

# Early Analysis of the leaked proposal by Member States on the Taxonomy Delegated Act: focus on gas and nuclear<sup>1</sup>

WWF European Policy Office, November 2021

## Summary

The taxonomy is an upcoming EU classification to give the financial sector clarity on which economic activities can be considered sustainable. It is a transparency tool designed to guide investments towards sustainable economic activities while leaving Member States and financial institutions complete freedom to determine their financing strategies.<sup>2</sup>

On Friday 29 October 2021, a non-paper which contains proposed criteria for the inclusion of gas and nuclear power in the EU Taxonomy was sent to the Commission by Member States. Although some media like [Euractiv](#) or [Mediapart](#) speculated on the role of France, Hungary and Poland, and potential support by Bulgaria, Cyprus, Czechia, Finland, Greece, Malta, Romania, Slovakia and Slovenia, the exact source of the non-paper remains unclear.

- The gas criteria are structured in a relatively similar way to a previous Commission proposal which was leaked in March of 2021 and which was withdrawn amidst a [public outcry by scientists, financial institutions, and civil society](#). The criteria in the Member States' proposal, however, are radically weaker. They are at odds with the International Energy Agency's 1.5°C Net Zero Scenario - now mainstreamed in the World Energy Outlook, the most influential energy analysis in the world - and thus misaligned with the Paris Agreement. As a result they are inconsistent with the Taxonomy Regulation on several counts. Our early analysis finds that, with such criteria, **up to half of existing EU gas plants and many new ones could be classified as 'green'** under the EU Taxonomy (analysis below).
- The nuclear criteria make no requirement for operational facilities for long-term disposal of highly radioactive nuclear waste. A simple requirement for compliance with existing regulations and standards, including the WENRA Safety Reference Levels, whose limitations are recognised by their authors: *'They do not seek to cover everything that could have an impact upon nuclear safety or to form a basis for determining the overall level of nuclear safety in operating NPPs.'*<sup>3</sup> (Nuclear Power Plants).

---

<sup>1</sup> WWF is preparing a separate analysis on the agricultural criteria.

<sup>2</sup> This means that whether included or not in the green taxonomy, a given economic activity will still access finance: with enormous amounts of financial liquidity in the market and interest rates close to zero, big companies can finance themselves cheaply on the market. Conservative industrial lobbies have claimed the opposite but systematically failed to provide any evidence to support this claim.

<sup>3</sup> Western European Nuclear Regulators Association (WENRA) (2020), *Report: WENRA Safety Reference Levels for Existing Reactors 2020*, p. 3. Available [online](#).

**Our early analysis finds that almost all existing EU nuclear plants could qualify as 'green' (see below).**

**These criteria are completely at odds with climate and environmental science, and would demolish any scientific integrity in the EU Taxonomy.** The consequences of creating a 'fake green' taxonomy would be disastrous on several counts:

1. **It would make the Taxonomy a counterproductive greenwashing tool instead of being, as announced, a gold standard to prevent greenwashing** - its primary objective. Beyond civil society's opposition, such criteria would discredit the Taxonomy and hence **split market stakeholders and lead to market fragmentation**. Fragmenting the market would mean leaving each stakeholder to decide what is green or not: a return to the pre-taxonomy situation.

On fossil gas, for example, hundreds of financial institutions in the Mark Carney-led [Glasgow Financial Alliance for Net Zero](#)<sup>4</sup> would sacrifice their climate credibility if they followed taxonomy criteria such as these, given their commitment to 1.5°C alignment. Indeed, the giant Dutch pension fund ABP announced that [it will become fossil-free by 2023](#) and the French MAIF and Banque Postale [committed to immediately stop supporting fossil fuel expansion](#), consistently with the IEA 1.5°C scenario: a pro-gas Taxonomy would lag far behind these initiatives.

The investor group UN Principles for Responsible Investment (UN PRI) has already [shown alarm](#) at the prospect of an unscientific Taxonomy, emphasising the "*risks of tarnishing investor confidence*".

2. **The EU taxonomy criteria would do worse than the current market:** the global green bond market has already an established practice of excluding both gas and nuclear.<sup>5</sup> A step backwards because of the taxonomy would, in all likelihood, not be accepted by a substantial number of financial institutions - the primary audience of the EU taxonomy. **This would, in turn, make the EU Green Bond Standard useless for investors**, as its environmental credibility fully relies on that of the Taxonomy. More generally, a taxonomy that is weaker than market practice would **heavily damage the EU sustainable finance agenda and slow down the green transition**.
3. **It would also split the retail market.** On nuclear, [82% of German citizens](#) do not consider that nuclear is sustainable. Another poll finds that around 75% of SPD and Green voters and 60% of CDU and Liberal voters said that a Taxonomy which included nuclear power would lose credibility.<sup>6</sup> They are unlikely to want to buy green retail funds that include nuclear - like a majority of Italians, Spanish, and Austrian citizens. Even [half](#)

---

<sup>4</sup> This initiative gathers the Net Zero Asset Owner Alliance (53 members totalling nearly US\$9 trillion assets), the Net Zero Asset Manager Initiative (128 members totalling US\$43 trillion assets), the Net Zero Banking Alliance (88 members, US\$ 65trn) and the Net Zero Insurance Alliance (13 members).

<sup>5</sup> This practice is clarified, amongst others, by the Électricité de France (EDF) [Green Bond Framework](#), issued in 2020, which earmarked funds exclusively for: Construction of renewable power generation projects (nuclear is not included here); Investments in existing hydropower facilities; Investments in Energy Efficiency; Investments in biodiversity protection.

<sup>6</sup> Kantar (2021), Survey of 1008 adults for .ausgestrahlt. Available [online](#).

[of French citizens](#) oppose the construction of new power plants, and the French government's Greenfin label for sustainable finance excludes both nuclear energy and fossil gas.<sup>7</sup> The new EU requirements for financial advisers to ask retail investors their sustainability preferences<sup>8</sup> will make it risky to sell 'green' products relying on a 'fake green' Taxonomy.

4. **Such a proposal would substantially increase the risk of stranded assets for financial institutions using the Taxonomy.** A [recent report from Carbon Tracker Initiative](#) finds that more than 20% of European gas-fired power plants are already loss-making, surging gas prices risk sending many more into the red, and existing modelled gas capacity is already more expensive to operate than new renewables. Furthermore, Standards & Poor's finds that [new nuclear plants will not be competitive in the EU](#), as proven in the [Hinkley Point nuclear plant project](#) in the UK, and the nuclear industry is famous for [not respecting costs and delays](#).
5. Such a proposal would substantially increase the risk that the Delegated Act will be **challenged legally<sup>9</sup>, potentially creating uncertainty for financial institutions for years.**
6. **Such an EU Taxonomy would send a disastrous signal globally.** There are currently at least 25 countries developing their own taxonomy globally according to the Climate Bond Initiative, and many look at the EU Taxonomy as a benchmark. If the EU Taxonomy is unscientific, there is a high risk that others will follow suit, slowing down the green transition, investing billions in environmentally harmful projects, and increasing risks of stranded assets. As a standard maker, the EU has a requirement of exemplarity. Finally, the EU risks a situation in which another geography sets stricter criteria, making the EU lag behind and lose its leadership on sustainable finance.

Said differently, **with this Member State proposal the taxonomy would be dead on arrival.**

The message is clear: including either gas or nuclear in the green taxonomy would mean the end of the taxonomy.

---

<sup>7</sup> The Greenfin label explicitly excludes activities connected to the 'exploration and use of fossil fuels' and 'the entirety of the nuclear sector'. Source: Ministère de la Transition Écologique (2021), *Le Label Greenfin*. Available [online](#).

<sup>8</sup> As per the new MIFID II and IDD requirements on the suitability of financial advice.

<sup>9</sup> As already made public by the Austrian government for example, if nuclear is included.

## Detailed analysis of the proposed criteria

### Fossil gas

#### Key findings

- The Member State proposal on gas is completely misaligned with the Paris Agreement and inconsistent both with Article 10 of the Taxonomy Regulation on transitional activities and Article 19 requiring science-based criteria.
- It is dramatically worse than the Commission leak from March, which was already misaligned with climate science and was finally removed: several criteria have been deleted and others worsened.
- Our early analysis finds that up to half of existing EU gas plants could be qualified as 'green' under the EU Taxonomy with such criteria.

Context: Gas power plants overtook lignite plants in 2020 to become [Europe's first power sector emitter](#).

#### Comparison between three sets of Taxonomy criteria for gas-fired plants

Issue	TEG recommendations (1)	Commission's leak from March 2021 (finally removed)	Member States leaked proposal from October 2021 <sup>10</sup>	Analysis of the Member States leaked proposal
1. Emission performance threshold (EPS)	100 g CO2/kWh	270 g CO2/kWh	340 g CO2/kWh	340 g is business as usual, which is inconsistent with the Taxonomy Regulation (2)
2. Exemption to EPS:	No exemption	Yes, for new plants	Yes, for all plants (new + existing)	The exemption is inconsistent with the Taxonomy Regulation (3)
2.1. Deadline	No exemption	Plant <u>in operation</u> by end 2025	Plant <u>commissioned</u> in 2030	Fully inconsistent with the IEA 1.5°C scenario (4)
2.2. Load factor	No exemption		Up to 2058 hours/year (5)	At least half of existing EU gas plants can qualify, and likely many new ones (6); the peaking threshold is in fact not peaking (7)
2.3. Geographic criteria	No exemption	In a just transition region	None	This was the only tight criteria in the EC leak
2.4. Replacement of coal capacity closed	No exemption	Yes	None	
2.5. Low-carbon alternative	No exemption	No technological and economical	None	

<sup>10</sup> Focusing on 'Activity 1 - Electricity generation from gaseous and liquid fuels'.

		low-carbon alternatives		
2.6. Compatibility with co-firing of low carbon gaseous or liquid fuels	No exemption	Yes	Yes (for cogeneration only)	All gas plants can qualify (8)

- (1) Commission’s Technical Expert Group on sustainable finance, [Final report](#), March 2020.
- (2) Modern Combined Cycle Gas Turbines (producing electricity only) operate at 300 g CO<sub>2</sub>/kWh and have been mainstreamed in the market for more than a decade. Reaching 300 g CO<sub>2</sub>/kWh does not even require cogeneration (combined heat and power) which allows efficient plants to operate at 230 g CO<sub>2</sub>/kWh. The threshold of 340 g is wholly inconsistent with Art 19(1) of the Taxonomy Regulation, which states that technical screening criteria must “*be based on conclusive scientific evidence*” and take into account “*the risk of creating inconsistent incentives for investing sustainably*”.
- (3) The article 10(2) states for transitional activities: “*An economic activity for which there is no technologically and economically feasible low-carbon alternative shall qualify as contributing substantially to climate change mitigation*”. There are various renewable energy alternatives for the power sector which are technologically and economically feasible, hence gas-fired power plants cannot be deemed a transitional activity.
- (4) Commissioning the plant in 2030 means that the plant could start its operations in 2035 or even later (the gas plant permitting and construction stages can take [up to 6 years for completion, sometimes considerably more](#)). **2035 is the deadline in the IEA 1.5°C scenario to achieve 100% zero-emission power in the OECD, i.e. to close the last gas plants:** the inconsistency is crystal clear.  
The average lifetime of a gas plant is [25-30 years in Europe](#), hence **a gas plant built in 2035 could run until 2065**, while the power sector is the first to fully decarbonise in all Paris-aligned scenarios. This criteria is not compatible with the Paris Agreement.
- (5) The given justification is that these plants would act as “*back up for intermittent renewables*”. In fact, an emission limit of 700kg CO<sub>2</sub>/kW at 340g CO<sub>2</sub>/kWh represents **up to 2058 hours/year**. **As a matter of comparison, on average all EU gas plants were running 1270 hours/year in 2019** (based on estimates of current Eurostat figures, and electricity generation from gas of around 1170 TWh in EU27 in 2019). 2000-3000 hours/year is realistically the *maximum* that any gas plants can aim to achieve in a system that is predominantly renewable.
- (6) **45-46% of existing EU large gas plants (> 50 MW) run below 2000 hours a year**, according to two different calculations using two datasets and two different methodologies (Climate Strategy and Carbon Tracker Initiative; analyses available upon request). Adding small gas plants (< 50 MW), it is safe to assume that at least half of existing EU gas plants run below 2000 hours a year. This creates an exemption of epic proportions.  
If half of the current gas plants run below 2000 hours a year, it can be assumed that many new gas plants will run below 2000 hours a year as well.
- (7) The “back up for intermittent renewables”, although it is unclear, can be understood as peaking plants. It should be noted that the threshold of 2000 hours/year for defining peaking plants is completely flawed. **There is an existing legal definition for peaking plants in the [Large Combustion Plant Directive](#): the BREF (Best Available Techniques Reference Document) refers to <500 hours/year operation, i.e. four times less.**
- (8) **Low-carbon gaseous/liquid fuels are not defined:** this could mean e.g. biogas, which is currently (wrongly) referred to as low-carbon and accounted as carbon neutral – but which, molecularly, is identical to fossil methane, so any gas plant is compatible.  
There is no requirement to focus on hydrogen only, and even this would be quite problematic: “hydrogen-readiness” may be as flawed a requirement as “CCS-readiness” a few years ago - which was used to justify new coal plants and instead turned into a complete climate failure (carbon lock-in). It relies on a highly speculative and risky assumption that at some point green hydrogen will become extremely abundant and very cheap, so that gas plants can fully rely on it. This is rebutted by the latest analysis, which shows that green hydrogen will be scarce and expensive, thus will not be competitive in the power sector, and should be reserved for hard-to-abate sectors (heavy industry and long-distance transport).

## Nuclear

### Key findings

- **Nuclear power plants may operate without operational facilities for long-term disposal of highly radioactive waste.**
- **Almost all existing nuclear power plants would qualify, as criteria require simple alignment with existing legislation.**
- **The criteria risk harming nature by allowing mining for uranium ore in [protected areas](#).**

The leaked document proposes to insert five activities linked to the nuclear life-cycle. The first four are taken from the JRC report, while the last is added in the Member State proposal.

The activities are:

1. Electricity generation from nuclear energy
2. Mining and processing of uranium ore
3. Reprocessing of spent nuclear fuel
4. Interim storage and final disposal of high-level radioactive waste (including high-level vitrified waste)
5. High-efficiency nuclear cogeneration - added by the Member States' proposal.

There are several issues with the criteria:

- 1. Nuclear power plants face no requirement for operations facilities to dispose of their highly radioactive waste**

Nuclear power plants produce approximately 25-30 tonnes of highly radioactive waste per year. This waste is inserted into cooling pools which must be kept operational and stable in temperature for decades in order to conserve the waste. Following the cooling process, high-level radioactive waste must be stored in deep geological repositories, where it must be stored for up to 1000 years.

### Life-cycle assessments are essential

Operational storage is an essential safety measure to ensure that nuclear power does 'no harm' to the environment across its millenium-long life cycle. However, the JRC report fails to require nuclear plants to have an operational facility for deep geological storage of highly radioactive waste ready to store the highly radioactive waste they produce.

Despite 70 years of commercial use, the nuclear industry has not yet created a long-term solution for its highly radioactive waste. However, the nuclear industry claims that it will 'soon' have a working solution to this issue. But as long as there is no operational facility, observed extensively, and proven to be a realistic and safe solution for long-term disposal of highly-radioactive waste, there is no solution.

### A patchwork of green standards

Operational storage is therefore an essential procedural and substantive requirement for nuclear power. However, the JRC does not make this requirement. Instead, it simply demands that a 'plan' for the disposal of highly radioactive waste should be developed. There is no specification of the type, structure, detail, deadline or scientific requirements for this plan. It can be assumed from the criteria that the plan will be developed by each utility, but there is no clarification of third-party assessments of the plan. There is simply an undefined demand that it be made on the basis of scientific and empirical evidence.

This risks producing a paradoxical situation in which each utility would be asked to define for itself the actions that constitute the sustainable production of nuclear power, creating a wholly uneven standard across the EU - precisely the problem which the Taxonomy was designed to prevent.

### The JRC highlights the inclusion of operational technologies

When it makes reference to the inclusion of Carbon Capture and Storage (CCS) in the climate Delegated Act, the JRC strengthens the argument in favour of the requirement that only technologies that are *operational* should be included in the Taxonomy. This passage signals the fact that deep geological storage technologies, such as CCS, are already included in the Taxonomy's criteria.

There is a double standard however: CCS is included in the Taxonomy only if it is operational, but, in the case of nuclear, a plan for the final disposal of highly radioactive waste is sufficient - even if the facility referred to in this plan will only become operational in twenty years, or never.

### Taxonomy substantive and legal credibility at stake

This approach risks replicating the controversy concerning the 'CCS-readiness' of coal plants, that were presented as mature for retrofitting but which relied on a technology which failed to materialise.

The JRC's proposed criteria for activity 1. *Electricity generation from nuclear energy* and activity 4. *Interim storage and final disposal of high-level radioactive waste (including high-level vitrified waste)* therefore contradict the Article 19 requirements from the Taxonomy regulation, for criteria that first take into account an activity's entire life cycle and second are based on conclusive scientific evidence.

## **2. Almost any nuclear power plant that is legal is considered green**

Preliminary analysis suggests that almost all nuclear power plants would be aligned with the criteria proposed by the JRC. The substantial contribution criteria for climate mitigation simply stipulate that reactors should be aligned with requirements they already meet: the Euratom Nuclear Safety Directive applies to *'any civilian nuclear installation subject to a licence'*.<sup>11</sup>

There are additional requirements for alignment with safety criteria that are incomplete: the WENRA Safety Reference Levels for Existing Reactors, for example, which, as noted in the foreword to the most recent version, are recommendations *'primarily focusing on the main safety functions for ensuring the integrity of the reactor core and spent fuel. The RLs specifically exclude nuclear security and, with a few exceptions, radiation safety.'*<sup>12</sup>

Furthermore, and concerning for a Taxonomy with an explicit requirement for criteria based on scientific evidence, WENRA introduces a disclaimer on the guidelines: *'Given the various regulatory regimes and range of types of plants (PWR, BWR, CANDU and gas-cooled reactors) in operation in WENRA countries, the RLs do not go into legal and technical details.'*<sup>13</sup>

## **3. Mining in protected areas is permitted, with very weak conditions attached**

The Do No Significant Harm criteria are wholly insufficient for the activity of mining to create a guarantee that the activity will not harm biodiversity or the ecosystems. It allows mining in protected areas as long as an assessment is done *'where applicable'* and unspecified *'mitigating'* measures are carried out. The possibility that an assessment might not be considered *'applicable'* and that insufficient mitigating measures could be taken is real and highly concerning.

Recent UN research has shown that almost half of UNESCO World Heritage sites are threatened by industrial activities and large infrastructure projects. The JRC's proposed criteria risk weakening ecosystems which are already fragile.<sup>14</sup>

---

<sup>11</sup> Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations. Available [online](#).

<sup>12</sup> WENRA (2020), *Report: WENRA Safety Reference Levels for Existing Reactors 2020*, p. 3. Available [online](#).

<sup>13</sup> *Ibid.* p. 3.

<sup>14</sup> UNESCO, UNPSI, WWF (2019), *Protecting our World Heritage, Insuring a Sustainable Future*. Available [online](#).