



Answer to the European Consultation

Sustainable finance – EU classification system for green investments

Date of issue: December 2020

The French Atomic Energy and Alternative Energies Commission welcomes the progress made on the EU taxonomy. CEA would however like to express some concerns about key issues.

Nuclear Energy

Nuclear power is the first low carbon energy source in the EU, one of the few that is dispatchable with hydropower. The carbon neutrality target will not be reached if concessions are made with the technology neutrality principle and if nuclear energy is not included in the taxonomy.

CEA regrets that the delay in launching a process for the evaluation of the environmental impact of nuclear energy is now preventing it from being included in the taxonomy delegated act.

In conformity with the technology neutrality principle, CEA considers that by default nuclear power should be viewed as complying with the taxonomy regulation. A final decision should then be taken on the basis of the result of the work performed, by the JRC, after consultation of the Euratom Article 31 expert group and the environment expert group. The nuclear sector is subjected to stringent regulations, enforced by Euratom, to prevent any harm to the environment and the population¹²³⁴.

Not including nuclear power in the delegated acts when other energy sources are included establishes a worrying precedent regarding the European Law. It could be viewed as a distortion of competition and it violates the right for every Member State to choose freely which energy mix is the most suited to its territory and its needs, while pursuing the carbon neutrality objective.

Hydropower

All energy sources should be subjected to the same lifecycle carbon intensity threshold. In the delegated acts, if hydropower is subjected to a 100 gCO₂e/kWh threshold, solar PV and wind energies are not...

¹ Ch. Poinssot, S. Bourg, N. Ouvrier, N. Combernoux, C. Rostaing, M. Vargas-Gonzalez, J. Bruno, Assessment of the environmental footprint of nuclear energy systems. Comparison between closed and open fuel cycles, *Energy*, Volume 69, 1 May 2014, Pages 199-211

² A. M. Trainor, R. I. McDonald, J. Fargione, Energy Sprawl Is the Largest Driver of Land Use Change in United States, *PLoS ONE* 11(9), 2016

³ A. Markandya, P. Wilkinson, Electricity generation and health, *The Lancet*, Volume 370, Issue 9591, 15-21 September 2007, Pages 979-990

⁴ B. W. Brook, C. J. A. Bradshaw, Key role for nuclear energy in global biodiversity conservation, *Conservation Biology*, 2014, Volume 29, 3, 702-712

Hydrogen

For hydrogen to be considered as substantially contributing to climate change mitigation, all energy sources should be subjected to the same comprehensive lifecycle analyses. No energy source should see some stages of its lifecycle omitted, as it is planned in the Renewable Energy Directive, which is given as a reference in the Annex I of the Delegated Acts, page 80. Emissions linked to the manufacturing of equipment should not be excluded from the scope of the lifecycle analyses. To ensure a fair and science-based treatment of all energy sources, lifecycle carbon footprint should be based on the recommendation 2013/179/EU (i.e. the Product Environmental Footprint - PEF) for all energy sources.

The threshold for hydrogen to qualify as low carbon should be the one proposed by the Technical Expert Group, ie 100 gCO₂eq/kWh or 5.8 kgCO₂eq/kgH₂. This would enable national low carbon electricity mixes to produce low carbon hydrogen. The proposed threshold of 2.26 kgCO₂eq/kgH₂ is too low. With this threshold and without the tampering of ReFuNoBio carbon emissions on the lifecycle enabled by the REN II, even solar PV would be excluded as being too carbon intensive. Such a low threshold threatens the future of the low-carbon hydrogen industry in Europe. It would therefore hamper the efforts to reach carbon neutrality.

To be competitive with low-carbon hydrogen that will be produced outside Europe, electrolyzers should be used with a high load factor. They will therefore need low-carbon energy sources able to produce on demand (hydropower and nuclear energy). Without them, the extra cost will prevent hydrogen to contribute to the decarbonisation of sectors difficult to electrify (namely the industry and the heavy mobility).

All electricity sources should be eligible to Guarantees of Origin (GOs). This would enable to link hydrogen to a power capacity, therefore to know its carbon intensity on the lifecycle.

Research and Development

Research, development and innovation should not be subjected to the taxonomy. Indeed, a large part of research aims at extending humanity's knowledge and understanding of the world. Moreover, some disciplinary fields (fundamental physics, chemistry, biology, mathematics... that can help to better understand some complex phenomena, or improve instrumentation or calculation) may not have direct impacts on the environment, but they are crucial for other fields such as energy, materials, climate sciences... Thus fundamental/basic research should not be subjected to the taxonomy, and it is important to develop enough funding with bottom-up calls for proposals.

Regarding applied research, most calls for proposals at different levels (regional, national, European...) already orientate innovation/development activities towards specific expected impacts (sustainability, climate change adaptation and mitigation...). Therefore, it does not seem relevant to apply taxonomy to investment for applied research as well. Furthermore, it is not the research, which is bad or good for the environment; it is the purpose of its application. To take an example of applied research, carbon storage can be used to reduce CO₂ emissions but also to enhance oil recovery...