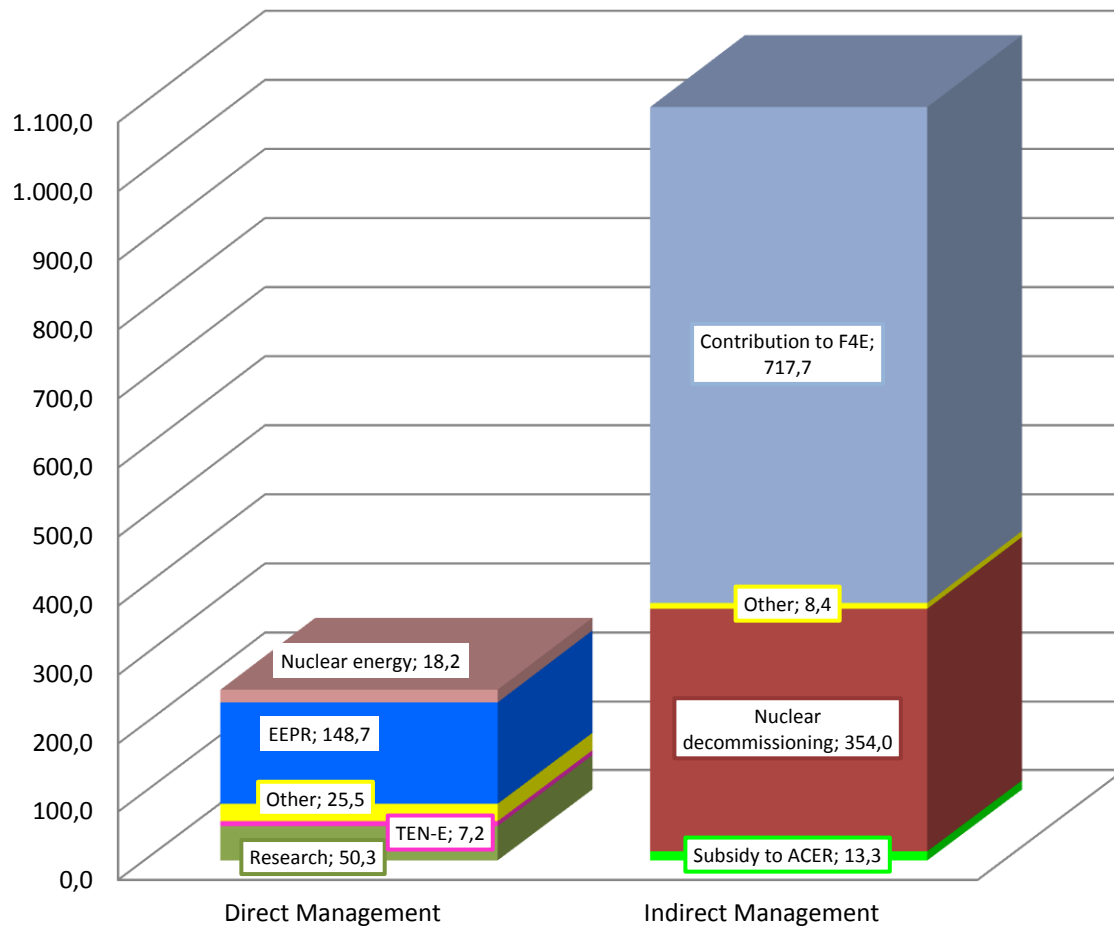


The two charts below provide an overview of DG ENER implementation of its programmes and activities under direct management (18.60%) and indirect management (81.40%).

⁴⁴ Effectiveness, efficiency and economy of operations; reliability of reporting; safeguarding of assets and information; prevention, detection, correction and follow-up of fraud and irregularities; and adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments (FR Art 32).

⁴⁵ This chart is based on C1 and E0 credits only (commitment appropriations voted in the current budget, budget modifications and other current year commitment appropriations, modifications due to amending budgets and transfers), while tables 1 and 2 of Annex 3 include all authorised appropriations.

Allocation of the 2017 payments (in EUR million) between direct and indirect management



Allocation of the payments made in 2017 per type of activity

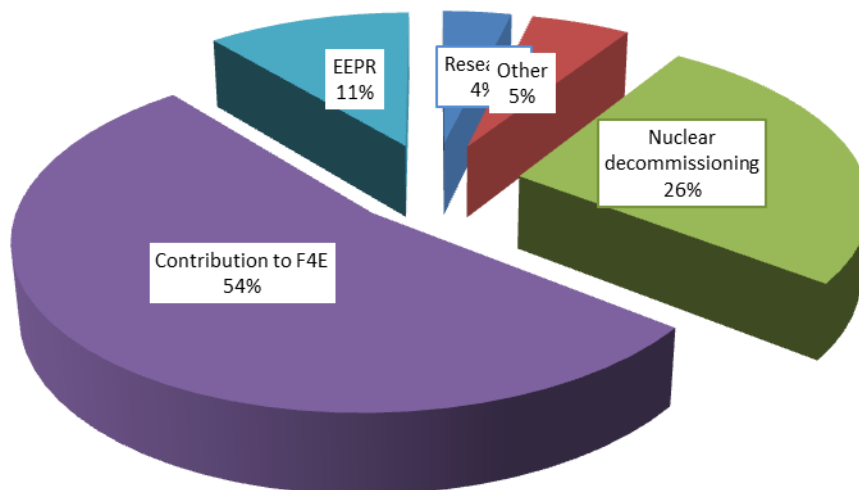


Table 2.1: Overview table: types of activities and main indicators (figures in EUR)

Risk-types / Activities	Grants / Procurements	Cross-sub-delegations to other DGs	Subsidies / funds to EE (EU Agency, EA, JU) Delegation Agreements with EE	Available ICO indicator(s)	Independent info from auditors (IAS, ECA) on assurance or on new/overdue critical recommendations available?	Reservation	AAR Section
EEPR grants	148.658.755	10.750		RER: 0.18%	N	N	2.1.1.2.1
FP7 grants	29.919.704			RER: 3.55%	N	Y	2.1.1.2.1
Contribution to F4E JU			717.684.708	Audit / supervision activities	N	N	2.1.1.2.2
Nuclear decommissioning (CPMA / EBRD / SIEA)			353.956.749	Audit / supervision activities / Mgnt decl.	N	N	2.1.1.2.2
Financial instruments			8.321.468	Audit / supervision activities / mgnt decl.	N	N	2.1.1.2.2
Subsidy to ACER			13.272.160	Audit / supervision activities	N	N	2.1.1.2.2
Other operational expenditure	67.668.804	1.119.111	123.000	Estimated RER <2%	N	N	(Partly under 2.1.1.2.1 and 2.1.1.2.2.)
Administrative expenditure	2.513.037			Estimated RER <2%	N	N	(Partly under 2.1.1.2.1 and 2.1.1.2.2.)
<i>Totals (coverage)</i>	248.760.300	1.129.861	1.093.358.085				
AAR Annex 3	1.343.248.245						

This overview table shows that:

- Based on the main indicator results available, overall suitable controls were in place in 2017 and worked as intended;
- The reservation on FP7 overpayments is maintained as the residual error rate remains persistently above the 2% materiality threshold defined in Annex 4 'Materiality Criteria';
- No new reservation has been considered in this AAR as Management has reasonable assurance that overall suitable controls are in place and work as intended (taking into account also the multiannual character of the main programmes); risks are being mitigated and/or monitored; improvements and reinforcements are being implemented.

Reservations are addressed in Section 2.1.5 of this AAR.

2.1.1.2. Control effectiveness as regards legality and regularity

DG ENER has set up internal control processes aimed to ensure the adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments concerned.

Overall amount at risk

In the context of the protection of the EU budget, at the Commission's corporate level, the DGs' estimated overall amounts at risk and their estimated future corrections are consolidated.

For DG ENER, as displayed in table 2.2 below, the estimated overall amount at risk at payment⁴⁶ for the 2017 payments made is EUR 6.78 million. This is the AOD's best, conservative estimation of the amount of relevant expenditure⁴⁷ during the year (EUR 1.06 billion) not in conformity with the applicable contractual and regulatory provisions at the time the payment is made.

This expenditure will be subsequently subject to ex-post controls and a sizeable proportion of the underlying error will be detected and corrected in successive years. The conservatively estimated future corrections⁴⁸ for those 2017 payments made are EUR 2.43 million. This is the amount of errors that the DG conservatively estimates to identify and correct from controls that it will implement in successive years.

The difference between those two amounts leads to the estimated overall amount at risk at closure of EUR 4.34 million.

⁴⁶ In order to calculate the weighted average error rate (AER) for the total relevant expenditure in the reporting year, the detected, estimated or other equivalent error rates have been used.

⁴⁷ 'Relevant expenditure' during the year = payments made, minus new pre-financing paid out, plus previous pre-financing cleared.

⁴⁸ Based on the adjusted 7 years historic average of recovery orders, which is the best available indication of the corrective capacity of the ex-post control systems implemented by the DG over the past years. The ex-post error rate is not applied to payments made to ACER and F4E JU, to pre-financing and to administrative expenditure.

Table 2.2 – Estimated overall amount at risk at closure (in EUR; full year)

Activities	Payments made	Minus new prefinancing	Plus cleared prefinancing	Relevant expenditure	Average error rate (%)		Estimated overall amount at risk at payment	Average recoveries and corrections (adjusted ARC; %)	Estimated future corrections	Estimated overall amount at risk at closure
	As per AAR Annex 3, table 2	As per ABAC DWH BO report on prefinancing	As per ABAC DWH BO report on prefinancing	= (1) - (2) + (3)	Detected	Estimated	= (4) x (5)	Based on 7Y-avg adjusted historic recovery orders (as per ABAC DWH BO report on corrective capacity) Not applicable to pre-financing, administrative expenditure and disbursements to F4E and ACER.	= (4) x (7)	= (6) - (8)
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)
EEPR grants	148.669.505	0	7.934.009	156.603.514	1,36%		2.129.808	0,38%	587.454	1.542.354
FP7 grants	29.919.704	0	40.821.873	70.741.577	4,95%		3.501.708	1,40%	990.382	2.511.326
Contribution to F4E JU	717.684.708	717.684.708	589.447.133	589.447.133		0,00%	0	0,00%	0	0
Nuclear decommissioning (CPMA / EBRD / SIEA)	353.956.749	351.079.558	172.992.940	175.870.131		0,50%	879.351	0,38%	659.727	219.624
Financial instruments	8.321.468	10.252.552	0	-1.931.084		0,50%	0	0,00%	0	0
Subsidy to ACER	13.272.160	13.272.160	15.343.698	15.343.698		0,00%	0	0,00%	0	0
Other operational expenditure	68.910.914	23.611.889	7.217.315	52.516.340		0,50%	262.582	0,38%	197.000	65.582
Administrative expenditure	2.513.037	129.233	114.073	2.497.877		0,20%	4.996	0,00%	0	4.996
Total	1.343.248.245	1.116.030.100	833.871.041	1.061.089.186			6.778.444		2.434.563	4.343.881

Notes:

- Column (2) 'Minus new pre-financing': New PF actually paid by out the DG itself during the FY (i.e. excluding any PF received as transfer from another DG); It also includes cross-subdelegated amounts from DG MOVE to DG ENER - EUR 1.93 million.
- Column (3) 'Plus cleared pre-financing': PF actually having been cleared during the FY, based on accepted invoices (i.e. their 'delta' in FY actuals, not their 'cut-off' based estimated 'consumption');
- Column (4) 'Relevant expenditure': this is a concept that intentionally combines elements from the budgetary accounting and from the general ledger accounting for the purpose of equivalence with the ECA's scope of the EC funds with potential exposure to L&R errors (see the ECA's AR methodological Annex 1.1 point 7); The negative relevant amount reported for the line 'Financial Instruments' is due to and corresponds to the inclusion of the DG MOVE cross-subdelegated amount.
- Column (5)
 - o **The calculated weighted average error rate is 0,6%**
 - o The estimated error rate for administrative expenditure decreased from 0.6% to 0.2% between the 2016 AAR and the 2017 AAR to reflect the error rate identified by the Court of Auditors in their 2016 Annual Report (Source: 2017/C 322/02 - page 278; § 10.17): 'The overall audit evidence indicates that the level of error in spending on 'Administration' was not material. ...The estimated level of error present in the population is 0.2%.');
- Column (7) 'Average recoveries and corrections %': The adjusted recovery rate is 0.38%. The seven-year historic average of recovery orders corresponds to 3.94% (as per ABAC DWH BO report on corrective capacity). However, the % has been adjusted conservatively to only take into account recoveries from the last seven years with a recovery context type 'irregularity' and 'error'. This % has been further adjusted by deducting certain recoveries of pre-financing made in previous years, which under today's rules should be considered as being of recovery context type 'none' (instead of 'irregularity'). However, for FP7 payments, the correction rate used in this column corresponds to the difference between the representative error rate and the residual error rate. Also note that the 0.38% is not applied to pre-financing, administrative expenditure and to payments made to F4E JU and ACER, in general not subject to ex-post recoveries. Eventually, this % is the best available indication of the expected corrective capacity of the ex-post control systems implemented by the DG over the past years. As payments made to F4E and ACER correspond to >55% of the relevant expenditure, the average adjusted and weighted average of corrections is 0,2%.

Control effectiveness is discussed hereunder, making due consideration for the management mode.

- Section 2.1.1.2.1 treats controls exerted over the two main programmes directly managed by DG ENER as well as the cross-subdelegations given to other Commission's services;
- Section 2.1.1.2.2 outlines controls exerted over the budget entrusted to other entities.

2.1.1.2.1. Direct Management

This section provides details on the control effectiveness for the two programmes under direct management that had the highest payments in 2017 (FP7 and EEPR), as well as for the cross-subdelegations given to other Commission's services.

The general control objective, as stated in Annex 4, is to ensure for each of these programmes that the residual error rate, i.e. the level of errors which remain undetected and uncorrected, does not exceed 2% by the end of each their respective management cycle. Indeed, because of its multi-annual nature, the effectiveness of the control strategy can only be fully measured and assessed in the final stages of the Programmes, once the ex-post control strategy has been fully implemented and systematic errors have been detected and corrected.

The question of being on track towards this control objective is (re)assessed annually, in view of the results of the implementation of the ex-post audit strategies and taking into account both the frequency and importance of the errors found as well as a cost-benefit analysis of the effort needed to detect and correct them.

A. EEPR

The European Energy Programme for Recovery (EEPR) was designed to inject significant sums into the EU economy quickly in order to stimulate the EU recovery out of recession, while at the same time contributing to the goals of the European energy policy. To this end, all the money had to be committed by the end of 2010.

Given that the first two stages of the control system, i.e. call for proposals, their evaluation and the contracting phase were completed by the end of 2010, this AAR will only focus on stages 3 and 4.

In 2017, payments made in this context amounted to EUR 148.67 million.

• Stage three: Monitoring the execution of projects

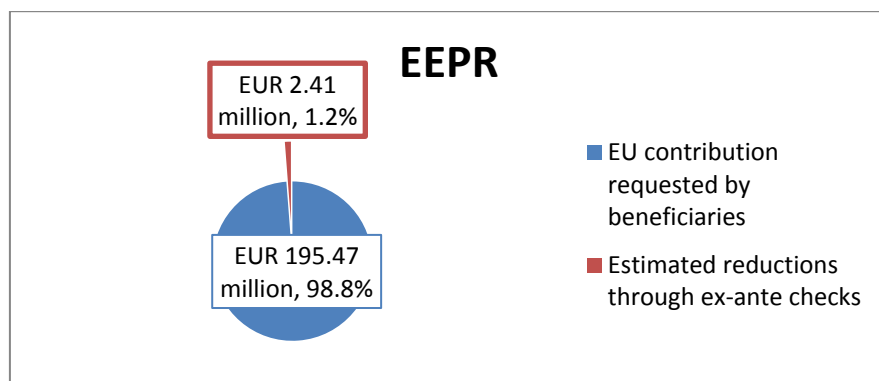
The payments for EEPR grants represent around 10% of the total payments made by DG ENER in 2017.

The third stage concerns the management of the project and the grant agreement. This stage comprises the technical monitoring (with the help of independent technical experts) of the grant agreements/decisions over its lifetime, and also ex-ante checks of participants' cost claims. These ex-ante checks also include audit certificates on cost statements established by external auditors, when required by the grant agreement or decision, and the processing of transactions through Commission's financial circuits to ensure that the transactions authorised are in compliance with the applicable rules.

As a result of ECA's findings related to errors in public procurements awarded by beneficiaries of EEPR grants, DG ENER has ensured that checks on procurements are made before the payments.

The chart below outlines the reductions made to the EU contribution claimed by grant beneficiaries. Ex-ante checks have prevented the payment of around EUR 2.41 million, representing about 1.2% of the requested EU contribution. The main errors detected in cost claims concerned inconsistencies between the information supplied by grant beneficiaries and that included in the audit certificate when submitted (amount of costs, methods of calculation, periods, etc.), audit certificates incomplete, missing or not provided by a qualified auditor, arithmetical errors, costs incurred outside the eligibility period or not covered by the legal basis.

Effectiveness of ex-ante checks: reductions to the requested EU contribution⁴⁹



For the reporting year, the ex-ante checks only detected around 1.2% undue EU contribution from the payments requested. This relatively low level of findings does not mean that the controls were not effective, but rather that all supporting documents supplied ensured that the expenditure was covered by the legal basis.

• Stage four: Ex-post controls and recoveries

The fourth stage includes the ex-post audits as well as the recovery of any amounts found to have been paid in excess of the amount due.

EEPR audits carried out by DG ENER

The audit coverage foreseen in the DG ENER 2017 audit work programmer for EEPR is the following: the strategy for the next few years is to reach coverage of 100% of the number of projects and beneficiaries. In principle, beneficiaries are audited twice (it could be for different projects) to get reasonable assurance that submitted costs claims are free of errors. Beneficiaries will not be selected a third time unless the previous audits have revealed material errors.

Table 2.3 shows that out of the 78 audits launched by the end of 2017, all 78 have been finalised (6 in 2011, 8 in 2012 and 22 in 2013, 10 in 2014, 16 in 2015, 10 in 2016 and 6 in 2017).

Table 2.3 – EEPR cumulative audit coverage (2010-2017)

Number of audits launched	Number of closed audits	Total amount audited (EC share in EUR)	Overall errors (in EUR) in favour of the Commission	Error rate in favour of the Commission
78	78	1 583 010 988	-18 520 184	-1.17%

⁴⁹ Audit results implementation and budget capping not included.

↪ **EEPR audits carried out by the European Court of Auditors (ECA)**

ECA analyses the EEPR payments as part of their work on the annual 'Statement of Assurance' (DAS). To ensure that beneficiaries do not have the perception of being audited twice, DG ENER's own ex-post auditors accompany the Court when they visit the beneficiary.

By the end of 2017, ECA had performed 24 audits on EEPR Beneficiaries representing a total EC share audited of EUR 528 648 312.

↪ **Combined results of all EEPR audits**

The cumulative audit coverage of the program, taking into account the result of the 78 DG ENER and 24 ECA audits, reached 96.30% at the end of 2017. It is based on the audited contributions (EC and Court of Auditors) and the non-audited EC contributions of audited companies for which no adjustment was found during previous audit(s).

Part of the EC share audited by the ECA has been subject to an audit by DG ENER, so the amount taken into account as EC share audited by ECA alone is EUR 342 318 085.

The total EC share audited for these 92 relevant audits is EUR 1 925 329 073 and the findings amount to a total of negative adjustments of EUR -26 271 261 (i.e. -1.36%).

↪ **Calculation of the residual error rate (RER)⁵⁰**

To take into account the potential risk of errors by EEPR beneficiaries of not respecting public procurement rules when subcontracting, DG ENER has been applying strengthened ex ante and ex-post controls:

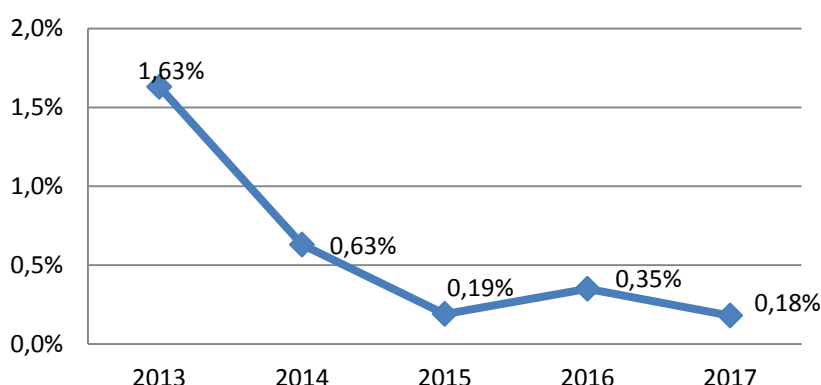
- Ex-ante: internal checks on public procurement are carried out before payments are made to beneficiaries;
- Ex-post: high audit coverage.

As a result of the above mentioned approach, the RER is maintained below the materiality threshold of 2% and corresponds to 0.18% for 2017, as detailed in table 2.4.

⁵⁰ More information on the materiality criteria is outlined in Annex 4.

Table 2.4 – Calculation of the residual error rate for EEPR

Total EC share approved, in EUR (P)	2 208 726 118
Total EC share of all audited beneficiaries, cleaned from systematic error, in EUR (A1)	2 126 934 305
Total EC share of audited cost statements in EUR (A2) ⁵¹	1 925 329 073
Total amount in EUR of negative adjustments as a result of audits (Err) ⁵²	-26 271 261
Total EC share of audit adjustments in EUR ⁵³ not implemented by Q1 2018 (NonImpErr)	-2 935 117
Residual error rate⁵⁴	-0.18%

Evolution of the RER for EEPR

In conclusion, given the audit results, the high audit coverage and the fact that the residual error rate is well below 2%, reasonable assurance can be given on EEPR expenditure.

Implementation of audit results

By the end of 2017, the adjustments have been finalised for 105 participations, of which:

- 43 with adjustments in favour of the Commission (EUR 19 474 564);
- 5 with adjustments in favour of the beneficiary (EUR 166 062);
- 57 with no adjustment.

⁵¹ The difference between the amounts of EU contribution indicated under (A2) and (A1) is considered free of errors as the payments concerned were made to beneficiaries for which there were no audit findings and for which all control systems were in place.

⁵² This is the EU contribution directly resulting from the ineligible costs identified by the auditors and it may differ from the adjustments actually implemented (for instance due to budget limitations, to technical evaluations modifying the adjustments, or to additional eligibility-proving documents being provided during the contradictory procedure with the beneficiaries).

⁵³ Only results in favour of the Commission.

⁵⁴ Residual Error rate $ResER\% = \frac{((P-A1) \times \left(\frac{Err}{A2}\right)) + NonImpErr}{P}$

The adjustments were implemented through recovery orders (81% of the adjustments or EUR 15 822 541) and through offsetting from subsequent payments.

Table 2.5 shows the cumulated amounts of the implementation of EEPR audits in favour of the EC. It has to be noted that it is not unexpected to have open cases at this stage as there might be 18 months before new declarations are received from beneficiaries.

Table 2.5 – Implementation of EEPR ex-post audit results in favour of the EC (period 2010-2017):

Adjustments in contradictory procedure		Adjustments implemented	
Number	Funding adjustment EUR	Number	Funding adjustment EUR
3	-5 090 342	40	-14 384 223

B. The Seventh Framework Programme (FP7)⁵⁵

Payments related to FP7 grants represented 2.23% (i.e. EUR 29.92 million) of the total payments made in 2017 by DG ENER (against 4.76% in 2016).

The control systems are divided into four distinct stages, each with specific control objectives, as detailed in Annex 5. Key indicators have been defined for each stage. However, given that the first two stages of the control system for FP7 (i.e. evaluation of the calls for proposals and contracting) were completed before January 2015, this AAR will only focus on stages 3 and 4.

• Stage three: Monitoring the execution of projects

The third stage concerns the management of the project and the grant agreement. This stage comprises the technical monitoring and also ex-ante checks of participants' cost claims. The purpose of these ex-ante checks is to ensure that the transactions authorised are in compliance with the applicable rules.

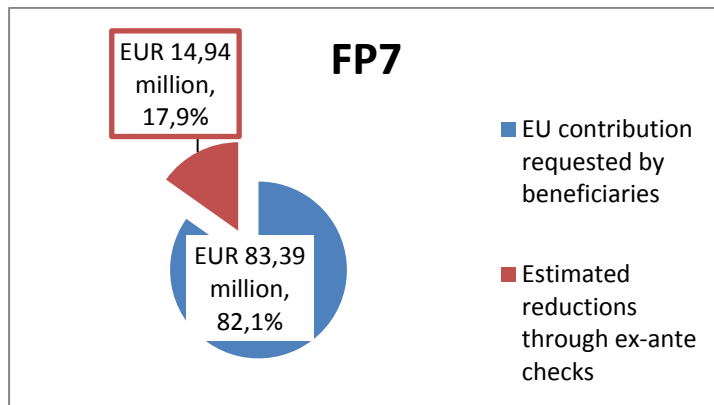
In addition, every cost claim over EUR 375 000 is accompanied by a certificate on the financial statement (CFS), issued by a qualified auditor or a Certified Public Official. The Research family, as well as the European Court of Auditors, have identified that these certificates do not always identify all ineligible expenditure in the cost claim. To assess the effect of this weakness DG RTD carried out a study that showed that cost claims with a CFS had an average error rate 50% lower than those without. This shows that, while not perfect, these CFSs do have a significant positive effect.

Control effectiveness:

The chart below outlines the reductions made to the EU contribution claimed by grant beneficiaries. Ex-ante checks prevented the payment of around EUR 14.94 million, representing about 18% of the requested EU contribution. The main errors detected in cost claims concerned inconsistencies between the information supplied by grant beneficiaries and that included in the audit certificate when submitted (amount of costs, methods of calculation, periods, etc.), audit certificates incomplete, missing or not provided by a qualified auditor, arithmetical errors, costs incurred outside the eligibility period or not covered by the legal basis.

⁵⁵ Payments for H2020 were also made in 2017 for a total of EUR 14.14 million (i.e. 1.05% of the total payments), mostly for pre-financing (EUR 13.62 million). Part of this amount was cross-subdelegated to DG CNECT (EUR 0.49 million in 2017), as referred to in Section 2.1.1.2.1.C. The remaining part is not covered in this AAR due to the limited amount.

Effectiveness of ex-ante checks: reductions to the requested EU contribution⁵⁶



- **Stage four: Ex-post controls and recoveries**

The fourth stage includes the ex-post audits as well as the recovery of any amounts found to have been paid in excess of the amount due.

👉 **Common ex-post audit strategy of the Research DGs**

Since 2007, the Research Directorate-General has adopted a common audit strategy intended to ensure the legality and regularity of expenditure on a multi-annual basis including detecting and correcting systematic errors. The audits examine only interim and final claims by beneficiaries. Transactions relating to pre-financing are not included in the population subject to audit.

Since 2012, a Common Representative audit Sample (CRS) has been introduced across the research family to reduce the audit burden on beneficiaries by reducing the number of repeat audits whilst continuing to provide a representative view of the implementation of the Research Framework Programmes (FP). The CRS is thus intended to estimate, via a representative sample of cost claims across the Research Family, the overall level of error in the Research FP, across all services involved in their management.

The CRS is complemented by risk-based audits, selected according to one or more risk criteria, aiming at detecting and correcting as many errors as possible, for instance by targeting the larger beneficiaries and identifying possibly fraudulent operators. These audits are also referred to as 'corrective' audits.

Since 2014, the Common Audit Service (CAS) in DG RTD has undertaken all audits for the DGs that fund research grants (amongst which DG ENER).

Different indicators are calculated to provide a comprehensive view of legality and regularity:

- **Representative Error Rate:** This is the error rate derived solely from the results of audits on a representative sample of beneficiaries, extrapolated by a statistical method to the overall population (calculated for FP7 as a whole).
- **Residual Error Rate:** The residual error rate, on a multi-annual basis, is the extrapolated level of error remaining after corrections/recoveries undertaken by Commission services following the audits that have been made. The calculation of

⁵⁶ Audit results implementation and budget capping not included.

the residual error rate, as shown in **Annex 4**, is based on the following assumptions:

- (1) all errors detected will be corrected;
- (2) All non-audited expenditure subject to extension of audit findings is clean from systematic material errors so that the residual error rate can be estimated to be equal to the non-systematic error rate.

The residual error rate develops over time and depends on the assumptions set out above.

To derive assurance, DG ENER is using the residual error rate, which is considered by the Research DGs as a reliable and acceptable indicator for the purposes for which it was intended, i.e. as legality and regularity indicator on the progress made, through its ex-post strategy, in dealing with errors over a multi-annual basis. However, it remains an estimate as long as not all cost claims have been received and not all cases of extension of audit findings have been fully implemented yet.

Results of FP7 ex-post audits

In the case of FP7, the year 2017 was the ninth year of implementation of the audit strategy.

The Research family as a whole had a target of 4 056 audit results for FP7. With FP7 4 324 audits results covering 64.2% of FP7 expenditure completed by the end of 2017, this original target was exceeded by 6%.

The percentage of FP7 expenditure covered by the audits (64.2%) refers to the value of the participations of the audited beneficiaries. It includes both the fully audited participations (8.4%), also referred to as the 'direct' coverage, and the non-audited participations which nevertheless, after the full treatment of audit results, are clean from systematic errors (55.8%), also referred to as the 'indirect' coverage.

Detailed data on DG ENER FP7 audit coverage are shown in table 2.6:

Table 2.6 – FP7 audit coverage

	Planned cumulative period	Achieved cumulative period	Planned in 2017	Achieved in 2017
Number of closed audits	165	182	50	14 ⁵⁷
Total amount audited (EC share in EUR)	n.a.	83 239 615	n.a.	8 297 275

⁵⁷ An audit is considered finalised when the final audit report is sent to the Financial Management Unit for implementation.

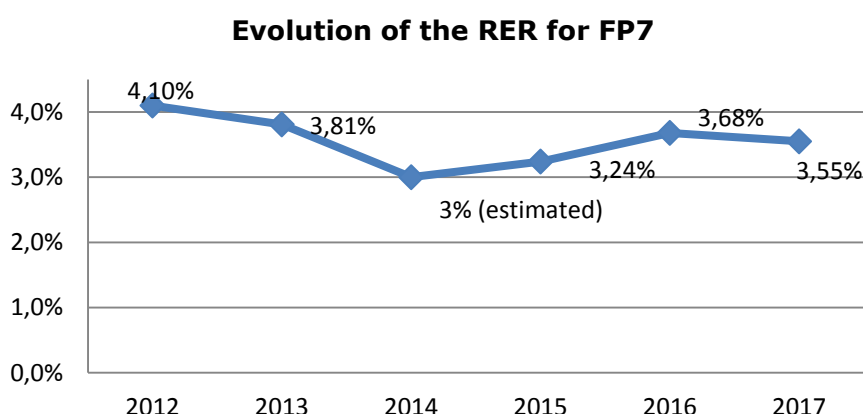
The error rates resulting from the audit work on DG ENER's FP7 projects are:

- **Common⁵⁸ Representative Error Rate (RepER):** Based on 461 cost statements for which the audit is completed (95% out of a sample of 486), this error rate is **4.95%**. The remaining cases are still subject to contradictory procedures with the beneficiaries; consequently, the Common Representative Error Rate may still develop.
- **Residual Error Rate (RER):** At this point in time, this error rate amounts to **3.55%**. As it is above the materiality threshold of 2%, **DG ENER maintains the reservation for FP7⁵⁹**. It also has to be noted that the RER may still vary following the development of the Common Representative Error rate.

These results include the partial results of the third and last Common Representative Audit Sample (launched in 2016). They are concordant with the general expectation that the Common Representative Error Rate resulting from audits of FP7 will be around 5% at the end of the programme.

Table 2.7 – Calculation of the residual error rate for FP7

R&I Family level Representative Error Rate (RepER%)	-4.95%
R&I Family level systemic share of the RER (RepERSys%)	-2.62%
Total EU contribution (P)	EUR 544 224 488
Costs accepted by Financial officers (A)	EUR 81 980 456
Total non-audited participations of audited beneficiaries (E) ⁶⁰	EUR 136 602 035
Residual error rate⁶¹:	-3.55%



⁵⁸ i.e. for the Research family.

⁵⁹ Developed in section 2.1.5.

⁶⁰ This amount excludes EU contribution of beneficiaries with ongoing extrapolation cases.

⁶¹ Residual Error rate $ResER\% = \frac{(RepER\% \times (P-A)) - (RepERSys\% \times E)}{P}$

📌 Conclusions on the ex-post audits and the error rates of FP7

This programme is now in its final stage of implementation, with a decreasing number of open projects and decreasing amounts of payment. After the closure of the last Common Representative Audit Sample, no new information is expected relating to the Error Rates, and their financial impact on the yearly expenditure will be limited.

As a result of the audit results still to be completed, DG ENER's RER may still change in 2018. However since the RER remained stable over the last years, and considering the small number of outstanding audits, it can be assumed that the current value is representative of the final RER.

These results are in line with the conclusions expressed in the AARs over the years: that the Common Representative Error rate resulting from audits of FP7 will be around 5% at the end of the programme and the residual error rate for DG ENER at around 3%.

These amounts do not necessarily mean that there is a loss to the Community Budget. Many of the projects spend more than the capped budget, and so the real loss to the Community budget will be lower than when estimating the financial impact by using the error rates above.

DG ENER participated, throughout the course of the programme, to the common continuous effort to mitigate the risk of error in FP7 expenditure. This effort included actions regarding simplification, communication, improvement of ex-ante controls, ex-post audit coverage together with the recovery of overpayments and the extrapolation of systemic errors to unaudited cost claims of the same beneficiaries in terms.

At this stage; it is clear that the 2% residual error target for FP7 will not be attained. Nevertheless, the lessons learned from FP7 audits have been used in the development of Horizon 2020 programme's general framework.

📌 Implementation of audit results

In total, over the period 2010-2017, the results of the FP7 audits relate to 211 participations:

- Nine still in the contradictory procedure with the beneficiaries (most likely in favour of the Commission for EUR 787 thousand);
- 202 with implemented results:
 - 88 in favour of the Commission (EUR 3.23 million);
 - 61 in favour of the beneficiaries;
 - 53 resulting in 'zero' adjustments.

Table 2.8 – Implementation of ex-post audit results in favour of the EC (2010-2017)

Results from external audits		Adjustments in contradictory procedure		Adjustments implemented	
Number	Funding adjustment (EUR)	Number	Funding adjustment (EUR)	Number	Funding adjustment (EUR)
97	-4 018 235	9	-786 880	88	-3 231 355

Around 67% of the adjustments implemented were recovered through offsetting from subsequent payments and 33% through recovery orders.

In 2017, DG ENER approved EUR 695 441 for waivers of recovery orders related to

ineligible costs identified during ex-post audits concerning three FP7, one FP6 and one old FP5/SAVE project.

Implementation of extrapolated audit results

The extrapolation process allows correcting systemic errors of a beneficiary detected by an audit in all his ongoing participations. These corrections stem from audits made by DG ENER or other DGs in the research family where systematic errors were found.

As can be seen from the table 2.9, by the end of 2017, 159 such participations were found: the beneficiaries were asked to rectify the errors in DG ENER projects and to submit revised costs statements. From the 83 participations concerned by systematic errors, 54 participations have been corrected, of which 47 in favour of the EC.

As indicated in Chapter 5 of the ECA 2015 Annual Report⁶² in reply to Recommendation 4 issued by the Court, the Commission closely monitors the implementation of extrapolation cases. The implementation rate of FP7 recommendations was 82% at the end of 2017 compared to 62% in 2016. It is not unexpected to have open cases at this stage as there might be 18 months before new declarations are received from beneficiaries.

Table 2.9 – Implementation of extrapolation of FP7 audit results (2010-2017)

Participations with expected systematic errors	Participations without systematic errors	Implemented cases				Participations to be implemented ⁶³
		In favour of EC		In favour beneficiary		
		Number	Value (EUR)	Number	Value (EUR)	
159	76	47	-1 292 784	7	91 493	29

Tables 2.8 and 2.9 together show that, by the end of 2017, EUR 4.52 million were recovered following audits of FP7.

Liquidated damages

Liquidated damages are due where a beneficiary has overstated expenses and has in consequence received unjustified EU contribution. Liquidated damages will only be applied where the unjustified contribution exceeds 2% of the total contribution claimed and accepted for the given period(s) ('de minimis' rule corresponding to the materiality level of the Court of Auditors).

By the end of 2017 DG ENER identified liquidated damages for 70 cases under FP7. Debit notes were already issued for 52 cases for a total amount of EUR 417 704. For 12 cases the amounts due were below the threshold of EUR 200, so they were not recovered. Besides, four cases with identified liquidated damages in 2015 were cancelled in 2016 because further to information received from the beneficiaries the ineligible amounts were adjusted and liquidated damages were no longer applicable. The remaining two cases will be treated in 2018.

⁶² Chapter 5 of the ECA's annual report 2015 (OJ C 375, vol. 59, 13.10.2016).

⁶³ Cases to be implemented are those for which the Commission has written to the beneficiaries requesting them to submit revised cost statements to correct the systematic issues detected.

C. Cross-sub delegations

As in previous years, DG ENER has cross-subdelegated a number of activities to different services within the Commission, in order to arrange the provision of certain operations more efficiently. Being a Commission service itself, the AOD of the cross-delegated service is required to implement the appropriations subject to the same rules, responsibilities and accountability arrangements.

The cross-delegation agreement requires the AOD of the concerned DGs to report on the use of these appropriations. In their reports for the year 2017, the AODs did not communicate any events, control results or issues which could have a material impact on assurance.

In 2017, DG ENER gave cross-subdelegations to DGs ECFIN, CNECT, RTD, JRC, DIGIT, GROW and OP for the following amounts and purposes:

- To **DG ECFIN**: EUR 47.09 million of commitment appropriations for the European Local Energy Assistance (ELENA) facilities were still outstanding by end 2016 for which no payment was made in 2017. These appropriations correspond to the cross-delegation agreement given by DG ENER to DG ECFIN for the years 2009 – 2013.

ELENA provides Project Development Assistance (PDA) grants to help project promoters develop, structure and launch investment projects/programmes in the fields of energy efficiency, distributed renewables and clean urban transport. ELENA co-finances eligible project development costs such as those related to investment-specific energy audits, feasibility studies, legal, economical, financial and technical development of investments, preparation and launch of tendering procedures, contracting and financial structuring.

The ELENA (European Local Energy Assistance) facility was managed by DG ECFIN on the basis of a cross-delegation agreement given by DG ENER for the years 2009 – 2013. The ELENA facility was delivered in cooperation with the EIB, KfW, EBRD and CEB. For the years 2014 onwards, only EIB has continued to deliver ELENA and DG ECFIN manages the facility on the basis of two cross-delegation agreements given by DG ENER and DG MOVE.

Use of budgetary resources

Further budget has been allocated to ELENA under Horizon2020 for the years 2014-2020, by DG ENER and DG MOVE. On 2 May 2017, a new Delegation Agreement has been signed with the EIB for the indirect management and implementation of the EU funds allocated to ELENA in 2017 in the framework of the Horizon 2020 WP 2016-2017 on energy societal challenges and on Transport societal challenge. To support the deployment of the 'Smart Finance for Smart Buildings' Initiative, it was also decided to reinforce the budget of the ELENA facility for 2017 with the redeployment of appropriations from the energy strand of the CEF amounting to EUR 77.3 million. An amendment to the 2017 Agreement will be signed early 2018 to include the reserved additional budget.

Payments in 2017 to the ELENA Trust accounts amounted to EUR 10.25 million, including EUR 1.93 million corresponding to new pre-financings cross-subdelegated from DG MOVE.

The cross-delegation Agreement between DG ENER/DG MOVE and DG ECFIN entered into force in September 2017 and all payments relating to commitments signed before September have been carried out by DG ENER, on its own account and on account of DG MOVE.

Implementation

DG ECFIN is responsible for monitoring the management of the instrument and reports regularly to DG ENER on the basis of a cross-delegation agreement given by DG ENER.

A total of 79 projects are being implemented for a total of EUR 137.3 million. The implementation of these projects makes use of the funds allocated under the 2009-2013 and 2017 co-delegations and of the funds made available directly to the EIB by DG ENER and DG MOVE.

DG ECFIN carried out four monitoring visits during the year, without significant findings.

No recovery order was issued in 2017.

As of 31 December 2017, the 'Reste à liquider' amounted to EUR 111.83 million.

Lastly, together with DG ECFIN and DG MOVE, DG ENER has organised in September 2017 an ELENA steering Committee meeting with the EIB, as well as two technical meetings in April and December 2017. These meetings aimed at reviewing the progress of the facility (state of play, gaps and necessary corrective actions) and preparing the forthcoming activities in the framework of the Horizon 2020 WPs 2016-2017 and 2018-2020.

- To **DG CNECT**: From the outstanding commitments of EUR 238 320 from 2014 for HORIZON 2020 programme, EUR 122 423 were paid and the rest were decommitted in 2017. From the outstanding EUR 646 265 committed in 2015 for the same programme, EUR 364 987 were paid in 2017.

- To **JRC**: From the outstanding EUR 338 933 committed in 2016 for nuclear safeguards actions, EUR 241 618 were paid in 2017. In addition, EUR 472 500 were committed in 2017 for the same actions of which EUR 390 090 were paid in 2017.

- To **DG DIGIT**: EUR 3 723 were committed in 2017 for actions supporting the energy policy with no payments in 2017.

- To **DG GROW**: EUR 9 248 of commitment appropriations for security of energy installations and infrastructures were still outstanding at the end of 2016 and decommitted in 2017.

- To **OP**: EUR 3 023 of commitment appropriations for the completion of the FP7 programme (development, hosting and maintenance of CORDIS) were still outstanding at the end of 2016, of which EUR 943 were paid and the rest were decommitted. In addition, EUR 9 806 were committed and paid in 2017.

2.1.1.2.2. Indirect Management

A. Co-delegations

The Commission may delegate powers concerning a given budget line to one or more authorising officers by delegation. In other words, various AODs are responsible for the same item of expenditure, but each one for a specific type of transaction.

For DG ENER, this was the case in 2017 with PMO, HR and OP, with total payments amounting to EUR 13.26 million. Being Commission services themselves, these DGs are required to implement the appropriations subject to the same rules, responsibilities and accountability arrangements as DG ENER.

B. Executive Agencies (INEA and EASME)

a) EASME

The Executive Agency for Small and Medium-sized Enterprises (EASME) replaced and succeeded the Executive Agency for Competitiveness and Innovation (EACI) and was established for the period 1 January 2014 to 31 December 2024⁶⁴.

Its mandate includes the management of funding actions related to the activities of seven DGs (DG GROW, RTD, ENV, CLIMA, MARE, CONNECT and ENER). In the field of energy, these actions contribute to

(a) The Framework Programme for Research and Innovation 2014-2020 (Horizon 2020) - parts of 'Part II – Industrial Leadership' and 'Part III Societal challenges';

(b) The Competitiveness and Innovation Programme 2007-2013.

DG ENER defines the policy, the strategic objectives and the priority areas of action while EASME manages the entire project lifecycle, communicates and interacts with beneficiaries and gives key feedback to DG ENER. DG ENER is responsible for devising and implementing supervision and monitoring strategy towards EASME.

In June 2017, the Commission appointed a new Director who took his functions on 16 September.

In 2017, DG ENER did not pay (directly) any subsidy to EASME.

Supervision arrangements

The Agency and its parent DGs signed a Memorandum of Understanding specifying the modalities and procedures of interaction.

In performing its tasks, the Agency works closely together with its parent DGs. Project-level performance in terms of output and impact is measured by the EASME and closely supervised by the parent DGs.

Close contacts between the Agency and its parent DGs took place at different levels:

- Steering Committee meetings with all parent DGs (it met four times in 2017): this Committee is responsible for the supervision of the Agency. Its tasks include the adoption of the Agency's administrative budget and the Annual Work Programme (comprising detailed objectives and performance indicators), as well as the Annual Activity Report and the Annual Accounts. It is also responsible for the Agency's implementing rules for personnel management. In 2017, the Steering Committee reached an agreement on the application of the flexibility mechanism in the allocation of HR in the Agency;
- Participation in the parent DGs' management meetings;
- Regular programme-specific meetings;
- Biannual reports provided on the use of resources and performance of the tasks;
- Further regular contacts at unit and working level, regarding the implementation of the Agency's work programme (for H2020 and the legacy of the IEE programme).

DG ENER received the draft Annual Activity Report of the Agency, coordinated and reviewed by the Steering Committee. In 2017, the residual error rate is above the

⁶⁴ Commission Implementing Decision 2013/771/EU, repealing Commission Decisions 2004/20/EC and 2007/372/EC

materiality threshold for CIP Intelligent Energy Europe II (2.7-2.8%)⁶⁵. For this reason, the Agency Director, in his capacity as AOD, signed the declaration of assurance as regards the year 2017 with a reservation for the programme. Mitigating actions have already been established to reduce these rates.

EASME is subject to audit by the Internal Audit Service of the Commission and by the European Court of Auditors and DG ENER uses their reports as an element of the supervision of this body.

- The Court of Auditors (ECA):
 - ECA found the 2016 annual accounts of the Agency legal and regular in all material aspects and that they presented fairly in all material respects the financial position of the Agency. The Court made two observations related to a technical budgetary issue (high levels of carry-overs for committed appropriations for title II and cancellation of carry-overs from previous year for title I), to which the Agency provided reply and justification.
- The Internal Audit Service (IAS):
 - Audit on the Management of Human Resources in EASME, resulting in three important recommendations related to (i) completing the HR strategy; (ii) addressing a few points in the recruitment and selection process; and (iii) to map skills and competencies and further improve the workload assessment. The Agency submitted an action plan assessed as satisfactory by the IAS. All actions are ongoing and will be implemented during the course of 2018.
 - Audit on H2020 project management in EASME, resulting in one important recommendation related to the guidance on the plagiarism checks and one issue for consideration to formalise the documentation of project management practices. An action plan will be submitted in 2018 by the Agency.

These observations made do not impair the assurance received from the Agency.

b) INEA

DG ENER is one of four parent DGs (with MOVE, CNECT and RTD) for the Innovation & Networks Executive Agency (INEA). The current mandate of INEA covers the former TEN-T Executive Agency which was responsible for implementing the TEN-T Programme and the TEN-T projects from the 2000-2006 and 2007-2013 financial perspectives.

Thanks to a mandate approved on 23 December 2013⁶⁶, the Agency became the Innovation and Networks Executive Agency from 1 January 2014 and its lifetime has been extended to 31 December 2024.

The Commission has delegated to INEA the task of executing the operational budget and performing tasks linked to the implementation of its delegated Union programmes in the field of transport, energy and telecommunications infrastructure (Connecting Europe Facility programme or 'CEF') and in the field of transport and energy research and innovation (H2020).

As to DG ENER, the Agency mandate covers the energy part of the CEF programme and the energy research part under the H2020 programme. DG ENER defines the policy, the strategic objectives and the priority areas of action while INEA manages the entire

⁶⁵ Budget line: 32.04 53 00.

⁶⁶ Commission Implementing Decision 2013/801/EU

project life cycle, communicates and interacts with beneficiaries and gives key feedback to DG ENER. DG ENER is responsible for devising and implementing supervision and monitoring strategy towards INEA.

In 2017, DG ENER did not pay (directly) any subsidy to INEA.

Supervision arrangements

The Commission Decision establishing INEA and the Commission Decision delegating powers to INEA set out the governance and supervision arrangements. These are complemented by a specific Memorandum of Understanding signed between the Parent DGs and INEA that contains reporting and supervision provisions and consists of a two-layer document:

- A top layer aiming to harmonise the modalities and procedures of the interaction between the parent DGs and INEA and that includes amongst other:
 - the membership to the Steering Committee, chaired by the Director General of DG MOVE and meeting at least four times a year to ensure that the work of the Agency is in line with the its Annual Work Programme;
 - the preparation of the Agency's annual budget;
 - the definition of objectives and priorities in the Annual Work Programme of INEA (approved by the Commission);
 - the requirement for INEA to report regularly on the performance of tasks (using the main KPIs from INEA's Annual Work Programme), through;
 - Interim reporting (usually the first six months of the year);
 - the Annual Activity Reports;
 - the establishment of security related procedures and processes, including Business Continuity Planning;
- A middle layer, with specific provisions for the implementation of H2020 (updated on 15 February 2016) and CEF (dating from 1 October 2014).

Within this context, meetings and exchanges of information between the parent DGs with INEA on Horizon 2020 and CEF as well as coordination meetings between INEA and the relevant units in DG ENER on H2020 and CEF take place regularly. These regular meetings ensure information exchange and to control progress and results in the frame of the supervision of the Horizon 2020 activities of INEA. Meetings dedicated to specific technology areas also take place.

In addition, INEA produces monthly overview reporting on all KPIs, execution of administrative and operational budget and multi-annual error rates as well as respect of deadlines (e.g. time-to-grant). Reports are provided regularly by INEA.

Additional sources of assurance

According to the draft Annual Activity Report of the Agency, all the KPIs have met their target and, in particular, the residual error rates are below 2% for the TEN-T and Marco Polo programmes managed by INEA. Besides, the Agency Director, in his capacity as AOD, has signed the declaration of assurance without reservations.

The Agency is also subject to audit by the Internal Audit Service of the Commission and by the European Court of Auditors. DG ENER uses their reports as an element of the supervision.

- The Internal Audit Service (IAS):
 - Following their audit on 'Grant management – Phase 2: Project

management and payments for CEF in INEA', the IAS concluded in its final audit report received on 6 October 2017 that the internal control system in place for project management and payment processes provides reasonable assurance regarding the effectiveness of the CEF programme and the legality and regularity of the underlying transactions. However, one recommendation to further improve the area of on-site visits was issued as were the following strengths noted by the IAS: detailed guidance on both amending CEF Grant Agreements and Action Status Reports; robust risk-based ex-ante control strategy building on good practices gained under TEN-T.

- In 2017, INEA was subject to an audit on 'HR Management Strategy in INEA'. The final audit report was issued on 23 January 2018. It contains three identified strengths (strong control environment, a comprehensive and coherent multi-annual HR resources strategy and a service oriented approach by the HR team) and two important recommendations (one related to HR monitoring and reporting and one on workload indicators) of which the latter will only be partially accepted by INEA as it is considered that DG HR should take a crucial role in providing coherent guidance on workload indicators for horizontal functions.
- Following the audit on open recommendations in INEA regarding the Audit on 'The preparedness of the Management and Control System for CEF and H2020 in INEA', the Agency developed an action plan in 2016 and the fieldwork for this audit engagement took place over the summer 2017. In its follow-up audit, the IAS concluded on 26 January 2018 that all outstanding recommendations have been adequately and effectively implemented.

As to the state of play of outstanding open audit recommendations, INEA has currently no outstanding pending issues.

- The Court of Auditors (ECA):
 - ECA found the 2016 annual accounts present fairly, in all material respects, the financial position of the Agency, the results of its operations, its cash flows, and the changes in net assets. The Court made one observation related to a technical budgetary issue (high level of carry-overs for committed appropriations for title III), to which the Agency provided reply and justification.

c) Conclusion

The regular supervision of EASME and INEA did not identify any particular events, issues or problems that could have a material impact on the assurance of DG ENER.

DG ENER considers that overall its supervision of the Executive Agencies is effective and appropriate.

C. Nuclear Decommissioning Assistance Programmes

The supervision of the Nuclear Decommissioning Assistance Programmes (NDAP) is based on a multi-layered governance structure, in accordance with the provisions of the NDAP Regulations and on the related Rules of Application. Annual work programmes for the decommissioning programmes are prepared by the Member States and adopted by the Commission by means of implementing acts. These programmes specify the objectives, expected results, related performance indicators and timeline for the use of funds.

The monitoring function is conducted in full cooperation with the Member States. The joint bi-annual programme monitoring committees form the cornerstone of the NDAP supervisory activity. The three Monitoring Committees, co-chaired by the Commission and the Member States at ministerial level, assess the progress in the activities as well as approve the monitoring reports, taking the appropriate corrective measures when necessary. In 2017, the Monitoring Committees met twice a year for each country, and approved the monitoring reports. The Earned Value Management methodology reached full maturity, allowing for a more coherent approach throughout the different components of the programme.

DG ENER has entrusted the implementation of the NDAP to:

- the European Bank for Reconstruction and Development (EBRD), which implements the assistance through three International Decommissioning Funds (IDSF);
- National Agencies in Lithuania (CPMA) and in the Slovak Republic (SIEA).

In this respect DG ENER relies on the Framework Administrative Agreement between the EBRD and the Commission, on recent or recently updated pillar assessments for all three implementing bodies, as well as on the provisions of the subsequent agreements with these bodies.

a) Supervision facts

DG ENER maintains, taking stock of the 2015 IAS audit recommendations, a strengthened supervisory framework of the NDAP. This supervisory framework includes:

- Improved reporting practices and follow-up;
- A systematic documentation of the preparation, reporting, recording and follow-up of monitoring missions;
- Implementation of a specific, continuous, risk management plan and systematic follow-up of identified risks mitigating actions. DG ENER carries out quarterly risk reviews and on-site visits at least twice a year to verify progress and to re-assess the risks;
- Reliance on updated or recent pillar assessments for all three implementing bodies;
- Introduction of the earned value management methodology.

The supervisory mechanisms applicable to the NDAP are outlined in Annex 5.

In 2017 DG ENER conducted an independent verification of procurement procedures of the Nuclear Decommissioning Assistance Programmes. The opinion of the auditor was that the EBRD and the CPMA⁶⁷ had, in all material respects, discharged their responsibilities and obligations with respect to the management and implementation of procurement procedures, such as to achieve the requisite economy, efficiency, transparency and accountability in all processes as well as uphold the fundamental principles of good procurement practice.

⁶⁷ The SIEA had not yet launched any procurement procedure at the time of the thematic verification.

DG ENER also conducted a mid-term evaluation of the NDAP, which considers and assesses the results and impacts, the efficiency of the use of resources and its Union added value, as well as the scope for modification of the detailed implementation procedures. The results of the evaluation are due in 2018.

In line with expectations set for the current MFF, Bulgaria, Slovakia and Lithuania have progressed effectively and efficiently in the decommissioning of their reactors; there have been challenges and setbacks due to the programmes' complexity, but the management system has proven increasing able to cope with them. Key milestones were met and the programmes were delivered in a cost effective way although at a slower pace than planned. Given the progress and the new momentum of decommissioning activities, substantial additional payment credits (some EUR 204 million) were requested to the budgetary authority for the whole NDAP on top of the available EUR 150 million.

Knowledge sharing between the three programmes has been a key instrument towards efficiency during the current MFF. DG ENER encourages stakeholders to share good practices. Workshops were held in 2017 on the application of the Earned Value Management methodology; and on managerial and technical aspects of decommissioning. Knowledge sharing in the NDAP in 2017 reached a level where actual synergies are made possible.

Payments made to the three entrusted entities totalled EUR 353.96 million, as further detailed in the subsequent sections.

b) EBRD

The EBRD acts as an implementing body for the Commission for decommissioning nuclear power plants in Lithuania, Bulgaria and Slovakia. The EBRD implements the assistance through three⁶⁸ dedicated funds (one for each Member State), so called International Decommissioning Support Funds (IDSF), set up in 2000.

These multi-donor funds are managed by the EBRD and governed through the Assemblies of Contributors (convened twice a year to approve the EBRD work programmes). The Commission is the largest contributor (to date over 95% of all contributions) and the sole contributor since 2004. Accordingly, the funds rules acknowledge the Commission's monitoring power as well as its decision and control role.

The implementing body (EBRD) and the beneficiaries (mainly the nuclear power plant operators) report on progress to the Monitoring Committees. The Member States bear ultimate responsibility for the safe decommissioning of the nuclear power plants.

In 2017, DG ENER paid EUR 239.78 million to the EBRD against commitments made in the previous years in the three countries. Payments are requested by the EBRD and determined based on procurement forecasts — as defined in the relevant delegation agreement — and progress in project implementation. Additional funds entrusted (committed) in 2017 are related to the sole Kozloduy IDSF and amount to EUR 41.73 million.

The Kozloduy Annual Work Programme 2017 submitted by the Bulgarian Ministry of Energy was assessed by DG ENER and received the positive opinion of the relevant committee (NDAP Committee). The Commission adopted the financing decision and the associated Kozloduy Annual Work Programme on 24 August 2017 (Commission Decision C(2017) 5728 final). A new Delegation agreement was adopted in compliance with the Framework Administrative Agreement between the EBRD and the European Commission.

⁶⁸ As of 31.12.2017, the Ignalina IDSF operations are winding down as the last major projects are close to completion. The successor projects are covered by the separate delegation to the CPMA.

The Kozloduy programme underwent a three-yearly revision in line with national legal requirements and good practice. The preliminary results of this exercise remain in line with the contingencies specified in the 2016 independent assessment on the robustness of the financing plans.

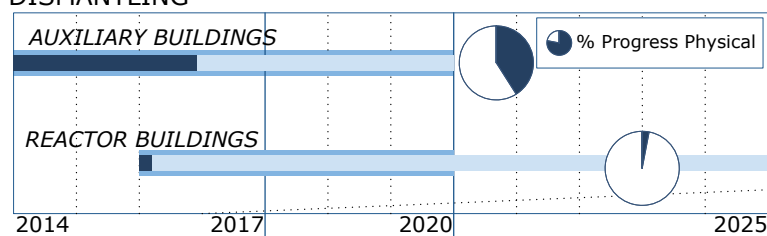
The Commission is closely following these developments. The presently allocated funds ensure effective and efficient delivery of the programme's objectives set out under the current MFF.

Box 2.1: Dismantling the Kozloduy INPP

Key recent progress: Dismantling & Decontamination works in the turbine halls and auxiliary buildings have progressed well; A state-of-the-art high performance waste volume reduction facility was installed.

OBJECTIVES / MAIN ACHIEVEMENTS

DISMANTLING



RADIOACTIVE
WASTE
PACKAGES

349

FREE RELEASED
MATERIALS
TONNES

15938

WASTE TREATMENT
HIGH VOLUME
REDUCTION
FACTOR WITH
PLASMA
TECHNOLOGY



c) CPMA (Lithuania)

The Central Project Management Agency (CPMA) is the only implementation channel for all new projects related to the Ignalina INPP, while the EBRD continues the implementation of on-going projects (i.e started prior to 2014 and to be completed before 2022). The current Delegation Agreement between the EU expires on 31 December 2026.

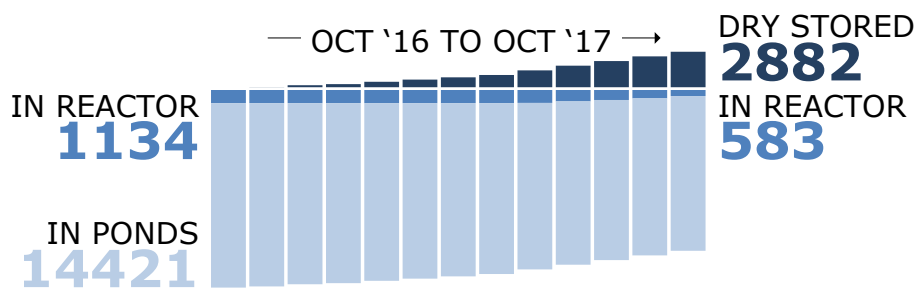
In 2017, DG ENER paid EUR 87.44 million to the CPMA against previous commitments. Payments are requested by CPMA and determined based on procurement forecasts - as defined in the relevant delegation agreement - as well as progress in project implementation. Additional funds entrusted in 2017 (commitments) amounted to EUR 64.25 million.

Box 2.2 : Dismantling the Ignalina INPP

Key recent progress : Removal of spent nuclear fuel from the reactor-buildings. This process started in last quarter 2016 and has progressed in 2017 in line with plans and with a potential to shorten the schedule without prejudice to the operational safety. Dismantling & Decontamination works in the turbine halls and auxiliary buildings have progressed well. Large volumes of equipment were dismantled maximising any possible options for reuse and recycling.

OBJECTIVES / MAIN ACHIEVEMENTS OCT 2017

SPENT FUEL ASSEMBLIES
REMOVAL FROM REACTOR BUILDINGS

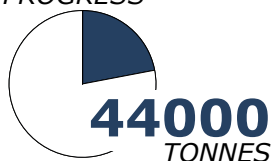


INTERNAL
EQUIPMENT
119000
TONNES
METAL

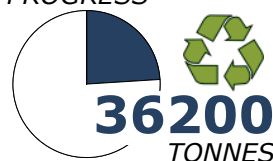
16x



DISMANTLED
MATERIALS
PROGRESS



FREE RELEASED
MATERIALS
PROGRESS



d) SIEA (Slovakia)

The Slovak Innovation and Energy Agency (SIEA) was initially established by the Ministry of Economy of the Slovak Republic as a professional state subsidy organization, active in the management of structural funds. It was subsequently designated for the implementation of a national channel for the implementation of the Bohunice Decommissioning Assistance Programme.

The Delegation Agreement between the European Commission and SIEA was signed in August 2016 and will expire on 31 December 2026.

2017 was the first full year of implementation of the entrusted task by SIEA. An ex post assessment, following the methodology used for the pillar assessment, was initiated with the objective to provide reasonable assurance as to whether the Agency fulfils the requirements set out in Article 60.2 of the Financial Regulation applicable to the general budget of the Union.

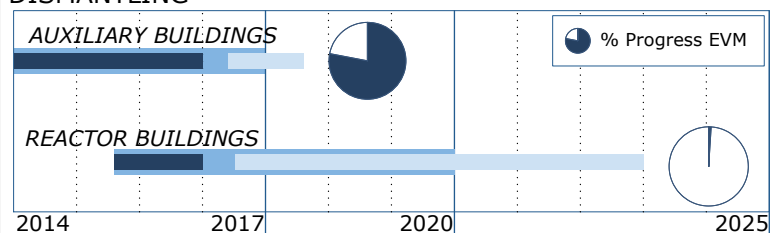
In 2017, DG ENER paid an amount of EUR 26,72 million to SIEA against previous commitments. Payments are requested by SIEA and determined based on procurement forecasts — as defined in the relevant delegation agreement — as well as progress in project implementation. Additional funds entrusted in 2017 (commitments) amounted to EUR 32 million.

Box 2.3: Dismantling the Units 1 & 2 of the Bohunice INPP

Key recent progress: The governance setup has proven adequate for the early detection of issues (monitoring, key performance indicators and earned value management) and the prompt identification of mitigation measures. The initial end-date (2025) is confirmed.

OBJECTIVES / MAIN ACHIEVEMENTS JUN 2017

DISMANTLING



RADIOACTIVE
WASTE
PACKAGES

517

FREE RELEASED
MATERIALS
TONNES

74751

DECONTAMINATION
OPTIMISATION OF
STAFF FOR
REACTORS
DISMANTLING

300
30

- Dismantling & Decontamination (D&D) works in the turbine halls and auxiliary buildings almost complete, with the last task (dismantling of cooling towers) well underway and to be completed in 2018.



The reactor's cooling circuits have been fully decontaminated

e) Conclusion on the supervision

DG ENER considers that in 2017, based on the monitoring reports and the various supervision activities carried out, the three decommissioning programmes met the objectives, in line with the baseline adopted by the Commission on 7 August 2014⁶⁹. The issue related to the dismantling and demolition of Bohunice V1 NPP cooling towers was addressed.

Supervisory activities proved effective and delivered satisfactory results. The Earned Value Management indicators showed that performance was generally appropriate. DG ENER considers that the entrusted bodies were effective and discharged their duties in line with the relevant delegation agreements.

Finally, DG ENER found the quality of the management information reported in 2017 sufficient for concluding on assurance.

⁶⁹ C(2014)5449

D. ACER – The Agency for the Cooperation of Energy Regulators

DG ENER is the parent DG for the Agency for the Cooperation of Energy Regulators (ACER), whose mission is to complement and coordinate the work of national energy regulators at EU level and work towards the completion of the single EU energy market for electricity and natural gas. In 2011, ACER received additional tasks⁷⁰ on wholesale energy market integrity and transparency (REMIT) and in 2013⁷¹ on guidelines for trans-European energy infrastructure.

In 2017, DG ENER's subsidy to ACER amounted to EUR 13.27 million. The execution rate for the financial commitments was 98.72% on 31 December 2017 (98.11% on the same period in 2016) and the level of payments execution was 75.81% (59.96% at the end of 2016).

DG ENER, relying on the Agency to achieve its policy objectives, is a member of the Administrative Board, the governing body of ACER, and an observer in the Board of Regulators, deciding on regulatory policy of ACER. Arrangements are in place to ensure that all key proposals to the Administrative Board are properly assessed and the Commission's position agreed.

The monitoring of the Agency's activities includes regular coordination meetings at management level, numerous contacts at working level and reporting. In 2017, DG ENER attended nine meetings of the Agency's Board of regulators. Whenever necessary, bilateral meetings between DG ENER and ACER are organised. In the framework of the supervision by DG ENER of ACER, a set of indicators is used to monitor budgetary and financial execution of the Agency. The Agency provides on quarterly basis information on the budget implementation, the vacancy rate and the audit recommendations follow up.

The Commission provided an opinion on ACER's Work Programme 2018 to ensure consistency of the Agency's action with the European Union's energy goals.

In accordance with Article 16 of Regulation (EC) 713/2009 establishing ACER, the Commission organised in 2017 the publication and selection process for the appointment of the Director of the Agency. 48 applications were received following publication of the job vacancy at the end of August. The recruitment procedure was initiated early enough to secure that the new director is in duty at the expiry of the current Director's mandate (September 2018).

In its audit on Human Resources Management, IAS made a critical audit observation concerning the weaknesses noted in the recruitment process of ACER. The issue relates to the management of a potential conflict of interest situation during the recruitment process, the assessment of eligibility and selection criteria, lack of practical guidelines and the appointment and composition of the Agency's Selection Committee.

ACER developed an action plan that addresses all recommendations of the IAS report. Actions related to the critical and very important recommendations should be completed in 2018. Both the IAS report and the action plan were discussed by the Administrative Board of the Agency on 6 February 2018 and the implementation of the corrective actions will be monitored by DG ENER through its participation in the Board. Based on its analysis of the actions and target dates proposed, IAS concluded on 8 February 2018 that the action plan was adequate to mitigate the risks identified.

The Agency is a fully autonomous body and has full responsibility regarding the management of its resources and of its assurance processes. No event is known to have

⁷⁰ Regulation (EU) No 1227/2011

⁷¹ Regulation (EU) No 347/2013

occurred that would impact DG ENER. The situation will be monitored through the DG's participation to the Agency's administrative board.

Moreover, ECA found the 2016 annual accounts of ACER legal and regular in all material aspects and that they presented fairly in all material respects the financial position of the Agency. The Court made one observation related to technical budgetary issues, to which the Agency provided replies and justification.

In addition, on 27 April 2017, the European Parliament granted ACER the discharge for the financial year 2015.

In conclusion, the regular supervision of ACER did not identify particular issues that would need to be included in this report. Overall DG ENER considers that its supervision of ACER is effective and appropriate. The issue evidenced by the IAS audit is adequately addressed by the Agency and duly monitored. DG ENER is therefore in a position to give assurance as to its activities in this respect.

E. F4E – The European Joint Undertaking for ITER and the Development of Fusion Energy

a) Objectives

Fusion for Energy (F4E) is the European Union's Joint Undertaking for ITER⁷² and the Development of Fusion Energy, located in Barcelona.

F4E was created in 2007 for a period of 35 years to provide Europe's contribution to the ITER International Fusion Energy Organisation (IO), the world's largest scientific partnership that aims to demonstrate fusion as a viable and sustainable source of energy. The ITER experimental reactor, under construction in Cadarache (France), will allow scientists and engineers to acquire the knowledge and technologies needed to develop in the future fusion power stations that will produce electricity.

The organisation has the following members:

- Euratom, represented by the European Commission;
- The Member States of Euratom;
- Third countries which have concluded cooperation agreements with Euratom in fusion that associate their respective research programmes with the Euratom programmes and which have expressed their wish to become members.

ITER brings together seven parties that represent half of the world's population — the EU, the United States, Japan, South Korea, China, India and Russia.

F4E also supports fusion research and development initiatives through the Broader Approach Agreement, signed with Japan — a fusion energy partnership which will last for 10 years. Ultimately, F4E will contribute towards the construction of demonstration fusion reactors.

Europe supports about 46% of the construction cost and 34% of the cost of operation, deactivation and decommissioning of the facility as well as preparing the site. Europe's contribution to ITER is managed by F4E. In 2017, DG ENER paid a total a EUR 717.68 million, corresponding to EUR 667.96 million on the operational budget and EUR 49.72 million on the administrative budget to F4E. The amount to be entrusted over

⁷² ITER: International Thermonuclear Experimental Reactor

the period 2007-2020 is equivalent to EUR 6.6 Billion in 2008 value.

b) Supervision structure

The supervision of F4E activities by DG ENER⁷³ is organised at different levels:

The top-level decision-making bodies of the Joint Undertaking are the Governing Board (GB) and the Director.

The Commission (DG ENER) represents Euratom in the governance and supervision instances, including the Governing Board. All EU Member States and Switzerland are also represented.

The Board is further assisted by:

- The Administration and Management Committee (AMC), preparing the Board's meetings, providing advice or recommendations to the Board or the Director; on specific matters related to the administrative and financial planning of F4E
- The Bureau: primarily preparing the Board's meetings;
- The Audit Committee: meeting twice a year to provide advice on the oversight of financial reporting and accounting; governance, internal control and risk management; as well as external and internal audits.

DG ENER adopted in July 2017 a comprehensive supervision strategy for Fusion for Energy (F4E), which sets out the supervision needs, the objectives for the supervision activities, the tools to be used, the working methods and procedures needed to achieve the supervision objectives, and clarifies the scope of application of 'the reservation on legality principle'. The supervision strategy is designed to enable the effective oversight of EU's performance in discharging its obligations to ITER on the basis of F4E's adherence to the agreed schedule (punctual delivery) and required specifications (quality), having regard to sound financial management (cost optimization, budget discipline) according to the Value for Money criteria (economy, efficiency, effectiveness) from the perspective of EU budgetary authorities.

A specific administrative arrangement lays down the modalities for the Euratom's contribution to F4E. A revised arrangement is under negotiation, reflecting the relevant elements of DG ENER's supervision strategy.

Supervision is further built on the reporting by the F4E Director to the DG ENER AOD, and on the regular contacts at working level between DG ENER and F4E.

F4E provides the Commission with planning and reporting documents:

- Planning documents: (i) work programme; (ii) resource estimates plan; (iii) staffing establishment plan; (iv) staff policy plan; (v) project plan; and (vi) the annual budget;
- Regular reports: (i) annual activity report, which sets out the progress made in the implementation of the work programme; (ii) progress reports to GB twice a year; (iii) an annual independent management assessment of the project's progress based on the existing reports (also submitted to the Council and the EP); and (iv) monthly reports on budgetary issues impacting the annual budget implementation as well as the reports/documents discussed in the AMC, the Bureau and the GB.

The *ex-ante* oversight of F4E by the Commission mainly consists of the assessment of

⁷³ On 1 July 2015 the responsibility of the monitoring of the ITER project and the Broader Approach activities were transferred from DG RTD to DG ENER.

the planning documents The Commission needs to assure itself that F4E presents a clear vision and strategy to deliver the ITER components under EU responsibility, according to the agreed ITER schedule and within the available budget - from the signature of the procurement arrangements associated to the EU obligations, to the implementation and follow-up of the industrial contracts that should deliver these components.

The approved planning provides the basis for *ex-post* monitoring by the Commission of the progress and performance of F4E towards the agreed objectives. Monitoring elements should also be deployed at the level of each procurement arrangement and/or main components, including information on the impact on the budget and the schedule at the stage of procurement arrangement signature and during the implementation phase, on a regular basis and in particular when major changes impacting the schedule and the costs occur.

DG ENER is the Euratom representative in the ITER Council, and ensures that F4E is fully associated and consulted when necessary. The ITER International Organization in charge of the project (the ITER Organization – IO) set up by the ITER Agreement is a main stakeholder in the project and thus plays a major role and has a major impact in particular on the activities of the Joint Undertaking but also on Euratom's responsibilities as signatory of the ITER Agreement.

For this reason, and complementary to the supervision strategy for F4E, the Commission has designed a comprehensive strategy for Euratom's participation in the ITER project's governance and supervision that was approved internally in DG ENER in late 2017. The strategy focuses on steps and improvements feasible within the present legal framework, and thus it does not consider radical changes which would require modifying the ITER Agreement itself or would need the ITER Council endorsement. The main objectives of Euratom's strategy for an effective governance of the project concentrate on: 1) the ITER Council shall steer effectively the IO by providing strategic directions to achieve the agreed goals; 2) the ITER Council shall supervise closely the IO, based on regular information on IO's performance, in accordance with the ITER baseline (i.e. stays on budget and schedule for the intended scope); and 3) Euratom shall secure its interests in the governance of ITER and in managing the IO by being influential in the ITER Council, ensuring that Euratom's interests are fully taken into consideration by the ITER Council.

c) Supervision results

F4E has elaborated new cost estimates at completion with considerable additional costs on the basis of the updated long-term schedule and costs agreed at referendum at the ITER Council meeting in November 2016. A Commission Communication⁷⁴ to the Council and the EP on the 'EU Contribution to a reformed ITER project' has been adopted asking the Council for a mandate to approve the new Baseline (scope, costs, and schedule) at an ITER Council at Ministerial level.

During its last meeting on 30 November – 1 December 2017 the F4E Governing Board:

- Adopted the multi annual programming document 2018-2022 (taking into full account the observations by the Commission), in line with the requirements of the revised F4E Financial Regulations as stipulated by the EU Financial Regulation guidelines for Joint Undertakings;
- Adopted the 2018 Work Programme and budget;
- Received the draft report of the Sixth Annual assessment, and discussed in particular the areas where improvement are still needed;

⁷⁴ COM(2017) 319 Final of 14.6.2017

- Asked the Bureau to establish an Action Plan regarding the recommendations concerning improvements in the governance of F4E and the work of the GB and its subsidiary bodies in the need to strengthen the steering and supervision of F4E by the GB.

The known problems of delays, cost overruns and management/governance effectiveness are being dealt with as the main priority of EC action with regard to the project management.

The Commission has been strengthening its supervision over F4E to promote an effective and efficient project implementation. The new comprehensive Commission supervision strategy of F4E is followed and being implemented by DG ENER.

Under Euratom's leadership, measures have been adopted by the ITER Organization and the ITER Members to address the project delays and to update the ITER Baseline to provide a solid basis for the execution and completion of the construction phase of ITER and improve the project management/governance. The Commission has adopted a Communication on ITER to request a mandate from the Council of the EU to formally agree on the revised schedule and its financial implications for the EU. Subject to receiving this mandate, the formal agreement to approve the new ITER baseline could take place in 2018 at a Ministerial level meeting among the ITER Parties.

d) Independent assessments requested by the Budgetary Authority

Both the European Parliament and the Council of the EU receive annually an independent assessment on F4E operations and F4E's progress report, carried out upon a specific Council's request made in 2010. DG ENER is a member of the Assessment Steering Committee⁷⁵ responsible for the annual F4E independent assessment.

The findings of the 2017 external annual assessment were presented to the Governing Board in December 2017. Following a discussion in the Governing Board with F4E management, an Action Plan to implement the recommendations is under preparation by F4E.

e) Additional sources of information

The IAS exercises the powers of Internal Auditor of F4E, whilst the internal audit capability of F4E is maintained.

The annual accounts of F4E are subject to the audit by the European Court of Auditors, who since its beginning has given an unqualified opinion on the reliability of the F4E annual accounts and on the legality and regularity of the transactions underlying the accounts (see section 2.1.2.2 below).

In its report over the year 2017, the F4E Director discloses an exception to F4E's own procurement rules that had to be made in the course of the year to address the underperformance of a contractor. The exception was duly recorded and part of a strategy that was endorsed by the Governing Board. However, the record of an exception is the sole responsibility of the F4E Director. Given the lack of alternative, more cost and time-efficient solutions, the exception aimed at preserving the objective to 'Deliver the European contributions to ITER and the Broader Approach within the agreed budget and schedule making best use of the industrial and research potential and capabilities of all

⁷⁵ The membership of the Assessment Steering Committee for the F4E annual assessment is decided upon by the F4E Governing Board. Current membership is composed of the GB Chair, the Chair of AMC and a representative proposed by Euratom (DG ENER HoU).

F4E members, in line with competition rules'. The exception had no tangible impact on the legality and regularity of the operation as it was validated and reported in the exception register before signing the amendments. This issue does therefore not impair the assurance that DG ENER builds as regard of the Euratom contribution to ITER.

f) Progress of the ITER project

Since its start in 2007, the ITER project, being a technologically complex, first-of-a-kind large-scale international project, has accumulated important delays and cost overruns.

These issues have been addressed by a revised baseline built on updated schedule and cost estimates. The revised baseline and the assumptions on costs and delays have been assessed by independent expert groups. The new baseline and F4E's capacity to deliver on it for the European part of the project were independently verified in 2016 by external reviews, with positive results.

The revised baseline and cost base confirm that there will be no additional funding needed for ITER under the current MFF and that the capped budget until 2020 set by the Council of the EU in 2010 will be respected (EUR 6.6 billion for the construction phase until 2020 in 2008 values).

The project was in effect put back on its tracks, and this translated into a significant acceleration in the implementation of contracts for European contributions through F4E. This resulted in an increased amount of payments falling due in 2017 compared to earlier financial planning. The Commission worked closely with the budgetary authority in order to secure extra EUR 297.8 million of payment credits.

All 2017 milestones due by December 2017 and agreed by the ITER Council and the F4E Governing Board to monitor the progress of the project have been reported as met. The tokamak building and the Vacuum vessel remain challenging, although the possibilities for mitigations actions are been investigated in the frame of the new assembly sequence being developed by IO.

Box 2.4: Progress of the ITER project (Cadarache, FR, source ITER IO)



July 2015



December 2017

Main achievements in 2017

Significant progress in the delivery of the Cleaning Facility Building, Cryoplant buildings, Site Services Building. Early accesses achieved for the Assembly building, Magnet Power Conversion buildings, Reactive Power Control Building, Hot Basin and Cooling Towers.

In terms of budgetary implementation, F4E achieved a rate of implementation of 98% against 2016 payment appropriations, and expects a rate of 100% against 2017 appropriations. The Governing Board has received regular overview of the evolution of F4E costs confirming that the costs remain within the available budget both in annual and in multi-annual perspective (i.e. until 2020 — the current MFF in which budget limits are set).

However, following the recent developments on ITER and the revised schedule, a budget increase beyond 2020 remains inevitable. The budgetary allocation for the EU to comply with the new schedule beyond 2020 will be decided by the EU Budgetary Authority in the context of the discussions on the next Multiannual Financial Frameworks. In its Communication⁷⁶ on the EU contribution to a reformed ITER project, the Commission provided an estimate of the Euratom contribution to the revised baseline of the project based on the staged approach.

g) Conclusion

ITER is a unique, first of a kind, large-scale global project at the technological frontier of knowledge. This fact points to unique challenges in the management of the schedule and containment of costs that are linked to the development of yet unavailable material and technologies. Financial uncertainties and risks inevitably derive from these unique challenges.

Whereas the magnitude of the risks pertaining to this project, in particular those affecting its implementation beyond 2020, need be recognised, DG ENER did not identify — through its regular and reinforced supervision of F4E — any particular events, issues or weaknesses that could have a material impact on the assurance given for the year 2017.

The weaknesses and challenges described above as regards effective schedule, cost overrun and governance are addressed by F4E's Management and under DG ENER's strengthened supervision, in close coordination with the Governing Board.

Additionally, improvements in terms of management, governance and physical progress have been confirmed by independent reviews at both the level of ITER and F4E.

Finally, DG ENER considers that the quality of the management information reported from F4E in 2017 was sufficient for concluding on assurance and considered reliable, even if in need of continuous improvements.

2.1.1.2.3. Conclusion as regard legality and regularity

DG ENER has set up internal control processes aimed to ensure the adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments concerned.

The AOD's conservative estimation of the amount of *relevant expenditure* during the year not in conformity with the applicable contractual and regulatory provisions at the time the payment concludes to an amount at risk at payment of EUR 6.78 million. This amount is not considered material as regard assurance building.

⁷⁶ COM(2017) 319 final, 14.6.2017

The assessment on legality and regularity for the directly managed FP7 programme returns a level of detected error which appears to be 'persistently high' over the years in terms of potential financial impact (exposure).

Regarding the directly managed EEPR programme, the residual error rate is 0.18%. The amount at risk is not material as regard assurance building.

Regarding Indirectly Managed Expenditure, there are no indication of any element that would impair the assurance. The issues observed regarding F4E and ACER do not impact the legality and regularity and appropriate actions are or were taken that allow DG ENER to conclude positively on the assurance it build in respect of these activities.

2.1.1.3. Cost-effectiveness and efficiency

Based on an assessment of the most relevant key indicators and control results, DG ENER has assessed the cost-effectiveness⁷⁷ and the efficiency of the control system and reached a positive conclusion.

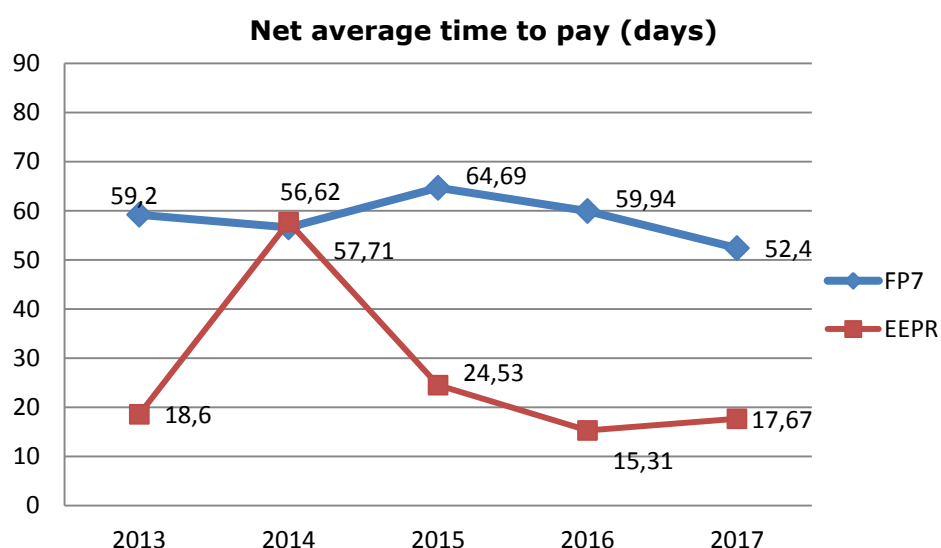
A. Direct Management

For the year 2017, the following efficiency and cost-effectiveness indicators have been estimated, for the programmes reported in section 2.1.1.2.1., related to stage 3 – monitoring (FP7 and EEPR) and stage 4 – audits (EEPR, as the FP7 ex-post audits are managed by the Common Audit Service in DG RTD)⁷⁸.

- **Stage 3 – Monitoring**
 - **Efficiency indicator: Time-to-Pay**

The evolution over time of this efficiency indicator is outlined in the charts below for FP7 (time limit of 90 days) and EEPR (legal time limit of 45 days):

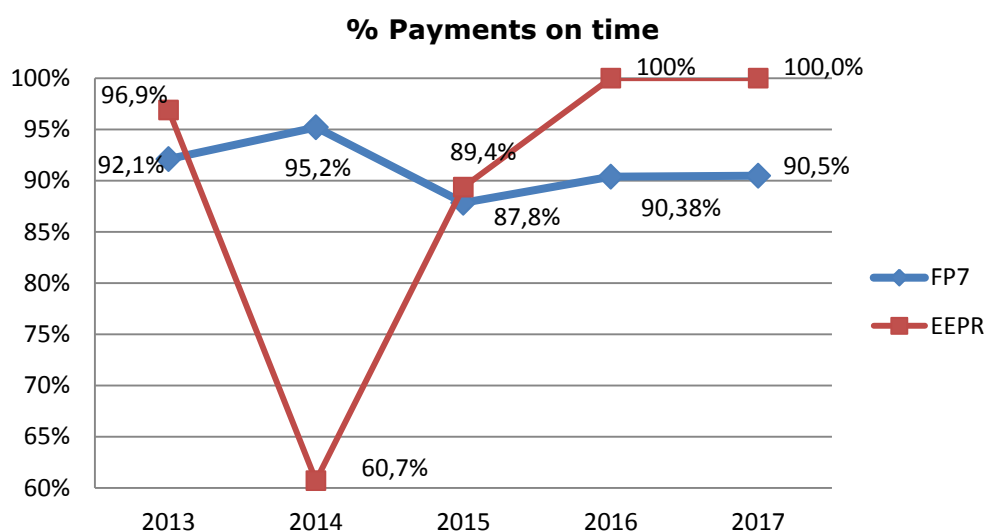
Net average time to pay (days):



⁷⁷ The costs reported or used in the ratios include overheads.

⁷⁸ Stages 1 and 2 are not applicable anymore for these two 'legacy' programmes.

For 2017, the payments deadlines for these two programmes were well below the deadlines, notably owed to the fact that there was no shortage of payment appropriations.

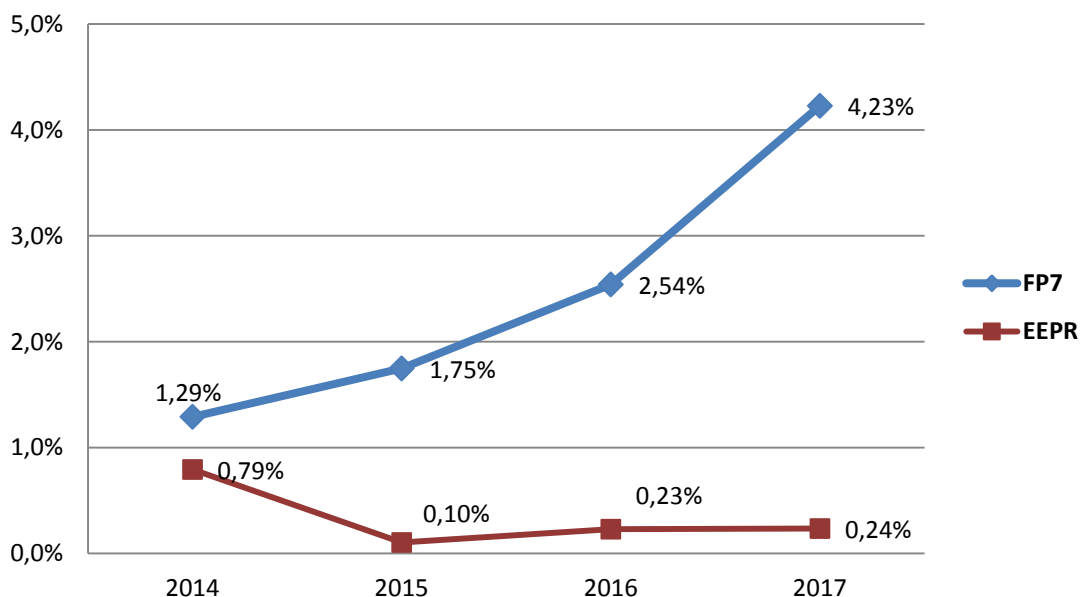


▪ Cost-effectiveness indicators

✓ Ratio costs over annual amount disbursed

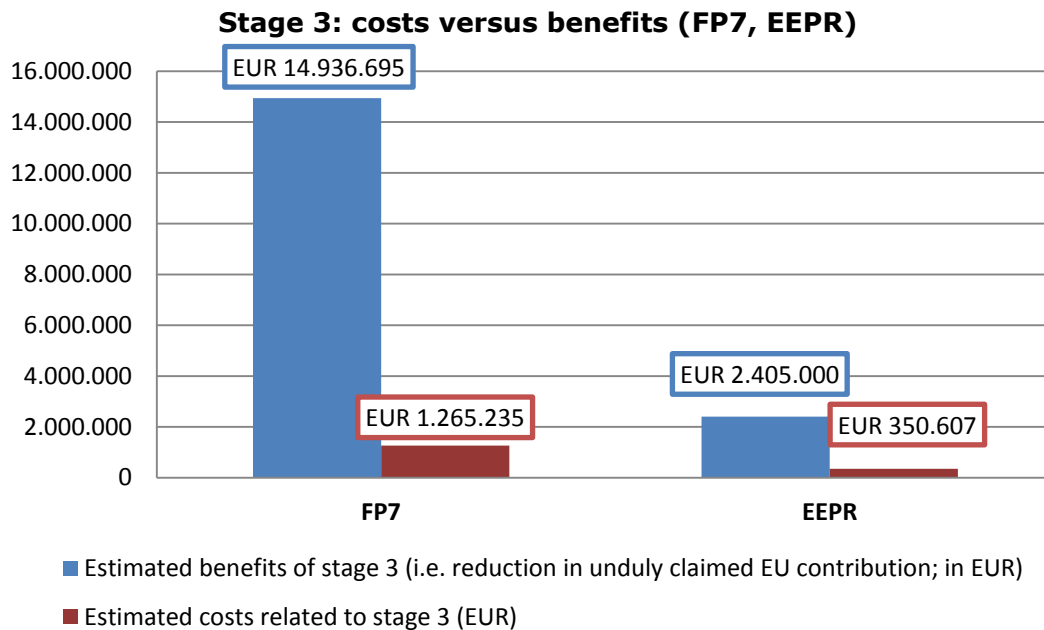
The estimated cost-effectiveness ratios for EEPR and FP7 increased in 2017, as the resources allocated to stage 3 did not decrease in the same proportion as the amounts paid, compared to 2016. However, DG ENER considers that the resources used were justified as the projects can be quite complex, with a high number of beneficiaries and in need of a close supervision, particularly in the final stages of implementation.

Stage 3 for FP7 and EEPR: Ratio costs of monitoring /payments made



Estimated costs compared to estimated quantifiable benefits

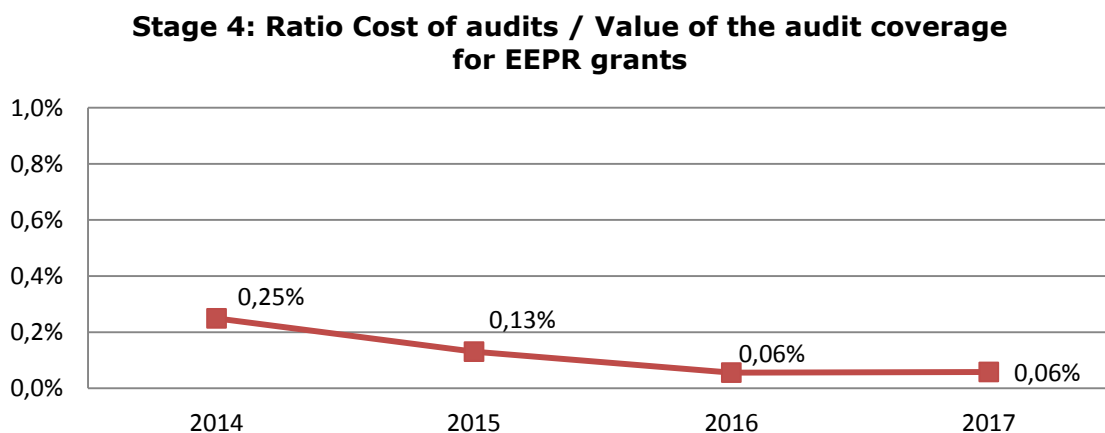
As for the bar chart hereunder, it underlines the estimated cost-effectiveness of the ex-ante verification performed in stage 3 for EEPR and FP7 in 2017.



○ Stage 4 – Ex-post audits:

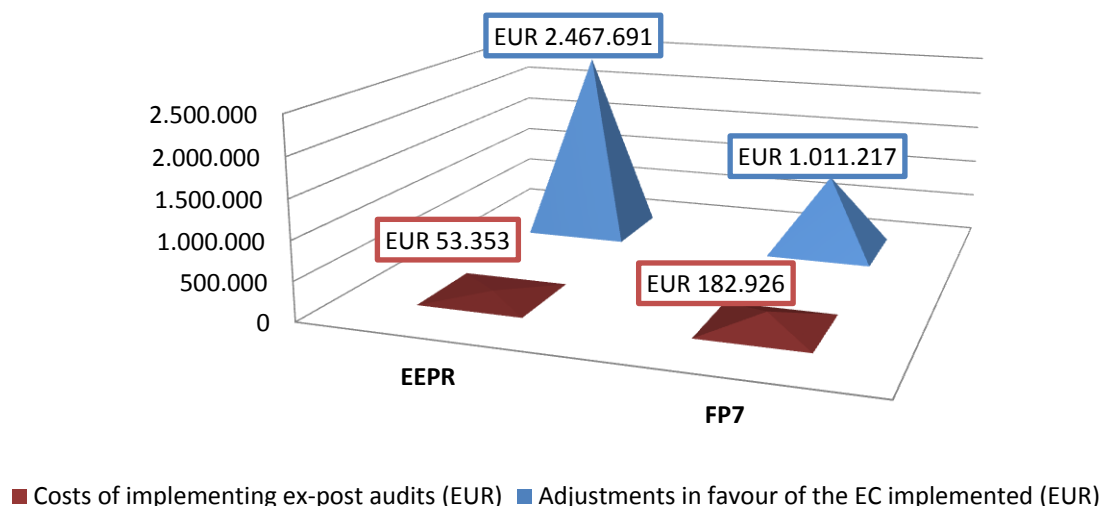
▪ Cost-effectiveness indicators

The excellent cost-effectiveness of carrying out audits for **EEPR** is emphasized in the following chart, which shows that the estimation ratio of cost of audits (0,21 M€) over the value of the audit coverage for EEPR grants maintained its low levels as compared to the previous years:



In addition, the chart below clearly outlines that the costs for implementing the audits in EEPR and FP7 are inferior to the adjustments recovered for these programmes.

Stage 4: Implementation of ex-post audits (EEPR, FP7)



▪ Cost of carrying out the audits

The audits related to **FP7** are performed by DG RTD's Common Support Center.

The cost of control indicator is established for all DGs and services involved in these programmes, as the cost are mutualised⁷⁹, comparing the cost of the audits carried out by RTD against the total amount of expenditure under the programme.

Table 2.10 Mutualised cost of control: Ex-post audits performed by the Common Support center

Effectiveness indicator in direct grant management	Costs (M€)			Overall rate (total costs / total amount paid)
Common Support Center	Internal costs	External costs	Total	%
<i>Ex post audits performed by the CSC for the R&I Family of DGs</i>	10.4	4.3	14.6	0.15%

The total cost of ex-post audits for FP7 therefore amount to 0.75% of the expenditure. For EEPR, the cost of carrying out the audits amounts to EUR 0,21 million. The total cost of carrying out and implementing the audit amounts to 0.17% of the expenditure.

⁷⁹ It is therefore not possible to derive a 'DG ENER' specific cost of CAS services.

B. Indirect management

Based on an assessment of the most relevant key indicators and control results, DG ENER has assessed the cost-effectiveness and the efficiency of the control system and reached a positive conclusion.

The cost effectiveness indicator takes into account the Commission level cost of supervision (covering the staff working time allocated to these tasks and the specific contracts directly related to supervisory tasks when relevant) of the different entities.

In 2017, the estimated consolidated cost-effectiveness indicator (i.e. for all entrusted entities together) remain overall stable.

The variations observed in the cost of control of the NDAP bodies (EBRD, CPMA, SIEA) mirror the gradual shift to national implementation channels in two countries and the increased level of supervision and monitoring of the programme that resulted. The initially calculated cost of control ratio for the CPMA for the year 2016 was furthermore revised from 0.25% to 1.57% to account for the delayed payment of the remuneration of this Agency for that year.

The 2016 and earlier estimates included the fees paid to the NDAP entrusted entities. These fees are now included in the cost at entity level reported below but have also been taken into account, for consistency reason in calculation of the cost of control ratio. The indicators for EU bodies and Executive agencies⁸⁰ do not include the costs incurred by the entities themselves, as they have full responsibility for the operation of the control systems and report separately on their activities. An overview of these costs is provided below.

• Cost of control, at Commission level

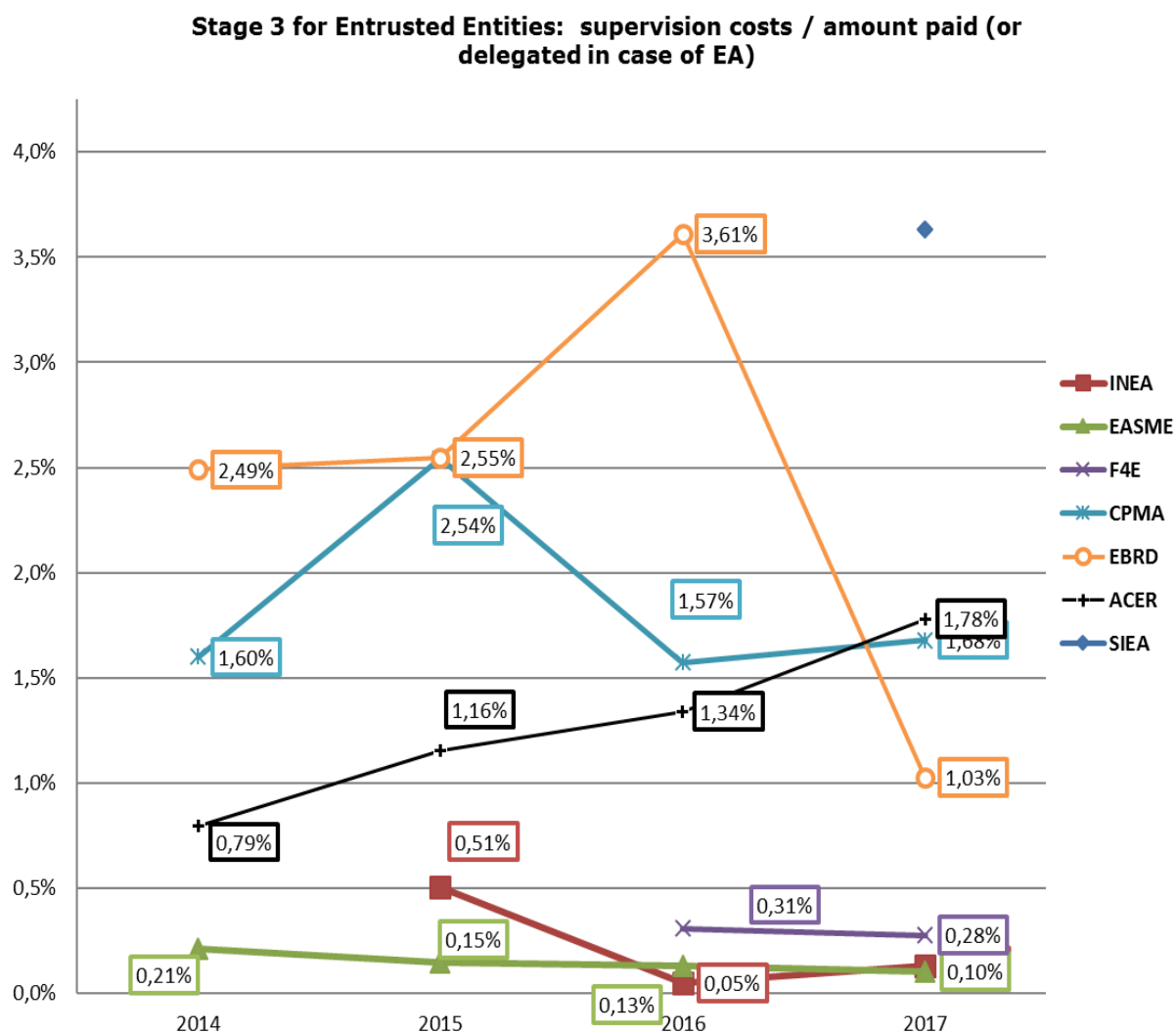
Table 2.11 Cost of control at DG ENER level		
Entity	Cost of Control at Commission level	Comments
EBRD	EUR 0.32 million (+ fees paid EUR 2.14 million)	Controlled amount: EUR 239.8 million
CPMA	EUR 0.23 million (+ fees paid EUR 1.24 million)	Controlled amount: EUR 87.44 million
SIEA	EUR 0.13 million (+ fees paid EUR 0.84 million)	Controlled amount: EUR 26.72 million
INEA	EUR 0.33 million	Controlled amount: The Energy expenditure managed by INEA under Direct Management in 2017 amounted to EUR 246.28 million.

⁸⁰ For executive agencies, the cost of control at Commission level is measured as the cost at Commission level divided by the total amount of funds managed by the agency in respect of the related ABB activities (thus the administrative budget under indirect management and the operational budget directly managed at entity level).

EASME	EUR 0.18 million	Controlled amount: The Energy expenditure managed by EASME under Direct Management in 2017 amounted to EUR 168 million.
ACER	EUR 0.24 million	Controlled amount: subsidy of EUR 13.27 million.
F4E	EUR 1.99 million	Controlled amount: Administrative budget of EUR 49.72 million, and operational budget of EUR 667.96 million.

Source: estimate of staff cost associated with the different control stages, including overheads.

The chart below illustrate the situation over time:



Regarding the EIB, the importance of financial instruments under indirect Management in DG ENER remains limited. The net asset value of DG ENER's participation to the CEF debt instrument was, as of 31 December 2017 of EUR 9.93 million, out of an initial contribution of EUR 10 million. No new contribution was made. No performance or treasury fees were accounted, and the management fees were limited. The supervision costs against assets under management (taking into account Commission supervision and fees paid) remained stable at 0.30%.

- **Cost of control, at entrusted entity level**

Table 2.12 Cost of control for the entrusted entities		
Entity	Cost of control	Comment
EBRD	EUR 2 144 000	Aggregated budgeted amount of the fees to pay for the IISDF, KISDF, BISDF (source: EBRD)
CPMA	EUR 1 236 851	Remuneration for 2017 ⁸¹ (source: ABAC)
SIEA	EUR 843.358	Remuneration for 2017 (source: ABAC)
EIB	EUR 7.000	Aggregated amount of the fees paid for the management of the CEF Debt instrument. (source: Audited Financial Statements)
F4E	Joint Undertaking under article 208 TFEU. The administrative budget for 2017 was EUR 49.72 million. The JU is responsible for the setup of its control systems within this envelope and for reporting on them in its own annual report. (source: ABAC)	
INEA	The share ⁸² of the cost of control of the Executive Agency related to ENERGY activities is estimated at EUR 3.44 million. These cost over both the execution of the administrative budget and the operational budget of the Agency. (source: INEA Draft AAR)	
EASME	The share ⁸³ of the cost of control of the Executive Agency related to ENERGY activities is estimated at EUR 3.55 million. These cost over both the execution of the administrative budget and the operational budget of the Agency. (source: EASME Draft AAR)	

- **Conclusion**

Overall, during the reporting year, it can be concluded from the indicators illustrated above as well as from those reported in section 2.1.1.2.1 that the controls carried out by DG ENER were judged cost-effective and efficient.

The weighted average 2017 cost-effectiveness ratio for the direct programmes and entrusted entities reported in the AAR is estimated at 0.7%⁸⁴.

⁸¹ In addition, a remuneration of 3.339.000€ was paid in January 2017 to cover the fees due to CPMA for the years 2014-2016.

⁸² This estimate is based on INEA's calculated COC per programme and reflects the 4.54% share of Energy projects in the CEF programme, and the 45,95% share of Energy projects (including DG ENER, DG RTD and Third party funds) in the part of H2020 managed by INEA.

⁸³ This estimate is based on EASME's calculated COC and reflects the 15,1% share of EASME's resources allocated to the H2020 Energy programme and to the Legacy IEE CIP.

⁸⁴ This ratio takes into account the cost estimate of DG ENER direct costs (EUR 5.73 million or 0.4% of the expenditure) and the EUR 4.22 million fees paid to the NDAP entrusted entities.

Table 2.13 Summary of the cost of control per Management Mode and Instruments

	Directly Managed grants (FP7)	Directly Managed grants (EEPR)	Indirect Management – F4E & ITER	Indirect Management – NDAP (EBRD, SIEA & CPMA)	ACER
Payments Made in 2017	EUR 29.92 million	EUR 148.67 million	EUR 717.68 million	EUR 353.96 million	EUR 13,27 million
Cost effectiveness ratio for ex-ante controls (Cost/payments of 2017)	4.23% (EUR 1.27 million)	0.24% (EUR 0.35 million)	0.27% (EUR 1.95 million)	1.53% ⁸⁵ of which 0.15% (EUR 0.54 million) are DG ENER direct costs	1.78% (EUR 0.24 million)
Cost Effectiveness ratio for ex-post controls (Cost/payments of 2017)	0.75% ⁸⁶ (EUR 0.22 million)	0.17% (EUR 0.26 million)	<0.01% (EUR 0.04 million)	0.04% (EUR 0.14 million)	N/A (Subsidy)
Total Cost effectiveness ratio	4.98%	0.41%	0.28%	1.57/0.19%	1.78%

As regards the expenditure under direct management, for stages 3 and 4, the estimated quantifiable benefits exceeded the costs in 2017. Furthermore, it is important to note that the benefits of stage 3 are necessarily affected by the limitation in the depth of ex-ante controls as part of the overall control framework.

Besides, in addition to the quantifiable benefits indicated above, there are also qualitative benefits stemming from these stages. Indeed, for stage 3, they provide an assurance that the project is running adequately and will produce the output desired. The analysis of deliverables can be valuable to ensure excellent science / performance, and its appropriate feedback into policy considerations, even if it does not lead to a financial saving. As for the non-quantitative benefits of stage 4, the audits have a positive deterrent effect within the programme, which will ensure system improvements and a better compliance with regulatory provisions. Thus, the benefits are much wider than the budget implemented in the given year.

As regards the expenditure under indirect management, the estimated ratios of the costs of the control system compared to the level of expenditure remain reasonable.

To summarise, the efficiency and the effectiveness of the controls is definitely sustained as a result of the quantitative and invaluable qualitative benefits, identified for the relevant stages of the process and providing a positive impact on the assurance⁸⁷. The cost-effectiveness of the overall controls is also positive since the benefits for the

⁸⁵ Including the fees paid to the implementing bodies.

⁸⁶ Including 0.6% DG ENER specific costs for implementation and 0.15% mutualised CAS auditing costs.

⁸⁷ Despite the reservation for FP7 overpayments.

Commission exceed the costs.

At the end of 2016, DG ENER had performed, in accordance with Art. 66.2 FR, an assessment that aimed at determining whether an adaptation of the financial circuits and of the control systems should be considered. In the absence of any significant change to DG ENER's environment, this assessment remains valid.

2.1.1.4. Fraud prevention and detection

DG ENER has developed and implemented its own anti-fraud strategy since November 2013, in accordance with the guidance laid out in the OLAF methodology. Subsequent updates occurred in October 2015 (covering 2016-2017) and December 2017 (covering 2018-2019). DG ENER is committed to update its Anti-Fraud Strategy every two years.

The current strategy is built on the fraud risk vulnerability analysis, in order to ascertain fraud risks specific to DG ENER and to understand them in the wider context. This assessment concluded that DG ENER is subject to no more than moderate or low level fraud related risks, i.e. no significant or critical risks were established.

The controls intended to ensure the legality and regularity of the transactions are complemented by an action plan that is attached to the strategy.

This action plan ensures notably:

- That internal rules for fraud suspicion handling and reporting are in place;
- A clear assignment of responsibilities for antifraud actions between the units and functions;
- That potential fraud risks are considered within the annual risk assessment exercise for the Management Plan.
- A regular attendance to the Fraud Prevention and Detection network and to the Fraud and Irregularity Committee meetings as well as contacts with other DGs and services;
- That the Local Anti-Fraud Correspondent function is operated, in line with the common action plan for the Research family;
- That an appropriate level of cooperation is ensured with OLAF.

The previous antifraud action plan for 2017 was implemented successfully. The successive antifraud strategies of DG ENER have recognized the importance of staff awareness and the importance of relations with implementing bodies as well as the evolution of the cooperation framework between OLAF and the Commission, and between DG ENER and the other Research family DGs. The implementation of the strategy is monitored and reported at least twice a year to DG ENER's management.

The indicators, related to the maintenance and update of the strategy, to regularity of reporting to management and to the improvement of staff awareness, show that the strategy is an effective tool to prevent and detect fraud, but that further efforts regarding staff awareness should be pursued as a continuous effort. In 2016-2017, a programme of awareness-raising actions was developed with tailor-made initiatives related to DG ENER's core activities and policy objectives. In 2017, the initiatives focussed on targeted meetings and vulnerability assessment workshops. Fraud prevention was also regularly discussed in the internal control newsletter. An information package was available on a dedicated intranet page.

In the course of 2017, DG ENER submitted or was called to contribute to four cases sent to OLAF for investigation. Two of these were still under consideration as of 31 December 2017.

Table 2.14: State of implementation of the Anti-fraud indicators mentioned in the Strategic Plan 2016-2020

Objective: Minimisation of the risk of fraud through application of effective anti-fraud measures, integrated in all activities of the DG, based on the DG's anti-fraud strategy (AFS) aimed at the prevention, detection and reparation of fraud.			
Indicator 1: Updated anti-fraud strategy of DG ENER, elaborated on the basis of the methodology provided by OLAF			
Source of data: OLAF guidelines – DG AFS			
Baseline	Interim Milestone 2017	Target	Latest known results
Date of the last update: October 2015	AFS Updated by December 2017 and December 2019	Update every two years, or if there are major changes.	The updated strategy was adopted on 19 December 2017.
Indicator 2 : Regular monitoring of the implementation of the anti-fraud strategy and reporting on its result to management			
Source of data: Bi annual Report to the Commissioner			
Last update of the anti-fraud strategy – October 2015	Interim reviews twice a year, starting in the first half of 2016.	Review of the state of implementation twice a year and report of the result in the bi-annual report to the Commissioner.	The state of implementation was reviewed two times in 2017 and communicated to Senior Management. This information was summarised in the reports to Commissioner Miguel Arias Canete

Table 2.15: State of implementation of the Anti-fraud outputs mentioned in the Management Plan 2017

Objective 3: Minimisation of the risk of fraud through application of effective anti-fraud measures, integrated in all activities of the DG, based on the DG's anti-fraud strategy (AFS) aimed at the prevention, detection and reparation of fraud.			
Main outputs in 2017:			
Output	Indicator	Target	Latest known situation
Implementation of the anti-fraud strategy as planned for 2017	% of implementation of actions planned for 2017 in the anti-fraud strategy	100%	~100%: all actions were implemented.
Adoption of a revised anti-fraud strategy for 2018-2019	Date of adoption of the revised anti-fraud strategy	Before 31.12.2017	DG ENER adopted a revised Anti-fraud Strategy on 19 December 2017. The Strategy was based on OLAF methodology and based on a specific risk assessment process
Reporting to Management	Number of reports on the implementation of the anti-fraud strategy	At least twice a year, in the bi-annual report to the Commissioner.	2 times a year in the report to the Commissioner.

2.1.1.5. Other control objectives

2.1.1.5.1. Safeguarding of assets and Information

This control objective is, for DG ENER, related to, on one side, the management of assets and information in the framework of the 'Euratom Safeguards' activity, on the other the assurance to give with regard to specific off-balance sheet items.

The nuclear material control system, known as '**Euratom Safeguards**', is based on two pillars:

- The record-keeping and reporting obligations of nuclear operators⁸⁸, as well as the periodic reports and accountancy declarations to be made to the Commission;
- The verification of the completeness, correctness and coherence of these reports and the effectiveness of the operators' accounting systems.

This activity entails the management of a certain number of **tangible and intangible assets** (such as, for instance, detection and measurement systems, office laboratory equipment, specific IT hardware and in house developed software), and the management of secured or classified information. DG ENER is asset management centre for all specific assets purchased with its budget.

Table 2.16: Asset Management (Nuclear Safeguards)	2017	2017	2016
Accounting threshold	EUR 5.000	EUR 420	EUR 420
Computer hardware and purchased software – number	240	2 574	3 884
Furniture, equipment and other items – number	2 035	7 564	7 896
Total	2 275	10 138	11 780

The key control objectives for DG ENER are to ensure that these assets are appropriately accounted for and safeguarded, that information is protected, and that related weaknesses, errors, irregularities and losses are detected and addressed.

To be recognised as an asset, an item needs to comply with following criteria:

- Acquisition value above EUR 420 up to end of 2016 and EUR 5 000 from 1 January 2017 (new accounting lower limit);
- Expected to be used during more than one year.

The net value of intangible assets under management (exclusively in-house developed software) decreased from EUR 4.19 million in 2016 to EUR 2.48 million in 2017. The decrease in value corresponds to the depreciation of the assets.

The tangible assets under management by DG ENER were, as of 31 December 2017, stable compared to the previous year, at EUR 6.48 million.

The reporting threshold for tangible assets changed during the year under review. The

⁸⁸ Art. 78 & 79 of the Treaty, further regulated by Commission Regulation (Euratom) 302/2005 which defines requirements for the nuclear material accountancy system to be implemented by the nuclear operators.

situation based on the new threshold is as follows:

	Number	Purchase value	Amortisation	Net value
		EUR million	EUR million	EUR million
IT	240	2,87	2,49	0,38
Furniture and equipment	2 035	33,04	28,39	4,65
Total	2 275	35,91	30,88	5,03

No impairment was made in respect of any of the assets under management.

The asset-related controls in place include:

- The performance of specific technical and contractual checks upon receipt of the goods;
- The maintenance of a periodical inventory via physical localisation checks of all items to ensure the completeness of the inventory. In 2017, DG ENER performed 2 586 checks (2 438 in 2016) when taking into account the threshold of EUR 420 (586 in 2017 with the threshold of EUR 5 000);
- For assets for which the normal physical tracking is limited due to their nature or their accessibility (e.g cameras and accessories in a nuclear power station which are located too high or the tracker cannot get in a specific zone), the update of a manual register during each inventory visit.

The total cost of these controls is estimated at EUR 0.72 million.

At the end of 2017, the corporate IT software for the management of the asset has been migrated to the newest version ABAC ASSET 2.

Regarding **safeguarding of information**, DG ENER handles secured and classified information in accordance with the provisions of Commission's Decision C(2006) 3602 and of the subsequent Security Notices number 1 and 2. A specific, separate infrastructure and a secure software environment are in place to ensure full compliance with these requirements.

In the specific Euratom document management system (MEDOR), 20.071 documents have been created in 2017 of which 98.82 % classified as 'EURA restricted'. For the 2016, the corresponding data are 20.039 documents of which 98.42 % 'EURA restricted'.

DG ENER's current procedures and controls are considered as robust and effective.

The **off balance sheet items** translate the involvement of DG ENER into the CEF delegated instruments and into the follow up of specific legal issues.

DG ENER is a delegated service for the Management of a minority stake in the CEF Debt Instruments. The management of these financial instruments was delegated to the EIB. The Off balance sheet postings include Contingent liabilities that correspond to the guarantees given by the EU for these financial instruments. In 2017, these guarantees remained broadly unchanged, at EUR 9.28 million (2016: EUR 9.27 million) and no significant loss was reported.

Furthermore, contingent liabilities were recorded for an amount of EUR 6.99 million. This contingent liabilities cover the potential losses that could arise from two legal cases, one related to one DG ENER managed TEN-E project and one to INEA managed CEF-E project.

The off balance sheet postings also include an amount of EUR 3,193.99 million, corresponding to the commitments made against appropriations not yet consumed. This amount decreased by 17% in comparison to 2016.

2.1.1.5.2. Reliability of Reporting

DG ENER implements a significant part of its budget through indirect management. It therefore relies on the reports and accounts provided by the relevant implementing bodies. As discussed under Section 2.1.1.2.2, DG ENER considers, as a whole, that the reports received from these bodies were reliable and sufficient to draw assurance conclusions.

This section presents more in detail DG ENER's assessment as to the reliability of reporting of the F4E Joint Undertaking, implementing the Euratom obligations towards the ITER project and of the EBRD, CPMA and SIEA, implementing the Nuclear Decommissioning Programmes.

— ***For the ITER programme: the Fusion for Energy Joint Undertaking (F4E)***

In 2017, F4E received the discharge for its 2015 accounts and operations from the Budgetary Authority. The European Court of auditors issued an unqualified opinion both on the legality and regularity of its operations and on its accounts for the year 2016.

Statutory information received from the implementing body includes their AAR, the annual progress report for Council and Parliament and their annual report to the Governing Board.

In addition, DG ENER receives on a monthly basis regular operational reports from F4E on the developments of the activity and on related milestones. Requests for appropriations and calls for funds are supported by financial reports.

This information was sufficient for drawing assurance conclusions and considered reliable. The Commission and the Governing Board however identified the need to further improve the reporting, to ensure more effective participation of the Commission in the governance of F4E and of ITER Organisation and to allow in the future for a better monitoring of the implementation of the new baseline that results from the project turnaround.

— ***For the Nuclear Decommissioning Assistance Programme (NDAP)***

The Implementation of the NDAP was entrusted to three implementing bodies⁸⁹.

Being at the center of the supervisory activity, the three joint EU-Member States Monitoring Committees generate a shared reporting on the programmes developments.

The EBRD-managed multi-donor funds have a specific governance structure. Management information received includes, bi-annual work programmes, periodic financial reporting on the 3 funds under management and project documentation.

The National Agencies CPMA and SIEA provide annually a summary report on the financial implementation of the entrusted tasks, together with their accounts on the expenditure incurred in the implementation of those tasks, and information on any audits, controls that were carried out. Management information include financial reporting, project documentation and management reports on procedural issues.

Declarations of assurance were received for the financial reports. The technical reports were subject to an assessment by DG ENER services.

In 2017 the DG ENER conducted an independent verification of procurement procedures of the Nuclear Decommissioning Assistance Programmes. The opinion of the auditor is that the CPMA has, in all material respects, discharged its responsibilities and obligations

⁸⁹ EBRD, CPMA and SIEA, see section 2.1.2.2.C

with respect to the management and implementation of procurement procedures at the beneficiary such as to achieve the requisite economy, efficiency, transparency and accountability in all processes as well as uphold the fundamental principles of good procurement practice.

This information was sufficient for drawing assurance conclusions and is considered reliable.

2.1.2 Audit observations and recommendations

This section reports and assesses the observations, opinions and conclusions reported by auditors in their reports as well as the limited conclusion of the Internal Auditor on the state of control, which could have a material impact on the achievement of the internal control objectives, and therefore on assurance, together with any management measures taken in response to the audit recommendations.

2.1.2.1 Internal Audit Service (IAS)

During the reporting period, the IAS carried out the following engagements related to DG ENER:

Audit on Security of IT applications supporting nuclear accountancy and inspection processes

In its final audit report, issued in July 2017, the IAS acknowledged that DG ENER put in place a number of organisational and technical controls aimed at mitigating the security risks to which its IT systems are exposed in the domain of nuclear safeguards. The IAS nevertheless concluded that significant issues still needed to be addressed, and formulated two very important and three important recommendations. The very important recommendations were related to:

- IT Security Governance arrangements;
- IT security risk analysis and security arrangements.

An action plan was prepared to address the weaknesses by the end of December 2018. The actions aim at ensuring that an IT governance body properly evaluates, directs and oversees effectiveness and efficiency of IT security related activities for the secure network and strengthening DG ENER controls over the secure network and remote connections.

Audit on Management of recovery orders for competition fines (incl. guarantees for competition fines) and for recovery orders in the context of the Commission's 'corrective capacity' – Phase I

In its final audit report, issued in September 2017, the IAS did not identify any high risks but revealed certain areas where the improvement was needed. Two important recommendations were formulated. An action plan was prepared to mitigate the identified risks by the end of March 2018.

Audit on the production process and the quality of statistics not produced by DG EUROSTAT

In its final audit report, issued in January 2018, the IAS noted that DG ENER had in place processes and activities to ensure that its statistical needs were met either by external providers or by processing internally data already available. However, the IAS concluded

that the improvement was needed in certain and formulated four important recommendations to be addressed by DG ENER⁹⁰.

DG ENER prepared an action plan to mitigate the identified risks by the end of February 2019.

Follow-up of recommendations resulting from previous IAS audit reports:

Audit on the management and functioning of Euratom Safeguards

In its final report issued in May 2016, the IAS concluded that DG ENER designed and implemented effective structures and processes for the Euratom Safeguards enabling the Commission to fulfil its primary law obligations regarding nuclear safeguards. However, the IAS noted a few areas for improvement related to formally assessing the relevance and effectiveness of the Commission's overall safeguards approach, formally approving the content of the Yearly Safeguards Statement, the need to establish an HR strategy outlining how to satisfy future staffing needs of the Euratom Safeguards Service and finally improving the existing objectives and indicators

Four important recommendations issued were closely followed up during 2017. One recommendation was satisfactory implemented and closed by the IAS; the implementation of other two⁹¹ was assessed as requiring additional actions, which were due by 31 December 2017. Work is continuing on the revision of the Nuclear Safeguards approach.

Audit on the supervision of ITER

In its final report issued in September 2016, the IAS acknowledged the efforts made by DG ENER to better monitor and steer the completion of the ITER project in the complex governance framework in which it operates. However, it concluded that there were still significant weaknesses affecting the effective supervision on the implementation of the ITER project both at the level of IO and F4E.

Two very important and one important recommendations were formulated. Both very important recommendation related to (1) DG ENER supervision and monitoring of F4E activities and to (2) DG ENER's supervision strategy for the ITER organisation and project were implemented by mid-January 2018, and reported by DG ENER as ready for the IAS review.

Audit on the supervision of the implementation of Connecting Europe Facility

In its final report issued in January 2016, the IAS acknowledged the efforts made by DG ENER to monitor and steer the implementation of CEF in the complex governance and regulatory framework in which it operates. However, the IAS concludes that further improvements were necessary to ensure effective supervision arrangements on the implementation of the CEF programme and on the achievement of the CEF and TEN-E objectives.

One very important recommendation (*DG ENER's supervision strategy on PCIS development*) was implemented in June 2017 and reported by DG ENER as ready for the

⁹⁰ Recommendation 1: *Completion of the Statistical Inventory and Masterplan*; Recommendation 2: *Management of the statistical process by DG ENER*; Recommendation 3: *Methodological and quality framework for internally produced or acquired internally*; Recommendation 4: *Referencing and use of disclaimer when publishing statistics*.

⁹¹ Recommendation 1: *Assessment of the Euratom Safeguards approach* and Recommendation 2: *Reporting on the implementation of Euratom Safeguards and the yearly safeguards statement*.

IAS review⁹².

Audit on Governance and Supervision of the Nuclear Decommissioning Programme in DG ENER

One remaining important recommendation (*Co-Financing*) was implemented in January 2017 and is under the IAS review.

Internal Audit Service – conclusion on the state of internal control

The IAS is entrusted with the responsibility to provide a conclusion on the state of internal control in DG ENER, which covers the audit work of previous years⁹³ and all open recommendations issued by the IAS⁹⁴.

In its conclusion the IAS stated that the internal control systems audited were partially effective since two 'very important' recommendations on Security of IT applications supporting nuclear accountancy and inspection processes remain to be addressed by end December 2018 (in line with the agreed action plan).

The impact of the residual risks related to this recommendation on the internal control principles and on the related component is reflected in the Internal Control self assessment discussed below.

2.1.2.2 European Court of Auditors (ECA)

a. Audit work 2017 – Declaration of assurance (DAS) 2016

In the context of DAS 2016, ECA assessed DG ENER as part of the *Competitiveness for Growth and Jobs* chapter⁹⁵. In its 2016 Annual Report, ECA concluded on an estimated level of error of 4.1% for the entire 2016 spending in the chapter (compared to 4.4% in the 2015 report). This error rate is almost entirely due to audit findings concerning cost declarations under FP7 and the Competitiveness and Innovation Programme. Most errors concerned overcharged personnel and indirect costs.

The *Energy* payments represent around 7% of the total of the whole chapter.

ECA selected 15 transactions (out of the total 150 transactions sampled for the Chapter) for review in the field of Energy: two from the FP7 programme, two from the EEPR, two from the CEF-E programme (implemented by INEA), as well as nine clearing transactions (four for F4E JU, two for ACER and three for the nuclear decommissioning programmes). In addition, three additional budgetary commitments (two from for NDAP and one for F4E JU) were selected for testing.

In the field of energy, ECA made the following observations:

- In the two FP7 transactions — one error with financial and one without financial impact (ineligible costs and ineligible personnel expenditure included in the cost claim);
- In one of the EEPR transactions — an error without financial impact related to a weakness in the tendering procedure;
- In two transactions related to NDAP (payments to EBRD), ECA made observations related to the accrual of negative interest and exchange rate variations within the multi-donor funds, but did not consider the transactions as affected by error. It

⁹² DG ENER also implemented two important recommendations formulated in the IAS final audit report.

⁹³ Final audit reports issued in the period 01/02/2015 – 31/01/2018.

⁹⁴ And the former Shared Internal Audit Capability, insofar as the IAS taken them over.

⁹⁵ Chapter 5 of the ECA's annual report 2016 (OJ C 322, vol. 60, 28.09.2017).

should be noted that, whereas the funds incurred negative interests in 2016-2017, the amount of accumulated interests remains largely positive. The observed negative interests is a consequence of the ECB monetary policy;

- In the three budgetary commitments selected for additional testing — ECA made an observation related to the lack of payments within two years of the signing of the legal commitment;

In addition, still for the purpose of the 2016 Statement of Assurance, ECA performed an audit of the accounts of DG ENER as at 31.12.2016. This included analysis of closure operations, substantive testing of invoices and pre-financings and analysis of cut-off data. The ECA issued one observation related to an underestimation of an accrued expense, which had an immaterial impact on the cut-off exercise.

b. Audit work 2017 - Declaration of assurance (DAS) 2017

As regards to the audit work for the DAS 2017, ECA has selected six transactions so far for review in the field of Energy: two from the H2020 programme, one from the EEPR, as well as three clearing transactions (one for F4E JU and two for the nuclear decommissioning programmes).

DG ENER has already received two Statements of Preliminary Findings with no observations (on the H2020 and the EEPR transactions).

The audit work is still on-going for the other transactions.

c. Audit work 2017 – Special Reports

Landscape Review: EU action on energy and climate change

In its landscape review, the Court provided an overview of EU action, summarised key audit work by the European Court of Auditors and EU national audit institutions and identified the main challenges, in order to inform both the legislative debate and future audit work. ECA identified 7 main challenges: governance, energy transition, adaptation, financing, research and innovation, evidence based policy and involving citizens.

It should be noted that the Clean Energy for all Europeans package of proposals for further reforming the energy market, adopted by the Commission is currently going through the legislative procedure. This package addresses many of these issues. Regarding to the issues raised related to data, modelling and access to information, the Commission is constantly reviewing and updating the information, and reports on it in the framework of the State of the Energy Union report.

Summary of results from the Court's 2016 annual audit of the European Research Joint Undertakings

In this summary providing an overview of the results of the annual audits on the European Research JU, ECA reported unqualified opinions on both the reliability of the accounts and the legality and regularity of transactions for F4E considering that the transactions underlying the annual accounts of F4E for the year ending 31 December 2016 are, in all material respects, legal and regular. It drew the attention on an 'Emphasis of matter on the EU contribution to the ITER project costs'.

The Court has issued such an 'Emphasis of Matter' since 2014 and considered its annual report a number of risks on costs increase and schedule slippages.

These issues were addressed in the framework of the baseline revision, and are constantly monitored by DG ENER at both F4E and wider project level.

The revision of the baseline was concluded in November 2016. Even if the exercise

quantifies both the delay incurred (first plasma by end 2025 and completion of construction by 2035) and the cost increase after 2020, it is important to outline that there will be no additional funding needed for ITER under the current MFF and that the capped budget until 2020 set by the Council of the EU in 2010 will be respected (EUR 6.6 billion for the construction phase until 2020 in 2008 values).

The Court also acknowledged the progress made in implementing audit recommendations and noted additional challenges related to the ITER project, such as the achievability of first plasma, the future cost of decommissioning and the uncertainty surrounding decision of the United Kingdom to leave the EU. DG ENER monitors the evolution of these issues. It is to be noted that a group of independent experts confirmed that the 2025 date was achievable and that decommissioning cost fall under the remit of IO.

Follow-up of recommendations issued by the Court of Auditors and by the Discharge Authority

As of 31.12.2017, DG ENER was chef de file for 39 recommendations stemming from Special Reports issued in 2015 and 2016, or from the successive Discharge Resolutions.

The outstanding recommendations were related to the following topics.

SR 16/2015 on Security of Energy Supply (2015): The Commission had accepted 14 recommendations. 8 Recommendations were implemented in 2017. Actions that contributed to the implementation of the audit recommendations were, in particular, the proposal for a directive⁹⁶ on common rules for the internal market in electricity the adoption of the Network codes, the strengthening of ACER's regulation, the setup of expert groups on electricity interconnections, the publications of the Ten Year Network development plan by the ENTSO's and the increased attention given in the selection process for the third PCI list to the identification of existing infrastructure which is used in a sub-optimal way.

One of the six outstanding recommendation proved more difficult to implement than expected. The recommendation relate to the completion of the conformity check with regard to the Internal Energy Market and the launch of infringement processes as necessary. Although the target date had been revised to 31/12/2017, the recommendation is not fully implemented. Significant progress was nevertheless recorded. The conformity check was performed for all 28 Member States, and the consideration of the need for an infringement process was completed for 27 of them. The single remaining issue is addressed and will be solved in 2018. The other recommendations are due in 2018 or 2019.

SR 22/2016 on Nuclear Decommissioning (2016): Three audit recommendations were implemented in 2017. The initiatives taken include active support to the exchange of best practices and technical knowledge, the launch of a the debate on the safe and responsible management of radioactive waste and spent fuel and an increased attention to non-decommissioning costs in the adoption of the NDAP Annual Work Programmes for 2017 of all three countries. The other recommendations are due in 2018.

SR 18/2016 on the Voluntary Certification Schemes of Biofuels (2016): All the issues underlined in the audit report were addressed through or in parallel with the legislative proposal for the renewable energy directive. DG ENER had initially expected that this work would be completed by end 2017 but had to acknowledge that the negotiation will continue throughout 2018. The intended report on the operation of the schemes was therefore rescheduled.

In the wake of the 2011 Audit on Nuclear Decommissioning, the European Parliament

⁹⁶ COM(2016) 864 final/2

had, in the **2011 Discharge Resolution**, recommended several actions that were linked to the evaluation process of the related programme. Most of these recommendations have been implemented. One recommendation will be fully implemented once the mid-term evaluation of the report is published in the first quarter of 2018.

2.1.2.3 Overall Conclusion

Overall, internal and external audit work contributes significantly to the continuous improvement in DG ENER systems and operations. The IAS and ECA findings and recommendations are subject to a systematic follow up by the Directorate-General.

Although these audits resulted in key findings, it is noted that all accepted very important recommendations issued by the IAS have led to specific action plans being drafted to address the underlying issues. Recommendations issued by ECA and by the Discharge Authority were also systematically addressed.

The current residual risk from the audit recommendations remaining open in DG ENER does not impair the declaration of assurance.

2.1.3 Assessment of the effectiveness of the internal control systems

The Commission has adopted an Internal Control Framework⁹⁷ based on international good practice, aimed to ensure the achievement of policy and operational objectives. In addition, as regards financial management, compliance with the internal control framework is a compulsory requirement.

DG ENER has put in place the organisational structure and the internal control systems suited to the achievement of the policy and control objectives, in accordance with the standards and having due regard to the risks associated with the environment in which it operates.

2.1.3.1 Source and methodology for the internal control assessment

The internal control self-assessment exercise was performed between November 2017 and January 2018 in compliance with the methodology proposed by DG BUDG. The self-assessment was based on three main pillars: 1) a series of interviews with representatives of middle management and specialized functions (among others BCP, HR, Financial Management); 2) desk review of information from various sources and 3) evaluation of monitoring indicators. The objective of such an approach was to have a more reliable basis for the final assessment.

The approach also took into account:

- the AOSD reports submitted by each Directorate, particularly information on supervision and monitoring arrangements for delegated programmes;
- the results of audits and follow-up engagements performed by IAS and ECA during 2017;
- the status of implementation of action plans results from previous IAS/ECA audit work.
- the results from the 2016 Staff Survey (organised by DG HR⁹⁸);
- the results of the risk assessment exercise;

⁹⁷ C(2017) 2373 final, 19.4.2017

⁹⁸ The Staff Opinion Survey is conducted by DG HR every two years, thus in 2017 no survey was done.

- the analysis of the register of exceptions and non-compliances.

2.1.3.2 Internal Control Self-assessment results for 2017

The assessment was carried out based on the revised Internal Control Framework. All five control components and 17 principles were evaluated. The results show that all 17 principles are present and 14 of them are noted as fully functional.

One principle was found to be partially present with improvements needed.

- Principle 11: during 2017 the IAS issued two very important audit recommendations concerning IT Security Governance arrangements and IT security risk analysis and security arrangements for IT applications supporting the nuclear accountancy and inspection processes. DG ENER developed an action plan to mitigate the identified risks, but the implementation is still at an early stage.

In addition, one subcontracted IT investment and ten locally developed historical tools were not fully registered in the GovIS2 IT governance tool. Appropriate action is undertaken to correct the issue.

Two principles were noted as present but minor improvements were necessary, as follows:

- Principle 4: mobility in DG ENER is currently impacted by the overall situation in that respect at corporate level. Efforts were made to identify internal opportunities for mobility for interested staff but continuing reductions in staff allocations limit the effectiveness of these initiatives.
- Principle 14: The 2016 DG HR Staff Survey indicated the need to improve senior management communication with staff. In response, DG ENER initiated internal communication actions, including two all-staff events organized in 2017. The impact of these efforts will be measurable in the next staff survey and until then the Principle is assumed to be affected by a minor deficiency.

As a result, four of the five components are assessed as present and functioning. However, due to the deficiency observed with regard to principle 11, component 3 'control activities' is assessed as partially present and functioning.

The exercise did not result in the identification of any further weaknesses, errors or actions that could jeopardise the overall effectiveness of DG ENER's internal control system.

Weaknesses identified in 2016 Self-assessment (and also partly identified through IAS audit recommendations), regarding principles 3 and 14 (formerly standards 9 and 12), were monitored. As of 31 December 2017, DG ENER has reasonable assurance that these have been successfully addressed through corrective actions and these two standards are no longer assessed as 'Partially effective', although for the second a re-assessment will be necessary at the light of the 2018 staff survey.

2.1.3.3 Risk management

DG ENER has put in place a risk assessment process ensuring an appropriate coverage of all its activities. Four key risks had been identified for 2017, related to the implementation of the ITER programme, to the Nuclear Decommissioning Assistance Programme, and to the implementation of Euratom safeguards, and leading to the adoption and implementation of action plans to reduce the likelihood of occurrence of these risks or to mitigate them.

A significant effort was pursued regarding the ITER programme, its governance and to the supervision by DG ENER of F4E, responsible for providing Europe's contribution to ITER. Whereas the inherent risk level of the NDAP remains high, controls were stepped up, with in particular, a systematic, continuous risk review and the introduction of value earned managed. The implementation of the action plans allowed for a reduction of the residual risks. For 2018, a specific attention remains attached to the ITER risks. This is largely due to the magnitude of the programme.

2.1.3.4 Exceptions and non compliance

The functioning of the internal control systems was closely monitored throughout the year by the systematic registration of non-compliance events and exceptions. Ten non-compliance events were registered and analysed in the course of 2017. This marks a significant improvement over 2016, when a total of 16 non-compliance and three exception events were recorded.

The analysis of the events revealed that the most common sources of errors relate to:

- organisation of meetings: five cases
- contractual and financial procedures: three cases
- missions procedures⁹⁹: two cases

The potential risk resulting from non-compliance was evaluated as low for all 10 events due to the presence of other compensating controls.

The awareness raising campaign on internal control, risk and fraud prevention matters, which started in 2017 and continues in 2018, will give due attention to the common mistakes and thus assist staff members to avoid them.

2.1.3.5 Conclusion on the internal control system

Based on the methodology and information sources described above, DG ENER assessed the internal control systems during the reporting year and concluded that all the *components* are implemented and functioning well, except for component 3 'Control Activities', that is, in line with DG BUDG guidance, deemed to be partially present due to the issues noted regarding principle 11.

Principle 11 is found to be partially implemented, in line with two very important audit recommendations from the IAS.

The observed situation does however not have any impact on the assurance by the Authorising Officer.

Concerning the weaknesses noted in 2016, internal control standards 9 and 12 were reviewed; the former is now considered as mitigated, while the latter has been targeted by improvement actions whose results will become clear in 2018.

Based on the result of the current assessment, as described above, we conclude that at the moment there is no need to apply changes to the internal control architecture and to the financial circuits, aside from the mitigating actions identified.

⁹⁹ e.g. wrong encoding of mission data

2.1.4 Conclusions as regards assurance

This section reviews the assessment of the elements reported above (in Sections 2.1.1 and 2.1.3) and draws conclusions supporting the declaration of assurance and whether it should be qualified with reservations.

The information reported in Section 2.1 stems from the results of management and auditor monitoring contained in the reports listed. These reports result from a systematic analysis of the evidence available. This approach provides sufficient guarantees as to the completeness and reliability of the information reported and results in an adequate coverage of the budget delegated to the Director-General of DG ENER.

Overall the controls carried out by DG ENER for the management of the budget, whether implemented directly or indirectly were effective for the reporting year. DG ENER also judges that the resources assigned in 2017 to the activities described in this report were used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

Regarding Indirectly Managed Expenditure, there are no indication of any element that would impair the assurance. The information received from F4E, from the Executive Agencies INEA and EASME, from the NDAP entrusted entities and from ACER is considered as adequate and reliable.

In this respect, the calculation reported in table 2.2 (section 2.1.1) shows that the estimated overall amount at risk at closure would be EUR 4.34 million, or 0,4% of the relevant 2017 expenditure.

DG ENER updated its anti-fraud strategy in 2017, based on a specific assessment of its fraud risks. The action plan for 2016-2017 is considered as fully implemented.

DG ENER identified four significant risks for 2017, none related to specific fraud risks. Action plans to reduce or mitigate these risks were adopted and implemented. The risk related to the ITER project is carried over to 2018. One should note however that no event materialised during the reporting year in relation to this project that would impair DG ENER's declaration of assurance.

DG ENER does not consider that the recommendations issued in 2017 by the Court of Auditors and by the IAS have a material impact on the declaration of assurance of DG ENER. The very important recommendations issued by the IAS regarding IT security have led to specific action plans addressing the underlying issues and are duly reflected in the assessment of the internal control system. The key recommendations resulting from previous audits were implemented. In particular the actions regarding ITER and F4E supervision were completed. The residual risk from the audit recommendations remaining open is not considered to have a bearing on the declaration of assurance.

DG ENER assessed its internal control systems and concluded that the internal control framework (ICF) is implemented and functioning as intended, except for principle 11 noted as partially effective.

DG ENER will monitor throughout 2018 the undertaken corrective actions.

The reservation on FP7, common to the Research Family, is maintained. Indeed, DG ENER's assessment on legality and regularity for FP7 returns a level of detected error which appears to be 'persistently high' over the years in terms of potential financial impact (exposure). Given the inherent risk related to a key modality of the programme (notably grants system's reimbursement mechanism based on eligible actual costs and the related risk of errors in the costs reimbursement claims submitted by the beneficiaries), the residual error is expected to remain above 2%, as well as the

programme's estimated overall amount at risk at closure by the end of its lifecycle. However, the impact of this amount at risk on the overall materiality at DG level remains limited.

DG ENER implements appropriate ex-ante and ex-post controls, to the extent that they remain cost-effective and do not affect the other programme objectives nor abandon the financial scheme. Besides, the legal framework for FP7 can no longer be modified as all grant agreements have been signed. Radical simplifications to reduce errors (and to help achieve other policy objectives) were however introduced in Horizon 2020.

Therefore, under the prevailing risk environment and from a managerial point of view, DG ENER's AOD can sign the Declaration — even with a reservation for the FP7 Research Programme (see section 2.1.5.2).

Overall Conclusion

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance albeit qualified by a reservation concerning Seventh Framework Programme (FP7).

2.1.5 Declaration of Assurance and reservation

DECLARATION OF ASSURANCE

I, the undersigned, Director-General of DG ENERGY, in my capacity as authorising officer by delegation

Declare that the information contained in this report gives a true and fair view¹⁰⁰.

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the limited conclusion of the Internal Auditor on the state of control, the observations of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the Commission.

However the following reservation should be noted:

FP7: the residual error rate observed by ex-post controls on grant agreements signed under the Seven Research Framework Programme is higher than the control objective of 2%.

Brussels, 27/03/2018

Dominique RISTORI

[signed]

¹⁰⁰ True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG/Executive Agency.

Reservation

DG ENER Reservation on FP7	
Title of the reservation, including its scope	Reservation concerning the rate of residual errors with regard to the accuracy of cost claims in Seventh Framework Programme (FP7) grant agreements.
Domain	Direct management of FP7 grants
Programme in which the reservation is made and total (annual) amount of this programme	32.04 Horizon 2020 – Research and innovation related to energy Payments made in 2017 for FP7 amount to EUR 29.92 million ¹⁰¹ .
Reason for the reservation	At the end of 2017, the residual error rate is not below the materiality threshold foreseen for the multi-annual period (2%).
Materiality criterion/criteria	The materiality criterion is the residual error rate, i.e. the level of errors that remain undetected and uncorrected, by the end of the management cycle. The control objective is to ensure that the residual error rate on the overall population is below 2% at the end of the management cycle. As long as the residual error rate is not below 2% at the end of a reporting year within the FP's management lifecycle, a reservation would be made.
Quantification of the impact (= actual 'exposure')	The Residual Error Rate is 3.55% for FP7 projects. This rate does not take into account corrections in favour of beneficiaries. The maximum impact is calculated by multiplying the residual error rate in favour of the Commission by the amount of FP7 payments and clearing of previous pre-financing in 2017 (in total: EUR 70.74 million). The estimated amount at risk in 2017 is EUR 2.51 million.
Impact on the assurance	Legality and regularity of the affected transactions, i.e. only payments made against cost claims (interim payments and payments of balance). The impact on assurance is limited by the reduced net financial impact that will occur in some cases where eligible expenditure is limited by budget ceilings. The amount at risk of EUR 2.51 million represents 0.19% of DG ENER payments in 2017 (EUR 1.34 billion). Consequently reasonable assurance can be provided.
Responsibility for the weakness	The main reasons for errors are: the complexity of the eligibility rules as laid down in the basic

¹⁰¹ The amount for the ABB activity 32.04 reported in Annex 3, table 2, column 2 'Payments made' show a total of EUR 74.48 million as it also includes payments for IEE and H2020 projects, to the ELENA facility as well as other expenditure of operational and administrative nature related to energy. The payment made under ABB 0802 Horizon 2020 – Research for FP7 (amounting to EUR 1.54 million) cross-subdelegated by DG RTD are not taken into account in the amount affected by the reservation for DG ENER.

	acts decided by the Legislative Authorities, based on the reimbursement of actual eligible costs declared by the beneficiaries; the fact that there are many thousands of beneficiaries making claims, and not all can be fully controlled. The different control provisions set out by the Commission services, along with the audit certificates on financial statements and ex-post audits, can mitigate these risks to a certain extent, but can never be carried out on 100% of the cost claims received.
Responsibility for the corrective action	The possibilities to simplify the FP7 rules have been exhausted. The programme is now in its final stage of implementation: the total amount paid per year will be decreasing, and therefore the financial impact too. Audits may continue at a low level in case of the identification of potential irregularities in projects. However, no further actions are programmed.

2.2 Other organisational management dimensions

This section covers the work of the horizontal services within DG ENER: human resources management, budget and financial management (reported in sections 2.1), information management, better regulation and external communication. The aim of these services is to provide high quality administrative support, advice, assistance, control and monitoring of resource use.

For an extensive reporting on all components, please refer to Annex 2.

2.2.1 Human resource management

In 2017, the overall HR architecture of the Commission was completely reshaped with the creation of two new actors (Account Management Center and Business Correspondents). This major change impacted the day-to-day HR activities as well as the delivery on HR priorities. DG ENER continued to manage efficiently and carefully its workforce in a context of limited human resources so as to deliver successfully on President Juncker's political priorities.

It achieved successfully the strategic HR objectives set out in the 2017 Management Plan:

1. Organisational fitness

In order to increase the efficiency of the horizontal services working in the fields of finance, document management and IT, the Share Resource Directorate (for DG ENER and DG MOVE) has been restructured passing from 6 units to 3.

In parallel, a new unit (DG.01) was created in DG ENER-Luxembourg regrouping the staff working in the fields of finance, IT, document management, assets management and safety/security. This unit is directly attached to the Director-General and serves all the staff of DG ENER in Luxembourg. This new structure will create synergies among all the horizontal services provided in the Luxembourg site.

To foster efficiency, agility and responsiveness of its organisational structure in Luxembourg, DG ENER is progressively moving from a setting with a Head of unit and Sectors to a new one with a Head of unit, a Deputy Head of unit and Teams. In this regards, three Deputy Head of unit functions were created in 2017 (ENER.DDG2.E.2, ENER.DDG2.E.3 and ENER.DDG2.E.4). Finally, an Adviser post was created in Directorate ENER.C in order to provide guidance, advice and information on matters related to the formulation or implementation of the work programme of the Directorate (Renewables, Research and Innovation, Energy Efficiency).

2. Promotion of female representation at management level

In 2017, DG ENER nominated one female Head of unit who was not middle manager before. Another similar nomination took place on 01/01/2018. Consequently, DG ENER has already achieved 2/3 of its objective of having 3 newly appointed female Heads of unit by November 2019. In this context, 100% of the management selection panels of DG ENER included at least one female member.

One woman was nominated Deputy Head of unit in ENER.DDG2.E.1 and two similar nominations took place on 01/01/2018 (ENER.DDG2.E.1, ENER.DDG2.E.2).

In order to improve a more gender-balanced staff in DG ENER-Luxembourg, DG ENER has launched targeted initiatives. A workshop ('Unlock your hidden potential') aimed at helping women build a fulfilling career in DG ENER-Luxembourg, to the best of their potential was organized in January 2017. Also, DG ENER organized a Conference in

Luxembourg in October 2017 with the objectives of enhancing confidence, visibility, recognition and seniority for women who are working in male-dominated fields as well as facilitating interaction between women sharing the same environment and starting a network dynamics.

3. Replacing outgoing staff

Weekly meetings are organised with the Director-General to discuss important HR issues and assess staff allocation in the DG included vacancies and credits' allocation.

Senior and middle managers are also regularly consulted in order to assess their future needs regarding staff. In this context, the reserve list of the open competition for administrators in the field of nuclear energy was published in the course of 2017 and recruitments from this list have already started. In addition, an analysis has started, in cooperation with the senior management, on the opportunity to organise a similar competition at AST level.

4. Internal communication/Working conditions

The Director-General regularly reminded DG ENER's managers about the importance of communicating and exchanging views with staff. In addition to this general day-to-day approach, specific actions were organised in 2017 to stimulate internal communication and improve the working conditions of DG ENER staff.

Two staff events which gathered together all the staff of DG ENER were organised (in July and in December). The objectives were to discuss the current priorities of the DG and the future of the European energy policy but also to strengthen the ties between colleagues and to develop a two-ways communication channel between staff and senior managers. Another specific staff event for the staff of DG ENER-Luxembourg took place in May with the participation of the Director-General and DG ENER/LUX senior management. Moreover, HR representatives (AMC.2 Head of unit and ENER BC) as well as DG ENER managers involved in the ITER project participated in a joint mission to Cadarache in order to meet and exchange with the staff of DG ENER working there.

A number of lunchtime conferences were organised along the year on energy policy topics.

Regarding well-being and fit@work initiatives, DG ENER organised a lunchtime conference on the prevention of burn-out and DG ENER staff was invited to a lunchtime conference organised by DG MOVE in the framework of the VeloMai initiative (Bike Repair Café). Also, HR.AMC.2 organised for the staff of DG ENER regular fitness activities (yoga, running, pilates).

In order to integrate better and faster new staff in DG ENER, a newcomer's event took place for the first time in 2017 and will be repeated regularly in the future.

Several away-days either at Directorate level or at unit level were also organised.

Most of the actions above were part of an action plan adopted by DG ENER in order to follow-up the results of the latest staff survey.

2.2.2 Better regulation

DG ENER is fully committed to fostering a Better Regulation culture and implementing the Better Regulation Guidelines. In order to increase the understanding of DG ENER staff of Better Regulation, especially concerning the changes in the revised guidelines, explain their practical implementation and answer any open questions, a specific lunchtime training on 'Regulation even better! The revised Better Regulation Guidelines/toolbox and what it means for our work' was organised together with the relevant colleagues in SG in

2017.

In terms of strengthening DG ENER's horizontal preparedness for ensuring robust and sound, better regulation, the analytical tools of the DG were continuously improved. For example, statistical country data sheets and Energy Union indicator tools were released during 2017 and widely used within the DG especially for the preparation of the country fact sheets accompanying the 3rd State of the Energy Union and the work under the European Semester. Cooperation with Eurostat and the JRC was ongoing and delivering well. Also the use of figures and facts in briefings and speeches prepared by DG ENER staff has been increased in 2017 with the aim of improving the accuracy of the interventions. The Energy Statistical Pocketbook 2017 has been distributed to all staff and statistical county datasheets as well as Energy Union indicator tools released and put at the disposal of staff.

Example of planned initiatives to improve economy and efficiency

In 2017, several important initiatives have been implemented by DG ENER that will help improving economy and efficiency. Two examples are:

- The proposed **repeal of Regulation 256/2014** concerning the notification to the Commission of investment projects in energy infrastructure within the EU will reduce the administrative burden for project promoters, Member States and the European Institutions themselves. The repeal is expected to put an end to the expenditures linked to it and it will help rationalise the use of resources by removing double reporting obligations and processing of data which have become available via other, higher-quality sources. Therefore, it is expected to have no deteriorating effect on the Commission's ability to monitor investments in energy infrastructure.
- Regarding the establishment of the **3rd PCI list**, DG ENER has put substantial efforts into streamlining the latest PCI identification round carried out in the course of 2016 and 2017. By aligning the process with ENSTO-E, ENTSO-G and ACER, by developing a simplified, yet robust PCI assessment methodology with the support of the JRC as well as by involving broader groups of stakeholders already early in the process, DG ENER succeeded in substantially optimising the process while at the same time making it more transparent and inclusive.

2.2.3 Information management aspects

In October 2016 the College adopted a Communication that sets out a corporate strategy on data, information and knowledge management. In line with this strategy, most of the actions foreseen for 2017 have been fully accomplished in DG ENER, especially in terms of paperless workflows and systematization of document management procedures.

Awareness actions launched in 2016 have been consolidated with new communication channels, such as collaborative spaces, highly appreciated and widely used in the DG. This has improved communication within units and the Information Management Team, allowing the CAD to become the reference contact for units in terms of files management. The good results of filing indicator, approaching Strategic Plan 2016-2020 targets (Indicator 1), is the reflection of this collaboration.

The former section on information management included twice a year in the resource management reports has not been carried out during this year. This was due to a change in the resource management reporting, which does not allow to include this information. Following the good results of the collaborative spaces created this year, a dashboard on Information Management indicators is foreseen to be included in a collaborative space during 2018.

A specific Task Force on paperless has been established this year to foster the use of the e-signatory, with good results. The participants in the task Force have reviewed the existing workflows and defined new ones to promote paperless in DG ENER. Paperless workflows are effectively used in DG ENER-Brussels since April 2017. DG ENER-Luxembourg will introduce the paperless workflows in 2018.

Important actions have been also carried out in terms of assessment and systematic closure of electronic and paper files, as detailed in annex 2. This will improve the quality and security of closed files, physically kept and centrally managed in the new intermediate archives of DG ENER-Brussels as from 01/01/2018. Given the specificities in the nuclear field, a secure archive is managed by the DMO-CAD team in Luxembourg.

Files accessibility within DG ENER fully accomplishes the target of the Strategic Plan 2016-2020 (Indicator 2).

Regarding the indicator on sharing files with other DGs (Indicator 3), DG ENER has started an in-depth analysis on files accessibility, based on the 'need to know' principle, which will lead to a policy on files accessibility. In 2018, DG ENER will define implementing rules and will start to provide access to files to other DGs according to new established rules. In 2017 DG ENER focussed on files security, quality and preservation, which is a prerequisite before providing access to other DG. This is the reason why the results for indicator 3 are not in line with the target established in the Strategic Plan 2016-2020. This target was set before the Communication on Data, Information and Knowledge Management at the EC had been issued and might change after the analysis on files accessibility is completed.

2.2.4 External communication activities

Concerning external communication activities, 2017 was quite an important year for DG ENER with the 2nd State of the Energy Union report being presented in February and the 3rd State of the Energy Union report in November, together with the 3rd list of Projects of Common Interest and the Communication on strengthening Europe's energy networks not to mention the continuing communication efforts on ensuring awareness and understanding of the objectives of both the Energy Union strategy and the Clean Energy package. Overall DG ENER produced 13 press releases published by Spokesperson's Service in 2017 but also published 172 web news items on EUROPA.

The original website, referred to as the policy site, started to co-exist with the new Europa site, referred to as the info site. The DG ENER policy site had in total 1,390,451 visits in 2017, significantly less than the previous year which can be explained by the launch of the Clean Energy Package in November 2016. Other web statistics, based on the 5 last months of 2017, tells us that the average number of visits was +/-110 000 per month; the returning visits varied between 40 000 and 65 000 and the total amount of visitors varied between 56 000 and 90 000. In 2018, we will strive to maintain a high quality level on our web content aiming at keeping the numbers in line with 2017 figures, despite the fact that we will be in full 'digital transformation', which may have a negative impact on our user statistics (content being rewritten, moved to new pages, merged or possibly deleted).

DG ENER twitter account @Energy4Europe contributes to increasing the web traffic by regular posting and keeps our interested audiences up to date with energy developments and news. In the second half of 2017 the account attracted at least 500 new followers per month (from 14 100 by end July to 16 900 end December) and over the second half of 2017, web statistics show that on average 650 visitors per month arrive to our webpages through twitter (not only from the corporate account, but it is still a valid indication).

DG ENER also launched a YouTube account in the 3rd quarter of 2017 and that has proved useful for hosting the web streaming of events in addition to making our video

productions more easily accessible to the public.

Evidence based surveys and feedback forms report the overall satisfaction rate for participants was 8.09/10 supported by closing statement from Commissioners, MEPs, or the like. Media coverage, feedback forms, Award Ceremonies and monitored carbon compensation improved Citizen's perception of the benefits generated by the EU energy policies.