PRI RESPONSE

PUBLIC CONSULTATION ON THE EU CLIMATE TARGET FOR 2040

21 JUNE 2023

To inform this briefing, the following investor group has been consulted: PRI Regional Policy Reference Group for the European Union. This consultation is not an endorsement or acknowledgement of the views expressed in this briefing.

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ABOUT THE PRI

The Principles for Responsible Investment (PRI) works with its international network of signatories to put the six Principles for Responsible Investment into practice. Its goals are to understand the investment implications of environmental, social and governance (ESG) issues and to support signatories in integrating these issues into investment and ownership decisions. The PRI acts in the long-term interests of its signatories, of the financial markets and economies in which they operate and ultimately of the environment and society as a whole.

The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a range of actions for incorporating ESG issues into investment practice. The Principles were developed by investors, for investors. In implementing them, signatories contribute to developing a more sustainable global financial system.

ABOUT THIS CONSULTATION

The European Commission has launched a public consultation to gather stakeholders' views on the EU's intermediary climate target for 2040. The European Climate Law, adopted on 30 June 2021, made the target to reach net-zero emissions by 2050 legally binding, as well as the 2030 target to cut emissions by at least 55%. The legislation to achieve this target is being completed through the 'Fit for 55' package containing several files, most of which have already been adopted as part of the wider European Green Deal. The Climate Law also requires the European Commission to propose a 2040 climate target in 2024.

This consultation will start a process to establish a 2040 climate target putting the EU on a path towards climate neutrality by 2050. It will be supported by an in-depth impact assessment, which will inform the drafting of a new law setting the 2040 target.

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KEY RECOMMENDATIONS

The PRI welcomes the European Commission's timely consultation for a 2040 climate target on its pathway to climate neutrality and the legally binding target of net zero greenhouse gas emissions[1] by 2050, as set in the European Climate Law[2]. PRI further welcomes the progress made by the Commission, Parliament, and Council on negotiating and adopting key files of the Fit for 55 package to implement the 2030 climate target. The PRI's key recommendations are:

- **Propose a climate target for 2040 aligned with the Paris Agreement and a 1.5C pathway and based on best available science.** The scientific basis for any proposed target should not fall below the recommendations from the independent European Scientific Advisory Board on Climate Change as set up in the European Climate Law, which requires appropriate resourcing to deliver on its tasks.
- **Assess any new European legislation with relevant potential increase of emissions and climate impacts** on its alignment with the European Climate Law and climate neutrality by 2050, according to the European Scientific Advisory Board's recommendations. If the decision is made to not follow the Advisory Board's advice in climate-relevant legislation, it should be justified in the respective legislative proposals.
- **Accelerate the implementation of Fit for 55 package by Member States.** PRI recommends an assessment by 2026 – before the second global stocktake in 2028 – on implementation progress to evaluate to what extent Fit for 55 targets align with the proposed 2040 climate target and the EU climate budget for 2030-2050.
    - ***Prioritise energy demand management*** aligned with the "energy efficiency first" principle set out in the Energy Efficiency Directive (EDD) for key sectors. Assess how energy savings from material efficiency and circular economy strategies as determined in the new EU Circular Economy Action Plan (CEAP) can be included into these targets.
    - ***Accelerate electrification of energy services*** with 'no-regret' renewable energy solutions[3]. Assess new energy supply infrastructure to achieve Renewable Energy Directive III (REDIII) targets against their alignment with the European Climate Law and necessary emission reductions for climate neutrality by 2050.
    - ***Continue strengthening carbon pricing signals*** as set in new Emission Trading Scheme (EU ETS) and Carbon Border Adjustment Mechanism (CBAM) regulation to incentivise industry innovation and investments in decarbonisation measures. Use the Social Climate Fund to ensure social safeguards for the most vulnerable households and communities and apply additional measured as necessary.
    - ***Expand nature-based climate solutions*** for carbon removals, including protecting natural habitats and carbon sinks as set in LULUCF (land use, land-use change and forestry) and connected nature objectives as set in the EU 2030 biodiversity strategy.

[1] From here on, the term "emissions" will be used for all greenhouse gas emissions.

[2] European Commission (2021). European Climate Law. https://climate.ec.europa.eu/eu-action/european-green-deal/european-climate-law_en

[3] Research shows that renewable energy, energy efficiency and electrification, where cost-effective, can be characterised as ''no-regret' options. These options already exist in the 2030 climate and energy policy packages, should be upscaled in the period after 2030, and will unavoidably hold a significant role in the long-term transition.

- **Create an EU wide, whole-of-economy transition plan** that brings together short-, mid- and long-term targets as well as the required public and private resources and financing needs from companies and financial market actors.
    - ***Develop sectoral roadmaps at the EU level in collaboration with the private sector*** as outlined in the European Climate Law (Art. 10). These roadmaps need to be based on coherent, robust, and reliable pathways aligned with Paris Agreement commitments, climate targets for 2030 and 2040, and net zero emissions by 2050 (and negative emissions thereafter).
    - ***Ensure transparency on financing needs in national climate strategies.*** Climate strategies of Member States need to strengthen policy predictability and a reliable planning horizon for financing requirements for the net zero transition in various economic sectors. This includes Long-term strategies (LTS) as set up by all Parties to the UNFCCC and National Energy and Climate Plans (NECPs) from 2020 to 2030 as defined under the Regulation on the governance of the energy union and climate action at EU level.
    - ***Enable financial markets*** to align capital flows with transition finance requirements by better linking sector roadmaps, transition planning tools, and sustainable finance instruments. These include technical screening criteria and do no significant harm criteria for economic activities under the EU taxonomy: and reporting and disclosure requirements for companies and financial market participants under the EU Sustainable Finance package.
    - ***Leverage public finance*** by strategically redirecting financial support to de-risk investments into sustainability and tackle the significant annual investment gap for the climate-neutral economy. This includes public procurement rules, EU funding programmes, and the technical expertise and financing instruments of public banks and investment companies to support investments needed for EU climate targets and contributing decarbonisation pathways.
    - ***Engage with stakeholders*** at various levels and from different sectors for technical assistance, capacity building, and mutual learning from each other to develop further such an EU wide transition plan.

DETAILED RESPONSE

As outlined in the IPCC special report on 1.5C Global Warming, the detrimental effects of global warming are becoming more frequent and evident, with devastating impacts across the globe. Droughts, flooding, forest fires and storm surges linked to sea level rise are becoming increasingly frequent, impacting wider areas, and severely affecting more people, businesses, and infrastructure.

According to the World Meteorological Organization, Europe is warming twice as fast as the global average, which has already reached 1.1°C in 2020. The world is not on track to meet the Paris Agreement objective of limiting the temperature increase to below 2°C, let alone 1.5°C.

It is essential for the European Union to deliver on its global commitment to reach climate neutrality by 2050 with strong interim targets to stay on track on this pathway. This needs to go hand in hand in ensuring energy security as well as a just and fair economic transition.

The PRI supports signatories, financial market actors and initiatives that have set a net zero emissions target[4]. For example, members of the Net Zero Asset Owner Alliance (NZAOA) have set their own targets and transition plans to reach climate neutrality within their respective portfolios by 2040 at the latest, including interim targets for 2025 and 2030. These voluntary initiatives will benefit from strong regulatory frameworks on climate targets.

1. A SCIENCE-BASED EU CLIMATE TARGET FOR 2040

PRI welcomes the European Climate Law adopting the European Union's climate objectives. This writes into law the goal of the European Green Deal, aiming to transform the economy and society to become climate-neutral by 2050 and setting interim emission reduction targets of at least 55% by 2030. As the negotiations on the Fit for 55 legislation on how to implement these objectives is nearing completion, it is the right time to set the next climate target. This will send a clear policy signal for more regulatory certainty and predictability in investment decisions.

SCIENCE-BASED TARGETS IN THE FINANCIAL SECTOR

New EU climate targets to address the gap from 2030 to climate neutrality in 2050 must be based on best available science and be aligned with the EU's international commitments to the Paris Agreement and its 1.5C target. This includes reliance on independent advice from the Scientific Advisory Board on Climate Change, established under the European Climate Law.

Financial institutions are increasingly recognising the extent of climate risks and their impact on every market sector. Many are reviewing their investment and lending activities to avoid the worst effects of catastrophic climate change and fund a climate-secure, zero-carbon future. The PRI works closely together with several financial sector initiatives that develop and set targets for net zero emissions by 2050:

- The UN-convened Net Zero Asset Owner Alliance (NZAOA) is a member-led initiative of 85 institutional investors, with over US$11 trillion in assets under management, committed to transitioning their investment portfolios to net-zero greenhouse gas emissions by 2050. Members set their targets at a portfolio level, develop impact methodologies on the real economy and emissions, and report contributions to progress in a sector-specific way.

[4] The report, authored by Freshfields Bruckhaus Deringer and commissioned by the PRI, UNEP FI and the Generation Foundation, is a ground-breaking legal study on whether the law in 11 jurisdictions permits or even requires investors to tackle some of the world's most urgent sustainability challenges, by setting and pursuing sustainability impact goals. A Legal Framework for Impact | Thought leadership | PRI (unpri.org)

Through this process, NZAOA members have set emissions reduction requirements based on best available science for sub-portfolio targets in the range of -22% to -32% by 2025 and -40% to -60% by 2030. Members will set further intermediate targets every five years in line with the Paris Agreement 1.5C pathway and achieving climate neutrality by 2050[5].

- The Science Based Targets initiative (SBTi) drives ambitious climate action in the private sector by enabling organisations to set science-based emissions reduction targets. The 6 allows financial institutions – including banks, investors, insurance companies, pension funds and others – to set science-based targets to align their lending and investment activities with the Paris Climate Agreement.
- Climate Action 100+ is an investor-led initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. Its engagement focuses on 166 companies that cover an estimated 80% of global industrial emissions. These companies are tracked against key indicators through regular progress reporting and benchmarking. Investors are responsible for driving their engagement and developing and implementing company specific engagement strategies.
- The Investor Agenda is a collaboration between seven major investor networks – AIGCC (Asia Investor Group on Climate Change), CDP, Ceres, IGCC (Investor Group on Climate Change), IIGCC (Institutional Investors Group on Climate Change), PRI and UNEP FI (United Nations Environment Programme Finance Initiative). It works to provide clarity on a growing number of climate initiatives, actions, and standards, to share supporting investor guidance, and to advocate for an accelerated net-zero transition.

CLIMATE AMBITION AND OPPORTUNITIES

Investors increasingly recognise that financial returns depend on the stability of social and environmental systems. This is driving investors to increasingly focus on what they can do to improve sustainability outcomes, for example, by (i) setting individual emission targets and pathways, (ii) engaging with companies in their portfolio, and (iii) contributing to climate initiatives.

Financial market actors committed to setting their own net-zero emission goals and shifting capital allocation towards investing in a low-carbon transition need an ambitious climate target, the rapid implementation of the Fit for 55 package, and a clear understanding of the further climate and sustainable finance policy frameworks development.

- Investors are likely to have a legal obligation to consider pursuing sustainability impact goals, including addressing climate objectives, where these contribute to their investment objectives. This is true if they have committed to a stated climate objective within a financial product, or if climate impacts need to be addressed to protect or enhance financial returns.[7]
- Risk assessment, asset allocation and stewardship are vital tools for investors to improve sustainability impacts, and collaboration among financial market actors make these activities more efficient and more likely to succeed. However, strong policy support is essential to

[5] Net-Zero Asset Owner Alliance (2022). Commitment Document for Participating Asset Owners. https://www.unepfi.org/wordpress/wp-content/uploads/2022/07/AOA-COMMITMENT-DOC-2022.pdf

[6] Science Based Targets (2022). Financial Sector Science-Based Targets v1.1. https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance.pdf

[7] The report, authored by Freshfields Bruckhaus Deringer and commissioned by the PRI, UNEP FI and the Generation Foundation, is a ground-breaking legal study on whether the law in 11 jurisdictions permits or even requires investors to tackle some of the world's most urgent sustainability challenges, by setting and pursuing sustainability impact goals. A Legal Framework for Impact | Thought leadership | PRI (unpri.org)

facilitate investing for sustainability impact and to overcome barriers to action, while ensuring a level playing field for market participants.

- EU climate, industrial and finance policy needs to enable financial market actors to take full account of risks and opportunities of climate change impact in their decision-making, and to help maximising their ability to generate sustainable returns and create long-term value. Strong engagement and investor stewardship needs to stand on a firm policy and regulatory basis to enable sector-wide change.
- A science-based and predictable climate target will unlock investment opportunities and scale up capital flows into low-carbon assets, adaptation measures, and ensure a just transition for affected workers and communities to protect long-term returns.

CLIMATE TARGET

As set out in the European Climate Law, the new EU climate target for 2040 needs to be based on best available science.

The UNEP Emissions Gap Report[8] finds a large emission gap, both for the 2C and even more so for the 1.5C target pathways and calls for deeper and faster reductions. Required annual emission cuts are estimated at 2.7% to reach the 2C target, and 7.6% per year for the 1.5C. Back in 2010, serious climate action would have only required 0.7% or 3.3% of annual reductions, respectively. Delayed action will require even more significant cuts.

The EU-28 is responsible for about 22% of all historical emissions while representing below 7% of the current global population. This only accounts for domestic emissions reductions without adding additional consumption-based embedded carbon imported from other countries.

- The EU has already demonstrated its capacity to implement ambitious climate mitigation and adaptation policies by adopting nearly all files of the EU Fit for 55 package. Recent studies9 propose the EU requires higher emission reduction targets of up to 70% by 2030 already to stay on the 1.5C pathway. They also warn of 'backlogging' the necessary emission cuts and thereby endangering climate neutrality by 2050. Recent research on scenario pathways4 show that with latest technological progress an emissions reduction target of 90% by 2040 is realistic, given the appropriate policy support.

- The PRI-commissioned Inevitable Policy Response is a climate transition forecasting consortium which aims to prepare institutional investors for the portfolio risks and opportunities associated with an acceleration of policy responses to climate change.[10] The 1.5C Required Policy Scenario (RPS) is a net zero scenario based on the IEA Net Zero by 2050 Emissions (NZE) scenario[11] with deepened analysis on the land system. The open-source modelling results provides year by year required emissions by sectors and regions

[8] UNEP (2019). Emissions Gap Report. https://www.unep.org/resources/emissions-gap-report-2019

[9] Agora (2023). Breaking free from fossil gas. https://static.agora-energiewende.de/fileadmin/Projekte/2021/2021_07_EU_GEXIT/A-EW_292_Breaking_free_WEB.pdf

[10] UNPRI (2023). The Inevitable Response to Climate Change. https://www.unpri.org/sustainability-issues/climate-change/inevitable-policy-response

[11] IEA - International Energy Agency (2022). Net Zero Emissions by 2050 Scenario (NZE). https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze

and shows that EU emissions must reduce 92% by 2040 from 1990 levels to remain on a 1.5C pathway.[12]

RECOMMENDATIONS

- **Propose a science-based climate target aligned with the Paris Agreement and a 1.5C pathway as set in the European Climate Law.** Any proposed target should be assessed by and align with advice from the European Scientific Advisory Council. PRI fully supports the Council's initial recommendations[13] to the European Commission on setting climate targets based on scientific evidence and EU values:
    - Focusing on the EU's *legal obligation* as set out in the European Climate Law, the Paris Agreement, and other international commitments;
    - Recognizing the *physical limits* of the global carbon budget and the EU's "fair share";
    - Quantifying *transition pathways* to climate neutrality by 2050 in the EU with up-to-date scenario evidence and combining different methodologies;
    - Assessing *impacts of different scenarios* regarding side effects, co-benefits, resilience, and feasibility;
    - Using *value judgments* to address tensions between different issues and principles and communicating these transparently, for example regarding responsibility for historical emissions.

2. SWIFT IMPLEMENTATION OF THE FIT FOR 55 PACKAGE

The PRI congratulates the EU on reaching a provisional agreement of nearly all Fit for 55 files and urges all Member States to follow up with swift implementation. The war in Ukraine has laid bare the EU's dependence on fossil fuel imports from Russia, and led to gas shortages, higher energy prices, and increased inflation. This further exacerbated the triple energy policy challenge of balancing energy security, affordability, and addressing climate change, facing governments in Europe and across the globe.

At the same time, these energy supply challenges have accelerated the energy transition and informed negotiations on the EU's Fit for 55 package. The PRI finds that balancing energy security with net zero ambitions in the EU[14] can drive the energy transition forward.

Together with CDP, IIGCC, and Eurosif, under the auspices of the Investor Agenda, PRI published an open letter[15] in 2022 on the trilogue negotiations on several key files for the Fit for 55 package. It

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[12] PRI (2021). The Inevitable Policy Response 2021: Forecast Policy Scenario and 1.5C Required Policy Scenario. https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-2021-forecast-policy-scenario-and-15c-required-policy-scenario/8726.article

For IPR Value Drivers database, see https://www.unpri.org/download?ac=15400.

[13] European Scientific Advisory Board on Climate Change (2023). Setting climate targets based on scientific evidence and EU values: initial recommendations to the European Commission. https://climate-advisory-board.europa.eu/reports-and-publications/setting-climate-targets-based-on-scientific-evidence-and-eu-values-initial-recommendations-to-the-european-commission

[14] PRI (2022). Policy Briefing: Reconciling Energy Security with Net Zero Commitments (EU). https://www.unpri.org/download?ac=16519

[15] Joint CDP, IIGCC, PRI and Eurosif open Letter on Fit for 55 trilogues (2022). https://dwtyzx6upklss.cloudfront.net/Uploads/u/x/r/09_28_22v1finaljointinvestorstatementforff55trilogues_203334.pdf

emphasises the need to swiftly implement an ambitious Fit for 55 package that will save energy, accelerate the expansion of renewables, catalyse low-carbon innovation, and mobilise private capital towards sustainable outcomes, all while ensuring a just transition.

After agreement on nearly all Fit for 55 files, PRI now calls for quick and consistent implementation of the legislation by Members States. PRI identifies the following priority sectors for implementation of Fit for 55: energy demand management; expansion of renewable energy; carbon pricing, and nature-based carbon removals. Progress on Fit for 55 policy implementation needs to be assessed regularly.

PRI makes the following recommendations:

- **The assessment periods for the Union's progress and at Member States' level as set in the Climate Law (Art. 6 and 7) should be shortened from five years to three years, thus *moving the next assessment to 2026.*** Such an assessment should include a review of how far 2030 targets align with the proposed 2040 climate targets and the EU climate budget for 2030-2050. The European Scientific Advisory Board should advise in how far the 2030 climate target enables a robust and credible pathway to the required 2040 target, ensuring climate neutrality by 2050, and negative emissions thereafter.
- **Support rapid implementation of Fit for 55 package by Member States.** PRI recommends an interim assessment by 2026 – before the second global stocktake in 2028 – on implementation progress to evaluate to what extent Fit for 55 targets align with the proposed 2040 climate target and the EU climate budget for 2030-2050.
- **Assess any new European legislation with relevant potential increase of emissions and climate impacts** on its alignment with the European Climate Law and climate neutrality by 2050, according to the European Scientific Advisory Board's recommendations. If the decision is made to not follow the Advisory Board's advice, it should be justified in the respective legislative proposals.

Increase efforts on energy demand management

The most sustainable energy is the one that is not used in the first place. The IEA (International Energy Agency) Net Zero Emissions by 2050 Scenario (NZE) finds[10] that energy efficiency rates – measured here by the average annual rate of energy intensity, i.e., energy use per unit of GDP – need to double by 2030 to reach climate neutrality by 2050. Increasing the efficiency rate from 2% achieved from 2010 to 2020,.to just above 4% annually from 2020 to 2030, would reduce a third of global energy demand by the end of the decade.

This "first fuel" approach must play a key role in EU climate policy and should ease future energy supply needs. However, it requires rapid expansion of electrification used in buildings, industry, and transport.

- The RePowerEU plan from 2022, devised as a response to Russian gas stop, envisions higher energy efficiency targets overall and on a sectoral level; requires solar installations amounting to 320GW for new buildings; and energy savings through mid- to long-term structural adjustments and behavioural changes of EU citizens.
- The provisional agreement on the revised Energy Efficiency Directive (EED) represents a significant step forward in making efficiency a key energy resource. The overall annual energy savings target has been raised from 9% for 2020 to 11.7% for 2030 and requires Member States to reduce energy consumption by 1.5% per year. Nevertheless, these targets fall short of the 13% target proposed by the RePowerEU plan, and the 14.5% target called for by the

European Parliament[16]. In addition, previous EU efficiency targets have been consistently missed by Member States, requiring stronger efforts in implementation[17].

- The recently revised EU Circular Economy monitoring framework[18] assesses circular economy contributions to climate neutrality and resilience, by taking account of emissions from production activities, consumption footprints, as well as EU self-sufficiency for critical raw materials. Secondary materials still account for less than 12% in the EU. Many specialty metals and rare-earth elements (such as lithium, gallium, and neodymium) provide around 1% of end-of-life recycling input rates, while end-of-life recycling rates reach 16% for nickel and 22% for cobalt, both raw materials used in batteries[19]. In addition to recycling rates, circular strategies for more intensive use, longer life, component reuse, remanufacturing, repair, and shared use, delivers more and longer value from less materials. This increases competitiveness and predictability of material costs for industry, and reduces energy needs for extraction, production, and end-of-life treatment. Related energy efficiency gains and emission reductions should be integrated into energy saving strategies.

PRI makes the following recommendations:

- **Member States need to implement policies to rapidly achieve EED energy saving targets in Member States.** Public bodies may lead in implementing higher energy efficiency standards for public buildings, utilities, and transport options.
- **Assess to what extent energy efficiency gains from circular material use in EU transition planning can be included in energy saving targets.** Resulting emission reductions, based on life cycle assessments of different material use, can be included in climate targets for 2030 and transition planning for 2040. Such an assessment should also consider co-benefits of circular economy strategies for sustainability, resilience, competitiveness, and autonomy of the EU, as aligned within the Circular Economy Action Plan (CEAP)[20].
- ***By 2026:* Assess EED annual saving targets on their alignment with the proposed climate target for 2040.** Public bodies may lead in implementing higher energy efficiency measures in public buildings, utilities, and transport options.

Accelerate the expansion of 'no-regret' options for electrification

The revision of the Renewable Energy Directive (REDIII) is a core piece of legislation for the EU's energy transition currently awaiting adoption.

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[16] EURACTIV (2023). New EU energy efficiency directive sets 11.7% reduction target by 2030. https://www.euractiv.com/section/energy-environment/news/new-eu-energy-efficiency-directive-sets-11-7-reduction-target-by-2030/

[17] Eurostat (2022). Primary and final energy consumption still 5% and 3% above their 2020 targets. https://ec.europa.eu/eurostat/web/products-euro-indicators/-/8-04022020-bp

[18] European Commission DG Environment (2023). Circular economy: Faster progress needed to meet EU resource-efficiency targets, ensure sustainable use of materials and enhance strategic autonomy. https://environment.ec.europa.eu/news/circular-economy-faster-progress-needed-meet-eu-resource-efficiency-targets-ensure-sustainable-use-2023-05-15_en

[19] Ibid.

[20] European Commission. Circular economy action plan (2020). https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

- The new target for a renewable energy share of 42.5% of the overall energy mix, roughly doubling its current share of 22%, is a significant step towards the climate-neutral economy. Sectoral targets for power generation, heating and cooling, and industry, as well as accelerated permit granting for renewable energy installations will support the rapid expansion of renewable energies.

To ensure climate neutrality by 2050, electrification of energy supply is crucial for key sectors. Research shows that renewable energy, energy efficiency and electrification, where cost-effective, can be characterised as ‘’no-regret' options. These options already exist in the 2030 climate and energy policy packages, should be upscaled in the period after 2030, and will unavoidably hold a significant role in the long-term transition.[21]

- Electrification to reach net-zero emissions requires energy for power generation, heating, and transport fuels to shift to zero-carbon sources. Thus, the sustainability criteria and emission thresholds of energy sources deployed for this transition are essential. In the building sector, for example, heating and cooling amounts to 40% of EU energy demand. Here, fossil fuel phase-outs of -37% by 2030 and up to -97% by 2040 are possible by increasing the use of heat pumps, better insulation, and large-scale district heating[22].
- Renewable energy deployment needs to triple by 2030 in the EU to fully decarbonize the power sector, which calls for a higher target to support the increasing rate of deployment for renewable energy installations. Current growth rates show this is feasible: wind and solar energy in the EU increased from just 13% of electricity production in 2015 to 22% in 2022, a growth rate of almost 60%, while the global share of wind and solar increase from 4.6% to 12.1% in the same period[23].

Strict sustainability standards based on best available science within REDIII is critical to prioritise the use of ‘no-regret’ energy sources and to ensure the transition to climate neutrality by 2050.

- For example, energy from biomass still accounts for 60% of all RES (Renewable Energy Sources), primarily from woody biomass. While REDIII includes ‘no-go areas’ for primary forest, and limits subsidies for woody biomass for electricity use, there is still no overall cap on its use for power generation. Furthermore, bioenergy is rated as carbon-neutral within the Emission Trading System (ETS), despite its combustion releasing more emissions than coal.
- According to the “cascading principle”, biomass should be prioritised for its highest-value use. This would indicate limiting the use of biomass for power generation or heating; prioritising organic waste and agricultural residues (and green hydrogen) for producing renewable fuels; and using wood primarily for highest-value material use in the bioeconomy.

PRI provides the following recommendations:

- **Member States need to implement national policies to achieve REDIII targets for 2030** and increase electrification through ‘no-regret’ energy options. This requires maintaining strict definitions of what constitutes a renewable energy source based on best available scientific evidence. The European Scientific Advisory Board should support by providing guidance, while the EU Taxonomy technical screening criteria will guide further specification.

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[21] Pantelis Capros, Georgios Zazias, Stavroula Evangelopoulou, Maria Kannavou, Theofano Fotiou, Pelopidas Siskos, Alessia De Vita, Konstantinos Sakellaris (2019). Energy-system modelling of the EU strategy towards climate-neutrality, Energy Policy, Volume 134, 110960, https://doi.org/10.1016/j.enpol.2019.110960.

[22] Agora (2023). Breaking free from fossil gas. https://static.agora-energiewende.de/fileadmin/Projekte/2021/2021_07_EU_GEXIT/A-EW_292_Breaking_free_WEB.pdf

[23] Ember (2023). Global Electricity Report 2023. https://ember-climate.org/insights/research/global-electricity-review-2023/

- **Define adequate safeguards** to ensure that renewable energy installations in designated go-to areas do not harm biodiversity or reduce its carbon sink potential, using the technical screening criteria and the Do No Significant Harm (DNSH) criteria of the climate delegated act of the EU taxonomy for renewable energy activities as a guideline. Regular assessments of progress on Fit for 55 implementation progress may be aligned with the EU Taxonomy three-year review mechanism.
- ***By 2026:*** **Review sustainability criteria for the classification of biofuels, bioliquids, and biomass** in REDIII and the EU Taxonomy. The objective should be to prohibit biomass for energy production sources from primary forests and no-go areas; phasing out the overall use of woody biomass for electricity-only installations; and consistently apply the 'cascading principle' for the use of woody biomass.

Incentivise industry innovation and transition finance through carbon pricing

The NZAOA identifies carbon pricing as a "*necessary part of the climate policy toolkit required to achieve net-zero emissions and reach the Paris Agreement goals*"[OBJ]. Reducing emission certificates while expanding their coverage provides a broad incentive for decarbonisation, driving emissions reductions where they are most cost-effective, incentivises firms to invest in abatement technology, and reduces consumer demand for emissions-intensive goods.

To ensure effective implementation of a carbon price policy instrument, the NZAOA formulates a list of five design principles:

- Ensuring appropriate coverage and ambition, in line with science-based evidence;
- Delivering a just transition, using revenues to compensate for transition impacts in disadvantaged communities;
- Providing a predictable price signal, with certainty over the broad trajectory of carbon prices and resulting market stability;
- Minimising competitive distortions, avoiding carbon leakage to companies in less stringent emission environments, by creating a level playing field;
- Promoting international cooperation.

These principles are mirrored in the reform and expansion of the ETS I and II, and the establishment of the first Carbon Border Adjustment Mechanism (CBAM).

- PRI commends the EU for its reform of the ETS, gradually decreasing free emission allowances and increasing overall reduction in sectors covered to 61% by 2030. The new ETS II for road transport and buildings from 2027 will expand the coverage and ambition, while only allowing carbon prices to rise to €45/ton until 2030, providing protection from regressive impacts due to price volatility for essential energy services.
- The CBAM prevents carbon leakage and protects the competitiveness of European companies. After a reporting-only period of three years, it implements CBAM levies gradually from 2026 to be fully operational by 2034 and mirror ETS carbon prices. Free allowances for companies covered by CBAM will be reduced in tandem until full phaseout by 2034.

PRI calls upon policymakers to:

- **Implement the gradual reduction of ETS allowances and the expansion of sectors covered as decided in the ETS reform.**

- **Ensure social safeguards for the most vulnerable households and communities.** A just transition needs to minimise negative distributional impacts from price increases for food, energy, and material services, and avoid exclusion and resistance to change.
- ***By 2026:*** **Assess if the pace of phasing out free certificates for industry under CBAM** aligns with the indicative EU carbon budget for 2030-2050, based on best scientific evidence and advice from the European Scientific Advisory Board on Climate Change. The quantification of allowances and their cap for net zero emissions by 2050 will also need to align with the Commission's carbon budget assessment.

Enhance nature-based solutions and adaptation measures

Climate neutrality is only possible with carbon removal solutions, offsetting temporary or unavoidable emissions until 2050. From 2050 and onwards, the European Climate Law aims for negative emissions, removing and storing more carbon than has been emitted. This would require natural habitats and ecosystems to mitigate climate change as it reduces and avoids emissions from land, enhances the capacity of ecosystems to capture and sequester carbon in natural sinks, and can prevent future emissions by increasing ecosystem resilience.

- PRI welcomes the Land Use, Land Use Change and Forestry (LULUCF) regulation, which sets the overall EU-level objective of 310 Mt CO2 equivalent of net removals in the LULUCF sector by 2030. Its progressively increasing absorptions and emissions reductions from soils, trees, plants, biomass, and timber, is essential for EU carbon storage objectives for 2030.
- However, without significant scaling up of nature restoration, net emission removals are projected[24] to decrease to 200 MtCO2e per year in 2020-2040, down from the historic average of 300 MtCO2e for 1990-2019. This would mean the EU is highly likely to fail its 2050 net zero emissions targets.
- Nature-based climate solutions, including restoring peatlands, agroecosystems and forests hold immense potential to safeguard carbon stocks and increase sequestration. Peatlands, for example, occupy around 3% of the Earth's surface, but store nearly 30% of global soil carbon, double the amount of all forests[25]. Restoring drained peatlands could save up to 25% of Europe's land-based greenhouse gas emissions[26].

Restoring wetlands, rivers, forests, grasslands, marine ecosystems, and the species they host provide significant co-benefits next to their carbon sequestration potential to achieve EU climate targets. They also build up Europe's resilience and strategic autonomy, by preventing natural disasters and reducing risks to food security.

Several investor initiatives support stronger action on nature restoration, to mitigate climate- and nature-related business and investment risks.

- Nature Action 100 is a global investor engagement initiative focused on driving greater corporate ambition and action to reduce nature and biodiversity loss.

[24] IEEP (2022). Why is nature restoration critical for climate mitigation in the EU? https://ieep.eu/wp-content/uploads/2023/01/1_Nature-Restoration-and-Climate-mitigation.pdf

[25] UNEP (2022). Global Peatlands Assessment: The State of the World's Peatlands https://www.unep.org/resources/global-peatlands-assessment-2022

[26] IEEP (2022). Why is nature restoration critical for climate mitigation in the EU? https://ieep.eu/wp-content/uploads/2023/01/1_Nature-Restoration-and-Climate-mitigation.pdf

- The Finance for Biodiversity Pledge brings together a total of 126 financial institutions from 21 countries covering nearly €19 trillion euro in assets who are committing to protect and restore biodiversity through their finance activities.
- More than 150 private financial institutions with US$ 24.8 trillion in assets under management signed a statement[27] coordinated by the PRI, UNEP Finance Initiative, and the Finance for Biodiversity Foundation, calling for an ambitious Global Biodiversity Framework in late 2022.

PRI calls upon policymakers to:

- **Ensure carbon removal targets are not at risk from energy policy decisions.** Climate plans and carbon removal assessment as well as co-benefits from ecosystem services and increased resilience need to inform decisions on renewable energy expansion. Nature-based solutions and carbon sinks are increasingly important for climate targets and connects key Fit for 55 files like the Effort Sharing regulation (ESR), LULUCF regulation, REDIII, as well as upcoming legislative proposals on nature restoration. To support achieving higher carbon sequestration rates in Member States, carbon removal targets should stay separate from overall emission reduction targets in the ESR.
- **Utilise more nature-based solutions for interdependent climate mitigation, adaptation, and biodiversity objectives.** Nature-based climate solutions, including restoring peatlands, agroecosystems, and forests, hold immense potential to safeguard carbon stocks and increase sequestration essential for the transition to climate neutrality. Thus, reversing biodiversity loss is a core component for achieving the European Climate Law and honouring the EU's global climate and biodiversity commitments. In this regard, PRI supports an ambitious EU nature restoration law, to mitigate nature-related investment risks and re-direct capital flows to positive outcomes for nature and thriving ecosystems.
- **Draft new legislation to improve climate resilience through adaptation efforts.** Assets instrumental in delivering climate mitigation targets will be exposed to the effects of a growing number of extreme weather events. New legislation that will allow assets to adapt to increased extreme weather events and is resilient in the future is recommended. This is in line with the current EU Adaptation Strategy which outlines how the European Union can adapt to the unavoidable impacts of climate change and become climate resilient by 2050.

3. TRANSITION PLANS AND SECTORAL ROADMAPS TO ENABLE NET ZERO FINANCE

Investments needed for the transition to a zero-carbon economy by 2050 as laid out in the European Green Deal are unprecedented and require the mobilisation of all available financial resources. Public finance for this task needs upscaling, yet most of the capital will have to come from financial markets and the private sector.

A recent Investor Agenda report[28] on the use of EU recovery funds, co-authored by PRI, estimates EU financing needs are averaging nearly €1 trillion per year from 2021-2050 to build a carbon-neutral

[27] PRI (2022). Financial sector statement on biodiversity for COP15. https://www.unpri.org/financial-sector-statement-on-biodiversity-for-cop15/10750.article

[28] CDP, IIGCC and PRI (2022). Powering a Green Recovery: How EU recovery funds can support investors and the European Green Deal. https://www.unpri.org/download?ac=17250

economy by 2050. For the 2030 climate target of reducing emissions by –55%, estimates suggest €3 trillion are needed over the decade, or €300 billion per year[29].

An effective EU-wide transition plan to address these investment gaps will have to connect climate policy, target setting, and use public funding to leverage financial markets. The Commission and Member States need to:

- Address financial market barriers.
- Develop sector roadmaps to provide private sector guidance.
- Integrate sustainable finance instruments to support market development.
- Communicate transition funding needs and leverage public finance.
- Engage in stakeholder dialogue.
- Apply a whole-of-government approach to the transition.

Address financial market barriers

Incentivising investment to close the funding gap for the transition to a climate-neutral economy remains a significant obstacle for EU climate policy and requires a combination of public and private finance for projects, procurement, and innovation – in short, a sustainable financial system.

A sustainable financial system is a resilient system that contributes to the needs of society by supporting sustainable and equitable economies, while protecting the natural environment. The EU's objective to create such a system is expressed in its Strategy for Financing the Transition to a Sustainable Economy[30].

Nevertheless, significant challenges remain for financial market actors to invest in a future net zero economy.

- ***Political decisions and climate targets*** at the EU level and within Member States are not closely aligned with financial policy and disclosure regulation for the private sector. For instance, while the corporate sector and financial institutions are increasingly devising net-zero transition pathways, sectoral roadmaps for net zero transition planning are not yet available for the EU or for Member States.
- ***EU green recovery funds*** like the Recovery and Resilience Facility (RRF) would benefit from a stronger linkage to sustainable finance regulation and apply sustainability criteria set in the EU Taxonomy. This would help create transparency for sustainable investment opportunities and more clarity on green portfolio alignment for financial market actors.
- ***EU funding mechanisms, financial support and incentives*** would benefit from more flexibility to adjust to financing needs in different contexts, regions, and sectors. Public banks and investment companies, for example, have a key role in supporting the net zero transition by providing concessional loans for transition projects, green bonds for sustainable investments, and other sustainability-linked instruments to draw in financial markets. An overuse of public grants for transition projects and infrastructure, on the other hand, risks crowding out private finance for the net zero economy.

[29] Bruegel (2020). A trillion reasons to scrutinise the Green Deal Investment Plan. https://www.bruegel.org/blog-post/trillion-reasons-scrutinise-green-deal-investment-plan

[30] European Commission (2021). EU Strategy for Financing the Transition to a Sustainable Economy. https://finance.ec.europa.eu/publications/strategy-financing-transition-sustainable-economy_en

Develop sectoral roadmaps for private sector guidance

The EU's climate objectives and policies can be better integrated with other policy areas through sustainable finance instruments and public financing instruments. However, this requires some high-level guidance and mapping of transition activities on the pathway to climate neutrality. Private market actors need a planning horizon and overall security on the direction of travel.

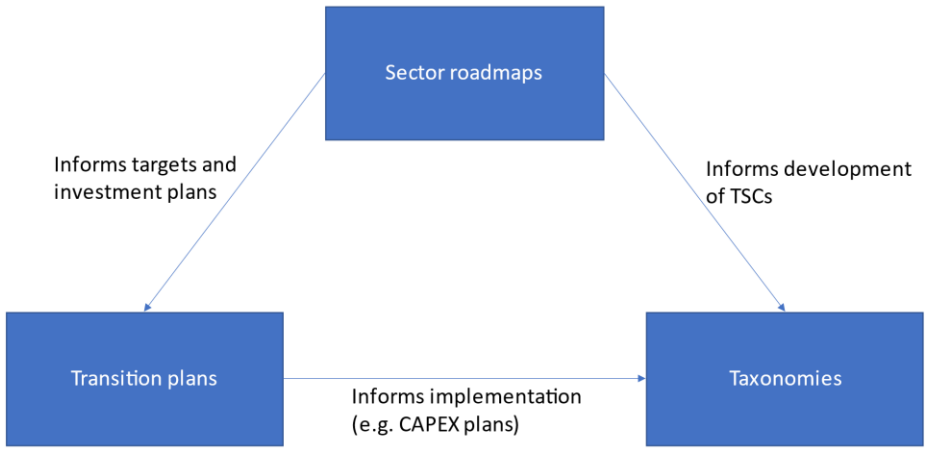
- Article 10 of the EU Climate Law notably provides a mandate for the EU to monitor the development of sectoral roadmaps towards a net-zero economy. The Commission needs to provide comprehensive roadmaps that outline decarbonisation needs for different economic sectors. This will provide guidance to Member States, industries, and entities, i.e., companies and financial institutions, so they can better assess and prepare for emerging investment risks and opportunities.
- The main objective of these roadmaps is to (i) provide a shared vision and understanding of what the decarbonisation of the economy at EU level looks like, (ii) how and within what timelines it is expected to progress for different sectors and industries, and (iii) what role public and private finance and companies should play in enabling and accelerating this net zero transition. This shared understanding needs to include different stakeholders across various levels and sectors.
- Expected carbon pricing developments are a key factor for investment decisions and should be factored into transition planning and roadmaps. Risk analysis for industry and financial markets depends on information around the level at which these externalities are being priced into future investment costs. The impact that EU climate related policies have on the carbon price, and the timely and transparent communication on these expected impacts, will affect market predictability, investment planning horizons, and the incentive structure for the private sector to engage and support the transition. Other sustainable finance instruments and regulations will further impact investment appetite.

Integrate sustainable finance instruments to accelerate market development

Sector roadmaps to provide high-level guidance for economic actors are just one essential part of the overall sustainable finance puzzle[31]. They need to be complemented by regulatory instruments at the level of:

- ***Companies*** – i.e., *transition plans* that outline how an individual entity will contribute to reaching sustainability goals. The adopted Corporate Sustainable Reporting Directive (CSRD) and ensuing European Sustainability Reporting Standards (ESRS) are implementing transition plan reporting requirements on the EU level, and the Corporate Sustainable Due Diligence (CSDD) Directive may make the adoption of transition plans mandatory for companies in its scope.
- ***Economic activities*** – i.e., a taxonomy that defines technical screening criteria (TSC) to classify to what extent economic activities contribute to achieving sustainability goals. The EU has put in place a sustainable taxonomy under the EU taxonomy regulation.

[31] PRI has initiated an ongoing research project on transition finance policy and would welcome the opportunity to share results at the appropriate time. The research includes stakeholder interviews on how to more effectively connect sustainable finance, fiscal policy and real economy policies to support the net zero transition and overall sustainability outcomes.



Source: PRI research project on transition finance[32]

As a result, companies and financial institutions may use the sector roadmaps – based on climate policy objectives and targets on emission reduction, energy efficiency, renewable energy, and carbon removals as set out in the Fit for 55 package – to inform their own decision making and transition plan development.

- ***Sector roadmaps*** link to company-level transition plans, as applicable by the CSRD and the European Sustainability Reporting Standards (ESRS). The mandatory disclosure of transition pathways might also be mandated in the CSDD Directive. Both companies and financial institutions, in turn, will be providing comparable disclosure data on aggregate implementation progress of the net zero transition. This establishes a feedback loop between top-down EU targets and bottom-up entity level transition planning: high-level climate targets and transition planning is operationalised in sector roadmaps, and informs industry sectors, companies, and financial actors; while these in turn have more relevant information and planning security to align their own transition plans with political net zero transition pathways.
- **Transition finance policy** also needs stronger links with existing disclosure requirements under the EU sustainable finance framework,
    - At the economic activity level, the ***Taxonomy Regulation's technical screening criteria*** including the do no significant harm (DNSH) criteria, can be used to assess what capital allocation and investments make a substantial contribution to the objective of climate mitigation. Disclosure of capex spending on taxonomy-aligned activities will be particularly useful for assessing efforts to transition activities and business models and may inform the development of sectoral roadmaps and corresponding financing needs.

[32] PRI (upcoming). A Transition Finance Policy Framework for a Sustainable and Equitable Economy.

- Whilst there is currently no requirement for a "transition plan", under the ***Sustainable Finance Disclosures Regulation (SFDR),*** investors must disclose on entity level, where relevant, the "degree of alignment with the objectives of the Paris Agreement". This description must contain the Principal Adverse Impact (PAI) indicators that define sustainability factors used to measure alignment, methodology and data used, and information on the forward-looking climate scenario if one was used. SFDR also requires investors to disclose several PAI indicators (such as scope 1, 2 and 3 GHG emissions, carbon footprint, etc). The climate PAI indicators (and the subsequent actions taken to mitigate those impacts) can provide useful information on investors' transition policies at entity and financial product level.

Communicate transition funding needs and leverage public finance

The EU can more effectively use transition planning tools like Long-Term Strategies (LTS) and regular National Energy and Climate Plans (NECPs) to assess and make transparent financing needs at the Member State level.

- ***LTS and NECPs*** are useful tools to connect EU climate targets with commitments of Member States and their performance against these targets. By providing pathways for mid- to long-term emission reductions, they represent a starting point for Member States to develop plans for decarbonisation at the sectoral level. They also provide direction and guidance for companies and financial markets. Going forward, LTS and NECPs should integrate financing needs estimated for sectoral transitions to the net zero economy, and thereby reduce market uncertainty while enabling better risk analysis and investment decisions.

Public investment and market intervention further help to stimulate investments needed for the transition to a climate-neutral economy[33].

- ***EU innovation programmes, public banks and investment companies*** can help to de-risk innovation and potentially transformative projects while encouraging larger private capital flows. Incentive mechanisms may support industry sectors in transition by providing risk mitigation with flexible, dynamic, and ad-hoc financing mechanisms to leverage financial market capital: through grants, blended finance, equity, debt, bonds, and loans, depending on the risk allocation and maturity stage of innovation.
- Transition finance gaps require better linkage and alignment with ***EU funding instruments,*** including recovery funds like NextGenerationEU and the Recovery and Resilience Facility (RRF), guarantee-based instruments like Invest EU, and from the Multiannual Financial Framework (MFF). Aligning these instruments on mutually agreed principles and transparent processes for market participants allows for better leverage and stronger linkage between transition planning, policy design, investment decisions and project development.
- ***Public banks and investment companies*** have the capacity to combine financial and scientific expertise to identify and develop new and innovative markets. They are uniquely positioned to support the private sector by building technical expertise and can support companies in their transition planning, which will become more important as mandatory requirements for such plans is increasing with financial regulations such as the CSDD Directive.
- ***Public procurement guidelines*** are powerful to drive market development for low-carbon products and services. The EU estimates its public purchase of goods and services worth

[33] E3G (2022). Achieving a transition framework in the EU. https://www.e3g.org/publications/achieving-a-transition-finance-framework-in-the-eu/

around €2 trillion, or 13.3% of GDP[34]. Public administrations at the EU and within Member States need to focus their investments on low-carbon solutions, including technologies, manufacturing and material efficiency, and circular economy approaches. For example, governments procure vast amounts of steel, cement, and other raw materials for infrastructure projects. Here, green public procurement (GPP) can use KPIs aligned with EU net zero targets and decarbonisation pathways, and thereby use their purchasing power for green products and goods with lower emissions over their product life cycle to stimulate market development for the climate-neutral economy.

Engage in multi-level, cross-sectoral stakeholder dialogue

More stakeholder dialogue, fora for exchange, and spaces for mutual learning are necessary to facilitate a shared understanding of net zero transition finance principles between policy makers, industry, and financial market actors. Through regular dialogue, it will become easier to agree on, operationalise, and implement a workable framework and align existing sustainable finance instruments for mandatory transition planning by companies and financial institutions.

- These guidelines should also align with broader sustainable finance principles which are being developed within the G20 Sustainable Finance Working Group, the OECD, and other international venues.
- The Commission needs to increase technical assistance and capacity building, specifically on the impacts of EU transition planning for risk assessment and emerging market opportunities, investment needs for the transition to a net zero economy, and available funding and financial support instruments. Technical support initiatives may expand successful examples like the EIB (European Investment Bank) PATH framework[35], the implementation of recovery funds from InvestEU[36], and others.

Apply a whole-of-government approach to the transition

In summary, the EU's climate goals and policies can be better integrated with other policy areas as part of a whole-of-government approach to the transition, by enabling markets through sustainable finance instruments, and leveraging public finance mechanisms.

To better understand the interplay of climate, financial and industrial policy, PRI is carrying out a research project on transition finance to define key features of such a 'whole-of-government' approach – at EU and Member States level – that enables a transition to a sustainable and equitable net zero economy which supports natural and social systems. An effective approach must combine the following measures:

- Make the transition a central goal of public policy
- Put in place adequate governance structures
- Adopt a government transition plan that brings together targets, resource allocation and financing needs

[34] European Commission. Public procurement. https://policy.trade.ec.europa.eu/help-exporters-and-importers/accessing-markets/public-procurement_en

[35] European Investment Bank (2022). The EIB Group PATH Framework https://www.eib.org/en/publications/20220007-the-eib-group-path-framework

[36] InvestEU. https://investeu.europa.eu/index_en

- Use key policy levers: internalise externalities, incentivise markets for solution, enable finance to support the transition
- Ensure international collaboration
- Engagement with stakeholders
- Public private sector collaboration.

PRI would welcome presenting the results from this research and engaging in dialogue with the Commission on integrating sustainable finance tools to enable financial market support for the net zero transition.

RECOMMENDATIONS

The PRI calls upon policymakers to:

- **Create an EU wide transition plan that brings together short-, mid and long-term targets as well as the required public and private sector resources and financing needs from companies and financial market actors.** This requires (i) stronger alignment of three related policy areas: first, setting a climate target for 2040; (ii) target-based transition planning with indicative sectoral roadmaps towards the climate-neutral economy; and (iii) leveraging financial markets, including taxonomy-aligned activities, and avoiding principal adverse impacts (PAI) as disclosed under SFDR. The main objective is to align different stakeholder needs from policy, industry, and financial markets around EU climate targets and roadmaps for different entities' investment planning and decision-making.
- **Develop sectoral transition pathways at the EU level in collaboration with the private sector.** The European Commission has the mandate under the Climate Law to engage with sectors of the economy to prepare indicative voluntary roadmaps for climate neutrality. These roadmaps should be based on coherent, robust, and reliable pathways to achieve EU climate targets set for 2030 and eventually 2040, and net zero emissions by 2050.
- **Ensure transparency on financing needs in national climate strategies.** Member States ought to provide policy predictability and a reliable planning horizon for financing needs for decarbonisation plans and include robust monitoring mechanisms. These will strengthen regularly updated mandatory National Energy and Climate Plans (NECPs) from 2020 to 2030 as defined under the Regulation on the governance of the energy union and align with Long-term strategies (LTS) at the national level as set up by all Parties to the UNFCCC.
- **Enable financial markets** by linking sector roadmaps, transition planning, and sustainable finance instruments. This includes (i) using technical screening criteria for economic activities under the EU taxonomy (including do no significant harm requirements); (ii) applying transition pathway disclosure requirements under CSRD/ESRS and CSDD; and (iii) identifying PAI indicators to support assessing alignment of investments under the SFDR with the Paris Agreement
- **Leverage public finance** for the net zero economy by designing policy incentives to stimulate investments for decarbonization solutions. This would include aligning public procurement, EU funding instruments, and public banks and their financing instruments with EU climate targets and decarbonisation pathways.
- **Engage with stakeholders** from different sectors and provide technical assistance, build capacities, and learn from each other. This involves various levels of political decision makers and regulators in the EU (including national, state, and local levels); industry representatives; public banks; and financial market participants.

FURTHER PRI AND OTHER RESOURCES.

- Agora (2023). Breaking free from fossil gas.
- IEEP – Institute for European Environmental Policy (2022). The EU climate target: What's in the numbers?
- Investor Agenda – CDP, IIGCC and PRI (2022). Powering a Green Recovery: How EU recovery funds can support investors and the European Green Deal.
- E3G (2022). Achieving a transition framework in the EU.
- Net-Zero Asset Owner Alliance (2022). Position paper on governmental carbon pricing.
- PRI (2021). IPR (Inevitable Policy Response) Investor Value Drivers Launch – Market leading guidance for investor climate transition & risk strategies.
- PRI (2022). Policy Briefing: Reconciling Energy Security with Net Zero Commitments (EU).
- PRI (upcoming). A Transition Finance Policy Framework for a Sustainable and Equitable Economy.

ANNEX I

RESPONSES TO CONSULTATION QUESTIONNAIRE.

1. GENERAL SECTION

OVERALL OPINION ON THE EU'S CLIMATE AMBITION FOR 2040

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?

- **Option 1: EU should accelerate the transition to climate neutrality**
- Option 2: The transition to climate neutrality should continue at the current pace.
- Option 3: The transition should be slower than the current pace.
- Option 4; The EU's ambition should depend on other countries' climate ambition.
- Option 5: I don't know

EU emission reduction target for 2030-2040

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?

- Option 1: to -65% emission reduction (a very low ambition, barely increased compared to the target for 2030).
- Option 2: between -65% and -75% emission reduction.
- Option 3: between -75% and -80% emission reduction (following the average trajectory between 2030 and climate neutrality in 2050).
- Option 4: between -80% and -90% emission reduction.
- **Option 5: more than -90% emission reduction (a very high ambition, close to reaching climate neutrality already in 2040).**
- Option 6: I don't know

Role of carbon removals in the 2040 climate target

The opposite of CO emissions are CO 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?

- Option 1: 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.
- **Option 2: It is better to set a separate target for reducing GHG emissions and another target for carbon removals.**
- Option 3: 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]

- **It will ensure that we do our part in protecting the planet and fulfilling our duty towards future generations.**
- **It will improve energy security, reduce the EU's dependency on imported fossil fuels and reduce exposure to volatility in fossil fuel prices.**
- **It will improve our well-being (by lowering pollution, improving health, and creating more liveable cities) and help protect the planet's ecosystems.**
- **It will help individuals and businesses lower their energy and climate bills.**
- **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).**
- **It will give a clear signal that the EU economy will embrace sustainable production and consumption models (e.g., circular and sharing economy approach).**
- **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).**
- **It will reinforce EU leadership and inspire action to combat climate change globally.**
- **It will improve the competitiveness of the European economy and give EU industry a first-mover advantage on global markets.**
- **It will simultaneously address the climate and the biodiversity crises.**

PRI response: all of the above.

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 modernizing 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?

Options	PRI response
Capturing CO2 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.	5 (strongly agree)
Public support is critical for climate ambition, which will require behavioral and societal changes. This needs to be reflected in policies, for instance on reusing and recycling and a fair transition.	5
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.	5
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.	5
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.	5
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.	5
Small and medium enterprises will need support to develop and adapt as part of the transition.	4
New technologies and solutions need to emerge and be deployed (e.g., clean fuels), which will require more research, development and innovation.	5
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.	4
Further improvements in energy efficiency are necessary. The EU should promote the smarter and more efficient use of energy and resources.	5
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.	4

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?

Options	PRI response
Production of electricity and district heating	5 (strongly agree)
Industrial processes & waste	5
Buildings (residential and services)	5
Road transport (passenger and freight transport)	5
Aviation & maritime transport	5
Agriculture, forestry, and other land use	5

2. EXPERT SECTION

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 CO2 equivalent (MtCOe) 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 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?

Options	PRI response
EU emissions trading maintains the obligation to surrender allowances for emissions that are captured and utilized (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.	4 (mostly agree)
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.	4
EU emissions trading should also cover all non-CO2 GHG emissions from the use of fossil fuels and industrial processes, not only CO2 emissions.	4
EU emissions trading should also cover GHG emissions from other sectors (e.g., extractive industries or the land sector).	4
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.	5

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.

Options	PRI response
Any extension of CBAM to all ETS products, which will replace free allocation, should be done progressively and prioritise certain sectors.	5 (strongly agree)
Priority should be given to sectors where absolute emissions are the highest.	3
Priority should be given to sectors where the emission reduction efforts are the lowest.	3

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

No response.

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 CO2 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?

Options	PRI response
The ESR and associated national targets should cover only GHG emissions that are not subject to the EU ETS.	Don't know
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).	Don't know
There should be national targets covering all GHG emissions from all sectors (including those covered by the EU ETS).	Don't know
National targets should be replaced by EU-wide sectoral legislation.	Don't know

MITIGATION OF GHG EMISSIONS FROM THE LAND SECTOR (AGRICULTURE, FORESTRY, AND OTHER LAND USE) AND POLICY OPTIONS

No PRI Response.

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 CO2 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 CO2 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?

- Option 1: 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).
- **Option 2: 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.**
- Option 3: 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)?

- **Option 1: A stronger reliance on the LULUCF sink, since the large-scale deployment of industrial removals is uncertain.**
- Option 2: A balance between the LULUCF sink and industrial removals.
- Option 3: A stronger reliance on industrial removals, since the evolution of the LULUCF sink is uncertain.
- Option 4: No opinion.

TECHNOLOGIES

Barriers to carbon capture and storage technologies

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

Options	PRI response
Public acceptance	5
Regulatory framework	4
Technology maturity	4
Cost of CO2 capture technology	5
CO2 storage availability	Don't know

Economic signals (e.g., the price of carbon)	2

- Suggested response: If the EU were to rely to a certain extent on carbon removals to meet its targets in 2040, it should be based on *"a stronger reliance on the LULUCF sink (nature-based removals in the land sector), since the large-scale deployment of industrial removals is uncertain (direct air capture or carbon capture and storage associated with bioenergy)".*

Carbon capture and use or storage

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

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

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?

Options	**PRI response**

Demand management, demand response and greater digitisation of energy systems.	5
Fossil fuels with carbon capture and storage.	2
Biogas from agricultural and domestic waste.	4
Hydrogen and its derivatives (produced in a carbon-neutral manner).	4
Electricity storage, long duration storage and heat storage (electricity system integration).	5
Nuclear energy (existing nuclear fission).	Don't know
Advanced liquid biofuels.	Don't know
Renewable energy from wind (onshore, offshore and floating), solar (including rooftop and decentralised installations) or hydro.	5
Bioenergy from advanced biofuels or solid biomass.	1
Other forms of renewable energy, like geothermal (including heat pumps), wave or tidal.	4
Solid biomass for heat and electricity production.	1
Energy efficiency first principle: prioritise further reducing the need to produce and consume energy.	5

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?

PRI Response:

Opportunities: (i) cost savings from energy efficiency first; (ii) large potential for electrification; (iii) 'no regret' (solar and wind) relatively easy to upscale.

Challenges: (i) using bioenergy with low sustainability criteria; (ii) gas infrastructure lock-in; (iii) time needed to restore nature for carbon sinks.

Other options to fight climate change to be considered

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

Options	**PRI response**

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

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?

Accelerated heat pump use, powered by renewable energy, to replace fossil fuel for heating/cooling (around 40% of total energy use).

ENGAGEMENT AND SOCIAL IMPACTS

No PRI Response.

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?

- Option 1: Current EU regulations and policy are sufficient to guarantee the security of the mitigation efforts in face of climate impacts.
- Option 2: The EU should do more to promote climate resilience of mitigation efforts using soft measures (guidance, training, etc.)
- Option 3: The EU should provide specific provisions related to climate risks in the existing EU legislative framework
- **Option 4: The EU should draft new legislation to improve climate resilience of mitigation efforts.**
- Option 5: I don't know.

The PRI has experience of contributing to public policy on sustainable finance and responsible investment across multiple markets and stands ready to support the work of the European Commission to implement the European Climate Law and achieve an equitable transition to climate neutrality by 2050 in the European Union.

Please send any questions or comments to policy@unpri.org.

More information on www.unpri.org