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ELECTRICITY FOR EUROPE

Consultation on Draft Guidelines on Environmental and Energy State Aid for 2014-2020

A EURELECTRIC response paper

February 2014

EURELECTRIC is the voice of the electricity industry in Europe.

We speak for more than 3,500 companies in power generation, distribution, and supply.

We Stand For:

***Carbon-neutral electricity** by 2050*

We have committed to making Europe's electricity cleaner. To deliver, we need to make use of **all low-carbon technologies**: more renewables, but also clean coal and gas, and nuclear. Efficient electric technologies in **transport and buildings**, combined with the development of smart grids and a major push in **energy efficiency** play a key role in reducing fossil fuel consumption and making our electricity more sustainable.

***Competitive** electricity for our customers*

We support well-functioning, distortion-free **energy and carbon markets as** the best way to produce electricity and reduce emissions cost-efficiently. Integrated EU-wide electricity and gas markets are also crucial to offer our customers the **full benefits of liberalisation**: they ensure the best use of generation resources, improve **security of supply**, allow full EU-wide competition, and increase **customer choice**.

***Continent-wide** electricity through a coherent European approach*

Europe's energy and climate challenges can only be solved by **European – or even global – policies,** not incoherent national measures. Such policies should complement, not contradict each other: coherent and integrated approaches reduce costs. This will encourage **effective investment to** ensure a sustainable and reliable electricity supply for Europe's businesses and consumers.

EURELECTRIC. Electricity for Europe.

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KEY MESSAGES

EURELECTRIC subscribes to the main objectives of the state aid review: to foster growth in the internal market, focus enforcement on cases with the biggest impact and facilitate faster decisions. Support in the field of energy has increased rapidly, leading to major market distortions. EURELECTRIC therefore calls for the following:

1. Do not delay the entry into force: Review of state aid rules in the field of energy is needed. We encourage the Commission to proceed with the state aid review without delay.

2. Avoid retroactive change, but adopt new rules for new schemes and projects: The new rules should be applied to new schemes and to new projects within existing schemes throughout the EU. Commitments for projects under existing schemes must be respected to avoid additional regulatory uncertainty, which negatively affects the investment climate.

3. Go for more market-based support: We welcome the move towards a more market-based and cost-efficient design of support and integration of supported generation into the market. A gradual phase-out of subsidies should follow when technologies reach maturity.

4. Distinguish between "less deployed" and "deployed": EURELECTRIC supports the introduction of the categories "deployed" and "less deployed" technologies and the differentiation of operating aid for renewables based on these categories. A list of deployed (>1.5% of power generation) and less deployed technologies that is valid during the validity of the guidelines should be included. We oppose the proposed reductions in maximum aid intensities for renewables investment aid, because investment aid does not distort short-term market signals.

5. Adopt balancing for all: All producers should have balancing responsibility regardless of their size. Balancing responsibility should be applied consistently throughout Europe.

6. Be technology-neutral: Environmental or other concerns on specific technologies are addressed elsewhere. Directives on environmental impacts must be implemented regardless of references in the state aid rules: singling out hydropower and bioenergy is therefore inappropriate.

7. Recognise that not all CRM are state aid, their design is key: State aid control should contribute to identifying capacity remuneration mechanisms (CRM) that could involve state aid. Market-based CRM should be regarded as an element of a new market design, not state aid. To avoid market distortions, the guidelines should ensure convergence of market-based CRMs at regional level based on a regional adequacy assessment. The guidelines should be in line with the legally non-binding guidance by DG ENER. CRMs should be technology-neutral and non-discriminatory. Environmental impacts of power generation should be addressed through other instruments.

Energy Policy and Power Generation Committee
Chair Oluf Ulseth
in cooperation with DSO Committee, Markets Committee
and Environment and Sustainable Development Committee

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Introduction

EURELECTRIC supports the main objectives of the state aid modernisation: to foster growth in a competitive internal market, focus enforcement of state aid rules on cases with the biggest impact on the internal market, streamline rules and facilitate faster decisions. Support in the field of energy has increased and led to major market distortions that hamper the functioning of the internal energy market. ***We encourage the Commission to proceed with the state aid modernisation without delay.***

The Commission should facilitate integration of energy market, minimise market and competition distortions and the fragmentation of the internal market caused by ill-designed national support measures and to provide an effective RD&D framework for the energy sector. Sound state aid rules that help to reduce market distortions are the foundation for a cost-efficient move towards the low-carbon economy as set out by the ambitious 202020 objectives. They should support the completion of the internal energy market by ensuring a level playing field and thus promote competitive energy supply.

By reducing market distortions, state aid control contributes to the same goals as the overall energy policy reform, which includes the guidances from DG ENER, as issued on November 5th 2013. A coherent approach is needed in order to avoid contradiction and to promote regulatory certainty and a sound investment climate.

In EURELECTRIC's view progressive phase-out of subsidies should follow when technologies approach maturity. This applies to technologies for power generation from all energy sources, storage, cogeneration, smart grids technologies etc. The EU member states should gradually remove subsidies for mature technologies by 2020, however respecting existing commitments. Instead of using extensive support schemes that do not take into account maturity of technologies, ***public support should be focused on research, development, demonstration and first commercialisation*** of new technologies and incremental improvements in existing technologies through Research, Development and Innovation. Prior to phase out subsidies, member states should reform their support schemes and ensure market integration of supported technologies.

The Environmental and Energy Aid Guidelines constitute together with General Block Exemption Regulation (GBER) and State Aid Framework for Research, Development and Innovation (RDI) a framework for providing state aid to the electricity sector. The different instruments need to complement each other, and their scope and the links between them should be clearly expressed. These instruments cover together for example the whole innovation value chain up to the first commercial scale projects and wide spread deployment of technologies. But currently ***the link between the RDI guidelines and the EEAG or GBER is not sufficiently developed*** - where does demonstration end and commercial scale deployment start? What are the tools used for innovation - the path from immature - or less deployed technologies- to mature - deployed technologies? This has to be clarified.

The guidelines will be valid from mid 2014 till the end of 2020, influencing the energy sector also beyond 2020. Policies, technologies and market integration are expected to evolve significantly in the coming years, and EURELECTRIC finds it appropriate that the guidelines will again be reviewed before 2021.

EURELECTRIC regrets that the draft guidelines are not accompanied by an impact assessment**,** but that the impact assessment will be provided only at a later stage. It should have been possible

for the stakeholders to get acquainted with the Commissions' reasoning behind the proposed changes and comment the analysis.

Comments article by article

(1) SCOPE AND DEFINITIONS

(1.2) Aid measures covered by the guidelines

Paragraph 17, Scope of the guidelines
The scope of the guidelines has been extended compared to the existing guidelines: they cover energy infrastructure, tradable permit schemes, aid to carbon capture and storage and generation adequacy. ***EURELECTRIC supports the extension of the scope***, because it takes into account the changes in the field of energy, contributes to harmonisation of state aid rules and increases their predictability for member states and beneficiaries.

However, regarding capacity remuneration mechanisms (CRM) the State aid guidelines should take into account that in view of growing generation adequacy concerns due to increasing RES penetration and, in some cases, peak demand, a review of the current market design is becoming increasingly needed in some regions across Europe. State aid control should distinguish between non-market based CRM that could involve state aid, while market-based CRM should be considered as an element of a new market design. Non-market based CRM are those where the price for the capacity is set administratively. EURELECTRIC's view is that if introduced, CRMs must be technology neutral and non-discriminatory i.e. give equal treatment to existing and new units for generation, storage, demand and interconnectors, and should be coordinated at regional level to ensure consistency and minimum distortion to the internal energy market. CRMs should only be introduced as a means of ensuring security of supply, not to achieve other policy objectives. CRM should also be open to cross-border participation.

Regarding regional aid for energy in the assisted regions, EURELECTRIC considers that possibility to provide higher aid in assisted regions is indeed needed in some cases. Energy is a key for further social and economic development of any region.

Support mechanisms for renewable energy and cogeneration (investment aid, tax exemptions, operating aid in the form of feed-in tariffs/premium or certificates) are addressed in several parts of the guidelines. The Commission should express in the context of the scope what support mechanisms for RES and cogeneration are included in the guidelines.

(1.3) Definitions

The definitions should be precise and avoid ambiguity. If possible, also such wordings as "substantial effect" and "substantial increase" which are relevant to the overall understanding of key provisions should be clarified. Missing definitions should be added, and the some definitions are to be revised.

We suggest to modify the following definitions:

- *Energy infrastructure:*
    - Electricity storage is part of the competitive market, not infrastructure. It should not be included within infrastructure. Please see our comments to paragraph 200.

    - The definition does not include district heating and cooling (DHC) networks (18 (ff)). There is a lot of potential for smart heat solutions, and we suggest DHC networks to be covered in general definitions and included in the definition for smart grids.
- *Generation operator:* The suggested definition "*generation operator is an undertaking which produces electrical power from fuel sources*" is problematic because all power generation technologies do not require fuel. We suggest to refer to independent power producer (IPP).

Definitions for the following terms should be added for the sake of clarity:

- *Operating aid*
- *Investment aid*
- *Market failure:* Please see our comments to Chapter 3.
- *Start of a project:* Please see our comments to paragraph 60.
- *Eligible costs:* Term "eligible costs" is central in the guidelines and the definition should be provided in Chapter 1.3 (Definitions), not only in the main text (paragraph 77).
- *First commercial scale*: A definition for projects of first commercial scale should be included. Otherwise the identification of these projects and determining whether they should belong to RDI guidelines or Energy and environment guidelines is difficult. There should be a clear distinction between demo projects and projects of first commercial scale.
- *Levelised costs:* Term "levelised costs" is central in the guidelines.

The components for calculating allowed aid levels should be clearly defined.

(2) NOTIFIABLE ENVIRONMENTAL AND ENERGY AID

Paragraph 19, Notification thresholds for individual aid

In EURELECTRIC's view ***the Commission should assess support schemes instead of individual projects within notified schemes.*** Notification of individual projects appears out of line with the Commission's objective to streamline state aid processes and would impose an unnecessary administrative burden on developers. The additional notification leads administrative burden, higher risks and possibly also higher costs especially for projects with long time span between investment decision and start of operation.

Regarding renewable electricity, even support schemes for small scale generation can cause significant market distortions when the total budget is large and/or support levels high. In addition, a capacity based threshold for renewable energy can lead to schemes being sized below the economic optimum simply to avoid the notification requirement.

In case individual notifications will be carried out also in the future, annual thresholds ensure equivalent criteria for notification between aid granted repeatedly for a one-year period and aid granted once for a multi-year period. However, we recognise that it is not possible to determine the exact amount of annual support ex ante.

In addition, EURELECTRIC recommends to take into account the following remarks:

Paragraph 19 b) (i) , Notification thresholds for RES

The suggested notification threshold for investment aid is the same as before (7.5 mE), and can be considered relatively low. It should be increased at least to take into account the inflation since the publication of the existing guidelines.

Different levels of support volume per project or undertaking are proposed and it is not entirely clear if the thresholds per undertaking are defined for a year or until 2020. E.g. it is unclear whether article 19 b i involves a limitation in time.

Paragraph 19 b) (vii), Notification thresholds for CRM
Also in cases where Commission considers CRM to constitute state aid, the Commission should assess the schemes, not individual projects within notified schemes. We would also like to point out that it is unclear how a competitive process for a capacity mechanism could be run if individual plants benefiting from the mechanism have to notify separately if the amount exceeds €7.5m.

(3) COMMON ASSESSMENT PRINCIPLES

According to the draft guidelines, seven common assessment principles are used to assess the compatibility of all state aid measures. The concept of the inability of the market to deliver expected results is central in defining whether there is a need for state intervention. ***EURELECTRIC sees the concept of market failure as problematic in the context of state aid measures, unless it is clearly defined in the guidelines.*** Without clear definitions, there is a lot of room for justifying state aid measures. Also, a risk of confusing regulatory and market failure exists. The description of market failure should also take into account natural monopolies.

(5) COMPATIBILITY ASSESSMENT UNDER ARTICLE 107(3)C OF THE TREATY

Paragraph 35, Compatibility assessment
With regard to measures that will be assessed only on the basis of general compatibility conditions, ***it should be recognised that a specific assessment is necessary for electricity systems on small islands or in the outer regions***. Particular provisions are included in Directive 2009/72, and article 349 of the Treaty due to the very limited size of the energy market and the specific organization of the electricity sector. For example, the notion of "market price" as used in paragraph 18 "definitions" or "wholesale electricity price" used in section 5.9 on generation adequacy, or "balancing responsibilities" as used in section 5.2 on renewable energy sources, do not have the same meaning as on the continent. Therefore paragraph 35 must mention that aid granted to projects in small isolated systems or micro isolated systems as defined in Directive 2009/72, and/or in outermost regions as defined in article 349 of the Treaty should be assessed on the basis of the general principles (section 5.1).

(5.1.2) Need for state intervention

Paragraphs 40-43, Need for state intervention
The draft guidelines cover also aid for natural monopolies such as network operators. The guidelines should take into account the specific case of natural monopolies.

(5.1.3) Appropriateness of the aid

Paragraph 48, Counteracting policy instruments
EURELECTRIC finds the reasoning in paragraph 48 very relevant. Unfortunately it is not fully applied in the guidelines. The Commission should pay specific attention to how different measures to remedy the same market failure interact and counteract each other when taking decisions on state aid. A typical example is EU ETS and RES support schemes. Also CRMs and EU

ETS can counteract each other in case CRMs are used as tools to reduce CO_2 emissions. Another example is the interaction between carbon taxes and EU ETS. The relation between national carbon dioxide taxes and the EU ETS should be clarified.

To be consistent, the two last sentences of (paragraph 42), elaborating on the same topic, should be deleted, or integrated into (paragraph 48) because it addresses the appropriateness of aid rather than the need for State intervention.

(5.1.4) Incentive effect

Paragraph 60, Incentive effect and start of the project
According to the draft guidelines the Commission considers that aid does not present an incentive effect for the beneficiary in all cases in which work on the project already started prior to the aid application. ***We suggest adding a definition for "start of the project".*** Preparatory work, such as application or preparations to apply for environmental permission, is usually carried out on beneficiary's own risk prior to application in order to reduce the time to implement the project. In addition, in practise projects are carried out in phases, and execution of the first phases does not mean that the next stages could be carried out without aid. Pre-feasibility assessment activities could be determined to be excluded from the implementation of the project or it could be defined that "starting the project" means taking the final investment decision.

Paragraphs 55-64, 66-73 counterfactual scenario
The provisions concerning incentive effect and the counterfactual scenario are with the exception of paragraph (65) based on the characteristics of investment aid. The description should take into account operating aid.

(5.1.5) Proportionality of the aid

Paragraph 81, Annex 2, Maximum aid intensities for investment aid
When comparing the varying distortive impacts of investment aid and operating aid, investment aid is a payment based on installed capacity (either one-off or a periodic payment based on the amortization and remuneration of the investment) and as such it does not distort the short term market price signals. Unless the Commission has evidence of overcompensation in the context of investment aid for renewable energy, EURELECTRIC cannot support the proposal to lower the maximum aid intensities for renewable energy. ***EURELECTRIC supports the proposal to allow higher aid intensity when tendering is applied.*** The tendering as such should bring the costs down. However, tendering must meet certain criteria in order to ensure competition between participants.

Provision of investment aid should also take into account maturity of the technology in question and allow for higher aid intensities for less deployed technologies and projects of first commercial scale.

Paragraph 82 (b), Size based maximum aid intensities for investment aid
EURELECTRIC finds the differentiation of support for small, medium size and large companies inappropriate. Environmental benefits that follow from e.g. investments in renewable electricity are not linked to the size of the company. Furthermore, in many cases the whole value chains include different types of companies: large companies build value chains with SMEs, facilitating access to technology and innovation.

Paragraphs 86 and 87, Cumulation of aid
While union funding does not constitute state aid, and is thus suggested not to be included in determining notification thresholds and maximum aid Intensities in the context of cumulation of aid, it does influence the incentive effect and need for state aid. This should be clarified in the text.

(5.1.7) Transparency

Paragraph 109, Transparency
EURELECTRIC is in favour of providing stakeholders information on the costs of aid measures in the field of energy. However, ***the Commission should assess carefully whether the suggested measures would allow competitors to gather information that reflects sensitive business information***.

(5.2) Aid to energy from renewable sources

As stated in the introduction, ***EURELECTRIC welcomes the move towards a more market-based and cost-efficient design of support for RES generation and integration of this generation into the market*** (e.g. assuming balancing obligations, minimising market distortions caused by operational aid that incentivize production even at negative market prices). However, we believe that more emphasis should be put on minimising market distortion caused by operating aid (feed-in schemes and certificate schemes) that incentivises production even at negative wholesale market prices.

Paragraph 113, Hydropower
All RES technologies are subject to obligations set out in relevant directives and regulations that aim at limiting environmental impacts. Member States (and EEA/EFTA-states), granting aid or not, must respect not only Directive 2000/60/EC establishing a framework for Community action in the field of water policy, but the full '*acquis communautaire'*. It is therefore misleading to refer to other obligations, i.e. Directive 2000/60/EC, in these Guidelines (paragraph 113). Hydropower is fully recognized as a renewable energy source in the RES-directive, in the present Guidelines as well as in the Draft Guidelines. ***Referring to specific conditions only for hydropower (and later biomass and biofuels), might give the impression that in the Commission's view technology is particularly problematic or less important.***

Also other energy technologies may have negative impacts on the environment on biodiversity and the activities must meet the requirements in several directives including for example Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. It will be impossible and is unnecessary to give a full overview in the state aid guidelines.

Paragraph 114, ILUC directive proposal
This paragraph refers to ILUC directive proposal. EURELECTRIC questions in general references to draft directives in state aid guidelines. In addition, when directives have been approved, member states and EEA/EFTA-states have to implement them regardless of whether they are mentioned in the state aid guidelines.

Paragraph 116, Authorisation of schemes
The energy market, technology development and policies have all evolved radically in 10 years. Furthermore, the EU energy policy framework and targets for 2030 are likely to differ from the

2020 framework. Beyond 2020, the aid schemes will also have to be adapted to new likely guidelines adopted prior to that period.

However EURELECTRIC sees RES support schemes not as static instruments. ***Aid schemes should include dynamic design principles: they should be regularly monitored and reviewed at national level.*** This would allow Member States to keep control over the costs and volumes deployed (and avoid overcompensation) while safeguarding the aid for the existing beneficiaries.

Therefore MS should be required to include in the aid schemes themselves an in-built review mechanism regarding support level for new installations (e.g. degression of support linked to the growth rate of the market volume) that is transparent to investors. This approach is coherent with the DG ENER Guidance on RES Support Schemes. A yearly monitoring and cost control, with report to the EC could help avoid overcompensation.

Paragraph 118, Cooperation Mechanisms

According to the draft guidelines MS are not obliged to open schemes to other EEA/Energy Community countries as long as MS duly explain the absence of cooperation mechanism (118). In EURELECTRIC's view a more European approach is paramount to cost-efficient RES development. Hence, EURELECTRIC encourages the Commission to support initiatives giving a more regional and ultimately European dimension to RES deployment in Europe. The Commission should encourage the further use of cooperation mechanisms of the RES directive. Why not start for example from enhancing regional technology development, like offshore wind in the North Sea?

Paragraphs 119-123, Operating aid for RES: main requirements for different categories of deployment

To ensure that maturity of technology and the specific characteristics or small scale generation are taken into account, the Commission suggests 3 categories for projects receiving operating aid:

- I aid for deployed technologies
- II aid for less deployed technologies
- III projects of first commercial scale and small installations

The main differences between aid for the three categories are linked to 1) tendering for several technologies versus technology specific support 2) feed-in premium versus feed-in tariff 3) application of balancing responsibility. The most market based approach (combination of tendering, feed-in premiums and balancing responsibility) is applied to the category of deployed technologies.

EURELECTRIC believes that the Commission's general approach and introduction of different categories is well justified. In our view i***t is crucial to take into account the maturity of the technology when deciding on the aid measures*** (please see the Annex 1 for more information). ***The distinction, based upon the share of production, between "deployed" and "less deployed" RES when assessing the need for specific aid measures is welcome.*** It reflects in a pragmatic way the maturity of technologies, which are not an entirely unambiguous concept. We agree for the sake of feasibility and verifiability with the proposed distinction.

EURELECTRIC recommends implementing the category based approach in the following way:

Deployed technology category (>1,5 % of power generation in Europe)	**Tenders for RES capacity (€/MW investment aid)** **Technology neutral tenders for RES production (€/MWh with FIP[1])** **Certificate schemes**
Less deployed technology category (<1,5 % of power generation in Europe) **Small scale installations** (<100 kW)	**All above mentioned +** **Operating aid (FIP) with a cost/volume cap (€/MWh)** **Loans, tax reductions**
All technologies in the demonstration phase **All projects of first commercial scale**	**All above mentioned[2] +** **R&D and demonstration support**

- ***The threshold between categories I and II should be 1,5% of European power generation. We propose the Commission to list the relevant technology categories that are divided between categories I and II, and present the list that should be valid during the validity of the guidelines.*** In our view the list should include the following technology categories (shares of power generation in 2012 in brackets[3]): onshore wind (6%), offshore wind (0,4%), PV (2,2%), CSP (0,1%), geothermal (0,2%), biomass (3,1%), hydro (11,4%), ocean energy etc. It is important to make a distinction between wind onshore, and wind offshore, that differ clearly from each other. The Commission should use the Eurostat data to determine the share of different technologies in power generation. All forms of support that are allowed in the guidelines for deployed technologies should also be allowed to less deployed technologies and projects of first commercial scale. Similarly, all forms of support that are allowed for less deployed technologies should also be allowed to projects of first commercial scale.
- The list on technology categories should be used only to divide technologies between the categories "deployed" and "less deployed". This should not be applied to projects of first commercial scale or demonstration. New solutions and incremental improvements are needed for all technologies and RDI support as well as support for demonstration and projects of first commercial scale should be allowed when the technology in question is in this phase.
- The support for small installations should meet the same criteria as the support for less deployed technologies[4]. The justification of our approach is presented below:
  Experiences in several countries supporting residential PV with a feed in tariff (FIT) show that small installations if they come in large quantities can have a significant distortive impact on the market and lead to high costs (please see Annex 3). Therefore support for such installations must urgently be made more market-based and cost-efficient. Nonetheless it seems unrealistic, that small-scale installations participate in tender schemes. EURELECTRIC therefore proposes to treat small installations like "less deployed" technologies which means that small scale installations have balancing obligations (which can be outsourced) and they

[1] FIP or corresponding solutions where producer sells the power to the market. The spedific design influences greatly the distortive impacts of the support. Production should not be incentivised when market prices are below variable generation cost.

[2] FIT may also be allowed for this category, if specifically needed.

[3] Source : Global Data

[4] Special treatment of small-scale installations under paragraph 124 should not influence the calculation which determines whether a technology category as a whole is considered deployed or less deployed (e.g. production from small-scale PV should not be deducted when determining whether PV in general qualifies as deployed or less deployed).

can receive technology specific, market-based support (e.g. a FIP, investment support) without participating to a tendering process.

Selling their energy on the market and carrying balancing responsibility is realistic also for residential installations[5] since such models already exists today in a couple of Member States (often in combination with net metering[6]): It is usually the relevant electricity retail company who "buys" the injected electricity of its PV clients and manages imbalances. The PV owner gets a FIP or investment support, etc. on top. However these existing models could be improved by mandatory installation of (quarter-) hourly smart meters which would make the value of the injected electricity as well as imbalances caused by PV more transparent.

The definition of thresholds for the exclusion of small facilities must be carefully assessed because of the possibility of loopholes (for example by dividing a single facility between several owners). EURELECTRIC proposes to set the limit for small installations under the less deployed category to 100kW. Furthermore, the same threshold should apply to all technologies, no exception should be made for wind or other technologies. A separate threshold in itself is inconsistent with the principle of technology neutrality.

- ***The Commission should consider whether to integrate the projects of first commercial scale into the Research, Development and Innovation guidelines.*** Clear definition should be provided for definition of projects of first commercial scale (please see our comments to Section 1.3). Demonstration and first commercial scale projects are indispensable parts of the power sector innovation chain, but often lack a business case, especially at scale. They require thus effective policy support tools. The range of policies that can be used to support such projects (Direct grants, risk-sharing and loans instruments, demonstration funding, EU and national private and public venture capital mechanisms) clearly fall under the remit of the RDI guidelines.

- If the Commission would consider allowing FIT as a support mechanism for first commercial scale project, the Commission should ensure that cost control mechanisms are in place. This could, for example, include a cap on the overall support budget for these installations or a regular adjustment of the support level (but one that is transparent to private investors).
  Furthermore, projects of first commercial scale have to be properly defined and should not exceed a predefined number of demonstration plants. A sound definition of 'projects of first commercial scale' is very much needed in the definition part of the guidelines. We do not find it justified to exempt in general projects of first commercial scale from balancing responsibility.

Paragraph 120 (a) Operating aid for RES: Competitive bidding process

EURELECTRIC supports the idea of introducing a competitive bidding process. Member states have to design intelligent and pragmatic tendering process to ensure its successful implementation: the tendering should include sufficient competition to incentivise lower prices, have low regulatory costs and contain penalties for non-delivery. There is experience in the EU with such schemes, like in the Netherlands which apply currently a technology neutral tendering

[5] With regard to prosumer installations, EURELECTRIC also believes that they should more and more be driven by grid parity and less and less by support payments. However, hidden subsidies that create "artificial" grid parity should be removed (e.g. net metering needs to be replaced by smart meters, grid cost and balancing cost must be attributed correctly, exemptions for auto consumption e.g. from RES surcharges should be reviewed)

[6] The meter of the prosumer is running backwards whenever he is injecting into the grid

scheme for RES[7]. EURELECTRIC believes that not all member states should make their own national experiences, but should build on the experience of others and thus win time, exchange on best practice etc.

Paragraph 120 b) Operating aid for RES: Exclusion of certain technologies from tendering
Paragraph 120 b introduces provisions that allow member states to apply for deployed technologies tendering that is not technology neutral within RES. In EURELECTRIC's view support for deployed technologies should be as market based as possible and thus also technology neutral.

The guidelines allow for exclusion or caps for biomass in the RES support schemes to limit the impacts on raw material markets. This proposal should be removed. In EURELECTRIC's view state aid guidelines should promote a technology neutral approach: they are not the right instrument for addressing sustainability of biomass. Biomass sustainability is address in the context of the new EU Forest Strategy, and the Renewables Directive also obliges the Commission to consider the need for sustainability requirements for solid biomass. There is also a risk of distortions between member states. Exclusion of biomass from support scheme does not prevent pellet manufacture. Pellets could then be used either in another member state providing support for biomass, or outside EU.

We would also like to point out that EU utilities are committed to voluntary sustainability measures by collectively developing sustainability requirements for pelletised biomass and sourcing wood from certified forests (such as PEFC or FSC).

In case this provision is not removed from the guidelines, it should be modified to limit the negative consequences for the use of biomass for energy purposes. Member states should be required to provide evidence that there are negative effects on the raw material market, if they wish to use the possibility to exclude or limit support for biomass.

The draft guidelines provide the member states also with a possibility to exclude specific RES technologies in certain geographic areas from support due to grid stability issues. EURELECTRIC agrees that this possibility could be needed in some areas. Situations where use of suitable and cost-effective sites for RES projects is prevented without credible justification must be avoided. We propose such decisions to be subject to a cost benefit assessment taking into account alternative solutions including grid extension, flexible grid access regimes (in combination with compensation for curtailed RES) and other solutions to enhance grid stability. It should also be clarified that the areas have to be clearly defined before project development starts.

We consider the bidding process in footnote 57 too prescriptive[8].

Paragraph 120 c Operating aid for RES: Feed-in premiums or equivalent measures
EURELECTRIC welcomes a shift from Feed-in-Tariffs towards the relatively less distortive Feed-in-Premiums. Feed-in-Premiums allow for more market integration (i.e. obligation to find a seller

[7] The design of the Dutch tender support system has an innovative component: every year, a certain budget is defined for supporting RES. This budget is allocated to all RES technologies in tender rounds where the maximum support level is increased over the rounds. Once the budget is reached no further tender rounds are set up.

[8] Other bidding processes such as sealed bid marginal pricing or descending clock auctions could be more efficient. "In order for the bidding process to be competitive, a sufficient number of undertakings should participate; the budget related to the bidding process should be a binding constraint in the sense that not all bidders can receive aid and aid shall be granted on the basis of the initial bid submitted by the bidder. Further, the competitive process may be staged (with a cap or reservation price imposed at different stages of the bidding process) to ensure a competitive bidding process which does not lead to overcompensation."

for the electricity production). ***However a FIP's effectiveness in terms of market exposure varies depending on the specific design.*** Especially in cases where variable costs are comparatively high, and premium is used to incentivise generation[9], significant market distortions can occur. Please see an example in Annex 5.

EURELECTRIC pleads for flexible support schemes where technology learning and decreasing LCOE is inversely linked to the support and regular assessments take place. Following to principles need to be taken into consideration:

- By establishing that the premium is not to be received when the market price is below a given threshold.
- The amount of the premium should be regularly (but definitely longer than every 6 months) revised for new installations in order to adapt them to technological evolution and market prices and avoid excessive costs for society (e.g. by linking degression rates to deployed volumes). But this process has to be transparent to investors as from the start.
- .

Support schemes thus have to reflect the optimal compromise between investment stability and market compatibility.

Furthermore, the Commission should not see FIP as the only solution, as per se market compatible.

- Feed-in-premiums are not the only way of ensuring that RES production is sold into the market. There are cases (such as Spain) where production subject to FIT is sold into the market and the FIT is financially settled as the difference between the market price and the desired FIT level.
- Feed-in-Premiums can be almost as market distortive as Feed-in-tariffs, in the case of generation technologies with relevant variable costs (biomass, CHP-cogeneration or Concentrated solar power) and if combined with high support levels, since they incentivize production when wholesale price is below the variable cost of production.

EURELECTRIC also invites the EC to take a closer look on alternative support instruments to FIP, e.g. tax exemptions, certificates and investment aid. For the latter also a capacity based support (EUR/kW/year) based on tenders could be considered.

Paragraph 120 d Operating aid for RES: Balancing

No conditionality should be added to the requirement on balancing. Balancing responsibilities should be introduced in all countries in line with the requirement by the Internal Electricity Market Directive mandating the development of competitive and integrated intraday and balancing markets across the whole Europe. ***Indeed all technologies should be allowed to participate in these markets, according to its characteristic and possibilities.*** Therefore we propose to delete the reference to "where competitive intra-day balancing markets exist" to avoid complex discussions about if competitive intra-day and balancing markets exist.

Balancing is paramount to the internal European energy market: EURELECTRIC draws the attention of DG COMP to the fact that we don't start here from scratch: Since the existing Internal Electricity Market Directive and the Network Codes under development already introduce the obligation to introduce integrated and competitive balancing markets. EU member states actually already have introduced balancing markets with various requirements and designs, and these designs should be harmonized once the NC on balancing is approved.

[9] This is often the case for biomass, cogeneration and CSP.

Balancing obligations have been successfully introduced already in a number of markets and the experience indicates that as the majority of RES generation opt for outsourcing balancing responsibility to another supplier/balancing responsible party, the market for balancing services has developed well. This development is reflected in a sufficient number of competitive offers in those markets, establishment of specialised service companies and active participation of foreign companies, as well as a variety of services offered. The imbalance costs remain in the range of 1-3 EUR/MW. Furthermore, there are no widely known cases of complaints from the side of RES producers regarding the degree of competition among the balancing service providers. (See Annex 4 on country experience on balancing obligations).

Balancing requirements should apply to all new projects. Existing projects could, for instance be given the option to abandon the current regime and assume balancing responsibility, receiving an additional remuneration for that.

Paragraph 120 (e,) Operating aid for RES: Exclusion of support after plant depreciation
EURELECTRIC questions the compatibility of the requirement 120 (e) (no support after plant depreciation) with the tendering process. Well organised tendering should lead to competition between technologies and projects, and incentivise the companies to make competitive bids. If support will not be allowed after plant depreciation, the bids for new biomass plants will include costs only until plant depreciation. However, more support may be granted after plant depreciation (which is logical because otherwise these plants could shift to using fuels that are not renewable). This gives biomass in tendering an advantage that is not justified. Thus paragraph 120 (e) should be deleted.

Paragraph 121 (a), Operating aid for RES: Levelised costs
EURELECTRIC has in general doubts regarding the use of levelised costs as a reference to determine the allowed amount of aid in the context of state aid. Calculation of levelised costs is highly dependent on many assumptions and at the moment comprehensive, objective source of data and standardised approach is missing. In case levelised costs are used, the calculations should take into account reasonable profit.

According to the draft, a revision of the support level should be updated at least every 6 months or each 1 GW of installed new capacity. Project development, and the time span between investment decision and start of operation can both take years, and support levels should not be reviewed every 6 months. Transitory periods should also be applied before changes in support levels take place.

Paragraph 122, Operating aid for RES: Other renewable sources than electricity
Further consideration needs to be given to aid for renewable heating projects. As the distinction between “deployed” and “less deployed” is set by reference to share of the electricity market, this cannot be applied to heat. In addition, the numbering of the exceptions is incorrect.

Paragraph 124-126, Operating aid for RES: Aid for existing biomass plants after plant depreciation In many cases biomass fired plants are able to flexibly use several fuels, which improves security of supply and allows the plant to adapt to changes in fuel prices and thus reduce costs. The alternatives to biomass fired thermal generation vary within EU: it could be for example coal or peat. Level of depreciation has no effect on the decision to use biomass to produce electricity and thus we support the inclusion of paragraphs 124.

However, EURELECTRIC considers biomass fired generation mature technology that should be primarily advanced with EU ETS. Operating support for biomass after plant depreciation may be

justified when CO_2 prices do not provide a sufficient incentive to produce electricity based on biomass. The Commission should ensure that the state aid rules do not discriminate against certain types of biomass plants or favour investments in less efficient plants.

Paragraph 125-126, Operating aid for RES: Aid for existing biomass plants after plant depreciation
The text leaves it unclear how paragraphs 125 and 126 should be applied. Are they alternative to each other?

The suggested rules (paragraph 125 b and c, 126 b-d) are not entirely compatible with different types of support schemes. They can lead to new biomass plants applying for support twice: this increases uncertainty and is not compatible with the tendering (please see our comment to 120 (e). Both in tendering and green certificate schemes the level of support is set in market based processes, and specific rules on factors that can be taken into account in the support level match poorly the market based, technology neutral approach.

Paragraph 125 (b) states that the measure should "compensate the difference in variable operating costs borne by the beneficiary and the market price". As explained above, the decision whether to produce electricity from biomass does not depend only on wholesale market price for electricity but also on alternatives to biomass fired generation.

This text can be interpreted to prevent the use of fixed feed-in premium, that does not vary based on wholesale market prices.

125 b and c and 126 b refer to variable operating costs. The text refers to variable operating costs, but also maintenance and personnel costs are higher in biomass plants. Thus we suggest to refer simply to operating costs.

Please see our comments on feed-in premiums in the context on RES operating aid (paragraph 120c), they are equally valid for biomass.

Paragraph 127 Operating aid for RES: Green certificates
Certificate schemes are usually technology neutral, support level is set by the certificate market, producers sell the power normally and there are no exemptions from balancing. Due to these conditions, EURELECTRIC considers certificates schemes more market-based than e.g. feed-in tariff schemes. However, we would like to point out that also certificate schemes distort the market prices signals for producers, since they incentivise production when the market price is below the variable costs.

It needs to be clarified whether or not banding of technologies is permitted. The conditions on it are not clearly expressed.

Paragraph 128, Operating aid for RES: requirements on certificate schemes
The concept of overcompensation is problematic in the context of schemes where support level is set in a market. Paragraph 128 (ii) is not compatible with technology neutral certificate schemes.

As above, ***It needs to be clarified whether or not banding of technologies is permitted.*** The conditions on it are not clearly expressed.

Paragraph 129, Operating aid for RES: requirements on certificate schemes
Again, it needs to be clarified whether or not banding of technologies is permitted. The conditions on it are not clearly expressed. The requirement in (129) for not introducing different levels of

support through green certificates appear to be in contradiction with the right granted to Member States to decide on a minimum number of different renewable electricity sources to be used to receive support and as will in contradiction to the opportunity to introduce banding in (128).

- The subparagraph 129 (b) allows member states to exclude biomass from the certificate schemes. Please see our comments to paragraph 120 (b).
- Subparagraph 129 (c) imposes balancing responsibilities on producers within the scope of a certificate scheme. Unlike feed-in tariffs, certificate schemes do not imply exemptions from balancing obligations and usually standard balancing responsibilities apply for power generation within the scope of a green certificate scheme.

Paragraph 130, Operating aid for RES: requirements on certificate schemes
Please see our comment to paragraph 129 (c).

Paragraph 131, Aid to first commercial scale and to small installations
We refer to paragraphs 119-123 for our comments with respect to first commercial scale and small installations.

(5.3) Energy efficiency measures, including cogeneration and district heating and cooling

Paragraph 129, Aid for high efficient cogeneration
EURELECTRIC supports the Commission's proposal to limit state aid to CHP/DH that is considered high-efficient CHP and energy-efficient district heating according to the definition in the Energy Efficiency Directive. ***The state aid guidelines should also take into account that cogeneration, including high efficiency cogeneration is a mature technology.***

Paragraphs 150-152, Operating aid for cogeneration

While supporting the proposal to move away from feed-in tariffs for cogeneration, EURELECTRIC believes that support for cogeneration should be designed in a way to minimize the distortive impact on the market. The design of the feed-in premiums should ensure that they do not incentivise generation at moments when market prices are below variable costs of generation. Please see our comments on FIP in the context on RES operating aid (paragraph 120c), they are equally valid for cogeneration.

(5.5) Aid to Carbon Capture and Storage

Paragraphs 161, State aid for CCS
EURELECTRIC sees Carbon capture and storage (CCS) as one of the key low-carbon solutions needed to enable the power sector – and industry at large – to move towards carbon neutrality by 2050. CCS is an immature technology, and Europe needs to show a sense of urgency in demonstrating CCS if it is to live up to its potential as a climate technology. That will require both commitment from the industry and public funding. ***The state aid guidelines should recognise the immaturity of CCS.*** While individual elements of the CCS value chain are proven, the technology as a whole has significant potential to drive costs down, from both technology refinements and economies of scale. In this respect CCS projects of first commercial scale should be treated similarly to the RES projects of first commercial scale. Mature low carbon technologies should be advanced through EU ETS. .

Paragraph 165, Scope of support for CCS projects

According to the draft guidelines, aid to support CCS projects does not include aid for the CO_2 emitting installation (industrial installations or power plants) as such, but only aid related to additional costs for capture, transport and store the CO2 emitted. However, CCS leads to lower efficiency, and thus increases operating costs. The text should clarify that this aspect is taken into account regarding proportionality of aid otherwise early projects to retrofit existing plants will not proceed due to loss of revenues for the plants owners. We would like to point out that ***CO_2 transportation is included in the Guidelines on Projects of Common Interest.*** That should be referenced in the text.

CCS technology not only requires high investment but also has high operational cost. Paragraph (17) of the Guidelines indicates that CCS is eligible only for investment aid. ***For the first commercial scale projects that cover the technology as a whole to take place, operating aid may be necessary. Operating aid should not be continued to be provided for CCS once it approaches maturity.***

The Guidelines refer to CCS solely as a technology applicable to abatement of fossil fuels but CCS can also be applied to generators or industial appications using bioenergy. Bio-CCS can also generate negative carbon emissions.

(5.6) Aid in the form of reductions in or exemptions from environmental taxes

The guidelines should also recognise that tax reductions are also provided to avoid overlap of policy instruments. Thus they can lead to more effective climate policy. An example of this is exemption on CO_2 fuel taxes for CHP installations in the scope of EU ETS. There is no reason to apply CO_2 taxes to these installations, because a tax on carbon dioxide does not reduce the total amount of emissions within the emissions trading sector. Paragraph 48 in the guidelines states that different measures to remedy the same market failure may counteract each other. Additional measures to address the same market failure undermine the efficiency of a market-based mechanism.

Paragraph 170, tax exemptions to support RES and CHP
The sections on RES and cogeneration do not take into account the specific characteristics of tax exemptions. Thus we suggest to remove paragraph 170 and include rules for tax exemptions to support RES and CHP in section *5.6 Aid in the form of reductions in or exemptions from environmental taxes.*

(5.7) Aid in the form of reductions in funding support for electricity from renewable sources

EURELECTRIC supports common EU level rules for aid in the form of reductions in funding support for electricity from renewable sources. Rules should be developed at EU level through common sectoral approaches in order to avoid distortion internationally and within EU.

(5.8) Aid to energy infrastructure

Paragraphs 187-200, Role of state aid in case of infrastructure
Transmission and distribution networks should be primarily financed via network tariffs. In principle all grid projects with a positive macro-economic cost–benefit analysis (CBA) should be executed, and those with negative CBA should not be executed. EURELECTRIC believes that the "user pays" principle should generally apply to infrastructure investment.

Adequate distribution grid infrastructure is needed to support the integration of the internal market and increasing share of renewable power generation. To facilitate this regulation should allow adequate rates of return. The rates of return determine whether companies are able to finance investments through grid tariffs. If the allowed rate of return is too low or the risk of stranded investments is not adequately considered, strong constraints on investments in distribution network will occur.

Regarding the scope of state aid for infrastructure, state aid guidelines should treat energy infrastructure projects equally i.e. also include district heating and cooling networks. ***Electricity storage should not be considered to be part of infrastructure*** (please see our comments to Paragraph 200, and definitions Paragraph 18 ff) i) c).

Paragraph 190, Need for state aid for infrastructure
Paragraphs 191-193 address the need for state aid, not paragraphs 192-194.This error in the text should be corrected.

Paragraph 191, paragraph 194, Need for state aid for infrastructure
State aid to infrastructure projects should be well coordinated with the EU funding. The infrastructure package, CEF and TYNDP provide a good basis for promoting infrastructure projects of European interests.

Paragraph 198, Proportionality of aid for infrastructure
The text states that "*the Commission will require Member States to clearly and separately identify any other aid measure which might impact on it*". It should be clarified whether aid refers to state aid or also union funding.

Paragraph 200, and definitions Paragraph 18 ff) i) c), Electricity storage
Regarding the scope of aid for infrastructure, EURELECTRIC does not consider electricity storage to be part of infrastructure. Electricity storage is a commercial activity: utilities own and operate storage facilities such and pumped hydro on commercial basis. Thus storage differs from network infrastructure. The state aid guidelines do not acknowledge this, and clearly distinguish between regulated infrastructure comprising the network (natural monopoly) and infrastructure that is provided by market parties.

In EURELECTRIC's view TSOs should not own and manage storage facilities as this would undermine the unbundling prescription set forth by the Electricity directive 72/2009/EC (i.e. Third package) and heavily distort competitive dynamics in the wholesale market. Clear distinction between regulated and competitive activities is essential to promote the proper functioning of the market.

EURELECTRIC reminds that mature technologies should compete on the market. Inappropriate regulatory measures leading to competitive disadvantages for storage (such as double grid fees) must be removed: storage must be able to compete on a level-playing field with other flexibility options.

(5.9) Aid to generation adequacy

The implicit assumption of the guidelines is that ensuring a competitive, sustainable and secure energy system can be achieved primarily through an energy-only market model. EURELECTRIC considers that with moving towards a low-carbon energy system with a high level of variable renewables penetration, a fully-fledged investigation into the need for developing a new market

design will be crucial to tackle the current challenges within the electricity systems related to generation adequacy and security of supply. ***The need for reviewing the market design has already been recognised in some member states*** facing growing generation adequacy problems in view of high level of RES penetration and some cases, higher peak demand. ***There is growing evidence that in some regions move towards a market design based on markets for both energy and capacity might be needed.***

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Therefore EURELECTRIC questions the underlying assumption that CRMs are a priori considered as aid to generation adequacy. The design features of CRMs shall be assessed before they could be considered as state aid measures. EURELECTRIC believes that State aid control should contribute to identifying non-market based capacity remuneration mechanisms (CRM) that could involve state aid, while market-based CRM should be considered as an element of a new market design and not be considered to constitute state aid.

EURELECTRIC's view is that if introduced, CRMs must be market-based, technology neutral and non-discriminatory i.e. give equal treatment to existing and new units for generation, storage, demand and interconnectors, and should be coordinated at regional level to ensure consistency and minimum distortion to the internal energy market. CRMs should only be introduced as a means of ensuring security of supply, not to achieve other policy objectives. CRM should also be open to cross-border participation.

EURELECTRIC believes that by including these main principles into the state aid guidelines, the Commission will contribute to increasing compatibility and convergence of national CRMs.

Paragraph 201, Background on generation adequacy

EURELECTRIC welcomes the recognition that the growth of renewables is reflected in a shift towards a system with larger supply of variable sources, which in turn may pose a challenge to generation adequacy and security of supply.

In this respect, the effects of renewables on wholesale market prices (depression) and utilization of conventional generators (reduction) are well known, leading to a situation in which conventional generation is used mainly as back up capacity, and becomes more dependent on price peaks. As a consequence, existing market and regulatory failures have an even more significant impact on their viability, thus exacerbating the security of supply concern.

Paragraph 202, Background on generation adequacy

It is positive, that the document highlights the importance of removing regulatory failures such as capped wholesale prices or market exit barriers for generators and market failures such as non-excludability of most consumers as causes for insufficient investments in generation capacity. However, the requirements on capacity remuneration mechanisms should ensure that market-based capacity remuneration is available to all existing and new generation, demand response and storage.

Paragraph 203, Background on generation adequacy

The guidelines should acknowledge that several Member States already have introduced or are introducing measures to ensure generation adequacy.

Paragraph 204 Objective of common interest, operating or investment aid

The Commission should clarify what is meant by "CRM could be designed as operational and investment aid". In our view, CRM has as its objective to ensure long term adequacy (reliability and availability) in the system, while short term swings should be addressed through adequate

compensation of flexible generation in the day-ahead, intraday and reserve markets. According to widely accepted economic theory, the objective of CRM is to make up for the effect of persisting regulatory failures (despite efforts taken to remove them) as well as market failures on the ability of the market to deliver efficient signals (i.e., for new investments, for maintaining existing capacity vs. retiring / mothballing, etc.), resulting eventually in a security of supply concern. In this respect, and as already explained, the massive deployment of renewables leads to a situation in which existing market and regulatory failures have an even larger impact on the viability of conventional generation, thus exacerbating the security of supply concern. ***CRM should therefore be designed as a competitive process that provides remuneration per MW, not MWh, and should never be an operational aid. Flexible generation should be recognised and remunerated separately from generation adequacy***.

Paragraph 205, paragraph 212 Fossil fuels and technology neutrality, generation adequacy analysis

EURELECTRIC is concerned about the Guidelines taking a view that introducing CRM is contradictory to phasing out environmentally harmful subsidies notably for fossil fuels. Additionally, we are strongly opposed to the provision (212) stipulating that CRM should in principle not reward investments in generation from fossil fuels, unless by exception. We believe that framework for addressing environmental impacts already exists: e.g. Industrial emissions directive limits NOx and SOx emissions, and the EU ETS leads to reduction of CO_2 emissions Therefore, ***including environmental objectives should be avoided and*** principle of "one policy objective-one instrument" should be respected. Discrimination of fossil fuels to limit CO_2 emissions in CRMs would further undermine ETS as the main instrument for economic CO_2 reductions. In addition, it would be distortive to address only environmental impacts associated with fossil fuels: other power generation technologies (RES, nuclear) also have environmental impacts.

CRMs` objective is to ensure security of supply by making up for the negative effects of the identified regulatory and market failures. In order to achieve this objective in an efficient way, ***CRM design should be based on the principle of technology neutrality and non-discrimination, which implies that the most competitive technology will be chosen to solve the problem of generation adequacy.*** It must be ensured that existing and new generation, storage, as well as demand response competing on a level playing field. Otherwise, significant inefficiencies would be incurred that would ultimately impact on the consumer prices (a major energy policy objective).

In general, ***we agree that the analysis of the need for generation adequacy measures (CRM) should be underpinned by assessing other options***, including the impact of market integration, expansion of grids, technology development, etc. At the same time, this analysis should include a realistic assessment of the possibility to use alternative measures taking into account the implementation timeframes, in particularly with regard to building grids that currently takes often over ten years and the imminent capacity shortages that some Member States face.

As a conclusion, we propose to delete the provision 212 and delete the reference to fossil fuel subsidies in 205.

Paragraph (206), Generation adequacy analysis

It is important to note that these analyses must not only consider the current situation, but also be prospective. However, it is not clear how the effect of certain regulatory and market failures can be appropriately considered in such prospective analyses. For example, a prospective analysis of a regulatory failure like for example state interventions prohibiting plant mothballing/closures

would conclude that as generators cannot exit the market, there is no adequacy problem. Therefore, although it is deemed positive to rely on an European standard in order to carry out these analyses, this should not be the only tool to assess whether adequacy concerns actually exist.

Paragraph 207, Need for state aid, nature and causes of generation adequacy problem
EURELECTRIC believes that when the Guidelines refer to that "the nature and causes of the generation adequacy problem", putting it in terms of lack of peak-load capacity, short-term flexibility, or network bottlenecks or peak demand", they confuse different concepts. All the above are consequences, not causes. However, CRMs should not be focused on the consequences, but on the causes.

The notion of peak-load capacity is used to define capacity problem, but short term flexibility is not necessarily a capacity problem. Furthermore, network bottlenecks are a grid, not a capacity problem.

As a consequence of a capacity problem (not enough of firm capacity including demand response, storage and imports), customers may have to be curtailed, thus the Loss of Load expectation (LOLE) increases and, at a certain moment, the system will not meet the quality standard one expects. This could be at a moment of peak demand, and it could also be at a moment when variable generation is not producing and there is insufficient backup capacity available to cover the demand. During unexpected sudden changes or faults in supply, demand or grid capacities, demand curtailments can however be needed due to lack of flexibility (e.g. because of inadequate balancing reserves). To cover both peak demand issues and to solve backup issues, we need firm and available capacity first. ***A Capacity Remuneration Mechanism (CRM) compensates generation adequacy service that is not properly valued in the market. Day-ahead, intraday and balancing markets should be used to properly remunerate short term flexibility.***

Also on this paragraph a foot note referring to the Commission's guidance (as in paragraph 203) would be welcome.

Paragraph 209 (e) Commissions' assessment on the need for state aid
Regulatory failures that could cause or exacerbate the generation adequacy problem do not only include wholesale price caps, but also regulated retail prices as market prices are needed to get an efficient demand response.

Paragraph 211 Appropriateness of the state aid measure
EURELECTRIC fully supports the requirement that CRM is open to both existing and future generation and storage, as well as demand response. While (211) is very clear with regard to the inclusion of existing plants in the mechanism, paragraph (216) only says that the measure "***may*** *in principle"* be open to both. ***The paper should be more consistent and affirmative on the requirement that CRM should provide incentives to both existing and future generators.*** Furthermore, ***EURELECTRIC agrees with the necessity to design a capacity mechanism in a way that allows for a potentially different lead times for different capacity providers***, corresponding to the time needed to realise new investments. In this context, EURELECTRIC would like to get a better clarification from the Commission on how the one-off tendering for new capacity can be regarded compatible with requiring equal treatment of both existing and new generation.

In addition, the term "adequate incentives" should be clarified. In fact, such incentives should be technology neutral, open for new or old capacity, and for every substitutable means, such as demand response.

Paragraphs 214-217, Proportionality of aid
EURELECTRIC recommends to reformulate paragraph 215 in more general terms because making a reference to competitive bidding process could be misleadingly interpreted as singling out the auction-type CRM that is only open for new capacity. In this context, the overall amount of capacity remuneration should be an outcome of a competitive process, not calculated ex-ante as stipulated in the provision (214) and should not be connected to the likely evolution for electricity and fuel prices, as proposed in (216).

Designing a genuinely market-based mechanism for procuring capacity open to all technologies, as required in (215) should ensure that capacity is remunerated in the most cost-efficient way possible and windfall profits are avoided. Capacity mechanisms should put a price on the needed generation adequacy to keep necessary existing plants available, encourage demand response and new investments. Member states should be required to design CRM as a self-regulating instrument, with a capacity price going close to zero when there is overcapacity. Introducing a possibility for an artificial review process (217), could result in increased uncertainty for investors and may lead to retroactive changes. In addition, a description of "normal circumstances" (or better "abnormal") should be included in order to foster regulatory certainty.

Paragraph 218, Avoidance of negative effects
EURELECTRIC believes that CRM should be non-discriminatory and technology neutral. ***There should be no restrictions on participation of different technologies based on technical performance*** (218a). Introducing technical specifications that would implicitly limit access to CRM for some technologies shall be prohibited. CRM should remunerate "availability" and in case a CRM participant cannot deliver capacity when he is called upon, he has to be subject to penalties.

EURELECTRIC supports the requirement to allow cross-border CRM participation from other markets and prohibiting the implementation of export restrictions or undermining the operation of market coupling, including intra-day and balancing markets (218d). In particular, this ***cross-border participation should not imply reservation of interconnection capacity***. EURELECTRIC has made a proposal for a possible concept of cross-border participation in CRM[10] Further clarification of this requirement is needed. (e.g. what is exactly meant by "physical possibility for such participation"

Paragraph 218 (c)
Also demand response and storage should be included.

Paragraph 219 a
Introducing the requirement for the capacity mechanism to be designed as not to reduce incentives to invest in interconnection capacity is unnecessary as transmission system operators already have tools and indicators to know market interest/need for new grid capacity. Their costs are regulated and recovered via third party access tariffs.

Paragraph 219 (e)
A requirement to give preference to low-carbon generators is not in line with the principle of technology neutrality. Decarbonisation of the energy sector should be dealt with through EU ETS rather than an economically inefficient regulatory invervention in wholesale market design.

[10] EURELECTRIC paper "Options for coordinating different capacity mechanisms" A background note to the EURELECTRIC presentation at the conference "Future electricity markets with or without capacity mechanisms: What does Europe say?"

(5.10) Aid in the form of tradable permit schemes

Paragraphs 220-222, Tradable permit schemes
The guidelines should include a definition of tradable permit scheme, and express more clearly what kind of schemes are covered. Possible links to other guidelines should also be acknowledged (e.g. ETS guidelines).

EURELECTRIC acknowledges the Commission's approach to a framework for assistance to industry in the form of granting permits and allowances below their market value. However, ***this form of state aid should not translate into a framework in which compensation dis-incentivises the beneficiaries from reducing their emissions or from engaging in the emission trading scheme.*** The power sector deems the Commission's criteria for compatibility and proportionality as reasonable. Further, EURELECTRIC would like to underline once more that the strong ETS remains by the design most cost effective solution for reaching European climate and energy goals while safeguarding the completion of the internal energy market.

(6) EVALUATION

The Commission may require that certain schemes are subject to a time limitation (of normally 4 years or less) and to an evaluation. Member states should be required to design CRM as a self-regulating instrument, with a capacity price going close to zero when assessments indicate adequate capacity is available.

(7) ENTRY INTO FORCE AND APPLICABILITY

There should also be time limits for the Commission to handle the re-notifications in order to limit the period of uncertainty for operators.

Paragraph 230, Application of new guidelines
The rules on the entry into force determine the extent of changes that the new guidelines will lead to. In the context of new state aid guidelines the Commission usually requires the member states to align their state aid measures with the new rules within one year. In the draft energy and environmental guidelines the Commission suggest an exemption for RES operating aid schemes: they should be brought in line with the new guidelines only when reforms of schemes lead to new notifications.

As EURELECTRIC has explained on its earlier responses to consultations on energy and environment guidelines, ***there is an urgent need to use state aid control to reduce market distortions caused by state aid in the field of energy.*** Public support in the field of energy has increased tremendously since the current guidelines were adopted and market distortions caused by ill-designed support schemes must be reduced. At the same time, the review of state aid guidelines needs to be done in a way that is conducive to investor confidence; this includes retroactive changes to be avoided. Violations of existing commitments could seriously hamper the investment climate. Stability is needed for the companies to be able to proceed with new investments.

EURELECTRIC believes that the new rules should be applied to new schemes and that existing schemes have to be brought in line with the guidelines as well. Once existing schemes are in line with the requirements, this should affect new installations/new investment projects only. Retroactive application of the new EEAG requirements on existing installations that have been

granted support before the scheme was revised must be avoided. For this reason, we welcome the fact that the draft text (end of paragraph 230) takes the investor confidence into account in the context of RES operating aid. Avoidance of retroactivity should also apply to other operating aid schemes in the power sector (e.g. cogeneration).

Linking the application of state aid rule to members states reforms of support schemes may delay the shift to less distortive measures to advance the use of renewable energy in Europe. This provision makes the schemes subject to the new state aid rules as a result of introducing such changes (e.g. in case of imposing balancing responsibility on RES generator with a FIT scheme, it may have to be notified to the Commission and the scheme will have to be changed to a FIP in line with the new guidelines). Member states may delay or cancel planned improvements in their support schemes in case notifications trigger obligation to comply with the new rules on RES operating aid.

To facilitate comprehensive reforms of support schemes EURELECTRIC proposes to amend the text by requiring the members states to bring their support schemes in line with the new guidelines within 3 years from their publications.

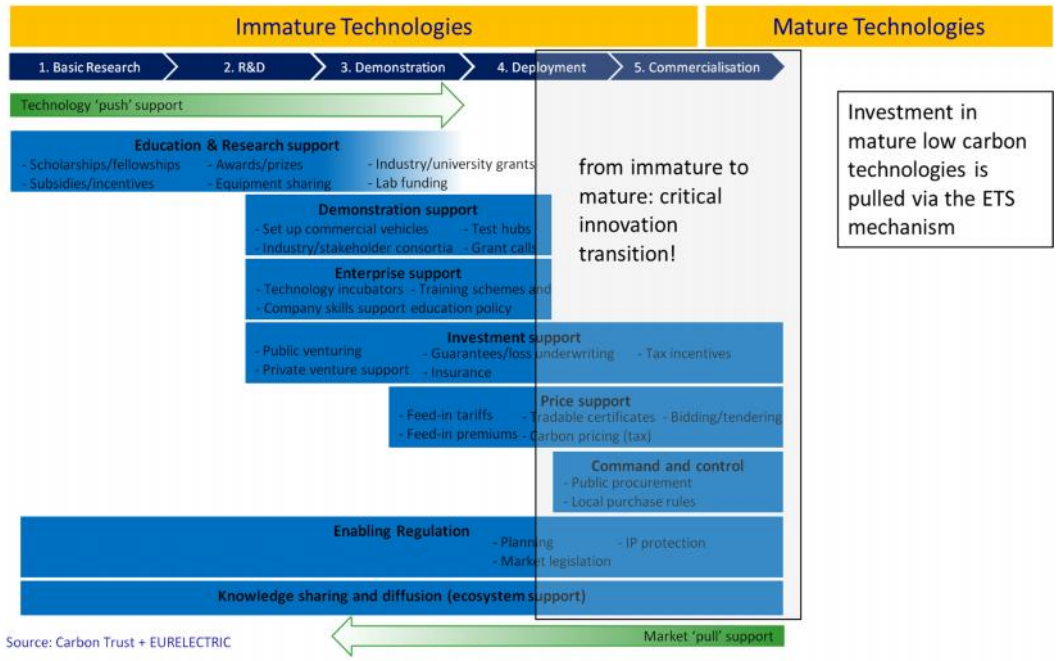
Notification process are often time consuming, and lead to delays in improvements of support schemes. ***The Commission should ensure adequate resources for the assessment of notifications ad there should be time limits for the length of the notification processes.***

Annex 1

Mature/immature technologies

EURELECTRIC, in addition to the black and white distinction needed for the sake of the state aid guidelines would furthermore like to draw the ECs attention on the full innovation value chain, the move from immaturity to maturity. A cross reference is needed here to the RDI guidelines, and the instruments chosen as well as the general approach has to be clarified. The following graph from EURELECTRIC clearly illustrates that the transition between mature and immature technologies rather looks like a 'grey zone'. Various type of support mechanisms exist - from Technology push to Market pull, from R&D support to FIT for example.

Support has to be designed in such a way that it is sensitive to the maturation. Therefore support schemes 2.0 have to include flexibility, revision clauses, and an overall cap for the support to avoid support cost going out of hands and resulting retroactive changes and electricity tariffs deficits..



Since we are aware that competitiveness and learning potential might be difficult to quantify/check and verify in the context of state aid, we therefore subscribe, for pragmatic reasons and in order to ensure a harmonized definition throughout Europe, to the deployed/less deployed distinction as proposed in the draft state aid guidelines.

Phases 1-3 (basic research to demonstration) of the innovation value chain are done through RDD support and are basically supporting a supplier, are single projects, which indeed can be the smart city of Amsterdam as much as a turbine blade.

-phase 1 explores options

-phase 2 makes a bet on the perceived winner of 1

-phase 3 tests the feasibility of the 'first of it's kind'

However, RD&D support (during these 3 phases) does not reach the crucial actors in the

innovation and product supply chain.

The real challenge to technology development arises is phase 4 where energy policy and innovation meet. Indeed, many of the most significant power sector innovation successes of the last two decades have been not about bringing lab 'breakthroughs' to market. Instead, power sector innovation has largely been about continuous learning through deployment.

The tools used in these phases differ from the previous phases 1-3, and have to be chosen for delivering now on a market pull. The logic of support switches thus from a support to a 'single project' to the concern of creating a 'market'. Examples of mechanisms to create the necessary 'enabling market setting' include product-to-market support, subsidised production (like FIT, FIP, etc.), and the allocation of public procurement projects to products that would not win on current commercial criteria alone. There also are much more specific types of intervention, such as public financial or other support for small and medium enterprises (SMEs), or publicly funded facitilities similar to private venture capital.

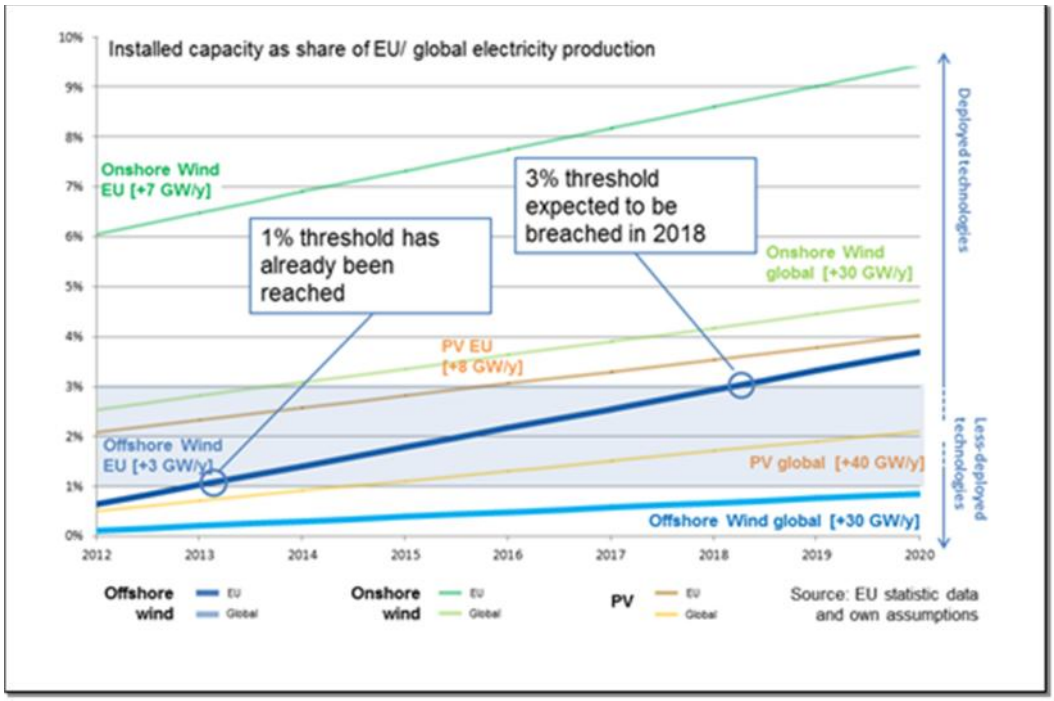
This **transition area from immature to mature** is also the one where most money is potentially stranded because of inefficient or rigid support mechanisms (and the current RES support illustrates this indeed). Most freeriding takes place here too – which can never be entirely avoided, but at least limited to an acceptable level. **What needs to be done during the transition from immature to mature, in order to encourage the promising ones and discourage the non-promising?**

1. Support has to be designed in such a way that it is sensitive to the maturation taking place here. **There should thus be an automatic built in revision mechanism**. For example, if the efficient on deployment Feed-In-Tariffs are chosen the support scheme has then to be designed in such a way that support decreases with the increase of deployment but also caps on total expenditure and/or capacities have to be set up. Such support schemes 2.0 have to start with a Cost Benefit Analysis for intervening in such a way, with regular **updates**, and have to be **dynamic**, sensitive to change, and anticipating the even most extreme result of the support scheme, have a response to it, in order to avoid future retroactive change.

-**RD&D should support innovation across power generation technologies**. RDD spans over the full innovation value chain, from fundamental research to commercialisation. The borderline between early deployment and market uptake is a border for which support should be designed as such that it avoids overcompensation and allows for a smooth, cost-efficient, and cost controllable (subject to CBA) transition to maturity.

Annex 2

Development of RES power generation in the EU power mix



Current capacities per technology as well as total EU electricity consumption/ production are derived from EuroStat. Growth rates per year are based external market analysis and own assumptions. A growth rate of 3GW per year for offshore in the EU seems likely (see also EWEA offshore wind statistics report 2013, page 14) and might even be somewhat conservative: Germany will install under latest governmental plans up to 1GW per year; UK growth rates are expected to be even a little higher. The remainder will mainly be installed in DK, NL and FR. Outside Europe offshore growth rates will be smaller. Globally not more than 5 GW per year is expected until 2020

Annex 3

Example : Variable and small scale generation in Germany

FIGURE 9: WIND AND PV PATTERNS IN GERMANY, MARCH 2012

Source: http://www.theoildrum.com/node/9205, retrieved 5 October 2012

At the end of 2011, 29,075 MW (or 17% of total installed capacity) of wind farms were connected to the German grids. Photovoltaic installations stood at 24,990 MW (or 15% of total installed capacity). In other words, 32% (54,065 MW) of the total installed capacity in Germany was based on v-RES.

The difficulties in predicting when and how much electricity from such sources is actually available are obvious. The maximum and minimum generation values in *Table 3* show the variability of wind power and PV. In 2011, the contribution of v-RES to generation ranged between 1% and 78% of total installed wind capacity and between 0% and 56% of total installed photovoltaic capacity respectively. Another way of interpreting these figures would be to look at the average generation. Out of a total capacity of 29,075 MW for wind and 24,990 MW for photovoltaic, the average capacity generating electricity was 18% for both wind and photovoltaic (and 14% if aggregated). These average generation figures reinforce the idea that v-RES capacity is only partly used most of the time. Other forms of generation continue to be needed to keep the balance between supply and demand of electricity.

Yet even if average generation is still low, v-RES nevertheless introduce challenges to the normal operation of power systems as *Table 2* also shows. In particular, they increase the requirements for flexibility in the system to cope with sudden increases or decreases of v-RES output.

In 2011, the maximum ramp-up of wind farms (i.e. the increase in output) was 4,348 MW within 1 hour and 7,744 MW within 5 hours. Conversely, the maximum decrease was by 4,723 MW and 8,507 MW in 1 hour and 5 hours respectively. Photovoltaic experienced a maximum ramp-up of 3,319 MW within 1 hour and 12,228 MW within 5 hours and a drop of 3,299 MW in 1 hour and 11,863 MW within 5 hours.

Note that the described ramping can either occur simultaneously or peaks in v-RES generation can be unrelated – as shown in *Figure 9* towards the end of March 2012, when wind generation in Germany was sustained and the contribution from photovoltaic was limited compared to the preceding weeks.

Annex 4

EURELECTRIC input on balancing obligations

For deployed (120d) and less deployed (121c):
"Beneficiaries are subject to standard balancing responsibilities where competitive intra-day balancing markets exist."

EURELECTRIC feedback:
EURELECTRIC supports introducing a requirement for imposing balancing responsibilities on RES producers. In this case, a RES producer acts as a BRP himself or outsources balancing responsibility to a 3rd party (a BRP). While absolute percentages of RES generation in the EU total generation volumes do not appear to be significant (2,1% - solar, 4,88% - wind at EU level), the impact on the market has gained in importance, in particular in markets with large shares of RES.

EURELECTRIC supports introducing a requirement for imposing balancing responsibilities on RES producers as a prerequisite for obtaining state aid: balancing obligations should apply to **all deployed and less deployed** generation. Both these categories can opt for handling balancing risks themselves or outsourcing it to a BRP.

EURELECTRIC believes that the specific category of **small installations** should be deleted from the guidelines. Balancing responsibility for small scale RES (e.g. residential PV) could be handled by the supplier or a service provider- which is already the practice today in many Member States. In this case, a supplier manages additional imbalances caused by residential RES as part of its consumption balance. The supplier normally makes a judgement of the balancing costs for a typical RES installation of the relevant type and includes this in its offer.

Balancing obligations should be mandatory for **new installations**. For existing installations, balancing obligations should be incentivised.

EURELECTRIC proposes to delete the reference to "where competitive intra-day balancing markets exist" with the following argumentation:

- *Legal argument*: Electricity Directive is mandating the development of competitive and integrated intraday and balancing markets across the whole Europe. Therefore this should not be introduced in the guidelines as a precondition.

- *Level playing field and market efficiency argument*: Introducing balancing obligations on RES will ensure a level playing field with other market participants and stimulate competition. RES producers will be incentivised to improve wind forecasting (e.g. data from Spain shows an important improvement of forecasting of wind generation: between 2006 and 2010, the error of wind output forecasts /4 hours before real time/ felt from 17% to 10%) and thus reduce their exposure to balancing risks and as a result, imbalance costs. Furthermore, imposing balancing responsibility on RES operators can boost the development of liquid and competitive ID/balancing markets since it offers new opportunities for BRP service providers and RES operators themselves. It will also improve market functioning in general.

- *Reality check argument*: balancing obligations have been successfully introduced already in a number of markets and the experience indicates that as the majority of RES

generation opt for outsourcing balancing responsibility to another supplier/BRP, the market for balancing services has developed well. This development is reflected in a sufficient number of competitive offers in those markets, establishment of specialised service companies and active participation of foreign companies, as well as a variety of services offered. The imbalance costs remains in the range of 1-3 EUR/MW and can be assumed by the RES producers without significant impact on their economic situation. Furthermore, there are no widely known cases of complaints from the side of RES producers regarding the degree of competition among the balancing service providers.

Experience by country

Rules for balancing responsibility and main consequences for RES

Norway: All market actors are balance responsible from the beginning of the liberalisation, independent of technology used or green certificates received. They can either take that responsibility by themselves or ask a third party to provide them with that service. Imbalances are relatively small and balancing cost is considered low.
Finland: All market actors are balance responsible. Balancing of smaller electricity users is handled by their electricity retailer or by joint ventures.

The Netherlands: Since 2001, all market actors (including RES) are balance responsible for their offtake and/or production and must have balancing arrangements. Market actors can outsource it to a BRP (a legal entity recognised by the TSO) and most of them do. For small customers (including those with RES) the supplier is obliged to take over the balancing responsibility.

Belgium: RES operators connected to the medium voltage and high voltage grids have balancing responsibility. A RES operator can be a BRP himself (which is de facto only realistic when the RES operator has access to back-up capacity via own assets or the intra-day market) or he can outsource balancing responsibility to another BRP (done often by independent RES operators that only own RES generation capacity). This BRP is usually a supplier that also buys the production from the RES operator (PPA-type contracts). The BRP/supplier (PPA owner) charges the RES operator for the balancing service by applying a discount on the price he offers for the RES production. RES operators have of course the possibility to sell their production to any BRP/supplier based on the best offer (i.e. the BRP/supplier that requires the lowest discount for balancing, profile service, etc.).

Thus competition among potential buyers of RES electricity also implies competition for offering balancing services at the lowest price.RES operators connected to the low voltage grid (PV prosumers) are treated like any other residential consumer: the supplier who usually also takes over the role of the BRP has to cope with imbalances in his portfolio. Due to the lack of smart meters the imbalances caused by PV can’t be identified and allocated individually thus the cost are socialized among all customers of this supplier.

Spain: Balancing responsibility for subsidized RES was progressively introduced, first for large units (>10 MW) in 2004, and for all units in 2007 and as a result, the quality of forecasting has notably improved. No relevant economic impact for subsidized RES producers has been noted and they support an estimated cost of imbalance as any other market undertaking.

Types of balancing service providers

Norway: Most medium sized RES producers manage their RES balancing by themselves in a portfolio with their other assets. Balancing service providers for small RES producers, which want

to outsource this work, are traditional utilities (e.g. Agder Energi, Statkraft), but also pure origination / trading / portfolio management companies (e.g. Axpo, Bergen Energi, Markedskraft and NEAS).
Finland: Utilities are the main providers of balancing services. There around 300 listed BRPs in the market.

The Netherlands*:* There are more than 30 BRP's with a full license and some 30 more with a limited license in the Netherlands. (Full license means that a recognized legal entity is allowed to bear Balance Responsibility for grid connections. The entity with a limited license is not allowed to do this). Most of them are (trading departments of) energy companies and the rest are oil companies and banks.

Belgium: More than 70 BRPs, mostly utilities, large customers and some banks.

Spain: RES producers can handle balancing responsibility themselves and bid independently into the market or they can outsource it to another BRP, the company who will integrate forecasts of different RES plants into a unique bid in the market and will assume the cost of the imbalance of the portfolio as a whole. The cost of the imbalance will be charged individually to each plant. Dominant operators can only act as representatives of the plants they own. However they cannot integrate the bid of subsidized RES plants with conventional generation units. There is also an obligation for incumbents to act as "last resort representatives". In this case, incumbent operators are allowed to charge 10 €/MWh to RES producers, when regular representatives are charging less than 5€/MWh, as a fee. Additionally RES producers will have to assume the costs of the imbalances. Additionally to the obligation to bid, RES producers are obliged to be connected to a control centre to receive instructions from the TSO in cases production has to be limited because of excess of generation in the system, as well as sending real time metering to the TSO. This kind of services can be provided by any operator with a control centre service, included dominant operators, and are different from the representation in the market.

Number of offers of balancing services

Norway: At least 4 from the trading companies mentioned above, plus some from traditional utilities.

Finland: It depends how RES-generator is understood. For micro-generators there are currently approximately 10 electricity retailers who advertise that they buy micro-generated electricity.

The Netherlands*:* Most suppliers in the Netherlands offer their customers "green electricity" as a separate product (through Certificates of Origin). Therefor RES generators have no problem getting offers from several suppliers/BRPs because these parties want to buy the electricity / certificates for their customers. This contract usually includes the balance responsibility of the RES generator.
Belgium: RES operators usually sell their generation on the market based on bilateral PPA-type contracts. The PPA owner takes over (sometimes partly) the price risk, volume risk, and profile risk and balancing risk; we estimate that there are at least 5 parties offering such contracts

Spain: The level of competition is enough to say that this has not been an special issue in Spain for RES generators.

Extra cost incurred by RES producers when they assume balancing obligations

Norway: For very small producers it is typically cheaper to outsource that responsibility instead of building up the necessary competency to manage their installations themselves.

Finland: RES producers, as all generators, have balancing responsibility. That is the same cost as any generator entering the market.

The Netherlands*:* It is difficult for an ordinary RES producer to be a BRP, so most of them outsource balancing responsibility to a supplier/BRP. They usually pay a percentage of the electricity price for the balancing costs. Some BRPs have portfolio's to accommodate intermittent RES and the competition among BRPs guarantees efficient costs levels for RES producers. The extra costs occurred for a RES producer will differ and is highly correlated with the predictability of its production. Typical costs would be between 1 and 3 EUR/MWh.

Belgium: extra costs are difficult to estimate as they depend on individual forecast accuracy, portfolio, flexibility of the system at a given time. Moreover the system of imbalance pricing in Belgium has changed in 2012, so there is not a lot of data available.

Spain - The level of extra cost of imbalance is between 15-20% of day ahead market price. For a wind farm, it means around 2-3 €/MWh

Cases of complaints from RES producers against unfair competition in this area

Norway: No, before the introduction of the subsidy scheme some producers hoping to receive the subsidy complained, but with the scheme in place there are no longer complaints from the sector, which proves that there is a functioning marked for these services and that the prices are considered fair and not too expensive.

Finland: No complaints are known

The Netherlands: No

Belgium: No complaints are known

Spain - No

Views of the national regulator on the market for balancing services and competition in this area

Norway: The National regulator NVE insisted from the beginning of the subsidies scheme, that all producers have to have balancing responsibility and hasn't changed its view. NVE was worried that exempting some producers from balancing responsibility would lead to more irresponsible behaviour by the beneficiaries and to increased unbalances and cost for the whole sector. That's why all producers have balancing responsibility. There is no indication that NVE is reconsidering that policy, which indicates that they haven't received any complaints and that the market for balancing services works for those small producers that choose to outsource that work.

The Netherlands*:* We believe the ACM is content with the way balancing services and obligations are organized in the Netherlands.

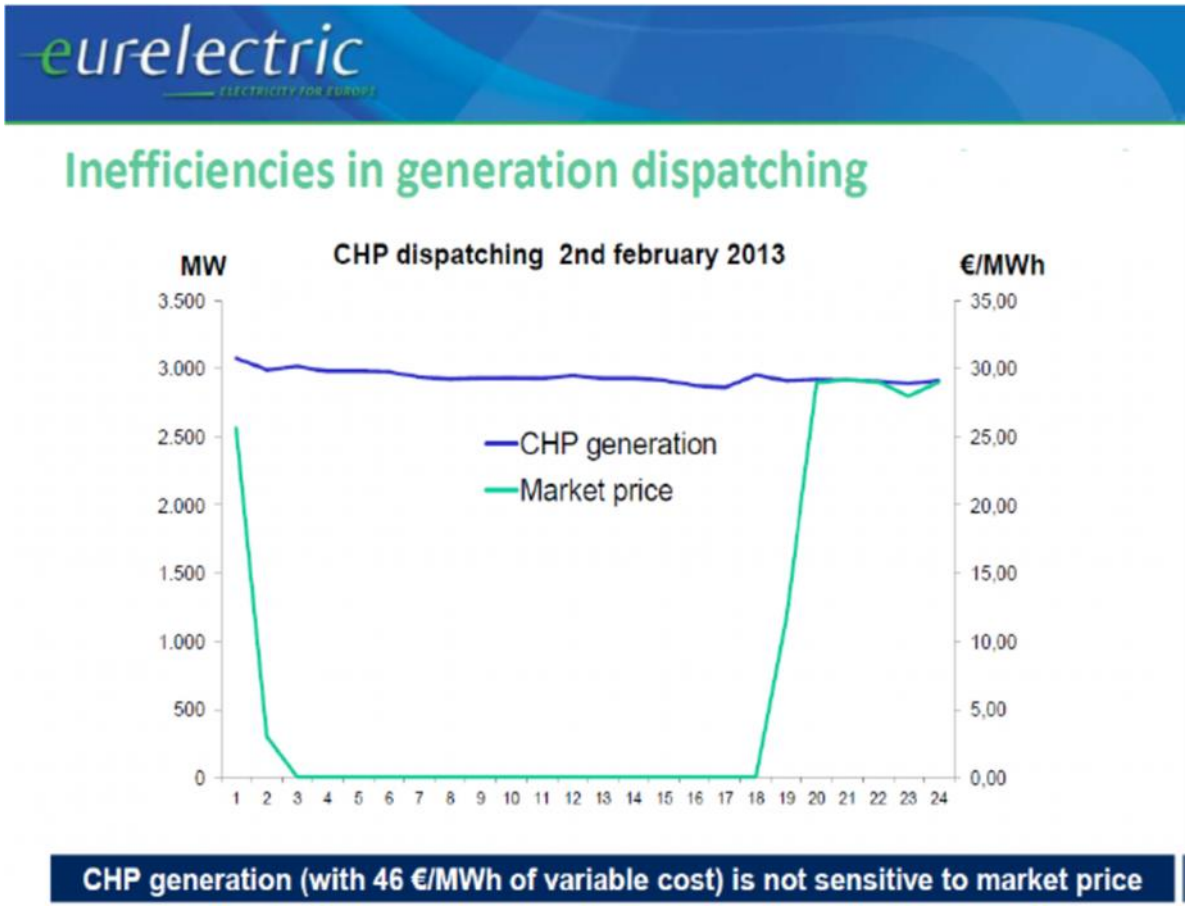
Belgium: The regulator (CREG) supports the idea of equal balancing responsibility of all generators irrespective whether they are RES producers or not. In this context, CREG has also

asked for abolishing the special balancing regime that exists for offshore wind. Regarding the market for balancing services offered to RES operators, no official CREG position exists.

Spain: No relevant concerns on this issue.

ANNEX 5

Example: Inefficiencies in generation dispatching. CHP dispatching in Spain



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