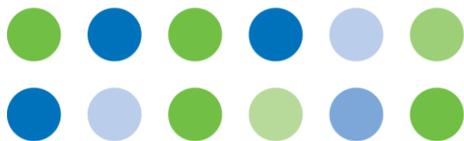




EASE Reply to the European Commission Public Consultation for the Review of Directive 2018/2001/EU on the promotion of the use of energy from renewable sources

February 2021



Introduction

This consultation aims to collect views and suggestions from stakeholders and citizens in view of the possible proposal for a revision of Directive 2018/2001/EU on the promotion of the use of renewable energy (RED II), planned for 2021.

Renewable energy is produced using the earth's natural resources, like sunlight, wind, water resources (rivers, tides and waves), heat from the earth's surface, or biomass. Using renewable energy, instead of fossil fuels, substantially reduces the emission of greenhouse gases, which is why renewable energy is also referred to as 'clean energy'.

Today, the energy sector is responsible for more than 75% of the EU GHG emissions, so increased uptake of renewable energy alongside energy efficiency has a key role to play in reducing GHG emissions in a cost-effective way. More energy from renewable sources also enhances energy security, creates growth and jobs, reduces air pollution when not based in combustion and strengthens the EU's industrial and technological leadership.

The review of RED II is carried out in the context of the European Green Deal in which the Commission committed itself to review and propose to revise, where necessary, "the relevant energy legislation by 2021.

In the European Green Deal, the Commission proposed to increase the Union's 2030 greenhouse gas (GHG) reduction target from 40% to at least 50% to 55%, with the objective of climate-neutrality by 2050.

On 17 September 2020, the Commission published its 2030 Climate Target Plan, which presents a new 2030 target of at least 55% net GHG emission reductions compared with 1990 levels on basis of a comprehensive impact assessment. Achieving at least 55% net GHG emissions reductions would require an accelerated clean energy transition with renewable energy seeing its share reaching 38% to 40% of gross final energy consumption by 2030.

This range of 38% to 40% is higher than the binding Union level target for 2030 of at least 32% of energy from renewable energy sources introduced by RED II. It is also higher than the share of renewables, between 33.1% and 33.7%, that would be achieved if Member States complied with the national contributions set in their integrated National Energy and Climate Plans (NECPs) for 2030.

In addition, the Commission has adopted, or will adopt, other strategies containing a number of key actions supporting the increased climate ambition, which could be followed through in the review of REDII.

This is the case, for instance, of the Energy System Integration and the Hydrogen Strategies, adopted on 8 July 2020, the Renovation Wave Strategy, adopted on 14 October 2020, and the Offshore Renewable Energy Strategy, planned for 19 November. In addition, the European Green Deal includes a "Green Oath to do no harm", in particular by preserving biodiversity and reducing air pollution. To this end, the Commission adopted on 20 May 2020 an EU Biodiversity Strategy for 2030, which also



contains commitments of relevance for the REDII review.

The answers to this questionnaire will feed into the review process of RED II, and more in particular into the impact assessment that the Commission will carry out to assess whether a revision is needed and what revision would be the most appropriate. No evaluation of RED II will be done, since this

Directive, adopted in December 2018, has not yet been transposed and implemented by Member States (its transposition deadline is on 30 June 2021), and a full-fledged evaluation of Directive 2009/28/EC (RED I) was done in 2016 when preparing the proposal for RED II.

The questions are formulated to respect the requirements of the Better Regulation rules[https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en]. The questions are divided into different sections: questions about the identity of respondents, general questions on revising RED II, questions on transversal elements derived from the Energy System Integration and Hydrogen Strategies, and technical questions on specific aspects of RED II, including questions on buildings and offshore renewables, in line with the Renovation Wave and the Offshore Renewable Energy Strategy. If you don't have an opinion on a question, do not reply.

1. General questions on the review and possible revision of the Renewable Energy Directive

[REDII provides a general framework for the promotion of energy from renewable within the Union in order to ensure the achievement of the binding EU renewable energy target of at least 32% by 2030. It sets out rules on support schemes for renewable energy, on guarantees of origin for energy from renewable sources, on administrative procedures, on the integration of renewable sources in buildings, on self-consumption and renewable energy communities, and on renewable energy in heating and cooling and in transport. It also sets out sustainability and GHG emissions criteria for bioenergy.

On 17 September 2020, the Commission published its 2030 Climate Target Plan, where it presents an at least 55% net target for GHG emissions reduction in 2030. As result of this increased ambition, the plan indicates that renewables should represent from 38% to 40% of the gross final energy consumption in 2030.

1.1 How important do you think renewable energy will be in delivering the EU's higher climate ambition for 2030 and carbon neutrality by 2050?

Very Important



- Important*
- Not very important*
- Not important*

1.2 Do you think REDII needs to be modified? (multiple answers possible)

- Yes, it needs to be more ambitious as result of the higher climate ambition in the European Green Deal and Climate Target Plan
- Yes, it needs to be more prescriptive to ensure that the EU renewable energy objectives are reached
- Yes, it needs to be less prescriptive, giving Member States more freedom on how to achieve their renewable energy objectives
- Yes, but only those adjustments required to reflect the European Green Deal objectives
- No, it strikes the right balance as it is
- No, even if there could be areas of improvement, legislation should not be modified so shortly after its adoption
- Other

Please specify

To achieve the target of at least 55% greenhouse gas emissions reduction compared to 1990 levels, the European Commission needs to revise REDII to increase the level of ambition. The transition to a renewable-based energy system needs to be supported by energy storage and other flexibility providers, in order to ensure security of supply, efficient energy system operation, and the competitiveness of EU industries.

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1.3 If you answered 'yes' to the previous question, which parts of RED II do you think should be amended? (multiple answers possible)

- Overall Union target of at least 32% for renewable energy for 2030*
- Target of at least 14% for renewable energy in transport by 2030*



- Indicative target of an annual increase of 1.3% point for renewable energy used in heating and cooling*
- Indicative target of an annual increase of 1% point for renewable energy used in district heating and cooling and provisions on access to district heating networks*
- Provisions on how to design support schemes for electricity from renewable sources*
- Provisions on cooperation mechanisms between Member States*
- Provisions on how to promote renewable energy in buildings*
- Provisions simplifying administrative procedures for renewables project developers*
- Requirements on guarantees of origin for energy from renewable sources*
- Provisions on self-consumption and renewable energy communities*
- Sustainability and GHG emission saving criteria for energy produced from biomass*
- Provisions on sustainable low carbon fuels such as low-carbon hydrogen and synthetic fuels with significantly reduced full life-cycle greenhouse gas emissions compared to existing production*
- Other*

Please specify

The RED III could give more focus to supporting the enabling infrastructure for integrating variable renewable energy sources (vRES), such as energy storage technologies. Barriers to deployment of hybrid renewable energy and storage projects should be addressed.

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Please explain your answer



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1.4 In which sectors do you think additional efforts to increase the use of renewable energy are most needed for a potentially higher renewables target for 2030? (multiple answers possible)

- Electricity*
- Gas*
- Heating and cooling*
- District heating and cooling*
- Buildings*
- Services (including ICT)*
- Industry*
- Transport*
- Agriculture*
- Other*

Please specify

3000 character(s) maximum

1.5 Do you see scope for simplifying RED II or reducing regulatory burdens, including administrative burdens?

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1.6 Do you think the level of the 2030 Union target for renewable energy should be raised within the range indicated in the 2030 Climate Target Plan (38 – 40%)?

- Yes*
- No, it should be higher than 40%*
- Other*

Please specify

EASE is committed to facilitating the achievement of a net-zero emissions power system by 2050. Decisive action must be taken as soon as possible in order to reaffirm the EU's commitment to achieving the Paris targets and secure investor confidence in clean energy technologies. For this reason, we also support a revision of the 2030 targets to increase the greenhouse gas emission reduction objectives. We believe that it is important to set challenging short-term as well as long-term targets in order to clearly signal the EU's commitment to addressing the climate challenge.

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1.7 Should the overall renewable target be binding at EU level or at national level?

- At both levels*
- Only at EU level*
- Only at national level*
- At neither of the levels*

2. Technical questions on Transversal Energy System Integration Enablers

In order to achieve climate neutrality cost-effectively the energy system needs to operate in a more integrated manner, across multiple energy carriers, infrastructures and consumption sectors. The Energy System Integration and Hydrogen Strategies published by the Commission in July set the vision to build an integrated energy system fit for climate-neutrality and turn hydrogen into a viable solution. This vision is established around three main pillars: 1) a more circular energy system, with 'energy-efficiency-first' at its core; 2) accelerating the electrification of energy demand, building on a largely renewables-based energy system; 3) promote renewable and low-carbon fuels, including hydrogen, for hard-to decarbonise sectors.



2.1 How important do you consider the following measures to build a more integrated energy system?

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>
<i>Apply the Energy-Efficiency-First principle across the whole energy system</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Increase the mobilisation of waste heat, for instance from industry or data centres</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the deployment of smart district heating and cooling networks that use renewable energy and thermal storage</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the use of renewable energy in buildings</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the use of renewable electricity in industry</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the use of renewable electricity in the transport sector</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the production of renewable liquid fuels</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Accelerate the production of sustainable biogas and biomethane</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Increase the production and use of renewable hydrogen</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Accelerate the digitalisation of the energy system



Any other view or ideas related to the use of renewables that could contribute to building a more integrated energy system? Please specify.

To achieve a truly integrated energy system with large shares of variable renewables, energy storage technologies need to be supported as key drivers for smart sector integration. Storage technologies can link different energy and economic sectors, thereby increasing the overall efficiency at energy system level while contributing positively to energy security.

In the context of the revised Renewable Energy Directive, policymakers should consider measures to support deployment of storage technologies, since:

- Energy storage technologies contribute to increasing the share of renewable electricity used in the energy mix by reducing or avoiding curtailment of renewable electricity generation. By shifting the use of excess renewable electricity forward in time to periods of deficit, RES essentially become dispatchable, which greatly facilitates their integration into the energy system, and ensures optimal use of installed RES capacities.
- Additionally, when optimally located, energy storage solutions can enhance the optimal use of the transmission and distribution grid, avoiding congestions.
- Energy storage can help decarbonise the heating and cooling sectors, which are currently heavily dependent on fossil fuels.
- Finally, some of these technologies, for example Power-to-Gas and Power-to-Liquid, can be used to produce renewable fuels (e.g. synthetic methane, methanol) or chemicals (e.g. ammonia).

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The Energy System Integration Strategy recommends to advance towards a more circular energy system, with ‘energy-efficiency-first’ at its core.

2.2 How do you think the energy efficiency first principle should be reflected in the Renewable Energy Directive?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Promote the use of renewables in low-temperature efficient heating systems</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Promote the production of heat directly from renewable energy or waste heat with minimal energy transformation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Promote the installation of thermal energy storage together with the renewable heat generator</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Promote self-consumption of renewable thermal heat</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Promote the reuse of waste heat from industrial sites, data centres, or other sources</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Promote the use of renewable electricity in end-uses across all sectors where this is cost-efficient</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Prioritise the efficient use of renewable electricity by taking into account conversion efficiencies of renewable electricity in different end uses (eg. heat pumps have better efficiency than using hydrogen for space heating)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Provide information to consumers about the energy content of the energy they are purchasing, across carriers and sectors</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<p><i>Prioritise the use of available renewable energy carriers in those end use sectors where they have the greatest decarbonisation impact for each unit of energy consumed</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Other? Please specify

In addition to focusing on energy efficiency, the concept of energy optimisation should also be targeted. This means having a more flexible energy supply and demand at all levels of the system, optimising the use of energy via flexibility sources such as energy storage. For industrial and residential consumers, increased energy optimisation through deployment of thermal storage or batteries could help reduce demand peaks.

In this context, the Green Deal offers a unique opportunity to set the proper regulatory framework:

- Foster electrification: updating the Primary Energy Factor to reflect the real savings brought by renewables; removing taxes and levies from the electricity bill that have no relation with the electricity supply; and introducing a correct price signal based on the “polluter pays principle” (including the transport sector in the EU ETS and/or setting an environmental tax reform based on the carbon footprint).
- Promote EVs, eHPs and associated infrastructure: reviewing the Clean Mobility Package (CO2 emissions standards for cars/vans, HDV and Clean Vehicle Directive for administrations) to introduce more ambitious regulation and fostering the deployment of charging infrastructure by removing barriers and setting minimum and mandatory basic charging infrastructure objectives. Reviewing Energy Performance of Buildings Directive setting ambitious obligations for new and existing buildings.



2.3 How appropriate do you think the following measures would be in supporting the electrification of energy consumption?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Sectorial targets for electrification of end- use sectors</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Further specific measures for electrification of buildings</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further specific measures for electrification of transport</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further specific measures for electrification of industry</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further specific measures for consumer empowerment</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Guidance to Member States to address the high charges and levies borne by electricity and ensure the consistency of non-energy price components across energy carriers</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Align taxation of energy products and electricity with EU</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Climate and Energy Policy goals</i>				
<i>Further measures to foster digitalisation</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further development of interconnections</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further development of transmission and distribution networks</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others? Please specify

Electrification can lead to decarbonisation in several sectors. It is important that the EU continues the implementation and modernisation of policies to a.o. mainstream the deployment of renewable electricity, electrification and energy efficiency measure. The EU should push for the decarbonisation of the power sector and consider the direct electrification of final uses (a.o. heating and cooling, industry, and transport).

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Going beyond and building on the existing certification and traceability framework, the Energy System Integration Strategy and the Hydrogen Strategy state that the Commission will consider additional measures to support renewable and low-carbon fuels, possibly through minimum shares or quotas in specific end-use sectors (including aviation and maritime), through the revision of REDII and building on its sectoral targets. Renewable fuels cover sustainable biofuels, bioliquids and biomass fuels, as well as renewable hydrogen and renewable synthetic fuels. Low carbon fuels cover hydrogen and synthetic fuels produced through a variety of processes, but with significantly reduced full life-cycle greenhouse gas emissions compared to existing production. According to the Strategies, the support regime for hydrogen will be more targeted, allowing shares or quota only for renewable hydrogen. They also state that the Commission will propose a comprehensive terminology for all renewable and low-carbon fuels and a European system of certification of such fuels, based notably on full life cycle greenhouse gas emission savings and sustainability criteria, building on existing provisions including in the Renewable Energy Directive.



2.4 How do you consider that “low carbon” fuels that are not renewable but provide significant GHG emissions reduction compared to fossil fuels, such as non-renewable hydrogen and synthetic fuels with significantly reduced full life-cycle greenhouse gas emissions compared to existing production, should be treated?

- They should be promoted equally to renewable fuels and thus be mandatorily integrated in any end-use target or quota*
- They should be promoted but less than renewable fuels*
- Member States should have the freedom to decide whether to promote them alongside renewable fuels in any end-use target or quota*
- They should not be promoted*

2.5 Do you think the use of hydrogen and e-fuels produced from hydrogen should be encouraged (multiple answers possible)?

- Yes, regardless of the source used to produce them*
- Yes, but only if produced from renewable energy*
- Yes, but under a certain level of conversion losses*
- Yes, but only if produced and used in a way that leads to no or low GHG emissions along their life cycle, compared to the fossil fuel they are replacing*
- Yes, but only when its whole value chain is more energy efficient in comparison to alternative energy sources and carriers*
- Yes, but only for limited uses where no other alternatives are feasible*
- No*
- Other*



Please specify

EU energy policy should be technology neutral where possible, enabling the development of different technologies that can meet specific system needs. However, carbon-neutral technologies should be preferred for widespread deployment. All energy storage technologies – power-to-power and power-to-x – should be supported to facilitate integration of renewables.

Power-to-gas (PtG) and power-to-liquid (PtL) technologies are a key enabler of sector integration and should not be discouraged by policy. By converting renewable and low-carbon electricity into other energy carriers, PtG and PtL facilities can contribute to the higher integration of vRES, introduce additional flexibility to the energy system, and help in the decarbonisation of the EU economy in line with the Paris agreement.

Any policy measures should assess whether solutions may lead to stranded costs and carbon lock-in, as 2050 is only one investment cycle away. The most competitive technologies at hand should be immediately promoted to accelerate the decarbonisation progress up to 2030. Meanwhile, the more expensive decarbonisation alternatives should focus on decarbonising hard-to-abate areas.

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2.6 How effective do you think the following measures would be in supporting the uptake of RES and low-carbon fuels?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Minimum shares or quotas of renewable and low carbon fuels, including renewable hydrogen, in specific end-use sectors</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Carbon Contracts for difference [1]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Supply-side quotas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market based support schemes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supply-side GHG-based targets	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

[1] Carbon contracts for difference are long term contract with a public counterpart that would remunerate the investor by paying the difference between the CO2 strike price and the actual CO2 price in the ETS in an explicit way, bridging the cost gap compared to conventional fossil-based production.

Others? Please specify

3000 characters maximum



2.7 How important do you think the following principles are for a robust and comprehensive certification and verification system covering all renewable and low carbon fuels? (Multiple answers possible)

	<i>Very important</i>	<i>Important</i>	<i>Not very important</i>	<i>Not important</i>
<i>The certification and verification system should cover all end-use sectors</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The certification and verification system should cover all renewable and low carbon fuels</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The certification and verification system should demonstrate that renewable hydrogen and renewable synthetic fuels are produced from additional renewable electricity</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The certification and verification system should follow as closely as possible the real energy flows and ensure that consumption of renewable and low carbon fuels takes place in certain target sectors (e.g. transport) in the Union, for instance by</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



<p><i>using a mass balance system.</i></p>				
<p><i>The certification and verification system does not need to follow the real energy flows as it is sufficient to incentivise the promotion of renewable and low carbon fuels independently of where they are consumed in the Union, for instance by using a book-and-claim approach such as for Guarantees of Origin.</i></p>	☒	☐	☐	☐
<p><i>The certification and verification system should follow as closely as possible the real energy flows only for liquid renewable and low carbon fuels, but allowing a book-and-claim approach such as for Guarantees of Origin is more appropriate for gaseous renewable and low carbon fuels injected into the natural gas grid</i></p>	☐	☐	☐	☒



<p><i>The certification and verification system should ensure that the GHG impact of energy conversions along the value chain (e.g. renewable electricity used to produce renewable hydrogen) are fully taken into consideration, while avoiding double counting</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><i>Where CO₂ is used in the production of a fuel, the certification system should distinguish between fuels using CO₂ of fossil origin and CO₂ of non-fossil origin</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Other principles? Please explain

On the Certification of Renewable and Low-Carbon Hydrogen, EASE recommends the following:

1. develop a harmonised definition for renewable and/or low-carbon hydrogen based on a transparent methodology in order to avoid fragmentation of the market.
2. develop a mutual recognition of Guarantee of Origins to facilitate cross border trade.
3. launch an EU-wide certification system and align it with national registries in a timely manner.
4. minimise administrative barriers to the certification of renewable and/or low-carbon hydrogen while also ensuring a robust certification system.
5. ensure fair and effective competition between technologies and energy carriers and between imported H2 and H2 produced in the EU.

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2.8 In the current system, only electricity suppliers are required to certify to consumers the share of energy from renewable sources by guarantees of origin. Do you think that this obligation shall be extended to suppliers of renewable fuels (such as biogas, biomethane or renewable hydrogen) as well, and possibly of “low carbon” fuels?

- Yes, for renewable fuels
- Yes, for renewable fuels and low carbon fuels
- No

2.9 Do you think the cooperation mechanisms set out in RED II should be extended to cover renewable hydrogen regardless of its end use, so that Member States can support renewable hydrogen projects in other Member States and in third countries while counting the energy produced as their own?

- Yes
- No

Please explain your reply

The certification of the produced hydrogen should be classified with reference to its carbon footprint and the nature of the electricity used for its production, whether it is renewable or not.

- When H₂ is produced in a PtG facility powered entirely by renewable electricity (e.g. bio, wind, solar), it is certified as “renewable” hydrogen,
- Where H₂ is produced in a PtG facility powered by low-carbon electricity, the resulting hydrogen should be certified as “low-carbon” where its carbon footprint (“well-to-gate”) does not exceed 36.4 grams of CO₂ equivalent per MJ of H₂. This threshold, agreed among stakeholders part of the CertifyHy project, corresponds to a 60% GHG emission reduction compared to the production of hydrogen using current best available technique.

A harmonised definition and comprehensive and fair life cycle assessment (LCA) methodology for assessing the GHG emission savings of low-carbon hydrogen needs to be developed.



3000 character(s) maximum

The EU's 2050 decarbonisation scenarios and other international reports suggest that renewables, energy efficiency and electrification will have to deliver most of the required emission reductions. However, carbon capture technologies will potentially be needed to create the negative emissions required to reach climate neutrality and address emissions from hard-to-abate sectors.

2.10 Carbon-capture and storage/usage in the EU should play a prominent role in...

	<i>Strongly agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly disagree</i>
<i>Decarbonising the power sector</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Decarbonising energy intensive industries (e.g. chemicals, cement, steel)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Production of hydrogen (i.e. based on natural gas with CCS)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Creating negative emission / carbon removal, e.g. via CCS applied to bioenergy[1] (BECCS) or direct air capture and storage</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Providing captured CO2 as a feedstock for other</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>industries</i>				
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2.11 *In addition to how CCS and CCU are treated in other EU legislation, do you think REDII should be revised to encourage the uptake of CCS and CCU?*

Yes

No

Please specify

EASE does not assess what role CCS and CCU may play in the decarbonisation of the energy system; but other pieces of legislation may be better suited to regulate them than REDII. Generally speaking, it is paramount to have a legislation that, while favouring solutions that should contribute to the greening of the energy system, do not de facto promote the continuous use of fossil fuels. In this sense, CCS and CCU solutions risk exactly that – therefore, related legislation must fully ensure that fossil fuels do not benefit from it.

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3 Technical questions on specific sectors

This section covers specific sectors covered by REDII and asks for your opinion on whether they should be changed/strengthened in order to improve the chances of achieving the EU's 2030 climate ambitions.

3.1 RENEWABLES IN ELECTRICITY

Mobilising private investment for the development in renewables is essential in the context of increased ambition. In REDII, there are new several provisions aiming to promote the use of renewable power purchase agreements (contract under which a natural or legal person agrees to purchase renewable electricity directly from an electricity producer "PPAs").



3.1.1 How would you rank the appropriateness of the following measures in tackling the remaining barriers for the uptake of renewable electricity that matches the expected growth in demand for end- use sectors?

	Very appropriate	Appropriate	Not very appropriate	Not appropriate
<i>Further foster regional cooperation in the deployment of renewable electricity</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further streamline permitting procedures</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further support the uptake of private renewable PPAs</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Establish minimum mandatory green public procurement (GPP) criteria and targets in relation to renewable electricity</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Further support the uptake of energy communities and self-consumption</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Others? Please specify

Technologies enabling the integration of renewables into the grid, such as energy storage, should be supported in order to become competitive and able to develop to their full potential. In particular, investments aimed at improving the performance of energy storage systems to lower both their cost and environmental footprint should be prioritised.

Barriers to the deployment of energy storage solutions, including hybrid renewables + storage projects, should be systematically addressed. This will help to achieve the higher RES targets for 2030 and beyond.

Moreover, a clear, predictable and transparent investment framework with long term market signals is an essential prerequisite to further exploit the potential of RES and energy storage.

3000 character(s) maximum

3.1.2 How do you think regional cooperation in deploying renewables electricity could be further promoted?

3000 character(s) maximum

3.1.3 How appropriate do you think the following measure would be in promoting the use of private renewable power purchase agreements?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Financial solutions/instruments</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Removing administrative/legal barriers</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Creating green labels for buyers of renewables-based products</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>None, market participants are already actively engaging</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other principles? Please explain

3000 character(s) maximum

Public authorities, thanks to their purchasing power and often high electricity consumption, can be real drivers for change. RED II does not contain any provisions on renewable energy obligations in public procurement.

3.1.4 *Should there be specific obligations for public authorities to contribute to achieving a high level of renewable energy (multiple answers possible)?*

- Yes, all public authorities should be obliged to buy green energy
- Yes, but only larger public authorities should be obliged to buy green energy
- Yes, but only if it does not cost more
- Yes, but only if the green tender is likely to trigger investment in additional green energy generation
- No

Please explain your reply

Public authorities should lead by example by ensuring they buy renewable electricity, preferably through long-term contracts that provide visibility to renewable developers.



3000 character(s) maximum

3.1.5 Do you think modifying REDII would be appropriate in order to further promote offshore renewable energy, following the adoption of the EU Offshore Renewable Strategy?

RED III should be aligned with EU Green Deal policies including the offshore renewable strategy. RED III should address barriers to deployment of energy storage, including but not only power-to-x, in the context of integrating offshore renewable energy.

3000 character(s) maximum

3.2 RENEWABLES IN HEATING AND COOLING

Under REDII, Member States must endeavour to increase the share of renewable energy in heating and cooling by an indicative 1.3 percentage point (ppt) per year up to 2030. Sources of waste heat and cold can be counted towards the 1.3 ppt up to 40%, and in Member States where waste heat or cold is not used, the yearly increase that the Member States must endeavour to achieve is 1.1 ppt.

The impact assessment accompanying the 2030 Climate Target Plan indicates that the share of renewable energy in heating and cooling would constitute around 40% in 2030. This would require an increase of the share of renewable energy in heating and cooling in Member States significantly higher than the yearly increase of 1.3 ppt.

3.2.1 How appropriate do you consider the following options for increasing the uptake of renewable energy in heating and cooling?

	Very appropriate	Appropriate	Not very appropriate	Not appropriate
Increased energy efficiency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Direct renewable heat use (from sustainable biomass, geothermal, solar thermal...)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Direct renewable electricity use (in electric heat pumps using ambient energy)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Use of renewable gases</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Use of district heating and cooling networks that can supply in the same system waste heat and renewable heat</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Others? Please explain

Supporting the roll-out of thermal energy storage, both small-scale and large-scale solutions, can play a valuable role in increasing the use of renewables in heating and cooling. Thermal storage is currently not prioritised enough by EU and Member State policymakers, and should be given a more prominent role which is aligned with the EU energy system integration strategy.

Regarding the heating and cooling sector, thermal energy storage can reduce the carbon footprint using variable, flexible, and baseload renewable energy technologies. Heat storage not only increases the flexibility of the heating system, it also provides competitive flexibility to the electricity system in the EU as a whole through system integration options such as power-to-heat solutions (e.g. Smart Electric Thermal Storage).

3000 character(s) maximum

3.2.2 Should the current indicative target of 1.3 ppt (or 1.1 ppt, if waste heat and cold is not used), annual average increase of renewable energy in heating and cooling set for the period of 2021–2030 in Article 23 become a binding target for Member



States?

Yes

No

3.2.3 Should the annual average target of 1.3 ppt be increased?

Yes, to the level leading to the 40% share of renewable energy in heating and cooling indicated in the Climate Target Plan

Yes, to a lower level than that leading to the 40% share of renewable energy in heating and cooling indicated in the Climate Target Plan

Yes, to a more ambitious level than that leading to the 40% share of renewable energy in heating and cooling indicated in the Climate Target Plan

No

Under REDII, neither renewable electricity nor hydrogen and synthetic fuels produced from renewable electricity that is used for heating and cooling can be counted towards the target for heating and cooling, only thermal heating produced from renewable energy sources.

3.2.4 Do you think renewable electricity used for heating and cooling should be counted towards the target for heating and cooling?

Yes

No

3.2.5 Do you think that renewable hydrogen and synthetic fuels produced using renewable electricity and used in heating and cooling should be counted towards the target for heating and cooling?

Yes

No

The current Article 23 of REDII provides a list of measures that Member States can use to increase the share of renewables in heating and cooling. These are physical incorporation of



renewables in energy fuels supplied, direct and indirect mitigation measures (e.g. installation of renewable heating systems), and other policy measures, e.g. fiscal measures and financial incentives.

3.2.6 Do you think the list of measures provided in the Directive that Member States can use to increase the share of renewables in heating and cooling should be expanded or made more detailed?

Yes

No

Please specify

The renewable heating and cooling sector has been significantly undervalued. The storage of heat and cold via different storage technologies is a key for the success of decarbonisation efforts, by allowing RES electricity to be consumed at times of low electricity demand and used later for heating / cooling purposes, thus allowing a higher penetration of renewable energy onto the grid.

The barriers are:

- Lack of coherence between the different EU Directives and Regulations related to the energy system and its consumption.
- In efficiency calculations like in the delegated acts of the Ecodesign Directive and of the Energy Labelling Directive, calculations are still based on a primary energy factor of 2.5, which makes electric heating and cooling appear inefficient in comparison to other technologies. Because in reality, due to the increase in using electric energy from renewable sources, the primary energy factor continues to decrease. This means that heating and cooling on the basis of electric energy becomes increasingly more renewable. We therefore recommend adapting the primary energy factor regularly to the development of renewable energies.
- It is essential to design regulations in such a way that they allow heat storage to play a role, e.g. technologies like smart electric thermal storage (space and water heating).
- High up-front cost and poor consumer understanding of the technologies/fear of the unknown also plays a role. Capital support programmes could be an option, which tackle the high up-front cost and take a lifetime-cost view in which RES technologies appear much more favourable.

3000 character(s) maximum



3.2.7 Do you think these measures should be made binding?

Yes

Only some of them

No

Please explain your reply

Installation of highly efficient systems in buildings should be made compulsory for new buildings and buildings subject to major renovations.

3000character(s) maximum

3.2.8 How would you rank the appropriateness of the following measures in increasing the share of renewable energy in heating and cooling?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Pricing instruments (taxes, levies and charges)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>EU guidance on support schemes for renewable heating and cooling</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Renewable heating and cooling obligation on energy suppliers</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Stricter product regulation for heating and cooling appliances to ensure that gradually only</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>renewable and climate neutral heating technologies can be placed on the market</i>				
<i>Binding regulations on technical building systems for heating and cooling</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Mandatory heat planning and implementation at the appropriate level (local, municipal, regional) to ensure fulfilling the renewable heating and cooling target</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Strengthen corporate energy purchase agreements for heating and cooling</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Others? Please specify

Energy storage technologies are key drivers for enabling the increasing share of renewable energy in heating and cooling.

Barriers that hinder the integration of heating and cooling sector with other ones include:

- Upfront costs for thermal storage.
- Lack of energy (electricity, heat) balancing markets and price signals: for an improved value proposition for different TES technologies, time-of-use tariffs. and price signals for time shifting would likely be a driver for the uptake of TES
- Slow uptake of renewable heating technologies.
- Regarding large scale seasonal thermal energy storage, there is a low penetration of district heating and slow uptake of renewable thermal sources.
- Lack of a clear coal replacement plan where Thermal Storage could re-use a portion of the steam equipment's and transform the plant in a renewable plant
- Knowledge and awareness in society, public sector, and industry.

However, we believe that setting Renewable heating and cooling obligation on energy suppliers is not a very appropriate measure as it could have the same effect as first generation biofuels have had in the transport sector. If any objective is set, it should always be based on the energy efficiency first principle and considering the infrastructure requirements and any possible stranded assets or lock in effect.

Finally, additionality should be required so that the consumption of renewables in heating and cooling sector is based on new capacity in order to promote an increase of renewable consumption, and not to the detriment of the consumption of renewables in the electricity sector. Furthermore, additionality is a must to avoid cross-subsidies between the consumers of different energy vectors



3.2.9 Which of the following measures do you think could be appropriate to encourage public authorities to identify renewable heating and cooling potentials and plan their exploitation?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Strengthening the obligation to assess renewable potentials for heating and cooling in the frame of the comprehensive heating and cooling assessments under Article 14 (1) of EED and Article 15(4) of REDII</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>A separate assessment obligation of renewable potentials for heating and cooling under RED II</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Mandatory long-term strategies for decarbonizing heating and cooling</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Mandatory long-term strategies for decarbonising heating and cooling with binding milestones and measures taking into account synergies with other policy areas, such as the comprehensive heating and cooling assessments under Article 14 (1) of the EED and the long term</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>building renovation strategies under Article 2a of the directive amending the EPBD. (1) of the EED and the longterm building renovation strategies under Article 2a of the directive amending the EPBD.</i>				
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Others? Please explain

3000 character(s) maximum

a. RENEWABLES IN DISTRICT HEATING AND COOLING

Efficient district heating and cooling can play an important role in mainstreaming renewable energy in heating and cooling. Under REDII Member States must endeavour to increase the share of renewable energy in district heating and cooling by an indicative 1 percent point per year up to 2030. Alternatively, Member States must ensure, subject to limited exceptions, that third party suppliers can connect and sell renewable energy and waste heat or cold to district energy networks. The 1 ppt target of annual average increase in renewables can be fulfilled by waste heat and cold in district heating networks (waste heat flexibility).

3.3.1 Should the current indicative target of 1 ppt annual average increase of renewable energy in district heating and cooling set for the period of 2021– 2030 become a



binding target?

Yes

No

3.3.2 Should the level of the current indicative target of 1 ppt annual average increase of renewable energy in district heating and cooling be increased?

Yes

No

Please explain by how much

601 character(s) maximum

3.3.3 How would you rank the appropriateness of the following measures in encouraging the use of waste heat and cold by district heating and cooling networks?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Obligation for district heating and cooling network operators to connect waste heat and cold suppliers</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Obligation for industrial and service sector companies (e.g. data centres) producing significant waste heat and cold to make available their waste heat and cold to district heating and cooling companies</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Requirement for the relevant competent authorities to encourage cooperation between industrial and service sector companies</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Requirement for the relevant competent authorities to prepare the necessary plans (heat plans, energy plans, energy infrastructures plans, spatial plans, etc.), policies or regulations enabling the feeding of waste heat and cold into district networks</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Specific target for waste heat and cold use</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others? Please explain

Thermal storage can play a key role in large scale district heating and cooling networks and industrial applications (e.g. heat storage and heat pumps combined for applications in the food industry), but also at a smaller scale for commercial buildings and household dwellings.

3.3.4 Do you consider that third party access to district heating networks by renewable heat suppliers should be strengthened?

Yes

No

Please explain your reply

3000character(s) maximum



3.3.5 Which of the following measures do you think would be appropriate in strengthening the rights of consumers in district heating and cooling networks?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Improve information to consumers on the energy performance and renewable shares of district heating and cooling, including to low-income and vulnerable consumers.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Increased transparency of heat and cold supply prices to consumers and their components (e.g. energy and, network costs, taxes, levies)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Strengthen disconnection [1] rules for consumers</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Make it easier for consumers to switch to renewable supplies within a network via either a single buyer model or third party access or guarantees of origin</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Make it possible for consumers to feed renewable heat or waste heat and cold into the network (prosumer rights)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



1] RED II allows customers to disconnect from those district heating or cooling systems that are not efficient or do not become efficient by 31 December 2025, in order to produce heating or cooling from renewable sources themselves.

Other? Please specify and/or explain your choice of the previous questions.

3000character(s) maximum

3.3.6 How appropriate do you think the following measures are in making district heating and cooling systems be better integrated within the overall energy system?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Better coordination with electricity and gas TSOs and DSOs to plan network investment and integrate flexibility to maximise renewable integration</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Removing barriers to renewable thermal energy storage</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Promotion of the use of flexible renewable generation capacities (e.g. heat pumps, cogeneration, power to heat)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Better integration of district heating and cooling systems in EU, national and local energy infrastructure planning</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Better integration of variable renewable electricity and heat in urban planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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3.4 RENEWABLE ENERGY IN BUILDINGS

Buildings account for 40% of energy use in the EU, and heating and cooling is responsible for around 50– 80% of that energy consumption. Three quarters of heating and cooling in buildings is still supplied from fossil fuels. The EU building stock should be carbon-neutral by 2050. The Renovation Wave initiative aims to address the current low renovation rates across the EU and accelerate the transformation of the EU building stock into a highly energy efficient and decarbonised building stock by 2050. Contributing in this perspective, REDII requires Member States to introduce measures in their building regulations and codes to increase the share of energy from renewable sources in the building sector but does not set any particular target or level for this. On average the percentage use of renewables in buildings is 23.5%.

3.4.1 *Do you think that Member States should require a minimum percentage of renewable energy in the energy use of new buildings or buildings subject to major renovation?*

Yes

Yes, only for new buildings

Yes, only for buildings subject to major renovation

No

3.4.2 *If yes, what minimum percentage of energy consumed by a building do you think must come from renewable sources?*

10%



- 20%
- 30%
- 40%
- 50%
- 100%
- Other

Please specify

Percentage requirements could be put in place, provided that a green / renewable certification system is put in place first to assess what is renewable and what is not. If this is established, a requirement could be imposed in line with the overall goals set for renewable usage in heating and cooling.

3000 character(s) maximum

3.4.3 How would you rank the following measures in terms of their appropriateness in ensuring that buildings' heating and cooling systems are increasingly based on renewable energy while fossil fuels are gradually phased out?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Set minimum renewable energy levels (see 3.4.1) in REDII and ensure conformity in building regulations and codes</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Simplify permitting and administrative procedures for the integration of renewable energy solutions in buildings</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Set minimum renewable energy shares for heating and cooling in national building stocks</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Set specific renewable energy requirements at district or neighbourhood levels, i.e. nearly zero-energy districts.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Extend REDII provisions on self-consumption, applicable to electricity, to heating and cooling</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Strengthen consumer information and accessibility of measures to deploy renewables in buildings' heating and cooling systems, in particular in low-income or vulnerable households</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

Measures to support the deployment of energy storage behind-the-meter, both for residential and commercial & industrial buildings, should be considered to support renewable heating and cooling while optimising energy use and enhancing the flexibility potential of buildings for the system.

The measures to be appropriate must fulfill the following criteria:

- ✓ Energy efficiency first principle
- ✓ Any possible quota must be technologically neutral leaving the technology solutions to compete with each other
- ✓ Avoid any non-definitive or transitional measure that is not feasible to meet the 2050 target.



3000 character(s) maximum

Heating systems in building are generally replaced when they break down, usually during winter when it is urgent, leading to suboptimal decisions favouring replacement with the same, generally fossil fuel appliance. A planned replacement of heating systems would enable consumers to make informed choices and prepare the installation of renewable and more efficient heating.

3.4.4 *How would you rank the appropriateness of the following measures in improving the replacement of heating systems, in particular to encourage the replacement of fossil fuel appliances by renewable heating systems?*

	Very appropriate	Appropriate	Not very appropriate	Not appropriate
<i>Heating system replacements should be coordinated with and be part of building renovation whenever there is major renovation of a building or at other trigger points in the life-cycle of a building for carrying out energy efficiency renovations [1].</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Building renovation programmes (at national, municipal and district levels) should specifically support the modernisation of heating systems by their replacement with renewable technologies</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Energy Performance Certificates and heating system inspections should indicate recommended dates, steps and possible options for renewable heating systems</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>National building renovation strategies should specifically</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>address the transition from fossil fuel to renewable and climate neutral heating with related investment plans</i>				
<i>Fossil fuel heating systems replacement with renewable and other climate neutral ones (like waste heat) should be part of neighbourhood and district approaches to building renovation and urban renewal programmes</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Information campaigns should also target heating system replacement programmes with appropriate advice and information, including regarding financing and public support opportunities and solutions</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Digitalization should give early warnings on the need for repair/maintenance</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1] A trigger point could be: a transaction (e.g. the sale, rental or lease of a building, its refinancing, or a change in its use) a renovation (e.g. an already planned wider non-energy-related renovation).

Others? Please specify

Establish emission and pollution standards (CO₂, NO_x, PM...) for all heating & cooling systems and set a timeline to restrict inefficient and polluting equipment. From 2025 all new equipment must be zero pollutant and CO₂ free.

3000 character(s) maximum



3.5 RENEWABLE ENERGY USE IN INDUSTRY

Industry is a big energy user being responsible for 25% of the final energy consumption. However currently there are no specific provisions or targets related to the use of renewable energy for the sector. The Commission's Energy System Integration Strategy and Hydrogen Strategy have however identified industry as an economic sector where rapid progress is required to increase the use of renewable energy, be it through direct use of renewable heat, through electrification, or through the use of renewable and low carbon fuels to replace fossil fuels as feedstock and fuel.

3.5.1 Do you think there should be an obligation on industry or certain industrial sectors to use a minimum amount of renewable energy?

- Yes, on industry in general*
- Yes, but for specific industries only*
- No*

Please indicate which ones

Setting a minimum target for renewables in the industry would not decarbonise this sector (unless such target is very high, thus forcing a major refurbishment of e.g. production processes).
Any transitional alternative that has a lock-in effect and that does not provide a solution to 2050 must not be considered (see the sustainability criterion described in Q3.4.2).
The industry must be given structural solutions that contribute to decarbonising the sectors efficiently, gradually and definitively – i.e. for the sake of achieving the Green Deal's longer-term goals, adopting now "quality" solutions becomes even more important than setting progressive "quantity" ambitions.

3000 character(s) maximum



3.5.2 How would you rank the appropriateness of the following additional measures to encourage the use of renewable energy in industry?

	Very appropriate	Appropriate	Not very appropriate	Not appropriate
<i>Creation of renewables-based industrial parks/clusters</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Technical support, including training and skills development, for uptake and integration of renewables in small- and medium-size enterprises</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Specific innovation programmes to develop renewables- and electricity based production processes</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Energy audits required under the Energy Efficiency Directive should cover renewable energy used by the enterprise</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Simplified permitting and administrative support for corporate sourcing of renewables, including for on-site and near-site generation as well as corporate renewable power purchase agreements</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Contracts for difference for zero-carbon products and services</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Others? Please specify

Direct electrification must be complemented by indirect electrification (P2X technologies) to decarbonise hard-to-abate sectors – different sectors require different solutions. Regarding indirect electrification in the context of Industry, the EU itself acknowledged energy storage and hydrogen’s potential in its 2050 Long-term Decarbonisation Strategy. An electrolyser, powered by renewable electricity, will in the near future produce hydrogen that will then be incorporated into the conventional fuel production process. Renewable and low-carbon hydrogen could also be used in other projects to replace natural gas and other fossil fuels to produce high-grade heat (>650°C) via hydrogen combustion in hydrogen-specific burners, in e.g. cement and iron production. The EU should consider looking into promoting a renewable and low-carbon hydrogen economy as a reality that will justify and allow private capital flow, accelerating the deployment of a strong EU electrolysis supply chain later to be extended to the rest of the hydrogen value chain.

3000 character(s) maximum

3.6 RENEWABLE ENERGY IN TRANSPORT

*Under REDII, each Member State must set an obligation on fuel suppliers to ensure that renewable energy makes up at least 14%^[1] of the energy used in that Member State in the transport sector. The achievement of the target is facilitated by **several multipliers on energy content**:*

- *a multiplier of 4 for renewable electricity consumed in **road transport***
- *a multiplier of 1.5 for renewable electricity consumed in **rail transport***
- *a multiplier of 1.2 for renewable fuels consumed in **maritime and aviation transport***
- *a multiplier of 2 for advanced **biofuels and biogas***

The impact assessment accompanying the 2030 Climate Target Plan indicates that the share of renewable energy in transport would constitute around 24% in 2030, calculated according to



the methodology described above. Both the aviation and maritime sectors will need to scale up efforts to increase the use of sustainably produced renewable and low-carbon fuels. This will be assessed in greater detail in the context of the ReFuelEU Aviation and FuelEU Maritime initiatives.

[1] Member States have the right to lower their target if they set limitations on food and feed-based biofuels going beyond RED II

3.6.1 Do you think that the level of the renewable target in transport should be increased?

Yes, but less ambitious than indicated in the 2030 Climate Target Plan

Yes, as ambitious as indicated in the 2030 Climate Target Plan (24%)

Yes, but more ambitious than indicated in the 2030 Climate Target Plan (for instance 24% without multipliers)

No

Please explain your reply

There should be further recognition of energy storage as an enabler of renewable integration in transport and energy systems – and its role in interlinking them. Moreover, there is not sufficient focus on energy efficiency and optimisation. Regarding renewable penetration in the transport sector, in 2018, just 8% of EU’s final energy consumption in transport came from renewable sources, far lower than the 32% in the electricity sector. Transport may currently be the sector that poses the greatest stumbling block to renewable objectives.

The impact of transport on health and air quality cannot be overstated. Despite improvements in fuel quality and vehicle efficiency, road transport remains a major cause of air pollution, causing 400,000 premature deaths per year in Europe. In contrast, the electricity sector has seen increased renewable penetration (32% in 2018) and will continue to do so, reaching its full decarbonisation by 2050. New emerging transport means, mainly BEVs and FCEVs, and synthetic fuels (which can be made based on methanised renewable hydrogen from power-to-gas-to-fuels processes) are key to decarbonise the transport sector and reduce air pollution. At the same time, direct and indirect electrification of transport will help achieve the Commission’s Long Term Climate Strategy and Europe’s emission reduction objectives, renewables objectives and energy efficiency objectives.



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3.6.2 *Member States can count renewable electricity, sustainable biofuel and biogas, hydrogen produced from renewable electricity (except if such electricity comes from biomass) and recycled carbon fuels[1] towards the 14% target in transport. Do you think Member States should also be able to count other low carbon fuels which have fewer emissions than fossil fuels, such as low carbon hydrogen?*

Yes

No

[1] 'recycled carbon fuels' means liquid and gaseous fuels that are produced from liquid or solid waste streams of non-renewable origin which are not suitable for material recovery in accordance with Article 4 of Directive 2008/98/EC, or from waste processing gas and exhaust gas of non-renewable origin which are produced as an unavoidable and unintentional consequence of the production process in industrial installations

3.6.3 *Do you think that some renewable and low carbon fuels should be specifically promoted in transport, beyond being part of the obligation on fuel suppliers?*

Yes

No

3.6.4 *If you answered 'yes' to the previous question, which of the following types of renewable and low carbon fuels do you think should be specifically promoted? (Multiple answers possible)*

Advanced biofuels and other fuels produced from biological wastes and residues

Renewable hydrogen and renewable synthetic fuels

Low-carbon hydrogen and low carbon synthetic fuels (including through applying CCS techniques)

Renewable electricity

Recycled carbon fuels

Other



Please specify

It is key to focus on new emerging transport means, mainly BEVs and FCEVs, and support synthetic fuels (which can be made based on methanised renewable hydrogen from power-to-gas-to-fuels processes) such as synthetic LNG and CNG and methanol.

In the context of mobility, it is important to understand that some technologies may be more mature than others, and therefore decarbonisation appears closer to being attained in some sectors vis-à-vis others. For example, thanks to Battery Electric Vehicles (BEVs) and Fuel Cell Electric Vehicles (FCEVs), road vehicles can greatly contribute to lowering current CO₂ emissions. In contrast, however, for shipping and aviation, several challenges are still present. It is important to provide clear signals to support the transition towards new mobility. Among others, taxation should be reviewed in order to encourage the deployment of the most efficient and less polluting fuel according to “polluter pays” principles.

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3.6.4 Which types of renewable and low carbon fuels can be best promoted by an obligation on fuel suppliers, based either on energy content or GHG emissions, compared to other instruments?

- Liquid renewable fuels*
- Liquid low carbon fuel*
- Gaseous renewable fuels such as hydrogen*
- Gaseous low carbon fuels such as hydrogen Renewable electricity*
- Other*

Please specify

Article 25 of the REDII requires Member States to take into account renewable liquid and gaseous transport fuels of non-biological origin (REFUNOBIO) such as hydrogen including in cases where they are used as intermediate products for the production of conventional fuels in their calculations to reach the 14% renewable energy target in transport. However, the methodology to qualify as a REFUNOBIO (article 27, para 3 of REDII) has not been defined yet, thereby creating uncertainty. In addition, more RD&D is needed to decrease production costs and further develop the associated processes.



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3.6.5 How would you rate the appropriateness of the following measures regarding the use of renewable and low carbon fuels in transport?

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>The scope of fuels that can be counted should be harmonised to ensure that all fuels that are eligible for counting towards the renewable energy target are supported in all Member States</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Member States should have flexibility to design the supply obligation using one of the following approaches: in terms of volume, energetic value or GHG emission intensity.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>The fuels supply obligation should be based on GHG emissions targets to stimulate the uptake of best performing fuel options on the fuel market</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The level of ambition should be fixed at the same level for all Member States to create a level playing field and avoid market fragmentation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The multiplication factors for different types of renewable</i>				



<i>energy sources should be abolished to simplify the legislation and to increase the ambition level (limitations and sub targets would remain)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Set out specific measures to promote the use of renewable and low carbon fuels in aviation and maritime transport such as dedicated supply obligations, sub-targets or other incentives.[1]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[1] In parallel, the ReFuelEU Aviation and FuelEU Maritime initiatives are assessing legislative options to boost the production and uptake of sustainable fuels in the aviation and maritime sectors.

Others? Please specify

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3.6.7 *How appropriate do you think the following measures would be in encouraging the use of hydrogen and hydrogen-derived synthetic fuels in transport modes that are difficult to decarbonise?*



	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Include hydrogen and hydrogen-derived synthetic fuels in a dedicated sub-target together with advanced biofuels</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Set an additional dedicated sub-target for hydrogen and hydrogen-derived synthetic fuels</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Allow double counting of the contribution of hydrogen and hydrogen-derived synthetic fuels towards the transport target or the fuel supplier obligation</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Others? Please specify

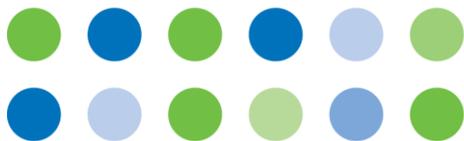
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3.6.8 *How would you rank the effectiveness of the following measures in encouraging the use of renewable electricity in the transport sector?*

	<i>Very appropriate</i>	<i>Appropriate</i>	<i>Not very appropriate</i>	<i>Not appropriate</i>
<i>Support the purchase of electric vehicles</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Support the installation of electric vehicle chargers in households and enterprises</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Set stricter CO2 standards for cars</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Ensure the availability and interoperability of public recharging infrastructure</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Establish a minimum level of renewable electricity as a part of the target for renewable energy in transport</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Giving consumers information on whether they are recharging their electric vehicle with renewable energy</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Others? Please specify

Deployment of (fast) recharging/refueling infrastructure should be sped up and supported by ambitious targets. Energy storage technologies can support the development of charging infrastructures by alleviating their impact on the grid, providing additional revenues to the charging facility operator and enabling greater penetration of variable renewable energy sources in the transport sector by coupling RES plants and charging infrastructures.

Currently, double-charging of taxes and levies on electricity generated from storage facilities create a lack of revenue certainty for storage facilities coupled with charging infrastructures and vehicle-to-grid (V2G) solutions. For example, owners should pay only once when charging their storage asset (EV battery) and not pay again when they feed electricity back into the grid. The EU must adopt a coordinated approach to defining grid connection conditions and electricity pricing configurations. Today, fragmented local and national approaches create undue barriers for storage developers who have to assess the feasibility and profitability of storage projects case by case.

Regarding V2G, interoperability, harmonised protocols, and standards among the infrastructures and systems should be implemented to enable seamless communication. Besides, access to energy consumption data should be ensured: availability of charging patterns to the EV energy supplier or EV aggregator is crucial for consumers to be offered the right tariffs. This should include protection of consumer privacy and security and the consumers' access to their own data, notably in case of switching of service provider. Moreover, Energy tariffs and pricing structures should be smart and enable vehicle-to-grid integration. EV owners must pay a proper charging price, based on time-differentiated tariffs. Dynamic pricing for the energy part of the bill is necessary to provide effective price signals. Similarly, network tariffs should be designed to incentivise EVs to recharge when and where it is most efficient for the system.

Energy storage should access more easily the energy and ancillary markets – aggregated EVs should be able to participate in all electricity markets, including balancing and capacity markets. To remove potential entry barriers, they should be subject to proportionate administrative processes. Open markets should also be developed for non-frequency ancillary services: e.g. voltage control or synthetic inertia. These services can

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[EASE does not have position on bioenergy therefore we have removed the next section 'Bioenergy Sustainability' from the EASE Document.]



About EASE

The European Association for Storage of Energy (EASE) is the voice of the energy storage community, actively promoting the use of energy storage in Europe and worldwide. It supports the deployment of energy storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. EASE seeks to build a European platform for sharing and disseminating energy storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe.

For more information please visit www.ease-storage.eu

Disclaimer

This response was elaborated by EASE and reflects a consolidated view of its members from an energy storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.

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