"EU Member States Can Choose Their Energy Sources and Can Include Nuclear in Their Energy Mix as Part of Their Effort to Achieve Decarbonisation and Carbon Neutrality by 2050."

Interview with Massimo Garribba ı Deputy Director-General of DG Energy

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Deputy Director-General of DG Energy

Originally from Padova (Italy), Dr Massimo Garribba is a qualified electronic engineer with a PhD in Informatics and Industrial Electronics. After spending seven years on fusion research, he joined the European Commission in 1995, originally working on digital issues. In 2004 he moved to the Commission's Directorate-General for Energy, working on Euratom coordination and international relations, first as Head of Unit, then as Director with a broader remit. In July 2020, he was promoted to Deputy Director-General responsible for the coordination of all aspects of EURATOM policy.

The issue of climate change and the reduction of greenhouse gases has become a very prominent political priority for the EU, the member states and many other nations. At the same time, the EU is developing a sustainable investment framework as a front-runner among the major economies. Has the Commission finally reached a position on nuclear and the taxonomy after more than two years of controversial debates?

Not yet. The Taxonomy Regulation reflects a delicate compromise on the question of whether or not to include nuclear energy in the EU taxonomy. While nuclear energy is consistently acknowledged as a low-carbon energy source, opinions differ notably on the potential impact on other environmental objectives, such as the environmental impact of nuclear waste.

The Commission considers that the credibility of this assessment is crucial. It has requested the Joint Research Centre (the Commission's internal scientific service) to draft a technical report on the 'do no significant harm' aspects of nuclear energy.

This is one step in the process. The JRC report was reviewed by experts on radiation protection and waste management under Article 31 of the Treaty establishing the European Atomic Energy Community (Euratom Treaty), as well as by experts on environmental impacts from the Scientific Committee on Health, Environmental and Emerging Risks. The experts' reviews are published on the Commission's website.[1]

The Commission is carefully analysing the findings of the report, the reviews by the experts, as well as all of the other extensive feedback submitted by other interested stakeholders.

The Commission will complete its assessment in prompt fashion and will follow up in accordance with the steps laid out in the Commission's Communication on a **Strategy for Financing the Transition to a Sustainable Economy**[2] published in July 2021.

As stated in the afore-mentioned Communication, the Commission will adopt a complementary Climate Taxonomy Delegated Act covering activities not yet covered in the first EU Taxonomy Climate Delegated Act, notably certain energy sectors, in line with the requirements of the Taxonomy Regulation.

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1 EU taxonomy for sustainable activities | European Commission (europa.eu).
2 https://ec.europa.eu/info/publications/210706-sustainable-finance-strategy_en

Setting aside the Commission proposal in a complementary Delegated Act, what will in your opinion be the consequences for the European nuclear industry in either case, i. e. inclusion in or exclusion from the taxonomy?

It will have an influence on the range of (private) financing options available to nuclear operators to finance their projects.

An activity that does not qualify as a green economic activity under the EU Taxonomy is not necessarily unsustainable, given the need to make a 'substantial contribution' to one of the six objectives and do no significant harm (DNSH) to the other five.

The EU Taxonomy is designed to guide market participants in their investment decisions, and it does not prohibit investment in any activity. There is no obligation for companies to be Taxonomy-aligned.

Financial market participants can choose to invest in companies that carry out activities that have different degrees of environmental performance, including activities that do not comply with the EU Taxonomy criteria.

In addition, the EU Taxonomy is a dynamic tool and it will evolve as technologies advance and as our understanding of solutions progresses. The Taxonomy Regulation is open to review every three years and may allow the inclusion of activities not covered initially, provided technological progress allows for market entry in the near future.

If nuclear in the end would not be considered as a sustainable investment, could there be and should there be a compensation mechanism in the Euratom framework for those member states that want to pursue nuclear power for decarbonization, say in form of financial assistance?

EU Member States can choose their energy sources and can include nuclear in their energy mix as part of their effort to achieve decarbonisation and carbon neutrality by 2050.

The European Commission, in line with the Euratom Treaty, supports actions to improve the safety of nuclear installations, including research on safety, security, waste management, and assistance on nuclear decommissioning. However, it does not provide financial support for the construction of new nuclear fission power plants.

Member States opting for nuclear energy will of course underline that nuclear is a cleaner, more affordable and much more reliable source of energy than imported fossil fuels.

Apart from the well-known trenches between the ardent opponents and supporters of nuclear power among the member states, there are remarkable developments going on in countries that have no or a low profile on nuclear. Are there Euratom policies to eventually support newcomer countries like Poland or countries that might endeavour a major expansion of their nuclear sector such as possibly the Netherlands?

The EU Treaties leave the choice of the energy mix to the individual Member States.

Based on this and the Euratom Treaty, it is the Member State which takes the decision to introduce nuclear power in its energy mix and bears the ultimate responsibility for its safety and security.

Once such decision is taken, the Member State must fully comply with all relevant provisions of EU rules, i.e. all primary and secondary legislation on inter alia nuclear safety, radiation protection, management of spent fuel and radioactive waste, and non-proliferation.

The European Commission can certainly advise Member States in navigating the different requirements.

The Commission's primary role is to ensure that all Member States effectively fulfil their obligations. To this end, the Commission will readily provide guidance to any interested Member State in ensuring compliance with EU legislation from the first preparative steps at national level.

Since January, we can observe a major surge in energy prices, gas, coal, electricity and the carbon price all over Europe. The issue did not pop up in the German election campaign, but features prominently e.g. in Italy, France and also outside the EU in the UK. How might this impact the debate on climate policy, energy and nuclear power?

The rise in wholesale energy prices in the EU since the summer is a big issue for the Commission, as it is also impacting consumers and companies at this sensitive moment of recovery after the Covid-19 pandemic.

The Commission has published a **'toolbox'**[3] document on 13 October, highlighting the various short and medium-term options available to national governments to ease the burden on end-users – in particular the most vulnerable consumers.

The surge in prices is driven by an unfortunate constellation on the gas market – increased global demand at a time of limited supply. But latest indications are that the effects will be relatively short-term (with the market expected to be much more balanced by the spring).

One key message from the Commission in this context is that this should not in any way put the transition to clean energy in question. On the contrary, greater investment in renewables and energy efficiency measures will reduce the EU's dependence on imported fossil fuels and enhance our energy security, and therefore limit the chances of such a market spike being repeated.

Member States opting for nuclear energy will of course underline that nuclear is a cleaner, more affordable and much more reliable source of energy than imported fossil fuels. And I note the declaration to this effect by 10 Member States in early October, which in the context of rising energy prices have once again called to include nuclear energy in the EU Taxonomy to ensure energy independence and security of supply.

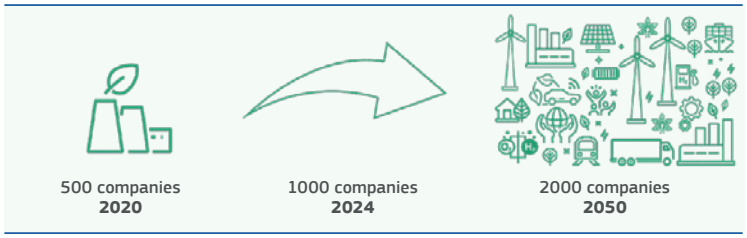
As regards the competitiveness of nuclear energy in the longer term, it is dependent on several factors, from technological development to policy and regulatory frameworks, sustainable supply chains, but also market design, business models, financing instruments, etc.

Innovation will certainly be key, if nuclear is to make a larger contribution to our carbon-neutral future – both in making it competitive and keeping on implementing the continuous safety improvement principle.

3 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A660%3AFIN&qid=1634215984101

Building a hydrogen ecosystem

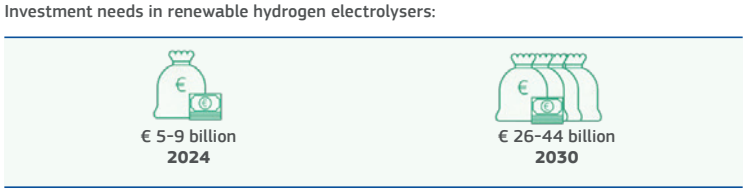
Participation in the Clean Hydrogen Alliance



Focus on renewable hydrogen

Emission reduction potential in industries

Investment needs in renewable hydrogen electrolysers:



Next to the price issue and its impact on industrial competitiveness there is also the aspect of security of supply. Many states are pursuing a coal phase-out, Germany and Belgium are phasing out nuclear, France, Sweden and Switzerland reduced nuclear capacity, the Netherlands end domestic gas production and gas storage is running low in Europe and particularly Germany for the coming winter. Is it time to complement European climate policy with a security of energy supply policy beyond current Energy Union policies?

It is true that within the EU we see different policies among Member States as regards the role of nuclear power in their energy mix. Whereas several Member States have expressed their long-term commitment towards nuclear energy for ensuring security of energy supply and meeting climate targets, others have decided or are considering phase-out or cut-down policies of their nuclear programmes in the coming decades.

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In presenting on 13 October the Commission Toolbox of possible measures to address the energy price spike, Commissioner Simson underlined that we need to ensure a well-functioning and more resilient gas market framework. She underlined that gas has a role in the transition, but at the same time its contribution is bound to change in the long term. It will have to become green. And to promote this process, the Commission will present before the end of the year a comprehensive legislative package to decarbonise our gas and hydrogen markets by 2050. As part of this package, we will be addressing the issues of security of supply and storage.

Finally, the Commission will launch new actions to improve the resilience of critical energy infrastructure to new evolving threats. This will include new rules for the cybersecurity of cross-border electricity to be published next year.

Apart from sustainable finance there are other European policies that impact the nuclear sector, such as the Energy System Integration and the Hydrogen Strategies, the Guidelines on State aid for environmental protection and energy and the Industrial Strategy. What will we see in Commission initiatives here in the next 18 months and what will be at stake for the nuclear sector in these policies?

The main energy policy initiatives that the Commission will be pursuing in the next 18 months are related to the overall ambition of the European Green Deal, following on from the proposals to revise energy efficiency and renewable energy rules already tabled in July and energy infrastructure (TEN-E) where the inter-institutional negotiations are very much advanced and agreement could be reached before the end of this year. Before the end of the year there will also be proposals to look at decarbonising the gas market and establishing a hydrogen market, and a revision of the Energy Performance of Buildings Directive. The Commission will also publish legislative proposals for reducing methane emissions. The priority next year will primarily be negotiating these proposals with the Member States and the European Parliament.

Hydrogen production can also be an important element for countries considering nuclear energy in sector coupling.

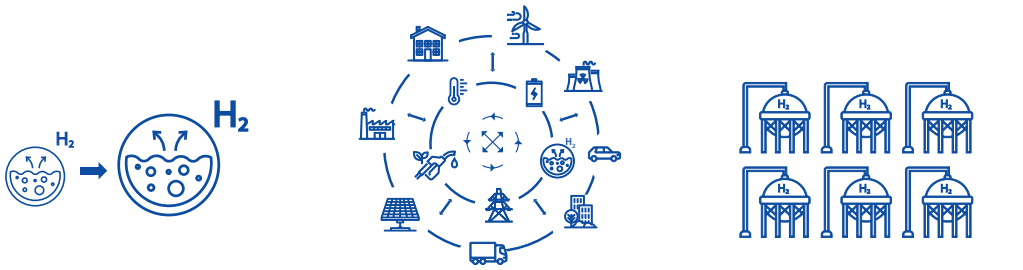
While recognising that the electricity system of the future will be largely based on renewables, the Energy System Integration Strategy does not close the door to the contribution of other zero emission generation options, such as nuclear – recognising the preferences and specificities of Member States in this regard.

Nuclear energy can complement renewable energy sources in the integrated energy systems.

Hydrogen production can also be an important element for countries considering nuclear energy in sector coupling.

As mentioned before, the Commission's overarching priority is to ensure that Member States choosing to use nuclear energy do so within the applicable European legal framework, meeting the highest standards on nuclear safety, on safe and responsible radioactive waste management and on radiation protection.

The path towards a European hydrogen eco-system step by step :



Today - 2024

From now to 2024, we will support the **installation of at least 6GW of renewable hydrogen electrolysers in the EU**, and the production of **up to 1 million tonnes** of renewable hydrogen.

2025 - 2030

From 2025 to 2030, hydrogen needs to **become an intrinsic part of our integrated energy system**, with at least 40GW of renewable hydrogen electrolysers and the production of **up to 10 million tonnes** of renewable hydrogen in the EU.

2030 -

From 2030 onwards, **renewable hydrogen will be deployed at a large scale** across all hard-to-decarbonise sectors.

The most immediate energy project is the Fit for 55 package on implementing the Green Deal till 2030. Despite the long and short term decarbonization ambitions of the EU and member states we see practical policies running in the opposite direction such as the German phase-out of nuclear power with insufficient compensation by low carbon power sources and the new Belgian policy of replacing nuclear with gas fired power plants. Will we see some kind of Maastricht mechanism on climate policy or a European carbon semester in the future?

I can't immediately see an appetite within the Commission – or among EU leaders – to re-open the EU treaties and redefine Article 194 of the treaty.

Nuclear energy can complement renewable energy sources in the integrated energy systems.

Already with the National Energy and Climate Plans (NECP), which were introduced in the Clean Energy for all Europeans package, the EU has introduced a level of transparent forward planning that has not previously been seen.

The key point here is that our absolute priority is to reduce greenhouse gas emissions by 55% by 2030. And this is being addressed in the Fit for 55 package. The more ambitious targets proposed for the new Directives on Energy Efficiency and Renewable Energy will require legally-binding commitments from Member States – and a monitoring process. But there is no one-size-fits-all approach.

The Commission can also play a role in accompanying the EU nuclear industry in improving its competitiveness and better integrating the EU energy system of the future, by securing the application of the highest safety standards and supporting the regulatory processes in EU Member States opting for nuclear energy.

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