



**PLATFORM ON
SUSTAINABLE FINANCE**

Response to the Complementary Delegated Act

21st January 2022

Background to this report

On Dec 31st, 2021, the Platform on Sustainable Finance was requested by the Commission to provide feedback on the draft Complementary Delegated Act by January 12th, but then extended to January 21st, 2022. The attached report captures the feedback of Platform Members and Observers.

Areas of high agreement among the Platform and associated key recommendations are covered in the summary section. All areas of feedback, including some differences of view are captured in the detailed synthesis report attached, commencing on page 12. Consensus was not pursued or achieved on all points in the time available.

Preamble

Platform Members and Observers are aware that the draft Taxonomy Complementary Delegated Act¹ (here after referred to as the CDA) comes at a time of rapid change in the EU energy market - when energy cost and security of supply pressures are high on governments, energy providers and citizens.

The Platform recognises that transitioning our whole economy to meet climate neutrality by 2050 and the 55% GHG emissions reductions by 2030 goals require consideration of environmental, social, cost and supply issues and not environmental performance alone.

The Platform interprets the approach of the European Commission to the “transitional” activities in the draft CDA to be focussed on energy system transition, and specifically on energy activities that are part of an energy system in transition, specifically fossil gas and nuclear energy.

While this appears to be the chosen focus for the European Commission, the focus of the Platform on Sustainable Finance, upon request from the European Commission, is on the environmental performance of economic activities. This is also the purpose of the Taxonomy Regulation.

The Platform’s mandate and the expertise of its members allows specific insights on the environmental performance, usability by markets and social aspects of economic activities, including energy sector activities. In providing feedback on the European Commission draft CDA, we reflect our expertise of the climate change science and financial product implications and implications of Europe’s own 2030 and 2050 goals, consistent with the requirements of limiting global warming to 1.5 degrees above pre-industrial levels.

With a view to assist the European Commission in its deliberations on ensuring the facilitation of a just energy transition, the Platform will respond within weeks to the European Commission’s request to develop a proposal for an extended Taxonomy. The Platform is developing an extended Taxonomy with an intermediate performance category (which we call “Amber”) and an unsustainable category from which there must be an urgent and just transition. Such an approach is necessary because the existing green Taxonomy was not intended to include every activity in the economy, in particular energy activities that must transition because emissions are currently too high or significant harm is present.

¹ COMMISSION DELEGATED REGULATION (EU) .../... of XXX amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities

The Taxonomy is a disclosure requirement and not mandatory for investments, nor can it solve energy sector transition policy beyond environmental performance. Rather, energy system transition decisions require additional tools, financing sources, consideration of additional social objectives and are to be determined by other policy mechanisms.

This report provides feedback on the draft technical screening criteria in the CDA, focussing on environmental performance and usability aspects. In the time available, the Platform has identified limitations with the draft CDA criteria but has not devised alternatives for these criteria. In case the draft CDA criteria are adopted, the Platform has formulated specific recommendations on the disclosure obligations for corporations and financial products.

The Platform has done its best to address the key concerns about the draft CDA in the short time available for review. There was not time to consult outside the Platform group. The Platform would have preferred more time for deliberation and is willing to further support the European Commission, in line with its mandate, to explore and develop an approach that could support investments for transitioning energy supply without weakening the Taxonomy as classification for green sustainable activities for investment decisions.

Summary of the Platform's key feedback points

The Platform prioritises four areas of feedback and recommendations for the European Commission on the draft Complementary Delegated Act (CDA)².

The overall assessment of the Platform is that the draft CDA activities are not in line with the Taxonomy Regulation and most members see a serious risk of undermining the sustainable Taxonomy framework. Further, Platform members have doubts about how the draft criteria would work in practice and many are deeply concerned about the environmental impacts that may result.

- 1. Approach to the draft CDA activities:** The Technical Screening Criteria (TSCs) differ in fundamental ways to the TSCs in the already in-force Climate Delegated Act and are not consistent with the provisions of the Taxonomy Regulation, specifically Article 10.2 and the provisions of Article 19. The effect is that the draft CDA activities could not be considered sustainable within the meaning of the Taxonomy Regulation.

Recommendation: That the European Commission takes adequate time to address and act on the platform feedback to ensure consistency with the Taxonomy Regulation, and to allow sufficient time for impact assessments.

- 2. Activity 4.29 energy generation from gaseous fossil fuels³:** Only the first TSC for climate change mitigation (4.29.1a): *Life-cycle GHG emissions from the generation of electricity using fossil gaseous fuels are lower than 100 g CO₂e/kWh* - ensures a substantial contribution to climate change mitigation from individual gas-fired energy facilities.

The alternative TSCs (4.29.1b) allow GHG emissions above the *Do No Significant Harm* level already in the Climate Delegated Act and may stay that way for the life of the investment. The Platform considered the combined TSCs (4.29.1b) and do not believe they ensure substantial contribution to climate change mitigation by the investable asset, consistent with limiting warming to 1.5 degrees.

Analysis by Platform members shows that after considering all 1 (b) TSCs, a new facility generating energy from gaseous fossil fuels would start operation with emissions above the level of Do No Significant Harm and would not be required to reach the substantial contribution level at any stage over 20 years. See further analysis in the next section.

Recommendation: That criterion 1.b) is removed and criterion 1.a) 100g CO₂e/kWh on a life cycle basis is maintained as this is the science-based, technology neutral approach consistent with other energy activities in the existing climate delegated act. Any criteria for GHG emissions above 100g CO₂e/kWh on a life-cycle basis could use an alternative Taxonomy treatment such as an Intermediate Performance (or Amber zone) in any extended Taxonomy beyond green (with the final Platform proposal being published in coming weeks).

² COMMISSION DELEGATED REGULATION (EU) .../... of XXX amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities

³ The Platform response on this activity also applies for 4.30 and 4.31 co-generation and district heating from gaseous fossil fuels.

- 3. Activities 4.27 new nuclear energy facilities & 4.28 existing nuclear energy facilities:** The TSCs do not ensure *no significant harm (Article 17 of Taxonomy Regulation)* to the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, or the protection and restoration of biodiversity and ecosystems, and would require substantial changes to do so. In the case of new nuclear plants, the TSCs do not ensure a substantial contribution to 2050 climate neutrality goals and would require substantial changes to do so.

Recommendation: That activities 4.27 and 4.28, as defined by the TSCs should not be considered as taxonomy aligned on the basis that they do not ensure DNSH and therefore do not meet the requirements of the Taxonomy Regulation.

- 4. Disclosure and verification requirements:** The draft disclosure arrangements are unsuitable for financial markets as they do not sufficiently distinguish the draft CDA activities from other Taxonomy aligned disclosures. The measurement and verification requirements are insufficient for monitoring performance of the TSCs in the draft CDA and thus also for assessing taxonomy alignment.

Recommendations: If the draft CDA criteria are adopted in the proposed or a similar form, future corporate and financial product disclosures should be materially enhanced, and verification requirement changed to avoid misleading claims about the environmental performance of economic activities and financial products. *Specific changes are proposed on page 10.*

Further detail on the key feedback points

1. The Platform's view on the draft CDAs approach to activities

The EU Sustainable Finance Taxonomy was conceived to describe the environmental performance necessary for economic activities to substantially contribute to meeting Europe's environmental goals. The Technical Screening Criteria for each activity were to be developed with reference to the six selected environmental objective(s) and applied to an economic activity to inform a company, bank, issuer or financial investor the conditions an economic activity is environmentally sustainable.

The draft Complementary Delegated Act (CDA) takes a materially different approach to implementing the Taxonomy Regulation, focussing on energy technologies that are part of an energy system in transition but do not in themselves reach the substantial contribution levels required for the Paris Agreement or fulfil the DNSH performance requirements. For example, for gas activities, the starting point is a desired switch away from coal-fired energy, rather than the specific activity that is making a substantial contribution to mitigating climate change. For nuclear energy, the starting point is promoting zero GHG emissions energy, but only demonstrating progress towards future solutions for environmental impacts through planning, and not ensuring the *Do No Significant Harm* approach expected for other energy activities.

The consequence is that TSCs in the draft CDA differ in fundamental ways from other activity criteria in the existing climate delegated act. Specifically:

- Incorporating energy system level issues in activity criteria, such as energy supply and availability of input fuels, which create non-environmental performance dependencies.
- Recognising an activity as substantially contributing today but requiring the necessary improvement in environmental performance in the future (beyond 2030).

The draft CDA reinterprets concepts in the Taxonomy Regulation which were applied for already enacted climate change mitigation criteria to suit the specific draft CDA activities. These concepts are captured in Article 10.2 of the Taxonomy Regulation. They include:

- *availability of technologically or economically feasible low-carbon alternatives, which is now reinterpreted in the draft CDA recitals as, –“at sufficient scale”;*
- *Best available performance in the sector, which appears to now be applied to specific technologies, i.e., gas or nuclear, rather than the energy sector as a whole, where low carbon technologies are readily available at low cost. Further the actual TSCs do not even identify the best available performance for gas or nuclear;*
- *lock-in of carbon intensive assets, which may occur if hoped for GHG reductions are too slow or too late; and*
- *requirements not to hamper the development and deployment of low-carbon alternatives, for which the draft CDA criteria appear not to address the potential diversion of capital or green sustainable energy deployment opportunities.*

Inconsistencies with other commonly used concepts in climate change mitigation criteria, found in Article 19 (1) of the Taxonomy Regulation, include the requirement for criteria that respect: *technology neutrality; apply life-cycle considerations (e.g., address methane leakage and emissions associated with fuel manufacture) in determining whether a substantial contribution is present; and application of the precautionary principle when there is environmental uncertainty or risk (e.g., robust high level waste management system).*

Unfortunately, there is no accompanying rationale from the European Commission on the re-interpretation of these regulated requirements and how they are applied to the design of the activity criteria. There is also no available impact assessment (which would normally consider environmental impacts among other factors) or any assessment of implications for financial markets as a result of the draft CDA being implemented.

It is clear to the Platform that the European Commission intends to use the idea of “*transitional criteria*” to accelerate the transition away from coal-fired energy. This is a counterfactual approach to determining potential environmental performance, that has not been used for Taxonomy activity criteria to date. As such, and because of the approach described above, the TSCs for draft CDA activities that would attract finance, would not stand on their own in environmental performance terms relative to the environmental goals today. *Transitional activities* as defined in the Taxonomy Regulation are activities that must still make a substantial contribution in their own right while ensuring no-significant harm and not merely be part of a bigger system in transition.

The Platform understands the imperative of accelerating the transition to a low-carbon economy, having responded to the European Commission mandate to develop a proposal for an extended Taxonomy. The Platform is developing an extended Taxonomy approach with an intermediate performance space (or Amber zone) and an unsustainable space from which there must be an urgent and just transition. This work involves opportunities and proposes ways in which important transitions that are not yet green could be supported, including more of the economy under a broader Taxonomy approach. The existing green Taxonomy was never intended to include every activity in the economy that must transition because emissions are currently too high or significant harm is present. The draft CDA approach appears to reinterpret that purpose.

Conclusion: There are many differences in the approach to developing the draft CDA TSC’s compared to requirements laid out in the Taxonomy Regulation and the design of TSCs in the existing Climate Delegated Act and the Taxonomy Regulation requirements. In their current form, the draft CDA TSCs⁴ are not suitable for green, sustainable finance products or instruments in the market today. If the draft CDA criteria are adopted, the activities should be seen as a different level of environmental performance to the existing Taxonomy substantial contribution criteria.

Recommendation: That the European Commission takes adequate time to address and act on the platform feedback to ensure consistency with the Taxonomy Regulation, and to allow sufficient time for impact assessments.

2. Electricity generation from fossil gaseous fuels

Platform feedback focuses on activity 4.29. Electricity generation from fossil gaseous fuels, although many concerns raised apply also for 4.30 and 4.31.

The Platform recognises that the energy transition involves changes in all energy sources as well as energy efficiency and energy infrastructure while ensuring security of supply and meeting peak energy demands. Fossil gaseous fuels can play one part in the broader energy transition towards net-zero emissions under certain circumstances, together with ambitious increases in renewable energy capacity and electricity storage. However, the SC criteria presented in the draft CDA do not ensure

⁴ apart from the 100g CO₂e/kWh life-cycle substantial contribution criteria, and the 270g CO₂e/kWh direct Do No Significant Harm to mitigation for the three gas activities.

sustainable performance of electricity generation from fossil gaseous fuel activities in line with the Taxonomy Regulation.

The focus of the TSCs on replacing coal fired energy generation is clear, but the net GHG emissions benefit arising from such a switch is not certain. This is because 59GW⁵ of coal-fired capacity in Europe is already due to be phased out by 2035. (Refer to *Synthesis of the Platform emissions analysis on page 25, section 2.6*).

The TSCs include three different performance thresholds:

The criterion 1 (a) emission intensity of 100g CO₂e/kWh on life-cycle basis is the benchmark for substantial contribution to climate change mitigation across all energy activities, including gaseous fuels. Both direct emissions and indirect emissions are included in these TSC, because of the inclusion of lifecycle considerations in defining substantial contribution, consistent with Taxonomy Regulation. Platform members clearly maintain the view that this is the science-based threshold for substantial contribution to climate change mitigation, in relation to a specific economic activity in the energy generation sector. It is also clearly understood that unabated fossil gaseous fuels do not reach this performance threshold today.

Regarding criteria 1 (b) there is high agreement that the TSCs do not constitute a substantial contribution to climate change mitigation for the economic activities under 4.29, 4.30 and 4.31 and that in fact they propose a performance level that even under conservative assumptions, will continue to fail Do No Significant Harm to the Climate Change Mitigation objective over the economic life of the activity. See Diagram 1 below.

Inclusion of the 270g CO₂e/kWh direct GHG emissions threshold in the draft CDA, (equivalent to the *Do No Significant Harm* to Climate Change Mitigation criterion the Climate Change Delegated Act) does not ensure substantial contribution performance consistent with the **100g CO₂e/kWh** life-cycle threshold. Apart from the higher direct emissions threshold, this TSC does not include lifecycle considerations and therefore excludes other significant emissions, such as methane leakage in extraction, transport and storage of fossil gas, and importantly excludes emissions from manufacture of the “low-carbon” fuels proposed for blending.

In light of the limitations to ensuring substantial contribution in the current taxonomy context, a future extended taxonomy recognising intermediate performance, between 100g – 270g CO₂e/kWh as a transition to substantial contribution could be a useful tool to accelerate investment and improve emissions performance, but only as part of an extended taxonomy beyond green⁶. Recognising the Capex for improvements to below 270g CO₂e/kWh and not the underlying asset, may have merit if the performance of the asset continues to improve.

Criterion 1 (b) and the additional performance conditions introduce an approach that is different to other Taxonomy TSCs. Analysis by Platform members demonstrates that fossil-gas assets relying on these TSCs are unlikely to ever reach a substantial contribution level of performance⁷. Considering the additional elements of 1 (b) the following limitations are evident:

⁵ Europe Beyond Coal database <https://beyond-coal.eu/database/>

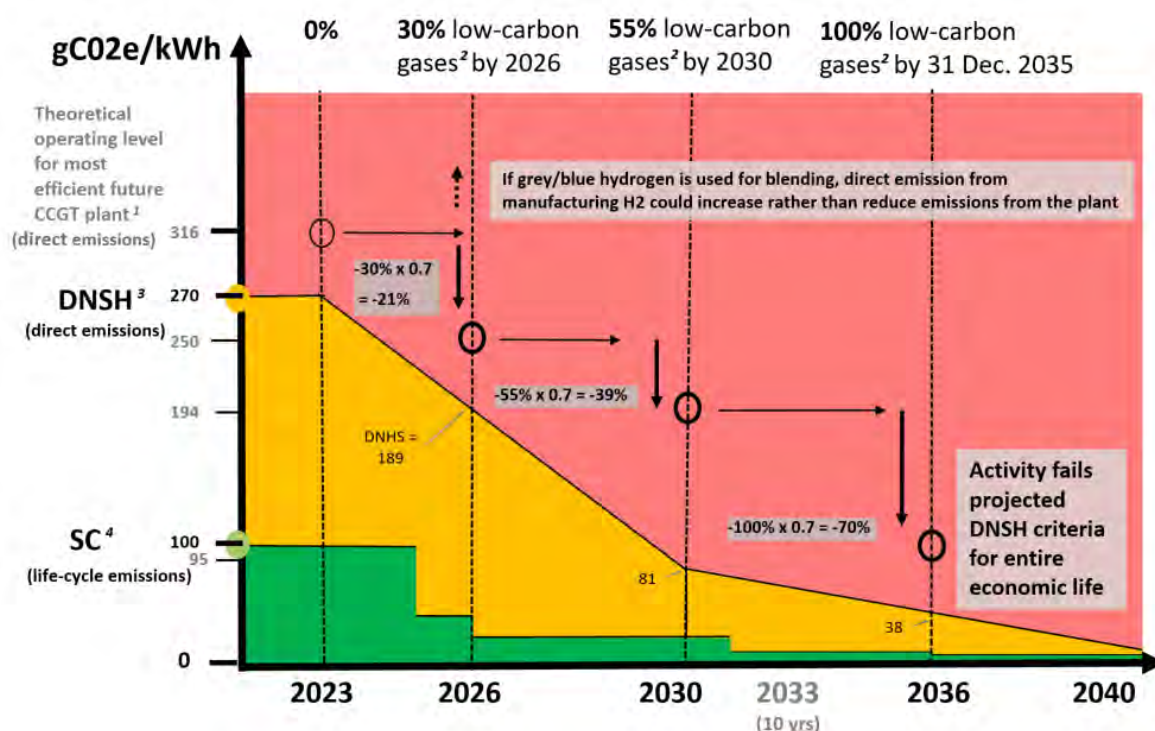
⁶ based on clear, decreasing trajectories and subject to strict sunset clauses in line with the Paris climate targets.

⁷ The analysis provide examines the environmental performance criteria in the draft CDA only and makes no assumptions about energy supply pricing or emission regulations that would affect pricing.

- First the criteria address a potential emissions change from coal-fired generation assets but give no assessment on whether a replaced plant was already due to retire or consider existing operating limits on coal fired plants due to their emissions.
- Resulting from the capacity threshold of 550kg/kW average over 20 years there is no effective emissions cap in the early years of operation and performance improvements envisaged by the Taxonomy TSCs are not binding on an activity operator.
- There are several usability issues for financial markets from these limitations, but the key issue is that all performance improvements for the financeable facility would only occur in future years (2026, 2030, 2035 or after) even though Taxonomy alignment of the activity would be recognised immediately. For example, if the plant has been financed as taxonomy aligned via sustainable finance instruments but fails to achieve the improvements, it would not be possible re-classify the already invested funds as not taxonomy aligned retrospectively. Further there is a dependency on the availability of low carbon fuels to meet the performance criteria, and the lifecycle emissions of using such fuels are not included in the criteria.
- Further there are insufficient verification provisions to ensure emissions reductions occur. The approach is unsuitable to recognise turnover/whole activity alignment with the Taxonomy when emissions are high and not meeting the 100g CO₂e/kWh life-cycle threshold.

There is high agreement among Platform members that this approach cannot be used to define substantial contribution to climate change mitigation.

Diagram 1 below, presenting year-on-year emissions performance of a plant and not average emissions over life-time of the asset. The analysis indicates that the draft CDA proposal for the most efficient gas-fired power known, starts and continues to fail Do No Significant Harm (Red in the chart) as it is projected, until > 10 years & is neither a Green or Intermediate Transition (“Amber” in the chart) even after 2036.



Analysis of Activity 4.29 draft CDA TSC 1b for the most efficient gas-fired power known. Platform Members' modelling shows that proposed Criteria 1.b) which the Platform has rejected, even in the case of most efficient gas-fired power (CCGT) known, which in practice is unlikely to be achieved due to operating constraints of the proposal, is far from a Green level of performance, and in fact starts, and continues, to cause Significant Harm to the Climate Change objective measured against current and projected criteria, until even after 2036. More typical GHG output levels for a new modern gas plant would be significantly higher than the one shown here. More information is in the Synthesis report starting on page 24, section 2.6.

Recommendation: That criterion 1.b) is removed and criterion 1.a) 100g CO₂e/kWh on a life cycle basis is maintained as this is the science-based, technology neutral approach consistent with other energy activities in the existing climate delegated act. Any criteria for GHG emissions above 100g CO₂e/kWh on a life-cycle basis could use an alternative Taxonomy treatment such as an Intermediate Performance (or Amber zone) in any extended Taxonomy beyond green (with the final Platform proposal being published in coming weeks).

3. Nuclear energy generation

Platform feedback focusses on activity 4.27 Construction and safe operation of new nuclear power plants [...] and 4.28 Electricity generation from nuclear energy in existing installations.

Nuclear energy is already part of the transitioning energy system and has near to zero GHG emissions, but this does not make the activity green and sustainable for Taxonomy purposes.

The purpose of Taxonomy TSC's is to identify substantial contribution to the EU's 2030 and 2050 climate goals, consistent with the climate neutrality objective. The criteria however allow that new nuclear plants, which have received a building permit by 2045 to be Taxonomy aligned, even though they would become operational too late to contribute to climate change mitigation to limit warming to below (or even near) to 1.5 degrees.

Further, construction of a new nuclear plant would be considered a substantial contribution, binding capital to a future facility for many years without a requirement that the plant operates in a timeframe to substantially contribute to 2050 climate goals.

Substantive *Do No Significant Harm* performance requirements (*Article 17 of the Taxonomy Regulation*) have not been included in the TSCs for Circular Economy (waste generation without options for reuse or recycle), Pollution Prevention and Control (disposal of highly radioactive waste), Water and Marine Resources (in case of uncontrolled nuclear discharge) objectives, or Biodiversity and Ecosystems. Also, there is no requirement for operational facilities to have a high-level waste repository in operation, even though existing nuclear plants are operational. The operation of a repository of high-level waste should be linked to the date when it is needed.

Some members also state, that in respect of managing high-level waste in operational final disposal sites - ensuring the viability of *Do No Significant Harm* performance on in the order of 1000s of years has not yet been empirically demonstrated, which prevents any claim to sustainable performance.

The requirement for a plan for development of facilities to manage high-level waste by 2050 is noted, but there are no specific requirements on what should be in a plan or, a prescription of quality of the intended activities in such a plan.

Some members also raise concerns about the dependency on availability of accident-tolerant fuels, again noting a design consideration based on the availability and cost of such fuels, creating an input supply risk, even though it is noted that accident tolerant fuels would reduce some environmental risks associated with the nuclear plants.

Funding requirements for decommissioning and radioactive waste management is poorly defined, and there is a lack of requirements for addressing the cost of accidental damages in the TSCs.

Conclusion: The current TSCs do not meet the requirements of the Taxonomy Regulation. They are insufficient to allow recognition of existing or new nuclear facilities as a sustainable economic activity due to the lack of performance criteria or confident mechanism to ensure DNSH performance in the criteria. The substantial contribution of existing nuclear facilities to climate change mitigation goal is noted, but substantial contribution to current climate change mitigation goals is unlikely to be present for new facilities if they come into service near to 2050 or later.

Recommendation: That activities 4.27 and 4.28, as defined by the TSCs should not be considered as taxonomy aligned on the basis that they do not ensure DNSH and therefore do not meet the requirements of the Taxonomy Regulation.

4. Disclosures by companies and for financial products

Noting the limitations of the criteria above, disclosures for operators of economic activities and for investors would need to be adapted to avoid greenwashing and provide full transparency in mandatory corporate and financial product disclosures, enabling informed investor choices.

This section focusses on recommendations for changes to disclosures if the draft CDA criteria are adopted in their current form or with minimal changes.

As the current practice in sustainable investing often excludes fossil gas and/or nuclear power activities, investors need to be provided with full transparency of exposures to these activities to enable decision-making in line with their values and preferences.

That means, on the reporting and display of information, more detailed breakdowns would be required, showing exposure to separate activities in denominator and numerator of the taxonomy share as well as a split between EU and non-EU (as only operations in the EU can be aligned according to the proposed criteria).

Further, reporting would need to be both separate and integrated in the templates provided in the annexes of Article 8 using the same methodology.

Equal disclosure requirements (same level of ambition) ought to apply at financial product-level: numerator and denominator, including a breakdown of nuclear and gas, separate and integrated, EU and non-EU.

Critically, given the nature of the proposed criteria not representing substantial contribution, it is essential to clarify that only some Capex for improvements can be accounted as taxonomy aligned and not the turnover generated from the activity.

Specifically, the turnover cannot be recognised as taxonomy-aligned and the KPI can not include gas and nuclear activities before the activities had reached sustainable performance levels. This is necessary as turnover is a backward-looking financial measure. Turnover could be reported if specific TSC requirements were set and met on an annual basis.

Also, the timelines proposed for blending with low carbon gases in 4.29, 4.30 and 4.31, for the completion of the related criteria ought to be reduced to 5 years and only in exceptional circumstances extendable to 10 years in line with the maximum allowed lifespan of Capex plans according to the delegated act on Article 8.

Only the Capex invested in already aligned activities at the time of completion of the investment plan can be counted as Taxonomy aligned. Currently investment plans are expected for a time span of five years and can be exceeded *“only where a longer period is objectively justified by specific features of the economic activity and the upgrade concerned, with a maximum of 10 years”*. Again, the assets within the activity can only be considered Taxonomy aligned when meeting the TSCs, not prior to meeting them.

The Platform also notes the inconsistency, uncertainty and lack of reassurance in verification arrangements in the TSCs. This derives from the fact that there is high uncertainty that performance foreseen in a long-term plan will be met in a timeframe that is relevant to the financing provided.

Verification could provide some reassurance to investors, but more clarity would be required on the exact scope, the requirements (expertise and know how) of the verifiers and on dealing with potential conflicts of interest; and finally on how verification (and reporting) would work for the criteria member-states ought to comply.

Even with stronger verification requirements, important questions are unanswered in the TSCs, including what happens when they are not met (and/or when criteria change in future). Further in the case of nuclear activities, some of the criteria are to be met by the host member-state and some by the undertaking performing the activity. Possible changes in government policy before performance criteria have been fulfilled may mean the criteria are never met, even though an activity or asset has already benefited from the Taxonomy aligned stamp. (Note: green sovereign bonds are excluded from financial undertakings ratios and can only be disclosed on a voluntary basis.)

Members also note that the criteria are limited to EU activities and for nuclear in particular are not internationally applicable, which will add complexity to corporate and financial product reporting on exposure to the draft CDA activities.

In addition to each of the recommendations above, given the complexity and novelty of the TSCs it is recommended that the criteria should not enter into force until the beginning of 2024 or at least 12 months after adoption of the draft CDA at the same time as the other environmental objectives.

Synthesis report of Platform feedback on the draft CDA

This rest of this document is a summary of member feedback on the Complementary Delegated Act. It captures in more detail the points raised by Members and Observers to the Platform.

The purpose of the document is to synthesise member feedback to highlight substantial points, areas of agreement and disagreement.

The feedback follows two technical briefings and discussions with the European Commission on the draft CDA, input through a questionnaire, technical assessments by Platform members and observers and a Plenary meeting of the Platform.

Only the areas of substantial feedback and discussion have been included in the report.

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4.27. Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies

Climate Change Mitigation

1. Consistency with Climate Delegated Act

The platform has identified several inconsistencies with the Climate Delegated Act. The main concerns were:

- As for other activities, the new concept "General criteria pertaining to substantial contribution to climate change mitigation and Do No Significant Harm ('DNSH')" as well as the additional criteria deviates from the methodology and structure of the climate Delegated Act and introduces additional complexity.
- The activity is dependent upon the mining of Uranium, yet the mining and processing of Uranium is excluded from the CDA, on the basis that DNSH level of the activity cannot be ensured.
- The ongoing maintenance of the nuclear facility is not considered
- The activity description makes reference to the production of hydrogen, yet it is not clear from the criteria or associated text when hydrogen is included and through what process it is produced (e.g. through electrolysis).
- The precautionary principle has not been used as a basis for the criteria and the proposal of including this activity in the CDA, unlike activities in the current climate delegated act (or those being proposed in the Taxo 4 criteria by the platform).

2. Consistency with Taxonomy Regulation

Platform members have identified a number of inconsistencies with the Taxonomy Regulation.

- The requirements of the Taxonomy Regulation (TR) around technological neutrality and life cycle assessment are not observed.
- The main inconsistencies highlighted were around the misalignment with Articles 10(1) and 10(2) of the Taxonomy Regulation – relating to the climate change mitigation objective. The rationale behind these responses stems from the evident other feasible alternative modes of energy production available, based on the technology availability criteria used by the Platform. The first DA defines such alternatives.
- Article 10(2)c states that an economic activity should not lead to the lock-in of carbon-intensive assets. For this activity there is a risk of "lock-in" as a result of the timing required to build nuclear plants and how long they remain operational.⁸
- No other activity is offered the same authorisation regime with respect to the proposal around Article 41 Euratom

⁸ 83-84 months for building (average 1981-2020), • [Median construction time for nuclear reactors 2020 | Statista](#)

3. Ambition level of the criteria

Platform members find that the ambition levels set under SC are currently insufficient and largely in relation to the reliance on 'plan(s)' to address the resulting harmful impact of nuclear waste (DNSH) and more specifically that new nuclear facilities will not be available within a timeframe to deliver on the mitigation objective of the Taxonomy and for the EU.

- The reliance on a 'plan' to meet the criteria ambition should be better defined and articulated. Allowing construction of a nuclear plant without an existing disposal facility and inadequate funds for waste management and decommissioning compromises the reliability and ambition set out by the criteria. Specific comments include the:
 - Lack of consequences for not fulfilling the plan in 30 years time;
 - Lack of minimum performance criteria for the plans;
 - Lack of requirements on the progress of the plans;
 - Lack of penalties if resources are not adequate or plans do not progress sufficiently.
- The timing for bringing online new Nuclear power generation facilities risks that they will not be present at a time to address the transitional needs of the energy sector, for which the criteria appear to be designed. In addition, nuclear plants which have received a building permit by 2045 may become operational too late to substantially contribute to climate change mitigation.
- In terms of optimising climate transition, focussing on new nuclear power plants **binds capital** for a long period of time before energy is produced, prolonging the service time of fossil-fired plants until their operations starts. This may cause significant harm to the climate change mitigation objective in the short to medium term.
- Some Members & Observers believe ambition should reflect current technological performance levels.

4. TSC and representing appropriate technological and/or practices under SC

Platform members had differing views on the availability of accident-tolerant fuels. Some do not believe the TSC represent the state-of-the-art in technological and/or practice term should be removed from criterion 2, and amendments should be made to recital 8 to clarify these fuels are still at research phase and not present on the market yet. Others noted that accident tolerant fuels have been on the market for some time pointing to evidence of commercial operations meeting the state-of-the-art description provided by the Office of Nuclear Energy.

There is also concern that new reactor facilities (Generation IV) are not yet available to the market for deployment within the climate change mitigation timeframe.

5. Missing elements of SC criteria

Platform members note notes that there are areas which have been omitted from the draft proposed substantial contribution criteria and would need to be clarified before the criteria would be workable. Specifically:

- Uranium fuel sources warrant further specific attention in the criteria:
 - The criteria should safeguard against the use of nuclear material linked to nuclear power generation (and its full value chain) in nuclear weapons or other military purposes (in EU and elsewhere in the world).

- Current criteria do not address climate and environmental risks that stem from the mining, processing and sourcing of uranium, on which nuclear power relies.
- Planning and building times of nuclear power plants need to be better considered and defined in the criteria to ensure a substantial contribution to climate change mitigation within the necessary timeframe.
- Funding requirement for decommissioning and radioactive waste management is poorly defined and is linked specifically to ensuring no significant harm results as a result of the activity.
- Accidental damage (for example as a result of nuclear failure) are not addressed in the SC criteria and should be included. The draft CDA requires funds to be available only for the coverage of disposal and dismantling, but not accidents. The Vienna and Paris Conventions on third party liability for nuclear incidents, which may be claimed to provide a “safety net” below the Taxonomy, are not ratified by all member states⁹ and even for several who did ratify the 2004 protocol only a small fraction of the potential damages is covered. The draft CDA’s (absent) criteria regarding nuclear accidents can therefore not be assumed to comply with the DNSH principle.
- There is a high degree of risk of unevidenced commitments as the current requirements of the “plan” are not specific.

6. Usability concerns for proposed SC criteria

Platform members note that the usability of the SC criteria should be improved and is currently limited.

- The 2050 deadline raises difficulties for investors, as the nuclear plant is deemed Taxonomy-aligned only if the criterion is met by 2050. There is a lack of security around effectively monitoring this provision and basing Taxonomy alignment on a ‘promise’ to meet this criterion at a future date.
- The international applicability of the requirement is not clear and should be specified.
- The deadline for an operational repository for HLW and Spent Fuel should be linked to the date when it will be needed (rather than a fixed deadline of 2050).
- There is lack of clarity and definition on specific terms such as ‘appropriate funds for waste disposal’, which make criteria difficult to interpret.
- Broadening the current powers of the Commission over the approval of projects and verification of compliance with the legislation (beyond what already exists in art. 41 of the Euratom Treaty) could add an additional layer of complexity and checks to implementing the criteria.
- The activity description merges SC performance criteria with eligibility requirements, which compromises the usability and clarity of the criteria.

⁹ https://www.oecd-nea.org/jcms/pl_31514/brussels-supplementary-convention-latest-status-of-ratifications-or-accessions

7. Issues with DNSH criteria ensuring no significant harm to other environmental objectives

Platform members have identified that the proposed DNSH criteria do not ensure no significant harm to the other environmental objectives of the Taxonomy. Areas for future work were raised by members but not assessed by the Platform in the time available. Specifically:

- There is inconsistency with circular economy objective, and inconsistency with pollution prevention and control objective of the Taxonomy with no suitable criteria proposed to meet these DNSH objectives in the current draft. For example, requirements may include plan for operational disposal of highly radioactive waste by 2050 into the circular economy and/or pollution prevention DNSH criteria.
- The DNSH criteria do not include any level of delivery on biodiversity goals. Performance requirements on level of biodiversity performance are needed.
- It is not possible to fully ensure that DNSH is not an issue associated with final disposal of HLW on time scales of 10'-100' years and then apply the uncertain future performance to a sustainable investment today.
- Regarding water protection, the DNSH for water needs to include greater specificity on the impact of using water in the production of nuclear power both at the present and in future.
 - DNSH criteria could address water abstraction, for example: 'the facility does not abstract water exceeding 100L/MWh in the operational phase'. A robust and audited environmental management system should be required to verify such criteria.
 - The water use and protection management plan should also address potential future risks of decreasing water availabilities due to the impact of climate change (i.e. increase in droughts and low flow periods) and specify actions to minimise risks on water resources during these periods.
 - Marine water bodies are not explicitly mentioned in the water DNSH criteria and should be included.
- As noted above, there is currently no specific criteria for mining and processing of uranium which may cause significant harm to the objectives of the Taxonomy as a related and essential activity of nuclear power generation.
- There are Issues with deep geological disposal of nuclear waste, specifically that no such disposal has proven a safety case to date. There are also no clear criteria about the performance of such facilities. These impact the alignment of the criteria with the Taxonomy Regulation with regards Do No Significant Harm. Further DNSH inconsistencies are noted below.
- The DNSH criteria currently omit the length of time the waste disposal fund should cover and a reasonable estimate of the cost per tonne of High Level Waste management.

8. Implementation concerns around DNSH

The Platform note implementation issues for the DNSH criteria as currently drafted.

- There are no current safe disposal and storage options for nuclear waste.
- The adequacy of funds to manage radioactive waste is undefined, this gives added legal uncertainty.
- The verification and assurance given by the criteria is compromised by a required future solution for waste by 2050.
- Having criteria based on Union law raises the issue of international applicability and useability.

Climate Change Adaptation

Cross-cutting issues, such as inconsistency with Taxonomy Regulation provisions are not repeated here.

1. Ambition levels in the criteria

The Platform discussed raising the ambition of SC to climate change adaptation from "substantially reduce" (in Criterion 1) and "minimise" (in criterion 6 b) the impacts of natural or man-made hazard risks towards the aim of elimination of the potential climate change impacts to achieve full and complete resilience of the nuclear power installations to climate change.

The 270g CO₂e/kWh DNSH to mitigation criteria was generally supported.

4.28 Electricity generation from nuclear energy in existing installations

Climate Change Mitigation

1. Consistency with the Climate Delegated Act

The platform has identified a number of inconsistencies with the Climate Delegated Act. The main concerns were:

- As for other activities, the new concept "General criteria pertaining to substantial contribution to climate change mitigation and Do No Significant Harm ('DNSH')" deviates from the methodology and structure of the climate Delegated Act and introduces additional complexity.
- The activity is dependent upon the mining of Uranium, yet the mining and processing of Uranium is excluded from the CDA, on the basis that DNSH level of the activity cannot be ensured.
- The financing needs and costs of nuclear plants do not comply with the conditions for a transition activity to contribute substantially to climate change mitigation if they do constitute a financial obstacle.
- This activity is not treated in the same way as other activities in the CDA for power/cogeneration/heat-cool production.

2. Consistency with the Taxonomy Regulation

The Platform has identified a number of inconsistencies with the Taxonomy Regulation.

- The main inconsistencies highlighted were around the misalignment with Articles 10(1) and p10(2) of the Taxonomy Regulation – relating to the climate change mitigation objective. The rationale behind these responses stems from the evident other feasible alternative modes of energy production available, based on the technology availability criteria used by the Platform. The first DA defines such alternatives.
- No other activity is offered the same authorisation regime with respect to the proposal around Article 41 Euratom.

3. Ambition level of the criteria

The Platform finds that the ambition levels set under SC are currently insufficient and low.

- Issues are raised with Criteria 1(c), (d) and (f), as there is: no guarantee that a fund (not defined further) is large enough to deal with the full implications of nuclear waste management, decommissioning etc in the country.
- The **reliance on a 'plan'** to meet the criteria ambition should be better defined and articulated. The same comments and requirements provided in response to Activity 4.27 should be included here, specifically there is:
 - Lack of consequences for not fulfilling the plan in 30 years time;
 - Lack of minimum performance criteria for the plans;
 - Lack of requirements on the progress of the plans;

- Lack of penalties if resources are not adequate or plans do not progress sufficiently. (Noting that penalty regimes are not part of the Taxonomy framework)
- Extending service life of existing nuclear power plants introduces additional risks to the environment (pollution) and society (failure).
- There should be a set of requirements and extension of the scope in terms of what needs to be verified by independent third parties for nuclear activities, and who those third parties are.
- Use of a similar structure as other activities in the Climate Change DA with respect to criteria for SC and DNSH.
- Some Members & Observers believe ambition should reflect current technological performance levels.

4. TSC and representing appropriate technological and/or practices under SC

The Platform found there to be some issues with the proposed TSC in the following areas:

- The present wording of the criteria does not objectively define what level of safety has to be achieved before one can extend the lifetime of a nuclear power plant. This needs to be included in the criteria.
- The criteria do not address the long-term behaviour for the aging of power plants. Specific points are noted for DNSH criteria with respect of the aging process and the brittleness of materials.
- The requirement to have a plan for managing radioactive waste is insufficient because it includes no prescription for quality or detail of the plan.
- The use accident-tolerant fuel terminology should be checked against the comment provided for activity 4.27.
- Members raised concerns about high level nuclear waste being stored in a country where it is not generated from a societal point of view.

5. Missing elements under SC criteria

The Platform notes that there are areas which have been omitted from the draft proposed substantial contribution criteria and would need to be clarified before the criteria would be workable. Specifically:

- There is an inconsistency with the second paragraph under additional criteria for SC to mitigation, in reference to “Life cycle GHG emission saving”. Specifically, there is no requirement that the modification of the plant needs to lead to any lifecycle GHG savings therefore it is unclear to what lifecycle GHG savings this paragraph refers to.
- The requirement to ensure the maintenance of facilities over long time periods is not addressed.
- The funding requirement for decommissioning and radioactive waste management is poorly defined, and there are no criteria prescribed for the “plan” to meet the 2050 deadline. (See comments provided above under the ‘ambition level of the criteria’ section.

6. Usability of the TSC under SC

The Platform notes that the usability of the SC criteria should be improved and is currently limited.

- The international applicability of the requirement is not clear and should be specified.
- There is lack of clarity and definition on specific terms such as ‘appropriate funds for waste disposal’, which make criteria difficult to interpret.
- The deadline for an operational repository for HLW and Spent Fuel should be linked to the date when it will be needed (rather than a fixed deadline of 2050).
- The 2050 deadline raises difficulties for investors, as the nuclear plant is deemed Taxonomy-aligned only if the criterion is met by 2050. There is a lack of security around effectively monitoring this provision and basing Taxonomy alignment on a ‘promise’ to meet this criterion at a future date.
- Broadening the current powers of the Commission over the approval of projects and verification of compliance with the legislation (beyond what already exists in art. 41 of the Euratom Treaty) could add an additional layer of complexity and checks to implementing the criteria.
- The proposed activity is only applicable to EU Member States, which weakens international comparability of the Taxonomy as a financial reporting framework.
- The activity description merges SC performance criteria with eligibility requirements, which compromises the usability and clarity of the criteria.

7. Issues with DNSH criteria ensuring no significant harm to other environmental objectives

The Platform has identified that the proposed DNSH criteria do not ensure no significant harm to the other environmental objectives of the Taxonomy. Specifically:

- The DNSH criteria do not include any level of delivery on biodiversity goals. Performance requirements on level of biodiversity performance are needed.
- There is inconsistency with circular economy objective, and inconsistency with pollution prevention objective of the Taxonomy with no suitable criteria proposed to meet these DNSH objectives in the current draft- Lack of requirement for assessment around severe accident scenarios. For example, there is no available technology to reuse or recycle nuclear waste – linked to Circular Economy objective
- There are no meaningful standards for dismantling nuclear power plants after their use without harm to environmental objectives.
- It is not possible to fully ensure that DNSH is not an issue associated with final disposal of HLW on time scales of 10'-100' years and then apply the uncertain future performance to a sustainable investment today.
It is unclear whether any connection between production of nuclear power and the military use of radioactive material is ruled out – it is argued that this needs to be explicit) or this may contradict Minimum Safeguards in the Taxonomy, which must still apply.
- As noted above, there is currently no specific criteria for mining and processing of uranium which may cause significant harm to the objectives of the Taxonomy as a related and essential activity of nuclear power generation.
Accident scenarios and performance requirements are not addressed and should be included. The DNSH criteria currently omits to mention the length of time the waste disposal fund should cover and a reasonable estimate of the cost per tonne of H, M and L level Waste Management.

8. Implementation concerns around DNSH

The Platform note implementation issues for the DNSH criteria as currently drafted.

- - There are no current safe disposal and storage options for nuclear waste and the DNSH criteria lack clarity around how the proposed criteria for objective 3 (Water and Marine) will secure water and marine resources in case of uncontrolled nuclear discharge – this is also applicable for objective 5 (Pollution).
- There are currently no specified quantifiable levels for water use, water temperature and waste management which would be needed for implementation.
- The terminology used for some of the DNSH criteria (for example with respect to the circular economy "minimise, maximise, adequate" are unclear and need to be further defined as to be measurable and verifiable and/or to confirm third party independent and transparent auditing
- The monitoring of the 'plans' to establish their credibility is seen as potentially burdensome without further clarity on the content and verification of such plans.

Climate Change Adaptation

1. Consistency with the Climate Delegated Act

Platform members identified inconsistencies with the climate Delegated Act. Specifically:

- There is an overlap between SC and DNSH for adaptation criteria as the general SC criteria already include risk assessment and safety measures which also target natural hazards. (The proposed DNSH level for adaptation is practically set at the same level as the SC to adaptation in Annex 2). The implementation of measures at DNSH level is important for nuclear energy related activities, where the consequences of the risks are very high).

2. Consistency with the Taxonomy Regulation

Platform members identified inconsistencies with the Taxonomy Regulation*

- The title of the activity is inconsistent with the description of the activity. The title refers to "electricity generation" from nuclear energy in existing installations while the activity description refers only to "Modification of existing nuclear installations for the purposes of extension of the service time.
- The description is not clear for the purposes of the climate change adaptation objective.

3. Ambition levels

The 270g CO₂e/kWh DNSH to mitigation criteria was generally supported

The Platform discussed raising the ambition of SC to climate change adaptation from "substantially reduce" (in Criterion 1) and "minimise" (in criterion 6 b) the impacts of natural or man-made hazard risks towards the aim of full elimination of the potential climate change impacts to achieve full and complete resilience of the nuclear power installations to climate change.

4. TSC and representing appropriate technological and/or practices under SC

Platform members ask for clarification on what constitutes “state of the art” of climate change risk assessment and adaptation implementation in practice.

5. Lack of clarity around terms and definitions / usability of TSC under SC

Platform members note the lack of clear definitions and lack of references to specific standards and guidance limit the usability of the criteria. The issue about applying the criteria to non-EU entities is also raised as for previous comments on the mitigation criteria for this same activity.

6. Issues with DNSH criteria ensuring no significant harm to other environmental objectives

Platform members note the current DNSH criteria to be insufficient in ensuring no harm to other environmental objectives. The primary concerns are:

- The current DNSH do not ensure any level of delivery on biodiversity goals.
- The potential for severe accidents is poorly addressed.

7. Implementation concerns around DNSH criteria

Platform members stress the lack of quantifiable levels of performance for water use, water temperature and waste management to aid implementation and usability of the criteria. Specifically:

- Compliance with Union law alone prevents usability/applicability internationally as required for financial firms reporting under articles 5 & 6 of the Taxonomy Regulation.

4.29. Electricity generation from fossil gaseous fuels

Climate Change Mitigation

1. Consistency with the Climate Delegated Act

1.1 Retention of the 100g threshold is welcomed, although it is also noted that new conventional gas generation facilities (CCGT) cannot meet the threshold today. To be consistent with the Climate DA, the “transitional” (as per Art. 10-2) labelling shall not apply to this.

1.2 The additional SC thresholds of 270gCO₂/kWh and 550gCO₂/kW average over 20 years for activities under 1.b) create an inconsistency with the existing SC thresholds for energy generation in the Climate Delegated act climate change mitigation objective that are set at 100g CO₂/kWh.

1.3 The 550gCO₂/kW provision allows for a SC criterion to be above the DNSH threshold for the same environmental objective.

1.4 The CDA contains an inconsistency of operating in 1.a) with life-cycle based criteria, and in 1.b) with direct emission based criteria for the same activities.

1.5 The Criterion 1.b)i. introduces a new formulation of the emission criteria for energy generation activities, namely the load factor measured in gCO₂e/kW that does not exist elsewhere in the Climate Delegated Act.

1.6 The 550gCO₂/kW average over 20 years provision could be inconsistent with the 3-year review clause (Art.19.5) and 5-10 year grandfathering clause in Art 8 DA.

1.7 The activities as and criteria specified for 4.29, 4.30 and 4.31 under point 1.b)ii. directly link and are interdependent with activities related to renewable and low-carbon gaseous fuels already existing in the Climate Delegated Act (see also Issue 7 below).

2. Inconsistency with the Taxonomy Regulation and Article 8 DA

2.1. Inconsistency with the definition of Transitional Activities Art. 10(2).

The Article 10(2) of the Taxonomy Regulation (TR) states a transitional activity, which still is only Taxonomy-aligned if making a Substantial Contribution to the mitigation objective, is “an economic activity for which there is no technologically and economically feasible low-carbon alternative. Many members underline, that the criterion 1b), in particular 1b)ii. and recital 4 introduce a different interpretation of availability and sufficiency of low-carbon alternatives, that are not only guided by environmental considerations, but economic, supply and others. This varies from the test applied for the availability of technologies across the Taxonomy. Members further agree on the importance of reducing the environmental impact of all economic activities.

Some members read Art. 10-2 as accepting some economic activities that contribute to a climate neutral transition by decreasing their impacts, and hence suggest that the approach of criterion 1b) is useful to identify “transitional” gas activities.

2.2. Inconsistency with general principles of the Taxonomy regulation.

The newly proposed Substantial Contribution criteria for a specific subset of energy generation activities, that differ from the Technical Screening Criteria with other activities in the same sector, already in force in the Climate DA, are inconsistent with a number of general principles of the Taxonomy Regulation, notably the principles outlined in Article 19(1) a) Technology neutrality (disadvantaging other power generation technologies), the Article 19(1)f) scientific evidence and the precautionary principle (also Art. 191 TFEU) as well as Article 19(1) g) adoption of Life-cycle emissions in criteria setting.

2.3. Introduction of specific timelines for activities related to fossil gaseous fuels.

Taxonomy eligibility and alignment according to specific criteria are created by the CDA for a subset of activities within the classification of 4.29, 4.30 and 4.31 based on obtaining an operation permit before 31st of December 2030. This time-bound criterion does not exist for any other Climate Mitigation activities in the current Taxonomy regulation.

2.4 Inconsistency with Art.8 DA suggesting that extended investment periods could be counted as green, where this is not possible under Article 8

As a result of the extended investment time horizons with performance criteria set in 1.b.i) for 20-year averages, and allowing for i.b.v) decarbonisation plans of gas-fired facilities until 2035 (12 years from 2023) an inconsistency is created with Art. 8 DA. The maximum life-span of green investment plans is prescribed in Art. 8 DA as a time span of five years and can be exceeded *“only where a longer period is objectively justified by specific features of the economic activity and the upgrade concerned, with a maximum of 10 years”*.

Time horizons for green Capex plans or investment plans, , where inconsistent with Article 8, create problems in relation to verification and usability concerns (see below Issues 12 and 13).

2.5 Intermediate / Amber performance

According to members, the proposed Substantial Contribution thresholds below 270gCO₂e/kWh for the new activities related to fossil-gaseous fuels under Annex I 4.29, 4.30, 4.31. Point 1.b.i) are in the current Taxonomy logic situated between SC and DNSH and are may be better characterized with an intermediate or amber level of environmental performance, rather than as a transitional activity with a substantial contribution to the climate change mitigation objective. A few members believe that DNSH does not equal SH.

Step-wise emission reduction investments foreseen for fossil gaseous fuel activities in the draft CDA, that lower emission intensity below DNSH of direct emissions 270gCO₂e/kWh might constitute an intermediate transition if remaining under the falling curves of DNSH criteria in the future, while “green” capex investment can only be reported for improvements when the Substantial Contribution criteria are credibly reached within the 5-10 years grandfathering period, being the SC criteria at time of completion of the plan.

2.6. Illustrations of proposed Substantial Contribution criteria showing major inconsistency with current SC Taxonomy criteria.

Three separate trajectory models are shown below, two for Activity 4.29 and one for Activities 4.30/4.31, modelling the Commission TSC proposals 1.b against previous EU Impact assessment data and in force criteria. It should be noted that no modelling assumptions for the TSC were provided to the Platform to assist with their analysis and with a very short time available, it was decided to plot a

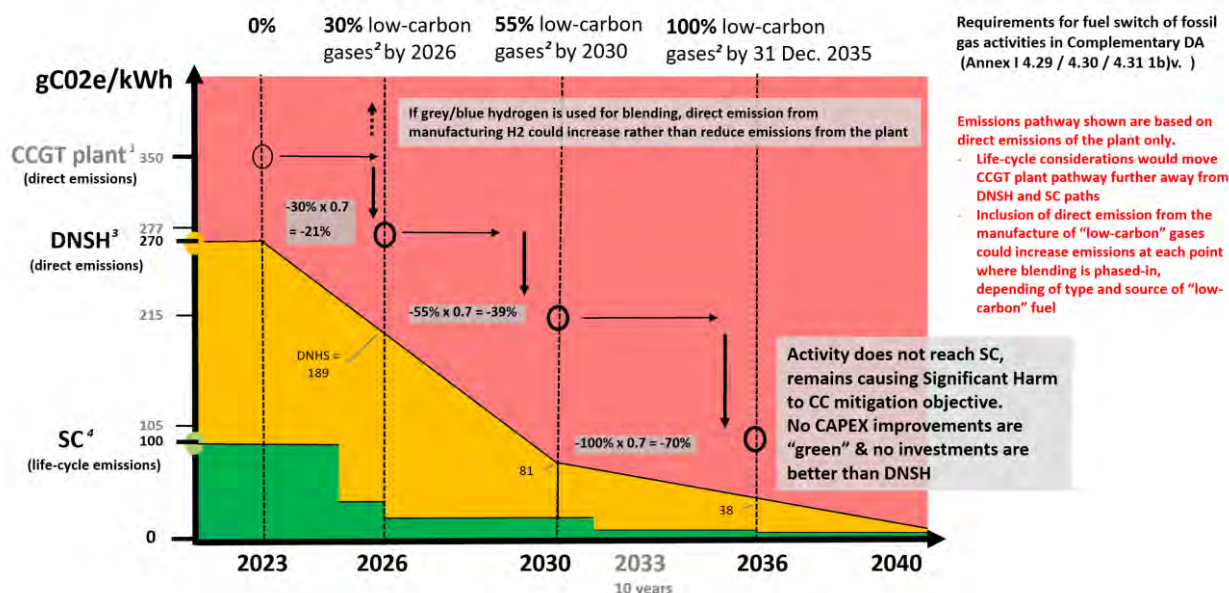
conservative model which may be significantly more optimistic in terms of how close an activity might be in reality to reaching the Substantial Contribution performance levels now and projected into the future. It was felt that this would provide robust conclusions from a precautionary principle point of view. A number of Platform Members contributed resources and expertise for this modelling and the Platform generally supports the presentation of these modelling results.

It may be noted that these models mix direct and lifecycle emissions figures. Although not ideal, this is inevitable because the proposed TSC in the draft CDA are also a mixture of direct/lifecycle emissions.

Falling Curve Graphic for draft CDA Activity 4.29 TSC 1b:

Modelling, presenting year-on-year emissions performance of a plant and not average emissions over life-time of the asset, indicates that the CDA proposal for conventional gas-fired power starts, and continues, to cause Significant Harm for > 10 years & is neither a Green nor Intermediate Transition even after 2036 (meaning performance better than DNSH improving to stay below projected DNSH).

Reporting: The whole activity/asset/plant is not Green at any point in its life when compared with existing and projected SC criteria; and no improvement CAPEX could be reported as Green under Art 8.



Notes:

¹Emissions CCGT: calculation of direct CO₂ emissions for a typical conventional CCGT of 350 gCO₂e/kWh (according to IPCC AR5 WG3 Annex III, 2018). Depending on condition of operation and load factor/operating hours, the emission performance can be even higher, in particular for purposes of peak dispatch. (Even if best-know efficiency rates of 64% were assumed, for the most efficient future CCGTs coming on line, and assuming that such theoretical performance was achieved, at that stage it would be important to use a forward looking DNSH figure from the average of EU grid and the DNSH line would need to be plotted lower as the average has already dropped substantially. It has therefore been decided for this modelling to use both the grid average DNSH criteria set in 2020, now in the Climate DA, and the 350gCO₂e/kWh for the CCGT. Nevertheless, to test sensitivity of the assumptions to a lower starting level of emissions for the CCGT, even though the starting figure of 316gCO₂e/ is likely incompatible with the operating mode proposed (backup plants) and is a theoretical level of performance unlikely to be achieved in practice, a second falling curve was made with CCGT emissions intensity starting at gCO₂e/kWh 316 g in 2023. This additional falling curve for a theoretical CCGT of extreme high efficiency is shown below. It indicates the same finding i.e. that the CCGT would start and continue operating at a performance level not meeting the starting or projected DNSH thresholds over its whole economic lifetime. (2026: 250g, 2030: 194g, 2036: 95g).

²Default assumption on emission savings of low-carbon gases is that 70% reduction of life-cycle emissions AS PER the revised EU gas directive 2021/COM (2021)803 is equivalent to 70% reduction of output emissions. To be noted that blended gases might have a higher % reduction although there would be little incentive to produce such "even lower carbon fuels" as there would be no better label available for them to justify additional production costs. Alternatively since no definition is given of these fuels and lifecycle emissions of the manufacture and supply of the low carbon/renewable fuels might not be captured or only partly, the 70% reduction is deemed a conservative and robust modelling assumption.

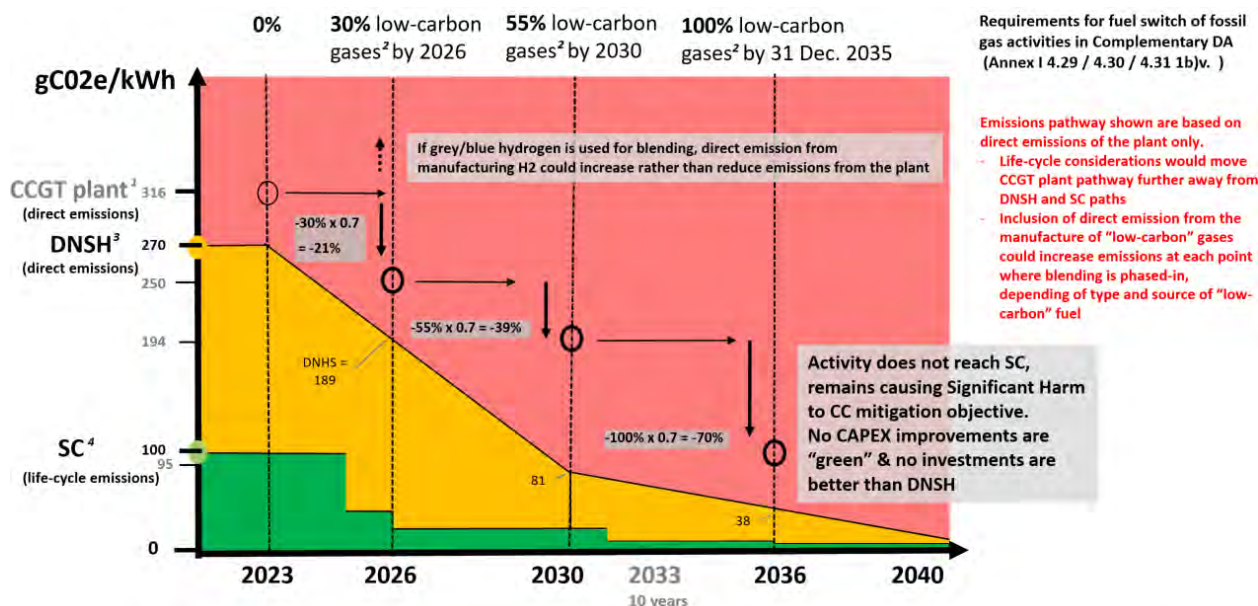
³Assumption DNSH: reduction of DNSH according to 70% reduction of emissions in power sector by 2030 (base year 2015) and decarbonisation of EU power sector by 2040 (capped at 10g) in line with EU 2030 Climate Targets and EC Impact Assessment. Alternative

calculations based on IEA WEO21 Assumed Pledges Scenario (ASP) or IEA Net-Zero Scenario (NZS) would have led to an even steeper reduction of the DNSH curve as well as a steeper drop in the period to 2025 than to 2030. Again this leaves the DNSH line as shown as a highly conservative model, particularly when noting the data in this report section 3.1 indicating an EU grid average at 235-215gCO₂e/kWh in 2019.

⁴ Assumption SC: Reduction of SC criteria in line with TEG analysis for EU Commission on required climate action emissions factors in EU power sector with gCO₂e/kWh of 42g 2023 until 2026, 26g until 2031, 15g until 2036, 7g until 2041 and 2g from 2042. Provided by the Commission to the Platform as part of the Commission data for their own Taxonomy work. The first step-wise reduction of SC threshold is shown in 2025, rather than 2023, which is the earliest estimated date that such revision could come into force after TWG periodic review. It is important to highlight that development of the SC criteria shown here do not pre-empt the future evolution of the technical screening criteria of the Taxonomy Regulation as may be recommended by the Platform.

Alternative falling curve Graphic for draft CDA Activity 4.29 TSC 1b with most advanced CCGT efficiencies known, to test most conservative option.

Modelling, presenting year-on-year emissions performance of a plant and not average emissions over life-time of the asset, indicates that the CDA proposal for most efficient gas-fired power known starts and continues to fail Do No Significant Harm as it is projected, until > 10 years & is neither a Green or Intermediate Transition even after 2036.



Notes:

¹Emissions CCGT: calculation of direct CO₂ emissions for a CCGT with extremely high, best-known efficiency rates of 64% resulting into estimated emissions performance of 316 gCO₂e/kWh, even though it is likely incompatible with the operating mode proposed (backup plants) and remains theoretical (GE, 2017). Depending on condition of operation and load factor/operating hours, the emission performance can be even higher, in particular for purposes of peak dispatch.

²Default assumption on emission savings of low-carbon gases is that 70% reduction of life-cycle emissions AS PER the revised EU gas directive 2021/COM (2021)803 is equivalent to 70% reduction of output emissions. To be noted that blended gases might have a higher % reduction although there would be little incentive to produce such "even lower carbon fuels" as there would be no better label available for them to justify additional production costs. Alternatively since no definition is given of these fuels and lifecycle emissions of the manufacture and supply of the low carbon or renewable fuels might not be captured at all or only partly, the 70% reduction is deemed a conservative and robust modelling assumption.

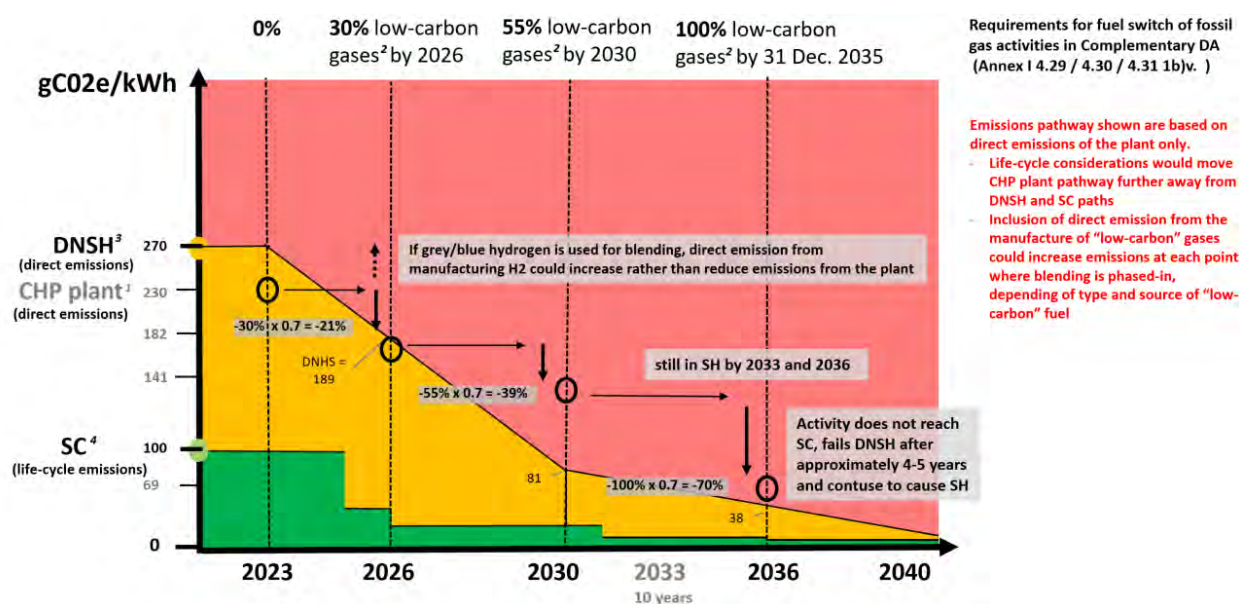
³Assumption DNSH: reduction of DNSH according to 70% reduction of emissions in power sector by 2030 (base year 2015) and decarbonisation of EU power sector by 2040 (capped at 10g) in line with EU 2030 Climate Targets and EC Impact Assessment. Alternative calculations based on IEA WEO21 Assumed Pledges Scenario (ASP) or IEA Net-Zero Scenario (NZS) would have led to an even steeper reduction of the DNSH curve as well as a steeper drop in the period to 2025 than to 2030. Again this leaves the DNSH line as shown as a conservative model.

⁴ Assumption SC: Reduction of SC criteria in line with TEG analysis for EU Commission on required climate action emissions factors in EU power sector with gCO₂e/kWh of 42g 2023 until 2026, 26g until 2031, 15g until 2036, 7g until 2041 and 2g from 2042. Provided by the Commission to the Platform as part of the Commission data for their own Taxonomy work. The first step-wise reduction of SC threshold is shown in 2025, rather than 2023, which is the earliest estimated date that such revision could come into force after TWG periodic review. It is important to highlight that development of the SC criteria shown here do not pre-empt the future evolution of the technical screening criteria of the Taxonomy Regulation as may be recommended by the Platform.

Falling Curve Graphic for draft CDA Activity 4.30/31 TSC 1b:

Modelling, presenting year-on-year emissions performance of a plant and not average emissions over life-time of the asset, indicates that the CDA proposal for combined-heat and power (CHPs) and district heating/cooling starts better than DNSH performance but far from SC (Green) and the transition in the proposal is not ambitious enough to avoid failing Do No Significant Harm within 5-10 years

Reporting: The whole activity/asset/CCGT is not Green at any point in its life when compared with existing and projected SC criteria; and no improvement CAPEX could be reported as Green under Art 8.



Notes:

¹Emissions CHP (combined heat and power): own calculation of direct CO₂ emissions for an average CHP with emissions intensity of 230 gCO₂e/kWh (IPCC AR5 WG3 Annex III, 2018).

²Default assumption on emission savings of low-carbon gases is that 70% reduction of life-cycle emissions AS PER the revised EU gas directive 2021/COM (2021)803 is equivalent to 70% reduction of output emissions. To be noted that blended gases might have a higher % reduction although there would be little incentive to produce such "even lower carbon fuels" as there would be no better label available for them to justify additional costs of production. Alternatively since no definition is given of these fuels and lifecycle emissions of the manufacture and supply of the low carbon or renewable fuels might not be captured at all or only partly, the 70% reduction is deemed a conservative and robust modelling assumption.

³Assumption DNSH: reduction of DNSH according to 70% reduction of emissions in power sector by 2030 (base year 2015) and decarbonisation of EU power sector by 2040 (capped at 10g) in line with EU 2030 Climate Targets and EC Impact Assessment. Alternative calculations based on IEA WEO21 Assumed Pledges Scenario (ASP) or IEA Net-Zero Scenario (NZS) would have led to an even steeper reduction of the DNSH curve as well as a steeper drop in the period to 2025 than to 2030. Again this leaves the DNSH line as shown as a highly conservative model.

⁴ Assumption SC: Reduction of SC criteria in line with TEG analysis for EU Commission on required climate action emissions factors in EU power sector with gCO₂e/kWh of 42g 2023 until 2026, 26g until 2031, 15g until 2036, 7g until 2041 and 2g from 2042. Provided by the Commission to the Platform as part of the Commission data for their own Taxonomy work. The first step-wise reduction of SC threshold is shown in 2025, rather than 2023, which is the earliest estimated date that such revision could come into force after TWG periodic review. It is important to highlight that development of the SC criteria shown here do not pre-empt the future evolution of the technical screening criteria of the Taxonomy Regulation as may be recommended by the Platform.

3. Ambition level of the criteria considering that substantial contribution must be additionally consistent with the 1.5 degree temperature limit

3.1 270 gCO₂e/kWh (applicable to Activity 4.29, 4.30, 4.31)

Many Respondents mention that direct emissions performance of 270gCO₂e/kWh cannot be regarded as making a substantial contribution to climate change mitigation in the context of the 1.5 degrees temperature goal, European decarbonisation targets and average EU grid emission levels. It is highlighted that average emission intensity in the EU power market will have to drop significantly in the coming years and was already in 2019 at 235 gCO₂/kWh according to the IEA,¹⁰ and 215 g in 2020¹¹. These already historical figures¹² would indicate that a gas-fired power activity operating at the proposed 270g/kWh threshold, as it is already well below the grid average would be effectively worsening the grid average and yet could be labelled as Green. This would set poor precedents that that would hence inter alia commend below average activities as green (i.e. activities that are not best in class but bottom half of class)

The Platform on Sustainable Finance's [draft report](#)¹³ on taxonomy extension options linked to environmental objectives from July 2021 underlines that in the case of quantitative criteria such as GHG emissions, the process of tightening criteria over time can be conceptualised as 'falling curves' of stricter SC and DNSH (SH) thresholds dropping over time towards an overall target of "net zero", which for the electricity generation sector will have to be reached by 2040 or earlier, in fact 2035 in all developed countries, according to IEA models. Some respondents also mention that the effect of running gas fired plants at the new SC threshold of 270gCO₂e/kWh with unlimited operating hours can in specific circumstances even be more detrimental to total emissions than the 550 kgCO₂e/kWh average over 20 years SC provision.

It should be noted, as shown in graphics above, that a conventional gas power plant (activity 4.29) would even if best in class, operate at well above 300g CO₂e/kWh. The blending option with low-carbon or renewable gases, will in reality depend in terms of GHG impact on the lifecycle of these gases and yet this is not defined. If such a plant was to run on gas blended with blue hydrogen (assuming no CCS) to meet the direct emissions proposed criteria of 270gCO₂e/kWh, then should the substantial direct emissions of making the blue hydrogen not be taken account of, the plant could in fact emit more than a plant running only on natural gas/kWh, because of the inherent inefficiencies. Thus unless clear rules for inclusion of the direct emissions of the fuel manufacture are included in the emissions assessed against the proposed criteria, the apparent blending to meet 270g threshold and then subsequent increased blending with "low carbon gases" may actually be worsening the overall GHG emissions, and the supposed Substantial Contribution might then in fact be worse than a conventional power plant, and this with no running time limit.

Alternatively should the blending be done with biofuels there would be a possibility to reach 270 gCO₂e/kWh level but this would require a supply of biofuels to gas plants which when looking at the cumulative impact would require a very large % of EU arable land to be given over to it. Considering possible impacts, an order of magnitude modelled by a number of Platform members was that biofuel in gas plants replacing coal plants would required 17-23% of EU arable land to be dedicated to this fuel (if biogas is manufactured out of agricultural crops). If this is widened to ultimately replace all gas with

¹⁰ https://iea.blob.core.windows.net/assets/ec7cc7e5-f638-431b-ab6e-86f62aa5752b/European_Union_2020_Energy_Policy_Review.pdf

¹¹ <https://www.iea.org/reports/tracking-power-2021>

¹² This gives an indication of how the DNSH TSC will need to be adjusted even at its first review in 2023 for 2024.

¹³ [sustainable-finance-platform-report-taxonomy-extension-july2021_en.pdf \(europa.eu\)](#)

biogas as is proposed in the 2036 100% blending criteria, 80% of EU arable land is estimated as needed. Of course without data on total numbers of gas plants already planned plus those additional ones that will be developed to replace coal as part of the accelerated transition supported by this CDA, it is difficult to determine if these figures may be a little high or low. However clearly they are estimated in the appropriate order of magnitude and since these figures are untenable, it can be assumed that a very significant proportion of the blended gases would be hydrogen. Sources of hydrogen vary and the lifecycle emissions when burning the hydrogen can be enormously different. As per TEG Final Report, March 2021, this is why both the SC and DNSH thresholds proposed were lifecycle.

The proposed 270g SC threshold without any lifecycle considerations is against the Taxonomy lifecycle requirements and in practical terms when considering the overall picture of the different fuel supplies in EU, might in a large number of cases, result in higher emissions than conventional unabated gas fired power. Even when delivering a reduction in GHG emissions, the cumulative impact of making and burning the different fuel sources to reach the 270g CO₂e/kWh level is unknown.

3.2 550 kgCO₂e/kW average over 20 years

Many Respondents that mention the inconsistency of the 550 kgCO₂e/kW criterion with existing SC criteria connect it mostly to the wholly insufficient ambition level on climate change mitigation. The load factor average over 20 years (which appears arbitrary, IFIs in their harmonised GHG accounting approaches would use around 15 years - the economic life) allows for a potential front-loading of an overall emissions-budget in the first years before phasing in low-carbon or renewable gases. Furthermore, it only includes the emissions from output energy but not the remaining life cycle emissions such as methane leakage, or as mentioned above, the very significant direct emissions from the low carbon or renewable gases that will be used to blend and reduce the natural gas usage. Lifecycle emissions exceed direct output emissions for gas-fired power plants by more than 30% based on IPCC median value¹⁴, meaning that a substantial part of emissions related to Gas (i.e. methane leakage) is simply left unconstrained in the draft proposal. The majority of suggestions are to delete this criterion . Others point towards limiting it to sub criterion 1 in 1.b)I for 270gCO₂e/kWh similar to 4.30 and 4.31 or to establish annual emissions limits or caps instead of a 20-year emissions budget. Notably, there are repercussions preventing facilities from non-compliance during the operation phase post “green” Capex financed construction of the facility. If the facilities do not comply with the taxonomy criteria until 2035 or over 20 years and in fact for their entire lifetime, they are not only not reportable as Green under Article 8 rules, but it creates a significant carbon lock-in risk.

Additionally the proposed direct emissions 550kgCO₂e/kW over 20 years threshold entails the same issues from blending with low carbon gases where using the direct emissions may mask real emissions from hydrogen or renewable gases manufacture, meaning that the emissions could be worse once blending starts than without it, or certainly not the positive impact suggested by direct-only calculations (assuming no/limited CCS for blue hydrogen production). Using direct emissions criteria without any lifecycle considerations is against the Taxonomy lifecycle requirements and in practical terms when considering the overall picture of the different fuel supplies in EU, as laid out in more detail in 3.1, might in a large number of cases, result in much smaller reductions or even higher emissions than conventional unabated gas fired power.

¹⁴ https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_annex-iii.pdf,

Lastly the 550kgCO₂e/kW threshold is presented as a plant operating for limited periods in support of Renewables. The 550kgCO₂e/kW figures, without an annual cap in fact can allow a gas fired plant to run 3-4 times longer than the maximum (500 hours/year) allowed for a peaking plant. In many EU countries the modern gas plants are already running much less than those hours.

3.3 Incompatibility of the draft CDA with 1.5 degrees temperature goal, European targets for decarbonisation and climate neutrality (**Applicable only to Activity 4.29**)

The relaxed Substantial Contribution criteria for fossil gaseous fuels (270gCO₂e/kWh and 550 kgCO₂e/kW average over 20 years) within the draft CDA are assessed to be largely incompatible with existing decarbonisation projections for 1.5 degree scenarios or EU decarbonisation targets (-55% by 2030) according to IEA and PRIMES modelling. Against available scientific evidence, the draft CDA foresees the facilitation of finance for assets that not only fail to deliver a Substantial Contribution towards these goals, but actually have emission levels well above mean emissions level needed in the EU energy system throughout the transition curve. This is particularly true in the decade until 2030, which although the graphics above show a straight line as they are conservatively modelled to the 2030 goals, actually as is well reported by IPCC, UNFCCC IEA and others must fall faster in the first years. In comparative terms, performance above the mean emissions levels needed to meet 2030 climate targets do not constitute a substantial contribute to climate change mitigation goals, they actually make it harder to meet them. Article 10(2) on Transitional Activities prescribes that activities must make a substantial contribution in the context of compatibility with climate neutrality. Platform responses were strong on that point:

- Keeping in line with 1.5° degree pathway
- Keeping in line with 2050 carbon/climate neutrality target

As a result, many members are asking for an Impact Assessment of the projected EU emissions pathway with potential introduction of the draft CDA that facilitates not only the financing of carbon-intensive assets, but their labelling as Green encouraging finance and subsidies away from activities needed for the urgent transformation of the energy sector, such energy storage, innovation in renewables and energy efficiency

(Detailed emissions Modelling/calculations presented in feedback submissions at EU level and country specific) for 3.1-3.3

- 1) At the EU level, the 20-year 550kgCO₂e/kW average for facilities permitted before 2031 decouples from production and is equal to an 11tCO₂e/kW budget – without a yearly cap. If all the EU's 166 coal plants and their 112GW capacity were replaced, this could result in over 1.4bnCO₂e (including allowed 15% capacity increase: 112000000kW*1.15*11t CO₂e; this 'worst case' estimate would be larger if indirect emissions from methane leakage or replacement of oil/other solid/liquid fossil fuels was considered too). The long timeframe for the average makes it hard to miss it for quite a while, eg for the next 10 years the plant releases higher emissions if it states emissions will be reduced to nearly zero afterwards – trusting in not yet developed technologies. The 55% low-carbon gas criterion in 2030 is not actually a 55% reduction: Low-carbon gases defined as 70% less LCA emissions make only 0.7*0.55=38.5% reductions. allowing for above 550kg average yearly emissions in worst case scenarios, even when using 100% low-carbon gases.
- 2) In terms of country specific modelling, the examples of Greece, Slovakia and Spain were provided. Greece already announced in September 2019 that it would phase out coal power

generation by 2028 and then further enhanced this commitment in April 2021. Assuming further that the coal phase out incentive foreseen in the draft proposal worked perfectly and Greece would decide to literally phase out coal tomorrow, it would save 10MtCO_{2e}. However, replacing this coal capacity with new gas plants with average annual emissions of 550kg/kW capacity as the Commission proposes would result in 24MtCO_{2e} of "greened" CO_{2e} emissions, an increase of 140% which does not even consider methane leakage or emissions from subsequent possible blending with hydrogen. Considering these emissions in a full lifecycle emission approach would show that the move to gas may actually increase emissions much further still. Similarly, in Spain, 29MtCO_{2e} would be saved by closing coal tomorrow, while the replacing gas infrastructure would emit twice as much (62MtCO_{2e}). In Slovakia, retiring coal would save 7.7MtCO_{2e} and replacing it with gas would add 9MtCO_{2e}. In each case these are direct emissions figures which would be very significantly worsened when considering all emissions in the lifecycle.

3.4 Timeline for construction permits of carbon-intensive assets until 31st December 2030 (applicable to Activity 4.29.4.30, 4.31)

In combination with points 3.1-3.3 the temporal exemption that is created for fossil-fuel based assets until 31st December 2030 (Point 1.b) is identified as likely to undermine the European decarbonisation targets. The provision could allow for new gas facilities to come in operation several years after 2030, with life-time operations of up to 30 years, although projections for a Pathway towards net zero foresee net-zero emission in electricity systems of developed countries by 2035 (IEA 2021). This argument is often interlinked with Point 2.3 above that time-based eligibility criteria are not applied for other activities of the Taxonomy Regulation and Climate Delegated Act.

- Reference to [IEA pathway](#) of fossil fuel phase out in developed countries by 2035 or EU fully decarbonised electricity system by 2035: >10 respondents

- Change the criteria to "start of operations by 31st December 2025"

4. Technical inability for gas-fired power to reach Substantial Contribution levels of 100gCO_{2e}/kWh (without CCU/S) or DNSH levels of 270gCO_{2e}/kWh (applicable to Activity 4.29) without investments in CCU/S

It is highlighted that if focussing on gas fired energy technology and practice today, attaining substantial contribution levels below the TSC criterion of 100 gCO_{2e}/kWh is not technically feasible, without additional emission reduction technologies such as CCU/S. Even the DNSH (draft CDA SC) level of 270 gCO_{2e}/kWh is regarded as not attainable by modern conventional gas plants without sufficient supply of low-carbon/renewable gases. Some additional member concerns were:

- *The already known GHG emission threshold value of 100g CO_{2e}/kWh, which is based on life cycle emissions, is still not feasible in practice without investments in costly improvements.*
- *The direct emissions 270gCO_{2e}/kWh threshold is not achievable due to the current state of technology (power plants, CCS) and the volumes of renewable and low-carbon gas available.*
- *A 270g CO_{2e}/kWh threshold does not allow combined cycle natural gas fired power generators (CCGTs). Meeting 270g CO_{2e}/kWh is unfeasible without carbon capture and storage (CCS) or other abatement).*
- *Both criteria cannot be met even by the most modern plants with transitional fossil gas operation.*

- *With respect to Activity 4.30 and 4.31, levels of 230gCO₂e/kWh have already been reached 5 years ago, as class H Siemens CCGT Turbines are reported to manage down to 230g/KWh e.g. in CHP mode.¹⁵*

5. Technical clarifications to the proposed criteria

Putting aside the broader concerns about the criteria and whether they are suitable for a green Taxonomy, technical clarifications have been proposed on the design of the criteria and provisions under 1.b

- 1.b)iii.:
 - o could indicate that the replacement must take place in the same location and by units owned by the new gas power plant investor. The criterion of replacing emission sources should lead to an appropriate emission reduction, and not block investors who do not have the appropriate high-emission infrastructure.
- 1.b)iv.:
 - o it should be possible to replace several smaller units by one new unit (and vice versa). Also there should be a specific time frame for the shutdown of the replaced unit which ensures that the replaced source can be shut down before and after the new source is commissioned.
- 1.b) iv): should be reviewed as follows "iv. the facility does not lead to a higher consumption of fossil fuels based on energy content compared to the generation capacity it replaces". Commission assessments suggest that in the future EU will need more capacity. So, the rewording allows to clarify that it is about the fuel input that should not go up (no matter the capacity or fuel utilization rate).
- - (v): replace "effective plans or commitments" by "firm contractual commitments"
- (vii) links an operator's activities to national plans' commitments and therefore limits its implementation, raises accountability issues and is redundant with previous conditions.
- Leakage omittance is desirable, however restricted to BAT.
- In particular for the supply of electricity and process heat in industry, the co-incineration of process gases (recycling) should be included in the criteria and assessed as avoiding CO₂.

6. A System level transition to renewable energy system: Criteria design for Gas as back-up

Some respondents highlight the system perspective of a transition towards renewables or gas-fired power. Surpassing the debate about emissions thresholds, criteria (e.g. limiting hours of operation) can be designed to ensure that gas fired power plays only the role of back-up capacity assuring security of supply.

7. Strengthening the requirements on the replacement of existing facilities (Section 1.b)iii)

Several members explicitly address strengthening the requirements for the replacement of existing facilities using solid or liquid fossil fuels in 1.b)iii. This relates to restricting the scope of facilities that can be considered to be replaced. Suggestions are provided to keep in scope only facilities that i)

¹⁵ <https://www.powermag.com/long-form-stories/2016-POWER-Plant-of-the-Year-Award/>

would not have closed otherwise ii) were not scheduled to close before the new fossil-gas fired installation seeks operational permit or iii) before the CDA becomes operational.

- Details on wording provided in Appendix

8. Adherence to the principle of Life-Cycle Emissions in Art. 19.1(g) Taxonomy Regulation

Many members emphasise the importance of introducing life-cycle based emissions criteria as the basis for the SC and DNSH criteria for all fossil-gaseous fuel related activities. The use of direct emissions thresholds under 1.b) are critically viewed given substantial scientific evidence on the importance of indirect / fugitive methane emissions related to fossil gaseous fuels.

- Scientific Evidence provided by members : Source IEA, [Full lifecycle emissions intensity of global coal and gas supply for power generation](#), 2018, IEA // compare LCE with direct gas emissions)

Additionally all such calculations and definitions for low carbon or renewable fuels for blending must be in line with Taxonomy lifecycle requirements as laid out in Climate DA.

9. Adherence to the principle of Life-Cycle Emissions in Art. 19.1(g) Taxonomy Regulation

Many members emphasise the importance of introducing life-cycle based emissions criteria as the basis for the SC and DNSH criteria for all fossil-gaseous fuel related activities. The use of direct emissions thresholds under 1.b) are critically viewed given substantial scientific evidence on the importance of indirect / fugitive methane emissions related to fossil gaseous fuels.

- Scientific Evidence provided by 1 respondent: Source IEA, [Full lifecycle emissions intensity of global coal and gas supply for power generation](#), 2018, IEA // compare LCE with direct gas emissions)

10. Adherence to the principle of Technology Neutrality in Art. 19.1(g) Taxonomy Regulation

Many members note that the newly introduced TSC for substantial contribution to climate change mitigation objective in point 1.b)i. are above TSC for Substantial Contribution for other energy generation activities in the Taxonomy Regulation/Climate Delegated Act. Further, activities under 1.b) are identified under a specific timeline ("facilities, for which the construction permit is granted by 31 December 2030"). Such a time-dependent eligibility feature does not apply to any other activities in the Taxonomy regulation, although there are sunset clauses for performance criteria. These policy design-features of the CDA are thus considered to constitute a breach of the technology neutrality principle as outlined in Art. 19.1(g) Taxonomy Regulation.

11. Sufficient availability of renewable energy sources (Replacement in subpoint 1.b)ii.)

Many other feasible low-carbon renewable alternatives as defined in the first Climate DA (4.5, 4.6, 4.7, 4.18, 4.19, 4.22, 4.23) exist and are market-ready today. Members thus critique the sub criterion 1.b.ii) "the power generated by the activity may not yet efficiently be replaced by power generated from renewable energy sources, for the same capacity." They argue that viable low-carbon replacement options well exist in Europe in any case. In addition, further clarity on the definition of the word "efficiently" is necessary.

Scientific evidence provided citing IEA and IRENA : [IRENA](#) on cost-competitiveness of renewables & [IEA](#): renewables made 80% of new electricity capacity globally in 2020

12. Link to renewable low-carbon gaseous fuel activities under Section 4.7 Climate Delegated Act

Respondents highlight that the new CDA establishes criteria for activities with fossil gaseous fuels that are inextricably linked to already existing “green” activities for this sector (Electricity generation from renewable non-fossil gaseous and liquid fuels) under 4.7 in the Climate Delegated Act. This becomes evident via provision 1.b)v. that foresees the phase-in of renewable or low-carbon gaseous fuels according to specified thresholds.

Some members commented on Disclosure obligations in this section. Suggestions diverge and are that i) there is no need for accounting for the activities 4.29,4.30, 4.31 under the Taxonomy, ii) that the categories could be merged or iii) that only the investments realised for the introduction/phase in of lower-carbon fuels shall be accounted as green. These issues are addressed in the Disclosure section.

13. Concerns about carbon-lock Art 10(2) and avoiding stranded assets Art. 19 1(i)TR

The definition of Transitional activities in Art. 10(2) TR explicitly states the need to avoid environmentally harmful carbon lock in effects. However, the CDA allows for the greenfield construction of fossil-based energy infrastructure with ambitious targets for low-carbon/renewable phase-in only at a later stage.

As these forward-looking assumptions cannot be validated as of 2022, the risk of creating stranded fossil-based energy assets in Europe is highlighted, going against the TR principle of avoiding stranded assets in Art. Art.19 1(i) TR. In this context, Provision 1.b)iii. That production capacity can exceed up to 15% of the replaced facility, is evaluated particularly critically. Asset stranding or extended operation at high emissions levels may result if insufficient quantities of low-carbon gaseous fuels are available.

14. Negative consequences for financial market stability and concerns about greenwashing

As a result of potential carbon-lock, the CDA creates a concern about financial market losses and the potential of greenwashing in the financial sector. The long time horizon for decarbonisation of the fossil-gas activities foreseen in the CDA can enable investors to divest from operations before they effectively start making a substantial contribution to the climate change mitigation objective. Next to financial market impacts arising from stranded assets, the risk of crowding out necessary investments in renewable energy generation capacities and development of alternative low-carbon technologies is emphasised, as the CDA creates the ability to shift sustainable finance towards financing fossil gaseous fuels, particularly until 2030.

15. Questioning availability of sufficient supply of low-carbon or renewable gaseous fuels

Many respondents mention that the availability of low-carbon or renewable gaseous fuels in sufficient quantities according to the blending shares stated in Article 1.b)ii and iii. seem not realistic to achieve

by 2026, 2030 and 2035 in the European context. Comments come from members who are supportive of the transitional criteria and those who see them as too weak to be considered sustainable.

A clear definition of “low carbon gases” in sub criterion 1.b)v/iv) *compatibility with low-carbon gases* is also asked for to clarify the ability to assess the impact and meaning of the criterion and for usability concerns.

16. Verification Issues

The provisions for an Independent third-party verification in the subparagraph of point 1.b) are criticized for a lack of clear requirements. Respondents underline that provisions under 1.b) are highly complex, related to longer time horizons of up to 20 years and would require the ability to audit average emissions thresholds as well as blending commitments for renewable and low-carbon gaseous fuels. The lack of clarity on where the obligation for monitoring and verification would fall, whether responsible European or national authorities, as well as sector audit specialists raise concerns for many members.

- See also connection to usability & “promise approach” below

17. Usability concerns

Usability concerns are voiced from the perspective of investors, data providers and economic asset owners. Due to the time horizon foreseen before decarbonisation of the fossil gas activities (2035), uncertainty of compliance and delivery of the green investment plans is created. This creates usability and legal concerns for potential investors. For reporting and assessing taxonomy-eligibility and alignment, the criteria of average emissions over 20 years in A.29 point 1.b.i) is not directly auditable and therefore not accessible for external data providers. The forward-looking “promise” approach of the CDA on activities related to fossil gaseous fuels restricts direct usability. Usability also concerns the adequate NACE mapping of the activities and an appropriate definition of “fossil fuels” in the CDA. - “Promise now – demonstrate later” approach or references to uncertainty of implementation

18. Strengthening DNSH criteria

18.1 Activity 4.29: The SC to climate change mitigation criterion for fossil gas energy is weaker than the DNSH to climate change mitigation criterion for SC to climate change adaption for other energy activities. Members none the less welcoming that the DNSH criterion for climate change mitigation remains at 270gCO₂e/kWh.

18.2 Activity 4.30 & 4.31: DNSH criteria for biodiversity, pollution prevention and control and for water use production output are asked to be assessed in more detail. Aspects are Environmental Assessments, Thresholds for biodiversity effects of renewable and low-carbon gases incentivized through the phase-in provided by 1.b)v.

18.3 Activity 4.29,4.30 & 4.31: DNSH do not provide for methane leakage thresholds

Climate Change Adaptation

Ambition levels

The 270g CO₂e/kWh DNSH to mitigation criteria was generally supported.

Applicability of Adaptation measures for all fossil-gaseous fuel activities (Applicable to 4.29, 4.30, 4.31)

The CDA includes only reference to adaptation measures for activities covered under Annex point 1.a) although all activities (also 1.b) require and should be eligible for adaptation and resilience finance. Likely to be unintentional formulation in the draft CDA.

Improve references to state-of-the art climate risk assessments and adaptation implementation measures

Assessment and implementation measures are not adequately referenced or spelled out in detail.

4.30. High-efficiency co- generation of heat/cool and power from fossil gaseous fuels

Activity 4.30 specific points not covered under 4.29

Climate Change Mitigation

1. Regulatory Inconsistencies

- Logic of NACE code references is critiqued, as it seems like activity needs to be classified as both codes, affecting usability
- Request to provide definition of “fossil fuel” (recommendation for use of definition in Article 2(62) of Regulation (EU) 2018/1999 of the European Parliament and of the Council
- Additional Inconsistencies of activity definition and inclusions
 - o Necessary investments in gas infrastructure to connect new facilities are not covered by the CDA. We recommend adding the relevant criteria in section 4.14.
 - o Reference is also suggested to be made to: 42.22 - Construction of utility projects for electricity and telecommunications and M71.2 Technical testing and analysis. Are essential equipment/ICT tools for the facilities covered under criteria "3.6. Manufacture of other low carbon technologies" and "8.2. Data-driven solutions for GHG emissions reductions", or will there be separate criteria developed for related key equipment, technologies, ICT solutions? If covered, suggest a clear reference in description

2. Substantial contribution

- Criterion 1.b)i.: On primary energy savings 10%, the definition is imprecise and leaves room for interpretation about shares or total of cogeneration (between electricity and heat)
- Criterion 1.b)ii. : lack of definition or clarity on the terminology of “output energy” for 270gCO₂e/kWh threshold. Options are “usable energy” , total output energy” or “used energy”
 - o Associated usability concerns (Point 12 of A.29 response)
- Criteria 1.b)iv &v.) : provisions for “replaced capacity” are mentioned several times due to technological specificities of CHPs and co-generation
 - o Replacement of coal-fired CHPs by gas fired CHP will result in higher electricity and lower heat shares with associated concerns about security of supply and suggestion to reconsider shares of replacements
 - o As consequences, for CHP the criterion should refer to thermal capacity or heat output
- Criteria 1.b.iii and iv.) : Question on the possibility to replace existing facilities by multiple units
- Inclusion of co-incineration of process-gases and recycling for assessing and avoiding CO₂

3. DNSH

- DNSH on biogas are inadequate for addressing biodiversity losses and biodiversity effects of low-carbon gases
- DNSH provisions lack ability to prevent harm and are too weak

- DNSH to mitigation kept at 270 gCO₂e/kWh
- DNSH on CC mitigation and adaptation shall address methane leakage / life-cycle emissions
- Request to provide definition of “fossil fuel” (recommendation for use of definition in Article 2(62) of Regulation (EU) 2018/1999 of the European Parliament and of the Council

Climate Change Adaptation

- SC criteria contradict the DNSH criteria for CC mitigation in the Adaptation Annex and therefore against the Taxonomy logic

repetition from A.29

Applicability of Adaptation measures for all fossil-gaseous fuel activities (Applicable to 4.29, 4.30, 4.31)

- The CDA includes only reference to adaptation measures for activities covered under Annex point 1.a) although all activities (also 1.b) require and should be eligible for adaptation and resilience finance. Likely to be unintentional formulation in the draft CDA.

Improve references to state-of-the art climate risk assessments and adaptation implementation measures:

Assessment and implementation measures are not adequately referenced or spelled out in detail.

4.31. Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system

Climate Change Mitigation

Activity 4.31 specific points not covered under main 4.29

1. Regulatory Inconsistencies

- Logic of NACE code references is critiqued, as it seems like activity needs to be classified as both codes, affecting usability
- Additional Inconsistencies of activity definition and inclusions:
 - o Reference is also suggested to be made to: 42.22 - Construction of utility projects for electricity and telecommunications and M71.2 Technical testing and analysis. Are essential equipment/ICT tools for the facilities covered under criteria "3.6. Manufacture of other low carbon technologies" and "8.2. Data-driven solutions for GHG emissions reductions", or will there be separate criteria developed for related key equipment, technologies, ICT solutions? If covered, suggest a clear reference in description
 - o Necessary investments in gas infrastructure to connect new facilities are not covered by the CDA. We recommend adding the relevant criteria in section 4.14.

2. Substantial Contribution

- Criteria 1.b)i. and v. : Usability concerns related to point 1.b)i. and v) on the extended timelines for plants to become “green” and Capex investments going beyond the specified 5-10 year eligibility within the Taxonomy and Art. 8 DA.
 - o See also comprehensive point 13) “Usability concerns” under 4.29
- Criteria 1.b)iii. , iv , v.) : the provisions for “replaced capacity” are mentioned due to technological specificities of CHPs and district heating
 - o Replacement of coal-fired by gas fired installations will result in higher electricity and lower heat shares with associated concerns about security of supply and suggestion to reconsider shares of replacements
 - o Criterion 1b)v.) replaced capacity is not specified, and shall refer to “thermal capacity” due to the different generation shares of heat and power between coal and gas
- Criteria 1b) iv) and v). Suggestion on the replacement of facility - could one facility be replaced by several smaller units?
- Criteria 1.b)vii: definition of 55% GHG per kWh output energy is not clearly defining the emissions metric such as direct emissions or life-cycle or other measures)
- Inclusion of co-incineration of process-gases and recycling for assessing and avoiding CO₂
- Inclusion of Leakage omission, based on BAT desirable

3. DNSH:

- DNSH on biodiversity protection and on biodiversity effects of biogas production are not strict enough

- Call for robust environmental impact assessment and management systems
- DNSH on CC mitigation and adaptation shall address methane leakage / life-cycle emissions
- DNSH on pollution prevention is not strict enough (2 response)
- DNSH on CC mitigation and adaptation shall address methane leakage / life-cycle emissions
- DNSH does not address water use per production output
- DNSH are not strict enough in general and lack applicability

Climate Adaptation

- SC criteria contradict the DNSH criteria for mitigation in the Adaptation Annex and thus contradict the Taxonomy logic
- Request to provide definition of “fossil fuel” (recommendation for use of definition in Article 2(62) of Regulation (EU) 2018/1999 of the European Parliament and of the Council)

Repetition from 4.29

Applicability of Adaptation measures for all fossil-gaseous fuel activities (Applicable to 4.29, 4.30, 4.31)

- The CDA includes only reference to adaptation measures for activities covered under Annex point 1.a) although all activities (also 1.b) require and should be eligible for adaptation and resilience finance. Likely to be unintentional formulation in the draft CDA.

Improve references to state-of-the art climate risk assessments and adaptation implementation measures:

Assessment and implementation measures are not adequately referenced or spelled out in detail.

Disclosures

Standard templates for the disclosure referred to in Article 8(6)

1. Entry into force

The CDA proposes entry into force in January 2023 for reporting purposes under the Article 8 Delegated Act. There is broad support for entry into force at least 12 months after adoption or the beginning 2024.

1.1 Timeline: 2024 and/or at least 12 months` notice prior to the introduction of changes to reporting should be granted due to many unresolved questions and issues with the criteria as presented and the time needed to prepare for implementation. 2024 would also mean alignment with coming into force of remaining four Taxonomy objectives.

1.2 Scope of entering into force: All provisions in CDA, i.e. reporting by entities and classification of activities, should enter into force at the same point in time.

1.3 Support: The Commission should provide a Help Service line for EU Taxonomy, open and easily accessible in all EU languages, to provide the needed help and support to all enterprises to support earlier entry into force.

2. Identification of underlying entity's exposures to the activities

The CDA proposes disclosure of the gas and nuclear exposure in the denominator of the KPIs (Turnover, Capex, Opex) without detail on location of activities and without a performance view over time. -

Breakdown of disclosures: The majority of respondents support more detailed breakdowns showing exposure to separate activities in denominator and numerator of the taxonomy share as well as a split between EU and non-EU (overall exposures as only EU can meet the criteria i.e. eligibility) . A couple of respondents do not see the need of a separate disclosure and raise concerns from a consistency and technology neutrality perspective.

A significant number of respondents underline the fact that given the nature of the criteria proposed, revenues cannot be accounted for, and Capex only in some cases, and call for either specify annual performance thresholds or reduce the time span of some of the criteria to maintain consistency with Article 8 Delegated Act.

2.1 Breakdown of disclosure: Disclosure of a proportion of gas and nuclear energy related exposures in the numerator of KPIs of reporting undertakings is needed in addition to the disclosure of the proportion in the denominator. This would show which nuclear and gas related activities are considered Taxonomy-aligned. The numerator should be separately broken down for gas and nuclear activities to show how much derives from each of these activities. Furthermore, non-financial companies should specify which activities are conducted (eligibility) from EU facilities and which are outside EU.

2.2 Improvement of Performance Levels / Use of KPIs: The turnover KPI cannot be used for gas and nuclear activities before they have reached sustainable performance levels as this is a backward-looking financial measure. Only the turnover or revenues generated from activities that have met the

criteria during the year prior to the fiscal reporting year can be counted. Only Capex could be accounted for already aligned or where improvements are made to meet the criteria in place at the time of completion as part of an investment plan. . But the lifespan of the investment (capex and opex) plans, for the completion of the related criteria ought to be 5 years maximum and exceptionally 10 years in line with the maximum allowed according to the delegated act on article 8. The asset or activity can only be considered green when meeting the criteria.

The length of the time-limits referred to in Annex I, "... over 20 years" cannot be measured and hence not monitored or audited. Should this criterion be kept, consequences for misstatements in taxonomy reporting of prior years should be determined. In general, for improvement of performance levels, either a monitoring or a disclosure of verification should be put in place. KPI IF cannot include "transitional" under "adaptation" as there are no transitional activities in adaptation.

2.3 Eligibility / Alignment: Reporting on overall eligibility – and a split between exposures in the EU and non-EU - should be included. This will require deleting any specific mention to EU operation in the description of the activities. Alignment, in turn, is only possible for EU operations given the nature and content of the criteria proposed.

2.4 KPIs: The key indicator should be any finance with fossil fuel content indicated in main Article 8 DA annexes PLUS the additional reporting should give the precise details using same ratios/KPIs.

2.5 Metrics: Disclosure should be in Euros as well as a percentage disclosure.

3. Display of information

The CDA proposes separate disclosure of the gas and nuclear activities in a separate table. Many members support both separate and integrated in the annexes of Article 8 Delegated Act using the same methodology, some of them suggested it should be displayed on the first page, preferably with a graph.

3.1 Reporting needs be both separate and integrated in the annexes of Article 8 in order to provide the use of the disclosure with a clear understanding of the exposure.

3.2 Reporting should be integrated in the current template to improve usability with “thereof” lines (providing clarity on single elements, see point 1.2) and should provide information about the percentage of transitional activities in the portfolio separately.

3.3 Reporting should be separate in the beginning of any document.

3.4 Graph might be useful.

4. Disclosure for financial products (Articles 5 & 6)

Almost all respondents supported that disclosure for financial products should follow a similar approach to the proposed entity disclosure in terms of breakdown and display. Comments to point 3 above indicated a call for reporting breakdown between nuclear and gas for both numerator and denominator, and a split on eligibility EU and non-EU.

5. Should the breakout of nuclear/gas in Annex XII use the same methodology as the main reported GAR/GIR figures? For consistency and comparability purposes using the same reporting requirements is necessary. Different methodologies hinder comparability.

5.1 The composition of figures in Annex XII do not align with the methodologies on GIR/GAR calculation. For consistency and comparability purposes using the same reporting requirements, and the integration of nuclear and gas reporting also in the annexes of Article 8 DA. Different methodologies hinder comparability.

5.2 No exceptions should be granted.

5.3 There are existing methodological differences in how KPIs for financial and non-financial entities are calculated stemming from a different nature of their core business.

5.4 It important to require a clear disclosure of a proportion of financial entity's exposures to gas and, separately, nuclear related economic activities that are considered Taxonomy-aligned.

5.5 Inconsistencies and lack of comparability could be addressed by updating the financial reporting annexes including breakouts for gas/nuclear alongside comparable metrics within the same reporting annex, applying the same methodology & computation of numerator/denominator.