Public Consultation on the Revision of the Energy and Environmental Aid Guidelines (EEAG)

A Eurelectric response paper

January 2021

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

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WG Wholesale Market Design & Investment Frameworks

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Key messages:

- **Ambitious climate goals, together with a smooth and market-driven operating environment, should be the primary drive behind investment in technologies needed to achieve the Green Deal's objectives**, including the net-zero greenhouse gas (GHG) emissions in the European economy by 2050. The achievement of a meaningful carbon price signal through the EU ETS is crucial to enable a market-driven development of decarbonisation solutions.

- **State aid, however, has a role to play when there are well-identified long-term/structural market failures, making market signals insufficient to incentivise investments.** In order to minimise impact on the competition and trade in energy and emission markets**, state aid should be granted primarily to investments in innovative or promising but immature technologies** that would otherwise not materialise now or in the near future.

- The guidelines should establish the necessary **framework to allow all Member States to support – when needed – all technologies that can contribute to the achievement of EU decarbonisation, renewable energy and energy efficiency objectives while ensuring security of supply**, in line with their National Energy Climate Plans (NECPs).

- **The revised EEAG should contribute to the achievement of the European Green deal's objectives** (including carbon-neutrality, renewable energy development, energy efficiency, security of supply, etc.) **and be fit for purpose with regards to market development** (e.g. energy system integration) **and technological changes in the energy sector.**

- **When it comes to areas to be covered by the revised EEAG, state aid should preferably be technologically neutral.** However, technology-specific approaches can be required to maintain sufficient momentum for electrification and decarbonisation by 2050 in line with the EU regulatory framework and the appropriateness and proportionality criteria.

- In particular:

    - The direct and indirect **electrification of the European industry** will be essential to achieve the European Green Deal's objective of climate neutrality. **In line with Eurelectric's call for a dedicated Electrification Strategy, additional financial support may be necessary to ensure a timely introduction and development of electrification, delivering CO2-emission reductions and other common objectives.** The revised EEA guidelines should explore the possibility of **providing a methodological toolbox for Member States to evaluate the contribution of electrification technologies to the common environmental and energy objectives.**

    - The creation of an **enabling framework for public funding to increase investments to improve energy efficiency,** especially via electrification of the building and transport sectors, is key to achieve the Green Deal Objectives.

    - **Renewable sources already play – and this role will be increasingly crucial - a paramount role in the context of the decarbonisation**.

        - **State aid should focus on innovative/still immature technologies in renewables,** incl. storage and power to X facilities that are not expected to be viable in a market-only context.
        - **If there is state aid for commercial and mature RES technologies, it is important to have adequately designed and competitive auction mechanisms in place**.
        - The revised EEAG should be **more open towards technology specific auctions in justifiable cases.**

    - For investments in firm flexible capacities (generation, storage, demand-side response from residential, commercial and industrial customers) needed to ensure security of supply, state aid rules should be technology neutral unless these investments are affected by specific market failures. **Well-designed markets incentivising flexible demand and additional market-based capacity mechanisms when needed, are essential to guarantee security of supply and to support the needed investments. Fast-track procedures should be considered for an agile implementation and update of such state aid schemes.**

    - **Some low-carbon dispatchable generation technologies** are not listed in the proposed areas where aid could be allowed.

    - **In the transition, and to help reach carbon-neutrality by 2050, the replacement of existing CHP units with highly efficient installations that incorporate renewable generation and/or low carbon fuels should be entitled to aid,** as far as possible via a competitive auction bidding process. More generally, the inclusion of **green repurposing** (e.g. re-qualification, re-use or transformation of old and/or decommissioned assets) for State aid measures should be taken into account.

    - **As an indirect form of electrification, renewable and/or low-carbon hydrogen produced by electrolysis could be the missing link needed for the decarbonisation** of sectors where direct electrification is not possible or more expensive. This should be reflected in the revised EEAG**.**

- **Electrification of transport through investments in e-mobility and re-charging infrastructures** should be considered paramount in achieving the European Green Deal ambitions. The revised EEAG should better cover and support such developments across Europe where and when needed.

- A public funding framework could be needed to support construction, replacement, upgrade and/or digitalisation of **energy infrastructure**.

- **On aid award procedure:**
  - **Competitive bidding processes should be the general rule to allocate investment and operating aid for energy and environmental purposes,** provided sufficient competitive pressure exists. However, currently admissible grounds for derogations from awarding aid in competitive procedures should be maintained.

  - **Cross-border opening of national schemes should not be made mandatory,** but based on voluntary agreements as those defined in RED II. **Instead the EU RES Financing mechanism should be strengthened and established as a tool for regional or even European tenders.**

- **On aid type:**
  - **Costs considered eligible by the GBER should cover capital expenditures and operational expenditures.**

  - **The revised EEAG should clarify the concepts of "investment aid" and "operating aid".** In our view, both investment and operating aid concepts are strongly related to the purposes of the costs they are contributing to compensating (investment phase vs operating phase) and not to the way in which the incentive is being granted (€/MW or €/MWh).

  - **The revised EEAG should ensure that subsidy schemes do not incentivise inefficient dispatch decisions.** Future subsidy schemes to generation units should continue to withhold support when energy prices are lower than the variable costs of the units for a longer period (e.g. in case of negative prices for RES generation).

  - **For most technologies, the funding gap approach is the most appropriate approach** as what matters from a business decision-making process is to know how the investment is repaid. An auction is the most appropriate way to discover what the funding gap to cover is. However, for those technologies that have very small investment costs and very large operating costs, the aid intensity approach may be more appropriate.

  - In order to consider the different starting points of Member States in the decarbonisation, **the revised EEAG should maintain the bonus of 5% point compared to the basic aid intensity currently foreseen for assisted areas.**

A. Environmental Protection and Energy

A. 1. Context

The electricity industry is committed to deliver a carbon-neutral power supply for Europe well before 2050 and is transforming the energy system to make it more and more responsive, resilient and efficient. **Carbon-free direct and indirect electrification as well as the resulting energy efficiency gains will make the key contributions to the decarbonisation of transport, buildings and industry.** Eurelectric supports a target of at least 55% net greenhouse gas (GHG) emissions reduction by 2030.

In combination with an efficient implementation of the Clean Energy Package's provisions, Eurelectric's view is that the current EEAG framework has generally worked sufficiently well over the last years as a means of ensuring that national policies are proportionate, well-designed, facilitating common energy and climate goals, whilst avoiding distortion of the internal market.

Ambitious climate goals together with smooth and market-driven operating environment are needed to provide a long-term view for market actors and speed up investments to achieve the ambition of the Green Deal, including the net-zero greenhouse gas (GHG) emissions in the European economy by 2050**.**

- **Electricity demand and market prices (demand and supply balance) should primarily drive investments** in the needed technologies needed to achieve the EU Green Deal ambition.
- **The achievement of a meaningful carbon price signal through the EU ETS,** which can drive cost-effective greenhouse gas emission reductions in the EU in line with its Paris Agreement commitments, together with effective measures to deal with the carbon-leakage risk while preserving the decarbonisation incentives, **is crucial to enable a market-driven development of decarbonisation solutions.**
- **The application of the Efficiency First guiding principle**, together with the gradual phasing out subsidies for fossil fuels, are a priority for the Green Deal and, hence, critical criteria to be considered for State aid compatibility assessment.

State aid, however, has a role to play when there are well-identified long-term/structural market failures, making market signals insufficient to incentivise investments. Especially in view of the ambitious GHG reduction and renewable energy targets for 2030, the market alone may not suffice to trigger the necessary expansion of renewable energy across the EU.

- Within the framework of necessary support to achieve the EU's climate targets, **the revised EEAG should limit the negative impacts of the interventions on the energy and emission markets.** In particular, in line with the appropriateness and proportionality criteria, overcompensation has to be avoided since this would significantly distract functioning energy markets.
- In the context of reinforced decarbonisation targets**, state aid should be granted primarily to investments in innovative or immature technologies** that would otherwise not materialise now or in the near future
- **If there is state aid for commercial and mature RES technologies, it is important to have adequately designed and competitive auction mechanisms in place**. State aid can help improve the economics of projects, affordability for consumers and stability of the energy transition in the spirit of the EU Green Deal.

The energy market and the EU's economy are, however, changing rapidly to accommodate stricter decarbonisation targets by 2030 and 2050. **It is therefore vital that the EEAG is fit for purpose with regards to market development (e.g. energy system integration) and technological changes in the energy sector.**

Last but not least, when state aid is needed because of the reasons mentioned above, the information about these aids should be available for market actors as early as possible in order to minimise impact on competition and trade. Information is crucial for the investors planning market-based investments in carbon neutral electricity production, but also project developers planning to invest based on State aid and for the public acceptance of the energy transition. At the same time, there should be a very clear vision about the phasing out of the possible subsidies.

A.2. Common Interest Objective and Necessity for aid

The revised EEAG should contribute to the achievement of the redefined objective of common interest referring to the European Green deal, including (but not exclusive to) the objective of carbon-neutrality by 2050.

Accordingly, **the revised EEAG should have a broader scope to cover all the eligible projects and technologies that are affected by market failures and contribute to the effective and efficient decarbonisation of the EU economies.**

The guidelines should therefore establish the necessary framework to allow all Member States to support – when needed – all the technologies that can contribute to the achievement of their National Energy Climate Plans (NECPs), in accordance to EU decarbonisation objectives. In particular, we call on the European Commission to consider all available technologies that can contribute to those objectives. We call for a clarification on the reasons why low-carbon dispatchable generation technologies such as large-scale nuclear and Small Modular Reactors, hydro power plants, or gas-fired plants fuelled from renewable and low-carbon gases, are not listed in the proposed areas where aid could be allowed (see question 23 of the questionnaire).

Furthermore, the objective is not only achieving environmental and climate ambitions: **the revised EEAG should consider as priorities the carbon-neutrality, the resilience and competitiveness of the European industry and the security of supply, while removing subsidies for fossil fuels.**

State aid must preferably be technologically neutral (i.e. aid open to all technologies affected by the market failure identified thus ensuring a level-playing field)**,** while complying with the appropriateness and proportionality criteria and minimise impact on competition and trade. Technology-specific approaches can be required to maintain sufficient momentum for electrification and decarbonisation by 2050 or in the case of renewables in view to an adequate system integration.

Areas that need to be addressed in the revised EEAG

To guarantee a reliable achievement of the European Green Deal and of the national NECPs objectives, it is paramount that **the revision of the General Block Exemption Regulation (GBER) allow for block-exempted aid in currently unaddressed sectors**, **for the deployment of technologies which contribute to the development and more efficient utilisation of decarbonised energy** e.g. in mobility as well as in buildings or waste heat from industries and tertiary sector.

Moreover, the upgrade of the electricity system to include distributed flexibility services and to connect new massive Renewable Energy System generation requires huge investments to provide improvements in **digitalisation and reinforcement of distribution assets**, i.e. smart grids and reinforcement deployment in order to enable distributed resources and aggregators value chain development. Therefore, the GBER revision should provide for greater flexibility of the aid rules through the increase of the block-exempted thresholds currently envisaged for the notifications of individual aid and the removal of geographical limits. **When aid cannot be granted under the GBER and it needs to be notified, we recommend setting up a fast-track procedure.**

The topic of **energy efficiency** represents one of the most challenging objectives to pursue for the 2030 Climate Targets. There are two main sectors that are directly involved and that account for the largest share of GHG emission due to energy inefficiency, namely building and transport sectors (see above). Electrification of these sectors can help using energy more efficiently. The European Commission is aware of the energy efficiency issue and it is trying to address it through specific rules such as the Renovation Wave. The structural problem lies in the fact that the investments needed in the field of energy efficiency are important, and at the same time, the measures required are not attractive for private investors. Therefore, it requires the creation of an **enabling framework for public funding to increase investments to address energy efficiency.** This should ensure that a combination of measures can be pursued consistently to address the decarbonisation of the buildings sector e.g. energy efficiency and on-site renewables.

The direct and indirect **electrification of the European industry** will be essential to achieve the European Green Deal's objective of climate neutrality and the EU's 2030 target of at least 55 net percent emission reductions. The electrification of industrial processes, powered by renewables or carbon-free electricity with, for example, electric boilers or industrial heat pumps, is expected to deliver a significant contribution to overall cost-effective emission reductions, but will require a significant increase of investments. **In line with its call for a dedicated Electrification Strategy, Eurelectric considers that additional financial support may be necessary to ensure a timely introduction and development of electrification, delivering CO2-emission reductions and other common objectives.**

Renewable sources play a paramount role in the context of decarbonisation. The deployment of renewables represents a real success for the European Union, however, there is need for further development to achieve the target of at least 55% greenhouse gas (GHG) emissions reduction by 2030. The reduction of the total production costs and the important steps forward at technological level make even more convenient the deployment of the renewable sources that are essential to the achievement of the European Green Deal.

- **State aid should focus on innovative/immature technologies in renewables that are not expected to be viable in a market-only context.** This can equally apply to new or existing renewable generation in combination with storage (hybrid plants) or power-to-X facilities that will be crucial to support the development needed in RES generation to achieve the 2030 targets and to ensure security of supply.

- **If there is state aid for commercial and mature RES technologies, it is important to have adequately designed and competitive auction mechanisms in place**. State aid can help improve the economics of projects, affordability for consumers and stability of the energy transition in the spirit of the EU Green Deal.[1]

[1] In the specific case of offshore wind, tendering may include grid infrastructure connecting offshore wind farms to the public grid. Experiences from the UK in exposing grid connection to competition point at lower cost and significant benefits to consumers.

- **The benefits of competitive allocation are extensive,** especially when ensuring proportionality / avoiding overcompensation risk. See our further comments in Section A.4.2 on competitive bidding processes.

- **The current wording of the EEAG is very restrictive in relation to exceptions from technology neutral auctions.** However, due to the different characteristics of variable renewables technology specific auctions might be necessary for a better system integration. Therefore, **the wording should be more open towards technology specific auctions in justifiable cases.**

Regarding firm flexible capacities (generation, storage, demand-side response from residential, commercial and industrial customers) to respond to an increasing share in renewable electricity generation and ensure security of supply, **State aid rules should be technology neutral unless they are affected by specific market failures:**

- New carbon-neutral firm and flexible capacity needs to be developed now to replace fossil fuels and thereby preserve security of supply while progressing towards carbon-neutrality in the longer term. In order to guarantee a required level of reliability standard, different complementary flexibility options and technologies are needed (including deployment and repowering of hydro-pumped storage plants, battery storage, demand side response, etc…), but market failures are in some cases currently still preventing the needed investments to materialize.

- **Well-designed markets incentivising flexible demand and additional market-based capacity mechanisms when needed, are essential to guarantee security of supply and to support the investments.** The firm capacity contracted in capacity mechanisms should be selected in a technology-neutral market-based manner and according to their capacity contribution during stress events. Although capacity mechanisms are currently submitted to State aid approval by DG COMP, one should keep in mind that well-designed competitive capacity markets (open to generation, storage, demand response and cross-border participation) are complementary to the short-term energy markets and provide long-term visibility for investors. **Unless they are becoming an integral part of the electricity market design, capacities needed to ensure security of supply should still have the opportunity to benefit from state aid. Fast-track procedures should be considered for an agile implementation and update of such schemes.**

- The development of flexibility platforms by DSOs, to trade flexibility provided by third parties, should be treated as any regulated investment by the DSO, subject to a regulated remuneration.

Inspired by the sustainability criterion, state aid rules should pay attention when dealing with subsidies for emitting technologies in order to reach the Green Deal objectives. However, in the transition, **the replacement of existing CHP units with highly efficient installations that incorporate renewable generation and/or low carbon fuels should be entitled to aid, as far as possible via a competitive auction bidding process.** Depending on the local circumstances, CHP can facilitate and accelerate the transition towards a zero-carbon economy, provide valuable assets for increasing energy system integration, ensure security of electricity and heat supply and help to achieve environmental goals (e.g. air quality).

In this context, **green repurposing** is related to the re-qualification, re-use or transformation of old and/or decommissioned assets. It can be an important economic opportunity that helps to mitigate negative economic, social and environmental impacts deriving from the transition. Moreover,

efficient repurposing and restoration of land and existing infrastructure is often seen as a fundamental factor in attracting new businesses and permanent new jobs in the affected regions. Considering that there are several decommissioned plants, lands and infrastructures and there will be even more during and after the transition, the inclusion of green repurposing in the context of the State aid measures should be taken into account, while in any case complying with the appropriateness, proportionality and minimise impact on competition and trade criteria.

As an indirect form of electrification, renewable and/or low-carbon hydrogen produced by electrolysis could be the missing link needed for the decarbonisation of sectors where direct electrification is not possible or more expensive. This should be reflected in the revised EEAG**.** Its potential is not negligible although the economics still represents a huge limitation for large scale production and use. Depending on the Member States, supporting frameworks could streamline the development of renewable and/or low-carbon hydrogen produced by electrolysis in sectors where direct electrification is not possible or more expensive.

Transport is an important building block in the EU energy-climate policy, since it represents almost a quarter of Europe's greenhouse gas emissions. The development of electric vehicles and charging infrastructures can significantly contribute to the reduction of GHG emissions and, at the same time, pave the way to the electrification of the sector. Therefore, e-mobility and re-charging infrastructures should be considered paramount in achieving the decarbonisation of the European Union and, consequently, to achieve the European Green Deal ambitions. However, the current State aid rules do not adequately cover and support such developments across Europe where and when needed.

A.3. Type of aid/aid instrument

A.3.1) Eligible costs: operating versus investment expenses

Costs considered eligible by the GBER should cover capital expenditures AND operational expenditures, as projects for the benefit of the environment and for the energy transition are facing very different risks during their lifetime.

The State aid guidelines should not introduce rigidity by defining State aid through stiff categories such as investment or operating costs. The choice of the approach should instead depend on the type or the objective of the project Such an approach is also warranted in order to allow Member States to give investors the required predictability on risk, costs and revenues allocation in order to rebuild the required short/medium/long-term incentives and ability to price the flexible and low-carbon energy in a competitively effective way. This is a key element if Member States want to attract private investors in the energy market that are needed to meet the ambitious challenges set by the Green Deal.

The revised EEAG should explicitly foresee the possibility for Member States to propose novel instruments which allow for an adequate allocation of costs and risks between beneficiaries and Member States while meeting the proportionality requirements.

A.3.2) Form of the aid: operating aid versus investment aid

It would be important to clarify the concepts of "investment aid" and "operating aid". Indeed, these concepts are not really defined in the current EEAG guidelines, nor in the GBER. In particular, there isn't necessarily any one-to-one mapping to the cost structure (CAPEX, variable

OPEX, fixed OPEX,…) of the projects benefiting from state aid. The aids received, being investment and/or operating aids, might cover several different elements in the cost structure.

When **aid is expressed in variable terms** (e.g. in EUR/MWh), the aid is made proportional to the operation or production of the project. As such, this aid has therefore the appearance of **operating aid** – additional operation yields more aid received. However, this aid could nevertheless be related to investments costs (CAPEX) and necessary to trigger/support new investments. For instance, this is the case of contracts for differences supporting renewable electricity generation. Incidentally, this is also the case for Hinkley Point C – see the judgement of the ECJ in Case C-594/18 P (recitals 109-122). In other words, an aid expressed in variable terms could nevertheless be related to an investment incentive and therefore be an **investment aid**. However, in this case, such an aid is prima facie expressed in variable terms, it is very often associated to the terminology of "operating aid".

When **aid is expressed in fixed terms** (e.g. in EUR/MW), the aid is not related to the operational performance of the project. In particular, it does not give more incentives to assets that could be more extensively used (which is the initial rationale of support for renewable electricity generation expressed in variable terms in order to incentivize the production of electricity volume). Such an aid is therefore more adapted to cover CAPEX or fixed OPEX and facilitate the development of an economic activity through investments (new assets, but also existing ones through major overhauls). As such, this aid has therefore the appearance of an **investment aid**. For instance, this is the case of capacity markets, which are meant to reward availability of capacity rather than production of volumes.

Both investment and operating aid concepts are strongly related to the purposes of the costs they are contributing to compensating (investment phase vs operating phase) and not to the way in which the incentive is being granted (€/MW or €/MWh). However, it is relevant to pay attention to the way the aid is granted, €/MW or €/MWh as it provides different incentives.

On this matter, existing State aid guidelines have already significantly improved the situation by triggering the switch from FIT to market-based schemes and have established balancing responsibility and rules to avoid injection when prices are negative. The implementation of the Electricity Regulation should lead to further improvements (see removal of priority dispatch, introduction of balancing responsibility and of market-based redispatch, facilitation of market access, active participation of consumers / more flexible demand), although some exceptions from these principles are still possible (for instance for smaller installations).

In our view, making electrification more attractive and demand more flexible should be the preferred way for solving the issue of negative price periods.

However, the revised EEAG should ensure that subsidy schemes do not incentivise inefficient dispatch decisions. Future subsidy schemes to generation units should continue to withhold support when energy prices are lower than the variable costs of the units over a longer period of time (e.g. in case of negative prices for RES generation). Either way, the related rules should be balanced against the volume risk they create for RES generators and the associated cost increases and disincentives for new projects.

None of the mechanisms mentioned in Q33 for operating aid (fixed premium, variable premium, contract for difference) really solves the issue of negative prices. They are designed to finance RES generation and not to provide incentives to reduce/ stop generation at specific moments. Therefore, they need to be complemented with specific regulatory requirements. As suggested above, a balance need to be found between market integration / efficient dispatch decision based on price signals and providing investment certainty.

Carbon contracts for difference (CCfDs) – if applied – should be awarded via competitive technology-neutral bidding procedures. In order to be able to incentivise decarbonisation in different sectors, which exhibit different abatement costs, it is probably needed to have sector-specific tenders and in some cases technology-specific. Otherwise, only sectors or technologies that already have the most mature solutions would win and this could be detrimental to reaching the overall objective. This instrument seems most relevant for industries that are subject to the EU-ETS price signal, especially for the carbon-leakage sectors. Once they are implemented and there is a return of experience, the instrument may then be extended to other sectors including power sector in the context of sector integration. Moreover, the effectiveness of the instrument in the case of free allocation of emission allowance (as is the case today for most fossil-fuel based hydrogen consumption) needs to be evaluated. To start with, we need more experience with this instrument.

It should be recognised, however, that CCfDs are instruments with the same goals as the EU-ETS and – as shown above – may impact EU-ETS prices and thereby interfere with the EU-ETS and may have a major impact on competition and trade across-all ETS sectors, including the power sector. Thus EU-ETS as a market measure should be a first-choice instrument.

What is also important, CCfDs are potentially much more expensive than EU-ETS. The financial burden of CCFDs' implementation may be unbearable for several MSs. This could cause the deep pockets distortions / subsidy races.

In order to ensure that the mechanism does not provide excessive support beyond what is necessary, the CCfD should be designed to ensure proportionality of the aid. Therefore the next State Aid Guidelines should widely mirror the conditions (necessary, appropriate, proportionate, with minimal impact on competition and trade) in place today for aid for renewable projects and for generation adequacy in the power sector to enable the introduction of CCfD.

A.3.3) Aid intensities – Funding gap

In general, we find that the use of an aid intensity approach is less appropriate than a funding gap approach. The main advantage of aid intensity is that it is easy to use, but what is a relevant business decision-making process is the full funding gap coverage (i.e. how the investment is repaid). Typically, the investment is triggered by certain revenue or savings over lifetime and the investor wants to have this difference balanced (if any). For instance, with GBER limitations, aid for an industry is not attractive because they do not cover their extra costs. **For most technologies, an auction is the most appropriate way to discover what the funding gap for each enterprise is.**

However, for those technologies that have very small investment costs and very large operating costs, the aid intensity approach may be more appropriate. Their extra cost is the investment cost. In other technologies like CHP, RES heating and cooling, district heating and cooling, waste recycling etc, which have important variable costs, if only the aid is given for investment, an important part of calculating the feasibility of a project will be overlooked.

The General Block Exemption Regulation (GBER), the Research and Development Guidelines (RDG) and the Environmental and Energy Aid Guidelines (EEAG) limit the **aid intensity for large companies** to 50% for national industrial R&D and/or Energy aid programs. This is insufficient for example to trigger investments in innovative, sustainable and industrial-scale demonstration projects achieving full carbon neutrality.

Regarding the support to research and innovation projects (GBER, Article 25), the aid intensity is limited to 25% under the "experimental development" category, a very low rate when compared to the aid intensities defined by European funding programmes for activities at similar technology readiness levels (70% in H2020 for Innovative Actions, 50% in CEF for pilots, 60% in Innovation Fund, 55% in LIFE). **We consider that this aid intensity should be increased to at least 50% to foster**

the implementation of demonstration or pilot projects in real environment. Such projects need financial support to bridge the gap between earlier stages (low CAPEX, in simulated environment) and latest stages of technology development (high CAPEX, in real operating conditions), helping to derisk promising innovative solutions.

Last but not least, in consideration of the different starting points of Member States towards decarbonisation, **we call on the European Commission to keep the current bonus of 5% point compared to the basic aid intensity which currently foreseen for assisted areas** covered by Article 107(3)(c). See Annex 1 of the current EEAG.

A.4. Aid award procedure

A.4.1. Transparency

Decarbonisation is one of the overarching targets and it should be achieved in the most cost-effective way for consumers. Transparency is therefore needed to understand the carbon abatement cost of different solutions, thus fostering MS' accountability and the public / tax-payers' scrutiny and acceptance.

It should not be mandatory to make the carbon abatement cost (i.e. EUR/t CO2 avoided) the only criterion to select the winners of a tender ex-ante, in particular where support mechanisms address different targets, and not exclusively decarbonisation (see also our views on competitive bidding processes below). Moreover, the calculation of avoided GHG emissions can be complex and subject to certain bias depending on the sector concerned and on which type of (life cycle) methodology is used.

For projects also pursuing other objectives (e.g. air quality, biodiversity, etc.), the quantification of the cost per unit environmental benefit could be reported as far as actually possible.

Overall transparency is only partially suited to mitigate several risks (overcompensation, crowding-out of private investment, greenwashing, lack of cost effectiveness, deep pockets distortions). **In general, a well-designed competitive bidding process is better suited to mitigate them and could obviously be combined with transparency requirements for this process.**

A.4.2. Competitive bidding processes

Competitive bidding processes should be the general rule to allocate investment and operating aid for energy and environmental purposes, provided sufficient competitive pressure exists. However, we suggest keeping currently admissible grounds for derogations from awarding aid in competitive procedures (please refer to paragraph 126 third sentence of the EEAG).

When aid aims at achieving technology development goals, we therefore call for the EEAG to consider State aid supporting specific technologies as the preferred option to determine the bespoke support levels needed by different technologies, in light of their specificities and scalability. In these cases, the scope of the aid must be strictly limited to the achievement of the goal pursued (i.e. technology development is very different from a massive deployment).

A.4.3. Cross-border opening of national schemes

We would not necessarily make cross-border opening of national schemes mandatory, but based on voluntary agreements as those defined in RED II. Creating such schemes seems to entail significant transaction cost for Member States (concluding bilateral agreements, setting up joint schemes, etc.) Moreover, first experiences have shown that the outcome of such tenders depends heavily on differences in the national regulatory frameworks (permitting rules, taxes, network tariffs design, etc.) so that projects are not competing on a level playing field. Selected projects might therefore not be built where it is most cost-effective from a resource/system point of view.

Instead of mandating cross-border opening of national schemes, the EU RES Financing mechanism (foreseen under Article 33 of the Governance Regulation (EU) 2018/1999 of the Clean Energy for all European package) **should be strengthened and established as a tool for regional or even European tenders.** This may in particular be relevant for the efficient deployment of cross-border offshore wind energy projects in the spirit of the EC's Offshore Renewable Energy Strategy. With this in mind, the EEAG revision has to be done in coherence with this new financing mechanism.

In the case of capacity mechanisms, given the regional aspect around adequacy, there is however a clear advantage and requirement to consider cross-border participation (as imposed by the electricity market regulation).

The **tools proposed in this section** seem to be rather complete and powerful to raise alarm signals of competition distortions. Further mechanisms would risk creating additional administrative burdens and slow down too much processes. In particular, we believe that the proposed public consultation, open to all parties (Member States and other), is a valuable tool. It should apply to support schemes for small projects under a certain budget threshold as well as to tendering conditions for large-scale projects.

A.5. Others:

As mentioned earlier, **the State aid assessment process could benefit from considering additional externalities, especially based on a forward-looking view and not only on a short-term perspective** (e.g. risk of carbon lock-in in case of too myopic approach). It is important to reflect how State aid policy could shape some incentive for Member States and investors to anticipate on the long-term targets. This is even more important in the electricity sector as the huge investments that will be required are capital-intensive and have usually long lifetimes**. Introducing some impact assessment on the expected contribution to long-term objectives (like sustainability and/or security of supply) could incentivise to anticipate issues and to identify appropriate solutions in due time** (e.g. before the underlying issue becomes an emergency and unsustainable solutions would be the only feasible short-term option).

However, Eurelectric believes that linking the state aid framework with the EU taxonomy regulation has to be avoided. As such, the EU taxonomy is helping to facilitate sustainable finance mechanisms: it is contributing to fund projects contributing to the final net-zero decarbonisation targets more easily, and ideally at a lower cost (for the investors and ultimately for the consumers). However, in the short to medium term (during the transitional phase), it is premature to link the state aid guidelines to the taxonomy regulation. For instance, the latter does not take a system-wide perspective recognizing the complementarity of different decarbonisation options and sufficiently value the contribution of transition technologies.

B. Energy-intensive users (EIUs)

It should be useful to recall the definition of EIUs as recognised in 2014 EEAG guidelines as industries with a high electro-intensity (electricity costs accounting for at least 20% of gross value added), see Annex 4 for the definition of electro-intensity.

In this part, the EC consultation is talking about the reductions granted to EIUs on the charges levied to support renewable energies, in the context of their increase over the past years and with the risk of relocation of these industries.

In line with the EU decarbonisation objectives, EIUs should be encouraged through State aid to invest in energy efficiency and the decarbonisation of production processes, for example via electrification.

Of course, there is a high risk that the increasing levels of taxes and levies on electricity will significantly impair EIUs' electrification. To support to decarbonisation schemes, one should prefer carbon taxes on fossil fuels and ETS-related revenues rather than other financing sources, which should normally limit need for state aid. Up to now, a very significant share of the energy decarbonisation process has been achieved and paid for by the electricity sector and, ultimately, by consumers of electricity. Taxes and levies in electricity bills account for up to 70% of the bill in some Member States thus discouraging the use of electricity-based technologies and services.

The review of the Energy Taxation Directive should give the opportunity to better allocate the weight of taxes on the different energy carriers in order to encourage and promote the decarbonisation, particularly through electrification, of the economy and the use of electric solutions at consumer level. Limiting the combined weight of taxes on electricity will help make electricity more affordable and contribute to minimising the social and distributional impacts of decarbonisation policies.

Include clear rules for large-scale direct and indirect electrification in the guidelines

Direct and indirect electrification, combined with the decarbonisation of the power sector, is key to achieving a carbon-neutral EU economy and reaching more ambitious 2030 targets, as set out in the European Commission's Long-Term Energy and Climate Strategy, the European Green Deal and the 2030 Climate Target Plan. Electrification is an important abatement technology for industrial sectors and heat production for district heating. Direct electrification (e.g. electric boilers supplying heat for industrial processes) and indirect electrification (e.g. electrolysers producing hydrogen based on renewable and/or low-carbon generation mix) will require a significant increase of investments. Also, electrification of industrial processes can have higher operational costs than current processes due to the price difference between electricity and currently used fuels (e.g. natural gas), as well as differences in network charges. **In line with its call for a dedicated Electrification Strategy, Eurelectric considers that additional financial support may be necessary to ensure a timely introduction and development of electrification, delivering CO2-emission reductions and other common objectives.**

However, the current 2014-2020 Guidelines on State aid for environmental protection and energy do not address the specific issues related to some electrification options. While renewable and low carbon hydrogen production is identified in the questionnaire as a possible technology area for the revision of the guidelines, direct electrification of industrial processes and heat production for district heating/cooling is missing unfortunately. This is remarkable, considering electrification is a relatively cost-effective abatement measure and electrification is expected to play a significant role in reaching the EU's targets. Moreover, a non-discriminatory approach for

both direct and indirect electrification options is important to prevent unnecessary market distortion.

Eurelectric calls on the Commission to include large-scale direct and indirect electrification as a separate technology area in the revised guidelines, in order to provide more clarity to both Member States and investors on the compatibility of aid. Currently, methodological issues related to the evaluation of emissions and the related abatement costs of electrification undermine investment certainty. Clear rules will help the timely development of large-scale electrification as a key technology to achieve ambitious CO2 targets in combination with decarbonisation of the electricity sector.

Last but not least, the revised EEA guidelines should explore the possibility of **providing a methodological toolbox for Member States to evaluate the contribution of electrification technologies to the common environmental and energy objectives.** Member States could consider several options for assessing the contribution of electrification to emission reductions in terms of indirect emissions (CO2-output of the relevant electricity mix, physical direct connection, virtual direct connection,…).

The method to demonstrate a virtual direct connection could entail amongst others providing a power purchasing agreement with a specific renewable energy or carbon-free source in combination with evidence that the electricity is used simultaneously with the production by the contracted zero-carbon source (e.g. by using telemetry). Additionally, the purchase and usage of the related guarantees of origin in accordance with Directive 2009/28/EC should be required, in the case of renewable energy use.

As an indirect form of electrification, renewable and/or low-carbon hydrogen produced by electrolysis could be one of the potential missing links in the transition to the decarbonisation, which should be reflected in the revised EEAG**.** Its potential is not negligible although the economics still represents a huge challenge for large scale production and use. Depending on the Member States, supporting frameworks could streamline the development of renewable and/or low-carbon hydrogen produced by electrolysis in sectors where direct electrification is not possible or more expensive. In particular, state aid guidelines should take the OPEX-heavy nature of direct and indirect electrification into account and acknowledge the need for continued operating aid. The comparable cost gap should be quantified on the basis of the final energy product being replaced. Annex III of the 2014 EEAG should therefore be updated by adding renewable and low-carbon hydrogen production by electrolysis to the list of eligible sectors.

With regard to aid for small-scale applications with direct or indirect electrification, such as vehicles propelled by electricity or hydrogen or domestic heat pumps, the Commission should allow Member States to follow an administratively less complex approach, based on direct (or tailpipe) emissions. In this context, we refer to paragraph 15 of the current 2014-2020 on State aid for environmental protection and energy on the scope of the guidelines (see above Necessity for aid-Sectors not addressed today).

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability

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