



Nuclear in Europe: Challenges Ahead

IENE/ROEC Conference
"The Nuclear Option for SE Europe"

Teodor Chirica, Executive Officer FORATOM
Bucharest, 6 May 2015



FORATOM: What we are...

- The Brussels-based trade association for the nuclear industry in Europe
- 16 national nuclear associations active across Europe
- Nearly 800 companies are represented - from Europe's (and the world's) largest nuclear utilities and nuclear fuel cycle companies to those specialising in the management of radioactive waste



FORATOM: What we do...

Mission:

FORATOM acts as the voice of the **European nuclear industry** in energy policy discussions with **EU Institutions** and other key stakeholders. It provides a bridge between its members and European policy-makers, thereby helping the industry to play leading role in the policy debate.

Vision:

FORATOM wants to be recognised as the respected and credible voice of an industry that is a driving force behind Europe's efforts to achieve a sustainable and competitive low-carbon energy future.

Energy Union – how it started?

- On 5 May 2010 Delors, who is often referred to as one of the 'fathers of Europe', was hosted by Buzek in his capacity of European Parliament President, with whom he issued a common statement which explained the concept of energy community. . [EurActiv, Sep 10, 2014]
- In his capacity of Prime Minister of Poland, Donald Tusk has spearheaded the idea of an EU energy Union, and leading Polish politicians expect him to continue to do so as Council President, when he will take up the job from Herman Van Rompuy on 1 December. [EurActiv, Sep 10, 2014]
- « I want to reform and reorganise Europe's energy policy in a new European Energy Union. We need to pool our resources, combine our infrastructures and unite our negotiating power vis-à-vis 3rd countries. We need to diversify our energy sources, and reduce the dependency of several of our MS.
..... I therefore want Europe's Energy Union to become the world number one in renewable energies ». [Second of the Five Priorities of Jean-Claude Juncker, as Commission President]





European
Commission

First Vice-President

*Better Regulation,
Inter-Institutional Relations,
Rule of Law & Charter of
Fundamental Rights*

High Representative

*High Representative of the
Union for Foreign Policy
& Security Policy/Vice-
President*

PRESIDENT JEAN-CLAUDE JUNCKER

Vice-President

*Budget & Human
Resources*

Vice-President

Energy Union

Vice-President

*Jobs, Growth, Investment
& Competitiveness*

Vice-President

*The Euro
& Social Dialogue*

Vice-President

Digital Single Market

Commissioner

*Justice, Consumers
& Gender Equality*

Commissioner

*Digital Economy &
Society*

Commissioner

*Economic and Financial
Affairs, Taxation and
Customs*

Commissioner

*Employment, Social
Affairs, Skills & Labour
Mobility*

Commissioner

Regional Policy

Commissioner

*European Neighbourhood
Policy & Enlargement
Negotiations*

Commissioner

Migration & Home Affairs

Commissioner

Health & Food Safety

Commissioner

*Financial Stability,
Financial Services &
Capital Markets Union*

Commissioner

*Internal Market, Industry,
Entrepreneurship & SMEs*

Commissioner

Climate Action & Energy

Commissioner

*International Cooperation
& Development*

Commissioner

Competition

Commissioner

Transport & Space

Commissioner

Trade

Commissioner

*Environment, Maritime
Affairs & Fisheries*

Commissioner

*Education, Culture, Youth
& Citizenship*

Commissioner

*Research, Science
& Innovation*

Commissioner

*Agriculture
& Rural Development*

Commissioner

*Humanitarian Aid
& Crisis Management*



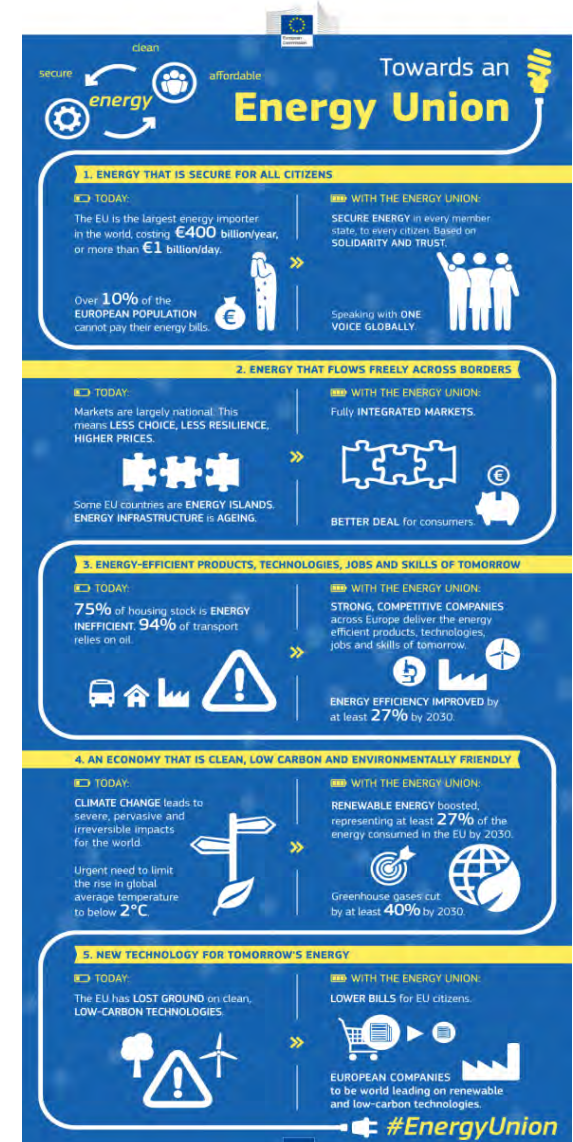
EC priorities on energy - Energy Package (25 February 2015)

- Communication - Energy Union
« A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy »
- Communication – Paris Protocol
« A blueprint for tackling global climate change beyond 2020 »
- Communication – Achieving the 10% electricity interconnection target
« Making Europe's electricity grid fit for 2020 »

Energy Union

- 5 dimensions
 - 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
- ... and 15 « action points »

Nuclear not mentioned in the context of decarbonisation of the economy, or security of supply, or competitiveness...



Action Plan (nuclear related topics)

- Council Regulation updating the information requirements of Article 41 of the Euratom Treaty, regarding *the communication to the Commission investment projects relating to new installations*, in the light of the European Energy Security Strategy
- Communication on a nuclear illustrative programme (PINC) pursuing Article 40 of the Euratom Treaty “.....*the Commission shall periodically publish illustrative programmes indicating in particular nuclear energy production targets and all the types of investment required for their attainment*”

FORATOM contribution on these topics requested by the EC

EC new insight into EU Energy Union

ENERGY UNION

“Europe’s energy system is no longer viable”

Interview with Maroš Šefčovič, European Commission vice-president in charge of energy union



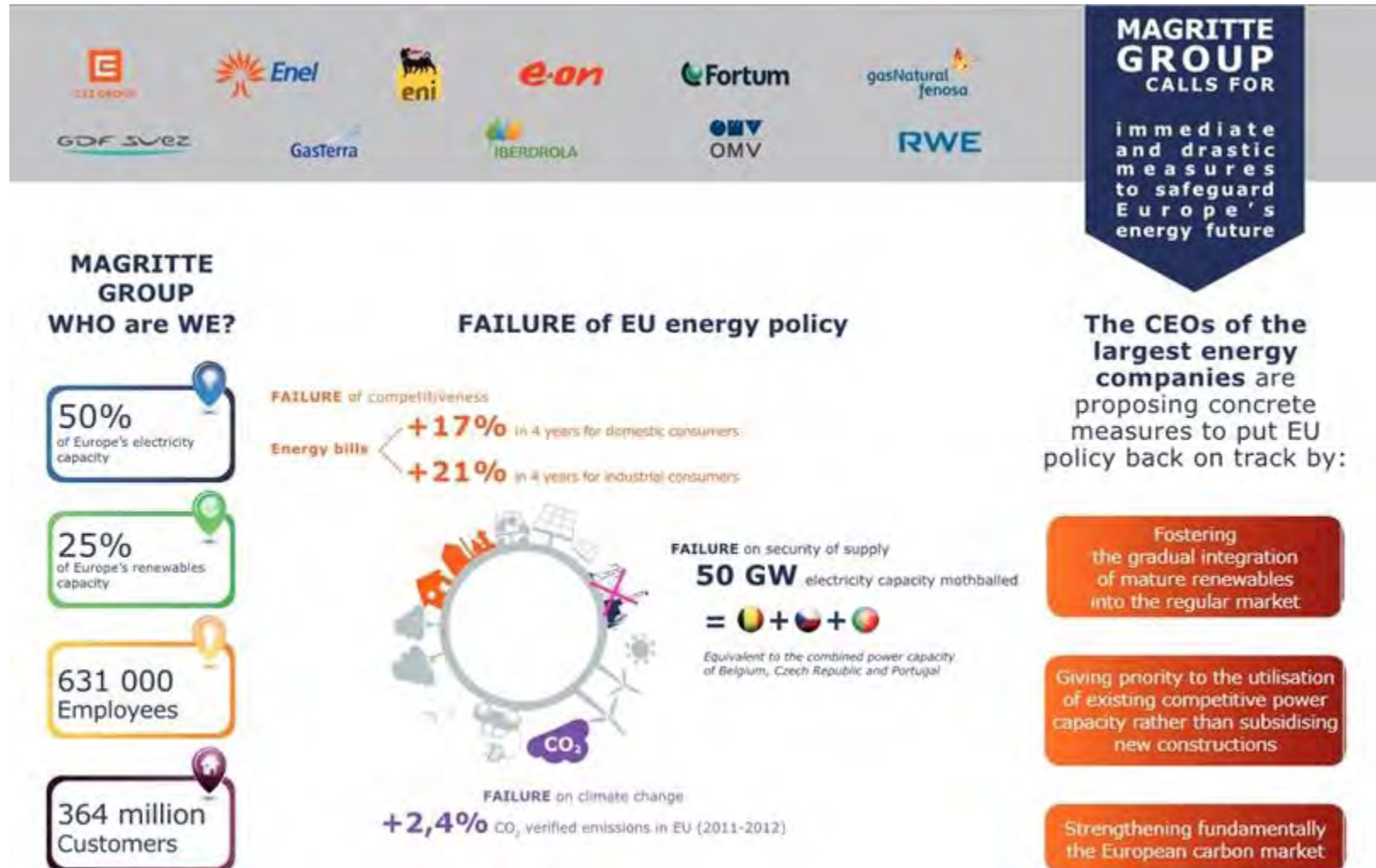
longer sustainable [and] all these combined pushed it to the point where everybody understood we need something quite big to tackle these challenges at the same time.

You often said that the biggest challenge of the energy union would be to change member states' mindset from a national perspective to a European one. How do you plan to achieve that?

We have been thinking a lot about it. One of the things we want to present

10 CEOs: "Rebuild Europe's Energy Policy"

Magritte Club, Brussels, October 2013



FORATOM perspective



FORATOM priorities for a European Energy Union:

enhancing nuclear's contribution to a sustainable, competitive and reliable energy mix



Context:

FORATOM welcomes the intention of the European Commission (EC) to create a European Energy Union and its efforts to highlight the crucial role energy plays in the wider economic strategy for Europe. Maroš Šefčovič, the new Vice-president for Energy Union, outlined in a speech at the European Parliament (EP) on 27 January the five priorities of an Energy Union: enhance security of energy supply; build a single internal energy market; increase energy efficiency; decarbonise the economy, and boost research and innovation. The EC should publish on 25 February 2015 its Proposal for a Strategic Framework for the Energy Union listing the key actions to be taken in order to achieve these priorities. The Proposal should be discussed during the European Summit on 19-20 March

2015. The Latvian EU Presidency will hold a high-level ministerial conference on 6 February 2015 in Riga in which FORATOM Director General, Jean-Pol Poncelet, has been invited to speak about the decarbonisation of the EU energy mix.

Letter wrote by eight MS to the EC, advocating for “a supportive EU framework for safe and sustainable new nuclear”



MINISTRY OF ENERGY, SMALL AND MEDIUM
ENTERPRISES AND THE BUSINESS ENVIRONMENT

MINISTER CABINET

Nr. 106524/13.06.2014

Dear Vice-President Šefčovič,

Dear Commissioner Arias Cañete,

I write on behalf of the Ministers of France, the Czech Republic, Lithuania, Poland, Slovakia, Slovenia and the United Kingdom responsible for energy policy, to underline our shared view of the important role that nuclear power has to play, alongside renewables, other safe and sustainable low carbon technologies and energy efficiency improvements, in a decarbonized, secure and competitive European energy market. Further, we seek to set out the priority initiatives to enable the use of nuclear among those Member States that wish to do so under the Commission's forthcoming proposal for an Energy Union.

It is increasingly clear that for many Member States, meeting the EU's energy security and climate objectives in the most cost-effective way is only likely to be possible if the overall EU policy framework enables and supports the use of the full range of safe and sustainable low carbon technologies. The construction of new nuclear power plants and the operation of existing ones in those countries that wish to do so is one of these options.

First, nuclear power provides a reliable source of base-load electricity generation, and as such nuclear is an important means for Member States to diversify their energy supplies. A diversified energy mix strengthens security of supply on both a Member State and EU-wide level. The Euratom Supply Agency ensures a regular and equitable supply of nuclear fuels to EU users based on its supply policy.

Second, as a source of a large and predictable volume of low carbon electricity, nuclear power has considerable advantages for many Member States seeking to decarbonise their energy mixes in line with the recently agreed 2030 energy and climate policy framework and the long term EU sustainable energy policy. Indeed, there is a consensus among us that nuclear power is a practical, cost-effective and efficient way to achieve our low carbon goals.

Third, the EU's future energy policy must fully reflect the right of Member States to determine their own low carbon energy mix, as enshrined in the TFEU and leave the option of nuclear power open.

Fourth, the European nuclear industry makes a highly significant contribution to the delivery of jobs and growth to European citizens and their respective Member States. As of December 2014, nuclear provided 53% of the EU's carbon-free electricity, and we are agreed that efforts must be made to ensure that such an important industry continues to contribute to employment, prosperity and growth across the European Union.¹



MINISTRY OF ENERGY, SMALL AND MEDIUM
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Such a recognition of the role of nuclear energy requires an unfailing commitment to safety and sustainability. Today, thanks to the European Commission and Member States, the EU has established the world's most robust framework for nuclear safety, radioactive waste management and radiation protection. The European Union ensures that any new nuclear project would be undertaken applying the highest regulatory standards. Moreover, EU has taken a leading role in promoting highest safety and environmental standards worldwide, the European Commission has established mechanisms in order to enhance cooperation with EU's neighbours on nuclear safety.

With this in mind, it is vital that the forthcoming Communication on an 'Energy Union' reaffirms the important role that nuclear power, together with renewables, other low carbon technologies and energy efficiency improvements, can potentially play in Europe among those countries that wish to use it. It is also important to support the technological leadership of Europe in nuclear technologies and nuclear research in a highly competitive international environment. We therefore urge you to ensure that the Energy Union Communication includes a package of initiatives to develop a supportive EU framework for safe and sustainable new nuclear.

This should include, but not necessarily be limited to, the following:

- 1. Recognition of the role of Nuclear:** A clear and unequivocal recognition of the existing right, under Article 194(2) TFEU and in line with Article 1 Euratom, of Member States that wish to do so to develop safe and sustainable new nuclear power, and of its important potential contribution to meeting the EU's goals of providing low carbon and secure energy in a competitive EU market.
- 2. Phase IV EU ETS Proposals:** As the EU's flagship cost-effective and technology-neutral instrument for meeting the EU's climate goals and stimulating low carbon investments, it is important that the Commission brings forward Phase IV EU ETS draft legislation as soon as possible after agreement to a Market Stability Reserve (MSR) proposal in order to have a well-functioning EU ETS.
- 3. New Financing Mechanisms:** A commitment from the Commission to explore with Member States the potential for European financing mechanisms for large infrastructure projects to be applied to nuclear projects, alongside other large-scale low carbon energy infrastructure projects. This should be pursued with a view to redressing the failure of the market to independently source the requisite start-up capital for nuclear projects and reduce financing costs by increasing the economic predictability for long term investments.
- 4. Research & Innovation:** Set out a comprehensive package of research & innovation initiatives to help strengthen the skills, technology and nuclear safety and decommissioning capabilities within Europe, along the entire nuclear supply chain and life-cycle. Alongside the outputs of Horizon 2020 and the SET-plan, research and innovation in both fission and fusion generation could prove instrumental in contributing to the European Union's technology-driven low-carbon future.

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5. Investment Guidance: In consultation with Member states, the Commission should bring forward clear guidance to act as an initial reference point for EU Member States, industry and investors considering developing new nuclear in the future. This should act as the basis to inform the review and development of new EU state aid guidelines scheduled for 2019, and also take into account Commission State aid decisions on nuclear taken previously and up until this time.

6. Strengthened Intra-EU expertise: There is scope for the EU to strengthen the range and depth of EU-level support available to coordinate, organise and fund intra-EU technical assistance between EU Member States and industry. This should include exploring ways to re-energise nuclear industry forums, such as the European Nuclear Energy Forum (ENEF).

Finally we would like to take this opportunity to reiterate our intention to continue to promote nuclear power for those Member States who choose it and we look forward to working with the Commission, other Member States and industry in this regard.

Yours sincerely,

Andrei GEREA

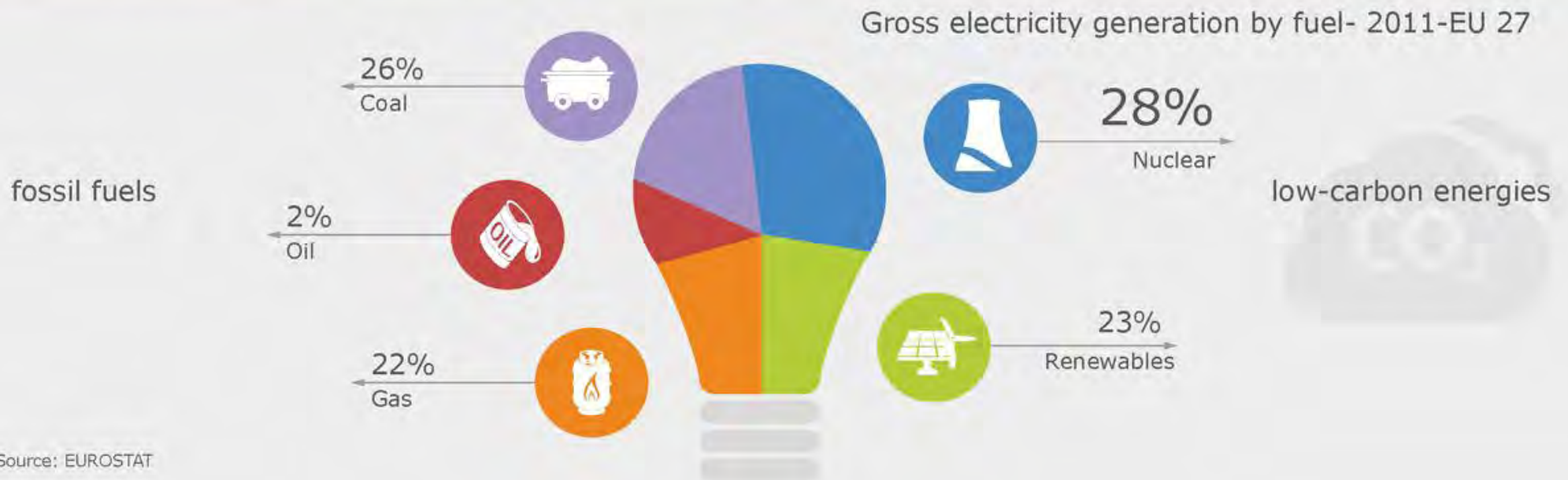
Minister of Energy, Small and Medium Enterprises and the
Business Environment

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¹ Nuclear Power is the European Union, World Nuclear Association.
<http://www.world-nuclear.org/info/Current/PressReleases/EUenews>
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What does nuclear energy represent today in Europe?

Generating 28 % of EU's electricity...





28%

of EU's total
electricity production



131

Nuclear reactors in
operation in the EU



55%

of low-carbon
electricity



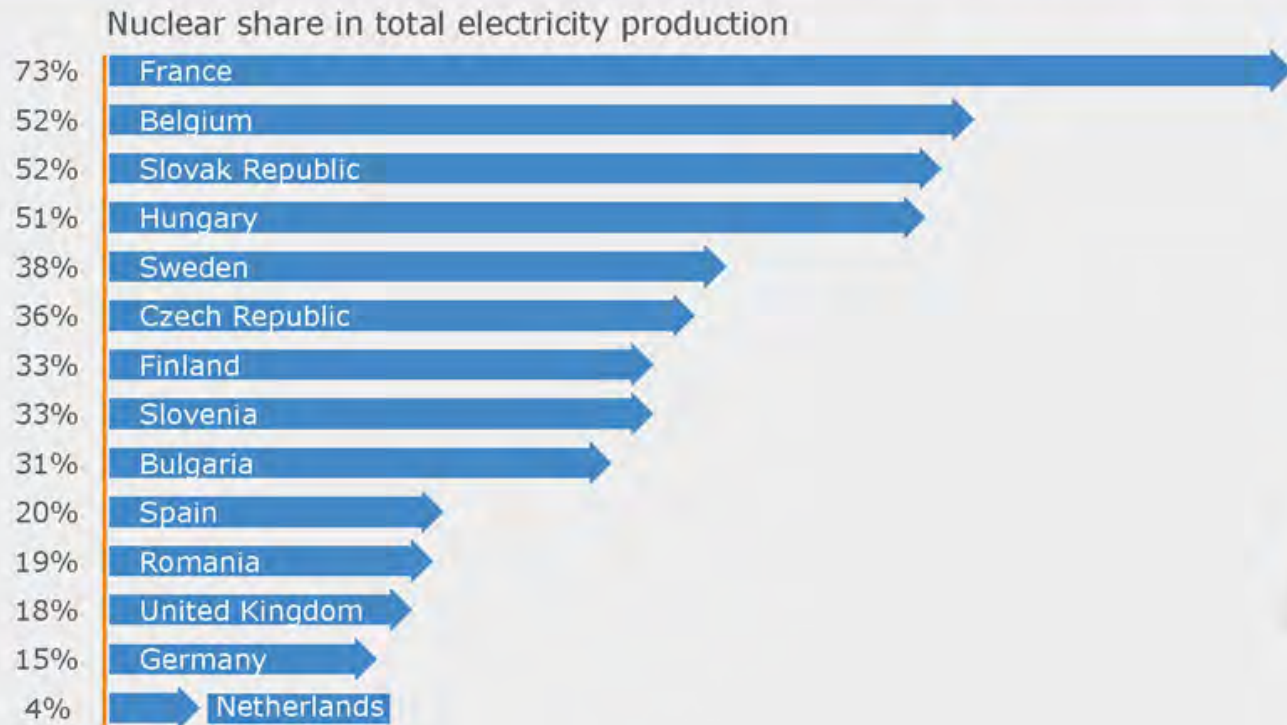
Turnover of
70
billion/year



European nuclear
industry supports

800,000 jobs

...in 14 countries with 131 nuclear reactors



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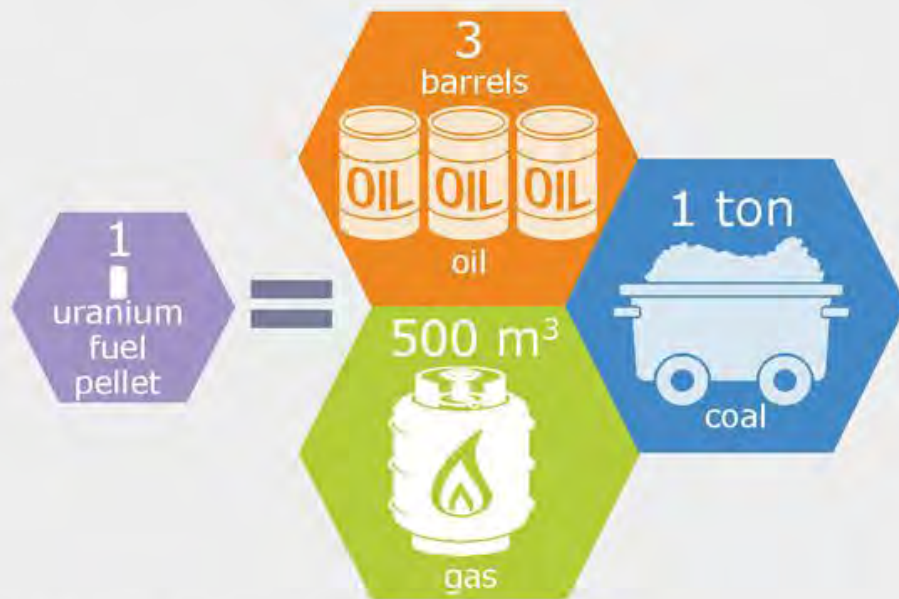
Source: IAEA(PRIS)

Contributing to EU energy policy goals



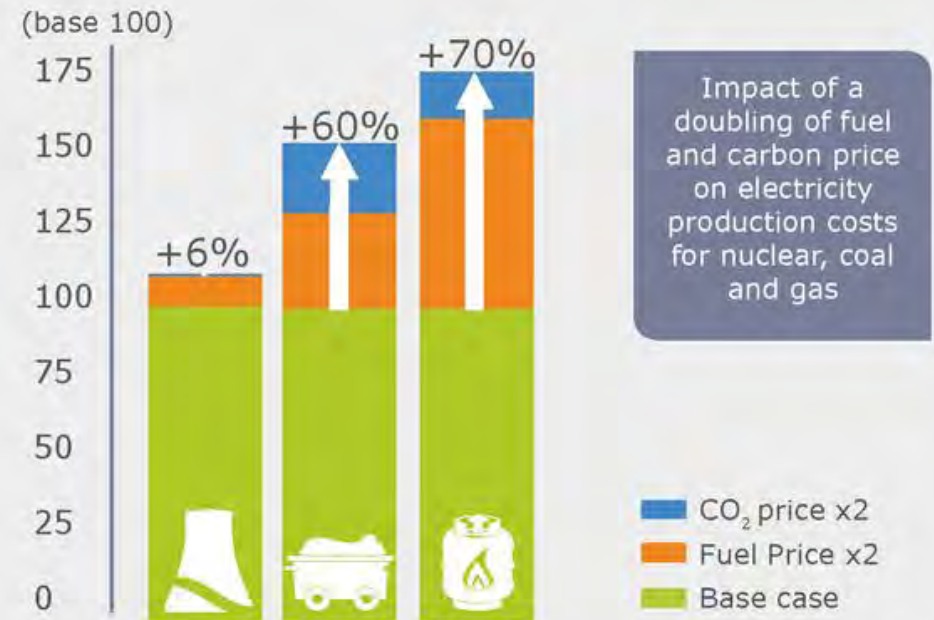
Providing an independent source of energy at a stable price

Quantity of fuel necessary to produce a given amount of electricity



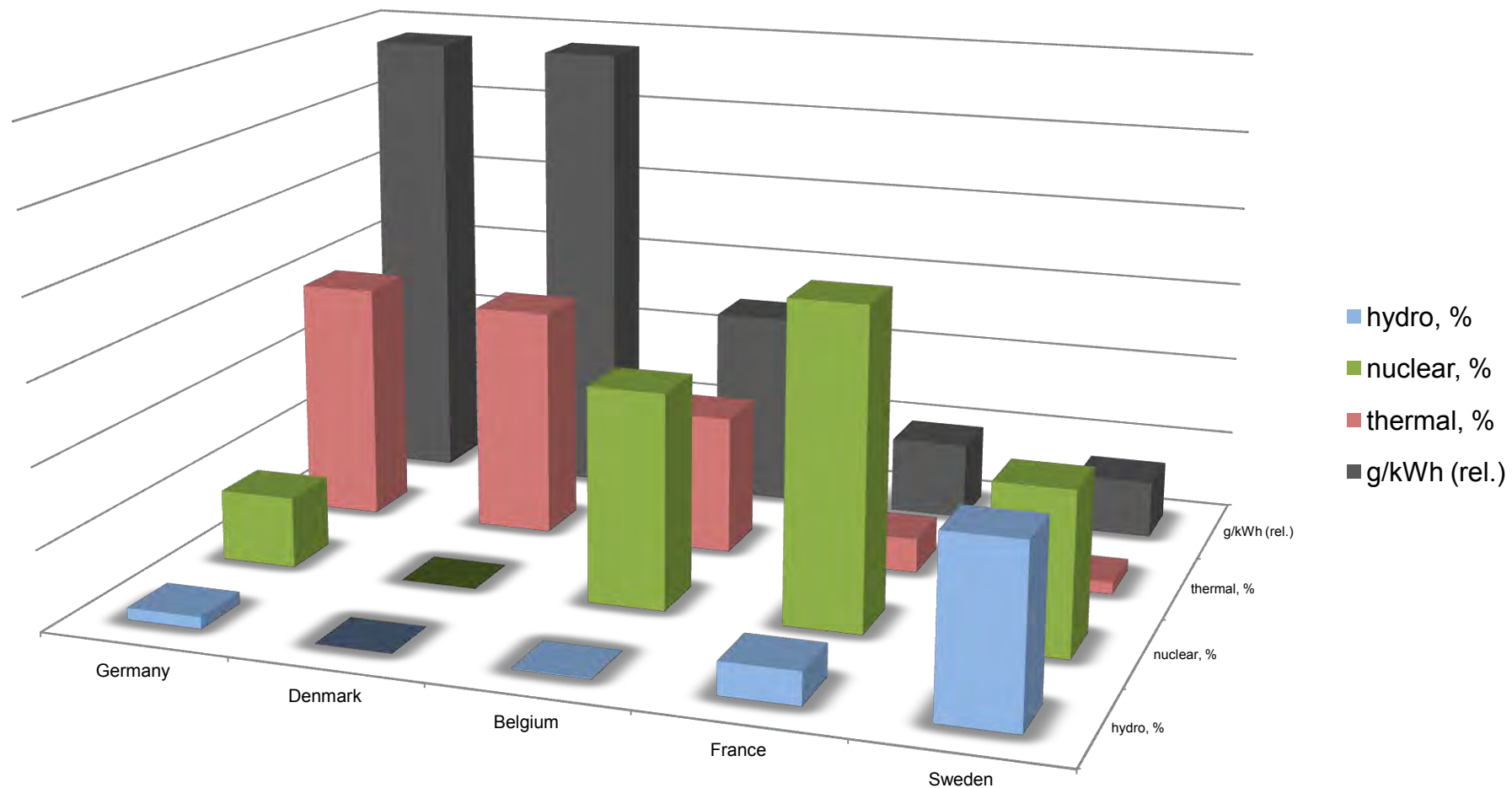
Source: American Nuclear Society

The cost of nuclear power is less vulnerable to fuel price fluctuations



Source: AREVA, 2014

Electricity Mix and GHG



Gross electricity generation and CO₂ eq emissions, 2011

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