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Consultation on the Review and the Revision of Directive 2012/27/EU on Energy Efficiency

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Introduction

This consultation aims to collect views and suggestions from stakeholders and citizens on the review and the revision of Directive 2012/27/EU on energy efficiency (Energy Efficiency Directive or EED), as partially amended in 2018 (Directive (EU) 2018/2002), foreseen by June 2021[1].

Energy Efficiency dimension of the Energy Union and the EED
Since the beginning, Energy Efficiency targets and policies have been one of the cornerstones of the EU Energy and Climate policy. Energy efficiency is one of the five dimensions of the Energy Union and will continue playing a key role in delivering the 2030 energy and climate framework supported by the governance process under the Governance Regulation[2]. In addition, Energy Efficiency First[3] has become a guiding principle of EU energy policy. To facilitate the operationalization of the principle, the Commission will issue a guidance.

The EED was adopted in 2012 to promote energy efficiency across the EU, to tap the existing energy saving potential with concrete measures, to remove barriers and overcome market failures that impede efficiency in energy supply and use in different sectors in order to achieve the EU headline energy efficiency targets for 2020.

The EED is part of the broader EU energy efficiency policy framework, which brings together other key instruments, such as the Energy Performance of Buildings Directive[4], as amended by Directive (2018/844 /EU) (EPBD), the Energy Labelling Regulation[5] and the Ecodesign Directive[6].

The EED is part of the overall decarbonisation policy framework and is interlinked with other energy and climate policy areas, notably, the Renewable Energy Directive (RED)[7], the EU Emissions Trading System (ETS) Directive[8] and the Effort Sharing Regulation[9] (non-ETS sectors), and security of supply and internal energy market. The EU level energy and climate targets are linked together in the Governance Regulation, which requires Member States to prepare their integrated National Energy and Climate Plans (NECPs) for 2030. In these NECPs Member States set out their national contributions to the EU level targets and policy objectives, and the intended policies and measures to implement them.

The EED was subject to a first, limited revision in 2018[10] as part of the Clean Energy for All Europeans package[11]. This revision sets the EU headline energy efficiency target for 2030 of at least 32.5% and

amended certain provisions[12], including adding a new requirement for a general review of the Directive and a possible, upwards revision of the target[13]. The transposition deadline for the amending Directive (2018/2002) was, in general on 25 June 2020, and, for Articles 9 to 11, on 25 October 2020.

The European Green Deal and the increased energy efficiency target for 2030

The Commission announced in the European Green Deal[14] that it would present an impact-assessed plan to increase the EU's greenhouse gas emission reductions target for 2030 to at least 50% towards 55% in a responsible way. The Commission also committed to "review and propose to revise", where necessary, the relevant energy legislation by June 2021", including the EED.

In the impact assessment[15] accompanying the Communication on the Climate Target Plan[16] adopted on 17 September 2020, the Commission examined the effects on the economy, society and environment of reducing emissions by 50% to at least 55% by 2030 (compared to 1990 levels). The assessment also considered the mix of available policy instruments and how each sector of the economy could contribute to these increased targets.

To this end and based on this impact assessment, the Communication on the Climate Target Plan puts forward an emissions reduction target of at least net 55% by 2030 as a balanced, realistic, and prudent pathway to climate neutrality by 2050. It also highlights that, to achieve this level of greenhouse gas emission reductions, there is a need to significantly step up energy efficiency efforts (to 36-37% for final and 39-41% for primary energy consumption) by 2030 from the current headline target of at least 32.5%.

The assessment of Member States' national contributions to the current headline target[17] shows insufficient level of ambition in terms of energy efficiency. The gap is equal to 2.8 percentage points for primary energy consumption and at 3.1 percentage points for final energy consumption.

Trends in energy efficiency

In terms of energy consumption, transport is the sector with the highest energy consumption accounting for 34% of final energy consumption in 2018. It is followed by industry and the residential sectors with both representing 25%, and the services' sector representing 13% of final energy consumption. The remaining sectors including, agriculture, fishing and forestry represent 3% of final energy consumption. Following a gradual decrease between 2007 and 2014, energy consumption has started to increase in recent years, and is now slightly above the linear trajectory for the 2020 targets. This is mainly due to weather variations, notably colder winters in 2015 and 2016, but also increased economic activity, low oil prices and increase in transport. Energy intensity in industry has continued to improve by as much as 22% between 2005 and 2017 and energy savings have indeed helped offset parts of the impact of these increases.

The latest assessment of progress for 2018 shows a decline of 0.6% in primary energy consumption compared to 2017[18], but this pace of reduction is insufficient to meet the EU target in 2020.

To address the growing energy consumption since 2014, the Commission set up a dedicated Task Force in the summer 2018 to mobilise Member States' efforts to reach the EU energy efficiency targets for 2020[19].

Partial and preliminary data for 2020 indicate that the impact on energy consumption of the COVID-19 crisis is significant and, as a result, the 2020 energy efficiency targets may well be met. However, these reductions are not caused by structural changes. Moreover, it was clear before the crisis that the level of

energy efficiency efforts by Member States would not alone be sufficient to reach the 2020 targets. The subsequent recovery from the COVID-19 crisis is expected to lead to a return of energy consumption close to the pre-crisis levels.

Taking the above-mentioned elements into consideration and given the collective ambition gap of the national contributions proposed in the NECPs, the policies in place would have to be significantly increased in order to reach even the current 2030 targets

Review and the revision of the EED
The process will cover two elements:

1. The evaluation of those elements of the EED that were not revised in 2018.
2. The Impact assessment for a revision of the EED in view of meeting the increased 2030 GHG emissions reduction ambition.

Against this background, the Commission shall undertake a two-step process. As a first step, the evaluation will assess the existing framework of the EED since its entry into force in 2012[20], except for those elements already revised in 2018. It will assess whether the provisions are efficient, effective, and coherent with the broader EU legislative framework. It shall assess whether the EED is fit to overcome remaining regulatory and non-regulatory barriers, and market failures, whether there are some shortcomings, gaps and weaknesses for the existing measures or whether additional measures would be needed to deliver on their expected results.

The findings of the evaluation will then offer the basis for what needs to be streamlined, strengthened, added or changed in the EED in order (a) to address the remaining ambition gap to the 2030 EU energy efficiency targets and (b) to deliver the increased EU greenhouse emissions reduction target of at least 55% by 2030. The impact of these policy choices will be thoroughly analysed and the impact assessment will look at the impacts of the entire EED, irrespective of the articles that were revised in 2018.

The questions of this consultation are formulated to respect the requirements of the Better Regulation rules [21] and to support this two-step process of evaluation and impact assessment.

About you

* Language of my contribution

- ○ Bulgarian
- ○ Croatian
- ○ Czech
- ○ Danish
- ○ Dutch
- ◉ English
- ○ Estonian
- ○ Finnish

- French
- German
- Greek
- Hungarian
- Irish
- Italian
- Latvian
- Lithuanian
- Maltese
- Polish
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* I am giving my contribution as

- Academic/research institution
- Business association
- Company/business organisation
- Consumer organisation
- EU citizen
- Environmental organisation
- Non-EU citizen
- Non-governmental organisation (NGO)
- Public authority
- Trade union
- Other

* First name

Miguel

* Surname

Herrero Cangas

* Email (this won't be published)

m.herrero@solarpowereurope.org

* Organisation name

255 character(s) maximum

SolarPower Europe

* Organisation size

- (○) Micro (1 to 9 employees)
- (●) Small (10 to 49 employees)
- (○) Medium (50 to 249 employees)
- (○) Large (250 or more)

* Country of origin

Please add your country of origin, or that of your organisation.

- (○) Afghanistan
- (○) Åland Islands
- (○) Albania
- (○) Algeria
- (○) American Samoa
- (○) Andorra
- (○) Angola
- (○) Anguilla
- (○) Antarctica
- (○) Antigua and Barbuda
- (○) Argentina
- (○) Armenia
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- (○) Dominica
- (○) Dominican Republic
- (○) Ecuador
- (○) Egypt
- (○) El Salvador
- (○) Equatorial Guinea
- (○) Eritrea
- (○) Estonia
- (○) Eswatini
- (○) Ethiopia
- (○) Falkland Islands
- (○) Libya
- (○) Liechtenstein
- (○) Lithuania
- (○) Luxembourg
- (○) Macau
- (○) Madagascar
- (○) Malawi
- (○) Malaysia
- (○) Maldives
- (○) Mali
- (○) Malta
- (○) Marshall Islands
- (○) Saint Martin
- (○) Saint Pierre and Miquelon
- (○) Saint Vincent and the Grenadines
- (○) Samoa
- (○) San Marino
- (○) São Tomé and Príncipe
- (○) Saudi Arabia
- (○) Senegal
- (○) Serbia
- (○) Seychelles
- (○) Sierra Leone
- (○) Singapore

- Aruba
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia
- Bonaire Saint Eustatius and Saba
- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana
- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Georgia
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
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- Mauritius
- Mayotte
- Mexico
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- Monaco
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- Montserrat
- Morocco
- Mozambique
- Myanmar /Burma
- Namibia
- Nauru
- Nepal
- Netherlands
- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Sint Maarten
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Georgia and the South Sandwich Islands
- South Korea
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Svalbard and Jan Mayen
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- The Gambia
- Timor-Leste

- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Cayman Islands
- Central African Republic
- Chad
- Chile
- China
- Christmas Island
- Clipperton
- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- Kuwait
- Niue
- Norfolk Island
- Northern Mariana Islands
- North Korea
- North Macedonia
- Norway
- Oman
- Pakistan
- Palau
- Palestine
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Réunion
- Romania
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- United States Minor Outlying Islands
- Uruguay
- US Virgin Islands
- Uzbekistan
- Vanuatu
- Vatican City
- Venezuela
- Vietnam

- Cuba
- Curaçao
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Russia
- Rwanda
- Saint Barthélemy
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- Saint Lucia
- Wallis and Futuna
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* What is the scope of your organisation or institution?

- [x] International
- [x] European Union
- [ ] National
- [ ] Local
- [ ] Other (please specify)

* Does your organisation or institution primarily deal with energy, climate and/or environmental issues?

- (•) Yes
- ( ) No

* In which sector / activity? (more choices are possible)

- [x] Energy
- [x] Climate
- [ ] Environment

* Does your organisation or institution primarily deal with OTHER issues than energy, climate and/or environmental issues?

- ○ Yes
- ◉ No

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Part I – Questions of general nature

1. Assessing the implementation and the effectiveness of the Energy Efficiency Directive

Although the progress towards the achievement of the 2020 targets is still to be assessed, it is important to assess the effectiveness of the existing EED framework and to see how and to what extent the original

objectives were achieved in the context of the proposed higher climate ambition of at least 55% net emissions reduction by 2030.

1.1 To what extent do you agree with the following statement?

"The original objectives of the EED - to increase energy efficiency across the EU and to remove barriers and market failures in energy supply and energy use - are still relevant"?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	No opinion
* Please select your answer	○	○	○	◉	○	○

Please explain your answer:

Whereas the original objectives of the EED are still relevant to accelerate the energy transition, the overall understanding of energy efficiency should be revised in line with the Energy System Integration Strategy and to formalise the link between renewable-based electrification and energy efficiency.

Beyond aiming to increase the energy efficiency across the EU and removing barriers and market failures in energy supply and energy use, the revised EED should ensure that the EU's energy system becomes more efficient by accelerating renewable-based electrification, including the electrification of end-use sectors. In addition to this, the EED should adopt a more dynamic approach to energy efficiency that considers the carbon content of energy and the provision of demand-side flexibility is required to accelerate the move towards energy system integration.

In this sense, SolarPower Europe recommends three key actions for the revised EED to contribute to accelerating renewable-based electrification:

1. Formalise a framework to increase the EU's energy system efficiency.

Switching from today's energy system dominated by fossil fuels to a renewable-based energy system will unlock a tremendous potential for system efficiency (defined as the ratio of FEC to PEC) gains across the power, heat, and transport sectors. SolarPower Europe's 100% Renewable Europe Moderate scenario indicates that ambitious policies to support renewable-based electrification could reduce primary energy demand by about 17% by 2030 with respects to current primary energy demand.

Energy system efficiency increased by about 2.34% between 2012 and 2018, reaching 72.43% in 2018. SolarPower Europe's 100% Renewable Europe Moderate scenario indicates that 95% system efficiency is possible by 2030. This means that although progress is being achieved, there is significant space to accelerate the increase in energy system efficiency in the EU.

The revised EED should promote renewable-based direct electrification as a cost-effective solution to drive energy savings in the energy system, heating and cooling, and transport. The revision of the EED should therefore establish a framework to promote system level energy efficiency, through renewable-based direct electrification of the EU's energy system in line with the Energy System Integration Strategy. This framework should include the removal of market and administrative barriers to renewable-based electrification and could include an annual target to increase energy system efficiency by at least 2%. Meeting this target would fully optimise the EU's energy system in about 15 years.

2. Establish an energy efficiency CO2-equivalent based standard.
SolarPower Europe supports a revision of the energy efficiency first principle to include CO2-equivalent based standard. A CO2-equivalent based standard would create a level-playing field among all options to decarbonise the energy system. The ecological value of a building should not be determined by how much energy it is able to retain. Instead, the ecological value of energy products should be determined through a calculation of net lifetime GHG emissions.

The current focus on decreasing energy consumption discriminates between different options that could contribute to decarbonise the energy system, does not consider energy-use patterns, and is not in line with the integration of the energy system. The result is that efficient solutions such as on-site PV and storage are often not supported by national energy efficiency programmes.

3. Introduce a “time-of-use” notion in energy efficiency.
Energy efficiency is today viewed in a static manner and does not address the possibility that prosumers can contribute to energy system integration by exporting energy or taking up load to balance the system. A revision of the EED should integrate the notion of “time-of-use” to energy efficiency. This would be reflect the time-based element of energy usage that considers an increasingly variable energy mix, rewarding the provision of dynamic energy services, such a demand-side flexibility.

1.2 To what extent has the EED attained its objectives – to increase energy efficiency across the EU and to remove barriers and market failures in energy supply and energy use ?

	Not at all	To a little extent	To some extent	To a moderate extent	To a large extent	No opinion
* Please select your answer	○	○	◉	○	○	○

Please explain your answer:

Whereas the Energy Efficiency Directive may have contributed to increase energy efficiency across the EU, latest data indicates the Directive will not succeed on its overhead objective of reducing Primary Energy Consumption (PEC) to no more than 1483 Mtoe and Final Energy Consumption (FEC) of no more than 1086 Mtoe. In 2018 PEC was about at 1552 Mtoe and FEC about 1123 Mtoe. The ambition gap (the difference between the objective and actual consumption) is of about 4.43% for PEC and about 3.37% for FEC.

Between 2012 and 2018, PEC decreased by about 2.5%, while FEC increased by about 0.7%. Overall energy consumption decreased in the years 2012, 2013, and 2017, while it increased three consecutive years between 2014 and 2016. This indicates that, despite not being supported within the energy efficiency framework, increased penetration of electrified renewables within that period has contributed to energy efficiency in the EU.
Over the 2012-2018 period, system efficiency increased by about 2.3%. The revised EED should accelerate system efficiency increases by promoting renewable-based direct electrification as a cost-effective solution to drive energy savings in the energy system, heating and cooling, and transport. This should include the removal of market and administrative barriers to renewable-based electrification.

*

1.2.A Which factors helped the most to achieve the objectives of the EED? (multiple options are possible)

- [x] Binding nature of the measures of the EED (e.g. Article 5 on exemplary role for public buildings and Article 7 on energy savings obligation, etc.)
- [x] Significant flexibility left to Member States how to achieve various obligations under the EED
- [x] Existence of targets at the EU level
- [x] Requirement to set national targets
- [x] Requirement for planning policies and measures at national level
- [ ] Wide scope of the EED covering both the energy supply and demand and targeting different market actors (e.g. energy suppliers and distributors, transmission grid operators, national regulators, enterprises and consumers)
- [ ] Strong monitoring and reporting framework at EU level
- [ ] Other (please specify)

1.3 To what extent could the below mentioned positive effects and outcomes (achieved to date) be associated with the EED since its entry into force in 2012? (use a rating scale of 1 to 5, where 1 = to a very little extent and 5 = to a very large extent)

	1	2	3	4	5	No opinion
* My country is more committed to energy efficiency	○	○	○	○	○	◉
* There is greater awareness about energy efficiency and its role in achieving the overall climate objectives (i.e. Paris Agreement)	○	○	○	○	○	◉
* More developed market of energy services	○	○	○	○	○	◉
* Innovative technologies and techniques are more often used	○	○	○	○	○	◉
* Greater availability of funding for energy efficiency investments	○	○	○	○	○	◉
* Energy efficiency policies triggered more jobs and growth	○	○	○	○	○	◉
* Energy efficiency led to an increased security of supply	○	○	○	○	○	◉
* Energy efficiency led to lower energy bills	○	○	○	○	○	◉
* Energy efficiency reduced energy poverty	○	○	○	○	○	◉
* Energy efficiency increased resource efficiency	○	○	○	○	○	◉

1.4 To what extent could the below mentioned negative effects be associated with the EED?

(use a rating scale of 1 to 5, where 1 = to a very little extent and 5 = to a very large extent)

	1	2	3	4	5	No opinion
* Obligations under the EED led to higher administrative burden besides costs	○	○	○	○	○	◉
* Obligations under the EED led to disproportionately higher costs	○	○	○	○	○	◉
* Enterprises have lost substantial revenues	○	○	○	○	○	◉
* Obligations under the EED led to flawed investment decisions	○	○	○	○	○	◉
* Obligations under the EED further complicated existing rules	○	○	○	○	○	◉
* Guidance on implementation of the EED from national authorities to enterprises and consumers was unclear	○	○	○	○	○	◉
* Obligations under the EED put strain on already limited national administrative resources	○	○	○	○	○	◉
* Obligations under the EED led to too diverging implementation across Member States	○	○	○	○	○	◉
* The benefits of the EED were unequally distributed among the population.	○	○	○	○	○	◉

* **1.5 Which measures stemming from the EED have been the most successful in your country in terms of energy savings and other benefits?** (multiple options possible)

- ☑ Energy efficiency obligation schemes introduced to achieve annual energy savings among final customers
- ☑ Obligation for public authorities to renovate buildings owned and used by the central government
- ☑ Obligation for public authorities to purchase only products, services and buildings with high energy-efficiency performance
- ☑ Obligation for large enterprises to carry out regular energy audits to learn about their energy consumption profile and identify energy saving opportunities
- ☐

- [ ] Support provided to small and medium-sized enterprises to carry out energy audits to learn about their energy consumption profile and identify energy saving opportunities
- [ ] Measures introduced on awareness raising of energy efficiency and promoting change of consumer behaviour
- [x] Deployment of individual meters and obligation to provide consumers with better and more frequent information about their energy consumption
- [ ] Introduction of subsidies, support schemes and fiscal incentives for energy efficiency
- [ ] Increased efficiency in energy production/conversion, transmission and distribution
- [ ] Introduced measures to address regulatory barriers or split incentives in national legal frameworks or administrative practices
- [ ] None of the above
- [ ] Other (please specify)

1.6 To what extent has the EED stimulated energy efficiency efforts in the following sectors?

(1 = to a very little extent and 5 = to a very large extent)

	1	2	3	4	5	No opinion
* Buildings	○	○	◉	○	○	○
* Heating and cooling	○	○	◉	○	○	○
* Industry	○	○	◉	○	○	○
* Information and communication technologies (ICT)	○	○	○	○	○	◉
* Transport	○	○	◉	○	○	○
* Agriculture	○	○	○	○	○	◉
* Services (i.e. commercial and public)	○	○	◉	○	○	○

1.7 To what extent do the following factors represent barriers impeding the energy efficiency improvements across different sectors?

(use a rating scale of 1 to 5, where 1 = to a little extent and 5 = to a very large extent)

	1	2	3	4	5	No opinion
* Lack of clear information among consumers about available energy efficiency measures and support schemes	○	○	○	◉	○	○

* Split incentives (different interests of owners and tenants or investors and users)	○	○	○	○	◉	○
* Administrative burden associated with energy efficiency investments	○	○	◉	○	○	○
* Regulatory barriers preventing energy efficiency investments	○	○	○	◉	○	○
* Lack of awareness among investors of profitability of investments in energy efficiency	○	○	○	◉	○	○
* High transaction costs to finance the energy efficiency measures	○	○	◉	○	○	○
* Limited access to capital for households and small and medium-sized enterprises to invest in energy efficiency	○	○	○	○	◉	○
* Lack of available skills to make energy efficiency improvements	○	◉	○	○	○	○
* Low profitability and return on investment	○	○	○	◉	○	○
* Complexity or hassle associated with making energy efficiency investments	○	○	○	◉	○	○
* Lack of fiscal measures and incentives including carbon pricing and energy taxation to provide incentives for energy efficiency	○	○	○	○	◉	○

Please explain your answer (optional):

Although not legislated by the EED framework, energy taxation represents a significant barrier to increased energy efficiency gains through renewable-based direct electrification. The high level of taxes and levies on electricity means it is at a disadvantage when compared to other less efficient energy vectors. This situation slows down energy efficiency improvements.

The current structure of energy taxes in the EU has focused energy savings in technologies with little potential for further energy savings and which do not contribute a much to the decarbonisation of the energy system. This includes increasing the efficiency of fossil fuel heating and cooling systems and the energy labelling of these systems.

The revision of the Energy Taxation Directive is an opportunity to the accelerate the uptake of efficient and directly electrified solutions in the EU, by ensuring fair and incentivising taxation frameworks.

Furthermore, to further accelerate energy efficiency gains from renewable-based direct electrification, the EU should update the definition of energy efficiency, as described in the answer to question 1.1.

1.8 To what extent were the costs associated with the implementation of the EED proportionate to the achieved energy savings and other benefits?

(please rate 1 to 5, where 1 - disproportionate, 5 - proportionate)

	1	2	3	4	5	No opinion

* Please select your answer						

Please explain, provide further data and information on the costs and benefits associated with the implementation of the EED and specific EED articles.

1.9 Are there any parts / specific provisions of the EED that are obsolete or have proven inappropriate?

- (●) Yes
- ( ) No
- ( ) No opinion

Please explain your answer:

Article 5 on the Exemplary role of public bodies' buildings is obsolete as it is not in line with the European Commission's Renovation Wave Strategy. The scope of Article 5 should be extended to cover all public buildings, not only those owned and occupied by central governments. Furthermore, this article fails to draw on potential synergies energy efficiency synergies that could be delivered from the deployment of on-site renewables and storage. Notably, public buildings should have an additional responsibility to promote innovative clean energy technologies, such as Building Integrated Photovoltaics that simultaneously contribute to energy efficiency and renewable energy objectives. Finally, it would be more appropriate to insert Article 5 in the EPBD, alongside other provisions related to the energy performance of buildings.

Article 14 on the Promotion of efficiency in heating and cooling is inappropriate as it is only focused on high-efficiency cogeneration and district heating, failing to mention the role of renewable-based electrification to drive energy efficiency in heating and cooling. Overall Article 14 should promote renewable-based electrification of heating and cooling, in particular heat pumps, as a vector of energy efficiency within this sector. In addition to this, the EED impact assessment should include a comprehensive assessment of the potential for the electrification of renewable energy heating solutions in residential, commercial, and industrial sectors, and related benefits in terms of efficiency gains.

Article 15 on Energy transformation, transmission and distribution should be updated to be in line with the Energy System Integration Strategy. Concretely, Article 15 should aim to increase the overall system efficiency through renewable-based electrification.

Annex IV of the EED should be revised to better reflect the current reality of the EU's energy mix, which is increasingly dominated by electrified renewables. Overall, the default Primary Energy Factor (PEF) should be updated to a value lower than 2.0 to better reflect the current energy supply mix. Furthermore, considering the objectives of the EU Hydrogen Strategy, the revised Annex IV should include the energy content of all forms of hydrogen.

* 1.10 In your view, does the EED have positive synergies with the Effort Sharing Regulation and the Emission Trading System? If yes, what are those?

- ( ) Yes
- ( )

- [ ] No
- [x] No opinion

Please explain your answer:

*** 1.11 In your view, does the EED have positive synergies with the Renewable Energy Directive? If yes, what are those?**

- [x] Yes
- [ ] No
- [ ] No opinion

Please explain your answer:

The EED and the REDII are linked through their targets. As the renewable energy target is a percentage of final energy consumption, any decrease in final energy consumption will promote the achievement of the renewable energy target. Simultaneously, deployment of additional renewable electricity capacity decreases primary energy consumption, while increased penetration of renewable-based electricity in end-use sectors, which are more efficient than fossil fuel or hydrogen-based alternatives, will trigger savings in final energy consumption. Furthermore, the deployment of on-site renewable electricity generation capacity in buildings, such as on-site solar PV or heat pumps, will drive reductions of final energy consumption as energy produced on-building reduces the energy needs and it is not accounted as delivered energy to the building.

*** 1.12 In your view, does the EED have positive synergies with the Energy Performance of Buildings Directive? If yes, what are those?**

- [x] Yes
- [ ] No
- [ ] No opinion

Please explain your answer:

The EPBD applies the principles the EU's energy efficiency framework on to the building stock and as such they are intimately related and are very synnergetic. As such the introductory remarks on the further development of the energy efficiency principle also apply for the EPBD. As buildings are the largest energy consumers in the EU, promoting direct electrification and the deployment of on-site renewable electricity generation in buildings will contribute significantly to energy efficiency objectives.

Furthermore, as explained above, the deployment of on-site renewable energy generation systems, such as on-site solar PV, and the increased penetration of renewable electricity in end-use sectors, such as heat pumps, will accelerate reductions in the final energy demand in buildings. In this regard, building integrated photovoltaic materials that serve a dual function as renewable energy generation systems and insulation products have a significant potential to maximise reductions in final energy consumption.

Articles 8 and 14 of the EPBD provide positive synergies with the EED as they promote energy efficient digitalization, enable demand response in buildings, and increase the electromobility potential of buildings. The provisions in Article 8 promote energy efficient digitalization and electrification of energy end-uses. The deployment of building automation and controls enables the potential for smart cities and on-site renewable energy generation. Furthermore, digitalization unlocks flexibility and demand response capabilities, while empowering consumers to make a smarter use of ever cleaner energy.

* 1.13 To what extent has the EED contributed to an optimisation of the overall energy system (higher system efficiency)?

1000 character(s) maximum

The efficiency of the EU's energy system has increased from about 70.09% in 2012 to about 72.43% in 2018. This decrease is mainly the result of consistently lower PEC throughout his period (except in year 2016, when the difference in the change PEC and FEC was practically 0).

The higher system efficiency is therefore likely to be the result of a higher penetration of electrified renewables and higher rate of electrification of the EU energy system, which are not directly supported within the existing energy efficiency framework.

Regarding networks efficiency, smart meters have been offering enhanced energy savings capabilities due to their potential on integrating flexibility, distributed generation, and implicit demand response into the grid thanks to allowing the implementation of dynamic pricing, better consumer awareness and more efficient networks operation.

* 1.14 What are the main lessons learned from the implementation of the EED?

1000 character(s) maximum

The main lesson from the implementation of the EED, is that the contribution of renewable-based electrification to drive energy efficiency could have been maximised if it had been supported.

* 1.15 What is missing in the EED?

1000 character(s) maximum

As detailed in answer to question 1.1, the EED is missing currently missing a framework to capitalise on the system efficiency potentials that would be delivered by accelerating renewable-based electrification of the power, heat, and transport sectors. In this regard, the revised EED should:

1. Formalise a framework to increase system efficiency.
2. Establish an energy efficiency CO2-equivalent based standard.
3. Introduce a "time-of-use" notion in energy efficiency.

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2. Assessing possible options for revising the Energy Efficiency Directive (EED) in view of contributing to the 55% climate target for 2030 and addressing the ambition gap in the final NECPs

The impact assessment supporting the 2030 Climate Target Plan concluded that a contribution at the level of 36-37% for final energy consumption and 39-41% for primary energy consumption by 2030 would be required.

Therefore, the Commission has launched the EED revision process. The revision would reflect on the need to increase energy efficiency efforts to match the level of ambition of a higher 2030 climate target and would also aim to strengthen those parts of the EED, which could address the remaining ambition gap for energy efficiency in the NECPs, to ensure the achievement of the current level of the EU energy efficiency target for 2030. In addition, the revision will be vital to contribute to the implementation of the other European Green Deal Initiatives[22]. This is particularly relevant especially in the context of actions identified in the Commission's Recovery Plan[23], which need to be reflected in the national Recovery and Resilience Plans.

The EED revision also offers the important opportunity to address any shortfall in its effectiveness and efficiency. A notable case relates, for instance, to the need for a more consistent application of the Energy Efficiency First principle. Another important area is the need to address any outstanding regulatory and non-regulatory barriers for additional energy savings and emissions reduction throughout all economic sectors.

In this context, the revision of the EED will also have to consider whether the EED sufficiently addresses emerging opportunities and needs for energy efficiency improvements in sectors like ICT sector, as well as agriculture and water.

In addition to the results of the evaluation of the Directive, the impact assessment of the 2030 Climate Target Plan and the Commission assessment of the final NECPs will feed into formulation of policy options to identify which elements of the EED – and to what extent – need to be amended, and what needs to be added to achieve the objectives outlined above.

* **2.1 Do you agree that energy efficiency should play a key role in delivering a higher climate ambition (of at least 55% net) for 2030 and in view of achieving the EU's carbon neutrality by 2050?**

- (●) Agree
- ( ) Neutral
- ( ) Disagree
- ( ) No opinion

Please explain your answer:

* **2.2 Given the suggested increase in energy efficiency efforts by 2030, which instruments of general nature should be considered to achieve the higher energy efficiency ambition?** (multiple options possible)

- [☑]

- [ ] Making the “Energy Efficiency First” principle* a compulsory test in relevant legislative, investment and planning decisions
- [x] Strengthening the EED requirements
- [x] Setting a higher energy efficiency target at EU level for 2030
- [x] Setting energy efficiency targets in specific sectors of the economy
- [x] Stronger focus on implementation and on enforcement of the existing legislation at national and EU level
- [x] Stronger focus on life-cycle efficiency and circularity.
- [x] The EU should provide additional technical support to Member States
- [x] Stronger focus on fiscal measures and incentives including through carbon pricing.
- [x] Stronger focus on awareness raising of energy efficiency and behavioural change
- [x] Other (please specify)

* Energy Efficiency First (in line with Article 2(18) of the Regulation (EU) 2018/1999), means taking utmost account in energy planning, and in policy and investment decisions, of alternative cost-efficient energy efficiency measures to make energy demand and energy supply more efficient, in particular by means of cost-effective end-use energy savings, demand response initiatives and more efficient conversion, transmission and distribution of energy, whilst still achieving the objectives of those decisions.

* If you selected 'other', please specify here:

Renewable-based electrification is a key instrument that should be considered to achieve a higher energy efficiency ambition. The direct electrification of end-use sectors embodies the ‘energy efficiency first’ principle and generate substantial energy savings throughout Europe. We therefore suggest that electrification should be prioritized in the new policies and schemes to achieve higher ambition.

Furthermore, electrification brings multiple benefits, including enhanced decarbonization, better sector coupling, energy system integration, increased flexibility, air quality improvement, resource efficiency, citizen empowerment, and job creation.

* **2.3 Do you agree that the EED should be strengthened by introducing new measures and stricter requirements in the context of a higher energy efficiency ambition for 2030?**

- (•) Yes
- ( ) No
- ( ) No opinion

Please explain your answer:

* **2.4 Could the EED be simplified while preserving its objectives and if so, how?**

1000 character(s) maximum

No opinion.

* **2.5 With the suggested increase in ambition for energy efficiency for 2030, what should the nature of the EU targets be?**

- [ ] Indicative
- [x] Binding
- [ ] Not specified
- [ ] Other (please specify)

* **2.6 With the suggested increase in ambition for energy efficiency for 2030, what should the nature of the national targets be?**

- [ ] Indicative national targets (to contribute to EU energy efficiency target for 2030)
- [x] Binding national targets
- [ ] Not specified
- [ ] Other (please specify)

* **2.7 In which sectors would additional energy efficiency efforts be most needed to achieve a higher energy efficiency ambition for 2030?** (multiple options possible)

- [x] Buildings
- [x] Heating and cooling
- [x] Industry
- [ ] Information and communication technologies (ICT)
- [x] Transport
- [ ] Agriculture
- [x] Services (i.e. commercial and public)
- [ ] Other (please specify)

Please explain your answer:

2.8 Should the following measures be considered to achieve a higher ambition?

(use a rating scale of 1 to 6, where 1 = strongly disagree and 6 = strongly agree)

	1	2	3	4	5	6	No opinion
* Strengthening the renovation obligations for public buildings	○	○	○	○	○	◉	○
* Strengthening energy efficiency requirements for public procurement	○	○	○	○	○	◉	○
* Requiring that local authorities (above a certain size) develop an energy efficiency action plan with measurable impact indicators	○	○	○	◉	○	○	○
* Requiring that large enterprises implement certain energy efficiency improvements identified in energy audits	○	○	○	◉	○	○	○
* Requiring that small and medium-sized enterprises are offered free energy audits	○	○	○	○	○	◉	○
* Extending the requirement on frequent consumption information from electricity and thermal energy to also cover gas and roll-out remotely readable gas meters	○	○	○	◉	○	○	○
* Establishing sector specific goals or measures addressing sectors for which the energy efficiency potential is higher (e.g. services, data centres, energy-intensive industries)	○	○	○	○	○	◉	○
* Strengthening the requirements for efficiency in energy transformation, transmission and distribution	◉	○	○	○	○	○	○
* Strengthening the requirements for using energy performance contracting in renovation of public buildings	○	○	○	○	○	◉	○
* Introducing or extending fiscal measures and incentives, including carbon pricing and energy taxation	○	○	○	○	◉	○	○
* Other (please specify)	○	○	○	○	○	○	◉

Please explain your answer:

2.9 Should the following measures in the heating and cooling policy area be considered in order to achieve more effectively the decarbonisation

objectives?

(use a rating scale of 1 to 6, where 1 = strongly disagree and 6 = strongly agree)

	1	2	3	4	5	6	No opinion
* Member States should introduce specific energy efficiency targets for the heating and cooling sector to ensure that energy consumption in this sector is sufficiently taken into account	○	○	○	○	○	◉	○
* Fossil fuels in heating systems (in buildings and district heating) should be gradually phased out with a faster phasing out of the most polluting ones	○	○	○	○	○	◉	○
* Fossil fuel heating system should be banned for new buildings whenever technical feasible	○	○	○	○	○	◉	○
* Member States should unbundle the management of the generation and distribution heat network	○	○	○	○	○	○	◉
* Allow public support for heating systems only to non-fossil fuel technologies	○	○	○	○	○	◉	○
* The recovery of waste heat from heating and cooling (air-conditioning) systems in individual buildings should be promoted	◉	○	○	○	○	○	○
* Specific requirements for utilization of waste heat and waste cold should be set for industry and services	○	○	◉	○	○	○	○
* Requiring district heating and cooling operators to prepare long-term plans to improve their energy efficiency in terms of primary energy intensity energy	○	○	○	○	○	○	◉
* Member States should facilitate local and district approaches to policy and infrastructure planning and development in heating and cooling	○	○	○	○	◉	○	○
* Other (please specify)	○	○	○	○	○	○	◉

Please explain your answer:

2.10 Can the following principles ensure overall consistency of energy efficiency and renewable energy as key policies for decarbonisation?

(use a rating scale of 1 to 6, where 1 = strongly disagree and 6 = strongly agree)

	1	2	3	4	5	6	No opinion
*							

Having distinct energy efficiency and renewable targets is the best avenue to decarbonisation.	○	○	○	○	○	◉	○
* Member States' progress towards decarbonisation targets should be the primary indicator to assess the renewables and energy efficiency policies and measures.	○	○	○	○	○	◉	○
* Member States need to progress on both energy efficiency and renewables to reach their decarbonisation targets.	○	○	○	◉	○	○	○
* Non-binding nature of national renewable and energy efficiency targets allows Member States to choose cost-efficient decarbonisation paths.	○	◉	○	○	○	○	○
* Energy efficiency policies and measures should be prioritised where fossil-based energy solutions are currently used.	○	○	○	◉	○	○	○

* 2.11 How could synergies between the EED and the Renewables Energy Directive be strengthened in the future?

1000 character(s) maximum

The synergies between the EED and the REDII could be strengthened by formalising a framework to promote energy efficiency at the system level. For example, the EED should provide incentives for member states to prioritise renewable-based direct electrification of end-use sectors. Technologies such as heat pumps can provide both significant energy savings and increase renewable energy in final uses, particularly for the buildings and industry sectors. Renewable-based direct electrification in the transport sector will drive additional energy savings.

A key action in this regard will be the revision of the EED should include an update of Annex IV, as described in questions 3.29 and 3.30.

The EED should provide additional support for ESCOs to enable existing financial, technical, and economic barriers to maximise their contribution to the energy transition.

* 2.12 How could synergies between the EED and the Energy Performance of Buildings Directive be strengthened in the future?

1000 character(s) maximum

The synergies between the EED and the EPBD could be maximised by promoting renewable-based electrification in the building sector. The EPBD should therefore provide additional incentives to deploy on-site renewable energy generation in all buildings. This should include a requirement to deploy minimum levels of on-site renewables in both new and renovated buildings, as part of Member States' building codes. In this regard, building integrated photovoltaic materials that contribute to both energy efficiency and renewable energy deployment should benefit from additional targeted support.

The EPBD should be more ambitious in promoting the renewable-based electrification of end uses. This should include providing additional support for heat pumps and strengthening the requirements for electric vehicle charging infrastructure in buildings.

* **2.13 How could synergies between the EED and the Emission Trading System (ETS) be strengthened in the future, especially in the context of a possible extension of the ETS?**

1000 character(s) maximum

No opinion.

* **2.14 How could synergies between the EED and the Effort Sharing Regulation be strengthened in the future?**

1000 character(s) maximum

No opinion.

* **2.15 How could EU citizens - and especially young people - be more engaged and contribute to achieving a higher ambition of energy efficiency?**

1000 character(s) maximum

No opinion.

* **2.16 The "Energy Efficiency First" principle is established in energy legislation to contribute to a higher energy efficiency ambition. Which measures in your view could be implemented to ensure the principle is consistently applied?** (multiple options possible)

- [x] Providing more information to users on energy efficiency and energy consumption of products and infrastructures, considering their life-cycle.
- [x] Requiring that the "energy efficiency first" principle is applied to all relevant EU energy policies related to the whole energy value chain
- [ ] Requiring that the "energy efficiency first" principle is applied to all relevant national energy policies related to the whole energy value chain
- [x] Developing guidelines on implementation in relevant policy, planning and investment decisions
- [ ] Developing mechanisms to monitor implementation of the principle at national level
- [ ] Others (please specify)
- [ ] None

Please elaborate on your answer:

1000 character(s) maximum

* **2.17 Is there a need to develop a common methodology on the application of the "Energy Efficiency First" principle in energy networks investment programmes and operation practices?**

- [x] Yes, and it should be developed by the European Commission, ENTSO(-e,-g), national energy regulator, TSO, other
- [x] Yes, and it should be accompanied by an appropriate monitoring mechanism
- [ ] No, there are already specific documents and methodology developed on this
- [ ] No, this would intrude into the independence of the National Regulatory Authorities
- [ ] No, the energy networks in the EU are too diverse to be covered by a common methodology (principle of subsidiarity)
- [ ] No, while the case can be made for a common methodology, it would be too cumbersome to implement in practice
- [ ] Other (please specify)

This is the end of Part I.

If you wish to contribute on technical aspects of different articles, please continue with part II.

Do you want to continue with part II on the technical aspects of different articles?

- (•) Yes
- ( ) No

If you decide to end the survey here, we thank you very much for your valuable contribution.

Part II – Technical questions on specific Articles of the Energy Efficiency Directive

The EED lays down a set of measures aimed to step up Member States' efforts to use energy more efficiently at all stages of the energy chain – from the transformation of energy and its distribution to its final consumption - and those are as follows:

- **Articles 1 & 3 (energy efficiency targets)** sets the EU headline energy efficiency targets for 2020 (of 20%) and for 2030 (of at least 32.5%) and Member States have to set their national indicative targets and indicative contributions in view of achieving those headline targets for 2020 and 2030 respectively. Member States shall report annually on the progress towards their national indicative energy efficiency targets and submit National Energy Efficiency Action Plans ('NEEAPs) every three years, starting from 2014. For the headline EU 2030 target, Member States shall fulfil the planning and reporting obligations under the Governance regulation (set their national contributions towards the EU 2030 target and define the national measures to fulfil those contributions in the National energy and Climate Plans to be submitted to the Commission by end 2019.
- **Article 5 (exemplary role of public bodies' buildings)** requires that Member States renovate 3% (or implement alternative measures resulting in equivalent savings) of their central government buildings of over 500 m² which do not meet the cost-optimal energy efficient standards. This threshold dropped to 250 m² as of 9 July 2015.
- **Under Article 6 (purchasing by public bodies)** central governments have the obligation to purchase energy efficient products, buildings and vehicles, and Member States should encourage public bodies of local and regional government do so as well. This Article was evaluated in 2016[24], however the findings were not conclusive given that the implementation had just started and it was too early to assess the impact[25].
- **Article 7 (energy saving obligations)** sets an obligation on Member States to achieve new energy savings each year (of 1.5% of the annual energy sales for the period 2014-2020 and of 0.8% (0,24% for Malta and Cyprus) of the final energy consumption for the period 2021-2030) by putting in place an energy efficiency obligations scheme or other policy measures. Article 7 is responsible for about half of the energy savings the EED is expected to deliver. As mentioned above, this Article was amended as part of the focused EED review in 2016 (amending Directive EU/2018/2002). Under
- **Article 8 (energy audits and energy management systems)** Member States must ensure that large companies have their first energy audit by 5 December 2015 and then every four years. The review of the implementation of the definition of small and medium size enterprises for the purposes of Article 8(4) is carried out in a separate process (in line with the amended Article 24(12)).
- **Articles 9 to 11 (metering and billing)** provide requirements for metering and billing of energy use. As mentioned above, those Articles were already amended as part of the focussed EED review in 2016 (amending Directive EU/2018/2002) by adding new, more precise and specific provisions applicable for thermal energy (heating and cooling)[26]. Electricity related provisions were transferred to the recast Electricity Directive (EU) 2019 /944. For an overview and a detailed discussion of the changes made please refer to Commission Recommendation (EU) 2019/1660 of 25 September 2019 on the implementation of the new metering and billing provisions of the Energy Efficiency Directive 2012/27/EU[27].

- **Article 14 (promotion of efficiency in heating and cooling)** requires that Member States promote efficiency in district heating and cooling systems and carry out comprehensive territory-wide assessments of the potential for efficient heating and cooling by 31 December 2015 which should be resubmitted again by 31 December 2020 (on basis of the updated methodology and the amended Annex VIII and part of Annex IX)[28]. It also requires individual cost-benefit analysis to be carried out in the context of the planning and permitting of certain types of installation (thermal electricity generation, industrial installations, district heating and cooling network), in order to assess the potential benefits of high-efficient cogeneration installation or utilising waste heat from nearby industrial installations(Art. 14(5) and 14(7)).
- **Article 15 (energy transformation, transmission and distribution)** requires that Member States ensure that energy efficiency is taken into account in energy transformation, transmission and distribution and contains specific provisions to this end. Certain of these (parts of Art. 15(5) and Art. 15(8)) were removed as part of the focussed revision in 2018 and replaced with consolidation provisions in the new Electricity Market legislation.
- **Article 16 (on qualifications and accreditation schemes for providers of energy services and energy audits)** had a later transposition deadline than the rest of the Directive (31 December 2014) and it is also closely linked to the implementation of Articles 17 and 18.
- **Under Article 17 (information and training)** Member States shall ensure that information on available energy efficiency mechanisms and financial and legal frameworks is widely disseminated to all relevant market actors. The effectiveness of the implementation of this Article was assessed in 2017[29]. The findings of the assessment showed that while most of the Member States have put in place information and awareness raising measures, it is hard to assess their impact on the uptake of energy efficiency improvements and investments due to lack of robust monitoring results and ex-post evaluations.
- Member States are required to promote the energy services market under **Article 18 (energy services)** with a particular focus put on supporting the public sector including through the use of energy performance contracting. A number of reports to assess progress of energy service markets in the EU including the uptake of the energy performance contracting have been carried out by the JRC in the framework of an administrative arrangement with DG ENER.
- **Article 19 (other measures to promote energy efficiency)** requires the Member States to take action to remove regulatory and non-regulatory barriers to energy efficiency and to report on this to the Commission as part of their first National Energy Efficiency Action Plan (NEEAP). Progress made by Member States in relation to Article 19(1) was assessed on basis of the notified NEEAPs 2014 and 2017 and a report was published in 2019[30].
- **Article 20 (Energy Efficiency National Fund, financing and technical support)** provides that the Member States shall facilitate the establishment of financing facilities

and that they may set up an Energy Efficiency National Fund. This Article was amended in the focussed EED review by adding additional requirements for the Member States and the Commission (providing guidance on how to unlock private investments).

- **Article 21 on the conversion factors** set out in Annex IV was amended for the purposes of reviewing the default coefficient - primary energy factor for electricity generation (in footnote 3) and which should be again reviewed by 25 December 2022 (as required by amending Directive EU/2018/2002). Article 24 (review and monitoring of implementation) contains reporting obligations for the Commission (while the reporting obligations for the Member States have been transferred to the Governance Regulation, (EU)2018/1999). This Article thus has been partially amended to ensure the coherence with the Governance framework and the amendments of Articles 3 and 7, and it is thus specifically targeted in this consultation.

About you - What is your field of expertise?

- [x] Energy policy
- [ ] Energy efficiency
- [ ] Energy audit and management
- [x] Energy performance of buildings
- [ ] Heating and cooling
- [ ] Other (please specify)

If you selected 'other', please specify here:

Article 1 and 3 - Energy efficiency targets

3.1 How do you assess the level of ambition of the existing EU energy efficiency targets?

(too high - adequate level - too low)

	Too high	Adequate level	Too low	No opinion
For 2020 targets	○	◉	○	○
For 2030 targets	○	○	◉	○

3.2 Could you please give your opinion on the current aspects of the Union's energy efficiency targets for 2020?

(Appropriate – Not appropriate – Difficult to say/ No opinion)

	Appropriate	Not appropriate	Difficult to say	No opinion
The nature of the target is not specified (whether it is binding or indicative)	○	◉	○	○
Indicators used for defining the target: primary or final energy consumption	◉	○	○	○
Same level of ambition for both primary and final energy consumption	○	◉	○	○
Definition of the baseline (2007 Reference Scenario projections for 2020)	◉	○	○	○
Clarity of the target	◉	○	○	○

Please explain your answer here (optional):

3.3 Could you please give your opinion on the following aspects of the national energy efficiency targets for 2020?

(Appropriate – Not appropriate – Difficult to say/ No opinion)

	Appropriate	Not appropriate	Difficult to say	No opinion
Approaches for setting national targets are not prescribed - Member States can chose the methodology and indicators for setting their target (s) (primary/ final energy consumption, savings or intensity)	◉	○	○	○
Indicative nature of national targets (no sanctions for non-compliance)	○	◉	○	○
No reference values/formula at EU level for assessing the level of national ambition	○	◉	○	○
No need to set intermediate milestones/ trajectory to targets	○	◉	○	○
Possibility to revise the national targets	◉	○	○	○

Please explain your answer here (optional):

3.4 Has the EED provided the right monitoring and enforcement mechanisms to achieve national energy efficiency targets?

○ Yes

- (●) No
- ( ) No opinion

Please explain your answer:

Article 5 – Exemplary role of central government buildings

3.5 Has the EED made central government buildings in your country more energy efficient?

- ( ) Yes
- ( ) No
- (●) No opinion

Please explain your answer:

3.6 What are the main factors limiting central government in effective and efficient renovation of its buildings (multiple options possible)?

- [ ] Insufficient enforcement of the regulatory framework in my country
- [ ] Insufficient national budget earmarked for renovation
- [ ] Requirement to renovate can be achieved by alternative measures that are not clearly defined and are hard to monitor
- [ ] Requirement to renovate does not apply to rented buildings and central government authorities often rent their buildings
- [ ] Other (please specify)

3.7 How do you assess the current 3% annual goal on renovation of central government's buildings in line with Article 5?

- [x] The 3% goal is too low and does not go beyond the standard rate of renovation
- [ ] The 3% goal is at an adequate level to promote renovation of central government's buildings
- [ ] The 3% goal is too high
- [ ] Other (please specify)

3.8 Given that additional energy efficiency efforts are needed, how could Article 5 be made more effective? (multiple options possible)

- [x] The obligation to renovate public buildings should be extended to regional and local authorities
- [x] The obligation should be extended to include buildings simply occupied by the central government
- [x] The obligation should be extended to include buildings simply occupied by the central, regional and local public authorities
- [x] The obligation should target specific type of public buildings, such as schools and hospitals
- [x] The required floor area to be renovated each year should be higher than 3% of all public buildings
- [ ] The obligation shall require deep renovations in order to reach higher than minimal energy standards
- [x] Minimum energy performance requirements for owned and rented public buildings should be introduced
- [x] Minimum levels of renewable energy use should be introduced
- [x] Public authorities should be required to adopt an energy management system and track buildings performance
- [x] Wider approaches to achieving sustainable built environment (such as circular economy considerations) should be better considered for public buildings renovations
- [x] Other (please specify)

If you selected 'other', please explain here:

As highlighted in answer to question 1.9, additional actions that could make Article 5 of the EED more effective include actions to draw on potential synergies energy efficiency synergies that could be delivered from the deployment of on-site renewables and storage. Notably, public buildings should have an additional responsibility to promote innovative clean energy technologies, such as Building Integrated Photovoltaics that simultaneously contribute to energy efficiency and renewable energy objectives. Finally, it would be more appropriate to insert Article 5 in the EPBD, alongside other provisions related to the energy performance of buildings.

Article 6 – Purchasing by public bodies

3.9 Has the requirement for central governments to purchase only products, services and buildings with high energy-efficiency performance helped to

develop a market for energy efficiency products and services in your country?

- ○ Yes
- ○ No
- ○ No opinion

Please explain your answer:

3.10 Given that additional energy efficiency efforts are needed, how could Article 6 be made more effective? (multiple options possible)

- ☐ The energy efficiency requirement in public procurement should be extended to all levels of public administration (including to regional and local authorities)
- ☐ Requirements on reporting on energy used during the whole lifetime of procured goods and buildings should be gradually introduced
- ☐ A mandatory calculation of total cost of ownership shall be introduced for public procurement The references to limiting conditions (e.g. cost-effectiveness, economic feasibility, technical suitability) should be removed
- ☐ Other (please specify)

Article 7 – Energy Savings Obligation

3.11 Taking into consideration the required higher energy efficiency efforts for 2030, how do you assess the current level of ambition of Article 7(1) on energy savings obligation?

(too high - adequate level - too low)

	Too high	Adequate	Too low	No opinion
Please select your answer	○	○	○	○

3.12 What elements of Article 7 should be addressed to ensure the higher level of energy efficiency for 2030 (ranking the measures by using the scale 1-6, 1 – not important and 6 – very important; or No opinion)

	1	2	3	4	5	6	No opinion

Increase the ambition level of energy savings obligation for 2021-2030							
Strengthen the additionality criteria for existing tax measures							
Make the EEOS a mandatory instrument in all Member States							
Require Member States to set a certain level of energy savings to be achieved in building renovations							
Require Member States to set a certain level of energy savings to be achieved in transport							
Strengthen the monitoring and verification rules							
Require Member States to target specific sectors with policy measures under Article 7							
Set mandatory requirements to implement a specific share of policy measures to alleviate energy poverty							
Other (please specify)							

Article 8 – Energy audits and energy management systems

3.13 Current rules oblige enterprises that are not small or medium-sized to carry out every four years an energy audit to learn about their energy consumption profile and identify energy saving opportunities. Should these rules be changed?

- Yes
- No
- No opinion

Please explain your answer:

Articles 9-11 - Metering for gas

3.14 To what extent has the EED contributed to final customers being informed of actual gas consumption and costs properly and frequently enough to understand what drives their consumption and make informed choices about possible energy saving measures?

- Contributed to a large extent

- Contributed to some extent
- Did not contribute
- I do not know

Please explain your answer:

Article 14 - promotion of efficiency in heating and cooling and related Annexes and definitions

3.15 Have the requirements under Article 14 increased energy efficiency in the heating and cooling sector in your country?

- Yes
- No
- No opinion

Please explain your answer:

3.16 What was the impact in your country of the requirement to carry out a cost-benefit analysis under Article 14(5) in the following areas

(please rank: Very high – High – moderate – Low – Very low)

	Very high	High	Moderate	Low	Very low	No opinion
It increased energy efficiency of energy supply						
It increased energy efficiency of heating and cooling networks						
High-efficiency cogeneration was more often deployed						
Efficient district heating and cooling was more often deployed						
Increased reuse of waste heat from industry						
It increased reuse of waste heat from services (including ICT)						

3.17 Given that additional energy efficiency efforts are needed, how could Article 14 and related Annexes and definitions (Article 2) be made more effective? To what extent do you agree that the following measures should be implemented

(use a rating scale of 1 to 6, where 1 = strongly disagree and 6 = strongly agree)

	1	2	3	4	5	6	No opinion
Minimum requirements for efficient district heating and cooling should be strengthened;	○	○	○	○	○	○	○
Minimum requirements for efficient district heating and cooling should be established separately for networks and generation units;	○	○	○	○	○	○	○
Minimum requirements for high-efficiency cogeneration should be strengthened;	○	○	○	○	○	○	○
Minimum requirements for high-efficiency cogeneration using fossil fuels should be stricter;	○	○	○	○	○	○	○
The Comprehensive assessments in line with Article 14(1) should explicitly cover renewable energy potentials in heating and cooling;	○	○	○	○	◉	○	○
The requirement to address the potential identified in the Comprehensive assessments through policies and measures should be strengthened;	○	○	○	○	○	○	○
The requirements for a cost-benefit analysis in line with Article 14(5) should be based on primary energy savings;	○	○	○	○	○	○	○
Member States should better ensure that costs and benefits of more efficient heating and cooling supply are taken into account in infrastructure and investment planning and permitting;	○	○	○	○	○	○	○
Planning and permitting of infrastructure generating waste heat or cold should take into consideration geographical proximity of a potential demand (heat sink) for this energy;	○	○	○	○	○	○	○
Member States should introduce specific energy efficiency indicators for district heating and cooling to ensure that operators improve energy efficiency of their generation and reduce network losses;	○	○	○	○	○	○	○
Other (please specify).	○	○	○	○	○	◉	○

If you selected 'other', please explain here:

Article 14 of the EED could be made more effective by focusing on the promotion of electrification in heating and cooling as increased penetration of renewable electricity will be the main driver of efficiency in the heating and cooling sector. In this regard, the EED should require Member States to assess the potential to drive energy savings through the increased penetration of renewable electricity in the heating and cooling sectors.

As described in answer to question 1.7, the revision of the EED should be accompanied by the revision of the Energy Taxation Directive is an opportunity to the accelerate the uptake of efficient and electrified solutions in the heating sector across the EU, by ensuring fair and incentivising taxation frameworks.

3.18 Which of the following measures would be important to increase energy efficiency of data centres? (select one answer for each option)

Rules should ensure that:	Very important	Important to some extent	Not important	No opinion
large data centres are encouraged to be located where their waste heat can be used	○	○	○	○
the potential for waste heat reuse is assessed when new data centres apply for planning permissions	○	○	○	○
existing provisions to exploit industrial waste heat potential are strengthened	○	○	○	○

Please explain your answer (optional):

Article 15 – Energy transformation, transmission and distribution

3.19 Do electricity and gas networks (transmission and distribution) operate in the most energy efficient way in your country?

- ◉ Yes
- ○ No
- ○ I don't know

Please explain your answer:

The EED already boosted the development of energy efficiency measures that enabled the efficient operation of electricity and gas networks, such as the definition of functional requirements for smart meters that favour energy efficiency improvements by final customers.

However, in line with the Energy System Integration Strategy, the revision of the EED should further promote energy system efficiency through the acceleration of renewable-based electrification.

3.20 Which are the main factors limiting energy efficiency improvements of the networks in your country? (multiple options possible)

- [ ] The regulatory authorities discouraged investments by not accepting the investment in the Regulatory Asset Base;
- [ ] Financing for investments is not easily available;
- [ ] The tariff structure is not conducive to the minimization of energy losses in the grids;
- [x] The capital expenditure would result in an inacceptable increase of network tariffs for the final consumers;
- [ ] The efforts needed to upgrade the physical infrastructure of the grid would disturb households;
- [ ] The authorisation of permits is too long;
- [ ] The environmental impact of upgrading the infrastructure would be larger than that of the energy wasted in the grids;
- [ ] Other (please specify)

Article 16 – Availability of qualification, accreditation and certification schemes

3.21 Are you aware of the certification schemes, accreditation schemes and equivalent qualification schemes for providers of energy services, energy audits, energy managers and installers available in your country?

- ○ Yes
- ○ No
- ○ No opinion

Please explain your answer:

3.22 How you would assess the effectiveness of the existing certification and /or accreditation schemes in your country?

	Effective	Effective to some extent	Not effective	I do not know/ no opinion
Please select your answer	○	○	○	○

Please explain your answer:

3.23 In your view, has the EED (Article 16) contributed to setting up the certification and/or accreditation schemes and/or equivalent qualification schemes, including training programmes?

- Yes
- No
- No opinion

Please explain your answer:

Article 18 – Energy services

3.24 Have the requirements under Article 18 contributed to the development of energy services market in your country?

- Yes
- No
- No opinion

Please explain your answer:

3.25 What possible elements should be considered as part of the EED revision to improve the functioning of energy services and energy performance contracting?

- Introduction of reporting requirements for Member States on the certified energy services providers, number of energy performance contracts concluded in the public sector etc.;
- Introduction of requirements for independent monitoring and verification of energy performance contracts;
- Strengthening of requirements on independent market intermediaries /facilitators/ one-stop shops to increase trust and facilitate the use of energy services/ energy performance contracting;
- Other option(s). (please specify)

Article 19 – Other measures to promote energy efficiency

3.26 How do you perceive the existence of regulatory, legal or administrative barriers to energy efficiency in the following areas:

	Very significant	Somewhat significant	Not significant	No opinion
Split incentives between the owner and the tenant (s) of a building	○	○	○	○
Split incentives between owners in multi-owner properties	○	○	○	○
Investments in energy efficiency by individual public bodies prevented due to national or regional rules on public purchasing annual budgeting or accounting	○	○	○	○

Please explain your answer:

Article 20 – Energy Efficiency National Fund, financing and technical support

3.27 Has Article 20 facilitated access to finance for energy efficiency projects in your country?

- ○ Yes
- ○ No
- ○ No opinion

Please explain your answer:

3.28 What was the impact of Article 20 in your country in the following areas?

	Very low	Low	Moderate	High	Very high	No opinion/ difficult to assess
Setting up an Energy Efficiency National Fund or a similar national financial support scheme for energy efficiency in households	○	○	○	○	○	○

Setting up specific financing facilities for increasing energy efficiency in different sectors						
Setting up specific technical support schemes for increasing energy efficiency in different sectors						
Dissemination of best practice in the field of financing energy efficiency						
Using revenues from annual emission allocations under Decision No 406/2009 /EC for the development of innovative financing mechanisms for improving the energy performance of buildings						

Article 21 – Conversion factors and Annex IV

3.29 Should Annex IV on "Energy content of selected fuels for end use" be revised? If so, how?

- (●) Yes
- ( ) No
- ( ) No opinion

Please explain your answer:

Annex IV of the EED should be revised to better reflect the current reality of the EU's energy mix, which is increasingly dominated by electrified renewables. Overall, the default Primary Energy Factor (PEF) should be updated in the event of to a value lower than 2.0 to better reflect the current energy supply mix. Furthermore, considering the objectives of the EU Hydrogen Strategy, the revised Annex IV should include the energy content of all forms of hydrogen.

3.30 In your view, how could the default Primary Energy Factor (the coefficient referred to in footnote (3) of Annex IV) facilitate decarbonisation?

1000 character(s) maximum

increasing penetration of electrified renewables in the EU energy mix, lowering the default Primary Energy Factor would incentivise Member States to promote energy savings in fossil fuels and to accelerate electrification. In this regard, we advocate for a factor 0 to non-combustible RES sources.

The current date planned for review of the fault PEF should be brought forward and the frequency of these revisions should be increased. A revised PEF must be forward-looking and better consider the ever-increasing share of renewable-based electricity in the EU's power generation mix, as well as the significant advantages it brings in terms of security of supply.

This is the end of the survey. Thank you very much for your valuable contribution.

References

[1] The Roadmap and Inception Impact Assessment was published on 3 August and was made available for public feedback until 21 September 2020: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12552-EU-energy-efficiency-directive-EED-evaluation-and-review

[2] Regulation (EU) 2018/1999

[3] Definition provided in Article 18(2) of the Regulation, EU(2018)1999 on the Governance of the Energy Union and Climate Action

[4] Directive 2010/31/EU

[5] Regulation (EU) 2017/1369

[6] Directive 2009/125/EC

[7] Directive (EU) 2018/2001

[8] Directive 96/61/EC

[9] Regulation (EU) 2018/842

[10] Amending Directive (EU) 2018/2002

[11] https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans

[12] Articles 1&3 on headline energy efficiency targets, Art 7 on energy saving obligations, 9-11 on metering and billing, 15(2), 20, 22-24, footnote 3 in Annex IV, Annex V, a new Annex VIIa, Annex IX

[13] Cf. Article 24(15) and Article 3(6) of the revised EED

[14] COM(2019) 640 final

[15] COM (2020) 562 final

[16] COM(2020) 562 final

[17] COM/2020/564 final

[18] COM(2020) 954 final

[19] A report from the Task Force is available here: https://ec.europa.eu/energy/sites/ener/files /report_of_the_work_of_task_force_mobilising_efforts_to_reach_eu_ee_targets_for_2020.pdf

[20] Article 24(15) of the EED requires to carry out a general evaluation by 28 February 2024.

[21] See https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines-evaluation-fitness-checks.pdf

[22] Notably – but not limited to – the Renovation Wave initiative (COM(2020) 632), given that a significant share of energy and resource savings are expected to come from renovation of buildings, the EU Strategy for Energy System Integration (COM(2020) 299 final), the Digital Strategy (COM(2018) 7118 final) , the forthcoming Zero Pollution Action Plan and new Circular Economy Action Plan (COM(2020) 98 final). Energy efficiency is relevant especially in the context of actions identified in the Commission's Recovery Plan[1], which need to be reflected in the national Recovery and Resilience Plans.

[23] COM(2020) 456 final

[24] SWD(2016) 402 final

[25] See https://ec.europa.eu/energy/sites/ener/files/documents/3_en_autre_document_travail_service_part1_v3.pdf

[26] While removing thermal energy from the original provisions thereby restricting their scope to electricity and gas. Subsequently also electricity has been removed from their scope and instead regulated under the provisions of the recast Electricity Directive (EU) 2019/944: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.158.01.0125.01.ENG&toc=OJ:L:2019:158:TOC

[27] See e.g. section 1.1. and 1.3 of the annex: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1574946822907&uri=CELEX:32019H1660

[28] C(2019) 6625 final

[29] https://ec.europa.eu/energy/sites/ener/files/final_report_of_assessment_of_the_implementation_status_and_effectivenes.pdf

[30] https://publications.jrc.ec.europa.eu/repository/bitstream/JRC115314 /assessement_of_progress_made_by_member_states_in_relation_to_article_19_final.pdf

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