Preparation of a new Renewable Energy Directive for the period after 2020

Fields marked with * are mandatory.

Introduction

In its Energy Union Framework Strategy, the Commission announced a new renewable energy package for the period after 2020,[1] to include a new renewable energy directive (REDII) for the period 2020-2030 and an updated EU bioenergy sustainability policy. This consultation covers the REDII aspects. The bioenergy sustainability policy will be covered by a separate public consultation.

The results of this consultation, together with the results of the separate public consultation launched by the Commission in July 2015 concerning market design (available at https://ec.europa.eu/energy/en/news/redesigning-europes-electricity-market-%E2%80%93-give-your-fee will inform the impact assessment for REDII.

Please, submit your response to this public consultation by 10 February 2016 at the latest. You are invited to reply to the questions in the questionnaire by using the link to the survey on DG ENER's consultation webpage or via EU Survey. Always use this questionnaire even if also other documents are submitted. In order to facilitate the Commission's processing of responses, please respond in English as far as possible.

Received contributions will be published on the Internet, unless a confidentiality claim has been made on reasonable grounds. Responses from non-registered organisations will be published separately. The Commission also intends to publish a document summarizing the main outcomes of this consultation.

[1] Commission Communication: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy (COM/2015/080 final) of 25 February 2015

Evaluation of current policies

As part of the Commission's better regulation agenda, the current renewable energy directive[1] (RED) was included in the Commission's 2013 REFIT programme and a comprehensive evaluation study of the RED was carried out in 2014 for the purpose of assessing its effectiveness, efficiency, relevance, coherence and EU added value and to obtain stakeholders' views on the impacts and benefits of the Directive.[2] The main findings were included in the 2015 Renewable Energy Progress

Report.[3] This public consultation builds on the REFIT evaluation and aims at obtaining additional information on impacts and benefits of the RED. Where appropriate, some of the questions in this questionnaire therefore also address evaluation of current policies.

[1] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

[2] REFIT Evaluation of the Renewable Energy Directive (CE DELFT, 2014) available on:

https://ec.europa.eu/energy/sites/ener/files/documents/CE_Delft_3D59_Mid_term_evaluation_of_The_R

[3] COM (2015) 293, available at:
https://ec.europa.eu/energy/en/topics/renewable-energy/progress-reports

Context and challenges

In its Energy Union Framework Strategy, the Commission announced a new renewable energy package for the period after 2020,[1] to include a new renewable energy directive (REDII) for the period 2020-2030 and an updated EU bioenergy sustainability policy. This consultation covers the REDII aspects. The bioenergy sustainability policy will be covered by a separate public consultation.

The results of this consultation, together with the results of the separate public consultation launched by the Commission in July 2015 concerning market design (available at https://ec.europa.eu/energy/en/news/redesigning-europes-electricity-market-%E2%80%93-give-your-fee will inform the impact assessment for REDII.

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The core objectives of the EU Energy Union Framework Strategy[1] are to develop a long-term, secure, sustainable and competitive energy system in the EU. Europe should also be a leader in renewable energy. For this, it is important to continue to increase the share of renewable energy sources in the EU.[2] The RED ensures that all Member States will contribute to reaching 20%

renewables at EU-level by 2020. In October 2014, the European Council agreed that **at least** 27% share of renewables by 2030 would reflect a cost-optimal way of building a secure, sustainable and competitive energy system (alongside an at least 40% domestic GHG emissions reduction target and the at least 27% energy efficiency target, which is to be reviewed by 2020, having in mind an EU level of 30%).

As the current legislation will not be sufficient for this purpose[3], there is a need to modify the legislative framework to ensure a timely and cost effective achievement of the EU level binding target on renewables by 2030. A combination of different factors will need to be addressed, including:

- **General approach**: The existing policy framework does not address uncertainties with regard to national policies, governance and regional cooperation to ensure a timely and cost effective target achievement for the period after 2020.
- **Empowering consumers**: A lack of consumer empowerment and incomplete information on renewable energy solutions can hinder cost-optimal deployment of renewable energy at city and community level.
- **Decarbonising the heating and cooling sector**: In the heating and cooling sector, which represents almost half of the EU energy consumption, the current regulatory environment in combination with a lack of information does not incentivise cost-optimal deployment of renewables in heating, cooling and hot water use. The sector remains dominated by fossil fuels and therefore dependent on imports.
- **Adapting the market design and removing barriers**: The current regulatory environment does not properly reflect externalities of energy production in market prices, including environmental, social, innovation and economic externalities. Together with persistent and distortive fossil fuel subsidies,[4] this is one of the reasons leading to high capital costs that hinder cost-optimal renewable energy deployment. In addition, a lack of market integration, infrastructures (storage, interconnections) and smart solutions, including demand-response, also hinder cost-optimal deployment of renewable energy. Finally, complex administrative procedures for renewable energy deployment at national and local level have not yet been eliminated. This covers, inter alia, permitting and grid connection procedures[5].
- **Enhancing renewable energy use in the transport sector**: A policy fostering the use of sustainable alternative renewable fuels would contribute to decarbonising the transport sector and reducing risks related its fossil fuel dependency and could remove current market distortions and fragmentations observed in particular in the internal market for biofuels. Despite the progress made with regard to the development of alternative renewable fuels such as advanced biofuels and renewable fuels of non-organic origin, commercial deployment of such products in the EU is lagging behind. The main reason is the perceived uncertainty about the policy framework after 2020. Only a few Member States have adopted dedicated support measures for advanced biofuels, while most have focussed on more traditional biofuels. The potential for electric transport using renewable electricity deployment is still untapped, due to still high technology costs of deployment and lack of necessary infrastructure.

[1] Commission Communication: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy (COM/2015/080 final) of 25 February 2015

[2] As highlighted in the 2030 climate and energy framework (COM(2014) 15 final)

[3] As highlighted in the baseline scenario of the 2030 climate and energy framework (COM(2014) 15 final)

[4] Estimated by IMF to be 330 Billion Euro in 2015, source: http://www.imf.org/external/pubs/ft/survey/so/2015/new070215a.htm

[5] Without prejudice to international and Union law, including provisions to protect environment and human health.

Part 1: Information about the respondent

* Are you responding to this questionnaire on behalf of/as:

- ( ) Individual
- (•) Organisation
- ( ) Company
- ( ) Public Authority
- ( ) Other

* Name of the company/organisation

Swedish Bioenergy Association SVEBIO

* Please describe briefly the activities of your company/organisation and the interests you represent

Trade association for the Swedish bioenergy sector, promoting the increased use of bioenergy in an environmentally and economically optimal way, as part of a 100 percent renewable energy system.

* Please enter your email address

kjell.andersson@svebio.se

* Are you registered with the EC transparency register?

- [x] Yes
- [ ] No

* Which countries are you most active in?

- ( ) Austria
- ( ) Belgium
- ( ) Bulgaria
- ( ) Croatia
- ( ) Cyprus
- ( ) Czech Republic

- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- (•) Sweden
- United Kingdom
- Other

* Can we publish your answers on the Commission website?

- (•) YES - under my name (I consent to all of my answers/personal data being published under my name and I declare that none of the information I have provided is subject to copyright restrictions).
- YES - anonymously (I consent to all of my answers/personal data being published anonymously and I declare that none of the information I have provided is subject to copyright restrictions).
- NO - please keep my answers confidential (my answers/personal data will not be published, but will be used internally within the Commission)

Part 2: General approach

The RED sets an EU target for renewable energy in gross final energy consumption of 20% by 2020 and 10% of the final energy consumption in transport. In order to achieve the overall 20% target, mandatory national targets for 2020 are fixed for each Member State. The RED also obliges Member States to prepare National Renewable Energy Action Plans (NREAPs) and biannual progress reports to create transparency and predictability for investors and facilitate monitoring of progress towards target achievement. The European Council has reiterated several times that the 2020 targets need to be fully met[1].

For the period after 2020, binding national targets are replaced by a binding EU-level target of at least 27% renewable energy in final energy consumption by 2030 without sectorial targets or binding

targets at national level. A new approach to target achievement therefore needs to be developed, building on the Energy Union Governance and Member States' national energy and climate plans for the period up to 2030, which are expected to include national contributions towards the EU-level renewable energy target.

Without putting into question Member States' flexibility with regard to meeting their greenhouse gas reduction targets in the most cost-effective manner in accordance with their specific national circumstances, energy mixes and capacities to produce renewable energy, the new Energy Union Governance will need to provide sufficient transparency and reliability, predictability and stability to spur renewable energy investments and allow access to low-cost capital. It will also need to enable the EU to compare and monitor progress towards the renewables target. Within the broader context of the development of the Energy Union Governance, it will need to be considered what type of governance system will be able to deliver on these renewable energy objectives.

Given that the renewable energy target for 2030 is binding on the EU as a whole, the European Commission will need to have means to ensure that this target is met in a sustainable and cost-effective way. For this purpose, EU measures could be put in place and be designed to deliver on a number of objectives of the Energy Union:

1. create a market-based environment in which renewables can attract the required investments cost-efficiently;
2. foster regional cooperation and regional projects;
3. empower consumers to deploy cost-optimal renewable energy solutions;
4. incentivise the roll-out of new and innovative technologies; and
5. ensure that any potential gap arising in reaching the at least 27% renewable energy target, in terms of either ambition or delivery, is filled.

A number of questions would arise in this respect, including under what circumstances EU measures could be used or activated, how to share potential costs in a fair and equitable way and how to ensure participation by all Member States.

The experience gained with support schemes so far has allowed developing more cost-effective and market-based support schemes. Some Member State support schemes did not respond sufficiently rapidly to falling technology cost development, which resulted in some cases in unnecessary increasing costs for consumers. The EU Energy and Environment State Aid Guidelines build on this experience and puts down conditions for the approval of State Aid. In this context an improved functioning energy market, with improved price signals, as well as a strengthened EU ETS shall improve the investment signal. At the same time it is reasonable to expect that support schemes and other incentives (financial and regulatory) will still be the main policy tools that Member States will use to implement their renewable energy objectives with respect to renewable technologies that are not yet able to be fully financed by the internal energy market.

For new and innovative technologies, it can be important to ensure that regulatory and market risks are reduced to allow that project promoters can bring down costs through technology learning and industrialisation of manufacturing and installation, in particular if the EU is to become a world leader in renewable energy. However, where possible, some degree of market integration should remain if this goes beyond mere initial technology deployment of innovative technologies, to ensure their development takes into account market needs, does not lead to overcompensation and prepares these technologies for further market integration.

Finally, in line with the broader objectives of the Energy Union, a new regional approach to renewable energy policy cooperation and incentives should be considered.

In this context, it is important to examine the optimal geographical scope and design of any support schemes in order to drive the achievement of the 2030 target in a cost-effective way, which does not lead to fragmentation and distortion of the internal energy market.

It also needs to be assessed how regional cooperation agreements similar to those developed under RED can be improved and could play a role and to what extent support at EU-level could become relevant.

[1] The latest Renewable Energy Progress Report issued in June 2015 concluded that the majority of Member States are currently on track to meeting their 2020 renewables target. In 2013, the combined EU share of renewable energy reached 15% and the estimate for 2014 indicates a 15.3% share, which is above the trajectory for the EU as a whole. 26 Member States met their first 2011/2012 interim target and 25 Member States are expected to meet their 2013/2014 target. Some Member States have already reached their 2020 targets. However, as the trajectory towards the 2020 target becomes steeper over the coming years up to 2020, some Member States may need to intensify their efforts to keep on track (COM(2015)293 final and SWD(2015)117 final). Available here: https://ec.europa.eu/energy/en/topics/renewable-energy/progress-reports).

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

- ○ Very successful
- ◉ Successful
- ○ Not very successful
- ○ Not successful
- ○ No opinion

To what extent did implementation measures for the RED as well as external factors (technological development, financial crisis, security of supply concerns and related market interventions) affect the effectiveness and efficiency of achieving the objectives?
Please identify and ideally also quantify the direct and indirect costs and benefits such as macroeconomic effects, competitiveness effects, innovation, cost and cost reductions, environmental and health effects of the Renewable Energy Directive.

3600 character(s) maximum

The implementation of RED and the success has varied greatly between member states. Some have already overreached the target for 2020, whereas others are falling behind. EU as a whole is above the trajectory to reach the target. A general conclusion is that countries with a strong bioenergy sector have been more successful in reaching the targets than others. The reason is that bioenergy is cost-effective, is less dependent on subsidies, compared to other alternatives. Sweden has already eight years ahead of 2020 reached its 49 percent renewable energy target in RED, and has by far the highest share of renewable energy among the EU member states. According to a new calculation the share will be 55 percent in 2020. Sweden was also the first member state to reach the 10 percent transport target. A probable reason is that Sweden has used strong general incentives like a high carbon dioxide tax, an efficient green certificate system for renewable electricity, and tax deductions in the transport sector. On EU level, the general incentives are quite weak. We still

have no common carbon taxation, and ETS has produced a very low price on carbon dioxide emissions. The lack of carbon pricing is particularly evident in the heating and cooling sector. The costs of renewable energy technologies have decreased more than expected. This is also true for renewable biofuels and biomass for energy. When the markets expand, the volumes increase, and the cost per energy unit goes down. Growing demand also stimulates production, and creates surplus. In the Nordic countries, there is today a large surplus of biomass for energy. There is great potential to increase the use of biomass for energy, and produce more biofuels for transport, both conventional fuels and advanced biofuels. The expansion of renewable energy has created jobs and increased security of supply. In Sweden, bioenergy passed oil as the leading energy source in energy use in 2009, and today accounts for 34 percent of the final energy use. The reduced cost of fossil fuel imports has benefitted the economy during the period of high energy prices 2007 – 2014. The positive environmental effect is primarily the reduction of greenhouse gas emissions with around 25 percent between 2004 and 2014.
Today, development is hampered primarily by of the implementation of the State aid regulation, which forces Sweden to tax biofuels and protect fossil transport fuels from price competition. The development is also hampered by the cap on biofuels from agricultural crops, introduced in the ILUC-directive. This is the first time that EU has actively limited the development of renewable energy.

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:

	Very important	Important	Not very important	Not important	No opinion
Forward looking strategic planning of RES development is required by EU legislation	○	◉	○	○	○
Best practice is derived from the implementation of the existing Renewable Energy Directive	○	◉	○	○	○
Regional consultations on renewable energy policy and measures are required	○	○	◉	○	○
Member States consult on and adopt renewable energy strategies that serve as the agreed	◉	○	○	○	○

reference for national renewable energy policies and projects					
The Commission provides guidance on national renewable energy strategies	○	○	◉	○	○

Any other view or ideas? Please specify. What are the lessons from the RED (mandatory national targets, national plans, progress reports etc.)?

3600 character(s) maximum

First of all, the 27 percent target for renewable energy 2030 is too low, and should be revised upward, not least in the light of the Paris Climate Agreement, with the ambition to limit the global mean temperature rise, if possible, to 1.5°C above preindustrial time. When there are no targets for the Member States, some other method is needed to guarantee that the common 27 percent renewable energy target is reached. The Commission has earlier talked about an ”iterative process”, a dialogue or consultation with the Member States to agree on targets and strategies. The method in the current RED was to specify mandatory targets for each Member States, and these have been widely publicised. This has put pressure on the countries to reach these targets. Many states have successfully lived up to the targets, although some are lagging behind. There is a big risk that the new method will be much less efficient, and that the targets will be less clear to the public and the commercial actors. It will, in short, be easier for the individual Member States to avoid adapting stringent targets. The Commission has few means to put pressure on the Member States. In the end, it is always up to Member States to take action. EU should put a common pressure on all Member States by adopting a new energy taxation directive and introduce a common minimum carbon dioxide tax. EU can also strengthen ETS to achieve a higher price on carbon emission allowances. When consulting with Member States, the Commission should strive for higher shares of renewable energy than needed for at common 27 percent target. This will be necessary to guarantee that the target is reached. Over-shooting the target is not a problem.

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.

	Very important	Important	Not very important	Not important	No opinion
Long term priorities and visions for decarbonisation and renewable energy up to 2050	◉	○	○	○	○

In relation to national/regional natural resources, specific technology relevant trajectories for renewable energy up to 2030	◉	○	○	○	○
Overview of policies and measures in place and planned new ones	◉	○	○	○	○
Overview of renewable energy trajectories and policies to 2050 to ensure that 2030 policies lie on the path to 2050 objectives	○	◉	○	○	○
Qualitative analysis	○	○	○	○	◉
Trajectories for electricity demand including both installed capacity (GW) and produced energy (TWh)	○	○	◉	○	○
Measures to be taken for increasing the flexibility of the energy system with regard to renewable energy production	○	◉	○	○	○
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	◉	○	○	○	○

Please explain.

3600 character(s) maximum

If national energy and climate plans are going to be mandatory, they need to include a long-term perspective to reach a reduction of GHG emission at least by 85 - 90 percent by 2050, and a total decarbonisation of energy use (fossil fuel free and renewable).
The plans and strategies should be technology neutral. They can give common targets and trajectories for all renewables, but not details about each and every energy source. Technology and costs will change over time.
Most important is that policies and measures are long-term stable. We prefer general incentives like a carbon tax and a strong ETS system.
Detailed state planning should be avoided. But important that investors know that the policies will be consistant and that targets will be met.

Trajectories can give a false certainty about the future. Forecasts must and will be revised from time to time, based on changes in economic growth, technology development, etc. The electricity market will be more and more pan-European, and each individual country will not be able to plan for the whole market.
The need for flexibility depends on the deployment of both variable (wind, solar) and energy forms, which are possible to utilise at will and at any time when energy is needed (bioenergy, hydro, geothermal). With increased share of variable energy production, like wind and solar, the need for balancing, reserves, and grid integration increases even more. Biopower can play an important role as it is possible to use whenever needed.

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?

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

Please explain.

3600 character(s) maximum

With a strong common and general system for carbon pricing, through a strengthened ETS and carbon taxation in other parts of the energy system (outside ETS), direct support schemes and quota schemes would not be necessary. Direct subsidies should be avoided as far as possible.
Support could be given to investments in infrastructure, like interconnections between electricity markets. If support schemes are deemed necessary, quota systems with technology neutrality should be preferred over feed-in tariff systems. The quota systems should be integrated on a EU or regional level, to guarantee that the investments are made in the most cost-efficient way. The added price given through the support system should be related not only to electricity production, but also to the installed and guaranteed production capacity at any time, in order to balance the uncertainty of increased variable production on the market. A future 100 percent renewable electricity market must include both variable (wind, solar, wave) and steerable (hydro, biopower, geothermal) renewable energy sources.

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?

3600 character(s) maximum

It is difficult to design common harmonised support systems with many Member States included, or at the EU level, when energy policy is still a national competence. That is why a EU-wide system for carbon pricing is preferable. Such a system is also technology neutral, when the environmental external cost has been paid. It does not only incentivise new and renewable electricity production, but creates a level playing field between new power production and energy efficiency measures.
A common system for carbon pricing must include both large-scale actors (large power plants and large industries) and middle and small-scale actors (e.g. in the household sector and small and middle size industries and services), through a strengthened ETS combined with carbon taxation in sectors outside ETS.
If harmonized support systems for electricity production are introduced on EU or regional level, these systems must be technology neutral, to promote the least costly alternatives and thus be cost-effective. The support systems must consider that new investments often require investments also in infrastructure, and sometimes balancing power production. These added system costs must be borne by the new energy production causing these extra investments.

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.

3600 character(s) maximum

These mechanisms have only been implemented to a very limited degree. We only know of the common green certificate scheme between Sweden and Norway, which probably would have been introduced also without RED. One can foresee that maybe some statistical transfer will take place before 2020, between countries that have not reached their 2020 targets, and countries with surplus compared to the targets. For the period 2020 - 2030 this kind of statistical manipulation will not be needed, as there will not be any specific targets for Member States. More cooperation is needed. We would for example like to see a widened certificate system in northern Europe, but such cooperation can take place without regulation from EU level.

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?

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

Other? Please explain.

3600 character(s) maximum

There are two main reasons for introducing cooperation mechanisms. One is to avoid missing a target, which may motivate use of statistical transfer before 2020. Such statistical transfer does not increase the overall use of renewable energy and can be seen only as a way of “cheating the system”. The other is that cooperation has clear benefits to all parties involved in the cooperation, by cutting costs and use resources more efficiently by making the investments where the cost is the lowest. This was the reason for cooperation between Sweden and Norway in a common green certificate scheme. Such cooperation will benefit the market and possibly reduce prices for consumers. When cooperating across borders, there has to be trust between the parties. In the case of Sweden-Norway, so far most of the investments have taken place in Sweden, whereas the cost of the system is shared equally between the consumers in both countries. This can lead to tensions. It is difficult to design common systems that give equal benefits and are perceived as fair to all parties.

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.

3600 character(s) maximum

As soon as possible, the support to renewable electricity production should not be based on direct subsidies or quotas, but be based on a common system for carbon pricing - for large scale units through a strengthened ETS, with higher prices on emission allowances, and for smaller units through carbon taxation: taxes on emissions of fossil carbon dioxide. With a EU-wide harmonised carbon pricing system, the need for joint cooperation systems and

the need for support from other countries will be unnecessary. The power will be paid on the market. Better interconnections will promote trade and efficient use of production units.

9. Please assess what kind of complementary EU measures 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:

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

Any other ideas or comments, please explain.

3600 character(s) maximum

The collective measures from EU level should be to introduce broad general and long-term incentives in accordance with polluter pays principle (PPP), like a common and minimum level for carbon taxation, and a strengthened Emission Trading System, ETS. The fossil fuels must pay their environmental cost. This will reduce greenhouse gas emissions in a cost-efficient way, as fossil carbon dioxide is the main negative force in climate change. Higher prices on fossil fuels will create a market for alternatives like renewable energy and energy efficiency measures. It will stimulate the market actors to use the most cost-efficient solution. It will also make the use of direct subsidies unnecessary.
Direct governmental support should be limited to research, development, demonstration, and in some cases market introduction. Once the new technologies have been introduced on the market, EU and the government should

rely only on the general incentives to steer the market. The principle of technology neutrality should be followed as far as possible. The state aid rules should be changed to allow for the full implementation of carbon taxation in all sectors of the economy.
As a direct result of the Paris Climate Agreement, EU should revise the targets for 2030, increase the ambitions for reduction of carbon dioxide emissions, and consequently also increase the target for renewable energy 2030.

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?

3600 character(s) maximum

. EU must use stable, long-term incentives based on polluter pays principle (PPP). This will create a stable market for introduction of cost-effective renewable energy and energy efficiency measures.
. ETS must be strengthened to stimulate conversion of power plants and heavy industry, from fossil fuels to renewable fuels. Carbon taxes are badly needed in the sectors outside ETS, particularly in heating/cooling, in the service sector, and in small and medium-size industries.
. Direct governmental support should be limited to research, development, demonstration and market introduction of new technologies. During the transition to a low-carbon economy, support could also be used for installations of new renewable technology for households and businesses sensitive to the rising cost of energy caused by increased carbon pricing.
. Carbon taxation can also be part of a “tax shift”, where carbon tax and other environmental taxes are balanced by lower taxes on income. The purpose is not to increase taxation on the people, but to make it a tool for a needed transition of the economy.
. The State aid rules must be revised to make it possible to fully implement carbon pricing in all sectors. Exemption from carbon tax for biofuels should not be considered state aid.
. By creating a strong market for renewable energy, EU will promote development of new technology among its businesses. Production of renewable fuels will give employment and rural development.
. The restrictions on biofuels, like the cap on fuels made from agricultural crops, must be removed. Double counting of fuels from certain feedstocks should be removed as well. Europe has large untapped resources for production of biofuels, and these must be mobilised to decrease carbon emissions from the transport sector, and develop this sector of the renewable energy industry. Europe is today loosing its position in renewable transport fuel production to other parts of the world, due to its restrictive policies.
RED has been partly successful in promoting renewable energy in EU, mainly through the targets for Member States. The targets have put pressure on the countries and governments, which has been a strong incentive in most countries. At the same time, these targets have become a brake on development, once they have been reached. Many governments have used the argument that they

do not need to do more. Some countries are badly lagging behind. The reason is probably that there are no or too weak sanctions.
Finally: the renewable energy target for 2030 must be raised considerably. Otherwise EU will fall behind countries like China, U.S. and Brazil in the development of renewables, and not be a world leader. The targets for 2030 must be revised in light of the Paris Climate Agreement, signed by EU.

Part 3: Empowering consumers

The European Commission's Energy Union Strategy put the consumer at the centre stage. Consumers have a key role to play in energy markets and in driving the transition to a more sustainable energy system in the EU. On 15 July 2015, the Commission issued a Communication on delivering a new deal for energy consumers (COM/2015/339)[1] as well as a guidance document on best practices on renewable energy self-consumption (SWD/2015/ 141).[2] In this context, REDII provides opportunities to develop more targeted measures for empowering consumers, including communities and cooperatives[3].

As active participants in the energy market, consumers should be able to self-consume and store renewable energy in the EU.

Provisions on simplified and streamlined procedures on permitting and grid connection in case of projects for self-consumption of renewable energy could be further enhanced.

The wide-spread development of self-consumption may also require gradual adjustment of retail tariffs to promote consumers' flexibility, while supporting energy efficiency and the renewable energy objectives and at the same time minimise total system costs. The establishment of common principles at EU-level for network tariff design will thus need to be considered.

Renewable energy deployments need also to observe certain rights granted to the public, by international and EU law, such as, for instance, the right to access to information, public participation and consultation, as well as access to justice on environmental matters[4]. Thus, contributing to accountability, transparency and public awareness.

The REDII also offers opportunities to foster local ownership of renewable energy (e.g. community and citizen participation in renewable energy cooperatives). It seems particularly important to support local authorities in preparing strategies for the promotion of renewable energy, enable cooperation between relevant actors at the local or municipal level and facilitate access to finance.

Under the RED, a Guarantees of Origin (GO) system provides an EU wide mechanism to inform electricity consumers as to the renewable nature of the electricity that they use, enabling green tariffs to develop but also being criticised for not sufficiently linking these tariffs to real incentives for additional new green energy deployment. It should be assessed to what extent the current rules for electricity disclosure (incl. GO) can be improved to reflect best practice in Member States' implementation and help consumers choose a more sustainable energy consumption pattern.

[1] https://ec.europa.eu/energy/sites/ener/files/documents/1_EN_ACT_part1_v8.pdf

[2] http://ec.europa.eu/energy/sites/ener/files/documents/1_EN_autre_document_travail_service_part1_v6.p

[3] Without prejudice to the EU and international law on the right to access to information, public participation and consultation, as well as access to justice on environmental matters.

[4] UNECE Convention on access to information, public participation in decision-making and access to justice in environmental matters (Aarhus Convention), Directive 2011/92/EU, as amended by Directive 2014/52/EU (EIA Directive), Directive 2001/42/EC (SEA Directive).

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

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

Other? Please explain.

3600 character(s) maximum

The question seems to be totally related to local electricity production, possibly only solar PV and small-scale wind. It is, however, also important to consider other types of local energy production, like small and middle scale deliveries of surplus heat to district heating grids, and electricity production from small-scale electricity production with biomass, as well as small-scale production of biogas. The most important thing is to design a system for deliveries and payment that is long-term stable. In the short perspective small-scale consumer production of electricity may amount to a very small share of all electricity produced, but when every house has a PV installation the production will have a large influence of the function of the total system and grid. On sunny days with low demand, prices may go down to or below zero. At other times the variable production will be insufficient.
It is important that the fluctuating prices on the market are carried all the way to the consumers and small-scale producers, preferably hour by hour. This will give incentives to energy storage (batteries, hot-water accumulators, etc) and to investments in balancing power production, e. g. from biomass. It is also important that the small-scale producers bear their part of the cost for the grid, which enables them to deliver and balance their variable power production.

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

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

Other? Please explain. Has the RED been effective and efficient in helping exploiting the renewable energy potential at local level?

3600 character(s) maximum

RED has helped to promote the use of renewable energy, but it is still highly under-exploited in almost all EU Member States. Even in a country like Sweden, which has a renewable energy share of 53 percent today, the potential to increase the deployment of renewable energy is very big, and a 100 percent renewable energy system is fully possible to achieve within the next 15 - 20 years. The use of bioenergy is already at 34 percent (share of final energy use), and there is potential to double the supply of bioenergy feedstock.
RED has only set targets. The measures to reach these targets are national energy policies and incentives. These are not specified in RED. The success of Swedish renewable energy deployment is largely based on national general and long-term incentives like a high carbon dioxide tax on fossil fuels, tax exemptions for biofuels in the transport sector, and the green certificate scheme for renewable electricity production.
The use of renewable energy on local level also depends on local planning by regions and municipalities. One important measure to increase efficient use of local bioenergy and waste resources (municipal waste and industrial waste water) is to invest in grids for district heating and cooling, and build combined heat and power plants, CHP. A new RED should include requirements to

start such energy planning wherever this is possible. Also, local planning is essential for promotion of public transport, shift from fossil fuels to biofuels and electricity, and biking.
Based on strong general incentives like carbon taxes, the exploitation of local resources and planning should be left to the Member States, regions and municipalities, and to the commercial actors. There is little need for detailed regulation from EU level.

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):

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

Negative public perception	○	○	○	○	◉	○

Other? Please explain.

3600 character(s) maximum

In general, we believe the conditions at local level are good, if the Member States introduce general incentives, like carbon taxes and targeted support to introduce new solutions. The massive support for climate action from cities, municipalities and regions reported to the Lima Paris Action Agenda before COP21 shows the bread commitment to combat climate change at the local level. The municipalities need to plan and introduce district heating and CHP:s to be able to use local biomass and waste resources. Better local planning is also needed for transformation of the transport sector, for investments in public transport, for conversion from fossil fuels to biofuels in public transport, and for biking.

Public perception of renewable energy is in general favourable, but in recent years some so called environmental groups have turned against bioenergy. This has so far had limited influence on the local level, where the public in general is in favour of using local resources that offer better energy security and local jobs.

To be able to deploy renewables at the local level, these alternatives need to be economically viable and competitive. The low price of fossil fuels is often a major barrier.

We note that the major barrier is not mentioned: the lack of competitiveness for renewable energy due to the low cost of fossil fuels, as these do not pay for their environmental cost and sometimes are even subsidised.

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:

	Very appropriate	Appropriate	Not very appropriate	Not appropriate	No opinion
Promoting the integration of renewable energy in local infrastructure and public services	◉	○	○	○	○
Supporting local authorities in preparing strategies and plans for the promotion of renewable energy	○	◉	○	○	○
Facilitating cooperation between relevant actors at the local or municipal level	○	◉	○	○	○

Facilitating access to targeted financing	○	◉	○	○	○
EU-wide right to generate, self-consume and store renewable electricity	○	○	○	◉	○
Measures to ensure that surplus self-generated electricity is fairly valued	○	◉	○	○	○
Harmonized principles for network tariffs that promote consumers' flexibility and minimise system costs	○	◉	○	○	○

Other? Please explain.

3600 character(s) maximum

The questions seem to be only related to self-production of electricity. It is important to recognise that renewable energy also is needed for heating, for use in small industries and service businesses, and for transport.
A very large deployment of self-generated electricity from solar and wind may have negative effects on the overall functioning of the system, by drastically increasing the variability in supply and demand of electricity, as well as high price variability on the market. The Member States need to consider this development in their energy planning, and invest in balancing power production, that can guarantee capacity in the grid. The small-scale producers have to pay for their part of the system cost.

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

If not, why? If yes, how?
Should the current Guarantees of Origin (GO) system be made the mandatory form of information disclosure to consumers?
Should other information, such as e.g. CO2 emissions be included?
Should it be extended to the whole energy system and include also non-renewable sources? Other ideas?
To what extent has the current GO system been successful in providing consumers with information on the sources of electricity that they consume?

3600 character(s) maximum

The issue of origin of electricity is tricky. When demand increases, this will lead to need for more production, a marginal production which often is a fossil fuel based production. This happens regardless of what kind of power individual users buy. In a system where ETS puts a cap on fossil CO2 emissions, the performance of ETS is much more important than Guarantees of Origin, if the purpose is to reduce the overall emissions. The positive side of the GO system is that growing demand for renewable power production is clearly visible.

Part 4: Decarbonising the heating and cooling sector

Renewable heating and cooling can make a real difference for the decarbonisation of the EU economy and enhance EU security of supply. While cost-effective renewable energy equipment is available, 80-90% of the EU heat and hot water production is still using largely imported gas and oil. The RED includes limited provisions for the promotion of renewable heating and cooling. In REDII, more targeted measures could be considered to further increase renewables deployment in the heating and cooling sector, building on and interacting with energy efficiency and security of energy supply legislation. A comprehensive approach could be developed targeting buildings, individual energy use for heating and cooling, and the share of renewable energy in district heating and CHP units.

Efficient ways need to be found to stimulate switching from fossil fuels to renewable heating and cooling and hot water generation in the large number of EU homes with individual heating equipment. The existing nearly-zero energy building (NZEB) standards (mandatory from 2021 for all new building) include obligations for minimum use of renewable energy. It appears however that this is insufficient to further encourage the use of renewables at the building level. It could therefore be considered whether the NZEB rules should be made more ambitious to also include an obligation to use renewable energy heating (including water heating) and cooling in the existing building stock, effective if and when the building is subject to major renovation or the heating system is replaced. Measures will also need to encourage a shift in consumer behaviour, perhaps through better information about renewable energy alternatives from heating equipment suppliers and installers, and encourage investment in energy storage and demand-shifting capacity.

Although district heating systems only cover 13% of the European heat market, in Nordic, Central and Eastern European Member States 50-80% of the heating is produced by district heating. Most of this heating is produced from imported natural gas, followed by coal, and renewables. In these Member States, measures to increase the share of renewable energy in heating and cooling supply could bring significant gains. For example, it could be assessed whether, based on comprehensive assessments of national heating and cooling potentials, energy suppliers could potentially be required to progressively increase the share of renewable energy in the overall energy that is placed on the market for heating and cooling purposes, taken into account the market incentives already available for this sector. It could also be assessed whether all new and significantly upgraded heating and cooling infrastructure should enable at least a certain share of all heating, cooling and hot water needs to be sourced from renewable energy sources produced on site or nearby (through local networks).

The potential for renewable energy in decarbonising the heating and cooling sector will also be addressed within the forthcoming Heating and Cooling Strategy and Security of Energy Supply proposals, while sustainability aspects will be addressed through the post-2020 EU bioenergy sustainability policy.

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

	Very important barrier	Important barrier	Not very important barrier	Not important barrier	No opinion
Real or perceived incoherence in existing EU policies (such as RED, EED and EPBD)	○	◉	○	○	○
Lack of administrative capacity and/or expertise/ knowledge/information at the national and local level	○	◉	○	○	○
Lack of energy strategy and planning at the national and local level	○	◉	○	○	○
Lack of physical space to develop renewable heating and cooling solutions	○	○	○	◉	○
Lack of requirements in building codes and other national or local legislation and regulation to increase the share of energy from renewable sources in the building sector	○	◉	○	○	○
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	◉	○	○	○	○
Lack of targeted financial resources and financing instruments	○	◉	○	○	○
Lack of definition and recognition of renewable cooling	○	◉	○	○	○
Lack of electricity market design supporting demand response, decentralised	○	◉	○	○	○

energy and self-consumption and thermal storage in buildings and district systems					
Lack of mapping tools to identify the resources potential at regional scale with local renewable energy	○	◉	○	○	○
Lack of tools and information to compare the lifecycle costs of the various alternative heating and cooling alternatives	○	○	○	◉	○
Negative public perception	○	○	○	◉	○

Other? Please specify and explain.

3600 character(s) maximum

The major and dominating barrier to deployment of renewable energy sources (biomass, geothermal and solar) for heating and cooling is not mentioned in the questionnaire. This large barrier is the low price of fossil fuels used for heating. Heating oil, natural gas and coal/coke have been used and continue to be used for heating because they are cheap for the customers. And renewable energy is often overlooked because of the higher cost and the investment cost for conversion.
This barrier has become even higher lately, with the falling prices of oil, gas and coal.
Another major factor is that people, as private consumers and as decision makers in municipalities and businesses, tend to favour known and already existing solutions ahead of unknown and new solutions, regardless of economy and environmental performance. In short: conservatism is a major barrier.
The only way to get rid of these major barriers is to make fossil fuels more expensive, and thereby also make renewable alternatives more attractive and competitive, together with energy efficiency measures. This can be done with a tax on fossil fuels, preferably with a carbon tax, whereby the fossil fuels are paid for including their environmental cost. Carbon taxes on the heating and cooling sector have been introduced in a number of European countries, most recently in France. Sweden has the highest carbon tax of all countries, and the effect of the tax is that fossil fuels have been almost totally removed from the heating sector. The fossil fuels have been replaced primarily by district heating, based of biomass, waste and industrial waste heat, and by small-scale renewable heating alternatives like pellets and other biomass solutions, and geothermal heat pumps. In southern parts of EU, solar heating could be a similar alternative, given better competitiveness with carbon taxation. Without carbon pricing on the heating market, the other measures will be futile, if the purpose is decarbonisation. Market forces are always stronger than administrative regulations.

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

	Very effective	Effective	Not very effective	Not effective	No opinion
Renewable heating and cooling obligation	○	○	◉	○	○
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	○	○	◉	○	○
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	○	◉	○	○	○
Measures supporting best practices in urban planning, heat planning, energy master planning, and project development	○	◉	○	○	○
Criteria and benchmarks for promoting district heating and cooling taking into consideration the local and regional conditions	◉	○	○	○	○
Nearly zero-energy building (NZEB) standards to include a mandatory minimum use of renewable energy	○	◉	○	○	○
Including systematically renewable energy production in buildings' energy performance certificates	○	◉	○	○	○
The promotion of green public procurement requirements for renewable heating & cooling in public buildings	○	◉	○	○	○

Heating and cooling equipment installers should present renewable energy alternatives when asked to replace fossil fuel heating and cooling equipment	○	◉	○	○	○
Develop best practices for enterprises, including SMEs, to integrate renewable heating and cooling into their supply chains and operations	○	◉	○	○	○
Requirement to consider renewable energy alternatives in subnational, national, regional or EU security of supply risk preparedness plans and emergency procedures	○	◉	○	○	○
Targeted financial measures	○	◉	○	○	○

Other? Please specify and explain. How could such measures be designed? How could they build on existing EU rules?

3600 character(s) maximum

All of the measures above are good, but there is an even better alternative, that would make most of these administrative and regulatory measures unnecessary: general incentives like a carbon tax and a strengthened ETS. When the fossil fuels pay for their environmental cost and become more expensive, all other alternatives and measures will benefit, and the market actors will find the best solutions. In Sweden, as an example, the carbon tax on heating oil has doubled the price compared to the market price, and the use of heating oil for residential heating has almost disappeared. The use of coal, oil and gas has also almost disappeared in district heating as a result of the tax. Oil is only used to a limited degree as top-load fuel extra cold days. In 2011, 2015 and 2016, the carbon tax also was raised on fossil fuels used by industries outside ETS. As a result, many businesses, like dairies, breweries, asphalt producers, mechanical industries (heating of the premises), laundries, greenhouses etc., now switch from fossil fuels to pellets, wood-chips, bio-oil, and district heating. This takes place with a very low administrative cost – just a raised tax on the fossil fuels. Many companies take energy efficiency measures as well. No targeted financial measures, like subsidies, are needed. The method could be used as “best practice” for the rest of EU.
The Swedish carbon dioxide tax was introduced in 1991, and has been raised several times since then. Here are some statistics:
- The use of heating oil for heating of single homes was reduced from 15 TWh in 1990 to 0.9 TWh in 2014.
- The use of heating oil for apartment buildings was reduced from 6.7 to 0.2 TWh from 1990 to 2014.
- The use of oil for other space heating was reduced from 9.2 to 0.5 TWh in the same period.

- The use of fossil fuels in Swedish greenhouses decreased by 83 percent between 2002 and 2014.
- The GHG emissions from heating fell by 85 percent from 1990 to 2014.

Part 5: Adapting the market design and removing barriers

A separate public consultation, which was open during the period 15 July – 8 October 2015, gathered extensive input on a wide range of issues aimed inter alia at making the market design fit for renewables. This section includes complementary questions. Both public consultations will inform policy makers during the development of REDII.

Changes in the market provisions are of utmost importance in order to build a market which is fully fit for renewables. For example, the establishment of liquid and better integrated short-term intraday and balancing markets will help to increase flexibility and help renewable energy producers to integrate in the market and compete on an equal footing with conventional energy producers, while the strengthening of the EU ETS can contribute to reinforce the long term investment environment.

The RED includes obligations to ensure transparent and foreseeable grid development for renewable energy as well as predictable, transparent and non-discriminatory grid connection and access procedures and costs. REDII as well as the Commission's market design initiative offers opportunities to update and improve these rules to take account of market developments and experience gained. Consideration also needs to be given to dispatch provisions in close connection with the development of the market design initiative.

The on-going evaluation of the Renewable Energy Directive (REFIT) shows that overall progress in removing non-financial barriers to renewable energy deployment in EU Member States is still limited and slow across the EU despite the specific provisions on administrative procedures, regulations and codes for renewable energy projects, requirements to share information and ensure quality of renewable energy training enshrined in the RED. Other studies point towards the same conclusion. It is reasonable to assume that there is therefore a need for more harmonized EU rules in a number of areas, including permitting procedures, spatial and environmental planning and vocational and professional training.

Note should be taken of already existing legal provisions and practice for streamlining and improving permit granting processes, in particular the provisions laid down in Regulation 347/2013 (TEN-E Regulation) and Directive 2011/92/EU (EIA Directive). Given the existing internal energy market, it is important to ensure that streamlining and improving the permitting granting processes is performed in accordance with existing internal EU legislation, as well as with due regard to the principle of subsidiarity and the national competences and procedures enabling renewable energy deployment. More effective and efficient administrative procedures should not compromise the high standards for protection of the environment and public participation. The establishment of a competent authority or authorities integrating or coordinating all permit granting processes ('one-stop-shop') should reduce complexity, increase efficiency and transparency and help enhance coordination among Member States.

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:

	Very important	Important	Not very important	Not important	No opinion
A fully harmonised gate closure time for intraday throughout the EU	○	○	○	○	○
Shorter trading intervals (e.g. 15 min)	○	○	○	○	○
Lower thresholds for bid sizes	○	○	○	○	○
Risk hedging products to hedge renewable energy volatility	○	○	○	○	○
Cross border capacity allocation for short-term markets (i.e., some capacity being reserved for intraday and balancing)	○	○	○	○	○
Introduction of longer-term transmission rights (> 3 years)	○	○	○	○	○
Regulatory measures to enable thermal, electrical and chemical storage	○	○	○	○	○
Introduction of time-of-use retail prices	○	○	○	○	○
Enshrine the right of consumers to participate in the market through demand response	○	○	○	○	○

Any other view or ideas? Please specify.

3600 character(s) maximum

This is not our area of expertise, and seem to entirely concern the electricity market. As a general view, it is important that electricity, like all other products, is paid for in a way that reflects its true cost. As electricity needs to be available instantly, it also needs to be measured, traded and paid for in short intervals, e.g. in 15 minute intervals on the wholesale market, and by the hour at the consumer level. This would stimulate investments in storage technology and top-load production.
We refrain from answering the detailed questions.

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

Please specify: If exemptions remain necessary, please specify if and in which case and why exemptions would still remain necessary (e.g. small renewable producers, non-mature technologies)?

3600 character(s) maximum

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

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

Comments and other ideas, including whether there are any consideration concerning gas from renewable energy sources, for instance expansion of gas infrastructure, publication of technical rules, please explain.

3600 character(s) maximum

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

Please specify: If yes, in which case and why? What are the lessons from the implementation of RED?

3600 character(s) maximum

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

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

renewable energy in spatial and environmental planning					

Any other views or ideas? To what extent has the RED been successful in reducing unnecessary administrative barriers for renewable energy projects in the Member States? Please specify.

3600 character(s) maximum

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

3600 character(s) maximum

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

	Very important	Important	Not very important	Not important	No opinion
Administrative burden	○	○	○	○	○
Cost of compliance	○	○	○	○	○

Please explain. How could the administrative burden and cost of compliance be reduced in the period after 2020?

3600 character(s) maximum

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

	Very important	Important	Not very important	Not important	No opinion
Incentives for installers to participate in certification/qualification schemes	○	○	○	○	○
Increased control and quality assurance from public authorities	○	○	○	○	○
Understanding of the benefits and potential of					

renewable technologies by installers	○	○	○	○	○
Mutual recognition of certificates between different Member States	○	○	○	○	○

Comments, other ideas, please explain. To what extent has the RED been successful in reducing unnecessary training and certification barriers in the Member States?

3600 character(s) maximum

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

3600 character(s) maximum

Renewable energy projects must be part of general spatial planning the same way as all other physical planning. For the public, the positive of climate change mitigation effect will be evaluated against negative effects on the local environment, the landscape, etc. There is no clear answer once and for all. For grid development, it is important to study technical solutions, like ground cables, which may be more expensive, but more acceptable to the public. They will also make it possible to continue with forestry in regions where forests dominate the landscape. This is important to guarantee future production of biomass.

Part 6: Increase the renewable energy use in the transport sector

Decarbonisation and the replacement of fossil fuels is particularly challenging in the transport sector. 94% percent of EU transport relies on oil products, of which 90% is imported and represents a growing share of carbon emissions. Against this background, the October 2014 European Council invited the European Commission to further examine instruments and measures for the transport sector, including the promotion of energy from renewable energy sources.

According to European Commission estimates, a significant contribution from renewable transport fuels will be required to meet the overall EU 2030 decarbonisation targets . To achieve this, measures will need to be put in place to require an increased market up-take and deployment of sustainable low-carbon biofuels and alternative renewable fuels as well as renewable electricity in battery electric vehicles and hydrogen in fuel cell vehicles.

For example, further use could be made of incorporation obligations, dedicated financing (in particular in the heavy duty transport and aviation industry) and measures to increase access to smart energy services and infrastructure and promote the development of advanced renewable fuels which are not based on food crops. Special care needs to be taken to remove current market distortions and fragmentations of the EU internal market.

28. To what extent has the RED been successful in addressing the following EU transport policy

objectives?

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

Any other view or ideas? Please specify

3600 character(s) maximum

EU policy on renewable transport fuels has in general been a failure as shown by the low shares of renewable energy in the transport sector in most EU member states.
Despite the fact that EU is 95 percent dependent on fossil fuels in the transport sector, and 90 percent of this is imported fossil fuels, the transport sector has largely been neglected in EU energy and climate policy.

The target for 2020 was designed mainly for quota systems, where the Member States were expected to introduce low blending, 5 and later 10 percent in petrol and diesel. Development of the market for high blends or pure biofuels like E85, ED95, B100, HVO100, etc, was not in focus. One result of this policy is that cars for pure biofuels have not been developed in Europe. With the ILUC decision 2015 the limited EU target was even watered down, and the new regulations introduced in this decision is further hampering the development. As a result of this policy, the European biofuel industry is falling behind and very few investments are made. As the same companies are often working on the markets both for first and second generation biofuels, the development of so called advanced biofuels has been slowed down. Uncertainty has prevailed in the whole biofuel industry.
For Sweden, which today together with Finland, has the highest share of renewable fuels in transport, and has reached the 2020 target, the development is further hampered by the EU Commission's application ot its State Aid rules, which have forced Sweden to introduces new penalty taxation on E85 and biodiesel. This regulation protects the fossil fuels from price competition from renewable biofuels.

29. Please name the most important barriers hampering the development of sustainable renewable fuels and renewable electricity use in transport?
Please explain, and quantify your replies to the extent possible.

3600 character(s) maximum

One fundamental barrier is that EU has not indicated any target for renewable energy in the transport sector for 2030. This creates a major uncertainty about the political support for renewable energy in the sector. Only a few EU member states are near the RED targets for 2020, and it seems probable that many member states will miss their targets. By not adopting a target for 2030, EU has decreased the pressure on member states to fulfil the short-term goal. By adopting the ILUC directive with increased double-counting, the dependence on fossil fuels will be higher in 2020, than the earlier RED targets.
The development has been badly hampered by the conflict surrounding the ILUC issue. It has created and will in the future create massive uncertainty. The changes of RED in the ILUC decision have had the same effect. The cap for land-based biofuels and double counting for a number of feed-stocks are examples of detailed regulations that remind the market actors of planned economy, where politicians and public administrators easily can change the rules of the game, and thereby also the market conditions. This keeps investors away. Instead they move to other, more certain markets, in other parts of the world. Europe is today losing its position as world leader in biofuels.
Development of new, so-called “advanced” biofuels, based on new feed-stocks, depends on a strong market for the existing conventional biofuels. Often, the same companies are actively pursuing both kinds of biofuels. By limiting the market for biofuels in general, with the revised RED directive, this also hurts the development on new biofuels. It only benefits the fossil transport fuels.
To develop new biofuels from cellulosic feedstock and new production

processes, massive support is needed for research, development and demonstration of these new technologies. A number of large-scale production units must be built in the coming years. For this to happen, the investors and bankers need secure, long-term conditions. Today, the opposite is the case. The conditions after 2020 are totally unknown. An ongoing campaign from environmental NGO:s against biomass for energy further underscores the uncertainty. The actors fear that EU will impose restrictions similar to the cap for agriculture based biofuels.
In our opinion there is room for both biofuels with high GHG reduction of first and second generation, and for electrical vehicles. Efficient hybrids using both electricity and biofuels may offer the optimal solution when both environment and economy are valued. It is important to keep all options open, and avoid detailed regulation and direct subsidies for certain technologies. The best way forward is to introduce carbon taxation and let the market choose solutions.
EU, and Europe as a whole, has large untapped agricultural resources that can be used for energy crops. According to one scientific study (Mapping the extent of abandoned
farmland in Central and Eastern Europe using MODIS time series satellite data, Alcantara, Kümmerle et al, Environmental Research letters, Sept 2013) there is 52,5 million hectares of abandoned farmland in East and Central Europe.

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:

	Very effective	Effective	Not very effective	Not effective	No opinion
Increased use of certain market players' obligations at Member State level	○	◉	○	○	○
More harmonised promotion measures at Member States level	○	○	○	○	◉
The introduction of certain market players' obligations at the EU level	○	○	○	◉	○
Targeted financial support for deployment of innovative low-carbon technologies (in particular to the heavy duty transport and aviation industry)	◉	○	○	○	○
Increased access to energy system services (such as balancing and voltage and frequency support when using electric vehicles)	○	○	○	○	◉

Increased access to alternative fuel infrastructure (such as electric vehicle charging points)	○	◉	○	○	○

Any other view or ideas? Please specify.

3600 character(s) maximum

EU needs to renew its commitment to production and use of biofuels for transport, both so called first and second generation biofuels, for cars, for heavy duty vehicles, for aviation and for maritime transport. A separate transport target for renewable fuels should be set for 2030, and the Member States should be stimulated to adopt country targets.
EU policy should be to promote both electric vehicles and biofuels, and the support systems should, as far as possible, be technology neutral, to guarantee the best use of limited resources.
The best way to promote renewable fuels and energy efficient transports in a technology-neutral way is to tax fossil fuels and let them pay for their emissions of greenhouse gases according to Polluter Pays Principle. The state aid rules have to be changed to make it possible to fully use taxation as a support mechanism for energy transition and greenhouse gas reduction. The biofuels should have reduced CO2 tax due to its well-to-wheels GHG reduction. High performing solutions should be promoted
When quota systems are used, they should be based on greenhouse gas reductions compared to fossil fuels. In that way, the best fuels will be promoted. This should be regardless of feedstock used. Energy and carbon dioxide taxation in the transport sector should be harmonised on a European level, to guarantee a level playing field between actors on the common European market. The state aid rules need to be revised to allow full carbon taxation, with exemptions for biofuels, in the transport sector.
For aviation and maritime transports, where taxation is limited according to international agreements, targeted support to promote biofuels may be needed, e.g. through a EU-wide quota system. For aviation, biofuel is the only available renewable option.
EU, and Europe as a whole, has large untapped resources both in agriculture and in forestry, for increased production biofuels. In our opinion, there is no reason to limit the use of agricultural crops as feedstock. The cap for so called “food-based” biofuels should be lifted as soon as possible. Double counting should also be removed. It is a way of manipulating statistics, and giving the public a false picture of the conversion from fossil fuels to renewable fuels. For the climate, the most important thing is to reduce the use of fossil fuels, and the public needs to be informed about the true dependency of these harmful fuels.

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