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Public consultation on the EU climate target for 2040

Fields marked with * are mandatory.

Introduction

Background

Climate change remains the defining challenge of the coming decades. As an essential part of the European Green Deal, the European Climate Law enshrines the EU's commitment to becoming the first climate neutral continent by 2050 and its 2030 climate target of cutting net greenhouse gas (GHG) emissions by at least 55% compared to 1990 levels. It is now more important than ever for the EU to get and stay on track to climate neutrality and greater climate resilience. This will lead to long-term economic, societal, and environmental benefits for the people of Europe that leave no one behind while providing a positive example to galvanise global action.

The detrimental effects of global warming are becoming more frequent and evident, with devastating impacts all around the world. The urgent need for strong global action to tackle climate change comes at a time of high energy prices, a global food supply crisis, and geopolitical tensions, triggered by Russia's invasion of Ukraine. The energy crisis brought about by the war has reminded us of the risks of EU energy dependence and has made very clear the need to step up the transition to climate neutrality in the EU and globally, both for energy security and economic stability and to reduce climate-related disruptions and impacts.

The EU has developed a comprehensive set of climate, energy, environmental and related legislation and enabling policies that have allowed it to reduce GHG emissions and exceed its climate commitments. These policies and measures have led to a clear decoupling between economic activity and GHG emissions and have spurred the development of clean energy.

The EU's legally binding objective of climate neutrality by 2050 sets the direction of travel. The comprehensive policy framework to deliver on the increased climate target for 2030, the 'Fit for 55' legislative package, was proposed by the Commission in 2021. Once it has been politically agreed by the European Parliament and the Council, Fit for 55 will accelerate the modernisation of our economy, the roll-out of renewable energy, the deployment of new technologies and will ensure a more efficient use of our natural resources. Improved low- and zero-carbon technologies and experience in implementing climate policies further expand the opportunities for transforming the EU economy and society beyond 2030.

Given the depth of the economic and societal transformations required, the short timeframe and the extent of policy and economic decisions as well as the importance of incentivising the right kind of investments and avoiding carbon lock-in effects, the EU needs a clear GHG reduction path beyond 2030 towards the 2050 climate neutrality objective. This will create a better understanding of the urgent need for transformation in the different sectors of the economy and inform the future preparation of a post-2030

climate and energy policy framework.

The European Climate Law calls on the Commission to propose an EU-wide climate target for 2040, taking into account an indicative GHG budget (defined as the cumulative net emissions over the period) for 2030-2050. The Commission's initiative for a climate target for 2040 will be accompanied by an impact assessment that will address the different types of impacts related to the target.

The replies to this questionnaire will contribute to the impact assessment and shape the upcoming initiative. This public consultation focuses on the overall level of ambition for 2040 and looks at the possible evolution and role of EU climate policy instruments in order to prepare the ground for future analysis of the policies the EU must implement after 2030.

Guidance on the questionnaire

This public consultation consists of a set of introductory questions related to your profile, followed by a questionnaire split into two sections: a general section and a section for experts. Please note that **you are not obliged to respond to both parts**, and **you can choose to fill in only one of the two (either the general section or the section for experts)**. In addition, **not all questions in the questionnaire have to be answered**.

1. About you: Since the public consultation is open both to organisations and individuals, the first block consists of **questions related to your profile**.

2. General section: The second block consists of **questions related to your opinion on the EU's overall climate ambition** for 2040, associated opportunities and challenges, and related policy needs.

3. Expert section: The third block is more technical, and consists of questions related to **the role of policy instruments, carbon removals, technological options and adaptation to climate change**.

At the end of the questionnaire you are invited to provide additional comments and to upload additional information, position papers or policy briefs that express in more detail your position or views or those of your organisation.

The **results of the questionnaire will be published online, along with uploaded position papers and policy briefs**.

Please read the specific privacy statement attached to this consultation with information on how personal data and contributions will be processed.

In the interest of transparency, if you are replying on behalf of an organisation, please register with the register of interest representatives [transparency register (https://ec.europa.eu/transparencyregister/public/homePage.do?redir=false&locale=en)] if you have not already done so (you will need your organisation's transparency register number). If you do not wish to register, your contribution will be treated and published together with those received from individuals.

Selection of sections

*Which sections do you want to respond to?

at most 2 choice(s)

- [x] General section (section 1)
- [x] Expert section (section 2)
- [ ] Neither of the two

About you

*Language of my contribution

English

*I am giving my contribution as

Business association

*First name

Layla

*Surname

Sawyer

*Email (this won't be published)

layla.sawyer@currenteurope.eu

Place of residence - Where do you live

Predominantly urban (city with more than 100 000 inhabitants)

*Organisation name

255 character(s) maximum

currENT Europe

*Organisation size

Micro (1 to 9 employees)

Please indicate the economic sector you are active in

Electricity, gas and water supply

Transparency register number

255 character(s) maximum

Check if your organisation is on the transparency register (http://ec.europa.eu/transparencyregister/public/homePage.do?redir=false&locale=en). It's a voluntary database for organisations seeking to influence EU decision-making.

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* Country of origin

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

This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

Belgium

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **For the purpose of transparency, the type of respondent (for example, 'business association, 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* **Contribution publication privacy settings**

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

- ○ **Anonymous**
  Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.
- ◉ **Public**
  Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☑ I agree with the personal data protection provisions (https://ec.europa.eu/info/law/better-regulation/specific-privacy-statement)

General section

This section addresses individuals and organisations alike. The questions aim to find out more about opinions on the EU's overall climate ambition for 2040, associated opportunities and challenges, and related policy needs.

Overall opinion on the EU's climate ambition for 2040

The European Climate Law requires the EU to achieve climate neutrality by 2050. This is defined as a balance between any remaining emissions of the main greenhouse gases (carbon dioxide, nitrous oxide, methane and the fluorinated greenhouse gases) and removals of CO_2 from the atmosphere. It further sets a target for the EU to reduce net GHG gas emissions by at least 55% by 2030, compared to 1990 levels. The EU seeks to lead by example to promote ambitious climate action across the world.

In response to the energy crisis due to Russia's invasion of Ukraine the European Commission also proposed the REPower EU plan (https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3131), to rapidly reduce dependence on Russian fossil fuels and fast-forward the green transition.

Emissions reduction ambition for 2030-2040

Considering the objective of achieving climate neutrality by 2050 and the current energy crisis, how should the EU pursue the climate transition up to 2040?

- (●) The EU should accelerate the transition to climate neutrality.
- ( ) The transition to climate neutrality should continue at the current pace.
- ( ) The transition should be slower than the current pace.
- ( ) The EU's ambition should depend on other countries' climate ambition.
- ( ) I don't know.

EU emission reduction target for 2040

The EU has committed to reduce its net GHG emissions by 55% compared to 1990 levels by 2030 and aims to achieve climate neutrality by 2050 (-100%). In your opinion, what should be the net emission reduction target for 2040 to put the EU on track to meeting the 2050 climate neutrality target?

- ( ) up to -65% emission reduction (a very low ambition, barely increased compared to the target for 2030).
- ( ) between -65% and -75% emission reduction.
- ( ) between -75% and -80% emission reduction (following the average trajectory between 2030 and climate neutrality in 2050).
- ( ) between -80% and -90% emission reduction.
- (●) more than -90% emission reduction (a very high ambition, close to reaching climate neutrality already in 2040).
- ( ) I don't know.

Optionally, you can also indicate a specific value between -55% and -100% emission reduction here:

Role of carbon removals in the 2040 climate target

The opposite of CO_2 emissions are CO_2 removals, also called 'carbon removals'. Carbon removals are processes in which carbon dioxide is removed from the atmosphere and stored in a durable way in geological, terrestrial or ocean reservoirs or in products. Carbon removal solutions can be nature-based, for example through improving soil, forest management, or by restoring

ecosystems, or they can be industrial through the development of technologies to capture and store carbon from the atmosphere. Carbon removals are indispensable for achieving EU climate neutrality because it may not be possible (or would be very expensive) to mitigate all emissions. As a first, important, step, the Commission has proposed a regulation establishing a framework for certifying carbon removals, to guarantee transparency, reliability, and environmental integrity.

The EU's 2030 climate target is expressed in 'net' emissions, which is the sum of GHG emissions and carbon removals. In your opinion, how should carbon removals be considered so that the EU achieves its 2040 climate target?

- (●) Carbon removals should be considered together with actual GHG emissions. Hence, it is enough to have only a single 'net' emissions target for 2040 to set the GHG trajectory towards climate neutrality by 2050 in a cost-effective way.
- ( ) It is better to set a separate target for reducing GHG emissions and another target for carbon removals.
- ( ) It is better to have one target for reducing GHG emissions, a target for nature-based carbon removals and a target for industrial removals with permanent storage.
- ( ) No opinion / I don't have enough information to make a judgment.

Opportunities associated with higher climate ambition

What are the benefits of an ambitious climate target by 2040? Which opportunities would you consider as most relevant when implementing an ambitious climate target by 2040? [Multiple answers possible]

- [x] It will help individuals and businesses lower their energy and climate bills.
- [x] It will give a clear signal that the EU economy will embrace sustainable production and consumption models (e.g. circular and sharing economy approach).
- [x] It will improve the competitiveness of the European economy and give EU industry a first-mover advantage on global markets.
- [x] It will create green and high added-value jobs, including those that are difficult to outsource outside the EU (e.g. maintenance of renewable energy installations, construction and renovation, bioeconomy).
- [x] It will help mitigate costs to societies who are likely to suffer from climate change (e.g. from extreme weather events, droughts or loss of ecosystems).
- [x] It will reinforce EU leadership and inspire action to combat climate change globally.
- [x] It will improve energy security, reduce the EU's dependency on imported fossil fuels and reduce exposure to volatility in fossil fuel prices.
- [x] It will ensure that we do our part in protecting the planet and fulfilling our duty towards future generations.
- [x] It will improve our well-being (by lowering pollution, improving health and creating more liveable cities) and help protect the planet's ecosystems.
- [x] It will simultaneously address the climate and the biodiversity crises.

Challenges and enabling actions for the EU climate ambition to 2040 and beyond

There will be challenges on the path to climate neutrality by 2050. There will also be ways to overcome these challenges, while at the same time modernising our economy and ensuring a socially just transition.

How important do you consider the different challenges and associated enabling factors listed below for the EU to reach its climate ambition?

Please rate them from 1 = very unimportant to 5 = very important.

	1 (very unimportant)	2	3	4	5 (very important)	I don't know
There is a risk of new dependencies on resources and raw materials. Action should be taken to secure supply and ensure sustainable use of these resources.	○	○	○	○	◉	○
A faster expansion of renewable energies is needed. This will be supported by more ambitious EU and Member State legislation to further cut GHG emissions.	○	○	○	○	◉	○
Further improvements in energy efficiency are necessary. The EU should promote the smarter and more efficient use of energy and resources.	○	○	○	○	◉	○
Vulnerable households (such as single parents) may struggle with increasing energy prices and face an unequal burden of climate change. A socially just transition is key and should be ensured through mechanisms to support middle- and lower-income households financially.	○	○	○	○	○	○
Public support is critical for climate ambition, which will require behavioural and societal changes. This needs to be reflected in policies, for instance on reusing and recycling and a fair transition.	○	○	○	○	○	○
Small and medium enterprises will need support to develop and adapt as part of the transition.	○	○	○	○	○	○
Small and medium enterprises will need support to develop and adapt as part of the transition.	○	○	○	○	○	○
Capturing CO_2 from the atmosphere and storing through nature-based and industry-based solutions is vital for the EU's climate neutrality. It should be financially supported.	○	○	○	○	○	○
The climate transition will require a shift in investment flows. It is very important to promote green financing to ensure that resources are appropriately allocated to climate-friendly economic activities.	○	○	○	○	◉	○
New technologies and solutions need to emerge and be deployed (e.g. clean fuels), which will require more research, development and innovation.	○	○	○	○	◉	○

Monitoring and reporting on the evolution of GHG emissions and climate impacts is crucial. EU space data and services should be further used to do this.	○	○	○	○	○	○
Older infrastructure may lock people into carbon-intensive consumption patterns. Promoting and deploying digital solutions such as smart meters or digital-enabled mobility solutions on a large scale can help reduce GHG emissions.	○	○	○	○	◉	○

Gender aspects of climate policy

Climate policy and climate action can be seen from many different perspectives. In your view, should more consideration be given to gender aspects in the transition to climate neutrality and in climate and related policies?

- ○ 1 - No, I totally disagree
- ○ 2
- ○ 3
- ◉ 4
- ○ 5 - Yes, I totally agree

If you believe this is an important topic, how should climate and related policies better address gender aspects?

200 character(s) maximum

Contribution of individual sectors to the EU's climate ambition

Which sector should do more to reduce GHG emissions?

The potential of different sectors to further reduce GHG emissions may vary. In your opinion, to which extent can the different sectors further reduce their GHG emissions?

1 = can reduce little more; 5 = can reduce a lot more

	1 (can reduce little more)	2	3	4	5 (can reduce a lot more)	I don't know
Production of electricity and district heating	○	○	○	○	◉	○
Industrial processes & waste	○	○	○	○	○	○
Buildings (residential and services)	○	○	○	○	○	○
Road transport (passenger and freight transport)	○	○	○	○	○	○
Aviation & maritime transport	○	○	○	○	○	○

Agriculture, forestry and other land use	○	○	○	○	○	○

Sectors expected to reach climate neutrality first

It will be easier for some sectors to reach climate neutrality than for others. For example, different sectors could face different investment needs, conditions of technical feasibility or may require changes by consumers.

Please rank the following sectors in the order in which you expect them to reach climate neutrality in the coming three decades, where (1) is the first to become climate neutral and (6) is the last to reach climate neutrality. If you don't know or you don't feel able to provide a ranking, please simply skip that question.

Use drag&drop or the up/down buttons to change the order or accept the initial order.

- Production of electricity and district heating
- Road transport (passenger and freight transport)
- Buildings (residential and services)
- Industrial processes & waste
- Agriculture, forestry, and other land use
- Aviation & maritime transport

Capacity to innovate

How do you assess the capacity to innovate and access financing of the sector or company you are working in?

Please rate them from 1 = totally disagree to 5 = totally agree.

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
My sector or company has the capacity to carry out the necessary innovation (e.g. product innovation, technologies, technical skills, etc) to manage the transition to a net-zero emission economy.	○	○	○	◉	○	○
My sector or company has access to risk capital and financing.	○	○	○	○	○	○
My sector or company has access to EU dedicated facilities for the green transition (e.g. InvestEU, Just Transition Fund, Modernisation Fund, etc.).	◉	○	○	○	○	○

General section

My personal contribution to protect the climate

Awareness of climate change impact and climate action

The effects of climate change have been regularly described in the reports by scientists of the Inter-governmental Panel on Climate Change (IPCC). Their analyses are covered by the media.

How aware are you and how aware do you think society is of the reality of climate change and its impacts

Please indicate the extent to which you agree with the statements below, from totally disagree (1) to totally agree (5).

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
I am aware of the reality of climate change and its expected impacts.	○	○	○	○	○	○
I am ready to change my behaviour to reduce my carbon footprint (e.g. by using sustainable transport; using or producing renewable energy; reducing consumption, reusing and recycling products; consuming foods with a lower climate impact; reducing fashion consumption; or by choosing climate-friendly investment plans).	○	○	○	○	○	○
I have felt or experienced the present-day impacts of climate change (e.g. hotter summers, dryer land, less snow) and I feel a need to adapt to these impacts.	○	○	○	○	○	○
There are many factors preventing me from taking further action, for example insufficient information on products or services, lack of sustainable choices and infrastructure, or solutions that are too complicated.	○	○	○	○	○	○
Society is aware of the reality of climate change and its expected future impacts.	○	○	○	○	○	○
Society is ready to implement actions to reduce GHG emissions (e.g. by using sustainable transport; using or producing renewable energy; reducing, reusing and recycling products; consuming foods with a lower climate impact; reducing fashion consumption; or by choosing climate-friendly investment plans).	○	○	○	○	○	○

Society feels the need to manage and adapt to climate change (e.g. different infrastructure in cities; preparedness for floods, droughts and heatwaves; greening spaces; improving health conditions).	○	○	○	○	○	○

Most important changes expected for peoples' daily lives

The effort to reduce GHG emissions in the EU will progress further in the coming years in order to reach climate neutrality by 2050. Where do you expect the greatest changes to happen in your daily life? [Multiple answers possible]

- ☐ Consumer goods and services (including reduce, reuse, repair & recycle)
- ☐ Food (including food waste)
- ☐ Housing (e.g. energy consumption in buildings, living space)
- ☐ Transport used for short-distance trips
- ☐ Education and skills needed for future jobs
- ☐ My current job
- ☐ Transport used for long-distance trips

Please specify any other expected changes:

100 character(s) maximum

Willingness for action at individual level

Consumer choices and behavioural change can considerably impact our GHG emissions. Which of the following personal actions would you be willing to take to fight climate change?

	1 (No, I would not be willing to do this)	2 (I am not sure whether I would do it or not)	3 (Yes, I would be willing to do this)	Not applicable in my case
Eat food with a lower climate impact, such as plant-based, local or sustainably produced food.	○	○	○	○
Improve the energy performance of my building (insulation, triple glazing, more efficient heating, etc.).	○	○	○	○
Invest in energy measures for my building that reduce its emissions (solar panels, thermal insulation, heat pumps).	○	○	○	○
Accept infrastructure for renewable energy such as wind turbines, above-ground power lines or solar panels in your municipality.	○	○	○	○

Buy products and services that are more climate-friendly (according to a trusted label or certificate), even if they come at a somewhat higher price.	○	○	○	○
Consider how climate-friendly a product is when the information of its climate impact is provided (e.g. through a label).	○	○	○	○
Have goods repaired or reuse them, rather than buying new ones.	○	○	○	○
Reduce wasteful consumption, for instance buying and using long-lasting appliances, clothing, and other products.	○	○	○	○
Use alternatives to the car for everyday journeys (e.g. walking, cycling, public transport), or reduce trips (e.g. by working from home).	○	○	○	○
For long journeys, fly less and travel more by alternative modes (e.g. trains) or consider shorter distance trips.	○	○	○	○
Switch to sharing-based business models to rent products rather than owning them, such as car-sharing.	○	○	○	○
Compensate some of my emissions via reliable and certified carbon-offsetting programmes.	○	○	○	○
Engage in active political support for increased climate ambition, regardless of political affiliation.	○	○	○	○

How to improve incentives for climate action

Climate policies and the trajectory to climate neutrality by 2050 will require us to change our consumption patterns, both for products and services. Which of the following proposals would help you to reduce your personal climate footprint?

	1 (not helpful)	2	3	4	5 (very helpful)	I don't know
Ensure the price of goods and services reflects their impact on climate change, making climate-friendly products with a lower climate impact more attractive.	○	○	○	○	○	○

Put in place measures to make sure that the most vulnerable in society have access to sustainable and climate-friendly products and services.	○	○	○	○	○	○
Ensure the price of goods and services reflects their impact on climate change, but treat first necessity/regular/ luxury goods and services differently.	○	○	○	○	○	○
Ease financing of investments in solutions that will lead to reductions in personal GHG emissions, notably from a person's house (e.g. installing heat pumps), transport means (e.g. electric cars or affordable public transport) or food consumption.	○	○	○	○	○	○
Raise awareness of the climate impact of goods and services.	○	○	○	○	○	○
Support sharing and leasing services to facilitate the access to technologies that reduce an individual's net GHG emissions (e.g. heat pump, photovoltaic panels or electric vehicles).	○	○	○	○	○	○
Label the climate impact of goods and services so that consumers can better choose more climate-friendly options.	○	○	○	○	○	○
Provide better information on how to invest in solutions that will help people reduce their GHG emissions or increase carbon removals, notably from buildings, food consumption or transport.	○	○	○	○	○	○

If other, please specify:

100 character(s) maximum

The impacts of the climate crisis

Setting a 2040 climate target will confirm the importance for the EU of tackling climate change, which is already having an impact on our society and economy. Scientists have emphasised that, without a significant reduction of GHG emissions, climate change and the impacts it brings will accelerate in the coming years and decades, with possible tipping points reached and large-scale irreversible outcomes. The impacts from the changing climate are also likely to hamper efforts to reduce GHG emissions needed to reach a 2040 target and climate neutrality.

The following questions assess perceptions of risks and impacts, which will increase in the absence of ambitious global climate action.

Possible effects of climate change for individuals

Which effects of climate change are of most concern for you? [Multiple answers possible]

- [ ] Loss of job or income due to changes in the sector in which I work.
- [ ] Varying capacity of different social groups to adapt (e.g. older people, persons with disabilities, displaced persons, low income households, and other vulnerable groups).
- [ ] Loss of life due to natural hazards such as heatwaves, floods, droughts or wildfires.
- [ ] Having to face changes in my private life or activities, e.g. facing water-scarcity; not being able to do outdoor activities in summer; less opportunity for winter-related activities; paying more for energy, food and transport; fewer transport services that address my specific needs as a woman, person with disabilities or as a young or older person.
- [ ] Increasing material losses to my property.
- [ ] Loss of biodiversity and natural habitats.
- [ ] Damage from natural hazards (floods, wildfires, droughts, etc.) and rising sea levels.
- [ ] A change of landscape and forests in areas I relate to or that I live in.
- [ ] Spread of new diseases (e.g. malaria) and pandemics.

Please specify any other effects below:

100 character(s) maximum

Possible natural hazards caused by climate change at the place where you live

As an individual, what possible hazards induced by climate change do you fear most? [Multiple answers possible]

- [ ] Rising sea levels
- [ ] Windstorms
- [ ] Droughts
- [ ] Heatwaves
- [ ] Lack of water
- [ ] Floods and intense rain
- [ ] Wildfires

Possible effects of climate change for society

What will be the main climate change-related impacts for society in your country in the next 20 years? [Multiple answers possible]

- [ ] Loss of lives.
- [ ] Natural disasters (e.g. fires, droughts or floods).
- [ ] Negative impacts on food production.
- [ ] Negative impacts on the economy and employment.
- [ ] More conflicts between countries or regions and their inhabitants g. due to declining water cycles and land resources.
- [ ] Negative impacts through decreasing water availability for example municipal water-saving measures.
- [ ] Negative impacts on critical infrastructure.
- [ ] Negative impacts on health.
- [ ] Migration or refugee movements due to climate change and environmental crises.
- [ ] Negative impacts on energy supply.
- [ ] Increasing inequalities due to climate hazards and different socio-economic vulnerabilities in society.

Adapting to climate change where you live

The Intergovernmental Panel on Climate Change (IPCC), the intergovernmental scientific body of the United Nations responsible for advancing knowledge on human-induced climate change, warns in its latest report that the world is set to reach the 1.5ºC temperature increase level within the next two decades. While stressing that preventing mounting loss of life, biodiversity and infrastructure requires the most significant cuts in GHG emissions, the IPCC also calls for more action to adapt to climate change.

Buildings can be adapted to increase their resilience to climate change, for example by improving thermal insulation, using highly durable materials, retrofitting or by greening urban areas to fight the urban heat.

Considering your place of residence, your community, and the city or region you live in, how much do you agree with the following statements ?

From totally disagree (1) to totally agree (5)

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
The risks associated with climate change for my place of residence have been assessed and I can access this information.	○	○	○	○	○	○
Plans to prepare for inevitable climate change events have been sufficiently developed and I am informed of them.	○	○	○	○	○	○
I am aware which climate impacts are threatening the building I live in.	○	○	○	○	○	○
The local or national authorities should do more to prepare my city or region for climate change.	○	○	○	○	○	○
Some physical measures have already been implemented to prepare my building for climate change impacts.	○	○	○	○	○	○
I would be ready to invest to make my building more resilient to climate change.	○	○	○	○	○	○
We need more adaptation policies that take gender-differentiated needs and the needs of disadvantaged groups into account.	○	○	○	○	○	○
Concrete actions to improve climate resilience in my place of residence have been carried out and I judge them sufficient.	○	○	○	○	○	○

Expert section

This section complements questions on the 2040 climate target by exploring how the EU's climate policies could evolve after 2030 to set the EU on track to meeting its climate neutrality target by 2050. It includes questions on the role of the EU Emissions Trading System (ETS), the Effort Sharing Regulation and sectoral targets, questions on GHG mitigation in the land sector, the role of carbon removals, technologies, and the role of EU policy on adaptation to climate change for buildings and energy infrastructure.

The section is addressed predominantly to people with expert knowledge. As an individual, you may also respond to it, but it is not mandatory.

General policy framework

In addition to the European Climate Law, GHG emissions from the EU are currently covered by three policy instruments:

- the EU Emission Trading System (ETS) Directive, an EU-wide market-based instrument to reduce GHG emissions from specific sectors through a declining cap on emissions, a carbon price signal and trading of emission allowances;
- the Effort Sharing Regulation, which sets EU-wide and national targets on GHG emissions reduction from the other sectors (excluding land use, land use change and forestry (LULUCF));
- the LULUCF Regulation, which defines an EU-wide target of delivering 310 million tonnes of CO_2 equivalent ($MtCO_2e$) removals from the LULUCF sector by 2030.

Scope and role of EU-wide carbon pricing instruments

In the context of the Fit-for-55 package, the scope of the EU ETS is being extended to cover most of the CO_2 emissions from the use of fossil fuels and industrial processes.

How could emissions trading in the EU evolve in a post-2030 policy framework in terms of GHG coverage, sectoral coverage, and relations with non-EU emissions trading schemes?

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
EU emissions trading should also cover all non-CO_2 GHG emissions from the use of fossil fuels and industrial processes, not only CO_2 emissions.	○	○	○	○	◉	○
EU emissions trading should also cover GHG emissions from other sectors (e.g. extractive industries or the land sector).	○	○	○	○	◉	○

EU emissions trading should cover all fossil fuel uses, including those that are so far not or not entirely covered, e.g. in the non-road transport sector.	○	○	○	◉	○	○
EU emissions trading maintains the obligation to surrender allowances for emissions that are captured and utilised (Carbon Capture Utilisation, 'CCU') in non-permanent products. This aspect of emissions trading should be adapted for sectors with hard to abate, residual emissions and for sectors that require a carbon feedstock (e.g. chemicals, pulp and paper) in order to promote carbon circularity.	○	○	○	○	○	○
Options to link the EU ETS with other compliance carbon markets should be pursued, provided that the environmental integrity, potential cost-efficiency gains and more options for emissions abatement are carefully assessed.	○	○	○	◉	○	○

Future role of the carbon border adjustment mechanism (CBAM)

In October 2023, the European Commission will introduce the carbon border adjustment mechanism, which, for the goods and sectors under its scope, will replace the existing mechanisms to prevent the risk of carbon leakage under the EU ETS. Instead, the CBAM will ensure equivalent carbon pricing for imports and domestic products. Under the (provisional) CBAM agreement, the Commission is mandated to assess the possibility of including all sectors identified as at risk of carbon leakage in the ETS Directive (Directive 2003/87/EC) at the latest by 2030.

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
Any extension of CBAM to all ETS products, which will replace free allocation, should be done progressively and prioritise certain sectors.	○	○	○	○	◉	○
Priority should be given to sectors where absolute emissions are the highest.	○	○	○	○	◉	○
Priority should be given to sectors where the emission reduction efforts are the lowest.	○	○	○	◉	○	○

If the scope of CBAM were extended to additional sectors, which sectors would be the priority?

100 character(s) maximum

Future role of the Effort Sharing Regulation (ESR) and links with the ETS

With the 'Fit for 55' package, some emissions currently falling under the ESR

(and the associated national targets) will also be covered under an EU ETS (notably CO_2 emissions from road transport and buildings).

How should the scope of emissions under the ESR and the associated national targets evolve in the EU's post-2030 climate policies?

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
The ESR and associated national targets should cover only GHG emissions that are not subject to the EU ETS.	○	○	○	○	○	○
The ESR and associated national targets should keep the same GHG scope as currently, covering both emissions that are not under the EU ETS (e.g. agriculture methane and nitrous oxide emissions) and emissions from fuels used in road transport and buildings (subject to the new ETS).	○	○	○	○	○	○
There should be national targets covering all GHG emissions from all sectors (including those covered by the EU ETS).	○	○	○	◉	○	○
National targets should be replaced by EU-wide sectoral legislation.	○	○	◉	○	○	○

Mitigation of GHG emissions from the land sector (agriculture, forestry and other land use) and policy options

The role of carbon pricing and non-carbon pricing instruments for agricultural emissions and land-based removals

Agriculture is responsible for almost 12% of EU emissions. One possible way for climate policies to tackle this problem is to set a carbon price on agricultural emissions. But there are also other options, such as national targets, sectoral standards, or better information and support.

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
A carbon price on agricultural emissions, coupled with payments for carbon removals, will provide farm-level incentives to move to sustainable farming practices.	○	○	○	○	○	○

Non-regulatory approaches such as better information on the climate impact of food and support to innovation, combined with consumers' higher demand for climate action, will be enough to drive the transformation of the farming sector.	○	○	○	○	○	○
Emission reductions and carbon removals in the agricultural sector should be covered by national targets and achieved through, inter alia, the EU common agricultural policy (CAP).	○	○	○	○	○	○
Unsustainable farming practices should be ruled out by ambitious sectoral standards that make sustainable farming practices the new standard.	○	○	○	○	○	○

Agricultural emissions and climate policies

If a carbon price was set on agricultural emissions, for which actor should it be set?

	1 (totally disagree)	2	3	4	5 (totally agree)	I don't know
Farmers: A carbon price or stricter standards at the farm level would steer the decisions of the actors who are more directly in control of agricultural emissions.	○	○	○	○	○	○
Food companies: Making food producers liable for the climate footprint of a product along the entire value chain would drive the transition towards more sustainable food systems.	○	○	○	○	○	○
Producers of fertilisers: Fertilisers generate greenhouse gases when applied on the land. Asking producers to pay the corresponding carbon price would promote the most sustainable and efficient fertilising solutions.	○	○	○	○	○	○
Consumers: A carbon price linked to the emissions of the most GHG-intensive food products (e.g. animal-based) would incentivise a shift towards more climate-friendly diets.	○	○	○	○	○	○

The role of carbon removals

The objectives of the Paris Agreement are challenging, and scientific evidence presented by the IPCC indicates that it will be necessary at a certain point to remove a significant amount of CO_2 from the atmosphere in order to stay below 2°C, and even more so in order to limit the temperature increase to 1.5°C. Carbon removals are processes in which carbon dioxide gas is removed from the atmosphere and

durably stored in geological, terrestrial or ocean reservoirs or in products. While some nature-based solutions like growing forests and storing carbon in biomass have already existed for a long time, industrial solutions that capture atmospheric carbon and then store it underground (directly with direct air capture and indirectly through carbon capture associated with bioenergy) are so far only used on a small scale or are still being developed.

General role of carbon removals

Carbon removals can decrease the overall level of CO_2 in the atmosphere or cover for remaining GHG emissions from the economy.

What should be the role of carbon removals to meet the EU climate neutrality target by 2050?

- A very limited role. All GHG emissions can be brought down close to zero by 2050, including in sectors that are currently considered as difficult to fully abate (like agriculture, aviation or some industrial processes).
- An important role. Carbon removals compensate remaining unabated GHG emissions in different sectors, including agriculture, industrial processes, while driving the growth of the EU clean industry and providing co-benefits for other environmental objectives.
- No opinion.

Relative contribution of nature-based removals and industrial removals

If the EU were to rely to a certain extent on carbon removals to meet its targets in 2040, what should be the relative contribution of nature-based removals in the land sector (“LULUCF”) and industrial removals (direct air capture or carbon capture and storage associated with bioenergy)?

- A stronger reliance on the LULUCF sink, since the large-scale deployment of industrial removals is uncertain.
- A balance between the LULUCF sink and industrial removals.
- A stronger reliance on industrial removals, since the evolution of the LULUCF sink is uncertain.
- No opinion.

Expert section

Technologies

Barriers to carbon capture and storage technologies

What are the main hurdles to deploying carbon capture and storage technologies?

	1 (minor)	2	3	4	5 (major)	I don't know
Public acceptance	○	○	○	○	○	○

Regulatory framework	○	○	○	○	○	○
Technology maturity	○	○	○	○	○	○
Cost of CO_2 capture technology	○	○	○	○	◉	○
CO_2 storage availability	○	○	○	○	○	○
Economic signals (e.g. the price of carbon)	○	○	○	○	○	○

Carbon capture and use or storage

Which deployment of carbon capture and storage and carbon capture and use should be prioritised?

	1 (lower priority)	2	3	4	5 (higher priority)	I don't know
Capture of CO_2 from the combustion of fossil-fuel.	○	○	○	○	○	○
Capture of CO_2 from non-energy related industrial processes CO_2 emissions.	○	○	○	○	○	○
Capture of CO_2 from the combustion of biomass.	○	○	○	○	○	○
Capture of CO_2 directly from the air (direct air capture).	○	○	○	○	○	○
Permanent storage of captured CO_2 in underground geological formations to avoid emissions (fossil CCS) or generate negative emissions (BECCS/DACCS).	○	○	○	○	○	○
The use of captured CO_2 in fuels and products to replace virgin fossil carbon.	○	○	○	○	○	○
The co-production of clean gas and biochar through the treatment of biomass in an approach combining the use and storage of biogenic carbon.	○	○	○	○	○	○

Energy technologies

The energy system today is responsible for around 75% of the EU's GHG emissions and is currently undergoing a rapid transformation. Accelerating this change will play a central role in the transition towards a carbon-neutral economy.

The following table lists different energy technologies. Which are the most relevant solutions for the energy transition towards carbon neutrality?

	1 (very irrelevant)	2	3	4	5 (very relevant)	I don't know

Advanced liquid biofuels.	○	○	○	○	○	○
Renewable energy from wind (onshore, offshore and floating), solar (including rooftop and decentralised installations) or hydro.	○	○	○	○	◉	○
Nuclear energy (existing nuclear fission).	○	○	○	○	○	○
Biogas from agricultural and domestic waste.	○	○	○	○	○	○
Demand management, demand response and greater digitisation of energy systems.	○	○	○	○	◉	○
Solid biomass for heat and electricity production.	○	○	○	○	○	○
Fossil fuels with carbon capture and storage.	○	○	○	○	○	○
Hydrogen and its derivatives (produced in a carbon-neutral manner).	○	○	○	○	○	○
Energy efficiency first principle: prioritise further reducing the need to produce and consume energy.	○	○	○	○	◉	○
Other forms of renewable energy, like geothermal (including heat pumps), wave or tidal.	○	○	○	○	○	○
Electricity storage, long duration storage and heat storage (electricity system integration).	○	○	○	○	○	○
Bioenergy from advanced biofuels or solid biomass.	○	○	○	○	○	○

Please specify any different options below:

100 character(s) maximum

Grid enhancing technologies and advanced power cable technologies, including superconductors.

Opportunities and challenges with regard to energy technologies and their development

What are the biggest opportunities in the energy sector and in the sectors of the economy consuming energy (residential, industry, transport), including for the wider economy and security of supply? What are the biggest challenges related to the future development of a low-carbon energy sector, including as regards to public acceptance or the availability of land and natural resources?

300 character(s) maximum

Modernising and establishing new, innovative electricity grid infrastructure to support the transition to decarbonisation is crucial. No European grid model depicting the supporting grid infrastructure needed to reach our climate and energy targets currently exist.

Other options to fight climate change to be considered

Please rate the options below to indicate the most relevant solutions for limiting climate change:

	1 (very irrelevant)	2	3	4	5 (very relevant)	I don't know
Peatland restoration (rewetting, revegetating, and paludiculture on peatlands).	○	○	○	○	○	○
Afforestation, reforestation and forest restoration.	○	○	○	○	○	○
Biochar (carbon sequestration by heating biomass in low oxygen environment).	○	○	○	○	○	○
Direct air carbon capture and storage (DACCS).	○	○	○	○	○	○
Soil carbon sequestration.	○	○	○	○	○	○
Agroforestry and other agricultural soil management practices.	○	○	○	○	○	○
Nuclear fusion (energy generation through the fusion of atoms).	○	○	○	○	○	○
Innovative technologies improving digitalisation in different sectors (digital energy systems, precision farming, connected mobility, etc.) that reduce GHG emissions.	○	○	○	○	◉	○
Ocean-based carbon storage (ocean fertilisation, ocean alkalinity enhancement, artificial upwelling).	○	○	○	○	○	○
Production of plant-based meat substitutes or ‘in vitro’ meat.	○	○	○	○	○	○
Enhanced weathering (that allows CO_2 to be removed from the atmosphere through storing into silicate rocks spread onto surfaces).	○	○	○	○	○	○
Innovative mobility technologies (wireless charging, multimodal urban platforms, autonomous shared vehicles).	○	○	○	○	○	○
Solar radiation modification (temporary measure to limit climate change through aerosol injection to reflect more sunlight into outer space).	○	○	○	○	○	○
Coastal blue carbon (carbon sequestration by restoring and managing coastal wetlands like mangroves, saltmarshes, sea grasses).	○	○	○	○	○	○
Bio-energy carbon capture & storage (BECCS).	○	○	○	○	○	○

Open question on the future role of other innovative options

Which other innovative technologies could be used to reduce emissions, in particular in hard-to-abate industrial sectors or to compensate for hard-to-capture emissions?

100 character(s) maximum

Crucial enabling technologies that support a renewable energy system: innovative grid technologies.

Engagement and social impacts

Local and regional implementation of the European Green Deal

Local and regional authorities such as cities, regions and local communities, as well as other actors such as civil society and the private sector, can play an important role in achieving the energy transformation, reducing GHG emissions and adapting to climate change. Many regions, cities, companies and citizens' organisations are implementing projects covering energy, transport, food and waste management, and thereby helping to foster the green transition. Importantly, they often achieve local co-benefits related to economic and social development, health and well-being, while contributing to a low carbon economy and the energy transition.

In your view…

	1 (No, absolutely not)	2	3	4	5 (Yes, absolutely)	I don't know
…are local, regional, and private sector actors sufficiently involved in supporting the green transition?	○	○	○	○	○	○
…are national energy and climate plans (NECP) a good source to inform the 2040 policy framework?	○	○	○	○	○	○

Social impacts of climate change policies

While achieving climate neutrality will lead to long-term economic, societal and environmental benefits for the people of Europe, the increase in the price for fossil fuels will have significant social and distributional impacts that can disproportionally affect regions, sectors and vulnerable people in our society. In view of ensuring a just transition, please rate the following statements from totally disagree (1) to totally agree (5).

	1 (Totally disagree)	2	3	4	5 (Totally agree)	I don't know
After 2030, there will be a greater need to support vulnerable individuals who must cope with the costs associated with the green transition.	○	○	○	○	○	○
Strengthening carbon pricing to spur climate-friendly activities, services and goods may affect the cost of living. It should be accompanied by adapted fiscal policies to mitigate the impacts on citizens.	○	○	○	○	○	○
Vulnerable households (such as single parents) may struggle with increasing energy prices and face an unequal burden of climate change. A socially just transition is key and should be ensured through mechanisms to support middle- and lower-income households financially.	○	○	○	○	○	○
It is important to ensure inter-generational fairness: ambitious action is needed now to limit future adverse impacts of climate change on young people and future generations.	○	○	○	○	○	○

Sectoral impacts of the transition

The green transition will create new opportunities but also lead to a decline in employment in certain sectors (such as coal, peat, oil shale, petroleum) and increase the need for transformation in others (GHG intensive industry such as non-metallic minerals, basic metals, chemicals, cement, fertilisers, and oil refining). In addition, some small and medium sized enterprises may be impacted by changes necessary for decarbonising operations and manufacturing less energy-intensive products.

Please rate the following statements from totally disagree (1) to totally agree (5).

	1 (Totally disagree)	2	3	4	5 (Totally agree)	I don't know
The green transition represents an opportunity for small and medium sized enterprises (SMEs).	○	○	○	○	○	○
After 2030, there will be a greater need to support SMEs to cope with the adaptation and costs associated with the green transition.	○	○	○	○	○	○
The impact on competitiveness of micro-companies is likely to differ from the impact on small and medium-sized ones.	○	○	○	○	○	○

The EU transition to a net-zero economy impacts differently on the competitiveness of SMEs from those of large companies.	○	○	○	○	○	○
The most affected sectors by the green transition will significantly change after 2030.	○	○	○	○	○	○
The likely structural shift and changing skill requirements in the economy towards a green and circular economy will require EU action to reskill and upskill the workforce.	○	○	○	○	○	○

Open Question on affected sectors after 2030

If you believe the sectors affected by the green transition will change after 2030, which sectors do you believe will be affected by then and how? Please describe briefly in the text field.

200 character(s) maximum

Adapting to climate change

Climate change is already causing observable effects on the environment. Towards 2040 it will increasingly impact the achievement of our climate targets through its effect on sectors such as energy, transport and land-use. Some of these observable effects include more extreme temperatures, higher wind speeds, heavier rainfall, droughts and wildfires all of which negatively impact climate mitigation efforts.

EU policy ambition on climate resilience of mitigation efforts

Assets instrumental in delivering our climate mitigation targets will be exposed to the effects of a growing number of extreme weather events. This includes energy infrastructure, (from generation and transmission to distribution and the final customer), transport infrastructure (from bicycle roads to the high-speed train network) and land use (both in terms of sectoral carbon emissions and carbon removal).

What do you believe would be the right scope for regulating these sectors from the point of view of climate adaptation and resilience?

- ○ Current EU regulations and policy are sufficient to guarantee the security of the mitigation efforts in face of climate impacts.
- ○ The EU should do more to promote the climate resilience of mitigation efforts using soft measures (guidance, training, etc.)
- ○ The EU should provide specific provisions related to climate risks in the existing EU legislative framework
- ○ The EU should draft new legislation to improve the climate resilience of mitigation efforts.
- ○ I don't know.

Additional information

Should you wish to provide additional information (for example a position paper) or raise specific points not covered by the questionnaire, you can upload your additional document here.

Please note that the uploaded document will be published alongside your response to the questionnaire which is the essential input to this public consultation. The document is an optional complement and serves as additional background reading to better understand your position.

Please upload your file

20230623_-_currENT_consultation_response_2040_climate_target.pdf

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