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ENGIE Response to the Targeted Consultation for the Evaluation of the Guidelines on State Aid for Environmental Projects and Energy 2014-2020 (EEAG)

Attachment to the questionnaire

Introduction: ENGIE's view on state aid policy in the context of an affordable energy transition

The European Commission has presented its long-term strategic vision on how Europe can lead the way to climate-neutrality by 2050 by investing in technological solutions, empowering citizens and taking actions in key areas like industrial policy, finance and research. Important milestones have been set for 2030 in form of ambitious, binding targets for energy efficiency, decarbonization and renewable energies, which will have to be achieved within only a decade. Given the political nature of these targets, it is not realistic to expect market forces to deliver all by themselves. Complementary, cost-effective policy measures are needed to orient investments towards the achievement of these political objectives. A key measure in this context is carbon pricing which has been implemented albeit incompletely (through a European CO_2 price that is not sufficiently robust and limited to the EU ETS sector only).

In the absence of a comprehensive and long-term carbon price signal and when short-term market prices are not able to deliver long-term investment signals or push innovative technologies, state aid will continue to play an important role to fill the gap. The approach is likely to differ depending on whether we look at existing, already largely deployed and well-proven decarbonization technologies, or new solutions with a promising but less predictable development and cost reduction potential. State aid for the former – where still needed – should be applied in a competitive, market-based and least distortive way. In case of new, promising technologies, state aid policy should enable governments to provide smart support to kickstart their development and scale them up with the aim to reduce costs for consumers in the longer run. State aid rules for these technologies must be open and not too prescriptive in order not to hamper positive evolutions and at the same time avoid the mistakes of the past that have led to excessive burden on consumers or taxpayers.

Finally, Europe's long-term decarbonization goal presents an unprecedented industrial challenge – to which Europe wants to respond by defining an assertive long-term EU industrial policy strategy. State aid should be understood as an enabler of this wider industrial strategy to promote an EU industry that offers cutting-edge, green products and solutions, reduces its own carbon footprint and contributes to local development, quality jobs and fair salaries.

Overall Evaluation

The current guidelines have put a **strong focus on cost-efficiency of individual measures**, e.g. when it comes to the design of RES support or capacity mechanisms. They have also led to a certain level of convergence of the design of policy instruments across Europe, in particular support mechanisms for renewable electricity.

Generally, ENGIE would like to stress the need to design and apply state aid policy in full awareness of the broader context of the energy sector. Increasing the cost-effectiveness of individual policy interventions is a laudable objective but it is even more important to **bring down the total cost of the energy transition.** This requires to **not only focus at LCOE[1] but also pay attention to system integration cost**, negative and positive externalities and impacts on other sectors. In this context, **ENGIE would like to emphasize the role of sector coupling between electricity and gas to enhance security of supply, decarbonization and cost-efficiency.** These benefits must be considered in the revision of the State Aid Guidelines for Environmental Projects and Energie (EEAG) and their future application.

Security of supply is addressed in a less systematic way by the EEAG. Although the EEAG take a reasonable and pragmatic approach towards capacity mechanisms, this still allows only for patches to a market design that is structurally flawed. In an energy system with increasing fixed costs and decreasing variable costs, where substantial CAPEX investments are needed in the coming years to make the transition to a low carbon economy, **an Energy-Only-Market based on marginal pricing (i.e. variable costs) does not provide the necessary investment signals both for low carbon technologies/renewables and for the necessary back-up capacity**. This is a key reason why several Member States have recently introduced capacity markets and other capacity mechanisms such as strategic reserves.

Support Mechanisms for Renewable Electricity

The cost of renewable electricity production has decreased impressively over the last years and ENGIE recognizes that improved support scheme design in line with state aid rules has, among other factors, contributed to this development. Indeed, mechanisms have become more competitive and market-based and a certain convergence of support scheme design has taken place across countries.

ENGIE generally agrees that **competitive bidding is an appropriate mechanism** to develop larger-scale renewable electricity projects and allocate financial support in a cost-efficient way. **Exceptions from tendering** can be justified for small projects, immature technologies as well as in small and fragmented markets with low liquidity and no homogenous bidding structure.

However, in order to realize cost reduction potentials, tenders <u>and complementary policies</u> have to be well-designed: A “stop and go” approach must be avoided, and tenders must be organized in regular intervals and with **sufficient visibility on the auction schedule and intended volumes**. Provisions in the

[1] LCOE = Levelized cost of energy. They include the direct cost of a project including the initial capital investment, maintenance costs, fuel cost (if any), operational costs and the discount rate. They do not include indirect costs related to network reinforcement, balancing and back-up needs.

revised Renewable Energy Directive (Art. 4.6) are helpful in this regard. Moreover, **ENGIE strongly supports the possibility of technology-specific tenders** to allow for a balanced development of renewables, even more so since first experiences have shown that a technology-neutral approach tends to result in a strong focus on just one technology – the cheapest in terms of LCOE (and neglecting broader system integration cost). A technology-specific approach provides better visibility for developers, facilitates system integration (benefitting from a certain complementarity of wind and solar) and geographical diversification of RES projects, allows to promote less mature technologies and avoids the risk of overcompensating the cheapest technology. It also helps societies to create consensus around the country's future energy mix. All these elements have an important impact on the social acceptance of the energy transition. **The current text in the EEAG, which requires a technology-neutral approach as starting point and puts the onus of proof on the Member State to justify any decision in favor of technology-specific approaches, should be modified to put both options (technology-neutral and technology-specific tenders) on an equal footing.**

We would also like to recall that **proper tender design is key to ensure that selected projects are realized.** This can be achieved through appropriate prequalification and delivery rules (e.g. financial deposits, penalty for non-realization, proof that the projects have reached a certain development stage, etc.).

ENGIE understands the interest in a cross-border opening of tenders but is concerned about the difficulty to create a true level playing field between countries. We therefore consider that **cross-border opening should not be a hard requirement for state aid clearance of national mechanisms**. Even more so as with the EU Renewable Financing Mechanism foreseen in the RED II/Governance Regulation, a dedicated instrument will be created to foster RES development on a European scale or at least across several countries.

When it comes to market integration of RES-E installations, state aid guidelines should reflect relevant provisions in the new Electricity Market Regulation: No more priority dispatch / feed-in tariffs for installations above the applicable thresholds (unless these are demonstration projects), balancing responsibility (which can also be outsourced to a service provider), market-based curtailment rules with compensation etc. Provisions should not be imposed retroactively (in line with Art. 6 RED II) but Member States should be encouraged to put in place schemes for exempted installations to opt in and to take over balancing responsibility on a voluntary basis and with compensation.

The current guidelines require that generators should have "no incentive to generate electricity under **negative prices."** Negative prices as such are a signal that the power system is lacking flexibility and an excess of energy is produced. Flexibility options such as storage, demand response, sector coupling technologies (power-to-gas) can in principle benefit from negative prices. However, negative prices occur too rarely and randomly to trigger investment in such technologies. The number of negative price hours could increase in the future (especially if the development of flexibility does not keep pace with RES development), which could present a revenue risk for RES operators and increase the cost of capital. It its therefore important to implement this rule in a way that provides as much visibility as possible for investors: **It should be applicable to a limited number of hours and should not threaten the profitability of renewable projects. In particular, it should not be applied retroactively**. Capacity mechanisms that are open to storage and demand response can improve the business case for investment in flexibility solutions and help mitigate the occurrence of negative prices.

Renewable Gas / Biomethane

Europe's obligations under the Paris Agreement and its ambitions to become carbon-neutral by 2050 **can be achieved most cost-effectively through a balanced approach combining energy efficiency, electrification and a substantial role of gas** (as opposed to an excessive electrification scenario). Obviously, the gas has to become green and decarbonized over time.

However, renewable gas stands in direct competition with natural gas and (subsidized) renewable or non-renewable electricity. At the same time, **there is no level-playing field, negative and positive externalities are not properly taken into account**. Notably, renewable gas presents benefits for which it is not directly remunerated: It contributes to CO_2 and pollutant reduction, it is a storable and dispatchable form of energy as compared to intermittent wind and solar which need flexibility and back-up sources to integrate them in the energy system (while integration costs are largely socialized), biomethane stimulates rural development and brings benefits to the agricultural sector.[2] These distortions, that won't be corrected on the short term, explain why a degree of intervention is needed to allow renewable gas technologies to take their place on an equal footing with other solutions to deliver an optimized energy system.

The following applies to biomethane only, for renewable hydrogen and renewable synesthetic gas, please refer to the last part of the document on new technologies/market developments.

Policy initiatives to promote biomethane should take a holistic approach and seek to properly valorise the multiple benefits of this technology as stated above. Dedicated support mechanisms could then fill the gap to full competitiveness. **For larger, industrial-scale installations tendering can be an appropriate mechanism, whereas exemptions for smaller projects from competitive mechanisms can be justified.** Smaller projects are often run by farmers that only have one site (and no project pipeline) and would have to spend money and start developing their project without the certainty to gain the support at the end. This issue has been central for the development of biogas sector in France, which is based on rather small units of agricultural dimension.

In addition to the investment and operating cost of the biogas production unit, **the upgrading of biogas to biomethane**, which can be injected in the gas network, involves substantial CAPEX to cover the equipment but also the equity requirement from banks.[3] As regards the cost of grid connection, network reinforcement and other cost related to the integration of biomethane producers in the gas grid, Member States should be able to socialize these cost in their network tariffs (as is the case in France for 40% and in Germany for 100% of the grid connection cost)

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[2] Benefits of biomethane development from an agricultural perspective include for instance the use of the digestate as biological fertilizer, the development of cover crops that increase carbon storage in soils, the reduction of water nitrate pollution, the reduction of phytosanitary products usage, etc.

[3] E.g. in France, banks ask for an equity share of around 30% of the project cost.

In conclusion, the current text of the EEAG which covers biomethane projects under chapter 3.3.2.2 (Aid for energy from renewable sources other than electricity) and/or chapter 3.1 (Common Assessment Principles) is appropriate as it leaves enough flexibility to adapt support mechanisms to the level of maturity and industrialization of the biogas sector in each country.

Demonstration projects

With regard to demonstration projects and based on own experiences, we would like to point out that the definition of demonstration projects as "first of a kind in the Union" is too restrictive and compromises legal certainty for potential investors. Moreover, the "first of a kind" criterion does not have to be fulfilled by the project as a whole but it could be enough that specific parts, some "technological bricks" can be considered "first of a kind". **Consequently, the "first of a kind" criterion should be deleted from the guidelines and any important or "significant" innovation that goes well beyond the state of the art should be considered a demonstration project**.

Moreover, it should be made easier to change parameters of the project after the decision, considering that innovative projects are constantly evolving by nature. **Notified changes to demonstration projects for which state aid has been already confirmed, should always be examined through simplified procedures** (20 working days from the date of notification).

The length of the state aid approval process is indeed a critical element. Lengthy processes mean that the final decision comes late in the project development process, at a stage where the "value at risk" (i.e. the development costs which could be lost by shareholders if the project is stopped due to a negative state aid decision) is very high. Any delays in approval processes have a dramatic impact on the risk assessment by shareholders.

Capacity Remuneration Mechanisms

In the absence of any framework for capacity mechanisms, the State Aid Guidelines and the work by DG COMP in this framework (see e.g. the sector inquiry on capacity mechanisms) were the main references to ensure that the approved capacity mechanisms were necessary and cost-effective in providing security of supply and least-distortive to competition and intra-EU trade. Given the publication of the new Electricity Regulation (more specifically the articles related to adequacy assessments and capacity mechanisms), explicit design features are now imposed to capacity markets and other capacity mechanisms like strategic reserves. Although they are broadly in line with the analysis performed earlier by DG COMP under the umbrella of the EEAG, ENGIE believes that the requirement to have capacity markets in complement to energy markets in order to ensure security of supply during the energy transition has not been fully recognized. Indeed, if capacity providers (generation, demand response, storage) cannot expect to recover their investment cost and fixed operating cost, those assets are likely to be decommissioned and new assets (providing firm capacity) will not be built.

ENGIE would therefore like to remind that **well-designed competitive market-wide capacity markets should not be considered as “subsidies”, but as a market design feature that ensures system adequacy at the reliability level decided by the authorities**. The new provisions (cf. CO_2 emission performance standards) also tackle the need to favor firm flexible capacity providers in line with the long term decarbonization targets. Going forward, the perspective of cross-border capacity markets allows for a systemic approach of security of supply from a European perspective. The design of such schemes should take into account the interoperability of national schemes while ensuring a tailor-made approach with respect to national requirements.

Energy Efficiency

State aid guidelines should better recognize the role of Energy Service Companies (ESCOs) and prevent a discrimination of ESCOs when it comes to support mechanisms. Aid schemes (such as investment aid, tax advantages, special depreciation periods, …) often address energy consumers directly (industry, owners of buildings etc.) but are not easily accessible to ESCOs. A major added value provided through ESCOs is the ability to offer **asset-based solutions**, i.e. the ESCO makes the investment and sells a service to the consumer, with no up-front capital expenditure on the consumer’s side. Having direct access to financial support is fundamental for such business models. The role of the ESCO as intermediary needs to be taken into account when assessing the “incentive effect” of the aid (it is the service of the ESCO that will trigger a change of behavior and/or investments by the final consumers to increase energy efficiency which would not have happened without the activity of the ESCO).

District Heating and Cooling

ENGIE’s evaluation of the existing provisions in the EEAG and in particular the General Block Exemption Regulation (GBER) on district heating and cooling (DHC) is overall positive with a few suggestions for improvement: The investment support granted to DHC networks and production facilities does not cover their disadvantage in terms of operating cost compared to alternative forms of heating and cooling. **In particular the operating (fuel) cost of renewable heat production are not competitive with natural gas prices. A higher aid intensity for renewable heat production plants could help to cover this delta** and improve the economic context of renewable DHC – which is a key technology to contribute to renewable development in heating and cooling. **The aid intensity threshold for renewable heat production could be increased by 10% for each category of undertakings**: increase to 55% for large undertakings, 65% for middle and 75% for small undertakings.

In the context of the need to boost DHC projects, **ENGIE is in favor of the revision of the notification threshold for investment aid for DHC: 25 million euros** per undertaking per investment project instead of 20 million euros today should simplify the implementation of support schemes for larger DHC projects.

It must also be noted that renewable gas to be used in DHC might not be produced at the site of the heat production. Indeed, it is more economic to build biomethane production facilities (digester, etc.)

where the feedstock is available (e.g. close to agricultural sites) and transport the biomethane through the gas grid. This must be taken into account in support mechanisms as long as the renewable characteristics of the gas used in DHC can be reliably proven (e.g. through Guarantees of Origin or mass balancing).

Support mechanisms for renewable DHC should also cover heat storage and consider the circular economy (use of waste and residues as feedstock).

Contribution of energy-intensive customers to financing the energy transition

ENGIE agrees with the need to strike a balance between fair sharing of the cost of the energy transition between different societal groups on the one hand and preserving the competitiveness of Europe's energy-intensive industry on the other hand (and in particular preventing a relocation outside Europe). Finding a proper equilibrium is a delicate task but very important to ensure affordability and acceptance of the energy transition and avoid carbon leakage.

The entirety of exemptions/reductions for energy-intensive industries from renewable support cost, system integration cost of renewable (e.g. partly included in network tariffs), compensation of the impact of EU ETS (even though part of different guidelines), etc. must be evaluated on a regular basis taking into account all relevant effects: For instance, direct support cost for RES-E will tend to decrease once high-cost legacy installations drop out of support schemes while indirect cost for system integration are expected to increase. At the same time, benefits might arise for companies from a generally lower level of wholesale prices due to increasing penetration of RES.

Well-balanced and "smart" exemptions/reductions for industry will continue to be needed. In exchange, beneficiaries should be obliged to make a quantified commitment to improve the carbon footprint of their activities (energy consumption, manufacturing processes, buildings, fleets, etc.) They can comply with this obligation for instance via energy efficiency improvements, clean energy procurement notably via corporate renewable PPAs or renewable on-site generation, operating their fleet with alternative fuels, etc. This way, financial means from public budgets or from non-exempted consumers, who have to finance the exemptions/reductions for industry, can directly trigger additional environmental and climate action while at the same time protecting industry against loss of competitiveness.

New technologies and market developments

Several of the new market developments and technologies listed in the questionnaire are addressed in the Clean Energy Package with the intention to foster a market-based development of storage, renewables, smart energy technologies, demand response etc. thus minimizing the need for subsidies. The CEP also requires putting in place an enabling framework for PPAs, self-consumption, energy communities, etc.

The first principle should be to let the market work. However, in some cases further intervention will be needed to drive maturity or kick-start a larger deployment of mature technologies that need economies of scale to trigger further cost reductions and become commercially viable (e.g. renewable hydrogen, synthetic fuels, low-carbon gas).

In the following we present preliminary thoughts one some of the technologies/developments that are raised in the questionnaire:

Zero subsidy bids

Zero subsidy bids should not be expected to become the standard situation. Indeed, the examples so far were subject to very specific circumstances (shielding developers from substantial parts of development risk, network connection socialized, synergies with already existing projects/infrastructure, no bids bonds or other guarantees that projects will be actually built, …). **Even with falling LCOE, renewables will have to rely on revenue stabilization mechanism to minimize risks for investors and keep the cost of capital under control**. Over-remuneration can be avoided e.g. by a two-sided Contract-for-Difference (CfD)[4] or a cap on the financial incentive. In case of truly zero subsidy projects (i.e. projects can be realized fully on a merchant basis without any intervention like e.g. a floor price), these should fall outside the scope of State Aid Guidelines.

Storage

Storage is covered under chapter 3.8 (Aid to energy infrastructure). However, the definition is too narrow and excludes certain types of storage such as smaller batteries or P2G. **The definition has to be aligned with the one in the new Electricity Directive**. Moreover, covering storage under the "infrastructure" definition contradicts the unbundling principle that has just been upheld in the Clean Energy Package: **Ownership and operation of energy storage is an activity for market players and should not be open to network operators**. Wherever investment in storage is made by system operators as a last resort, this should be closely monitored in order not to foreclose opportunities for market players.

As a principle, investment in storage should be driven by market signals (spreads on energy markets, revenues from balancing/flexibility markets and capacity markets). Storage should compete on a level playing field with other flexibility and back-up solutions. Only under specific circumstances (e.g. in case of demonstration or first commercial scale installations or market failure) storage could benefit from dedicated financial support.

[4] A two-sided CfD works as follows: As long as market revenues remain below the strike price, the operator receives a top-up, when market revenues exceed the strike price, operators have to pay back

Hydrogen and synthetic gas/fuels made from hydrogen

Hydrogen produced via electrolysis plays a key role in the EU Commission's decarbonization scenarios and is considered as "missing link" that will enable the benefits of sector coupling (in terms of cost-efficiency, integration of intermittent renewables, seasonal and long-term storage options, etc.). Despite these advantages from a system perspective, **there is no positive business case under pure market conditions** in the short and medium term and financial support is needed to kickstart the development.

Hydrogen and synthetic gas/fuel production should only be eligible for financial support if produced from renewable energy (renewable electricity, biomethane steam reforming) as provided for in the Renewable Energy Directive. A clear definition of renewable hydrogen and renewable synthetic gas/fuels allowing for a clear distinction from non-renewable forms is of key importance. **ENGIE considers that dedicated provisions on renewable hydrogen and renewable synthetic gas/fuels are necessary to recognize their role in decarbonizing the energy, industry, transport sectors and avoid uncertainty**. However, given the level of maturity and deployment of these new technologies, **provisions should not be too detailed but state only general principles** comparable to chapter 3.3.2.2 (Aid for energy from renewable sources other than electricity) and/or chapter 3.1. (Common Assessment Principles).

It should be noted that chapter 3.3.2.2 is not directly applicable to renewable hydrogen and synthetic gas/fuels as it sticks to the concept of **LCOE** (levelized cost of energy production) which could be misleading. It should be made clear that **the relevant concept for hydrogen is LCOH** (levelized cost of hydrogen production) which comprises CAPEX and OPEX of electrolysis and includes also electricity prices and electricity transmission and distribution cost.

A proper consideration of hydrogen and synthetic gas/fuels also requires the **adjustment of definitions**: "renewable hydrogen" should be explicitly enumerated in the definition of "renewable energy sources".

Furthermore, we would also like to point out paragraph (114) which generally excludes the possibility to grant state aid to fuels/gases that are subject to a supply or blending obligation (as e.g. the obligation on transport fuels suppliers in RED II to procure 14% renewables). This paragraph adds however an exception in case of sustainable fuels/gases that are too expensive to come on the market with only such a blending obligation – it should be made explicitly clear that this exception can be applicable also to renewable hydrogen and renewable synthetic gases used in transport.

Corporate renewable PPAs

While there is a strong uptake of corporate PPAs in the United States where such contracts are heavily subsidized, corporate PPAs are developing also in some markets in Europe. **ENGIE welcomes this evolution – the more so as the development is driven by the market, i.e. consumers' voluntary demand to be supplied with renewable energy**. This presents a shift in paradigm compared to the historical "top-down" development of renewable energy via policy measures.

Member States could encourage final customers to conclude corporate PPAs via tax reductions or other incentives. Also, in some countries, corporate PPAs can be combined with renewable support mechanisms (e.g. operators may sell their energy under a corporate PPA at market price to a final consumer and benefit from a premium support on top to cover the delta between a reference price and LCOE). Such a construction is positive as it allows the RES operator to reduce the price risk with regard to the reference price and “lock-in” a certain level of market revenues. This will reduce the need for additional financial support to renewables.

Corporate PPAs are a private contract between two or more parties and **the contract as such should not fall under state aid scope if no subsidies are involved**.

Self-consumption and energy communities

Alike PPAs, self-consumption and energy communities can be welcomed as a form of consumer-driven renewables development and empowerment of citizens, which may contribute to increase acceptance of the energy transition. At the same time, such developments should not lead to extra burden for those customers who prefer to be supplied via the public grid by “classical” suppliers.

Renewable self-consumers and energy communities may have access to common RES support mechanisms or dedicated “self-consumption schemes”. They may also benefit from explicit exemption/reduction of network tariffs and other charges or simply from the fact that network tariffs on lower voltage levels are often purely volumetric (the later case should not be considered a subsidy). In these cases, self-consumers and energy communities do not fully contribute to system cost which might increase the burden on remaining customers.

When participating to common RES support mechanisms, energy communities should compete on an equal footing, this includes the absence of negative as well as positive discrimination. Dedicated rules for energy communities should be avoided (e.g. higher thresholds for exemptions from tendering or market integration), this would not be in line with the Clean Energy Package and introduce distortions with RES projects by other operators. Energy communities can refer to services providers to manage the complexity of tender applications and take care of market integration tasks.

Dedicated schemes for energy communities and exemptions/reductions from (network) charges should be evaluated carefully. They may be justified e.g. if RES development by an energy community leads to lower system cost than “uncoordinated” development of local production and consumption.

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