

To: Platform on Sustainable Finance, Member States Expert Group on Sustainable Finance, Commission President, Executive Vice-President for the European Green Deal and Commissioners for Economy, Financial Affairs, Environment, Energy, Industry

CC: Chairs of the European Parliament Committees on Environment (ENVI), Industry, Research and Energy (ITRE) and Economic and Monetary Affairs (ECON)

Concerning: Inclusion of nuclear energy and fossil gas as sustainable investments in the EU Taxonomy Complementary Delegated Act covering certain nuclear and gas activities

Summary: The European Commission proposal to include nuclear and gas as sustainable investments for power generation in the EU Taxonomy risks derailing the credibility of the entire EU climate agenda and the European Green Deal. In this letter, the EEB exposes a list of fact-based arguments as to why neither of the two can be considered sustainable pathways to achieve a decarbonised and depolluted energy system and recommends that the EU refrain from including fossil gas and nuclear as sustainable investments in the EU taxonomy.

Brussels, 18 January 2022

Dear President Von der Leyen,
Dear Executive Vice-President for the European Green Deal and Commissioners for Economy, Financial Affairs, Environment, Energy and Industry,
Dear members of the Platform on Sustainable Finance and Member States Expert Group on Sustainable Finance,

On behalf of the European Environmental Bureau, I am writing to share with you our concerns on the potential inclusion of nuclear power and fossil gas in the classification of sustainable investments that is being currently discussed in the Complementary Delegated Act to the EU Taxonomy covering certain nuclear and gas activities.

The current deliberations on the Complementary Delegated Act covering certain nuclear and gas activities, as part of the EU Taxonomy, will play a fundamental role on defining the energy technologies that will make Europe transit the remaining decades until 2050, when the EU is set to become the first climate neutral continent as committed to in the European Green Deal (EGD). Through the taxonomy, the European Commission (EC) would be enabling these two polluting energy sources, which represent a serious long-lasting environmental concern (for climate, public health and harm to the environment), to be regarded as “sustainable” investments.

The main purpose of the Taxonomy is to classify which types of investments should be labelled as “sustainable”; it does not restrict in any way how governments may support a certain type of energy source. On the other hand, it should in practice serve as a science-based classification for informed investments to financial actors, with major implications for investment flows by European and national bodies. Classifying polluting energy sources such as gas and nuclear as sustainable will also result in knock-on impacts on state aid decisions and regulatory approaches and as well as send contradictory messages to other European actors such as the European Investment Bank (EIB).

Nuclear and gas have been considered by some as a transitional solution before installing large scale renewables to decarbonise the energy system. However, if the investment in these two technologies continues today these will be far from temporary. Any temporary solution that is applied to the energy transition should be evaluated based on the Do No Significant Harm (DNSH) principle. Yet nuclear and

gas are far from harmless, as we will show in the next sections of this letter. They both entail serious environmental concerns and will make the transition to a clean energy system more costly for EU citizens.

More importantly, this decision will have an immediate and direct consequence on the achievement of the EGD objectives: hundreds of millions of euros will be potentially divested from renewable energy, biodiversity protection, nature restoration, sustainable agriculture and circular economy to be directed to fossil fuels and everlasting nuclear waste.

1. Considerations on fossil gas

Over the past three years, some heavily coal-based EU Member States strongly pushed by the gas industrial lobby with the support of numerous EU governments have embraced the **fossil gas narrative** as a necessary intermediate step to comply with EU climate ambition, prior to the introduction of renewables at a larger scale.

These Member States have a clear element in common: their significant dependence on coal to power their economies. They argue that to break away from coal, a less polluting source will need to be introduced, which is gas. However, a recent study¹ has shown that a **direct switch from coal-based power generation to large scale renewables is** not only technically feasible, but the only way to keep in track with EU climate ambition and the 1.5°C objective of the Paris Agreement.

Gas has been depicted to these countries as the necessary bridging technology to ensure a constant supply of energy while the rest of the energy mix phases out coal. However, it is first and foremost worth stressing that **energy security of supply is not at all at risk** when the introduction of renewables is coupled by the introduction of enhanced energy efficiency measures, grid and storage adaptation to make use of the untapped potential of energy savings and circular economy policies. As the quoted study shows², the issue of intermittency and reliability often pointed to when depending on renewables can be compensated by rapidly introducing solar and wind technologies as well as reducing total energy demand via increased energy efficiency and electrifying as many end-uses as possible. Gas is not needed as a transition technology to achieve any of this.

Additionally, **new investments done today on fossil gas infrastructure will have persistent costs**. With the average lifetime of gas infrastructure being around 30 years (the figure going up to 80 years for the case of Liquefied Natural Gas terminals)³, additional gas capacities being planned today will inevitably result in large amounts of locked-in GHG emissions as well as other harmful air pollutants (e.g. NOx) and other upstream fossil gas pollution impacts for decades. This will weigh considerably on the taxes and bills of the consumers of those countries that will massively switch to gas today. As EU climate policy will tighten on power generation decarbonisation, these new infrastructures and power plants built today have a large risk of becoming stranded assets once they will need to be dismantled. The EU taxonomy has the power to funnel vast amounts of public and private funding to the projects considered sustainable, and if gas is included as such, resources will be lost to the necessary deployment of renewable power in the EU.

¹ CAN Europe/EEB (2020): Building a Paris Agreement Compatible (PAC) energy scenario.

² Ibid. We refer to the figures on primary energy supply shown in the study.

³ CAN Europe (2020): [EU Gas Infrastructure does not need more subsidies](#).

A particularly relevant problem arises in the case of hydrogen. The European Commission plans to invest heavily in upscaling hydrogen-based solutions as a low-carbon alternative to gas. However, these can only be relevant in the race to climate neutrality when hydrogen is produced exclusively from renewable energy sources and used in hard-to-decarbonise sectors. Any other solutions, including those involving Carbon Capture Storage and Use (CCS and CCU), imply further locking in of CO₂ emissions and are used to justify further investments in gas grids. If gas is recognised as a sustainable investment in the context of the EU Taxonomy, this situation will only get worse.

A further argument made by proponents of gas as a transition energy source to win the support of coal-based countries is its **apparently lower GHG emissions compared to coal**. However, this only holds when methane emissions in the form of leaks along pipelines are not accounted for. Methane impact on climate change is 84 times greater than CO₂. When well-to-plant methane emissions are included in comparisons of gas- and coal-fired power, the benefits of gas against coal are typically only marginal and if methane leaks total more than 3% of gas content, generating power can turn even worse for the climate than coal.

Additionally, the use of fossil gas entails **significant environmental damage** that is often overlooked and the technical screening criteria in the EU Taxonomy are falling back behind state of the art in the field. These environmental impacts are twofold and relate to air pollution and water use during operation and upstream related impacts associated with mineral oil and gas extraction. Regarding the former, as shown by the European Industrial Production Information Exchange⁴, the combustion of fossil gas in industrial uses entails high emissions of hazardous pollutants such as NO_x, NH₃ and CO. The DNSH requirement for electricity generation from fossil gaseous fuels in the Complementary Delegated Act to simply comply with current standards set for existing plants BAT levels based on 2010 data (2017 LCP BREF) and the MCP Directive are unacceptable **as these standards are already outdated**. The 2017 LCP BREF already sets the energy efficiency level associated with BAT at 61.5% for 'new units' (operating back in 2010). This level however has already been achieved by the class H Siemens turbines, leading to a GHG performance of 230gCO₂eq/kWh in CHP mode⁵. In the meantime, efficiency has been further improved to a level beyond 64%, leading to even less GHG pollution intensity (about 200gCO₂eq/kWh)⁶, yet the technical screening criteria in the Delegated Act set a level as high as 270g CO₂eq/kWh.

Besides, every combustion process such as the one needed for gas requires **water for cooling and steam generation**, which can be substantial⁷. Further investing in gas implies making further use of water, which will lead to **increased water scarcity and conflicts** in especially vulnerable communities across the EU. This will happen in a context in which 30% of Europe's population is already affected by water stress, and where technologies such as fracking, liquefied natural gas (LNG) and Carbon Capture and Storage further increase the water needs of a technology that is already water intensive. The technical screening criteria, however, do not address these water use impacts.

⁴ In particular, the data used to back our affirmations can be found in the Industrial Plant Data Viewer, accessible via [this link](#).

⁵ see notably declarations by plant operator of the CCGT Lauswart/Fortuna Nord <https://www.powermag.com/long-form-stories/2016-POWER-Plant-of-the-Year-Award/>

⁶ See declarations by Siemens as to the >64% energy efficiency level corresponding to state of the art <https://www.siemens-energy.com/global/en/offerings/power-generation/gas-turbines/sgt5-9000h1.html>

⁷ For further information on water use consequences of using gas, please refer to EEB's RESET guidance from October 2021, available in [this link](#). Or similar considerations from WIND Europe <https://windeurope.org/intelligence-platform/product/saving-water-with-wind-energy> and <https://windeurope.org/intelligence-platform/product/saving-water-with-wind-energy/>

The case for investing in gas technologies today **does not hold from an exclusively economic perspective either**. In its recent report titled “Net Zero by 2050 – A roadmap for the energy sector”, the International Energy Agency shows that the Levelized Cost of Electricity (LCOE)⁸, which gives a measure of the cost per megawatt-hour considering the building, maintenance and generation costs of a power plant, shows that renewables are already the most competitive energy source in the EU. The same study shows that their comparative advantage to their fossil-fuel-based counterparts will only increase in the coming decades. This means that the same investments placed in efficiency and renewables will deliver decarbonisation earlier, more cost effectively, and doing no or lesser harm as opposed to investing in gas and nuclear.

Possible new gas investments amount to about €15bn over the next 10 years, making up just about 1% of the EU Taxonomy covered market, which has been evaluated to 500-1,000 billion a year. This means that **not even the industry itself sees a case for new gas investments**. This “greenwash” therefore also comes with an excessive reputational cost for the European Commission which is not worth the 1% of investment scale earmarked for new gas deployment. In considering gas in the EU Taxonomy as a sustainable investment, the European Commission is putting at risk its entire climate agenda for a marginal part of the future energy supply, which will largely be based on renewables.

There is also a geopolitical cost arising from increasing EU dependence on gas. Most of the gas used in the EU is imported from non-EU countries (with Russian gas at the front). In a context of soaring energy bills, further investing in gas will only result on a bigger dependence from an energy source that has proven to be extraordinarily volatile. The associated cost for vulnerable citizens will obstacle the just transition in countries and communities where it is mostly needed and raises serious doubts about the ability of EU politicians to serve the common good and align with the European Green Deal that they committed themselves to.

We therefore call upon the Platform on Sustainable Finance and the Member States Expert Group on Sustainable Finance to:

- ***Refrain from including fossil gas as a sustainable investment in the Complementary Delegated Act to the EU taxonomy.***

2. Considerations on nuclear power

Nuclear power is also referred to as a necessary transition energy source to reach climate neutrality by 2050. Its proponents argue that nuclear plants provide a stable energy supply that does not generate CO₂ in the process. Nuclear, however, remains a threat for the large risks associated with reactors’ operation, maintenance, and nuclear waste management and disposal. and associated costs for generations far into the future. **It is also an energy source that, as stated publicly by EVP Timmermans cannot be qualified as green⁹.**

⁸ We refer to Table B1 in the study done by the IEA from 2020, available under [this link](#).

⁹ The quoted article is available in [this link](#).

If the economics of investing in new gas capacities today are far from feasible given the much lower LCOEs of renewable energy¹⁰, **the case for nuclear is even worse**. Comparing exclusively based on generation costs, the competitive advantage of renewables is even bigger than when compared with gas. The installation and maintenance of fission reactors has remained a poorly innovative (and therefore, poorly competitive) industry, in which old infrastructure has remained in operation even besides the significant safety risks.

Worldwide, **not a single technology-neutral tender has been won by nuclear energy**, while the absolute majority has been won by renewable energies, that have proven to be much cheaper than fossil and nuclear. Besides, the cost of nuclear is and remains an issue, as stated also by the report of the World Nuclear Industry status report¹¹. And the timescales for bringing new plants on line have proven systematically longer than promised, significantly delaying promised GHG emissions savings.

Member States that defend nuclear power as a solution are aware of this, and have recently proposed new technological solutions, such as the use of **Small Modular Reactors (SMRs) that are still far from being competitive and a realistic, cost-effective solution for the energy transition**. All these solutions still overlook the uncomfortable question of the management of the accumulation of nuclear waste, which is a reason enough to reject a decarbonisation pathway based on nuclear as a transitory technology. Furthermore, a generally unstated issue is that power companies will only face a limited liability for eventual nuclear accidents given that legislation will shield them from their full responsibilities; government would step in to cover some additional risks and costs, but ultimately a large share is uncovered and would simply be an uncompensated burden on citizens.

In supporting nuclear power as a transition energy source, the EC *de facto* keeps applying a perverse logic whereby instead of steering available financial resources into energy saving investments and/or non-polluting energy sources, it would allow for finance to be used to make up for the costs of nuclear decommissioning and radioactive waste management (i.e., instead of preventing pollution at source, dealing with pollution afterwards). **Tax-payers' money could therefore end up being siphoned away from truly sustainable solutions**, towards non-cost-effective measures that create additional risks and responsibilities, burdening the public.

This is not only an example of money not spent for the public good, but also **cost-ineffective economics** since, like in the case of gas, there is no need of a costly and dangerous solution such as nuclear to ensure energy security of supply in the EU while we transition to a renewables-based energy system. As a recent study has shown¹², a direct switch to renewables can be done when combined with higher energy efficiency, more implementation of circular economy measures and stable renewables such as hydropower and bioenergy that meet stringent sustainability criteria are kept in use.

The case for nuclear energy does not hold from a lifecycle perspective either. The mining and processing of nuclear fuels as well as the management of radioactive waste are energy-intensive and environmentally harmful activities. In fact, the accumulation of radioactive waste alone, which in some cases has generated decades-long environmental harm, should be reason enough to make nuclear energy not compatible with the Do No Significant Harm principle of the EU Taxonomy, even if financing schemes for decommissioning nuclear power plants are being put in place.

¹⁰ We refer again to the IEA report quoted before.

¹¹ Link to the referred report available [here](#).

¹² CAN Europe/EEB (2020): Building a Paris Agreement Compatible (PAC) energy scenario.

Additionally, **water use is also worse for the case of nuclear power** (> 1.5m³ l/MWh (pond cooling) / average 2.5m³ l/MWh for recirculation cooling), as any kind of fission reactor needs large amounts of sourced water for functioning and ensuring safety at all times. The Do No Significant Harm principle currently overlooks this, which is a major environmental consequence of further investing or continuing the current operation of nuclear power plants in the EU. Furthermore, no criteria for ensuring good water status (temperature, oxygen level) as well as protecting aquatic life due to water discharge and abstraction have been set. When additional environmental concerns such as water use are factored in, considering nuclear power as a realistic option becomes even more unconvincing.

Lastly, while the **Taxonomy is intended to steer private investment**, when addressing nuclear energy it also binds large state financial assets in terms of minimum price purchase guarantees needed by private investors, public investments in radioactive waste facilities and management, and insurance: it is impossible to find a single insurance company willing to insure any nuclear plant for disasters and any major incident will have direct consequences on the public purse, besides public health and environment.

We therefore call upon the Platform on Sustainable Finance and the Member States Expert Group on Sustainable Finance to:

- ***Refrain from including nuclear power as a sustainable investment in the Complementary Delegated Act to the EU taxonomy.***

3. Conclusions

The EU Taxonomy was promised to be a tool to help investors recognise and label sustainable economic activities, to promote a transition to a zero-carbon future and help guide funding toward the solutions society needs. However, **the inclusion of gas would lock in fossil fuels and not lead to the CO₂ gains proponents claim, and the inclusion of nuclear would lock in risks and responsibility for radioactive waste for generations to come.** Both would attract money away from better solutions such as energy efficiency measures, building renovation, renewable energies and heat pumps.

With the inclusion of nuclear and gas as sustainable investments **the EC would not only be “greenwashing” those energy sources by considering them as sustainable when they are not**, but also hampering the good functioning of sustainable finance. If gas and nuclear are included in the Taxonomy, investors will not be able to rely on a common, robust and science-based classification of sustainable economic activities, diluting the main goal of the regulation. It would also make the work of investors even more complicated, as many investors that want to propose sustainable products want to continue to avoid nuclear and gas. It will be very challenging for them to continue to do so, while other investors will be able to continue business as usual calling sustainable products which include environmentally and socially harmful economic activities.

Including gas and nuclear in the taxonomy would also **risk undermining commitments to no longer invest in gas as made by the EIB**, would facilitate decisions on state aid grounds and more favourable regulatory approaches to support national investment in nuclear and gas, and potentially also complicate the National Recovery and Resilience Plan funding and priorities. Furthermore, private investment funds will find it harder to resist investing in gas and nuclear and hence **European citizens committed to sustainable investments may find it harder to be confident that their decisions**

contribute to the energy transition and a carbon-neutral future. The inclusion in the taxonomy of gas and nuclear is therefore much more than a recognition of a short-term need for gas and nuclear as part of the transition. Its inclusion would undermine the transition. Moreover, the likely impacts are far too important to be contained in secondary legislation and **it is inappropriate to use this legislative instrument which severely limits the role of the European Parliament and hence the voice of EU citizens.**

The support for gas and nuclear in the taxonomy will therefore be a step in the wrong direction for Europe, for decarbonisation, and **would undermine the credibility of the European Green Deal and the European institutions themselves.** There is no good climate, environmental, or economic reason for the EU to support measures proposed by a subset of Member States when better alternatives exist. There are many good reasons to exclude gas and nuclear and doing so only withdraws an explicit signal of support by the EU for these technologies, it does not stop Member States, who, according to the EU Treaty, retain exclusive competency for their domestic energy mix, to make their own choices. **The taxonomy should guide, and it should guide towards sustainability.** We therefore urge you to refrain from including fossil gas and nuclear power as a sustainable investment in the complementary rules to the EU taxonomy.

Yours sincerely,



Jeremy Wates
Secretary General