European Commission

Strategic Plan 2016-2020*

DG ENERGY

*The current Commission's term of office runs until 31 October 2019. New political orientations provided by the incoming Commission for the subsequent period will be appropriately reflected in the strategic planning process.

Contents

PART 1. Strategic vision for 2016-2020

A. Mission statement

*DG ENER is responsible for developing and implementing the **Energy Union**[1], one of the Juncker Commission's priorities. DG ENER proposes, implements and reviews legislation under the Energy Union framework strategy, focusing on 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*
- *Research, innovation and competitiveness.*

The Directorate-General for Energy (DG ENER) works towards secure, sustainable, competitive and affordable energy for all EU citizens.

Energy for Europe – serving society, supporting the economy, protecting the environment –
Our core values – excellence, transparency, integrity

[1] COM(2015) 80 Final, 25.02.2015

B. Operating context

This section maps the internal and external environment in which DG ENER operates and how its interventions are shaped.

Competencies of the European Union in the energy field.

The EU Treaties (the Treaty on the European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU)), together with the Treaty establishing the European Atomic Energy Community (EURATOM Treaty) represent the primary law relevant for the energy sector. The TFEU gives the EU for the first time an explicit competence in the energy field through Article 194. Art. 194 states that the EU policy in the area of energy shall aim to ensure the functioning of the internal market, ensure security of supply, promote energy efficiency and the development of new and renewable forms of energy, and promote the interconnection of energy networks. Under the TFEU energy policy is a shared competence. Thus the Member States may legislate and adopt legally binding acts to the extent that the EU has not exercised its competence.

The EURATOM Treaty is a lex specialis in relation to the TFEU, which applies to the nuclear energy sector. It covers all policy aspects relevant for the civil use of nuclear energy, such as nuclear safety, safeguards, radiation protection, radioactive waste management, external relations and security of supply of ores and nuclear materials.

The EU energy acquis (legislation)

Apart from the Treaties' provisions, EU energy acquis includes considerable secondary legislation e.g. regulations, directives, decisions. The EU adopted a series of regulations and directives in the energy area to ensure progress towards meeting the general objectives of EU energy policy (see below point C). The most important of these include the 2009 directives and regulations on the internal market for gas and electricity (to further ensure deregulation and integration of the internal energy market), the 2009 directive on renewable energy (to ensure that the EU's 2020 target for renewable energy is met through national targets), the 2012 energy efficiency directive (to ensure progress towards meeting the EU's 2020 target for energy efficiency), the 2012 infrastructure regulation (to spur the development of energy infrastructure of common interest), the 2010 security of (gas) supply regulation (to ensure adequate safeguards against gas supply disruptions). In the field of nuclear energy, the most important binding acts include the 2009 nuclear safety directive (as recently amended), the 2011 directive on spent fuel and radioactive waste management and the revised basic safety standards directive, as adopted in December 2013, as well as Regulation 302/2005 on the application of Euratom safeguards.

The external environment in which DG ENER operates - Key stakeholders

In the Council, the main formation addressing energy issues is the Transport, Telecommunications and Energy Council (TTE Council), based on the preparatory work of Coreper I and of the Energy Working Party. Nuclear files are handled by the General Affairs Council, based on the preparatory work of Coreper II and of the Atomic Question Working Party. The Competitiveness Council also regularly includes energy issues in its discussions.. In the European Parliament (EP), energy files are

mainly dealt with by the committee for industry, research and energy (ITRE) as lead committee. Several other committees such as ENVI, IMCO or REGIO regularly provide opinions on energy files.

The Commission further interacts with a very broad range of stakeholders in the area of energy, including international organisations such as the International Energy Agency (IEA), the International Atomic Energy Agency (IAEA), the International Renewable Energy Agency (IRENA), the International Partnership for Energy Efficiency Cooperation, the Energy Community and EFTA, Member States' governments and national authorities, Third States authorities involved in the implementation of Euratom Cooperation Agreements, industry organisations and individual companies, non-governmental organisations, as well as other organisations representing various stakeholder groupings (e.g. local and regional communities, consumer associations, etc.). In addition, the Commission has close contacts with both the Committee of the Regions and the Economic and Social Committee on energy issues.

Types and instruments of EU intervention

DG ENER is working with several programmes. The programme "Connecting Europe Facility" (CEF) aims at accelerating investment in the field of trans-European networks and to leverage funding from both the public and the private sectors in infrastructure projects. The CEF is enabling synergies between the transport, telecommunications and energy sectors. The programme "Horizon 2020" (H2020) seeks to support the transition to a reliable, sustainable and competitive energy system. Horizon 2020 grants and related instruments, such as InnovFin, are the main instruments today for the EU to invest in SET-Plan technologies. The "Nuclear Decommissioning programme" finances the decommissioning of the nuclear power plants of Bohunice, Ignalina and Kozloduy with the objective to bring them to a safe stage from the radiation point of view. Financial support from the EU budget is attributed through the International Decommissioning Support Funds (IDSF) managed either by national agencies or by the European Bank for Reconstruction and Development (EBRD).

Finally, the European contribution to the ITER project is channelled through the European Joint Undertaking for ITER and the Development of Fusion (F4E) that was established in 2006 under Article 49 of the Euratom Treaty for 35 years.

In addition, the "European Fund for Strategic Investments" (EFSI) has been created in July 2015 to unlock public and private investments in the real economy. It will provide an opportunity for scaling up investments in the energy sector, in accordance with the Energy Union priorities, including security of energy supply with a 2020, 2030 and 2050 horizon, in particular through expansion of renewable energy, energy efficiency and energy savings (with a focus on reducing demand through demand side management and the refurbishment of buildings), development and modernization of energy infrastructure (in particular interconnections, smart grids at distribution level, energy storage and synchronisation of networks).

C. Strategy

*President Jean-Claude Juncker has stated that we need to create a **resilient Energy Union with a forward looking climate policy,** in order to ensure affordable, secure and sustainable energy for businesses and households alike. The general objective for DG ENERGY is to promote an Energy Union with an ambitious climate policy at its core in order to give EU consumers - households and businesses - secure, sustainable, competitive and affordable energy. This general objective, also endorsed by the European Council Conclusions on the 19 March 2015, is composed of five dimensions that are closely interrelated and mutually reinforcing.*

To reply to core drivers of change, the Energy Union has a threefold scope:

1. ***Competitiveness:** To contribute to setting up an energy market providing citizens and businesses with affordable energy, competitive prices and technologically advanced energy services.*

2. ***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.*

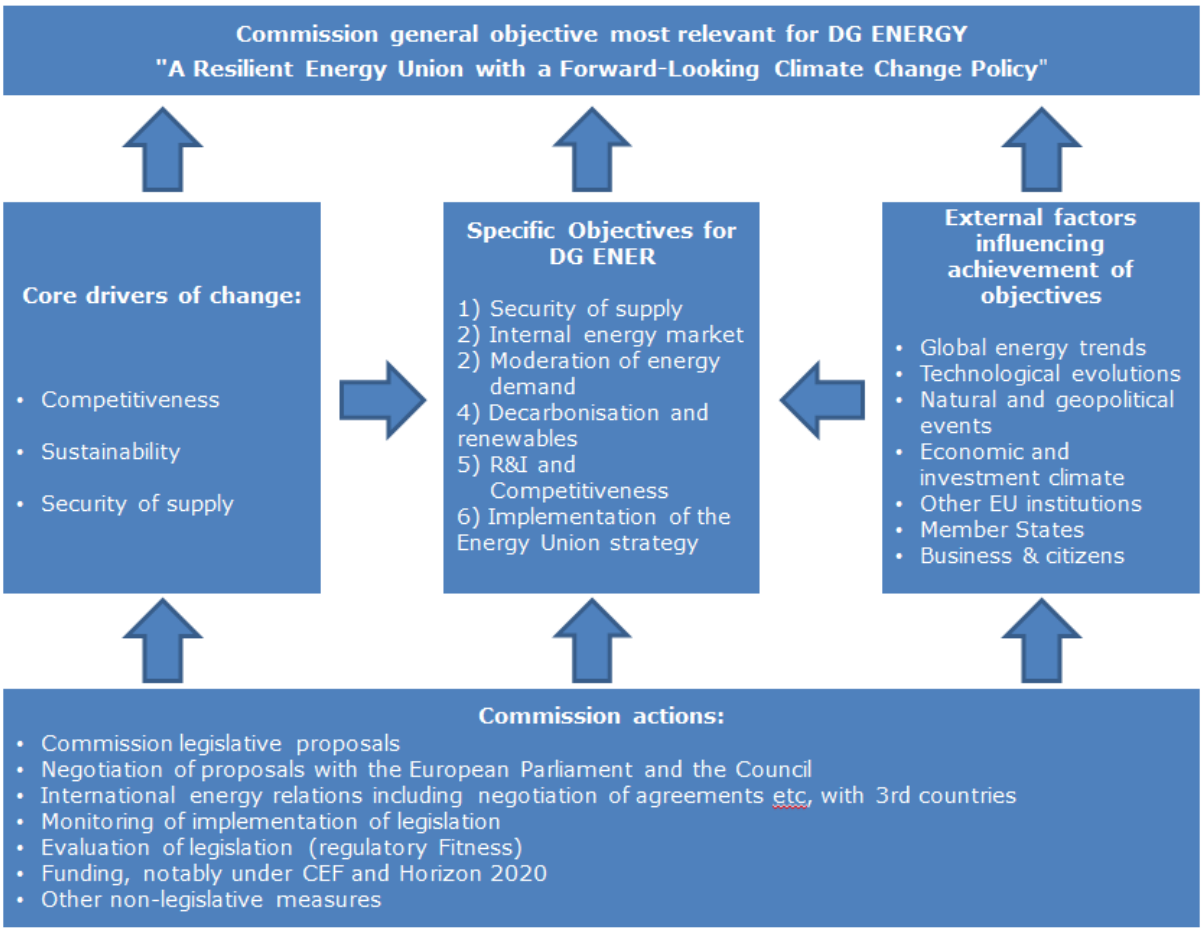
3. ***Security of supply:** To enhance the conditions for safe and secure energy supply in a spirit of solidarity between Member States, ensuring a high degree of protection for European citizens.*

Based on the Roadmap annexed to the Strategic Framework for the Energy Union, in the period from 2016 to 2020 the Commission will continue to come forward with several initiatives to fully implement the overall objectives set by the Energy Union. Progress in all identified dimensions of the Energy Union will require an accelerated mobilisation of investments.

In line with the Energy Union strategy and to fully reflect its five dimensions, the following specific objectives have been defined to meet all three overall objectives of energy policy, also covering the general objectives of the spending programmes under the MFF (i.e. the Connecting Europe Facility and Horizon 2020).

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.*

An overview of the intervention logic for the Commission actions in the area of energy is shown below.



The following paragraphs detail how the various interventions of DG ENERGY contribute to the achievement of the six specific objectives and how these specific objectives contribute to the overall general objective. The links between the general objective, specific objectives and result indicators are further detailed in the Annex to this Strategic plan illustrating DG ENERGY Performance tables.

DG ENER's strategic vision for the period from 2016 to 2020:

1. Contributing to security of supply, based on solidarity and trust.

The security of the Union's energy system represents one of the most prominent dimensions of the Energy Union. As reported in the 2015 State of the Energy Union[2] it is today evident that only a reinforced partnership between the EU and its Member States based on solidarity and trust will ensure energy security in Europe.

Reducing the EU's external energy dependence and increasing its influence on energy supply are important elements of a genuine Energy Union. In response to concerns surrounding the delivery of Russian gas via Ukraine, the EU launched a comprehensive European Energy Security Strategy (EESS)[3] in May 2014. One year later, the assessment of the European Energy Security Strategy (EESS)[4] highlighted that, despite all the progress made to enhance security of supply since 2014, Europe still

[2] COM (2015) 572 final
[3] COM(2014)330
[4] SWD(2015) 404 final

remains vulnerable to energy shocks. Given the fast-changing landscape of the global energy sector, energy security is a continuous and dynamic endeavour that must be rigorously pursued. The Commission will therefore intensify its efforts to implement the EESS and Energy Union priorities[5].

Europe's external energy dependency should be reduced by further diversifying sources, suppliers and routes of energy imports to ensure competition on the EU market and by exploring ways of increasing the EU´s bargaining power vis-à-vis external suppliers. The EU should aim at reducing energy overdependence on large third country suppliers. In this perspective, the Commission will pursue a reinforced partnership with key countries, accessibility to supplies of Liquefied Natural Gas (LNG), the swift opening of the Southern Gas Corridor and the promotion of new gas hubs in the South of Europe. Further actions will be envisaged in the international arena, notably to strengthen our energy cooperation with Ukraine, the Mediterranean, US, China, India and Japan, as well as to further reinvigorate the Energy Community. Renewing our energy cooperation with Iran will also be an important objective over the coming years, provided continued improvement in the political relations of the country with the international community. Energy relations with Russia will be reframed when the conditions are right. Deeper energy cooperation between the EU and Mediterranean countries should remain at the core of DG ENER priorities for the years to come.

In order to improve the Union's energy security, there is also a need to enhance the physical connections and to increase the integration of the most vulnerable Member States in the internal energy market as well as to raise Europe's preparedness, notably through efficient rules to prevent and if needed mitigate the effects of a potential supply crisis. DG ENER will also continue to promote more EU-wide coordination, cooperation and solidarity amongst Member States.

In addition to the continued promotion of the deployment of renewable energy sources, safe and secure exploitation of indigenous reserves of conventional and unconventional fossil fuels as well as nuclear energy as a low carbon form of energy production should be made possible in those Member States choosing those options. In parallel DG ENER will continue to encourage technological leadership of nuclear industries in the EU which is also essential to ensure the highest level of nuclear safety. To this end, the Commission will revise the Regulation on the information and procedural requirements for investment projects under Articles 41 to 44 of the Euratom Treaty, and will adopt a Recommendation on the application of Article 103 of the Euratom Treaty.

As part of the Energy Union Strategy implementation, the new Nuclear Illustrative Programme (PINC) aims to present transparent and forward-looking information regarding nuclear investments across the full fuel cycle in the EU and to facilitate their coordinated developments. The Commission will continue its close cooperation with the International Atomic Energy Agency (IAEA) in order to provide assistance to ensure that countries planning to start using nuclear energy meet internationally recognised safety standards and have the necessary safety infrastructure.

[5] COM (2014)654, 16.10.2014.

2. Further work towards a well-functioning and fully integrated internal energy market, including with interconnections.

A competitive, integrated European energy market is critical to ensuring the final goals set by the Energy Union in terms of affordability, decarbonisation and security of supply. The swift transition towards an integrated internal market thus represents a priority for the Energy Union.

Completing the Internal Energy Market, including the full implementation of the third package by all Member States, will represent the most cost-effective way to ensure secure and affordable supplies to EU citizens. The final aim is to ensure a functioning market with fair market access and a high level of consumer protection as well as adequate levels of interconnection and generation capacity. In order to make the internal energy market work even better in the coming years, DG ENER will continue the work on both the "hardware" and "software" aspects of the internal energy market.

From the "hardware" perspective, an interconnected European energy grid is vital for Europe's energy security, for more competitive prices as well as for better achieving the energy and climate policy targets which the European Union has committed to. Building further on the call made by the European Council of a "speedy implementation of all the measures to meet the target of achieving interconnection of at least 10 % of their installed electricity production capacity for all Member States" "with the objective of arriving at a 15% target by 2030" the Commission will prepare further initiatives on how to fulfil the interconnections objective. In parallel, DG ENER will continue to play a vital role for the implementation and further development of the Projects of Common Interest (PCIs) that represent the principal instrument to physically integrate electricity and gas markets and to diversify energy sources while providing security of supply and incorporating renewable sources into the grid. The European Fund for Strategic Investment, complementing the existing funding available from the Connecting Europe Facility, will further support energy infrastructure projects in the coming years.

From the "software" perspective, a fundamental transformation of Europe's energy system including the new design of the European electricity market is necessary to achieve the final goals of the Energy Union. The electricity market, in particular, needs to provide investment certainty, fully integrate all market players including renewables, energy storage facilities, and demand response and allow electricity to move freely. Following the consultative Communication on a new electricity market design[6], and in view of addressing emerging and future market challenges, the Commission will work to ensure that the future design of the electricity market can support the transition of the sector and provide the right incentives for investment and for market functioning. Accommodating the increasing share of renewables and empowering citizens to take ownership of the energy transitions are key to reach the 2030 energy and climate objectives and will be a central objective of future initiatives.

DG ENER remains fully engaged to increase the tools and incentives at the disposal of energy consumers to participate in the market and profit directly from increased competition. In line with the priorities which are reflected in the Communication delivering a new deal for consumers of July 2015[7], the Commission will work to remove the remaining obstacles which prevent competition in many

[6] COM(2015) 340 final, 15.07.2015
[7] COM(2015) 339 final, 15.07.2015

retail markets and to facilitate active participation of consumers in energy markets, including through demand response or self-generation. Continued attention will be paid to effective protection of consumers, including in new situations of vulnerability related e.g. to data security and privacy.

The competitiveness of the EU energy system is a central concern of the Energy Union and will be monitored via the release of bi-annual energy prices and costs report in 2016 and 2018. Indicators relating to the competitiveness of the energy system will also be a central part of the new governance of the Energy Union.

3. Promoting the moderation of energy demand.

Improved energy efficiency is of fundamental importance for the transition towards a more competitive, secure and sustainable energy system and thus for the general objective of the Energy Union.

The EU is aiming for a 20% decrease in annual primary energy consumption by 2020 (compared to projections made in 2007). Following the Communication on Energy Efficiency of June 2014, the European Council also supported the call of the Commission for an ambitious target to improve energy savings, endorsing an indicative energy efficiency target of at least 27% (compared to projections of future energy consumption based on the current criteria) for 2030, to be reviewed in 2020, having in mind a 30% target. The Energy Union has made clear that the achievement of the agreed 2020 and 2030 energy efficiency targets represents key priorities for the EU. Besides short-term efforts to implement the EU-wide energy savings target in 2020 by effectively implementing the current framework, DG ENER will have to strengthen its longer-term efforts for an achievement of the 2030 target.

In parallel to the establishment of a solid governance for the Energy Union, the Commission will review the Energy Efficiency Directive to align the EU energy efficiency framework to the 2030 target and to make sure that this Directive effectively contributes to reaching the EU's 2030 target for energy efficiency. DG ENER will also develop new measures and instruments to better tackle the investment challenge in the energy efficiency sector.

The Commission will also review the Energy Performance of Buildings Directive to enhance EU action in the building sector in order to improve the quality of the building stock and avoid energy wastage in buildings. The Commission will also dedicate more attention to the heating and cooling sector as its transformation is equally essential to ensure improved energy efficiency, to enhance energy security and to reduce GHG emissions from the energy system.

Finally, the Commission will ensure that the requisite complementary measures at the EU level are in place. Building further on the proposed revision of the Energy Labelling Directive of July 2015[8], the

[8] COM(2015)341. This proposal follows up on the Energy Union Framework Strategy and intends to replace Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products. This initiative updates and makes more effective the existing acquis on energy labelling by proposing a return to the original A to G energy label scale and the establishment of a product registration database to facilitate enforcement.

Commission will continue to strengthen its policies promoting energy efficiency in products also through ecodesign[9].

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

President Juncker has made clear that he wants the "European Union to become the world number one in renewables". Renewable energy is therefore the heart of the design of the Energy Union. Renewables will play an increasingly important role in tackling climate change while enhancing energy security and strengthening EU industrial and technological leadership.

The EU aims to get 20% of its final energy consumption from renewable sources by 2020. The European Council also endorsed the EU level binding target of increasing the share of renewable energy to at least 27% of the EU's energy consumption by 2030. To fulfil these objectives, the EU will have to put in place concrete measures to implement the 2030 framework, including a new renewable energy package, while, in parallel, it will continue to promote the harmonisation of support policies for renewables through better coordination and cooperation among Member States.

Moving forward, the revision of the Renewable Energy Directive will provide, together with the Energy Union governance, the right framework to achieve the binding EU-level target in a reliable and cost-effective way including measures to be undertaken if there is a gap in target achievement. It will lay out EU policies and measures that will, together with Member States' collective contributions, ensure the achievement of the EU-level target and enhance regional cooperation. The Commission will work further, inter alia, at creating a stable regulatory framework promoting investments into renewable energy, promoting more market based support for renewable energy in line with the Energy and Environment State Aid Guidelines, and strengthening regional cooperation in the renewables sector. Bio-energy is expected to remain a significant part of the EU renewable energy mix. Its further development post 2020 needs a coherent framework to ensure sustainable production and efficient use of biomass and biofuels.

While introducing less expensive and abundant renewable energy technologies increases the competitiveness of the EU economy and provides first mover advantages to the European industry, Europe's energy transition must be based on a balanced set of measures where other forms of low carbon technologies play an important role. Carbon capture and storage and especially nuclear energy can play an important role in those Member States choosing those options.

Finally, continued efficiency improvements of the transport sector will be indispensable to reach national and EU-level GHG reduction targets. Building further on the Commission's White Paper for transport and current EU legislation, such as on alternative fuels and the use of renewable energy in transport, DG ENER will contribute to putting in place initiatives on the decarbonisation of transport.

[9] Directive 2009/125/EC

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.

Research and Innovation for EU competitiveness

Research and innovation is crucial to ensure a successful energy transition in Europe while at the same time safeguarding and improving competitiveness. Through more and better investments in research and Innovation the EU will be able to confirm its leadership in the development and deployment of low-carbon energy technologies.

Following the adoption of the Communication "Towards an Integrated Strategic Energy Technology (SET) Plan"[10], and building further on the focus areas announced in the Energy Union Strategy, the EU will have to step up its efforts on research and innovation in order to develop energy technologies further in order to maintain the highest level of safety in nuclear reactors and in order to improve efficiency in operation, the back end of the fuel cycle and decommissioning. A particular emphasis should be put on accelerating cost reductions and market uptake of low carbon technologies.

Ten priority actions for the Integrated SET Plan have been identified which could serve to develop and integrate the innovative technologies and system solutions. These ten points will facilitate, coordinate or joint investments by individual Member States, between Member States and with the EU. They should also guide developments at local and regional level, in an effort to achieve smarter specialisation in energy. They could then help accelerate the energy system transformation and the realisation of the EU's aim to become the global leader in the deployment and use of renewable energy. In the context of the development of the overall Energy Union approach to research and innovation, these ten priorities will serve as a starting point for discussions with Member States and stakeholders in the development of new research and innovation programmes and activities at European and national level.

The Commission should notably promote investments in large scale demonstrators of low-carbon technologies, stimulate the demand for innovative technologies and ensure appropriate regulatory frameworks across the single market. EU support should be expanded to energy technologies that are necessary for the transition to a low-carbon economy, such as the development of smart grid solutions and energy storage technologies, thus allowing the integration of very large shares of renewables and supporting energy efficiency measures in all fields while increasing the affordability of energy for all. The development and deployment of Carbon Capture and Storage is equally critical for the decarbonisation of the EU energy system. The Energy Union will also have to further facilitate consumer participation in the energy market while diversifying and strengthening options for sustainable transport.

The ITER project aimed at demonstrating the feasibility of fusion as a viable source of energy will also play an important role in the transition to a low-carbon economy and contribute to the strategic agenda of the EU for clean and secure energy. Procurement of high-tech components to industrial actors is an essential element of the project, with a large impact on industrial competitiveness and job creation. Through its participation in ITER, European high-tech industry and construction companies

[10] COM(2015) 6317 final

are gaining a competitive advantage in the design of the first generation of fusion power plants, in addition to the spin-off effects these state-of-the-art technologies have on other industrial sectors.

In the coming year, the SET Plan will be complemented by several initiatives on technology and innovation that will feed into an overarching Energy Union strategy for research, innovation and competitiveness based on the outcome of already initiated discussions with Member States and the stakeholder community. The recently launched Investment Programme for Europe with its dedicated financing tool under the European Fund for Strategic Investments (EFSI) together with the other related financial instruments will also support the energy sector transformation.

Safe and secure use of nuclear energy

The Commission has significant responsibilities under the Euratom Treaty on nuclear safety and security, notably in the area of safeguards. In the area of nuclear safety, the Commission advocates improvements in the global legal framework for nuclear safety with the aim of increasing its effectiveness, governance and enforceability. In this context, the Commission will push for the effective implementation of the Vienna Declaration on the Convention for Nuclear Safety agreed at the Diplomatic Conference in February 2015.

Recently adopted legislation on nuclear safety, radioactive waste management and spent fuel management as well as basic safety standards has created one of the most advanced legislative frameworks in the world in the interest of all Member States. The Commission is closely working with Member States to ensure transposition of the reinforced nuclear safety framework into national law.

Decommissioning of Nuclear Power Plants in the EU is a significant challenge given the size of the fleet that will be retired in the coming decades. European companies have the opportunity of becoming global leaders by developing the required skills in the domestic market including through the use of a long sub-contracting chain with SMEs. The use of best practices in the different stages of the decommissioning process (e.g. a graded approach to the regulatory control optimizing the range of companies that could be involved in the process, and thereby reducing the cost of decommissioning of an installation) could be promoted.

In the area of safeguards, the Commission has to monitor that civil nuclear materials used are not diverted from their intended uses as declared by the users. The Commission's safeguards verification activities continue to assure citizens that nuclear material is correctly managed and that safeguards obligations stemming from the Euratom Treaty and from agreements concluded with the IAEA and third states are correctly implemented. The Commission's safeguards service will continue to address several challenges over the coming years. The ever increasing amounts of nuclear materials in the EU coupled with extra tasks stemming from decommissioning of reactors of Member States reviewing their energy mix (e.g. Germany, Lithuania, Spain, Bulgaria), the construction and commissioning of encapsulation plants and geological repositories (EPGR) in several Member States (e.g. Sweden and Finland), the production and export of a large number of fuel elements for the Chinese market and the consolidation of legacy nuclear material in the United Kingdom will all contribute to increased activities.

In the short term, the focus will be on the optimisation and efficient use of safeguards resources. Europe should take advantage of being confronted with the largest number of nuclear installations to be decommissioned in order to develop innovation in this area, as well as in the area of spent fuel and radioactive waste management. This will also entail implementing adequate safeguards approaches and developing specialized equipment e.g. with remote data transmission capability. The long-term objective is to maintain a high-performing, credible safeguards scheme that continues to assure the EU citizen and international stakeholders of the peaceful use of nuclear energy.

6. Implementation and follow-up on the overall Energy Union strategy

The Roadmap of the Energy Union includes 43 actions, 28 of them being DG ENER-led actions. This roadmap shows the initiatives to be developed as part of the Strategy in the period until 2020, with a clear timetable for adoption and implementation as well as respective responsibilities. DG ENER will therefore need to strengthen its policy and planning capabilities to ensure that all foreseen initiatives are timely developed, in line with new better regulation rules.

In particular, the Energy Union will need an integrated governance to provide the necessary regulatory stability and predictability to economic operators and investors and to confirm the EU's leading role globally, promoting further market integration and the common achievement of EU-level targets. The first State of the Energy Union of November 2015 included a description of the main aspects of the governance system as well as a detailed guidance to the Member States clarifying the main steps that will lead to the finalisation of integrated energy and climate national plans. The Commission's Guidance on integrated national energy and climate plans[11], together with the Energy Council conclusions on Energy Union Governance adopted on 26 November 2015, form a solid basis to start the Governance process in close cooperation between the Commission and Member States. The Guidance will be further complemented by a legislative initiative on streamlining of planning, reporting and monitoring requirements including a template for the structure of national energy and climate plans. The Commission will continue to assess on a yearly basis collective progress made at the EU level in its State of the Energy Union and, if necessary, propose policy actions and measures to ensure the delivery of the Energy Union objectives.

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External factors

DG Energy measures progress towards these objectives using impact and result indicators. It is important to note that implementation of the policy priorities (achieving objectives and seeing improvements in the indicators) does not only depend on the Commission. It is for the European Parliament and Council to decide on the Commission's proposals and then primarily for the Member States to implement them. In addition, there are external factors that are outside the scope of the Union's competence and can have a significant influence on energy policy development. Those externals factors include but are not limited to i) the continuous growth of global energy demand mostly driven by the economic growth registered in China, India and the Middle East; ii) technological

[11] COM(2015) 572 final

improvement, such as those leading to the "shale gas revolution", that might have an impact on energy price fluctuations; iii) unforeseen natural or geopolitical events that may influence European energy policies as well as public opinion; iv) and the impact of the economic crisis and sluggish economic recovery the European Union has experienced in recent years.

General objective: A resilient Energy Union with a forward looking climate policy		
Impact indicator: Energy efficiency. Primary energy consumption of 1483 Mtoe achieved in 2020 **Source of the data: Article 3 of Directive 2012/27/EU**		
Baseline (Primary and final energy consumption)	**Interim Milestone**	**Target** (March 2007 European Council, Europe 2020 Target, Directive 2012/12/EU)
(2013) 1 566.5 million tonnes of oil equivalent (Mtoe) (2013) 1 104.6 Mtoe)		(2020) +20% (2020) no more than 1 483 Mtoe of primary energy consumption (2020) no more than 1 086 Mtoe of final energy consumption
Planned evaluations: 2016 Commission's progress report		
Impact indicator: Renewable energy share in final EU energy consumption (15.3%) **Source of the data**: **European Commission, "Renewable Energy Progress Report (COM(2015) 293 final)"** **2014 model-based projections Annex 1b of Dir. 2009/28/EC**		
Baseline (2013-2014)	**Interim Milestone**	**Target** (2020, Europe 2020 Target)
	2015-2016	
2013 : 15% (ESTAT) 2014 : 15.3% (model-based projections)	Trajectory with interim targets contained in Annex 1b of Dir. 2009/28/EC (2011/2012: 11.0%; 2013/2014: 12.1%; 2015/2016: 13.6%; 2017/2018: 15.9%)	20% by 2020
Planned evaluations: Renewable Energy Progress Report, 2016 H2020 / Making the transition to a reliable, sustainable and competitive energy system		
Impact indicator: Member States having reached the 10% electricity interconnection target **Source of the data: ENTSO-e**		
Baseline	**Interim Milestone**	**Target** (2020)
	2018	
(2014) 16 Member States at or above 10% electricity interconnection *Source: ENTSO-e*	25 Member States at or above 10% electricity interconnection	26 Member States[12] at or above 10% electricity interconnection

[12] Spain and Cyprus to follow later.

D. Key performance indicators (KPIs)

DG ENER has chosen five Key Performance Indicators for monitoring the policy performance and the DG's most significant achievements.

Policy Area: Energy		***☒Spending programme and ☒Non-spending***
Key Performance Indicator	*Target (or milestone)*	*Latest known results*
Most relevant KPI 1 ***Renewable energy share in gross final EU energy consumption (%)*** *(source: Annex 1b of Dir. 2009/28/EC)*	*2020* *20% by 2020*	***RES share in 2013: 15 %***
Most relevant KPI 2 ***Energy Efficiency*** ***Primary energy savings achieved in 2020 measured against the baseline (%)*** *(source: Article 3 of Directive 2012/27/EU and NEEAPs 2014)*[13]	*20% by 2020* *1 483 Mtoe*	***Progress in 2013: 1567 Mtoe (projection for primary energy consumption in 2020)***
Most relevant KPI 3 ***Degree of Energy prices convergence in the EU***[14]	*Convergence of wholesale electricity and gas prices both for industry and household in the EU internal energy market*	*Standard deviation for industrial consumer having a medium level of annual electricity consumption (between 500 MWh and 2,000 MWh):* *September 2012: 0.3178* *September 2013: 0.2850* *September 2014: 0.2788* *September 2015: 0.2808* *Standard deviation for industrial retail natural gas prices for medium level of annual gas consumption (between 2,778 MWh and 27,880 MWh):* *September 2012: 0.1855* *September 2013: 0.1559* *September 2014: 0.1208*
Most relevant KPI 4 ***Security of supply*** ***Member States having reached the 10% electricity interconnection target*** [15]	*25 in 2018* *26 by 2020*	*16 are on track for their 2020 targets*
Most relevant KPI 5 ***Residual error rate - EEPR (source: DG ENER SRD.1)***	*< 2%*	*31/12/2014: 0.42 %* *(source AAR 2014)*

[13] 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.

[14] 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."

[15] 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.

PART 2. Organisational management

A. Human Resource Management

DG ENER will continue to take measures to ensure that the Commission's political priorities are delivered efficiently in a context of limited human resources.

The 2016 Commission Work Programme foresees a complete overhaul of the existing energy acquis with the adoption of legislative proposals in all main areas of the EU energy policy. Once delivered, this programme will require solid teams to negotiate with the co-legislators followed by intense work to enforce the new legislation and accompany its transposition. DG ENER needs stability of its workforce over the next years to deliver on this major challenge. The enhanced requirements of the Better Regulation Package and the recent interinstitutional agreement on better regulation, combined with the required enhanced date, analysis and intelligence needs for the Energy Union will significantly add to the human resources required for economic analysis and policy development. In addition, the development of a governance system of the Energy Union will require the build-up of reinforced analysis, policy coordination and communication capacities. Under the Energy Union, intensified relations foreseen with a number of key countries, the management of new financial tools as well as a strengthened follow up of legal aspects will also entail new resource intensive tasks. DG ENER will have therefore to increase its technical expertise in these priority areas with the recruitment of specialised profiles in different sectors and markets and take the necessary steps to ensure that the DG has the means and resources required for the timely development and proper implementation of the initiatives of the Energy Union.

Its pivotal role in development of a resilient Energy Union requires DG ENER to reinforce and make better use of its resources in the key areas of the internal energy market, diversification of external supplies, energy efficiency, renewables and new energy technologies. At the same time, DG ENER has to ensure that the staffing for other areas is adequate to the level of risk, in particular to retain the adequate supervision over the nuclear materials and management of legacy programmes.

To that end, DG ENER will base the decisions on human resources, notably staff allocation, retention and re-deployment, on an HR management strategy until 2020 which will be aligned with the priorities. It will be developed in 2016, following needs analysis, task and skills mapping and workload analysis.

The HR strategy will also include a talent management strategy aiming at designing more focused and systematic actions. It will encompass actions to retain and re-built the technical expertise in specialised profiles in different sectors and markets such as infrastructure financing, renewables, energy efficiency and nuclear matters. It will also address the challenges in the management succession planning, especially in areas where female applications are lower than the average (two nuclear directorates requiring specialised technical knowledge) e.g. mentoring female colleagues with management potential.

The mandatory objectives will be monitored and specific actions will be taken for each indicator so that DG ENER meets the 2016-2020 targets.

On top of continuing monitoring and possibly increase its female AD representation, DG ENER will continue to take actions to attract female candidates to middle management functions (Indicator 1), in particular through gender neutral job profiles and involving females in the recruitment.
DG ENER will continue well-being initiatives, such as in-house lunchtime conferences, charity and volunteering events and physical activities (Indicator 2).

DG ENER will also address the staff engagement (Indicator 3) by internal communication and actions targeted at managers. Annual staff events will give opportunity to discuss with senior management on the DG challenges and programme and recognise the link between the individual jobs and the mission of the DG. Among others, the clearer HR policy will aim at contributing to the better workload distribution and thus improving staff satisfaction.

Objective (mandatory): The DG deploys effectively its resources in support of the delivery of the Commission's priorities and core business, has a competent and engaged workforce, which is driven by an effective and gender-balanced management and which can deploy its full potential within supportive and healthy working conditions.	
Indicator 1 (mandatory): Percentage of female representation in middle management **Source of data:** HR Analytics Platform (QlikView)	
Baseline year: 01/12/2015 25%	Target: 40% Targets for female representations in management functions for the years 2015-2019 adopted by the Commission on 15 July 2015
Indicator 2 (mandatory): Percentage of staff who feel that the Commission cares about their well-being **Source of data:** Commission staff satisfaction survey	
Baseline year: 2014 30.6%	Target by 2020: Commission average (34.9% in 2014) Target agreed internally by the hierarchy on the basis of analysis of the 2014 state of play.
Indicator 3 (mandatory): Staff engagement index **Source of data:** Commission staff satisfaction survey	
Baseline year: 2015 63%	Target by 2020: Commission average (65% in 2014) or beyond Target agreed internally by the hierarchy on the basis of analysis of the 2014 state of play.

B. Financial Management: Internal control and Risk management

This section lays out the expected control results and other relevant elements that support the management assurance on the achievement of the internal control objectives[16].

DG ENER has set up internal control processes aimed at ensuring the adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multi-annual character of the programmes as well as the nature of the payments concerned. In addition, DG ENER has set up internal control objectives and will be systematically examining the available control results and indicators, including those aimed at supervising entities to which it has entrusted budget implementation tasks.

Overarching objective: The Authorising Officer by Delegation should have reasonable assurance that resources have been used 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 including prevention, detection, correction and follow-up of fraud and irregularities.

All controls have to be considered first for effectiveness, i.e. to assess whether the controls established meet the control objectives. In a second step, the controls are assessed to determine whether they are sufficiently efficient. This is done by using efficiency indicators to assess the relationship between resources employed and results achieved.

Objective 1:

Objective 1 (mandatory): Effective and reliable internal control system giving the necessary guarantees concerning the legality and the regularity of the underlying transactions	
Indicator 1 (mandatory): Estimated residual error rate **Source of data:** DG ENER AAR 2014	
Baseline	Target
For Research Programmes: 3%	Below the Commission's materiality threshold of 2% by the end of the FP7 Programme
For non-Research Programmes: under 2%	Below the Commission's materiality threshold of 2%

*Concerning the Research Framework Programmes, DG ENER manages a limited number of **FP7 payments**.*

The general control objective for FP7 is to ensure that the residual error rate does not exceed a cumulative level of 2% by the end of the programme implementation. The key aim is to achieve a good balance between legality and regularity and the achievement of policy objectives, and between

[16] 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).

trust and control, rather than a concentration on one legality and regularity indicator. The Research family has decided to obtain most of its assurance from ex-post controls and has consequently defined and implemented a common control strategy, the key elements of which are the ex-post audit strategy and the recovery process. Overall, based on the prior years' results and the complexity of the FP7 rules, the residual error rate may be expected to remain around 3% over the course of the programme. However, within the existing framework and constraints, the Research family is continuing with the on-going efforts to further reduce the FP7 residual error rate, namely through:

- *The issuance of new guidance to try to prevent such errors from occurring;*
- *Raising awareness of the independent auditors, and providing them with concrete guidance;*
- *Continued communication targeting beneficiaries and certifying auditors;*
- *Providing feedback to certifying auditors who have made significant errors;*
- *More comprehensive guidance and clearer templates;*
- *Continuous improvements in the ex-ante controls and the ex-post audit work.*

*Concerning the **non-Research Programmes** (TEN-E, EEPR, etc.), DG ENER has been maintaining a residual error rate of under 2%. In addition, DG ENER will continue to apply strong ex-ante and ex-post controls in order to maintain the estimated residual error rate under the 2% materiality level, mainly through:*

- *Very high audit coverage;*
- *For EEPR in particular, appropriate corrective measures to eliminate the risk, which have been taken as of 2012. For instance, internal checks on public procurement are carried out before payments are made to beneficiaries.*

In relation to the estimation of the overall risk relating to the legality and regularity of the underlying transactions, the following indicators have been introduced:

Objective 1 (mandatory): Effective and reliable internal control system giving the necessary guarantees concerning the legality and the regularity of the underlying transactions	
Indicator 2 (mandatory): Estimated overall amount at risk for the year for the entire budget under the DGs responsibility (as a percentage). **Source of data:** DG ENER AAR 2014	
Baseline	Target
1.9%[17]	none
Indicator 3 (mandatory): Estimated future corrections **Source of data:** DG ENER AAR 2014	
Baseline	Target
3.7% of the payments for 2014	Overall corrections implemented address the overall amount at risk

In view of the control results and the delegation of DG ENER programmes to executive agencies, the estimation of DG ENER of the risk relating to the legality and regularity of the expenditure during the reporting year will tend to decrease (i.e. the average error rate is expected to decrease as compared to the baseline amount) and as a result this would imply that the amount at risk would also be lower.

[17] The original amount stated in the DG ENER AAR for 2014 is 9.27 million € due to a clerical error, for FP7, where the residual error rate of 3% was applied (instead of the detected of 5%).

Objective 2:

DG ENER presents its indicators that are used to measure the performance of the control systems (control efficiency and cost-effectiveness) in the table below. In general, the principle of efficiency concerns the best relationship between resources employed and results achieved. The principle of economy requires that the resources used by the institution in the pursuit of its activities shall be made available in due time, in appropriate quantity and quality and at the best price. Therefore it is important to monitor the efficiency of the control systems, including an overall assessment of the costs and benefits of controls.

Objective 2 (mandatory): Effective and reliable internal control system in line with sound financial management.	
Indicator 1 (mandatory): conclusion reached on cost effectiveness of controls **Source of data:** DG ENER AAR 2014	
Baseline (year): 2014	Target
Positive overall conclusion	Positive overall conclusion annually
Indicator 2: Cost of Control[18] over management of funds **Source of data** DG ENER AAR 2014	
Baseline	Target
2.0%[19]	Consistent with the baseline[20]

In addition to the quantifiable benefits indicated above, there are also invaluable qualitative benefits stemming from the strong monitoring of the execution of the DG ENER projects, which provide an assurance that the projects are running adequately and so will produce the output desired and thereby contribute to achieving the main policy objectives. The analysis of deliverables can be valuable to ensure performance and its appropriate feedback into policy considerations, even if it does not lead to a financial saving. Thus, the benefits are expected to be much wider than the budget implemented in the given year.

Objective 3:

DG ENER revised its anti-fraud strategy in October 2015 and will update it every 2 years. This strategy focusses on awareness raising and on the development of collaborative practices with the related decentralised bodies. DG ENER also takes part in the common action of the Research family Directorate-Generals.

[18] The cost of control is calculated by estimating the number of FTEs dedicated to the various control stages or processes and the expenditure related to the control activities (thus comprising direct costs, indirect costs and overhead costs)

[19] The calculated percentage is based on 90% of the annual payments for 2014. As 2014 was the first year of calculating overall cost of controls and was based on open guidelines by DG BUDG, the methodology may to evolve in the coming years, which may lead to differences in the calculated percentage of cost. Such cases will be duly explained.

[20] The baseline from 2014 does not take into account the funds related to Fusion for Energy JU, as DG ENER took over this Joint Undertaking in the second half of 2015.

Objective 3 (mandatory): 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[21] **Source of data: OLAF guidelines – DG AFS**		
Baseline	Interim Milestone	Target
Date of the last update: October 2015	*Annual reviews, first by December 2016* *AFS Updated by December 2017 and December 2019*	*Update every 2 years, or if there are major changes.*
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*		
Baseline	Interim Milestone	Target
Last update of the anti-fraud strategy – October 2015	*Interim reviews twice a year, first time for H1 2016*	*Review of the state of implementation twice a year and report of the result in the bi-annual report to the Commissioner*

C. Better Regulation

Better Regulation is a key horizontal priority for the Commission. The Commission commits to submit the entire regulatory cycle to systematic quality scrutiny and transparency through i.e. impact assessments, public consultations, ex-post evaluations and Fitness Checks. Through the Regulatory Fitness (REFIT) programme, the Commission ensures that EU law achieves its objectives with the least cost and minimal burden to business, citizens and administrations.

Objective (mandatory): Prepare new policy initiatives and manage the EU's acquis in line with better regulation practices to ensure that EU policy objectives are achieved effectively and efficiently.		
Indicator 1 (mandatory): Percentage of Impact assessments submitted by DG ENER to the Regulatory Scrutiny Board that received a favourable opinion on first submission. **Source of data:**		
Baseline 2015	Interim Milestone 2016	Target 2020
ENER in 2015: 60% (3 out of 5) Commission average: 68%	*Stable trend compared to DG's 2015 situation.*	*Positive trend compared to DG's 2016 situation.*
Indicator 2 (mandatory – monitored by the DGs concerned): Percentage of the DG's regulatory acquis covered by ex-post evaluations and Fitness Checks not older than five years. ***Relevance of Indicator 2****: The application of better regulation practices would progressively lead to the stock of legislative acquis covered by regular evaluations to increase.* **Source of data:**		
Baseline 2015	Interim Milestone 2016	Target 2020
Percentage of the DG's regulatory acquis covered by retrospective evaluations and Fitness Checks not older than five years. *< 10 %.*	*Positive trend compared to baseline*	*Positive trend compared to interim milestone*

[21] The methodology can be found on the FPDNet website: https://myintracomm.ec.europa.eu/serv/en/fraud-prevention/ToolBox/Documents/Methodology%20and%20guidance%20for%20DGs%20anti-fraud%20strategies.pdf. In particular paragraph 3 of the methodology is relevant.

D. Information management aspects

Information Management (IM) is marked as one of the organisational priorities in the Commission. The Reflection Paper on IM prepared in 2015 underlines the need to promote a Commission culture based on cooperation, performance and innovation. The sponsorship of senior and middle management to information management will be ensured by raising their awareness, in particular including a section on information management in the resource management reports.

Data and information should be complete, reliable, relevant and easy to retrieve. As unfiled documents are not retrievable in ARES, the target for 2020 is to achieve 99% of documents filed (Indicator 1). To achieve this target, unfiled documents will be monitored. A sample-based quality review of the completeness, reliability and relevance of documents filed will be performed to identify ways to improve the filing.

Information should be shared by default unless the strict 'need to know' principle is justified for a file or a document. Most of files in DG ENER are already open to all units of the DG, only sensitive documents (HR, Director General, special cases) are not. This principle is to be maintained (Indicator 2).

DG ENER intends to improve the ratio of files accessible to other DGs, practically inexistent at the time being (Indicator 3). At least 25% of the files created after 01/01/2016 should be open to the relevant DGs by 2020.

DG ENER will ensure that each file will be assigned the appropriate accessibility profile in order to include other DGs for which it is relevant. This will be done for all newly open files based on assessment of their specific characteristics.

Training and information sessions on information management will be provided, in particular focusing on filing and confidentiality. The highly appreciated ad-hoc presentations by SRD document management experts at the Units' meetings will continue. This will be complemented by clear instructions, e.g. on how to handle confidentiality.

<table>
<tr><th colspan="3">Objective (mandatory): Information and knowledge in your DG is shared and reusable by other DGs. Important documents are registered, filed and retrievable</th></tr>
<tr><td colspan="3">Indicator 1 (mandatory – data to be provided by DG DIGIT): Percentage of registered documents that are not filed[22] (ratio)
Source of data: Hermes-Ares-Nomcom (HAN)[23] statistics</td></tr>
<tr><td>Baseline 2015</td><td colspan="2">Target</td></tr>
<tr><td>5,13%</td><td>Interim milestone 2016 <5%</td><td>Target 2020 <1%</td></tr>
<tr><td colspan="3">Indicator 2 (mandatory - data to be provided by DG DIGIT): Percentage of HAN files readable/accessible by all units in the DG
Source of data: HAN statistics</td></tr>
<tr><td>Baseline</td><td colspan="2">Target</td></tr>
<tr><td>97,69%</td><td colspan="2">To be maintained above 95%</td></tr>
<tr><td colspan="3">Indicator 3 (mandatory data to be provided by DG DIGIT): Percentage of HAN files shared with other DGs
Source of data: HAN statistics</td></tr>
<tr><td>Baseline</td><td colspan="2">Target</td></tr>
<tr><td>0,31%</td><td colspan="2">25% files registered as from 2016</td></tr>
</table>

[22] Each registered document must be filed in at least one official file of the *Chef de file*, as required by the e-Domec policy rules (and by ICS 11). The indicator is to be measured via reporting tools available in Ares.
[23] Suite of tools designed to implement the e-Domec policy rules.

E. External communication activities

The key communication topics follow the key policy objectives of EU energy policy: creating a resilient Energy Union with a forward looking climate policy, in order to ensure affordable, secure and sustainable energy for businesses and households alike, strengthening Europe's competitiveness, and stimulating investment for the purpose of job creation through an ambitious Jobs, Growth and Investment Package.

The objective of the DG's communication action is to contribute in an efficient and effective way to making the Energy Union a reality. DG ENER motto is: Energy for Europe, serving society, supporting the economy, protecting the environment.

ENER's communication action should focus on the big picture. There should be no "individual" "strategies" or plans for each policy area. Each communication action by the DG should explicitly refer to ENER's broader policy objectives. These actions should demonstrate the added value of EU energy policies on the basis of concrete, easy-to-relate examples, and underline how these benefit society as a whole.

Objective (mandatory): Citizens perceive that the EU is working to improve their lives and engage with the EU. They feel that their concerns are taken into consideration in European decision making and they know about their rights in the EU.	
Indicator 1 (mandatory – provided in a ready-to-use form by DG COMM): Percentage of EU citizens having a positive image of the EU **Source of data:** Standard Eurobarometer (DG COMM budget) [*monitored by DG COMM here*].	
Baseline: November 2014	Target: 2020
Total "Positive": 39% Neutral: 37 % Total "Negative": 22%	Positive image of the EU ≥ 50%

Annex to the Strategic Plan: Performance tables

General objective: A resilient Energy Union with a forward looking climate policy			
Specific objective 1.1: Contributing to supply security, based on solidarity and trust			Related to spending programme(s) YES
Result indicator: Implementing the EESS. Number of MS with a single gas supplier[24]. **Source of data: EESS**			
Baseline (2014)	**Interim Milestone** (year)		**Target** (2022)
7	…		1
Result indicator: Extension of Euratom bilateral agreements to all major actors in the nuclear field that fully respect international conventions and apply best international practices **Source of data: ENER D**			
Baseline (2014)	2016	2017	**Target** (2020)
7	8	9	10

General objective: A resilient Energy Union with a forward looking climate policy			
Specific objective 1.2: Further work towards a well-functioning and fully integrated internal energy market, including with interconnections			Related to spending programme(s) YES
Result indicator: Interconnection levels of the Member States. Number of Member states with a percentage of interconnection capacity below 10% **Source of data DG ENER B1**			
Baseline (2011)	**Interim Milestone** (year)		**Target** (2020, target agreed at the EUCO Council of October 2014)
11	…		0
Result indicator: out of the 44 EEPR infrastructure projects, 8 are still on-going, 4 were terminated, 1 is suspended and 31 are technically completed. Number of completed interconnection projects **Source of data DG ENER B1**			
Baseline (2015)	**Interim Milestone** (year)		**Target** (2017-2018)
End of November 2015: 31 out of 44 EEPR projects were technically completed. The	…		By 2017-2018: Completion of the implementation of the remaining 8 on-going projects (out of 40). Final target: Implementation of 40 projects.[25]

[24] This SO includes also the CEF Specific objective: Enhancing Union security of energy supply. Same as in the ENER management Plan 2014, it is underlined by the present that the achievement of this objective should be enabled by the improved planning, accelerated permit granting, regulatory incentives and the EU financial assistance introduced with the TEN-E guidelines and the CEF regulations.

financial aid has been terminated for 4 projects and one project is currently suspended.		The majority of the 8 still on-going projects should be completed during 2016 and 2017 whilst only two projects will potentially run until 2018.
Result indicator: ACER Retail Competition Index – ARCI **Source of data: ACER**		
Baseline[26]	**Interim Milestone** (2017)	**Target** (2020)
2014: Electricity: 13/28 MS scoring 5 or above. Gas: 10/28 MS scoring 5 or above.	Electricity: 16/28 MS scoring 5 or above. Gas: 13/28 MS scoring 5 or above.	Electricity: 20/28 MS scoring 5 or above. Gas: 17/28 MS scoring 5 or above.
Planned evaluations: ACER Annual Report on EU Energy Markets Functioning.		
Result indicator: Roll-out of smart meters in the consumer market **Source of data: National Regulators, DG ENER B3**		
Baseline (2015)	**Interim Milestone** (year)	**Target** (2020)
23 % of residential and industrial customers with electricity and gas metering points installed and connected;;	…	80%
Planned evaluations: Biannual inventory of Smart Grids projects; 2016, 2018, 2020 2nd Benchmarking report on the roll-out of smart metering; 2017 Final Benchmarking report on the roll-out of smart metering in EU Member States; 2021		

General objective: A resilient Energy Union with a forward looking climate policy	
Specific objective 1.3: Promoting the moderation of energy demand	Related to spending programme(s) YES
Result indicator: Primary energy savings achieved in 2020 measured against the baseline (%)[27] **Source of data: Article 3 of Directive 2012/27/EU, ENER C3**	

[25] Despite some progress made, four EEPR projects in the gas sector faced major difficulties and have been terminated in 2014. This concerns Nabucco, Galsi, Poseidon and the reverse flow project in Romania. The target for 2015 is now based on 40 projects.

[26] The values (baseline and targets) cannot be determined ex-ante (and for this reason Art 3(4) of the CEF explicitly refers to ex-post measurement). The results will gradually become available as the cumulative impact of the PCI projects benefiting from the CEF.

[27] 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.

Baseline (Projection for primary and final energy consumption in 2020) (1853 Mtoe primary energy consumption and 1357 Mtoe final energy consumption in 2020	2015 Commission's progress report COM(2015) 574 final No milestone foreseen in Directive 2012/27/EU **2013: primary energy savings: 1566.6 Mtoe** **Final energy savings: 1103.8 Mtoe** 1567 Mtoe in 2013 (15.5% compared to 2020 primary energy consumption projections) 1104 Mtoe in 2013 (18.7% compared to 2020 final energy consumption projections)	**Target** (March 2007 European Council, Europe 2020 Target, Directive 2012/12/EU) Primary savings: 20% by 2020 (1483. Mtoe, Final savings: primary energy consumption and 1086 Mtoe final energy consumption in 2020)
Planned evaluations: 2016 Commission's progress report		
Result indicator: To support projects promoting renewables and increasing energy efficiency in different sectors of the economy including transport, through addressing the non-technological barriers and involving local actors (Intelligent Energy Europe Programme II - legacy) **Source of data: Intelligent Energy Europe Programme II, DG ENER C3**		
Baseline (2015)		**Target** (2016 + explanation how the target was agreed)
Cumulative investment made by European stakeholders in sustainable energy triggered by IEE programme (measurement unit EUR). 31/12/2015: EUR 4 537 million.		31/12/2016: EUR 5 billion.
Additional annual renewable energy production triggered by actions supported by IEE. programme (measurement unit toe). 31/12/2015: >35 000 toe/year		Dependent on the pipeline of projects in 2016
Additional annual energy savings triggered by the actions supported by IEE programme (measurement unit toe). 31/12/2015: >130 000 toe/year		Dependent on the pipeline of projects in 2016
Additional annual reductions of greenhouse gas emissions triggered by the actions supported by IEE programme (measurement unit CO2e). 31/12/2015: >452 000 tCO2e/y.		Dependent on the pipeline of projects in 2016

General objective: A resilient Energy Union with a forward looking climate policy	
Specific objective 1.4: Promoting the decarbonisation of the EU energy mix and the increase of energy production from low carbon energy sources, in particular renewables	Related to spending programme(s) YES
Impact indicator: Renewable energy share in final EU energy consumption (15.3%) **Source of the data: European Commission, "Renewable Energy Progress Report (COM(2015) 293 final)"** **2014 model-based projections** **Annex 1b of Dir. 2009/28/EC**	

Baseline (2013-2014)	**Interim Milestone** 2015-2016	**Target** (2020, Europe 2020 Target)
2013 : 15% (ESTAT)	Trajectory with interim targets contained in Annex 1b of Dir.	20% by 2020

2014 : 14.95 (model-based projections)	2009/28/EC (2011/2012: 11.0%; 2013/2014: 12.1%; 2015/2016: 13.8%; 2017/2018: 16.1%)	(Europe 2020 Target)
Result indicator: Reductions of GHG emissions from the energy mix at regional and local level (%) **Source of data: JRC statistics on Covenant of Mayors signatory cities and towns**		
23% (absolute)	Reduction of GHG emissions according to implementation of Sustainable Energy Action Plans (SEAP)	> 20% (2020)
Planned evaluations: Renewable Energy Progress Report, 2016, H2020. Joint Research Centre, annual update of SEAP monitoring reports.		

General objective: A resilient Energy Union with a forward looking climate policy **Specific objective 1.5: 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.**		Related to spending programme(s) YES
Result indicator: Progress towards maximising synergies between meeting energy policy objectives and job creation Source of data		
Baseline (2010)	**Interim Milestone** (year)	**Target** (2030)
2.5 million job in energy related sectors: (2010)[28]	…	**800.000 additional jobs created by 2030[29]**
Result indicator: Mainstreaming Energy efficiency and renewable energy investments into European Structural and Investment Funds Source of data: DG REGIO		
Baseline (2015)	**Interim Milestone**	**Target** (2020 + explanation how the target was agreed)
Member States need to allocate a minimum percentage of their ERDF and CF allocation to low carbon investments. A total of €29,3bn have been allocated in the operational programmes	…	29,3 billion euro invested by the ERDF and CF by 2020 Increase in the share of financing instruments as compared to 2007-13.
Result indicator[30]: Share of the overall energy challenge funds allocated to the following research activities: renewable energy, end-user- energy-efficiency, smart grids, demand response, energy storage and market uptake of energy innovation activities[31]		

[28] Study on Employment effects of selected scenarios from the Energy Roadmap 2050. European Commission (2012)

[29] Employment projections available in impact assessments accompanying the 2030 climate and energy framework and the energy efficiency Communications

[30] The ENER specific result indicators, agreed with RTD, will be introduced in the Management Plan as of 2017 (i.e. once they become relevant due to the availability of data); and the standard result indicators from the Horizon 2020 (Specific Programme Draft, page 187) legal basis are included in the Annex 5 of the RTD Management Plan which addresses these standard result indicators across all of Horizon 2020.

Source of data: DG ENER C2		
Baseline	**Interim Milestone**	**Target**
(2014) Horizon 2020 allocations	(2017) Share of the energy funds under Horizon 2020 allocated to renewable energy, end-user- energy-efficiency, smart grids, demand response, energy storage and market uptake of energy innovation activities	(2020) This covers Specific objective 6 of DG ENER Management plan 2015: Further developing energy technologies (Horizon 2020)[32]
Planned evaluations: Mid-term evaluation of Horizon 2020 to be completed by the end of 2017, Report on the first results of H2020 projects on Energy efficiency and system integration in order to contribute to the mid-term review of the MFF		
Result indicator: Standardisation of certain equipment in the nuclear power plant supply chain		
Baseline 2015	**Interim Milestone**	**Target**
No common standards	2017: Put in place a working group to define possible areas harmonising construction or equipment codes for NPP design at EU level.	2020: Application of harmonised construction or equipment codes by EU industry
Result indicator: Licencing for nuclear power plants.		
Baseline 2015	**Interim Milestone**	**Target**
No harmonised licencing procedure	2017: Put in place a working group to identify the aspects of the licencing procedure that can be harmonised both for new construction as well as LTO approvals / common licencing criteria for LTO. **Planned evaluations:** Mid-term evaluation of Horizon 2020 to be completed by the end of 2017, Report on the first results of H2020 projects on Energy efficiency and system integration in order to contribute to the mid-term review of the MFF	2020: First elements of a harmonised licencing procedure/common licencing criteria agreed among EU licencing authorities
Result indicator: Reinforcement of the international nuclear safety framework **Source of data: DG ENER D**		
Baseline 2015	**Interim Milestone**	**Target**
JCPOA (2015)	Accession of Iran to: - Convention on Nuclear Safety (2017) - Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (2018-2019)	2020: Conclusion of Euratom agreement with Iran

[31] For the later: in the framework of the Intelligent Energy Europe Programme within the Competitiveness and Innovation Programme

[32] Resolution from the European Parliament on Horizon 2020 budget.

	- Convention on the Physical Protection of Nuclear Material (2018-2019)	

Result indicator: Objective and performance indicators as detailed in Commission Implementing Decision C(2014)5449
Source of data: Annual Progress Report (Article 6 of the Council Regulations on Union support for the nuclear decommissioning assistance programme in Bulgaria, Lithuania and Slovakia) DG ENER D2, Council Regulation (Euratom) 1368/2013, Council Regulation (Euratom) 1369/2013, Corrigendum to Council Regulation (Euratom) 1368/201338, and Corrigendum to Council Regulation (Euratom) 1369/201339, on Union support for the nuclear decommissioning assistance programme in Bulgaria, Lithuania and Slovakia.

Baseline 2015	**Interim Milestone**	**Target**
The baseline is detailed in the decommissioning plans annexed to Commission Implementing Decision C(2014)5449. It establishes which buildings and equipment have been already dismantled and the quantities of radioactive waste generated so far.	Advancement according to the updated decommissioning plans as defined in the yearly work programmes adopted by the Commission at the beginning of each year.	All nine specific objectives defined in the Council Regulations on Union support for the nuclear decommissioning assistance programme in Bulgaria, Lithuania and Slovakia fully achieved. These nine objectives specify which building and equipment are to be dismantled and set a target for the radioactive waste generated

Result indicator: Contribution of MS to their nuclear decommissioning programme
Source of data: Annual Progress Report (Article 6 of the Council Regulations on Union support for the nuclear decommissioning assistance programme in Bulgaria, Lithuania and Slovakia)

Baseline 2015	**Interim Milestone**	**Target**
0-10%	2017 more than 5%	2020-10%

Planned evaluations: Mid-term evaluation of the decommissioning program, to be completed in 2017. This will include information about program improvements achieved inter alia through the implementation of audit recommendations from IAS and ECA

Result indicator: Adoption of Strategic Agenda for Medical, Industrial and Research Applications of nuclear and radiation technology (SAMIRA)

Baseline (2015)	**Interim Milestones** 2017	**Target** 2018
Absence of data	International conference organised by DG ENER	Adoption of the SAMIRA Communication

Result indicator: Reinforced nuclear safety framework
Source of data: Reports received from Member States, DG ENER D3

Baseline 2015	**Interim Milestone**	**Target 2018**)
Evaluation of MS' strategies and plans for the transposition of the BSS Directive 2013/59/Euratom	2017 Survey reports on the MS progress in the BSS transposition (1 general and 5 topical). Revision of MS draft legislation submitted under Article	Effective Transposition of the BSS Directive in all MS. Art. 106 BSS (transposition by 6 February 2018).

	33 Euratom Treaty. 2018 Conformity and transposition checks of MS final transposition measures	
Baseline 2015	**Interim Milestone 2017**	**Target 2017**
Evaluation of MS' plans for the transposition of the amended Nuclear Safety Directive 2014/87/Euratom has already started. The first NSD Workshop with MS was organised in October 2015	Commencement of topical peer reviews in MS on the basis of article 8e of the Directive, with the Commission having observer status. Conformity and transposition checks of MS' final transposition measures.	Effective Transposition of the NSD Directive in all MS. Art. 10 NSD (transposition by 15 August 2017)
Baseline 2015	**Interim Milestone 2017**	**Target 2020**
Submission of national programmes and national reports by MS to the Commission under Directive 2011/70/Euratom	2nd round of submission of national reports by MS to the Commission, having addressed issues identified in the first round – as specified in the Commission opinions and report to EP and Council.	A robust and realistic plan of MS to deal with radioactive waste and spent fuel from generation to final disposal, with adequate financial resources foreseen, and appropriate public participation.

Result indicator: Level of the Commission's safeguards criteria satisfaction in facilities inspected **Source of data: assessment by DG ENER Directorate E**		
Baseline (2015)	**Interim Milestone** (year)	**Target** (2020)
0.95		1 (equals full satisfaction of the Commission's safeguards criteria in facilities inspected).

Result indicator: Ratio of inspections performed / inspections required as defined in nuclear safeguards approach documents (EURATOM Inspection guidelines) **Source of data: assessment by DG ENER Unit E2/E3/E4**		
Baseline (2015)	**Interim Milestone** (year)	**Target** (2020 + explanation how the target was agreed)
0.93		Value to be kept above 90 %[33].

Result indicator: Number of nuclear material accountancy reports verified before transmission to the IAEA / Number of reports transmitted to the IAEA **Source of data: assessment by DG ENER Unit E5**		
Baseline (2015)	**Interim Milestone** (year)	**Target** (year + explanation how the target was agreed)
4890/5043 (96.9%)		Target value: 85-95%

Result indicator: Percentage of Euratom's obligations discharged by the ITER Organization (IO) through the Joint Undertaking F4E[34]

[33] The average of (the ratio of inspections performed by installation type / inspections required by installation type) by unit as defined in nuclear safeguards approach documents, i.e. EURATOM Inspection Guidelines (EIGs). Inspections here include all types of inspection activities: performed on-site or performed at HQ. It does not include non-safeguards related missions (e.g. technical interventions or meetings) (source: assessment by DG ENER Unit E2/E3/E4).

Source of data: assessment by DG ENER Unit D4		
Baseline (2015)	**Interim Milestone**[35] (2016)	**Target** (2020)
18%	26%	64%
Result indicator: F4E/IO work progress against 2016/2017 milestones set by the November meeting of the ITER Council (IC-17. (source: reporting to IC and assessment of the Commission)		
Baseline (2015)	**Interim Milestone** 2016	**Target** 2017:
Start of specific monitoring against new milestones set by IC-17	100% of components/performance of works planned for 2016 implemented	100% of components/performance of works planned for 2017 implemented
Planned evaluations: 2017, mid-term review of 2014-2020 ITER financing decision. This will include information about program improvements achieved inter alia through the implementation of audit recommendations from IAS and ECA.		

General objective: A resilient Energy Union with a forward looking climate policy	
Specific objective 1.6: Implementation and follow-up on the overall Energy Union strategy	Related to spending programme(s) YES
Result indicator: Progress towards building an Energy Union: number of DG ENER led initiatives of the Roadmap implemented **Source of data: DG ENER, A1.**	

Baseline (2015)	**Interim Milestone** (2016)	**Target** (2020)
0 out of 28 out of 28 DG ENER-led actions	15 out of 28 DG ENER-led actions	28 out of 28 DG ENER-led actions
Planned evaluations: Annual State of the Energy Union		

[34] Progress in the Euratom contribution to ITER construction is measured according to credits granted by IO to F4E according to the ITER International Agreement. Data provided according to current ITER Baseline of 2010. However, the schedule is under revision and a proposal for a new schedule until "First Plasma" should be submitted to the ITER Council in 2016, final Baseline for the overall duration of the project is expected for 2017.

[35] The column should be deleted if only short-and medium term (less than 3 years) targets are set.