

Comments by Austria

1. General comments

In general, Austria welcomes the development of the EU Taxonomy for economic activities that substantially contribute to environmental objectives. However, with regard to the Draft Complementary Delegated Act (DDA) for nuclear and fossil gas activities for the climate objectives, Austria would like to point out several issues of concern. These concerns relate to legal aspects that, in our opinion, legally/procedurally and technically prevent an inclusion of nuclear power and fossil gas in the EU Taxonomy.

Austria considers that the DDA is fundamentally flawed, both on the substance and with respect of the procedure by which it is being adopted. The DDA runs directly counter to the Taxonomy Regulation's (TR) ambitious approach and its objective to prevent 'greenwashing' (Recitals 6, 11 TR). The DDA cannot therefore lawfully be adopted.

The TR identifies economic activities that contribute substantially to the defined environmental goals and at the same time do not have significant negative environmental impact. The TR does not restrict or prohibit economic activities that do not fulfil the criteria.

The Taxonomy is a transparency tool for market participants aimed at providing guidance for sustainable investments and preventing greenwashing. Activities not included in the Taxonomy remain legal and open to investments. They are simply not classified as 'green' or 'sustainable'.

Austria fully respects national sovereignty as well as European and international law regarding national energy policies. We do not aim at prohibiting other Member States to use nuclear power but we cannot accept the European Commission's intention to provide nuclear power with a completely inadequate and misleading 'green label'.

The objective of the Taxonomy is not to determine whether certain energy sectors will continue to be an important source of energy for some time or not, but to define whether the respective technology will help to combat the climate crisis on the one hand and not do any other damage in the process (DNSH) on the other hand.

There are objectives beyond ecological sustainability the entire energy system has to meet, such as security of supply. These should, however, not be regulated as part of the Taxonomy, the aim of which is to provide guidance on sustainability based on robust science. Mixing up these two objectives, the Taxonomy cannot play its intended role.

2. Procedural issues: Violation of binding procedural requirements

Austria is of the opinion that the procedure followed by the Commission in drafting the DDA is unlawful.

The inclusion of nuclear power and fossil gas-related activities in the Taxonomy is, in principle, exposed to the same four points of criticism: 1) the lack of an impact assessment, 2) the lack

of a public consultation, 3) the simultaneous consultation of the Member State Expert Group (MSEG) and the Platform and 4) the insufficient time allowed to the Platform and the MSEG to prepare their comments.

2.1. The Commission did not carry out the necessary impact assessment

According to Article 23(4) TR the Commission shall gather all necessary expertise prior to the adoption and during the development of delegated acts. Further, Article 23(4) TR explicitly declares the Interinstitutional Agreement of 13 April 2016 on Better Law-Making (IA) applicable.

According to point 13 IA, the Commission will carry out impact assessments of its delegated acts, which are expected to have significant economic, environmental or social impacts. This obligation must be understood strictly, since the TR explicitly declares the IA applicable. The ECJ has already held that the preparation of impact assessments is a step that, as a rule, must take place if a legal act is liable to have such implications (ECJ, Judgment of 3 December 2019, C 482/17, para. 84).

The inclusion of nuclear power obviously has significant economic, environmental and social impacts. An impact assessment is therefore an indispensable prerequisite for the DDA. In any event, the reasons given in the explanatory memorandum cannot justify its omission. The EC does not even mention a single objective reason that could justify not carrying out an impact assessment. On the contrary, it becomes apparent that the Commission does not dispose of sufficient information. In particular, the questions whether nuclear power meets the legal requirements to qualify as a transitional activity (Article 10(2) TR) and whether it contributes substantially to climate change adaptation (Article 11 TR) have not at all been addressed in the reports relied on by the Commission. Moreover, the explanatory memorandum even recognises (p. 4) that the SCHEER identified several issues that require further assessment and evidence regarding the DNSH criteria (Article 17 TR) (see further down below).

2.2. The Commission failed to consult the public

Public consultation is a fundamental principle of EU law laid down in Article 11 TFEU and Article 2 Protocol No. 2 to the TFEU. Article 23(4) TR, read in conjunction with the IA, requires public consultation to 'gather all necessary expertise'. Point 19 of the IA requires the Commission to conduct public consultations in an open and transparent way and to ensure that the modalities and time-limits of those public consultations allow for the widest possible participation.

Again, from Austria's point of view, the reasons given in the explanatory memorandum (p. 5) cannot justify the omission of a public consultation. The allegation that the 'relevant technical and policy issues' concerning nuclear energy have been in the public domain throughout the course of legislative deliberations is incorrect, in particular in view of the limited scope of the reports conducted on behalf of the Commission. In any event, there was no open and transparent consultation procedure allowing for the widest possible participation, nor can a possible influence on the market serve as a justification to abstain from a public consultation. Rather, the President of the European Commission had already publicly anticipated the result of the DDA in October 2021. As the entry into force of the DDA is foreseen for 2023, there would have been enough time to consult the public while markets would have had nevertheless sufficient time to adapt.

2.3. The Commission deprived the Member State Expert Group (MSEG) of the possibility to advise on the approach taken by the Platform

Pursuant to Article 24(1) (and Recital 53) TR the MSEG shall advise the Commission on the appropriateness of the technical screening criteria and the approach taken by the Platform regarding the development of those criteria. This necessarily implies that the MSEG may only be consulted after the Platform and that the former obtains the approach adopted by the latter for consultation. That requirement was clearly violated since the Commission consulted the MSEG and the Platform at the same time, thereby depriving the MSEG of the possibility to exercise the task conferred upon it by the TR.

2.4. The Commission failed to consult the Platform and the MSEG in a timely manner

According to IA Annex point 4, the Commission shall consult experts designated by each Member State in the preparation of draft delegated acts. The Member States' experts shall be consulted 'in a timely manner' on each draft delegated act. Member States' experts shall be provided with the draft delegated acts, the draft agenda and any other relevant documents in 'sufficient time to prepare'.

The Commission transmitted the DDA to the MSEG and the Platform on Friday 31 December 2021, late in the evening and initially set a deadline for comments until 12 January 2022. That deadline was later extended until 21 January 2022. By doing so, the Commission granted the MSEG and the Platform insufficient time to adequately prepare their comments and relied on an unfair procedure. January 1 and 6 are public holidays in many Member States. Moreover, IA Annex point 14 explicitly excludes that the Commission transmits delegated acts to the EP and the Council during the period from 22 December to 6 January. This should also apply to transmitting delegated acts to the MSEG (representing the MS) and the Platform. According to point 4 of the Rules of Procedure of the MSEG, the Secretariat shall send the invitation to the meeting and the draft agenda to the group members no later than thirty calendar days before the date of the meeting. The invitation for the MSEG meeting on January 10 was sent on January 4, 2022. The Better Regulation Guidelines foresee a feedback period of four weeks. To enable a diligent assessment of the DDA, such a time span should also be allowed to the Platform and the MSEG. This applies even more to Article 11 TR.

2.5. Procedural comments on fossil gas activities

The reasons given by the Commission in the explanatory memorandum (p. 4) for the omission of an impact assessment and a public consultation regarding the inclusion of fossil gas differ slightly from those regarding nuclear power. In our view, there remains nonetheless considerable doubt whether the procedure followed by the Commission is lawful. The Commission justifies the omission of an impact assessment and a public consultation by stating that 'the criteria for *most* activities which are planned to be included in the DDA have been already subject to an impact assessment and public consultation as part of the preparation of the first Taxonomy Climate Delegated Act. However, the initial draft of the first delegated act did not provide for the thresholds of 270g CO₂e/kWh and 550kg CO₂e/kW over 20 years. Only that draft has been subject to a formal public consultation. An additional draft, which included emission performance thresholds of 270 g and even 340 g, was provided to the Member States Expert Group in March 2021. This draft has never been subject of a public

consultation. Moreover, the impact assessment carried out regarding the first delegated act did not cover fossil gas related activities at all, since the latter had, at that stage, already been removed completely from the draft of the first delegated act.

Against that backdrop, the most problematic aspects of the current DDA regarding fossil gas related activities – i.e. the two new thresholds of 270g CO₂e/kWh and 550kg CO₂e/kW over 20 years – seem to have been neither the subject of an impact assessment, nor of a public consultation.

2.6. Austria therefore calls upon the Commission to at least:

- conduct the necessary impact assessment;
- conduct the necessary public consultation;
- reconsult the Platform giving it sufficient time, i.e. at least four weeks,
- reconsult the MSEG after the Platform, giving it sufficient time, i.e. at least four weeks, to advice on the Platforms' approach.

3. Amendments to Delegated Regulations (EU) 2021/2139 and (EU) 2021/2178 regarding Nuclear Power

3.1. Substance

Austria is of the opinion that the DDA violates higher-ranking law, in particular the requirements of the TR and the precautionary principle. With a view to the criteria elaborated by the European Commission, Austria in general refers to the comprehensive literature review 'Does Nuclear Power Comply With the DNSH Criteria of the EU Taxonomy for Sustainable Activities'¹ which revealed fundamental concerns against any classification of nuclear power as compatible with the DNSH criteria, and additionally highlights shortcomings such as nuclear liability, nuclear non-proliferation and humanitarian consequences for inter alia indigenous people. In view of the insufficient time left to the Member State Expert Group to comment on the DDA, the following remarks are the result of a first, preliminary analysis of the DDA and by no means exhaustive.

3.1.1. Questionable legal basis

Austria would like to understand the relation between EU law and the EURATOM law with regard to the DDA. To be more precise, Austria questions the legal basis of the DDA as proposed by the Commission. Since the TR is based on Article 114 TFEU, it seems at least highly doubtful whether the DDA can cover investments in nuclear power, for which the EURATOM law contains specific rules (see Recital 11 DDA). Even more the technical screening criteria defined in the DDA are based to a very large extent on EURATOM law and its compliance. The Recitals of the TR, however, do not contain a single reference to

¹ S. Stagl, Vienna, September 2020, Does Nuclear Power Comply With the DNSH Criteria of the EU Taxonomy for Sustainable Activities? A Literature Review; <https://www.bmk.gv.at/dam/jcr:e08d452d-22b9-4596-85cd-c75e8fb97141/Meta-study-nuclear-Taxonomy-2020.pdf>

EURATOM law. For this reason, Austria asks the Commission to obtain an opinion by the Council Legal Service and the Legal Service of the Commission on the question, whether criteria based on the EURATOM-Treaty can be prescribed in the DDA.

3.1.2. Requirements of Article 10 TR are not met

The EC states that nuclear power cannot be classified as an economic activity contributing substantially to climate change mitigation according to Art. 10(1) TR (see Recital 6 DDA). Austria agrees on that point with the EC.

However, in Austria's point of view, nuclear power can neither be regarded as a 'transitional activity' within the meaning of Article 10(2) TR. According to a literal, systemic and purposive interpretation that provision only applies to carbon-intensive activities for which there is currently no low-carbon alternative (Recital 41 TR). If nuclear power is considered a low-carbon activity - as described in the DDA (Recital 6 DDA) - it hence cannot be regarded a transitional activity from the outset.

Regardless of this obstacle, Austria has, from a legal point of view, the opinion that the criteria laid down in Article 10(2) TR prevent nuclear power from being classified as contributing substantially to climate change mitigation:

- Renewable energies as such, but even more combined with smart grids and storage capacity, offer technologically and economically feasible low-carbon alternatives. In so far as the DDA is based on an alleged absence of alternatives 'at a sufficient scale' (Recital 6), it relies on an unlawful extension of that provision, which is incompatible with the wording, the systematics and the purpose of Article 10(2) TR. Renewable energies may not be available 'at a sufficient scale' yet. That is, however, precisely the reason why the Taxonomy Regulation aims to redirect capital flows towards them. For that reason, the existence of alternatives excludes the classification of nuclear power as a transitional activity, regardless of whether the renewable alternatives are already available at a sufficient scale. Even if the extended interpretation of Article 10(2) TR could be accepted, the DDA would have to limit the use of nuclear power in proportion to the increasing share of energy demand that is covered by renewable sources. This applies all the more for new plants permitted until 2045 (and built afterwards, see DDA, Annex I, point 4.27) or not at all limited in time (see DDA, Annex I, point 4.26).

- If Article 10, contrary to its wording, is applied to low-carbon activities, which are not covered by Art. 10 (1), then the individual conditions in Article 10(2)(b) and (c) TR must also be applied to the activities covered by Article 10(1) TR, hence green and enabling activities. Such activities must not be hampered and no lock-in effects must arise with regard to the economic lifetime of the assets, for example new nuclear power plants. Especially and contrary to what the DDA implies (Recital 6), there has been no investigation whether nuclear power 'facilitates the deployment of intermittent renewable energy supply and does not hamper their development'. Additionally, it is not only a question of renewable energy supply, but also of smart grids and storage technologies as well as demand side management. At least, the Commission acknowledges that this is required by Article 10 (2) point (b) TR not to hamper renewable energy sources, but affirms without any justification that the requirement is fulfilled (see Recital 6 DDA). In any case, currently nuclear power plants are technically

not suited for load-following operation. Beside the technical aspect, these plants also need to operate at high capacity on a long-term basis in order to compensate for high investments and fixed costs. On the other hand, wind and solar energy require a flexible backup, or smart grids and storing technology. Therefore, nuclear power seems to cannibalise rather than complement renewable energy. Hence, in Austria's point of view, it is at least highly questionable whether that requirement is met, not least in view of the 'long lead times for investment in new nuclear generation capacity', mentioned by the Commission itself. Obviously, Member States relying on coal and nuclear power are strongly advocating nuclear power in the Taxonomy. Including nuclear power in the Taxonomy counteracts the incentives of the Taxonomy to phase-out energy generation from coal. There is a high probability that those Member States 'wait' for the development of for example SMRs or until new power plants are built, financed by private capital not only via the Taxonomy and the EuGB, but also by Taxonomy-related 'Sustainable Europe Investment' of European Funds. Term extensions for existing coal fired could be the result. Term extensions of existing nuclear plants are also very likely – in that case even with investments financed via the Taxonomy. In the meantime, until new nuclear power plants will be available, there will be much less economic incentive to invest in renewables as in the case the Taxonomy would not include nuclear power. We got the impression that the Commission did not conduct any investigation regarding the danger of hindering, especially the phasing out of coal, and the consequence of limited investments in renewables (in certain Member States).

- The criteria set out in the DDA do not ascertain that the use of nuclear power remains 'transitional'. Construction permits for new nuclear power plants may be obtained until 2045; even modifications of old facilities are possible if authorised until 2040. In view of the construction time of plants permitted until 2045 and modernisation until 2040, contribution to the explicit goal of the TR to reach a climate neutral Union already by 2050 (Recital 3 TR) seems unattainable. Furthermore, it is highly questionable to label the 'pre-commercial stages of advanced technologies with minimal waste from the fuel cycle' as 'transitional activity' for the energy sector – even before commercial energy production has started and without any limit for the realization in future. This implies that the activities, which are considered 'transitional' in the DDA, are extended for a too long period into the future. There are no conditions at all ensuring a path of reducing nuclear power as the alleged 'back-up' for renewable energies, including smart grids and storage technologies with a correspondingly decreasing tendency in future. In contrary the technical screening criteria of the DDA regarding natural gas contains at least some regulation to increase renewable gas step by step. For nuclear power there is nothing similar at all.

Even on the assumption that nuclear power could, in principle, satisfy the legal requirements set out in Article 10(2) TR, neither the Commission, nor its mandated experts have sufficiently examined the question whether those criteria are factually met. Neither the TEG-Expert Group, nor the following reports have addressed that issue. The limitation of the terms of reference of the JRC, Article 31 EURATOM and SCHEER expert reports to the DNSH criterion reflects, in this regard, an important and highly critical gap in the investigation conducted by the Commission.

3.1.3. DNSH-criterion is not met (Article 17 TR)

Even on the assumption that nuclear power could legally satisfy the criteria laid down in Article 10 TR, Austria is of the view that nuclear power does not meet the DNSH-requirement set out in Article 17 TR. The technical screening criteria provided in the DDA cannot alter that result.

From Austria's point of view, the following are, at first glance, the major and most obvious concerns regarding the DDA:

- If the Commission includes nuclear power in the Taxonomy although it accepts that significant harm results from uranium mining and milling, the Commission violates the requirement of a life-cycle assessment (Article 17(1) and (2) TR). The explanatory memorandum of the DDA (p. 4) recognises the risks of significant harm to the environmental objectives resulting from uranium mining and milling, which takes place almost exclusively outside the EU. Those risks have also been underlined by the SCHEER. The Commission also (implicitly) acknowledges that there is no possibility to exclude or only mitigate those risks since the DDA completely excludes the mining and milling phase from the Taxonomy. That exclusion is, however, clearly insufficient, because mining and milling is always necessary for all nuclear power plants. All nuclear power related activities depend on uranium. Article 17 TR requires a life-cycle assessment, i.e. that significant harm is excluded 'throughout the life-cycle' of the concerned activities. Therefore, the risks inherent to the uranium mining and milling phase preclude also all other nuclear power related activities from respecting the DNSH-criterion. Already for that sole reason, no nuclear power related activities can be included in the Taxonomy.

- Regarding high-level radioactive waste and spent fuel, significant harm to the environmental objectives cannot be excluded either, because there is no existing solution. Also reprocessing cannot reduce the activity of high-level radioactive waste without introducing much more advanced nuclear reactors, which are not available in the near future and would require an extended safety assessment against the criteria. Even if solutions would be found and chosen based on scientific forecasts it is fact that scientific forecasts unavoidably become ever more uncertain the further they extend into the future. Hence, there is by nature a high degree of uncertainty regarding to waste remaining toxic for more than 100 000 years. The DDA is based on the vague conjecture that 'realistic solutions are becoming available for Member States to develop and operate [deep geological disposal] facilities by 2050' (Recital 14). It states also that such disposal represents 'the safest and most sustainable option' available (Recital 14). But this statement gives no answer to the question whether an eventually 'available' solution will be safe enough and not substantially harmful to future generations (of people for more than 100.000 years), to nature and to the environment. That is insufficient for the purposes of Article 17 TR. The (implicit) suggestion that such facilities will be available at a sufficient scale within 30 years from now is even far more optimistic than the JRC. The JRC report (p. 232) refers to time frames in 'the order of one century' during which deep geological disposal facilities will not be available at a sufficient scale and increased reliance on interim storage will be necessary.

- Moreover, the technical screening criteria remain limited to the even more vague condition that the concerned Member States must have ‘a plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste’. Such vague conjectures and conditions do not, by any means, suffice to exclude significant harm to the environmental objectives with the certainty required by the precautionary principle. ‘Plans’ to set up deep disposal facilities have, in fact, existed for a long time and are constantly delayed, not least due to new scientific findings or the lack of public acceptance.

- Nuclear power also fails to satisfy the DNSH-criterion due to the empirically proven risks related to severe accidents. The DDA does not address any risk beyond existing safety rules. This was highlighted also by the SCHEER, ‘risks due to nuclear accidents remain regardless of mitigating measures’ (p. 13 et seq. of the report). Even if the safety rules relied on in the technical screening criteria could prevent significant harm to humans – who can for instance be evacuated from contaminated areas – that remains insufficient to fulfil the DNSH-criterion. The latter does not only protect humans but also biodiversity and ecosystems in general – which cannot be evacuated in case of a severe accident. The technical screening criteria foreseen in the DDA do not meet the ‘ambitious’ approach of the TR that aims at preventing ‘greenwashing’ (Recitals 6, 11). That ambitious approach of ‘ecologically sustainable’, read in conjunction with the precautionary principle, requires a high level of protection. Mere compliance with general environmental or safety rules is therefore insufficient to guarantee the respect of the DNSH-criterion. Otherwise, the DNSH-criterion would be superfluous, because every economic activity compliant with present safety and environmental law would be automatically compliant with Art. 17 TR. As it is acknowledged in the explanatory memorandum (p. 5), ‘the SCHEER also expressed the view that the existence of a regulatory framework is not in itself sufficient to mitigate all relevant risks’. However, the technical screening criteria are essentially limited to requiring compliance with the general legal framework. Hence, this seems not to be compliant with the requirements of the precautionary principle and the high protection level regarding “ecological sustainability”. For the same reason, also the assertion in the explanatory memorandum (p. 4) that ‘the Commission has duly taken into account and addressed the observations of the SCHEER’ seems incorrect.

Even if nuclear power were considered to be, in principle, capable of satisfying the DNSH-criterion, the investigation conducted to date would not provide a sufficient factual basis to conclude that that requirement is met. As also highlighted by the SCHEER, the evidence and expertise gathered so far appear incomplete or insufficient to exclude significant harm to all of the environmental objectives with sufficient certainty.

From Austria’s point of view, in particular the following aspects require further investigations and deeper analysis:

- The resilience of nuclear power to climate change adaptation. It has neither been examined if the current regulations are related to climate change nor how the national responsible authorities handle compliance with those rules. Even more, the entire question of the resilience of nuclear power to climate change adaptation has not been investigated in any of the reports relied on by the Commission. That is of concern not only regarding extreme weather events, but also in terms of the more gradual impacts

of climate change, e.g. rising sea levels and temperatures (drought, lack of cooling water, water temperature, or cause of water conflict). In that respect the IAEA report 'Adaptation the Energy sector to climate Change' (2019, p. 35) highlights that although safety analyses of nuclear power plants take into account weather related events, they do not yet typically consider climate change. Greg Rzentkowski, Director of the IAEA's Division of Nuclear Installation Safety, is quoted in the IAEA Bulletin of September 2020 as follows: '...One of the challenges with climate change is that, as it continues to progress and make conditions more extreme, past observations and predictive models become less reliable'. That shows that to be compliant with Article 17 TR it is insufficient to only repeat and refer to already existing legal obligations without specific investigations of the challenges brought about by climate change.

- The impact of radiation in general and of severe accidents in nuclear power plants on human health and the environment, beyond human fatalities. In addition, the SCHEER underlined the need for a deeper analysis as regards the impact of radiation on the environment. The assertion in the explanatory memorandum (p. 4) that the SCHEER's reservations concerned 'specifically [...] the protection of water and marine resources' is incorrect and misleading. The SCHEER (p. 2 and 13 of the report) clearly also raised concerns regarding a lack of sufficient investigation of the impacts of radiation on biodiversity and ecosystems in general. Austria also does not comprehend how the lack of sufficient investigation could have been addressed by providing adequate technical screening criteria (explanatory memorandum, p. 4).
- The risks and uncertainties pertaining to deep geological disposal facilities and to the increased reliance on interim storage of high-level radioactive waste and spent fuel. The JRC report (pp. 232, 239 et seqq.) recognises that the unavailability of deep geological disposal facilities at a sufficient scale for the foreseeable future and the resulting need for increased reliance on interim storage raises yet unresolved challenges that need further investigation.

3.1.4. No substantial contribution to climate change adaptation (Article 11 TR)

Annex II of the DDA includes nuclear power related activities in the Taxonomy as contributing substantially to climate change adaptation within the meaning of Article 11 TR. From Austria's point of view, that is unlawful.

First, the Commission has not gathered any expertise nor conducted any consultations whether nuclear power related activities can contribute substantially to that environmental objective. Neither the TEG-Expert Group, nor any of the following reports addressed this issue. The DDA also contains no explanations in that regard.

Second, both the TEG-report and the explanatory memorandum to the first delegated act state that only the expenditure related to implementing the adaptation solution counts as Taxonomy aligned. But only expenditure in separate climate adaptation measures can be determined easily. It seems highly probable that integrated safety requirements, for example in the construction of a nuclear power plant, will be seen as climate adaptation solutions. Hence, the climate adaptation investment could be easily seen as the total or nearly total investment costs of a plant. Therefore, it should at least be made clear that investments following legal

standards, which apply anyway, cannot be considered as ‘climate adaption expenditure’. The lack of any guidance on how to determine the relevant costs seems to pre-program a broad compensation, not to say circumvention. An example for guidance could be seen in the regulation in para. 73 et seq. EEAG regarding to so called ‘extra investment costs’.

Regarding the complete lack of a factual basis and the insufficient time allowed to the MSEG to comment on the DDA, Austria refrains from any further comments on that matter and limits its remarks to the inclusion of nuclear power related activities as contributing substantially to climate change mitigation within the meaning of Article 10 TR.

3.2. Preliminary technical Comments

From Austria’s point of view, the foregoing considerations make the DDA unlawful in so far as it includes nuclear power related activities in the Taxonomy. For the mere sake of completeness, Austria also submits some preliminary remarks on the technical screening criteria foreseen in the DDA. Even a very first assessment already indicates that the technical screening criteria laid down in the DDA cannot assert to be sufficiently ambitious regarding technical aspects of radiation and nuclear safety.

In fact, as was pointed out above, the technical screening criteria are essentially limited to requiring compliance with the already existing, general legal framework. In other words, the Commission’s proposal does not foresee any real ambition with regard to the nuclear sector. They do not establish any significant new obligations in the technology and regulation for vendors, operators and authorities.

As far as the DDA addresses innovative nuclear technologies, they are referred to as optional without quantified evidence on contribution to nuclear safety. For some of them there is even no common view also regarding to the ‘national legislation’ referred to and among the different national regulators. The following indications are therefore only provisional findings, taking note of the flawed procedure followed for the adoption of the DDA and the insufficient time for Member States to comment the DDA.

Technology related comments on “General Criteria”:

Activity 4.26. Pre-commercial stages of advanced technologies with minimal waste from the fuel cycle

On one hand, the TR pursues the ‘objective of achieving a climate-neutral Union by 2050’ (Recital 3). On the other hand, it is consensus that there are technologically and economically feasible renewable alternatives to nuclear power already now, even if the Commission states, that they are not available at a sufficient scale to cover energy demand in a continuous and reliable manner. That leads to the conclusion that a ‘transitional’ period in the sense of Art. 10(2) TR for the energy sector can only cover the period until 2050. However, there is no evidence at all that ‘pre-commercial stages’ of nuclear power plants (without any time limit of permission or realisation) could make a difference by 2050. They seem yet more unable to contribute to cover the energy demand in a continuous and reliable manner within the relevant period until 2050.

Hence, these activities will not be able to make any sufficiently direct contribution to the current decarbonisation targets and the climate-neutral Union by 2050. Therefore, it also seems to be difficult to define those activities as ‘transitional’ economic activities.

General Criteria pertaining to substantial contribution to climate change mitigation and DNSH

General Criterion 1

According to the criterion, only economic activities (projects) located in a Member State may be included in the Taxonomy. The nuclear sector and the nuclear supply chain are highly international, also involving vendors, designers, equipment producers and fuel supply (including for exploration, milling & mining, conversion, enrichment, reconversion and fuel production, not excluding reprocessing and waste management), with essential activities located in non-EU Member States. Some of these activities generate radioactive waste, tailings or industrial processes with potentially considerable adverse impact on the environment (e.g. legacy sites). Given that Article 17 TR requires a life-cycle assessment, it seems not clear how external impacts are considered and how they can be avoided in third countries, which would be necessary to comply with the DNSH criteria. Regarding the criteria (a) to (f) Austria comments as follows:

- (a) Full transposition of relevant Council Directives is not an additional criterion, but already binding legislation, which has to be effectively transposed and applied with compliant national legislation, standards and guidance. In addition, it should be made clear that any reference to the Nuclear Safety Directive 2009/71/EURATOM must be understood as including all later amendments to that directive, i.e. as including a reference to the revision by Directive 2014/87/EURATOM.
- (b) The same argument as for (a)
- (c) A radioactive waste management fund and a nuclear decommissioning fund cannot be combined. Commission Recommendation 2006/851/EURATOM (Section 6, Para 10) e.g. clearly requires separation *“in view of the differences in the use of the decommissioning funds gathered, technical decommissioning of the installation, on the one hand, and waste management, on the other, should be addressed separately, on the basis of separate cost calculations.”* The Nuclear Waste Directive 2011/70/EURATOM states *“...focuses on the adequacy of funding, its financial security and its transparency in order to ensure that the funds are only used for the intended purposes.”* In this respect, the DDA is even falling below the requirements of established EURATOM legislation.
- (d) Again, the criterion does not provide more ambition than already in place by Directive 2011/70/EURATOM and Commission Recommendation 2006/851/EURATOM. It is, moreover, unclear what is meant by the requirement that the Member State must ‘demonstrate’ its compliance with the aforementioned recommendation. In case of non-compliance the Commission should take corrective and enforcement actions already now without delay.
- (e) Several EURATOM Member States already operate national final disposal facilities for very low-, low- and intermediate level radioactive waste. Several other Member States are implementing and constructing or commissioning such facilities. The criterion may add only limited obligations to relevant Member States regarding final disposal facilities for all very low, low- and intermediate level radioactive waste.

- (f) The requirement that the concerned Member States must have ‘*a plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste*’ is clearly far too vague to exclude significant harm with the certainty required by Article 17 TR and even more the precautionary principle (see above). Even on the assumption that it was, in principle, possible to dispose of the waste without risk of significant harm over the necessary time-span, the DNSH-criterion requires the actual presence of operational disposal facilities with sufficient capacities; it does not allow postponing the creation of such facilities to the future. It is completely inconceivable that nuclear power could be labelled as ‘sustainable’ when plans for disposal sites with sufficient capacities have not even been approved by the authorities and permits have become final.

General Criterion 2

The criterion appears to extend the notification requirement for investments into nuclear power in force under the EURATOM Treaty. From Austria’s point of view, it is questionable whether the Commission has the competence to do so in a delegated act that supplements the TR, which is based on Article 114 TFEU. In addition, it seems insufficient for the label ‘ecological sustainable’ if a project is part of a EU-financed research program, because the financing conditions seem to be related to the topic ‘research’ and, moreover, are in detail in advance unknown.

General Criterion 3

Mere reporting obligations to the Commission cannot remedy the vagueness and insufficiency of the requirements regarding the disposal of high-level radioactive waste (see above).

General Criterion 4

In principle, explicit reference to “stress tests” is appreciated also regarding peer reviewing nuclear safety, however there is no further indication on how these ‘*stress tests*’ could be implemented, on which legal basis and technical criteria. The referred ‘*resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes*’ repeats again already existing legal obligations as implied by the revised nuclear Safety Directive. In addition, no additional requirements are established under (a) and (b) referring to the relevant Articles of the revised Directive. That is definitely insufficient (see above). A minimum requirement would be protection against intentional man-made hazards, such as terrorist attacks.

The DDA requires that latest international guidance through IAEA and WENRA should support the fulfilment of the requirements of the nuclear Safety Directive, which should be the amended Directive 2009/71/EURATOM. Guidance through IAEA and WENRA are not legally binding for the Member States and the DDA also fails to make them mandatory for qualification. Furthermore, this guidance through IAEA and WENRA seems to be limited only to support fulfilment of the Nuclear Safety Directive, disregarding the much broader scope on nuclear and radiation safety of IAEA and WENRA work. A very least requirement would be that IAEA and WENRA guidelines must be respected fully and without any reservation and commitments under the International Convention on Nuclear Safety, including the Vienna Declaration on Nuclear Safety, implemented without any delay and with rigour and vigilance. There is no explicit reference on how to address severe accidents with large and early release of radionuclides into the environment in the pre-commercial stages of advanced technologies.

Taking the fact that nuclear safety regulation and enforcement stays with the national competent authorities, the Commission cannot predicate that the DNSH criteria are met.

The criterion further focuses on reduction of activity taking place on the territory of a Member State, neglecting that important steps of nuclear supply chain are located not within the EU member States, such as Uranium milling and mining as the domestic Uranium ore stock is by far not sufficient even to cover the current nuclear fleet in the EU.

General Criterion 5

The criterion requires that radioactive waste referred to in points (e) and (f) of paragraph 1 is disposed in the Member States of origin or only such Member States where an agreement has been established under the Nuclear Waste Directive (2011/70/EURATOM). However, no details for control mechanisms and verification are provided. That means nuclear waste transports within Europe are going on and do not prevent nuclear power from being labelled as 'ecologically sustainable'. But regarding Article 17 TR 'ecological sustainability' could be related to reducing risks of transporting waste (also regarding terrorist attacks) as much as possible. Hence, Austria is of the opinion that the label 'ecological sustainable' is not possible if waste is not disposed in the Member State in which it was generated –, even if there is an agreement which allows to do so.

Additional criteria to substantial contribution to climate change mitigation

The additional criteria pertaining to the substantial contribution to climate change mitigation set a quantified threshold for GHG emissions of 100 g CO₂e/kwh for nuclear electricity generation. This value cannot be considered ambitious and even less as being compatible with the 'best in class approach' required by Art 10 (2)(a) TR if the "Energy Sector" in general is considered.

Additional criteria DNSH

In this respect, Austria refers to the general comments on DNSH above.

In addition, accident-tolerant fuel may support nuclear safety, however there are no common international criteria for classification or binding standards. As the DDA correctly reports, "The technology is certified and approved by the national safety regulator". The Commission was consequently not in a position to foresee a high ambition level.

Activity 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

The TR pursues the '*objective of achieving a climate-neutral Union by 2050*' (Recital 3). That leads to the conclusion that a '*transitional*' period in the sense of Art. 10(2) TR for the energy sector can only cover the period until 2050 (see above 4.26). Especially with regard to the long lead times there is no evidence that '*construction and safe operation of new nuclear power plants*' permitted by 2045 will be able to make any contribution to the current decarbonisation targets and climate neutrality until 2050. Hence, it is also highly questionable to label these activities as '*transitional*'. If plants are permitted until 2045, the energy production will start far

later than 2045, after the construction period. As a result, a contribution to climate neutrality until 2050 is highly unlikely.

General criteria pertaining to substantial contribution to climate change mitigation and DNSH and additional criteria pertaining to substantial contribution to climate change mitigation

For new power plants within the ‘general criterion’ Nr. 2 the “*best available technology*” is required – without precise description of what this precisely entails and if it defines nuclear or radiation safety standards.

In as much as the technical screening criteria are identical to the ones suggested for n° 4.26., reference is made to the observations above.

Additional criteria DNSH

The DDA uses again the term ‘*best available techniques (BAT-AEL)*’ to underline fulfilment of highest safety standards – but expressly only for non-radioactive emissions. However, the term is in general not broadly used or coherently defined in nuclear or radiation safety and can be applied only for the conventional systems, structures and components of a nuclear installation.

In as much as the technical screening criteria are identical to the ones suggested for n° 4.26., reference is made to the observations above.

Activity 4.28. Electricity generation from nuclear energy in existing installations

Since investments in existing installations authorised until 2040 are covered, there is again no evidence that the concerned activities will be able to make any contribution to the objective of achieving a climate-neutral Union by 2050 (see above).

Implementation of “any reasonably practicable safety improvement” is mentioned under 2), however reference to an implementation in a timely manner is missing.

Further details on requirements for accident-tolerant fuel and the predicted quantified benefits (e.g. decreased LERF²) are not provided, see also 4.27.

General Criteria pertaining to substantial contribution to climate change mitigation and DNSH and additional criteria pertaining to substantial contribution to climate change mitigation

Regarding General criterion 1(f) a plan for disposal facilities for high-level radioactive waste is required only for ‘projects authorised after 2025’. That means there is even no plan necessary for projects authorised until 31.12. 2025. This is insufficient. A minimum requirement would be existence of disposal facilities for all existing nuclear waste, including the waste that has been produced in the past and is being produced until 2025.

Regarding to General Criterion 2 it must be added that Austria remarks the difference to N° 4.27, pertaining to new power plants. For the latter the “best available technology” is required

² LERF – Large and Early Release Frequency

(see above). But for existing plants “any reasonable practicable safety improvement” is sufficient – again without description on what it means and if it addresses nuclear or radiation safety standards or others. By limiting the required safety improvements for existing installations to the vague formulation what is ‘reasonably practicable’, the DDA fails to meet the high protection level applicable under Article 17 TR even more.

In as much as the technical screening criteria are identical to the ones suggested for n° 4.26., reference is made to the observations above.

Additional criteria (DNSH)

Regardless of eventually feasible upgrades and repairs, the condition of nuclear reactors deteriorates over time, increasing the likelihood of an accident and the amount of potential complications. It also needs to be considered that nuclear power plants contain components that are of safety relevance but cannot be replaced, including the reactor pressure vessel and the containment, whose condition deteriorates over time. Siting of existing nuclear power plants and any associated individual exposure to climate change impacts cannot be changed either. Even if an ‘appropriate site and installation-specific assessment’ is required, there is no precise measure of what is ‘appropriate’ and in addition the benchmark of ‘any reasonable practicable safety improvement’ doesn’t seem to be high, it falls short of the Vienna Declaration on Nuclear Safety where “in a timely manner” is added to the phrase and leaves the decision to national authorities without any further control. Cooling systems, Ultimate Heat Sinks, Emergency Power Supply, Seismic Requalification, Implementation of Defence in Depth, Redundancy and Obsolescence are just a few examples that would need to be elaborated to ensure practical elimination or at least minimise LERF.

Hence, regarding the DNSH-criterion there is a lack of investigation and discussion of higher risks of upgraded nuclear power plants and of control. The Commission itself seems to accept a difference in security standards between new plants and existing installations – everywhere in Europe (see above) and different benchmarks followed by different national authorities. Hence, Austria notes that the Commission has not even begun to take into account the increased risks of already existing plants. There is a complete lack of consideration of possible lifetime extensions on the basis of only limited possibilities for improvement and the associated particularly high safety risks.

In as much as the technical screening criteria are identical to the ones suggested for n° 4.26., reference is made to the observations above.

3.3. Conclusion

When establishing and updating the technical screening criteria, the Commission should ensure that those criteria are based on available scientific evidence and are developed by taking into account life-cycle considerations, including existing life-cycle assessments. The Commissions’ proposal reduces these life-cycle considerations to GHG-emissions, leaving out all the other negative impacts through the whole life cycle of nuclear power. That is particularly evident as the Commission completely neglects the significant harm caused by the uranium mining and milling phase.

Transitional activities shall not hamper the development and deployment of low-carbon alternatives and they may not lead to a lock-in of assets incompatible with the objective of

climate-neutrality, considering the economic lifetime of those assets. That requirement cannot be fulfilled by nuclear power, especially not by new build plants.

Inclusion of electricity generation from existing nuclear power plants is of particular concern because they have less developed safety concepts compared to new nuclear power plants to address severe accidents with off-site consequences to comply with DNSH criteria. In addition, there are only limited experiences regarding safe operation under lifetime extension beyond the originally established design lifetime, which has to be defined according to IAEA Safety Standards.

In conclusion, Austria is of the opinion that the DDA would be legally flawed, if adopted, i.a. for the following reasons:

- flawed procedure for adopting the DDA;
- no legal basis, nuclear power cannot be regarded as an activity within the meaning of Art. 10 (2) TR or Art. 11 (1) point (a) TR;
- violation of the DNSH-criterion (Art. 17 TR), in particular due to the lack of sufficient ambition with regard to the protection of the environmental objectives and in particular disposal of high-level radioactive waste and safety aspects;
- counterproductive with regard to the objectives of the Taxonomy.

For those reasons, Austria strictly rejects the DDA as proposed by the European Commission.

4. Amendments to Delegated Regulations (EU) 2021/2139 and (EU) 2021/2178 regarding Fossil Gas activities

4.1. General comments on the inclusion of fossil gas activities by means of the DDA

The Taxonomy does not prohibit economic activities, but identifies those activities that bring us closer to the various environmental goals (in this case, the climate goals) and do no harm in the process. It is abstruse to argue that investments in fossil energy help us to reach the goal of climate neutrality.

It is not the aim of the Taxonomy to determine whether fossil natural gas will continue to be an important source of energy for some time to come, but whether the technology will help to combat the climate crisis on the one hand and not do any other damage in the process (DNSH). As stated previously, there are objectives beyond ecological sustainability that the energy system has to meet, such as security of supply. Mixing up these two objectives, the Taxonomy will not be able to function as intended. The inclusion of these economic activities based on considerations relating to security of supply is not within the scope of the TR.

It has to be underlined that the use of fossil gas may be capable of bringing about certain improvements regarding the overall GHG emissions of the energy sector and may even be necessary to cover the future energy demand, but these are insufficient to classify fossil gas as a transitional activity under the TR. As was rightly highlighted by the Club of Rome³, that fossil gas may have a certain role to play in the energy transition does not mean that it fulfils the legal requirements to qualify as a 'transitional' activity under the TR.

³ See <https://www.clubofrome.org/impact-hubs/rethinking-finance/eu-Taxonomy-reaction/>.

Labelling fossil gas as green would send the wrong signal to finance and industry regarding the industrial changes that are needed to urgently and massively develop low carbon solutions. Greenfield fossil fuel power even below 100g/kWh is explicitly excluded in taxonomies in China, Russia and a number of other countries. This proposal means Europe will fall behind those countries and it is not compatible to remain a world leader in fighting climate change with respect to electricity generation from fossil gas.

4.2. Substance

In comparison to nuclear power, it cannot be argued, regarding Art. 10(2) TR, that energy production from fossil gas is not carbon-intense. By contrast, in view of the clear wording of the TR, the compatibility of the inclusion of fossil gas in the Taxonomy with the 'no alternatives'-requirement laid down in Article 10(2) TR is highly questionable.

Moreover, there are good reasons to criticise the DDA inasmuch as it includes fossil gas related activities with GHG-emissions up to thresholds of 270g CO₂e/kWh and even more of 550kg CO₂e/kWh over 20 years in the Taxonomy. Activities with such high GHG-emissions do not contribute substantially to climate change mitigation. There is at least considerable doubt as to whether such activities qualify as 'transitional' within the meaning of Article 10(2) TR. In particular, the said thresholds appear unable to support a pathway to the 1,5 °C objective. The TEG-experts tasked by the Commission had explicitly defined a threshold of 100 g CO₂e/kWh in that regard. Additionally, the possibility to continue the power production after 2035 with 100% 'low-carbon gas' beyond the year 2040 calls directly the implicit target of 'zero emissions' for the energy sector in 2040 in question.

The previously mentioned two thresholds beyond 100 g CO₂e/kWh life-cycle emission relied on in the DDA also seem insufficient to ensure compliance with the 'best performance' requirement. In practice, they make the threshold of 100 g CO₂e/kWh meaningless. There are additional good reasons to reject the threshold of an average of 550kg CO₂e/kWh over 20 years, because it could allow direct emissions above of 270g CO₂e/kWh. That seems to be incompatible from the outset with the regulation in the DDA, Annex II. point 4.29, that electricity generation from fossil fuels with direct emission of 270g CO₂e/kWh or more significantly harm climate mitigation. It seems to be also not in line with the regulation of the First DA⁴, Annex II points 4.5, 4.6, 4.7, 4.9 and 4.27 – 4.23 for various types of electricity generation, cogeneration and producing of heat/cool, using renewables, with direct emission of 270 g CO₂e/kWh or more significantly harm climate mitigation. A threshold allowing emissions above seems therefore also to violate general principles of law, such as equal treatment.

4.2.1. Substantial contribution to climate change mitigation (Article 10 TR)

As regards the substantial contribution to climate change mitigation, the DDA is only based on Article 10(2) TR, the application of which is not called into question. However, Article 10(2) TR requires that there are 'no technologically and economically feasible low-carbon alternatives'. In our view, generation from fossil gas as such does not satisfy that requirement, because renewables are alternatives in that sense. The classification of fossil gas as 'transitional' undertaken in the DDA refers to the premise that Article 10(2) TR requires only that low-carbon alternatives 'are not yet commercially available at a sufficient scale' (Recital 4 DDA). In our

⁴ C(2021)2800 final.

opinion, that premise is highly questionable. This premise constitutes an unlawful extension of Article 10 TR, which is incompatible with the wording, the systematics and the purpose of that provision. Renewable energies may not be 'commercially available at a sufficient scale' yet. This is, however, precisely the reason why the Taxonomy Regulation strives to redirect capital flows towards them. For that reason, it can well be considered that the existence of alternatives excludes the classification of fossil gas as a transitional activity, regardless of whether the renewable alternatives are already 'commercially available at a sufficient scale'.

In the event that the wording 'no technologically and economically feasible low-carbon alternatives' should, in the view of the European Commission be read extensively, there are studies indicating, that renewable energies offer even such alternatives, if combined with smart grids and storage technology.

Moreover, we would argue that the TSC would have to limit at least the use of fossil gas in proportion to the increasing share of energy demand that is covered by renewable sources. The DDA seems, however, not to fulfil that condition. To the contrary: The criterion according to which the 'power generated by the [fossil gas related] activity may not yet efficiently be replaced by power generated from renewable energy sources, for the same capacity,' seems to imply that the fossil gas related activities may – without further capacity limitation – qualify as 'transitional', as long as renewable energies do not supply the same capacity. Increasingly possible combinations with smart grids and storage technology in future are not even mentioned. Should the Commission intend a different meaning of the terms 'for the same capacity', which is not sufficiently clear, the TSC would hence need to be corrected regarding that point.

4.2.2. Consistency with a pathway to limit the temperature increase to 1,5 °C above pre industrial levels

Article 10(2) TR requires that the concerned activity must '*support the transition to a climate-neutral economy consistent with a pathway to limit the temperature increase to 1,5°C above pre industrial levels*'. That requirement relates to the TR's goal to contribute to fulfilling the Paris Agreement and achieve a climate-neutral Union by 2050.

In that regard, it should at the outset be mentioned that the published initial draft of the first delegated act, elaborated on the basis of the TEG-report, included fossil gas related activities in the Taxonomy only on the condition that the threshold of 100g CO₂e/kWh life-cycle emissions was respected. Inasmuch as the current DDA provides additionally for new thresholds allowing for emissions amounting to direct emission of 270g CO₂e/kWh and 550kg CO₂e/kW over 20 years, the DDA falls behind the benchmark that the Commission itself and the TEG considered correct.

According to our assessment, there are strong reasons to consider that the DDA violates that requirement inasmuch as the threshold of 270g CO₂e/kWh seems not ambitious enough. The same applies even more to the threshold of 550kg CO₂e/kW over 20 years. We assess the arguments in detail as follows:

4.2.2.1. Threshold of 270 g CO₂e/kWh

The TEG report defined 100g CO₂e/kWh as the threshold up to which energy related activities, including those pertaining to gas, could be considered as 'supporting a transition to the EU's

emission reduction goals'. The TEG-experts – tasked by the Commission – calculated the threshold on the basis of the EU's obligations under the Paris Agreement. They also requested that this threshold should 'be reduced every five years in line with political targets set out to achieve net-zero emissions by 2050.' They also explicitly called for the threshold to apply to co-fired facilities. In the view of the TEG-experts, 'unabated natural-gas fired power generation is not expected to meet the required threshold. Gas-fired power with carbon capture and sequestration may qualify.'

Against that backdrop, there seems to be strong reason to consider that the emissions threshold of 270g CO₂e/kWh is inconsistent with the objective to limit the temperature increase to 1,5°C above pre industrial levels, contrary to what is required by Article 10(2) TR. It seems to be even more so since – unlike the 100 g-threshold – the 270 g-threshold foreseen in the TSC refers only to the direct GHG emissions and not to the life-cycle GHG emissions. It is clearly the aim of Article 19(1)(g) TR, that the life-cycle assessment is, however, not only required for the DNSH-criterion, but in general for the TSC established on the basis of Article 10(3) TR, because Article 10(3) is expressly mentioned.

The conditions '*support the transition to a climate-neutral economy*' and '*consistent with a pathway to limit the temperature increase to 1,5°C above pre-industrial levels*' are additional. If any support to the transition to a climate-neutral economy would be sufficient, the additional condition '*consistent with a pathway to limit the temperature increase to 1,5°C above pre-industrial levels*' would be superfluous. The latter condition is the additional requirement that must not be contradicted, considering the European Commission's calculations for the energy sector in order to achieve this goal. The 270 g threshold including additional conditions foreseen in the TSC do remedy those flaws at the outset. Those additional conditions essentially aim at ensuring, on the one hand, that fossil gas related activities are only classified as 'transitional' if renewables are not yet available at the 'same capacity' and, on the other hand, that the use of fossil gas entails some improvements regarding the overall GHG emissions of the energy sector at the status quo (especially replacement of an existing high emitting facility that uses solid or liquid fossil fuels and the reduction path until for 100% switch to renewable or low-carbon gas until 2030). That could 'support' a climate neutral economy, but not, however, make the use of fossil gas consistent with the pathway to the 1,5°C objective in the sense, the Commission itself communicated it until now. The said conditions hence seem to be insufficient to classify fossil gas as 'transitional' within the meaning of Article 10(2) TR.

In particular, the condition according to which the activities can be subject to 'effective plans', approved by the management, to co-fire increasing shares of low-carbon gaseous fuels (30% as of 2026, 55% as of 2030; 100% as of 2035) seems clearly insufficient to ascertain the consistency with the pathway to the 1,5°C objective.

Furthermore, the emissions from "renewable or low-carbon gases" are not specified, and not required to comply with the criteria of the first climate DA. If "low-carbon gases" refer to a 70% reduction compared to the fossil fuel comparator, whose threshold would be 183 g CO₂e/MJ electricity, which translates to 658.8g CO₂e/kWh, and a 70% reduction corresponds to 197,6g CO₂e/kWh. Thus, gas-fired power plants for electricity generation (Activity 4.29) may still emit 197.6g CO₂e/kWh after 2035 and are classified as 'green' according to the Taxonomy, as long as they comply with a few other provisions. Hence, according to the DDA, the reduction path for fossil gas power plants classified as Taxonomy-aligned seems to be the following: from 270 g CO₂e/kWh direct emissions in 2023 to 197.6 g CO₂e/kWh life cycle emissions from 2036 onwards until 2050 or even open-end.

Additionally, the 1,5°C-scenario is based on the assumption that the power sector is supposed to be de facto decarbonised in 2040⁵. This scenario includes existing power plants. Thus, the use of fossil fuels will have to be phased out at the latest in 2040 - or apply CCU/CCS. To say it simply, there seems to be no remaining carbon budget for new investments in natural gas at all. The TSC seem also not to correlate with the reduction path in the Commissions' climate scenario according to the pathway for using, beside renewable, also low-carbon gases of at least 30% as of 2026, 55% as of 2030 and especially 100% as of 2035. The average lifetime of fossil gas fuelled power plants ranges between 25 and 30 years. The TSC require that only a construction permit must be obtained before the end of 2030 for facilities, hence, they may be operating until 2060. This calls directly the implicit target of 'zero emission' for the energy sector in 2040 in question. The reason is that 'low-carbon' gas, cannot – by nature – reach zero emissions. If a power plant can operate with low-carbon gas beyond 2040, it will be impossible to reach the target of 'zero emissions' in 2040.

4.2.2.2. Threshold of 550 kg CO_{2e}/kW over 20 years

The previous considerations apply a fortiori also to the threshold of 550kg CO_{2e}/kW over 20 years. Because by averaging the emissions over 20 years, that threshold allows for higher emissions in early years and to postpone emission reductions to later, as there is no yearly cap. Assuming a plant starting operations in 2023, running 2410 h a year during 20 years (without CCS or similar solutions), moving to 30% low emission gas (assuming 197,6g CO_{2e}/kWh, see above 4.2.2.1) in 2026, 55% in 2030 and 100% in 2036 would reach the average of 550 kg with direct emission of 270 g CO_{2e}/kWh in the first three years. Only a slight reduction of operating hours per year in the previously mentioned example would lead to much higher direct emissions in the first three years of operation. According to Eurostat figures on average all EU gas plants were running only 1270 hours per year in 2019. In the previously mentioned example, the change of operating hours would lead to possible direct emissions of 433 g CO_{2e}/kWh even in average (year 1-20). With the scheduled replacement with low carbon gas (assuming 197,6 g CO_{2e}/kWh) that will allow 752 g CO_{2e}/kWh for the years 1-3 (in average), 585g for the years 4-7 (in average) and 447g for the years 8-13 (in average) and 198g for the years 14-20(in average). That shows: The more renewable energy is produced in future, the less 'back up' of electricity generation from fossil gaseous fuels will be needed, the more direct CO₂-emissions per kWh will be allowed by that threshold.

In case a power plant uses its 'budget' of in total 11,000 kg CO₂ per kW of capacity in the first 10 years of operation (for example because of CCS in the next ten years, by then probably more developed), in average 1100 kg CO₂ per year and kW could be emitted. Hence, the previously mentioned figures could be again much higher.

Moreover, the examples show that the requirement of increasing co-firing shares of 'renewable or low carbon gases' (30% as of 2026, 55% as of 2030; 100% as of 2035) and their automatic reducing effect on direct emissions can be used for postponing emissions – and allowing even higher emissions in early years. In that sense, the average consideration of the 550kg-threshold also seems to counteract the intended reduction path through co-fire increasing shares of renewable or low-carbon gas.

⁵ The 2030 Climate Target Plan COM(2020) 562 final, p. 7, Figure 1, see <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0562&from=EN>

Furthermore, there are reasonable doubts that the 550kg threshold could be particularly susceptible to circumvention and transgression in practice. It seems not to be verifiable – neither for professional third-party verifiers nor for financial market participants – for the following reason:

- To evaluate Taxonomy alignment in year one, verification would require detailed information about emissions and operating hours in years 2 to 20. In reality, no operator is able to plan so far ahead, e.g. because future availability and prices of low-carbon gases like hydrogen cannot be guaranteed. Thus, for auditors and investors verification is practically impossible.
- Further, the question of how to deal with non-compliance ex-post seems to be unresolved, e.g. when the 20-year average already exceeds the 550kg/kW threshold after 10 years. The Taxonomy does not provide for any consequences in case reporting shows that the threshold has not been met. The operator in the example above could possibly continue running the gas-fired power stations after ten years even without CCS. The only consequence would be that he would have to continue without green label. However, he would have profited from better financing terms the first ten years even though direct emissions during that time are far above 270 g CO₂/kWh.

The above reasons lead additionally to a tangible risk, if not probability, that even the 550kg threshold in practice could be exceeded easily.

That situation leads to strong arguments, that the additional threshold of 550 kg CO₂e/kW over 20 years is not compatible with Art. 10(2) TR. Regarding to Article 11 TR, the DDA defines the threshold of 270 g CO₂e/kWh as 'do no significant harm' threshold for the activity in question (Annex II, point 4.29). This DNSH-threshold is in line with the First DA⁶, Annex II, e.g. points 4.5, 4.6, 4.7, 4.9 and 4.27-4.23, for various types of electricity generation as well as cogeneration and producing of heat/cool using renewables. Hence, there are good reasons to consider it legally binding as DNSH-threshold for the DDA as well, because of the general principles of law, especially such as equal treatment. Hence the Commission states that electricity generation from fossil gaseous fuels significantly harm climate change mitigation, if the direct emissions reach 270 g CO₂e/kWh. Like shown previously, that threshold can easily be reached and exceeded if the 550kg threshold is applied – and furthermore, even the 550kg threshold could be easily circumvented. From our point of view, it cannot be compliant with systematic and purpose of Art. 10 TR to allow 'transitional' activities in the sense of Article 10(2) TR with high risk of direct emissions above the threshold of 'significant harm' – for the same activity at the same time for the same environmental objective.

For those reasons, the threshold of 550kg CO₂e/kW over 20 years fails to support a pathway to the 1,5°C objective, as is required by Article 10(2) TR.

4.2.3. Best performance

Article 10(2)(a) TR requires that a transitional activity '*has greenhouse gas emission levels that correspond to the best performance in the sector*'.

⁶ C(2021)2800 final.

In the view of the TEG-experts, *'unabated natural-gas fired power generation is not expected to meet the required threshold. Gas-fired power with carbon capture and sequestration may qualify.'* In other words: Those fire-plants could be considered as "best in class".

In our view, there is good reason to assume that the TSC foreseen in the DDA do not ascertain that that requirement is met. On the one hand, the TEG-report mentions that certain technologies, such as solar, wind and tidal energy, perform even 'significantly below' the 100 g-threshold. For that reason, it could be argued that even compliance with the 100 g-threshold is insufficient to classify fossil gas related activities as 'transitional' within the meaning of Article 10(2) TR.

Thresholds

The thresholds of the TSC mentioned previously seem to also not comply with the 'best performance' requirement. The existence of the 100 g-threshold demonstrates that the Commission considers that the latter threshold can be met. Also the TEG-experts considered that 'gas-fired power with carbon capture and sequestration may qualify' under the latter threshold. There seems hence strong reason to consider that, even if one looks only at the gas sector instead of the entire energy sector, the 'best performance'-threshold lies far below the 270 g-threshold foreseen in the DDA. That is even more so since that threshold does not require to take the methane emissions along the supply chain into account.

In that regard, the 'best performance' requirement seems to be unconditional according to the wording of Article 10(2)(a) TR. It is, in particular, not subject to any reservations regarding the technological or economic feasibility of the best performing technology. To fulfill Article 10(2)(a) TR, it is sufficient, that the best performance in a sector exists. For that reason, neither technical obstacles to implementing best performing technologies such as plants relying on carbon capture and sequestration, nor the costs thereof can justify the classification of fossil gas related activities as 'transitional' up to the 270 g-threshold.

Again, the foregoing considerations apply a fortiori as regards the threshold of 550 kg CO₂e/kW over 20 years. That threshold also appears incompatible with the best performance requirement.

In addition, it seems to be not compliant with Art. 10(2)(a) TR that there can be different thresholds at the same time for 'the best performance'. There are good arguments that the 'best performance' cannot be added by the second best and even third 'best performance'. Hence, only the fact, that the 'best performance' is regulated (life-cycle emission of 100g CO₂e/kWh), would lead to the result, that less good solutions are not compatible with Art. 10(2) TR.

Most of today's gas power plants with full load of less than 2000 h/a would meet the threshold value even today. This is all the more true in view of the possibilities presented above and associated with the average consideration to produce direct emissions far above 270 g CO₂e/kWh in the initial period of plant operation (see above). Hence, there are good reasons that at least that threshold does not correspond with the requirement of 'best performance'.

Commitment to the reduction path

The condition 'best performance' could be seen as mandatory to require at least a commitment for the before-mentioned reduction path for fossil gas in 2026, 2030 and 2035, irrespective of

the alternative of an 'effective plan' that the Commission offers. 'Effective' plans in general do not guarantee their implementation. But the alternative possible 'commitments' to the reduction path prove, that those commitments are possible. That could be seen as 'best in class' performance in this regard. As the reduction path of the TSC is obviously not only intended to the transition to renewable gas but also to reduce emissions over time, there are good reasons that Article 10 (2) point (a) TR could also constitute the requirement of a binding commitment to reducing emissions step by step over a certain transition period of time – and not only an effective plan.

Threshold for methane emissions along the supply chain

Finally, the use of fossil gas is criticised in particular for the methane emissions along the supply chain. The climate-bonds initiative⁷ sums up the criticism as follows:

'Expected GHG emissions savings from using natural gas instead of coal have been exaggerated. Such claims have been based solely on a plant-by-plant comparison between coal and gas-fired power; they do not include the gas supply chain, which is a significant omission. Gas is lost at the wellhead and through equipment along the transportation route. While the percentage is a small number, because gas is mostly methane, even tiny amounts have a significant impact on climate.'

The Commission stated in 2020⁸: *'Non-CO₂-emission of methane, nitrous oxide and so-called F-gases represent almost 20% of EU's green-house gas emissions which can be reduced effectively by 2030 effectively up to 35% compared to 2015. The energy sector shows the largest potential in low-cost additional reductions beyond existing policies, notably avoiding fugitive methane emissions from oil, gas and coal production and transport. These will be addressed among others in the upcoming methane strategy.'*

The TSC foreseen in the DDA require that *'at construction, measurement equipment for monitoring of physical emissions, such as those from methane leakage, is installed or a leak detection and repair program is introduced'*. This refers, however, only to the concerned activities, i.e. the power plants, while the TSC do not require to take into account methane emissions along the supply chain. Given that already in 2020 a potential of 'low-cost additional reductions' was identified, within a 'best-in-class'-approach, TSC regarding such 'low-cost'-measures are deemed necessary.

4.2.4. No obstacle to alternatives

Pursuant to Article 10(2)(b) TR a 'transitional' activity may *'not hamper the development and deployment of low-carbon alternatives'*.

There is good reason to consider that the drafted TSC foreseen in the DDA do not ascertain that that requirement is met. As pointed out above, the TSC seem not to limit the use of fossil gas in proportion to the increasing share of energy demand that is covered by renewable

⁷ Climate Bonds Initiative, (2021), The Hidden Emissions from Gas-Fired Power; see also the open letter 'Gas Attack in Taxonomy', signed by 225 scientists, referring to Dezem, V., (2021), European Gas Is a Long Way From Tackling Methane Leaks; Research by Deutsche Umwelthilfe, Urgewald (2021), Market survey: methane emissions from natural gas companies.

⁸ The 2030 Climate Target Plan COM(2020) 562 final, p. 10 et seq., see <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0562&from=EN>:

sources. Even if no such strict proportional limitation is required to comply with Article 10(2)(b) TR, it is doubted that the conditions provided in the TSC would narrow down the use of fossil gas related activities to an extent that does not prevent low carbon alternatives.

The TSC require that *'the power generated by the activity may not yet efficiently be replaced by power generated from renewable energy sources, for the same capacity'*. That condition seems not sufficiently clear. That applies not only to the term 'for the same capacity', but also to the term 'efficiently'. Moreover, the said condition completely neglects other 'low carbon alternatives' that may lead to the flexibilization or reduction of energy demand, such as storage capacities or energy saving technologies. The protection of Article 10(2)(b) TR is, however, not limited to 'renewable energy sources'.

Also, the TSC of the DDA do neither explicitly limit the yearly operating hours of fossil gas fuelled facilities, nor restrict their operation to the necessary backup of renewable sources and the stability of the grid. According to our assessment, such limitations would be necessary to comply with Article 10(2)(b) TR.

4.2.5. Lock-in effects

Pursuant to Article 10(2)(c) TR a 'transitional' activity may 'not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets'. According to Recital 41 TR, that requirement aims at ensuring that transitional activities *'do not lead to a lock-in of assets incompatible with the objective of climate neutrality'*.

The average lifetime of fossil gas fuelled power plants ranges between 25 and 30 years. The TSC only require that a construction permit must be obtained before the end of 2030 for facilities that only meet the 270g and the 550kg thresholds, meaning that they may be operating until the 2060s. That condition appears absolutely insufficient to ascertain the consistency with the pathway to the 1,5°C objective. For that reason, the TSC seem also to be in conflict with Article 10(2)(c) TR.

It may also be argued that the conditions foreseen in the TSC are, overall, generous enough to even provide a strong incentive for investors to invest into fossil gas related activities. Each Euro invested in the expansion/construction/operation of new fossil fuel fired plants is not available for renewable energies and sends a misleading market signal. Generally, the credibility of the Taxonomy would be undermined by including fossil fuel activities in the power sector.

4.2.6. Control

The TSC have to be *'verified by an independent third party'*. Therefore, it is completely unclear who could and would control the compliance with the TSC. The vague wording seems to create circumvention possibilities leaving room for a deficit of control. Defining certain requirements of control, e.g. by a state-recognised independent expert (or at least "independent experts" like in para. 243 EEAG) or even by the Commission itself, would considerably increase the credibility of the TSC.

That is even more relevant regarding the control of the 550 kg threshold over 20 years. As previously mentioned (see above 4.2.2.2), not even operators are able to plan so far ahead. let alone for auditors and investors verification ex-ante seems practically impossible.

This leads to the question of how to deal with non-compliance ex-post, e.g. when the 20-year average already exceeds the 550kg/kW threshold after 10 or 12 years. The Taxonomy does not state what would be the consequence when reporting showed that the threshold would not be met. The operator would possibly have profited from better financing terms than not Taxonomy-aligned operations (see also above 4.2.2.2). This makes the Taxonomy reporting unreliable by definition and results in adverse consequences for its usability and acceptance for financial market participants.

4.2.7. DNSH (Article 17 TR)

Pursuant to Article 3(b) and Article 19(1)(b) TR, the DNSH criterion requires that no significant harm is caused to any of the environmental objectives. The wording is not 'any other' environmental objective. Hence, activities substantially contributing to the environmental objective 'climate mitigation' must not at the same time cause significant harm to it. That requirement is specified in more detail in Article 17 TR. Article 17(1)(a) TR providing that an activity shall be considered to significantly harm climate change mitigation, '*where that activity leads to significant greenhouse gas emissions*'.

In our opinion, the inclusion of fossil gas related activities in the Taxonomy violates the DNSH requirement with regard to the climate mitigation objective. In view of their significant GHG emissions, fossil gas related activities not only fail to meet the requirements of a substantial contribution to climate change mitigation (Article 10 TR), but also risk causing significant harm to that objective within the meaning of Article 17 TR.

This argument is based on the consideration that the 270g and 550kg thresholds allow for GHG-emissions far above the 100 g-threshold which would be necessary to achieve the 1,5°C objective. In addition, for activities that qualify under the 270 g and 550 kg thresholds, the TSC take into account of the methane emissions along the entire supply chain. Article 17(1) and (2) TR clearly require a life-cycle assessment.

The 270 g threshold is already used in the first DA (2021/2139) in relation to the direct GHG-emissions of activities as benchmark to define significant harm to climate change mitigation. This threshold would be challenged by the aforementioned argumentation. To assess the robustness of that argumentation, a more in-depth examination of the scientific basis and justifications of the 270 g threshold used in the first DA seems to be necessary.

4.2.8. No stranded assets (Article 19(1)(i) TR)

Article 19(1)(i) TR requires the TSC to '*take into account the potential market impact of the transition to a more sustainable economy, including the risk of certain assets becoming stranded as a result of such transition*'. The inclusion of fossil gas related activities in the Taxonomy foreseen in the DDA could increase the risk of stranded assets. This argument is based on projections of a decline in the use of natural gas and factors in economic pressure on fossil gas related technologies, such as rising prices for the supply of gas and GHG emission allowances under the ETS or the costs entailed by climate litigation.

The Impact Assessment carried out ahead of the 'Fit for 55' package shows that the use of natural gas (in total, not only power sector) decreases already by 2030 and that the use of gaseous fuels decreases in all scenarios (even in the baseline BSL).

Therefore, not only the construction of natural gas-fired power generation and natural gas-fired CHP (which remain in operation for several decades) should be excluded, but also the operation thereof. Only for just transition regions, which are currently highly depending on coal, an exception could be justified under the condition of an early sunset clause for the start of operation. Taken the projected and required decrease of natural gas in power generation to achieve the “Fit for 55” and 2050 goals, assets of natural gas power generation plants are likely to become stranded, which is in contradiction to the requirements of Article 19 (1)(i) of the TR.

An additional aspect that has to be taken into account is the revision of the ETS: According to the Fit for 55 package, the ETS needs to achieve a 61 % GHG reduction by 2030, where the energy sector will have to contribute significantly more than the industry sector, as low GHG alternatives already exist in the energy sector. This means that natural gas is also coming under increasing economic pressure compared to renewables, which in turn underpins the risk of stranded assets.

In addition, there is an increasing risk of climate litigation (NGFS report on climate-related litigation of Nov 2021).

5. Amendments to Delegated Regulations (EU) 2021/2139 and (EU) 2021/2178 regarding disclosure

The entry into force and applicability of the DDA shall be aligned with the timeline of the remaining four environmental objectives with their reporting starting in January 2024. However, it is important to ensure that entry into force of the DDA is postponed to that date.

- This is necessary to ensure that there is sufficient time for the implementation by the market participants.
- Moreover, there is still a huge number of open questions, e.g. questions on technical and process issues, usability, risks in terms of non-compliance with the criteria after several years, grandfathering, verification, monitoring and checking compliance over 10-30 years, specifications for the case that the respective power plant is sold to another operator (e.g. outside the EU) during this time, provisions for the consequences if a plant turns out to be non-compliant after many years etc.
- In addition, disclosure obligations according to Articles 5 and 6 of the Taxonomy Regulation (linked to Articles 9 and 8 of the SFDR) have to be amended in order to allow for transparency and compliance with Recital 15 of the DDA (“[...] *In order to provide a high degree of transparency to investors in financial products referred to in Article 5 and Article 6 of Regulation (EU) 2020/852 concerning exposures to fossil gas and nuclear energy activities, for which technical screening criteria are to be laid down, the Commission will amend or propose to amend the disclosure framework pertaining to those financial products as appropriate to provide for full transparency over the whole life of those financial products.*”)

Article 2 of the DDA amends the Delegated Regulation (EU) 2021/2178 by including additional disclosures to financial and non-financial undertakings. It obliges them to disclose the proportion of activities referred to in the DDA in their key performance indicators. For each KPI, undertakings shall fill template 1 and 2 within a new Annex XII of the article 8 Delegated Act.

These disclosures should provide for transparency on the proportion of the entities' Taxonomy-aligned gas and nuclear power activities / exposures.

However, the wording in Recital 15 of the DDA, and in Annex III (introducing new Annex XII in Article 8 DA) does not reflect that:

- Recital 15: "The information to be disclosed pursuant to those requirements should be presented in the form of a template that indicates clearly the proportion of gas and nuclear energy activities in the denominator of key performance indicators of those undertakings."
- Template 2 requires separate disclosure of a proportion of gas and nuclear related activities introduced to the EU Taxonomy through the DDA in the denominator of the applicable KPI.
- BUT: The denominator of the Taxonomy-related KPI (both for financial and non-financial entities) represents the entity's exposure to all economic activities – regardless of whether they are Taxonomy-aligned or not.

With regard to current market practices, it can be assumed that certain investors are especially interested in the share of Taxonomy-aligned nuclear and gas related activities. Therefore, disclosure of a proportion of gas and nuclear power related exposures in the NUMERATOR of the KPIs of the reporting undertaking is needed.

It would be best to require a breakdown of both the numerator and denominator of KPIs for gas and nuclear related exposures separately. This would enable calculation of what is the proportion of gas and nuclear related activities considered as Taxonomy aligned compared to all economic activities as well as compared to all gas and nuclear related activities. For the benefit of the investor / financial services consumer, it would be useful that all those disclosures / ratios are required.

Moreover, in template 2, an additional breakdown of the activities showing whether they are conducted in the EU or outside the EU should be introduced. This is important given that eligibility for gas and nuclear in the DDA is only for EU operations.

Disclosures related to these ACTIVITIES should be reported in the following ways:

- Overview: A proper breakdown on the share of nuclear and gas related activities in the main table providing the breakdown of the entities' Taxonomy related exposures.
- Detailed: A dedicated table or section on gas and nuclear related exposures. Such table information should be at the beginning and not at the end of lengthy and detailed disclosures.
- A graph or a visual format facilitating the comprehensibility of the information.

Template 2 of Annex III in the DDA does not sufficiently differentiate between different KPIs of the relevant Annexes of the Disclosure Delegated Act.

The breakdown of nuclear/gas in Annex XII should use the same methodology as the main reported GAR/GIR figures.

- Ensuring consistency of methodologies used to the maximum extent is important. Therefore, we question why the methodology for gas and nuclear-related disclosures for credit institutions (GAR) would exclude sections 1.2.3 and 1.2.4 of Annex V and Green Investment Ratio for investment firms would exclude Section 3 of Annex VII (of the Article 8 Delegated Act). The DDA fails to provide rationale for such exclusions.

- Moreover, it is important to require clear disclosure of the share of financial entity's exposures to gas and, separately, nuclear related economic activities that are considered Taxonomy-aligned.

Provisions for the Financial PRODUCT LEVEL reporting (Articles 5 & 6) disclosures are missing in the current DDA.

- Recital 15 is mentioning that in order to provide a high degree of transparency to investors in financial products referred to in Article 5 and Article 6 of Regulation (EU) 2020/852 concerning exposures to fossil gas and nuclear energy activities, the Commission will amend or propose to amend the disclosure framework pertaining to those financial products as appropriate to provide for full transparency over the whole life of those financial products. Nevertheless, this commitment is not embedded in the respective Articles. Article 2 of the DDA refers to the Disclosure Delegated Act for disclosures on company level. Regarding disclosures on product level the corresponding regulatory standards referred to in TR Article 25 must incorporate provisions regarding the proportion of nuclear/gas relevant activities accordingly.
- Thus, product level reporting shall clearly indicate nuclear and gas related activities to provide transparency to end investors. The absence of information on specific risks of financial products related to nuclear power/gas would undermine the EU Taxonomy's objective to facilitate the transparency of environmental sustainable financial products.