

# Consultation on the preparation of a new Renewable Energy Directive for the period after 2020

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A EURELECTRIC response paper

February 2016

***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.***

Dépôt légal: D/2016/12.105/5

## EXECUTIVE SUMMARY

The EU aims to become a world leader in renewable energy. The European power sector is fully committed to this objective and has committed to deliver carbon neutral electricity supply by 2050. In 2014, 56% of electricity in the EU came from low carbon sources. In the same year, the share of RES in the in the power mix became the largest source of low carbon electricity in the EU, comprising 28% of total power generation. EI New Energy's *Top 100 Green Utilities*<sup>1</sup> 2015 index shows six European companies ranked in the top ten.

With the broad experience and deployment of RES in the European energy market over the last years, the technological development and market experiences have given the power industry confidence that renewables will become fully competitive with other power generation technologies. This will require that future RES deployment is sustainable, cost-efficient and based on market fundamentals. The post-2020 framework for RES must therefore ensure a coherent economy-wide approach, enabling the efficient distribution of renewable assets and efforts. Both the ETS and the non-ETS sectors should contribute in the most cost-effective way to achieve the agreed EU-wide target for renewables under the 2030 Climate and Energy Framework.

The electrification of the non-ETS sectors (such as transport, heating and cooling) is a technically and economically effective way to further enhance the contribution of renewables to the EU's decarbonisation objectives. As electricity becomes increasingly low carbon, replacing fossil based systems with electric technologies which utilise electricity will provide a promising pathway to decarbonise these sectors.

The EU ETS should be the main driver for RES investments in the electricity sector. Strengthening the EU ETS is therefore a no-regret option. With a reinforced carbon price signal and an accelerated cap reduction as agreed by heads of state, additional measures to promote RES can be minimised within the ETS sectors. The EU ETS, which is an established, technology-neutral, European wide instrument, can also bring an increasingly EU wide approach to low carbon technologies development and investment.

If Member States choose to continue to provide support for mature RES after 2020, support should be as cost-efficient and market-based as possible: it should help maximise the market integration of RES and minimise distortions, including distortions of the merit order. In developing the upcoming legislative proposals, the Commission should ensure consistency between the agreed 2030 climate and energy targets. The Commission and the Member States should be required to assess the interlinkages between the EU ETS and RES support and consider ways for how to address them. The impacts of RES support on the power market, security of supply and competitiveness of electricity for end-consumers should also be evaluated, and the resulting distortions minimised.

Further alignment of the key characteristics of support schemes through common EU rules should take place through consistent implementation of the state aid guidelines for the period after 2020, and the RES Directive. The partial opening of support schemes, joint projects and regional schemes provide other means to increase consistency and adopt a more cost efficient approach to RES. Member States must address the barriers to regional support, including the need to have

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<sup>1</sup> <http://www.energyintel.com/pages/pr-top-100-green-utilities-2015.aspx>

a more level playing field for RES (taxes, levies, permitting etc.), and must also take into account the future electricity demand when deciding on the supported volumes and on their geographical scope. Experience shows that it is not politically easy to establish common schemes, and that their execution also involves operational challenges. The Energy Union governance process which is based on national climate and energy plans, as well as further EU coordination to align national policies, should provide support in achieving the agreed 2030 climate and energy targets.

EURELECTRIC does not see any obstacles to the full operational integration of renewable electricity generators into the market as of today. It is for instance necessary to move towards placing operational market responsibilities on all participants, either directly or indirectly through a service provider, including balancing responsibility. Enabling commercial parties to offer balancing and/or commercialisation services to balance responsible RES generation is key.

Europe has moved beyond the early deployment of distributed generation. The regulatory framework should therefore be adapted to ensure cost-effective development of distributed generation and grids, as well as a fair allocation of costs and benefits. Distributed generation should be integrated to the market and the so called “consumer divide” must be avoided.

The state aid guidelines should be further developed for the period after 2020 to ensure a more European approach and cost-efficient deployment of RES in a manner that does not hamper the completion of the internal market. The EU state aid guidelines 2014-2020 should be enforced effectively.

Storage, demand response, infrastructure and electrification are important enablers for the increase in RES electricity, and their development should be considered hand in hand with RES policy. Administrative barriers for the development of RES should be addressed, both at the EU level and in the Member States, in accordance with the principle of subsidiarity.

## 1. General approach

The consultation includes specific sections on heating & cooling as well as transport, but electricity is addressed in sections “1. General approach”, “2. Empowering consumers” and “4. Adapting the market design and removing barriers”. The questions in these sections often leave it unclear whether the aim is to discuss measures related to electricity, or energy in general. From policy perspective the distinction between “energy” and “electricity” is crucial, and there must be no confusion regarding the role of the different sectors in the target architecture.

### Question 1:

**To what extent has the RED been successful in helping to achieve the EU energy and climate change objectives?**

<i>Very successful</i>	<i>Successful</i>	<i>Not very successful</i>	<i>Not successful</i>	<i>No opinion</i>
		X		

The RES target for 2020 is most likely to be achieved - Member States with a stable policy framework are firmly on track to reach their national targets. The RES Directive has motivated the Member States to successfully increase the share of renewable electricity in the power mix. Increasing the share of renewable energy is instrumental in reaching the EU’s energy policy goals (competitive prices, security of supply, decarbonisation). Renewable power generation technologies have developed through innovation in Europe and globally. With the broad experience and deployment of RES over the last years in the European energy market, the technology development and market experiences have given the industry confidence that renewables will become fully competitive with other power generation technologies.

The share of RES electricity has doubled in the last 10 years, and is now 28% (EURELECTRIC), while the share of RES in transport was 5.6%, and in heating and cooling 18% in 2014 (European Environment Agency, EEA). The share of RES in other sectors remains significantly lower because Member States have directed their policies towards the power sector. The share of electricity in final energy consumption in the EU is approximately 24%. The opportunities to electrify the heating and transport sectors, or to develop district heating systems, remain largely unexploited. In order to meet the GHG and RES targets for 2030, Europe should ensure strong progress also in the other non-ETS sectors, especially through electrification. This implies also addressing barriers for electrification. The use of the electricity bill to collect (non-energy related) taxes and levies should be avoided, and in general the level of taxes and levies should be reconsidered.

Regarding the EU’s current climate change targets, the recent EEA Report *Trends and Projections in Europe 2015*, states that the reduction of energy intensity that resulted from structural change and improvements in energy efficiency has been the most important contributor to the GHG emission reductions in the EU between 2005 and 2013, followed by the increase in renewables.

Many RES support schemes have not been efficient and led to distortions and fragmentation in the wholesale market. The cost of RES as supported by European electricity consumers has been unnecessarily high because the past measures have not been as cost effective as they could have been. This led to the increase of end user electricity prices in Europe in the period 2008-2012 (EURELECTRIC study *Analysis of European Power Price Increase Drivers*, May 2014). Increases in electricity prices are largely a result of government add-ons, and between 2008 and 2012, taxes & levies (including energy policy costs) increased by as much as 31%. In 2012, European households spent an average of 39€/MWh on taxes and 25€/MWh on policy support costs. Increases in costs

of policies led to many governments taking sudden decisions to cut support (even retroactively), which has resulted in uncertainty for investors, and negative impacts on innovation.

Affordability and ensuring that costs are kept under control in order to secure public acceptability are crucial in developing RES policies. This is the reason why moving towards 2020, RES policies should develop consistently at the national and European level and have the market-driven development and deployment of RES at its core.

Regarding security of electricity supply, the share of indigenous sources in the European power mix is increasing and the dependence on imported fuels decreasing. However, the increasing share of variable RES in the power mix and the simultaneous decrease in firm and dispatchable capacity imply new challenges in the power systems. Many markets today face a paradox: they need firm and flexible back-up capacity to secure electricity supply for customers, but do not provide the right market incentives to ensure such capacity. Investments in transmission and distribution networks, demand response and storage are needed in the power system as well. The new challenges regarding security of supply need to be addressed.

**Question 2:**

**How should stability, transparency and predictability for investors be ensured with a view to achieving the at least 27% renewable energy target at EU level? Please indicate the importance of the following elements:**

	<b>Very important</b>	<b>Important</b>	<b>Not very important</b>	<b>Not important</b>	<b>No opinion</b>
Forward looking strategic planning of RES development is required by EU legislation	X				
Best practice is derived from the implementation of the existing Renewable Energy Directive		X			
Regional consultations on renewable energy policy and measures are required	X				
Member States consult on and adopt renewable energy strategies that serve as the agreed reference for national renewable energy policies and projects		X			
The Commission provides guidance on national renewable energy strategies		X			

The governance system of the Energy Union should ensure that the EU proceeds towards the agreed 2030 climate and energy targets while also achieving the other EU energy policy targets and objectives related to security of supply and competitiveness. The governance measures should be in line with the development of a more integrated European energy market and all the pillars of the Energy Union should be taken into account.

The RES strategy should be treated in a holistic manner with other key areas of energy policy both in the Member States and at the EU level. The Energy Union Governance system should oblige the Commission and the Member States to regularly carry out consistency checks to ensure that

measures working towards the 2030 targets are complementary and do not weaken each other's impacts. The binding GHG emission reduction target of at least 40% should remain the centrepiece of the 2030 climate and energy framework.

The differences in design of the 2030 framework compared to the 2020 framework must be taken into account when reviewing the RES Directive and when building the Energy Union governance system. The 2030 framework includes a binding EU level target for RES (all sectors), while the GHG target is divided into an EU level target for the ETS sector (based on an annual linear reduction factor), and national GHG targets for the non-ETS sectors. The EU ETS should be the main driver for RES investments in the electricity sector.

The governance system of the Energy Union must provide predictability for investors and ensure an increasingly regional and European approach to RES in order to avoid market distortions. Stable policies and continuity are extremely important for investors. In recent years policy choices have often led to uncertainty rather than predictability. Regional consultation and coordination of RES policies should take place. The benefits and opportunities for cooperation on RES should be identified and assessed, while the cross-border impacts of national approaches to RES should be identified and addressed. In the development of the upcoming legislative proposals, the Member States and the Commission should guarantee consistency between the 2030 targets, and be required to take into account the interlinkages between the EU ETS and RES support, and consider ways for how to address them. The impacts of RES support on the power market, security of supply and competitiveness should be assessed and the resulting distortions minimised. Conflicts deriving from the policy measures to meet the different targets should be avoided.

Best practise on RES policy is relevant when considering how to develop the regulatory framework for the period 2020-2030. However, the existing RES Directive is based on the 2020 framework that contains significant differences to the 2030 framework (such as the national targets for RES for 2020 etc.) and the business environment keeps changing. Its implementation can therefore only be used partly as a basis when planning the new RES policy and legislation.

**Question 3:**

**Please rate the importance of the following elements being included in Member States' national energy and climate plans with respect to renewable energy in ensuring that the plans contribute to reaching the objectives of at least 27% in 2030.**

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>Long term priorities and visions for decarbonisation and renewable energy up to 2050</i>		X			
<i>In relation to national/regional natural resources, specific technology relevant trajectories for renewable energy up to 2030</i>		X			
<i>Overview of policies and measures in place and planned new ones</i>	X				
<i>Overview of renewable energy trajectories and policies to 2050 to ensure that 2030 policies lie on the path to 2050 objectives</i>		X			

<i>Qualitative analysis</i>		X			
<i>Trajectories for electricity demand including both installed capacity (GW) and produced energy (TWh)</i>	X				
<i>Measures to be taken for increasing the flexibility of the energy system with regard to renewable energy production</i>		X			
<i>Plans for achieving electricity market coupling and integration, regional measures for balancing and reserves and how system adequacy is calculated in the context of renewable energy</i>	X				

The national energy and climate plans should ensure that Member States take a holistic and coherent view on their energy sector and policy, covering all dimensions of the Energy Union (security of supply, competitiveness, decarbonisation, energy efficiency and R&D/innovation). The national plans should provide visibility for investors up to 2030, but also take into account a long term perspective. They should also take into account the economic circumstances of the Member States.

The focus of the national plans should be on the impacts and interactions of policy measures, both within a Member State and across its borders (regional and EU level), rather than a detailed description of measures.

The national plans should include enablers to improve the investment climate and facilitate a cost-efficient energy transition. They should provide policy clarity and market stability to minimise regulatory uncertainty, lower investment risk, reduce cost of capital, and push forward technical development.

Measures that apply to the EU ETS and the non-ETS sectors should be included in the national plans. Specific attention should be paid to the potential and benefits of electrification and the removal of barriers to electrification. The plans should analyse the components of the electricity bills as well as tariff structure. Inefficient tariffs loaded with policy support costs, taxes and levies are a major barrier to electrification and cost efficient development of distributed generation. Measures to foster better functioning, integrated wholesale markets, including measures necessary to make renewables schemes more cost-efficient and exposed to market signals, should be included.

The national plans should include an assessment of the technical and economic potential for different types of RES. It will be important to indicate to investors the government's views on the potential in different technologies. At the same time this should not lead to the selection of technologies by governments. Measures to remove barriers and thus facilitate investments in renewable energy technologies should be included.

The assessment of Member States "national contributions" to the EU RES target should be based on realistic assumptions of their RES potential and competitiveness of RES technologies in different sectors.

The national energy and climate plans should cover:

- ) measures to achieve the national GHG targets for the non-ETS sectors, including increase in RES through electrification;
- ) energy demand projections and energy efficiency programmes;
- ) low carbon projections (including RES ) and RES programmes;
- ) an assessment of how the planned measures influence security of supply and fit with the Internal Energy Market, including cross-border effects, compatibility with the EU ETS, and potential market distortions;
- ) plans for complementary measures that support the EU's 2030 climate and energy targets, in particular:
  - ✓ plans to ensure predictability, regulatory stability and reduced risk to investors
  - ✓ progress in transposing the Internal Energy Market Directives and Network Codes;
  - ✓ integration of RES electricity into the market;
  - ✓ timelines for delivering projects of common interest and national strategic infrastructure projects and measures to ensure execution of these investments;
  - ✓ support for innovation in technologies, business models and end use product efficiency;
  - ✓ penetration of electricity in transport and heating;
  - ✓ measures ensuring security of supply;
- ) an assessment of policy support costs related to RES, energy efficiency and climate change for customers/ taxpayers and the consequences of the costs and their allocation for customers and on decarbonisation (including electrification);
- ) measures to combat carbon leakage;
- ) plans regarding the potential use of cooperation mechanisms and flexibility mechanisms.

#### Question 4

**What should be the geographical scope of support schemes, if and when needed, in order to drive the achievement of the 2030 target in a cost-effective way?**

- X Harmonised EU-wide level support schemes
- X Regional level support schemes (group of Member States with joint support scheme)
- X National support schemes fully or partially open to renewable energy producers in other Member States
- X Gradual alignment of national support schemes through common EU rules
- National level support schemes that are only open to national renewable energy producers

This answer addresses the power sector. However, it is important to note that the agreed EU wide binding target of at least 27% RES consumption by 2030 also covers other sectors.

A well-functioning internal electricity market with minimised distortions provides a basis for creating a good investment climate with reduced need for subsidies. Greater convergence and coordination of RES policies affecting the power sector would facilitate a smoother and more cost-efficient decarbonisation. The absence of a coordinated approach to RES is critically interfering with the completion of the internal market.

The EU ETS, which is an established, technology-neutral, European wide instrument, can bring an increasingly EU wide approach to low carbon technologies development and investment. In order to facilitate this, the functioning of the ETS should be enhanced. This includes the establishment and entry into operation of the EU-ETS Market Stability Reserve in 2019, and an increase in the EU ETS' linear emissions reduction factor to 2.2% from 2021 onwards.

Regarding measures that apply to the power sector, the EU should adopt a stepwise approach. The implementation of the state aid guidelines is ongoing; these encourage the opening of

support schemes to investors from other countries and harmonises certain characteristics of the schemes. The Member States should investigate opportunities for voluntary regionally coordinated approach to RES electricity already before 2020. After 2020, the possible gradual removal of RES support may decrease the need for (regional) support schemes, in parallel with further electricity market integration on a regional and European level.

The revision of the state aid guidelines for the period after 2020 and the review of the RES Directive are the next steps. These processes should be fully aligned. Thresholds and exemptions from market integration in the state aid guidelines should gradually be lowered and removed beyond 2020. The revised state aid guidelines, consistently with the RES Directive, should set common criteria for support measures in the EU. If support measures are applied in the power sector after 2020, they should be increasingly converging. Partial opening of support schemes, joint projects and regional schemes provide other means to increase consistency and adopt a more cost-efficient approach to RES.

The barriers for regional support must be simultaneously addressed (please see reply to Question 7 for more details), and Member States need to have a more level playing field for RES. Experience shows that it is challenging to find the political will to establish common schemes, and their execution involves challenges as well. Such a level playing field implies not only convergence of support, but also other key elements such as taxes, permitting procedures and transmission charges applied to generators (see reply to Question 18 for more details on G-charges).

The Commission should encourage regional cooperation and provide guidance in this area. The regional approach should be enabled through EU legislation. If the total cost to society is lower when a regional approach is applied, then, this would provide a strong argument for adopting such regional approach.

Auctioning mechanisms ensure competition between projects, and provide market based mechanisms for setting the levels of energy or capacity based support. They are also well suited for use at a regional level. The design of the auctioning mechanisms should also contribute to minimising the costs and reducing market distortion.

In order to draw further benefits from the coordinated approach, interconnections should be further strengthened. RES should be integrated to the market throughout Europe and the market integration should be accelerated (especially intraday and balancing markets). Grid projects with a positive macro-economic cost–benefit analysis (CBA) should be executed, and those with a negative CBA should not be executed. Grid projects with a positive macro-economic cost–benefit analysis (CBA) should be executed, and those with a negative CBA should not be executed. It is crucial to ensure that these enablers for the integration of RES in the power system and market are in place.

#### **Question 5**

**If EU-level harmonised /regional support schemes or other types of financial support to renewable energy projects would be introduced:**

- **What hinders the introduction at the EU wide and/or regional scale?**
- **How could such mechanism be activated and implemented?**
- **What would be their scope (what type of projects/technologies/support mechanisms could be covered?)**
- **Who would finance them?**
- **How could the costs of such measures be shared in a fair and equitable way?**

In this answer we address the European power sector. However, it should be recognised, that large potential to increase RES and reduce (GHG) emissions in the heating and cooling as well as in transport exists, for example through electrification.

Harmonisation of support has great benefits, including cost-efficiency and competition on a level playing field. It is possible to harmonise the key characteristics of the support schemes, or have common schemes, where the budget is common and investments can be made to any of the involved countries. A lack of political will is an important barrier for the introduction of EU wide or regional support schemes. Difficulties in sharing the indirect costs and benefits (e.g. employment, industrial development) and concerns that citizens would not approve paying for RES investments in other countries can explain the lack of political will.

The incomplete harmonisation of market rules and policies and other regulations which influence RES investments also hinder the adoption of an increasingly regional or European approach to RES. More convergence between the framework conditions in the different Member States is needed so that auctioning products become more homogeneous. In addition, the possible increasing need for transmission capacity should be addressed.

Within the power sector, the prevailing overcapacity in certain parts of Europe is a further barrier for the adoption of a common scheme, as it can lead to an increase in energy supply where the market is already saturated. In this regard, the EU should learn from the experience gained in the implementation and impacts of the Swedish-Norwegian certificate scheme.

Possibilities for Member States to provide funding for RES also differs significantly and this can pose an obstacle for the adoption of a common scheme. TSOs' approach to cooperation on RES may also influence such process. At the same time, lack of harmonisation of RES policy leads to distortions in the power market, and the best/most efficient projects will not necessarily be executed.

The establishment of an EU wide scheme, which would be operational in the 2020s, appears unlikely from a political perspective. The bottom-up convergence of schemes is the preferred alternative to setting up comprehensive EU or regional schemes in a top-down approach. If the total cost to society is lower when a regional approach is applied, then, this would provide a strong argument for adopting such regional approach.

If needed, RES support should be market-based, competitive, cost-efficient and least distortive for the electricity market, and should not be too complicated to set up. Auctioning of capacity based support or volume limited energy based support is in this sense more suitable as it distorts the wholesale market less, and reduces risks for investors, hence lowering capital costs. Beyond research, demonstration and early deployment, policy measures should not seek to promote specific technologies or projects, but they should drive the most cost efficient means to increase RES. It is important to take into consideration the system costs. This implies also taking into account electricity demand, when deciding on the volumes of supported capacity.

## Question 6

**The current Renewable Energy Directive gives Member States the possibility to enter into various cooperation mechanisms (statistical transfers, joint projects and/or joint support schemes). Please expand on the possible new legislative and non-legislative measures that could be introduced to foster the development of cooperation mechanisms in the period beyond 2020.**

Possible cooperation mechanisms after 2020 should take into account the differences between the 2020 framework and the 2030 framework. After 2020, there will not be any national RES targets set in EU legislation which motivate the Member States to cooperate. In addition, some Member States may phase out support for RES electricity entirely.

The new target architecture means that there is no need for statistical transfers after 2020. However, a more coordinated approach would promote the development of projects at locations where they provide the most value for money, in line with the principle of cost-effectiveness. It would also lead to more compatible support schemes based on common principles which would help to reduce regulatory complexity and uncertainty for investors. This could contribute to higher investments, lower risk premiums and, ultimately, to a more cost-efficient deployment of renewables. From the perspective of companies and investors, the rules on cooperation should be as clear as possible.

Apart from these benefits, the use of cooperation mechanisms poses similar challenges to the opening of national schemes or the setting up regional schemes: Member States need to agree on the financing of such schemes (and convince their citizens to pay support to projects in other countries) and on how to share the indirect and often local cost and benefits, in addition to safeguarding a level playing field on taxes, concession, grid access costs etc. Furthermore, interactions with existing schemes have to be taken into account and negative retroactive implications for existing investors must be avoided.

Cooperation mechanisms can facilitate regional cooperation on renewables. Member States should describe in their national energy and climate plans if and how they plan to use cooperation mechanisms after 2020. It might be easier to partially open existing support schemes to cross-border projects than agreeing on a totally new joint scheme. The Commission should facilitate and coordinate this bottom-up approach.

Political concerns and unclear legal provisions have meant that, although the existing Directive allows for support schemes to be open to producers in other countries, it has not evolved in practice. It is important for investors that the rules on cooperation mechanisms are clear, sustainable and reliable. Changes in support to existing plants should be avoided.

The cooperation mechanisms should also take into account the potential for RES in all sectors. Increasing RES only in certain sectors increases the total cost of decarbonisation.

### Question 7

The use of cooperation mechanisms has been limited to date. Which of the below factors do you consider important in explaining the limited recourse by Member States to cooperation mechanisms so far?

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>Unclear legal provisions</i>		X			
<i>Administrative complexities</i>		X			
<i>Lack of cost-effectiveness / uncertain benefit for individual Member States</i>		X			
<i>Government driven process, not market driven</i>		X			
<i>Member States reluctant to see their taxpayers/ consumers' money used for investments outside their country</i>	X				

Despite the benefits of engaging in cooperation with other Member States in order to achieve the national renewable energy targets jointly in a more cost-effective way, no agreements have evolved except for the joint support scheme between Norway and Sweden and some statistical transfers.

The barriers which hinder the set-up and use of cooperation mechanisms are the same as those concerning the set up and use of regional and EU wide support schemes. In particular, the most important barrier has been the domestic policy consideration to communicate and convince the national electorate of the benefits of cooperation over the reliance on domestic sources. Moreover, RES policies often also have legitimate national or even local objectives and Member States have shown concern that cooperation might impact the effectiveness and achievement of national/local policy goals.

In the case of the Swedish-Norwegian support scheme, national taxes, levies and permitting processes have had a large impact on the distribution of RES projects between the countries. This shows the importance of the harmonisation of policies and regulations that apply to the electricity sector. For example, taxes also apply to companies in general influence investments.

The implementation of cooperation mechanisms was also vested mainly in Member State governments, which hindered the involvement of private investment to the cost-effective development of projects.

Furthermore, tackling the uncertainty and complexity of assumptions underlying the arrangement and compensation of direct and indirect cost and benefits between Member States is very challenging. This barrier of course also applies to setting up regional schemes or opening national schemes cross-border.

Joint projects and joint support schemes seem complicated to agree on and to set up. The participation of private companies in such discussions could facilitate the setting-up of joint projects. The EU wide or regional convergence of policies could further alleviate the need for cooperation mechanisms.

### Question 8

**How could renewable electricity producers be fully or partially eligible for support in another Member State? Which elements would you include in a possible concrete framework for cross-border participation in support schemes? Any other consideration? Please explain.**

The establishment of cooperation between countries, including partial opening of support schemes implies that there must be a (bilateral) agreement in place. Cooperation mechanisms could be used not only in the power sector, but also in other sectors. In the power sector, cooperation mechanisms can be implemented in practise (e.g. in the context of tendering schemes or green certificates).

In order to further promote cooperation, a number of political, technical and legal barriers need to be reduced. These include for example:

- ) Overcoming the political rigidity of a national approach, i.e. create acceptance of buying role in politics and society (“achieving European targets as a team work”);
- ) Promoting further market and grid integration to allow for more physical cross-border trading of renewable energy. The opening of support schemes can concentrate RES capacity to certain areas, leading to increasing need for transmission capacity;
- ) The Commission should prepare guidance and frameworks for agreements between Member States in order to facilitate opening of support schemes;

Interactions with existing schemes have to be taken into account and negative retroactive implications on existing investments need to be avoided.

### Question 9

**Please assess what kind of complementary EU measures<sup>2</sup> would be most important to ensure that the EU and its Member States collectively achieve the binding at least 27% EU renewable energy target by 2030:**

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>EU-level incentives such as EU-level or regional auctioning of renewable energy capacities</i>					X
<i>EU-level requirements on market players to include a certain share of renewables in production, supply or consumption</i>					X
<i>EU-level financial support (e.g. a guarantee fund in support of renewable projects)</i>				X	
<i>EU-level support to research, innovation and industrialisation of novel renewable energy</i>	X				

<sup>2</sup> Without prejudice of the actual funding mechanism, where required, of the complementary EU measures

<i>technologies</i>					
<i>Enhanced EU level regulatory measures</i>					X

The review of the RES Directive should have a balanced approach towards RES in heating and cooling, electricity and transport. When driving the development of RES electricity, the Member States should, in cooperation with their neighbours, take into consideration the regional demand for electricity and the increasing need for network investments. Electrification enables decarbonisation, including RES in transport, heating and cooling, and simultaneously helps to avoid overcapacity in the power sector. Effective measures should be taken to ensure that Member States progress with electrification, and other potential ways to increase RES in heating, cooling and transport.

A critical prerequisite for electrification is the reduction of levies and policy support costs from the electricity tariffs. Nowadays, the share of taxes, levies and policy support costs is on average 34% in domestic electricity tariffs, and in some countries such as Germany up to 50-55%, making electricity artificially expensive compared to the alternatives.

As for the electricity sector, the EU ETS should be the main driver for RES investments. Strengthening the EU ETS is therefore a no-regret option. With a reinforced carbon price signal and an accelerated cap reduction (as agreed by Heads of State), additional measures to promote RES can be minimised within the ETS sector.

In addition, administrative barriers (permitting etc.) must be removed, support schemes need to be immediately reformed (in line with State Aid Guidelines) and RES need to be integrated in the electricity market by applying the same rights and obligations as for other generators. At the same time markets need to be made “fit for RES” (see our responses to the Questions under Section 4).

EU funding for research and innovation is also needed to facilitate an increasing share of RES in the power mix. It should not only focus on RES technologies but also on innovative “systems” that allow for better market and grid integration (storage technologies, virtual power plants, smart grids, flexible power plants etc.)

If further RES support is deemed necessary, it should be market-based, competitive, cost-efficient and least distortive for the electricity market, and should not be too complicated to set up. Auctioning of capacity based support or volume limited energy based support is in this sense more adapted as it distorts the wholesale market less, and reduces risks for investors, hence lowering capital costs.

Auctioning at a regional level would bring a more coordinated process across Member States. This would also ensure an efficient allocation of renewable power plants by only selecting projects in the most suitable locations in terms of more efficient network developments and resource availability. However, in order for transnational auctioning to be most cost-efficient, some practical obstacles need to be removed.

The Member States and the Commission should guarantee consistency between the 2030 climate and energy targets, and should be required to take into account the interlinkages between the EU ETS and the RES support, and consider ways for how to address them. The impacts of RES support on the power market, security of supply and competitiveness should be evaluated and the resulting distortions minimised.

The governance system of the Energy Union based on national energy and climate plans, as well as further EU measures to align national policies, should support the achievement of the agreed EU energy and climate targets for 2030. National RES targets should not be introduced “through the backdoor” via the governance process.

#### **Question 10**

**The Energy Union Framework Strategy sets the ambition of making the European Union the global "number one in renewables". What legislative and non-legislative measures could be introduced to make/strengthen the EU as the number one in renewables? Has the RED been effective and efficient in improving renewable energy industrial development and EU competitiveness in this sector?**

The power sector is a global leader in the move towards decarbonisation (IEA World Energy Outlook 2015). The share of RES in Europe is significantly higher than in heating and transport. Six out of the top ten companies listed in EI New Energy Top 100 Green Utilities index for 2015 are European. In other words, the European power sector is already a number one in RES. In order for the EU to become “number one in RES”, the power sector, as well as the heating and cooling and transport sectors, all need to contribute in a balanced manner to excel in RES.

The electrification of non-ETS sectors (such as transport, heating and cooling) is a technically and economically effective way to further enhance the contribution of renewables in these sectors to the EU’s decarbonisation objectives. As electricity becomes increasingly low carbon, replacing fossil based systems with electric technologies which utilise electricity will provide a promising pathway to decarbonise these sectors.

The EU should be committed to the cost-efficient development of RES and innovation in the power sector. The ongoing energy transition requires significant contribution from the EU, Member States and utilities to R&D and innovation. An enabling policy framework and funding possibilities at the EU level are therefore crucial. Innovation should be driven both through a) funding for R&D on RES technologies and business models, solutions and storage, demand response and smart grids that facilitate the increase in RES; and b) creating a market framework where competition drives innovation.

The primary responsibility of the EU is to ensure a supportive investment framework for research, development and deployment, an energy policy that permits increased penetration of renewables at least cost and an economic policy that is focused on the competitiveness of EU industry. In recent years the support schemes have become too expensive for the end consumers. Affordability to business and vulnerable customers must be taken into account.

EU policy should ensure the market integration of RES, and competition between technologies in order to foster innovation in both technologies and business models. Well-functioning energy markets are key in this respect.

The distribution and transmission grid infrastructure needs to be strengthened in order to be able to integrate the increasing share of volatile RES into the European energy system. The current evolution of European smart grid projects shows that there is room for further investment. In order for European utilities to fund innovative projects closer to the end user, innovation funding should be rationalised (both throughout the EU and within Member States), while national

regulatory authorities must specify better innovation reward schemes in order for network companies to keep up the pace in terms of innovative solutions.

EURELECTRIC believes that it is important to improve the coordination between EU energy policy and EU nature/environment legislation in order to avoid trade-offs (e.g. in terms of protection zones, Go/No-Go areas, different authorisation procedures etc.). This is particularly true for Hydropower, a renewable and low carbon technology, which can contribute significantly to reaching the EU's 27% RES target by on the one hand providing base-loads and at the same time help absorb volatile RES with its storage without any subsidies.

In order to facilitate all this, RES should be addressed in a holistic manner in national and regional strategies and cooperation.

## 2. Empowering consumers

### Question 11

How would you rate the importance of the following barriers for consumers to produce and self-consume their own renewable energy?

	<i>Very important barrier</i>	<i>Important barrier</i>	<i>Not very important barrier</i>	<i>Not important barrier</i>	<i>No opinion</i>
<i>Self-consumption or storage of renewable electricity produced onsite is forbidden</i>				X	
<i>Surplus electricity that is not self-consumed onsite cannot be sold to the grid</i>		X			
<i>Surplus electricity that is not self-consumed onsite is not valued fairly</i>			X		
<i>Appliances or enabler for thermal and electrical storage onsite are too expensive</i>				X	
<i>Complex and/or lengthy administrative procedures, particularly penalising small self-consumption systems</i>			X		
<i>Lack of smart grids and smart metering systems at the consumer's premises</i>			X		
<i>The design of local network tariffs</i>				X	
<i>The design of electricity tariffs</i>				X	

Regulation needs to facilitate/permit the extraction of the true value of local power generation and storage. However, it should be developed on a level-playing field with other generation technologies and in a way that does not distort the market nor jeopardise system security. Also, an unfair "consumer divide" should be avoided. It is up to the market to develop cost-effective technology.

**Selling of surplus electricity to the grid:** In order to better integrate prosumers them in the market and expose them to market signals prosumers should be required to sell their surplus energy, based on a fair market price. Appropriate metering plays an important role to enable market partners to calculate reliably and value properly the energy surplus provided by prosumers. Moreover, it must be possible for market parties to pool/aggregate prosumers. Purchasing obligations (such as feed-in system which obliges grid operators to take up the energy) and price regulation should be phased out.

**Unfair valuation of surplus electricity:** Currently the valuation scheme often favours the prosumer by remunerating them at the retail price (or FiT). In a level playing field, prosumers sell the excess electricity at a price that reflects its value in the market (=reflects the wholesale prices). Indirect subsidies, such as non-market based net-metering schemes and socialising of prosumers balancing costs should be avoided.

**Cost of appliances or enabler for thermal and electrical storage onsite:** This is not a regulatory barrier. It is up to the market to develop cost effective technologies.

**Administrative procedures:** To our knowledge, permitting procedures are mostly simplified for self-generation systems. However, such practices vary across Europe, and administrative barriers for self-generation should be addressed.

**Smart meters:** These offer more transparency and details about consumers' production and self-consumption and are key enabler of services for prosumers. The Commission should keep up to date on Member States' smart metering roll-out plans. Basic smart meters functionalities should become binding at EU level without prejudice to smart meter roll-outs that are already on-going. Regulation should allow for the provision of adequate remuneration to the responsible parties for the roll-out of smart meters

**The design of electricity tariffs & network tariffs:** Even though wholesale electricity prices have been decreasing over years, the total consumers' bills are increasing mainly due to increases in taxes and costs for RES support (on average 34% of the EU residential customer electricity bill). Effectively, this represents a subsidy for distributed generation, not a barrier. Since the retail bill is artificially inflated, investments in rooftop PV start to make "economic sense" from an individual customer point of view, although these investments may not be cost-efficient from a system-wide perspective.

In order to ensure that the retail price is the appropriate reference for investment decisions, it should not include the cost to the system that are truly avoided by a prosumers (e.g. fuel cost and variable network costs). But the different elements of the final bill (commodity, network, taxes/levies) have to be designed cost-reflectively in terms of volumetric/capacity-related and standing charges. Policy support costs, which form a large share of levies in the final consumers' bills, tend to be fixed costs which are billed as volumetric charges. The same applies to the network costs. As prosumers consume less electricity, such costs are shifted to other customers.

### Question 12

In general, do you think that renewable energy potential at local level is:

- Highly under-exploited
- Under-exploited
- Efficiently / fully exploited
- Over-exploited (i.e. beyond cost-effectiveness)
- No opinion

Local deployment of renewable energy covers a wide range of very different ways to exploit the RES potential, such as distributed generation, RES deployment of small and large municipal energy companies and renewable energy cooperatives. Energy policy should ensure cost effective deployment of RES potential in electricity, heating, cooling and transport, not certain type of potential or RES in only certain sectors.

In the context of electricity, there is a need to take into account not only the theoretical and technical potential for renewable electricity, but the economic potential, based on demand for electricity, flexibility and capacity. Some markets already have overcapacity.

### Question 13

How would you rate the importance of the following barriers that may be specifically hampering the further deployment of renewable energy projects at the local level (municipalities and energy cooperatives):

	<i>Very important barrier</i>	<i>Important barrier</i>	<i>Not very important barrier</i>	<i>Not important barrier</i>	<i>No opinion</i>
<i>Lack of support from Member State authorities</i>			X		
<i>Lack of administrative capacity and/or expertise/ knowledge/information at the local level</i>		X			
<i>Lack of energy strategy and planning at local level</i>			X		
<i>Lack of eligible land for projects and private property conflicts</i>		X			
<i>Difficulties in clustering projects to reach a critical mass at local level</i>			X		
<i>Lack of targeted financial resources (including support schemes)</i>			X		
<i>Negative public perception</i>		X			

Cooperation in this field is important. For example, utilities and municipal companies can play an important role as project partners in cooperation with local partners. Cooperation can include advice and services (e.g. installation, maintenance of equipment, providing access to energy markets and/or buying back the produced energy and/or providing back-up energy) but also joint projects and participating in financing.

But it must be pointed out that these barriers are subject to national/local circumstances and they vary across European countries. Therefore it is not possible to draw general European conclusions. In addition, local deployment of renewable energy covers a wide range of very different ways to exploit the RES potential, such as distributed generation, RES deployment of small and large municipal energy companies and renewable energy cooperatives. In our opinion RES should have a level playing field where all agents (be they large utilities, municipal companies, private consumers, other investors) can participate.

#### Question 14

Please rate the appropriateness of stronger EU rules in the following areas to remove barriers that may be specifically hampering the further deployment of renewable energy projects at the local level :

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>	<i>No opinion</i>
<i>Promoting the integration of renewable energy in local infrastructure and public services</i>					X
<i>Supporting local authorities in preparing strategies and plans for the promotion of renewable energy</i>					X
<i>Facilitating cooperation between relevant actors at the local or municipal level</i>					X
<i>Facilitating access to targeted financing</i>					X
<i>EU-wide right to generate, self-consume and store renewable electricity</i>			X		
<i>Measures to ensure that surplus self-generated electricity is fairly valued</i>			X		
<i>Harmonized principles for network tariffs that promote consumers' flexibility and minimise system costs</i>				X	

Several issues raised in the table are based on the subsidiarity principle and subject to national decision making. It also needs to be pointed out that these obstacles can be related to the deployment of renewable electricity projects in the Member States in general and not only at a local level.

It is unclear what an “EU wide right to generate, self-consume and store renewable electricity” would mean in practice. The EU should rather prepare a concrete list of barriers that should be removed, such as purchasing obligations and designing incentives for efficient investments. The Member States should remove administrative barriers to enable distributed generation, and take measures to facilitate a larger share of variable and distributed RES in the power systems while

ensuring system safety. Opting for distributed generation should be a customer choice that does not result from artificial incentives (see reply to Question 11). In the context of distributed generation, stability and a market-based regulatory framework generally stimulate innovation. When electricity is valued based on the wholesale prices, companies are enabled to develop products and services for prosumers. Adequate metering data provided by smart meters is an enabler for the development of innovative services for prosumers and they help to integrate the RES plants into the power system and market. Harmonised principles for network tariffs, with a particular stress on cost-reflectiveness would be beneficial, but the harmonisation of distribution tariffs should be avoided.

These points should be addressed, but this should be unrelated to the “local development” and should be applied to renewables in general. RES should compete in the market in a level playing field without preconditions if it is local, regional or centralised.

### **Question 15**

#### **Should the current system for providing consumers with information on the sources of electricity that they consume be further developed and improved?**

The current system for providing consumers with information on the sources of electricity that they consume should indeed be further evaluated, developed and improved:

- Rules defining Guarantees of Origin (GOs) and Electricity Disclosure should be merged in a single Directive<sup>3</sup> with the objective to provide a consistent basis for an effective European disclosure system with GOs at its core.
- It should be mandatory to verify green products (electricity produced with RES) with the GOs.
- Depending on a positive cost-benefit analysis at national level, suppliers should also have the possibility, on a voluntary basis, to use GOs to certify any other product – i.e. made of non-renewable sources or a mix of renewable and non-renewable sources. This means that GOs could be issued for all types of energy sources, not only RES and not just RES installations that do not get support (disclosure information should not be influenced by renewables support schemes).<sup>4</sup> Disclosure would therefore be based either on GOs or on the residual mix or a combination of both.
- The rules for calculating the residual mix should be harmonised at the EU-level to avoid double-counting.

Introducing these changes would allow suppliers to differentiate their products and consumers to choose the types of product and the sort of electricity they want, thus contributing to increasing transparency, empowerment and reliability.

At the same time, it is important to improve consumers’ understanding of the GO system. The issue of “double perception” (consumers living near renewable installations who think their electricity comes from these RES installations when the electrons might have virtually been sold

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<sup>3</sup> Today rules are split under three different Directives - 2009/28/EC, 2009/72/EC and 2012/27/EC.

<sup>4</sup> Art. 15(2) of Directive 2009/28/EC allows Member States to withhold support from producers for units of electricity that have received a GO. This has led to some countries issuing GOs for supported generation whilst others do not.

to other consumers via GOs) particularly undermines the added-value of GOs. Policymakers, consumer associations and businesses should explain to consumers that in an electricity market, the physical flows of electricity cannot be linked to the sources from which the power was produced.

It should also be made clear that the sole purpose of GOs is disclosure. There should be no requirements of additionality. In the longer term, customer preferences that are reflected by the demand of green products may influence investments. Increasing the demand of green products (and thus also GOs) gives suppliers and power generators a signal of shifting customer preferences, which the companies also take into account in their investment decisions. However, these are market developments that cannot be captured by regulating the GO system further. Today, especially when market prices are so low, support schemes are the main driver for RES investments.

We agree that basic information on the direct carbon emissions arising from electricity production should be made available to consumers, highlighting that electricity is an emission free energy carrier, covered by the EU ETS, with an increasing share of renewable and other low carbon generation. However, we think that including them in the GO system would be unnecessarily complicated and potentially misleading. In our view, the most important step to decarbonise EU energy use would be to shift from fossil energy carriers to emission free energy carriers, such as electricity.

Finally we think that the GO system should be kept as simple as possible in the interest of consumers. We do not think that information about GOs should necessarily be communicated through the energy bills. The provision of too much and overly detailed information can lead to confusion and loss of interest. There are several channels suppliers can use to communicate with their customers.

### 3. Decarbonising the heating and cooling sector

#### Question 16

Please rate the importance of the following barriers in hampering the deployment of renewable heating and cooling in the EU:

	<i>Very important barrier</i>	<i>Important barrier</i>	<i>Not very important barrier</i>	<i>Not important barrier</i>	<i>No opinion</i>
<i>Real or perceived incoherence in existing EU policies (such as RED, EED and EPBD)</i>		X			
<i>Lack of administrative capacity and/or expertise/ knowledge/information at the national and local level</i>			X		
<i>Lack of energy strategy and planning at the national and local level</i>		X			
<i>Lack of physical space to develop renewable heating and cooling solutions</i>		X			
<i>Lack of requirements in building</i>		X			

<i>codes and other national or local legislation and regulation to increase the share of energy from renewable sources in the building sector</i>					
<i>Heating and cooling equipment installers lack sufficient knowledge or information to offer renewable energy alternatives when asked to replace fossil fuel heating and cooling equipment</i>			X		
<i>Lack of targeted financial resources and financing instruments</i>	X				
<i>Lack of definition and recognition of renewable cooling</i>		X			
<i>Lack of electricity market design supporting demand response, decentralised energy and self-consumption and thermal storage in buildings and district systems</i>			X		
<i>Lack of mapping tools to identify the resources potential at regional scale with local renewable energy</i>			X		
<i>Lack of tools and information to compare the lifecycle costs of the various alternative heating and cooling alternatives</i>			X		
<i>Negative public perception</i>			X		

The key ambition, as stated by the Commission, is the decarbonisation of the heating sector. Member States will also have binding, national targets for GHG emission reductions in the non-ETS sector. Decarbonised electricity must therefore be the energy carrier of choice to achieve this decarbonisation. Electrification sectors will effectively shift emissions from the heating sector into the EU ETS.

Renewables will make an important contribution to the decarbonisation of the heating sector. However, there should be technological neutrality regarding solutions to decarbonise buildings. Allowing renewable energy to fully penetrate the heating sector and to work alongside other decarbonised sources requires a holistic approach with a long term strategy. Conflicts between RES measures and energy efficiency measures should be avoided. EURELECTRIC is convinced that the success of the EU strategy on heating and cooling is to a large extent dependent on ensuring buy-in from national, regional and local authorities, as well as the involved sectors. Designing a proper market for heating and cooling is essential in the decarbonisation of this sector.

In addition to this, the policy approach must also include the recognition renewable energy for the heating sector will also come to a large extent from centralised renewable generation. We therefore urge the Commission to include this in its strategy of decarbonising the heating sector. With decentralised and centralised storage options, higher RES penetration can be achieved independently of its source.

The key obstacles from the Commission’s list include outdated/ineffective financing instruments as well as a lack of definition and recognition of renewable cooling. In terms of financing barriers, the problem is reported to be less about lack of available funds, but more about awareness, information and administrative burdens. Further obstacles which need recognition are the low rate replacement for heating equipment. In order to remove barriers for electrification, the review of the RES Directive should also include a revision of annex VII, as the currently applied formula for heat pumps does not reflect the technical reality any more.

The differences in heat demand and existing infrastructure across Member States should be taken into account when determining decarbonisation pathways. The focus should not be on specific technical solutions and but allow for flexibility across Member States to account for national infrastructure and building stock.

### Question 17

Please rate the most effective means of addressing these barriers and advancing the decarbonisation of EU heating and cooling supply:

	<b>Very effective</b>	<b>Effective</b>	<b>Not very effective</b>	<b>Not effective</b>	<b>No opinion</b>
<i>Renewable heating and cooling obligation<sup>5</sup></i>			X		
<i>Requirement for energy suppliers and/or distributors to inform consumers of the costs of heating and cooling and to offer renewable heating and cooling solutions</i>			X		
<i>Requirement that all urban and municipal infrastructure upgrades (energy infrastructures, and other relevant infrastructure, such as sewage water, water and waste chains) make it possible and promote the distribution and use of renewable energy for heating and cooling and hot water generation</i>		X			
<i>Measures supporting best practices in urban planning, heat planning, energy master planning, and project development</i>		X			
<i>Criteria and benchmarks for promoting district heating and cooling taking into consideration the local and regional conditions</i>		X			
<i>Nearly zero-energy building (NZEB) standards to include a mandatory minimum use of renewable energy</i>			X		
<i>Including systematically renewable energy</i>			X		

<sup>5</sup> ‘Renewable energy obligation’ means a national support scheme requiring energy producers to include a given proportion of energy from renewable sources in their production, requiring energy suppliers to include a given proportion of energy from renewable sources in their supply, or requiring energy consumers to include a given proportion of energy from renewable sources in their consumption.

<i>production in buildings' energy performance certificates</i>					
<i>The promotion of green public procurement requirements for renewable heating &amp; cooling in public buildings</i>		X			
<i>Heating and cooling equipment installers should present renewable energy alternatives when asked to replace fossil fuel heating and cooling equipment</i>				X	
<i>Develop best practices for enterprises, including SMEs, to integrate renewable heating and cooling into their supply chains and operations</i>		X			
<i>Requirement to consider renewable energy alternatives in subnational, national, regional or EU security of supply risk preparedness plans and emergency procedures</i>		X			
<i>Targeted financial measures</i>	X				

Overall, EURELECTRIC sees several items in the list proposed by the Commission as being potentially effective in addressing the barriers. Much can be achieved by removing obstacles to public sector involvement. EURELECTRIC expects that this sector will play a leading role in the transition. Measures involving or stimulating the heating sector can be very effective as they can be applied and have an impact both at national and at local level. This can also include internalising the costs of CO<sub>2</sub> in the non-ETS sectors.

As stated in previous EURELECTRIC positions addressing the interaction of renewable, efficiency and GHG targets and policies, we urge the Commission to take into consideration the policy overlaps which have been created. These overlaps undermine the cost-efficiency of energy and climate policies and must therefore be appropriately recognised and avoided.

Renewable heating and cooling obligations, as proposed in the list, will not be effective measures unless they are accompanied by a sound strategy for the development of renewable sources. Best practice principles would be useful for Member States to focus their measures. Imposing an obligation without providing the necessary tools to comply with that obligation can lead to costly measures for the obliged parties, for the system and finally for the consumer. Furthermore, the implied costs (administrative etc.) must be considered before an instrument is promoted further.

#### 4. Adapting the market design and removing barriers

##### Question 18

**In your view, which specific evolutions of the market rules would facilitate the integration of renewables into the market and allow for the creation of a level playing field across generation technologies? Please indicate the importance of the following elements to facilitate renewable integration:**

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>A fully harmonised gate closure time for intraday throughout the EU</i>		X			

<i>Shorter trading intervals (e.g. 15 min)</i>		X			
<i>Lower thresholds for bid sizes</i>			X		
<i>Risk hedging products to hedge renewable energy volatility</i>			X		
<i>Cross border capacity allocation for short-term markets (i.e., some capacity being reserved for intraday and balancing)</i>				X	
<i>Introduction of longer-term transmission rights (&gt; 3 years)</i>				X	
<i>Regulatory measures to enable thermal, electrical and chemical storage</i>		X			
<i>Introduction of time-of-use retail prices</i>		X			
<i>Enshrine the right of consumers to participate in the market through demand response</i>		X			

Full market integration of operations and ultimately of investments should remain the final objective. EURELECTRIC does not see any obstacles to full operational integration of renewable electricity generators into the market as of today. A level playing field where all resources are equally balancing responsible, can participate in the balancing market and compete on an equal footing already exists in some Member States, proving that this is possible. As for existing generation, changes of operational responsibilities should be subject to the adequate compensation, taking into account the costs derived from these obligations as well as the possible revenues of RES on the balancing markets.

EURELECTRIC believes that the following evolution of market rules will guarantee the operational integration of RES, including prosumers, into the market:

- i. Ensure the development on a level playing field for all flexibility resources: conventional flexible plants, RES, demand side response, storage regarding scheduling and balancing obligations;
- ii. Improve the functioning of day-ahead, intraday and cross-border markets and gate closure in order to give all BRPs, including RES producers, all (short-term) opportunities to trade their imbalances efficiently. In order to set up a level playing field for balancing between controllable and variable generation, gate closures of national and cross-border intraday markets should be moved closer to real time as TSO's processes allow;
- iii. Congestion management should be properly coordinated at the regional level, as mandated by the CACM guidelines. Furthermore, no cross border capacity should be reserved for balancing and intraday;
- iv. RES generation should bear the same technical requirements and charges for grid connection and network use as other generators.
- v. Prosumers should pay network connection fees based on their network capacity needs.
- vi. The design of transmission tariff structures needs to be harmonized and transmission charges applied to generators should be set as low as possible, in particular, the power-based charges (€/MW) in order to minimise the distortions on generator's behaviour;
- vii. Develop ancillary services markets, ensure market-based pricing of reserve power; and ensure that RES generation can participate.

viii. The threshold for bid size should allow proper market functioning. It is important that aggregators are able to create bigger bids by grouping customers/smaller generators.

There should be no specific measures to promote storage; since this would hamper the level playing field between different technologies. A clear definition of the roles and responsibilities for the operation and the ownership of electricity storage should be developed; indeed, the lack of clarity could hamper investments and operation. As a general rule distributed storage should be owned and operated by customers themselves or market actors. For very specific applications aimed at ensuring system security (thereby optimising DSO operations) for which the procurement of flexibility services by the DSO is not sufficient, DSOs should be able to procure storage on the open market via public procurement procedures. These applications should not interfere with market arrangements or hamper competition.

Barriers to a level playing field for storage should be identified and measures are needed to remove them, such as double fee imposition (charging and discharging) which it can prevent storage to be operated in line with the system needs.

Demand response will play a role as one but not the only source of flexibility to integrate renewables. The demand side should be enabled to actively participate in the market on a level playing field with other resources. Customers should have access to time varying tariffs (time-of-use, critical peak pricing, real time...) reflecting market prices. Correspondingly, suppliers should be allowed to offer such products without being restricted by price regulation. Customers should be also able to participate in explicit demand response on a voluntary basis. The deployment of smart meters is a key prerequisite to advanced demand response services.

#### Question 19

**Currently, some exceptions from the standard balancing responsibilities of generators exist for energy from renewable sources. In view of increasingly mature renewable generation technologies and a growing role of short-term markets, is time ready to in principle make all generation technologies subject to full balancing responsibilities?**

- Yes, in principle everyone should have full balancing responsibilities**  
 No, we still need exemptions

EURELECTRIC does not see any obstacles to fully integrating renewable energy generators into the market. It is necessary to move towards placing operational market responsibilities on all participants in the balancing market, either directly or indirectly through a service provider, including balancing responsibility.

Balancing obligations are necessary for all generation plants – existing and new ones (universal balancing). In some countries, RES are already fully integrated in the market. Giving RES balancing responsibility provides them with economic incentives to develop better generation forecasts and put in place improved control systems to be active in the balancing market, thereby reducing system imbalances and flexibility needs in a transparent way.

As for existing generation, it should be left to the discretion of the Member States to decide whether balancing responsibility should be applied on a voluntary basis or made mandatory, subject to adequate compensation, taking into account the costs derived from these obligations as well as the possible revenues of RES in the balancing market. Either way, full market integration should be ensured as soon as possible.

Enabling commercial parties to offer balancing and/or commercialisation services to balance responsible RES generation is crucial. Placing balancing obligations on RES generators will naturally create a demand for balancing services, which will be offered by the market. The introduction of balancing obligations on RES would further improve the functioning of the power market, create new opportunities including for RES, and put an end to ‘produce anyway’ approaches.

Smart meters enable both the identification of prosumers’ imbalance as well as good quality forecasting. Adequate metering data, with a reading interval of one hour or less, is an enabler for creating an attractive business environment in which companies offer a variety of services (including services on balancing) to prosumers. It is important that the party affecting the balance has a balance responsibility or a contract with a balance responsible. In practice, this is often the case for small scale prosumers that outsource the balancing responsibility to their supplier or to an aggregator.

Suppliers and aggregators provide services (e.g. forecasting, balancing, back-up/aggregation) and products (e.g. specific price schemes) that enable participation of distributed generation in the markets. Adequate metering data provided by smart meters is an enabler for the development of services for prosumers, as well as their market integration.

#### Question 20

Please assess the importance of stronger EU rules in the following areas to remove grid regulation and infrastructure barriers for renewable electricity deployment:

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>Treatment of curtailment, including compensation for curtailment</i>		X			
<i>Transparent and foreseeable grid development, taking into account renewable development and integrating both TSO and DSO level and smart technologies</i>				X	
<i>Predictable transparent and non-discriminatory connection procedure</i>				X	
<i>Obligation/priority of connection for renewables</i>				X	
<i>Cost of grid access, including cost structure</i>	X				
<i>Legal position of renewable energy developers to challenge grid access decisions by TSOs</i>				X	
<i>Transparency on local grid congestion and/or market-based incentives to invest in uncongested areas</i>				X	

Although most of these issues are indeed important, they can be dealt with at the national level (e.g. predictable, transparent and non-discriminatory connection procedure) and do not require stronger EU rules. In principle, all generators should be treated equally against these elements. Should RES producers be discriminated in some countries – both in positive and negative ways – or in specific cases, this should be effectively corrected as soon as possible. Where no discriminations exist, specific treatments should not be put in place.

- Smart grid development could reduce the need for curtailment. The deployment of smart grids will be governed by national regulation of DSOs. Nevertheless, as support to RES becomes more market-based, market-based solutions for curtailment should be implemented: for example, use of balancing bids. It should also be implemented at the distribution level where market conditions permit (i.e. enough active participants). Grid development to better integrate renewables will rather happen at the DSO level, which is governed by national regulation.
- Predictable transparent and non-discriminatory connection procedures are important and they are governed by Network Codes and national regulation. Similarly, the obligation/priority of connection for renewables is also handled at the DSO level, which is governed by national regulation.
- Increased cooperation and coordination between DSOs and TSOs in terms of grid planning, operation and data exchange should continue to be encouraged by the European Commission. DSOs should have the tools to manage the networks and reduce curtailment.
- Cost of grid access, including cost structure, affects all generators and should not be considered as a specific barrier for RES. The costs of grid connection have to reflect the effective costs of connecting new facilities, and should be non-discriminatory for all types of generators.
- All producers must have access to a diligent legal procedure. The legal possibility to challenge grid access decisions by TSOs should be the same as for all generators. In many countries it is already the case. This should also be the case at the DSO level where the legal/contractual framework is often less mature. This can be regulated at the national level as it is strongly related to permitting. Transparency is key to achieve well-functioning markets, as it allows market participants to better anticipate the level of prices in different locations.

#### Question 21

**Which obstacles, if any, would you see for the dispatching of energy from all generation sources including renewables on the basis of merit order principles? Should there be any exemptions in some specific cases?**

- Yes, exemptions are necessary  
 **No, merit order is sufficient**

RES should be dispatched in an efficient way consistent with the merit order. Priority of dispatch is unnecessary and inefficient. Indeed, most RES has very low variable costs and will be dispatched before other technologies without the need for priority. Support schemes that incentivise dispatching below variable costs distort the merit order.

With an increasing penetration of variable RES, grid congestions may occur more frequently and as a consequence RES as well as other assets would have to be curtailed which has a negative impact on their business case. Current volume-based support schemes distort congestion

management. As future support schemes become more market-based, market based congestion management should be implemented. Moreover market-based congestion management should also allow demand and storage to participate on a level playing field with generation.  
(884)

## Question 22

Please assess the importance of stronger EU rules in the following areas to remove administrative barriers to renewable energy deployment:

	<b>Very important</b>	<b>Important</b>	<b>Not very important</b>	<b>Not important</b>	<b>No opinion</b>
<i>Creation of a one stop shop at national level to allow for more streamlined permitting procedures</i>		X			
<i>Online application for permits</i>					X
<i>A defined maximum time-limit for permitting procedures, and effective consequences if deadline is missed</i>					X
<i>Harmonisation of national permitting procedures</i>			X		
<i>Special rules for facilitating small-scale project permitting, including simple notification</i>		X			
<i>Pre-identified geographical areas for renewable energy projects or other measures to integrate renewable energy in spatial and environmental planning</i>				X	

Most issues mentioned here are subject to the subsidiarity principle and fall under the scope of the Member States' decisions, whereas the EU could provide guidance. The permit processes as such should be the same for all technologies. The benefits of RES are taken into account in the process. Convergence of permitting processes would create a more level playing field for RES investments and facilitate a more regional approach to RES. However, this does not need to imply the harmonisation of the processes, but rather addressing the key features. This can take place also in the context of regional cooperation. Commission guidance can also be helpful in this regard.

A one-stop-shop for permits can significantly help to speed up the development of RES, and make the rules clearer for the investors. Permitting processes also influence the possibilities to participate in auctions, and receive support through other mechanisms. In most cases, the time needed for acquiring all necessary licenses is too long.

EURELECTRIC opposes the creation of pre-identified geographical areas for RES projects. Besides the fact that such areas would dramatically worsen public acceptance of RES development in Europe, we believe that it would lead to severe inefficiencies. Such areas would be a step away from the market instead of creating a more market based environment for RES.

As regards the maximum time limits for permitting, guidance at the EU level could be useful (e.g. restricting the maximum duration to 'x' months). Time limits should also be set for procedures to appeal such permits. It has to be avoided that a RES generator is penalised by decreasing support levels due to lengthy appeal procedures (in several schemes the support decreases periodically).

### **Question 23**

**Please identify precise challenges with regard to grid regulation and infrastructure barriers in EU Member States that you are aware of.**

Network companies have a central role in the fundamental changes affecting the structure of the electricity system. Innovation is a key tool in this regard (and dissemination of experiences and results). The DSO's role will have to be repowered to allow them to play a neutral facilitation role below the high voltage level in the value chain across market participants. Greater incentives are required, together with a less restrictive approach of NRAs to incentivise innovation.

The expansion of decentralised renewable generation capacities introduces new challenges to ensuring the reliability of the system and quality of power supply and preventing local interruptions. Most of these new generators are being connected to the distribution networks, which is likely to be continued in the coming years. This development has profound implications for distribution system operators (DSOs), since they have to respond to all requests for connection in a neutral and non-discriminatory manner.

They are incentivised to connect new customers to the network in the most cost effective manner. However, a review of grid access regimes, including priority and guaranteed grid access for renewables is becoming common in many Member States. Such priority access prevents grid and market operators from implementing cost effective solutions to avoid grid congestion. Instead, they trigger inefficient investments in grid extension based on rare situations.

A key challenge for network management is to find the right balance between procuring flexibility and investing in grid reinforcement. In this respect, market-based congestion management could be put in place. In those countries where not available, RES investors need to have more visibility on potential local congestions.

In this context, also the aging of the network assets hinders network management, as the investment that could potentially be addressed to ensure reliability of supply while increasing automation of networks, is partially directed to modernisation of these aging assets, necessary for security and reliability of supply.

Grid regulation is often trying to balance the objective of keeping bills down for customers while at the same time connecting renewables in a timely fashion. It can often be difficult to do both and therefore Member States should acknowledge that timely connection of renewables has a cost for DSOs, which will require strategic investment to help distributed generators connections.

The planning process both for new generators and for network assets can often be onerous. Work cannot start on the grid infrastructure until the generator has gone through the planning process and this adds to the time delays.

### **Question 24**

**How would you rate the administrative burden and cost of compliance with the RED for national, regional and local authorities?**

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>Administrative burden</i>					X
<i>Cost of compliance</i>					X

### Question 25

Please rate the importance of stronger EU rules in the following areas to remove barriers relating to renewable energy training and certification:

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>	<i>No opinion</i>
<i>Incentives for installers to participate in certification/qualification schemes</i>					X
<i>Increased control and quality assurance from public authorities</i>					X
<i>Understanding of the benefits and potential of renewable technologies by installers</i>					X
<i>Mutual recognition of certificates between different Member States</i>					X

### Question 26

**How can public acceptance towards renewable energy projects and related grid development be improved?**

Negative public perception towards RES projects and related grid development forms in many cases one of the most important barriers in energy projects deployment. Others include, for example, the increasing costs for customers (the cost of support in the bills) and prevailing overcapacity in some parts of Europe. The public should in general be better informed about RES development and its enablers. The use of renewable energy sources as one of the means to enhance security of supply and reduce GHG emissions should also be promoted at the EU level by the European Commission.

There are several ways to work towards the achievement of public acceptance. First of all, it is important that people have a say regarding the infrastructure needs in their local area. The process needs to be transparent. There is often a balance to be struck between national need and local impact. Governments must ensure that all stakeholders are able to participate fully in the planning process as part of a framework that does not unduly delay much needed infrastructure projects. The promotion of partnership models on a voluntary basis with local partners in RES projects can be beneficial. A clear energy infrastructure plan and a full understanding of the implications of planning decisions on energy costs should form part of a coherent energy narrative.

Public acceptance can also be improved by more transparency being provided by investors and grid operators. Commission guidance could be helpful in this area.

It would be effective and efficient to launch national-wide campaigns to raise awareness regarding green energy and renewables projects. Cost-efficient approach to RES development is also key for public acceptance. It is helpful to highlight job and value creation at the local level. The customer needs to see tangible benefits not only globally but also at a small scale.

## 5. Increase the renewable energy use in the transport sector

### Question 28

To what extent has the RED been successful in addressing the following EU transport policy objectives?

	<i>Very successful</i>	<i>Successful</i>	<i>Not very successful</i>	<i>Not successful</i>	<i>No opinion</i>
<i>Contribute towards the EU's decarbonisation objectives</i>			X		
<i>Reduce dependency on oil imports</i>				X	
<i>Increase diversification of transport fuels</i>			X		
<i>Increase energy recovery from wastes</i>			X		
<i>Reduce air pollution, particularly in urban areas</i>			X		
<i>Strengthen the EU industry and economy competitiveness</i>					X
<i>Stimulate development and growth of innovative technologies</i>		X			
<i>Reduce production costs of renewable fuels by lowering the level of investment risk</i>					X
<i>Facilitate fuel cost reduction by integration of the EU market for renewable fuels</i>					X

Decarbonisation and the replacement of fossil fuels is particularly challenging in the transport sector. In the EU, transport is the only major sector in the EU where GHG emissions are still rising, with cars and vans being the dominant source of CO<sub>2</sub> emissions. Therefore the electrification of transport should be seen as fundamental for the EU's decarbonisation strategy.

Moving away from gasoline or diesel and switching to electricity will indeed offer numerous benefits in decarbonising the transport sector. It will allow for greater integration of more cost-effective renewable electricity by providing flexible load and flattening the demand curve.

The EU ETS and the increasing decarbonisation of electricity due to RES production can contribute to large reductions of GHG emissions in transport, in addition to significant cuts in air pollutants. It can also provide a stimulus for Europe's car manufacturing sector while reducing Europe's import dependency and increasing resource diversification.

We believe therefore that the revision of the RES Directive, as well as other related Directives, should open up for full-scale use of electricity for the transport sector.

### Question 29

**Please name the most important barriers hampering the development of sustainable renewable fuels and renewable electricity use in transport?**

The overall potential for large scale transformation to renewable liquid and gaseous transport fuels is limited given the availability of feedstock and concerns over land use change factors. The continued use of combustion engines will increasingly put pressure on air quality, particularly in urban areas. Given these issues, the concerns about urban air pollution from conventional engines and the longer than expected emission reduction curve that is foreseen for new engines, we believe that a transformative shift in private transport to electric vehicles is the most effective way to decarbonising transport. Liquid and gaseous fuels can then be allocated to where they benefit most – in air transport or as medium term measures for heavy goods transport in the medium term. The electrification of public transport should also be pursued further.

A rising concern has been the increasing costs of electricity throughout Europe as a result of policy support costs within the taxes and levies component of the electricity bill. The use of the electricity bill to collect (non-energy related) taxes and levies should be avoided, and the level of taxes and levies should also be reconsidered. They are a barrier for electrification. Another barrier represents the low oil price which makes it difficult for alternative fuels to offer advantages on a total cost of ownership basis in the long-run and boost the use of renewable sin transport.

Additionally, in some countries today it is difficult to calculate the use of renewable electricity in transport as the information of the total amount of renewable electricity used to charge an EV at home and as part of the total household's consumption is not available. Any consideration to separately meter electric vehicle charging at home from the rest of the household electricity as indicated in Directive 2014/94/EU should be subject to a careful cost-benefit analysis and the regulatory requirements in that Member State. Such requirements may also risk seriously overburdening customers' bills. Other devices to measure consumption which may be more cost-effective already exist today (e.g. energy management systems connected to the building, mobile app or other devices).

It is currently very difficult to establish a business case for public chargers mainly due to the low usage of the stations which makes it difficult to recover costs. There is also a lack of smart charging business models available and customer incentives in smart charging participation (due to factors such as high costs of additional metering, fixed tariffs, etc). High unit costs and battery capacity remain key barriers to EV uptake – although a combination of non-grant incentives and technology improvements have produced rapid change in some markets. At the same time, the high production costs of liquid and gaseous biofuels also remain a critical barrier in relation to their uptake.

### Question 30

**Please rate the most effective means of promoting the consumption of sustainable renewable fuels in the EU transport sector and increasing the uptake of electric vehicles:**

	<i>Very effective</i>	<i>Effective</i>	<i>Not very effective</i>	<i>Not effective</i>	<i>No opinion</i>
<i>Increased use of certain market players' obligations at Member State level</i>					X
<i>More harmonised promotion measures at</i>		X			

<i>Member States level</i>					
<i>The introduction of certain market players' obligations at the EU level</i>					X
<i>Targeted financial support for deployment of innovative low-carbon technologies (in particular to the heavy duty transport and aviation industry)</i>					X
<i>Increased access to energy system services (such as balancing and voltage and frequency support when using electric vehicles)</i>		X			
<i>Increased access to alternative fuel infrastructure (such as electric vehicle charging points)</i>	X				

The electrification of transport is a very effective tool in achieving overall sustainability objectives of reducing GHG emissions, improving air quality, and increasing the use of renewables while bringing broader benefits to the power system. The largest efforts in terms of decarbonisation are expected in the transport sector which can benefit the most from electricity. In order to enable a mass-market development of electro-mobility therefore, a comprehensive strategy is needed. This must consist of four main elements: increased vehicle supply, EU-wide charging infrastructure roll-out, customer incentives and public education.

Such a strategy can include a number of non-financial or financial incentives (limited in time), including the provision of free access to certain transport services for electric vehicles including toll routes, congestion charges, low emissions zones, parking, permitting, use of public transport lanes, etc. In many countries today, cars owners do not have access to parking facilities near their residence.

Privileged on-street parking at charging stations that may otherwise be occupied by combustion cars, and beyond (e.g. next to driver's homes for those without private parking) should be granted to citizens so that they are able and willing to buy an electric car while pushing fuel cars out of the big cities. All these and other aspects regarding legal provisions related to e.g. tenancy law, tax law or energy law can facilitate the use of EVs and provide customers and investors with legal certainty.

Amongst the most effective transport decarbonisation policies, more stringent post-2020 vehicle CO2 emissions standards will be needed to achieve further CO2 improvements in transport and stimulate faster growth for electric vehicles. Targets for 2025 and 2030 may be needed to send a strong political message and provide long-term certainty for investors. Standards must be ambitious, well verified and set on vehicles actually sold, not only on vehicles offered on the market.

Lastly, the current EU energy labelling legislation is not well suited to express the energy efficiency potential of electro-mobility. As EVs consume less than half the energy needed in an internal combustion engine vehicle, this should be reflected by the possibility of giving electric vehicles a higher grade.

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

Economic Development

▶ Growth, added-value, efficiency

Environmental Leadership

▶ Commitment, innovation, pro-activeness

Social Responsibility

▶ Transparency, ethics, accountability



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