

Only a Sith deals in absolutes: how to nudge the Taxonomy towards Light Side

Carlo Stagnaro, Academic & Research Director, Istituto Bruno Leoni, and Stefano Verde, strategy manager at Hera Group

Russia's invasion of Ukraine has forced the European Union and its member states to substantially revise their energy policy in order to meet short-term targets such as the security of supplies and the reduction of reliance on Russian imports of energy commodities. While this may require some temporary deviation from the path towards carbon neutrality, the long-term decarbonization goals are not questioned – neither are the policy tools that were and still are in the process of being developed. Among this, the taxonomy of sustainable investments has a key role.

In theory, the taxonomy is a mere list of what technologies are regarded as sustainable, whose adoption is still voluntary. It is intended to provide the market with a clear and uniform benchmark to both promote green investments and prevent greenwashing. In practice, though, the taxonomy is – or at least is deemed to become – a powerful tool of industrial policy, by which private as well as public investments shall be driven or, at the very least, influenced.

The Commission's attitude is actively picking technological winners among the existing clean(er) technologies, to the detriment of other technologies that may well be as clean and even more so to the detriment of technologies that are not yet available. The Taxonomy deals in absolutes: it is founded upon the claim that a bureaucratic document can draw a line between Good and Bad, by attaching a label of Absolute Good to technologies that have the capability to create an environmental Eden in an imperfect, dirty world.

Introduction

A key instrument is the Taxonomy Regulation,¹ released on 22 June 2020, that tasks the Commission “with establishing the actual list of environmentally sustainable activities by defining technical screening criteria for each environmental objective through delegated acts”. In practice, the taxonomy entails a set of *criteria* to tell if and under which conditions a technology may be labelled “sustainable”, and a *list* of technologies. The matrix made of the *list of technologies* and the *set of criteria* will be used by investors to assess whether, and to what degree, their investments or the underlying assets are green.

The Article 3 of the Taxonomy Regulation provides that technologies included in the list must be shown to “contribute substantially to one or more of the environmental objectives” and “do not significantly harm any of the environmental objectives” of the EU. These objectives cover the following dimensions: climate change mitigation; climate change adaptation; sustainable use & protection of water & marine resources; circular economy; pollution prevention & control; protection and restoration of biodiversity & ecosystems. This principle is known as Do Not Significant Harm (DNSH) and its interpretation is a cornerstone of the entire taxonomy debate.

A first delegated act on sustainable activities for climate change adaptation and mitigation objectives was adopted on 4 June 2021.² It did not include, *inter alia*, power generation from natural gas or nuclear, while it only regarded natural gas infrastructures as sustainable if they are upgraded in order to allow the transport of low-carbon gases or hydrogen. A second delegated act, covering nuclear power and the use of natural gas for power generation, was adopted on 2 February 2022.³

The Commission's proposal has also raised criticism from several member states. While the Commission's stance on nuclear power relies upon a scientific report from the Joint Research Center,⁴ the EU Platform on Sustainable Finance rejected it altogether.⁵ France is strongly supporting the inclusion of nuclear power whereas Spain, Austria, Luxembourg and Denmark

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¹ EC, 2020, Sustainable finance taxonomy – Regulation – (EU) Available at: https://ec.europa.eu/info/law/sustainable-finance-taxonomy-regulation-eu-2020-852_en

² EC, 2021, 'Sustainable finance package' *Financial Stability, Financial Services, and Capital Markets Union*, Available at: https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#taxonomy

³ EC, 2022, 'EU taxonomy: Complementary Climate Delegated Act to accelerate decarbonisation' *Financial Stability, Financial Services, and Capital Markets Union*, Available at: https://ec.europa.eu/info/publications/220202-sustainable-finance-taxonomy-complementary-climate-delegated-act_en

⁴ EC, 2021, Technical Assessment of nuclear energy with respect to the 'do no significant harm' criteria of Regulation (EU) 2020/852 ('Taxonomy Regulation'), *JRC Science For Policy Report*, Available at:

https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/210329-jrc-report-nuclear-energy-assessment_en.pdf

⁵ Naschert, C. 2022, 'Resist Green Label for natural gas, EU taxonomy advisers say' *S&P Global Market Intelligence*

oppose it.⁶ Germany opposes nuclear, too, but at the same time it calls for easing the restrictions on natural gas.⁷ More importantly, in a joint meeting of the Economic and Monetary Affairs Committee and the Environment, Public Health and Food Safety Committee on Tuesday 14 June, 2022 MEPs voted 76 to 62 an objection to the inclusion of nuclear power and natural gas, despite the relatively strict criteria employed by the Commission. The resolution shall be voted upon during the Parliament's plenary session of 4-7 July 2022.⁸

As it can be easily understood the clash is about politics and national interest at least as much as it is about designing a rational pathway towards carbon neutrality. But what is the taxonomy and why is it so important?

In theory, the taxonomy is a mere list of what technologies are regarded as sustainable, whose adoption is still voluntary. It is intended to provide the market with a clear and uniform benchmark to both promote green investments and prevent greenwashing. If this is the case, one wonders why the market cannot find a bottom-up definition of what is sustainable. In practice, though, the taxonomy is – or at least is deemed to become – a powerful tool of industrial policy, by which private as well as public investments shall be driven or, at the very least, influenced. Just to note a couple of examples, only taxonomy-compliant investments can be financed through the Next Generation EU's Recovery and Resilience Facility.⁹ Moreover the European Central Bank is considering imposing the disclosure of climate-related risks of investments that may end up relying on the taxonomy,¹⁰ even though its president strongly criticized the taxonomy arguing that nuclear power and natural gas should not be labeled "green".¹¹

Discussing the taxonomy entails dealing with three issues:

- The actual choices that are being made, particularly in the second delegated act, with specific regard to natural gas and nuclear power
- The design of the taxonomy
- The consequences of the DNSH as it is designed

Are nuclear and natural gas really green?

According to the second delegated act, both nuclear and natural gas may be considered green sources of electricity as long as they abide by specific criteria.

Following the JRC report, nuclear power is considered to be sustainable as long as a few objective criteria are met, such as the proposed investment "has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined", "has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning" and "has operational final disposal facilities for all very low-, low- and intermediate level radioactive waste". Most of these conditions are already requested by national regulations.

The situation is more complex as far as natural gas is concerned. In fact, natural gas-fired power plants can only be regarded as green in either one of the following cases:

- Their specific emissions are below 100 g CO₂e / kWh
- Alternatively, facilities for which the construction permit is granted by 31 December 2030 comply with all of the following: (i) direct GHG emission are lower than 270 g CO₂e / kWh of the output energy, or annual direct GHG emissions do not exceed an average of 550 kg CO₂e / kW over 20 years; (ii) the power to be replaced cannot be generated from renewable energy; (iii) the activity replaces an existing high emitting electricity generation activity that uses solid or liquid fossil fuels; (iv) the newly installed production capacity does not exceed the capacity of the replaced facility by more than 15%; (v) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use thereof takes place by 31 December 2035; (vi) the replacement leads to a reduction in emissions of at least 55%; (vii) the Member State has committed to phase-out the use of coal

The first option is only available to power plants coupled to carbon capture and sequestration facilities or that are fueled by low-carbon gases such as biomethane or hydrogen. The second option also entails a technological upgrade that can hardly be met by the existing power plants: even the best-performing combined-cycle gas turbines emit above the threshold of 270 g CO₂ / kWh while the alternative criterion of 550 kg CO₂ / kW over 20 years implies that the plant produces a limited amount of energy

⁶ Hernandez, A. 2022, 'EU enters endgame in fight over green investing rules'. *Politico*

⁷ Kurmayer, N. 2022, 'Germany Takes firm pro-gas stance in green taxonomy feedback to the EU'. *Euractiv*

⁸ <https://www.europarl.europa.eu/news/it/press-room/20220613IPR32812/taxonomy-meps-object-to-commission-s-plan-to-include-gas-and-nuclear-activities>

⁹ "Press Corner." *European Commission - European Commission*, 2021, ec.europa.eu/commission/presscorner/detail/en/QANDA_21_4567.

¹⁰ European Commission. "Technical Assessment of Nuclear Energy with Respect to the "Do No Significant Harm" Criteria of Regulation (EU) 2020/852 ("Taxonomy Regulation")." *JRC Science for Policy Report*, 2021.

¹¹ Ainger, J. 2022, 'EU Bank May Refrain From Bestowing Green Label on Gas, Nuclear Projects'. *Bloomberg*

every year. Even more importantly, the condition that the new power plant should take the place of an existing, more polluting facility may result in competitive distortions. In fact, the same power plant might be regarded as sustainable if developed by an incumbent firm in the process of phasing out a coal-fired facility, while it would be deemed unsustainable if proposed by anybody else.

All in all, the proposed delegated act seems relatively open to nuclear power, but it sets out criteria under which natural gas may be hardly considered a viable option for generating current. That despite the fact that all scenarios – including Europe’s own ones – suggest that natural gas will be a crucial transitional fuel and that flexible generation is required as the share increases of intermittent sources of electricity, such as wind and solar power. The current situation – with a rush of all member states toward the reduction of the use of natural gas while finding alternative suppliers of it – has a limited impact on this issue: if the EU is firm on its purpose of increasing the share of renewable electricity, then peaking power plants shall be needed. This may be consistent with a scenario whereby total gas-fueled electricity generation capacity falls, because less flexible plants may be gradually decommissioned while more flexible ones become operational. Natural gas remains a cornerstone of the decarbonization process to any practical purpose, even if the total consumption of natural gas may fall more or less rapidly in the next few years.

The design of the taxonomy

One reason for the conflicting views on the taxonomy lies in its very design: a list of *sustainable* activities. What is regarded as sustainable depends, of course, on its environmental footprint but also on the available technologies. In some sectors clean technologies are readily available while in others – the industries that are known as “hard to abate”, not by chance – they are not. Above all, technologies evolve all the time: alternatives that are not available today may become available tomorrow; or known technologies may be used in new ways as it happened in the US with hydraulic fracturing and horizontal drilling, giving momentum to the shale gas revolution. Incidentally, cheap unconventional gas in North America triggered a market-driven revolution in power generation, pushing coal out of the market and causing CO₂ emissions to fall dramatically. The supply of liquefied natural gas (LNG) from the US and elsewhere is a key component of Europe’s strategy to reduce its reliance on Russia but that requires regassification terminals and pipelines to come onstream. In the short run, the failure to strengthen natural gas infrastructure may result in a greater use of coal or even fuel oil to generate electricity, that emit more CO₂ and other pollutants. Does it really make sense to consider these infrastructures as “unsustainable”, even if they may demonstrably result in short- as well as long-run emissions reductions?

A taxonomy designed in this way is bound to rapidly become obsolete and, on top, to become the ground of continuous struggles from vested interests, calling for inserting, blocking, or taking out their preferred technologies. The taxonomy is supposedly updated every 5 years, but this seems a very long time given the pace of technological progress and the enormous amounts of public and private money that is being poured into the research of clean(er) technologies. This problem might be addressed, at least to some extent, by putting the taxonomy upside down: not an impossible list of *all* the clean technologies at any given point in time, but a list of unsustainable technologies that should be defunded (or whose financing should be made more costly) in order to achieve the EU’s environmental objectives.

Does DNSH significantly harm Europe’s environmental policy?

The Taxonomy as well as other EU policies, such as the Recovery and Resilience Facility, rely on the DNSH principle. Such principle is just *assumed* in the context of the taxonomy. In fact, it is *explicitly* outlined in the Commission’s Communication regarding the “Technical guidance of ‘Do No Significant Harm’ under the Recovery and Resilience Facility Regulation” of 12 February 2021.¹²

The communication sets, *inter alia*, two guiding principles:

- “Member states need to provide an *individual* [emphasis in the original] DNSH assessment for each measure within each component of the plan. Therefore, the DNSH assessment is not to be carried out at the level of the plan or of individual components of the plan, but at measure level” (pp.2-3)
- “For economic activities where there is a technologically and economically feasible alternative with low environmental impact, the assessment of the negative environmental impact of each measure should be carried out against a ‘no intervention’ scenario by taking into account the environmental effect of the measure in absolute terms” (p.7).

The fact that a measure or an investment should be assessed *per se*, rather than in its actual context, may result in weird outcomes. For example, the straightforward application of this criterion would suggest that the substitution of oil-fueled with natural-gas fueled buses would be deemed as unsustainable, regardless to the facts that i) it would result in a dramatic abatement of emissions and ii) lower emissions alternatives, such as electric buses, albeit available, may be more costly. So, given a certain amount of resources, it might only be possible to change a smaller number of old buses. Each *individual* new bus would have

¹² EC, 2021, ‘Commission Notice, Technical guidance on the application of ‘do no significant harm’ under the Recovery and Resilience Facility Regulation’ *Official Journal of the European Union*

lower emissions, but the aggregate emissions abatement might well be smaller than it could have been. Moreover, gas-fueled buses may be propelled by biomethane, which is a low-carbon fuel, or even by hydrogen (if properly upgraded), which is a low- or zero-emissions fuel, depending on the production process. The switch to these more sustainable fuels may be part of a longer-term strategy to replace a larger number of buses: in its current form, though, this strategy would not pass the DNSH test.

In other words, the DNSH principle is designed in a way that does not recognize the very existence of trade-offs both within and between environmental, social and economic goals. Yet, as economist Claudio De Vincenti suggested,¹³ the second delegated act of the taxonomy implicitly acknowledges the problem and tries to address it by introducing the concept of transitional technologies: for example, nuclear power and natural gas (subject to the limits described above) are recognised to leave a potential environmental footprint, but since this is better than the alternatives it is tolerated insofar as better technologies do not become available. The outcome is somehow paradoxical: on the one hand a very strict rule is proposed; on the other hand, recognizing the unintended consequences of the same rule, loopholes are introduced to get around it. It would be better to amend the DNSH in such a way that it takes into consideration the *improvements*, not just the *absolute* impact of technologies and economic activities. To put it differently, and consistent with the aforementioned idea of listing *unsustainable* – not *sustainable* – activities, the aim of the policy should be to incentivize the adoption of *cleaner*, not necessarily *clean*, technologies, especially when a *cleaner* individual technology may be adopted more widely resulting in a net environmental as well as economic benefits. To achieve this result, De Vincenti proposes two changes in the DNSH principle:

- i) Adopt a *comparative*, not an *absolute* benchmark: any technology or activity should be compared with the actual alternatives, not with a non-existent environmental Nirvana
- ii) Consider the context where a technology or activity is performed, not just the technology *per se*: installing a CCGT power plant in Poland, where more than 70% of the electricity comes from coal, has a different environmental impact than installing the same power plant in Sweden, where virtually all energy comes from carbon-free sources (hydro power and nuclear)

The problem with the Taxonomy stems from its very design, which increases the political conflicts around it. The *stated* objective of the Taxonomy might well be reached by bottom-up market processes, but its *actual* goal is probably far more intrusive: it is not just about providing common knowledge concerning what is green. It is, rather, about actively picking technological winners among the existing clean(er) technologies, to the detriment of other technologies that may well be as clean and even more so to the detriment of technologies that are not yet available. The Taxonomy deals in absolutes: it is founded upon the claim that a bureaucratic document can draw a line between Good and Bad, by attaching a label of Absolute Good to technologies that have the capability to create an environmental Eden in an imperfect, dirty world. This is the kind of presumption that too often the road to the Dark Side of the Force is paved with.

¹³ Claudio De Vincenti, “Il principio ‘do no significant harm’: due possibili declinazioni”, *Astrid Rassegna*, 2/2022.

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