



**Flagship Report:**

# **State of EU progress to climate neutrality**

An indicator-based assessment  
across 13 building blocks for a  
climate neutral future



**EXECUTIVE  
SUMMARY**



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# Introduction

The EU wants to become a climate neutral economy by 2050. Achieving this goal requires transforming the way we produce, consume, move, and eat.

The EU wants to become a climate neutral economy by 2050. Achieving this goal requires transforming the way we produce, consume, move, and eat. EU institutions have already put in place many measures to guide and support governments, businesses, and citizens in this transition. To be effective, policy-makers must now understand how, and at what pace, these measures are translating into changes in the real world. The European Climate Neutrality Observatory (ECNO) flagship report is the first ever assessment to provide this information at an **economy-wide level**.



ECNO's assessment looks across thirteen building blocks of a climate neutral future.

Within each of these, the assessment identifies enabling conditions for the change needed, which are then measured using 104 indicators for progress achieved thus far. The approach is designed to accompany the implementation of the European Green Deal. Because of the delay in data availability, this first assessment considers mostly data from the 2015–2021 period, at a moment when the European Green Deal was in its infancy. Green Deal policies are factored in where possible, and will shape future developments in each building block.



# Key Insights

**!** The EU is moving in the right direction, but still too slowly

**1** The progress assessment shows that the EU has, over the period analysed, moved in the right direction, but needs to significantly pick up the pace of change to be on an effective path towards climate neutrality by 2050. This overall promising orientation was the case for all building blocks except for finance and carbon dioxide removals. A look at the additional policies adopted under the European Green Deal in the past two years indicates that the EU is taking steps to accelerate progress in most areas. This already shows in the governance system for climate policy that is assessed as being 'on track'.



**2** The assessment contains detailed results to inform decision-makers about areas in need of closer attention. Further targeted action is most needed where objectives and key underlying enablers have been progressing 'far too slowly', or – as in some instances – have moved in the wrong direction. Enabling conditions are critical areas for investigation as they unlock essential transitions. Inadequate pace on enablers carries significant risk to the EU's ability to meet its target.



Action is most needed where objectives and key underlying enablers have been progressing far too slowly or not at all

**3** A specific concern is the state of finance for transition in the EU. Counter-productive economic incentives remain in place, with some of them worsening in 2021 and 2022. Furthermore, the EU economy consistently puts too little public and private capital into climate investments, while still over-investing in fossil fuels. This endangers the transition at large as today's climate investments enable tomorrow's emissions reduction.

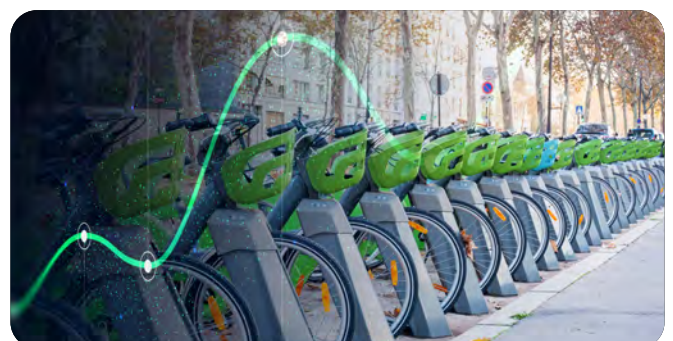


Significant gaps in data and ambition setting remain

**4** Transparency on past progress is a crucial element of climate governance and the efficient allocation of capital by public and private economic actors. This needs adequate, reliable data and official benchmarks. The assessment however reveals that significant gaps in data and ambition setting remain. Without a solid information base and framework for assessment, decisive barriers or lack of progress may go unnoticed.

**5** Current EU progress tracking is not designed to reveal detailed real-world developments to inform targeted policy action. Going forward, EU institutions should set up an official, up to date, granular, open-source monitoring system that is sufficiently granular to fulfil this function. The tracking system needs to be updated regularly, based on recent modelling of reliable pathways to 2050, and integrated with existing EU planning and monitoring systems. For full effect, EU decision makers should consider integrating into the EU Climate Law a dedicated action trigger based on the results of the assessments, akin to existing processes under the European Semester.

EU institutions should set up an official, up to date, open-source monitoring system



## Effective EU policymaking towards climate neutrality needs detailed information

The transition to climate neutrality is essential for ensuring a liveable future.

It requires the modernisation of many existing structures and practices – from the way we move, to how our food is produced, and how we warm and cool; from what our buildings are made of, to how our cities are organised. All these building blocks must transform so that we fulfil our needs while releasing net zero or net negative greenhouse gas (GHG) emissions into the atmosphere.



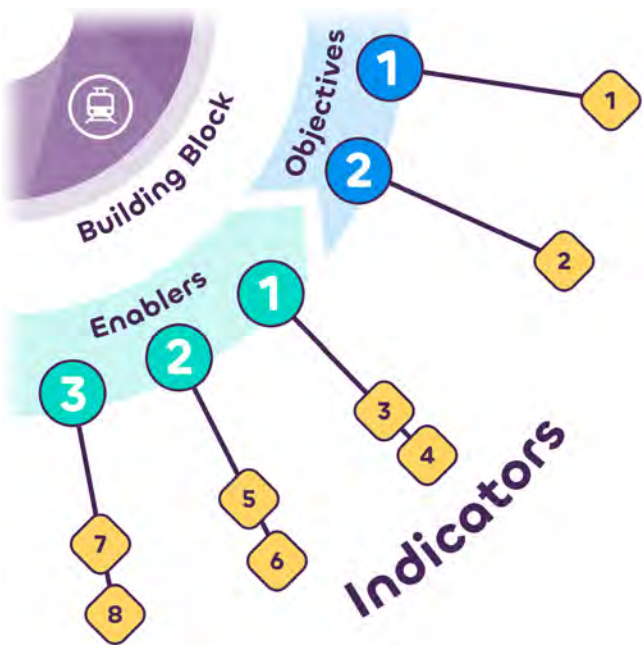
Achieving climate neutrality by 2050 at the latest is further the cornerstone of the European Union's (EU) strategic vision and of its commitment under the Paris Agreement.

Getting there will need coordinated action based on long-term planning, effective monitoring, and targeted policy interventions. The EU Climate Law responds to this by demanding regular checks of EU Member States' collective progress towards the climate neutrality goal. The first of these progress assessments is due by 30 September 2023, and is to be repeated every five years. However, the official existing monitoring system does not contain the information needed to understand if sufficient progress is happening in the structural changes that need to occur beneath the overall emissions curve.



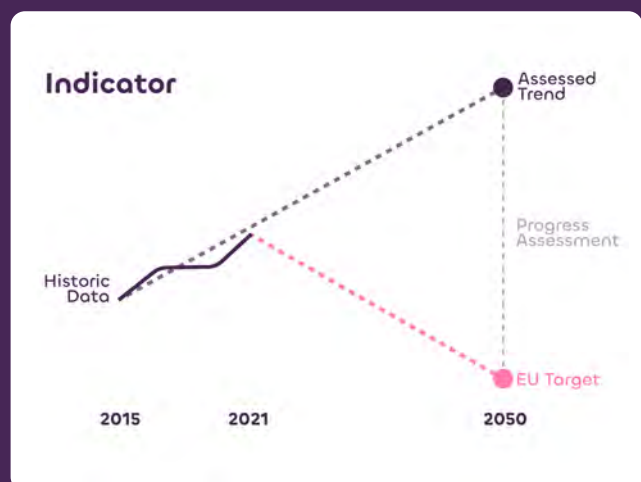
# An in-depth, indicator-based understanding of real-world change

ECNO seeks to strengthen the EU's official processes and contribute to evidence-based policy-making.



ECNO's first-of-its-kind assessment of EU progress towards climate neutrality by 2050 takes an in-depth look at state of the changes that need to occur across **13 building blocks** essential to a climate neutral future. The assessment presents **objectives** for each of these blocks and identifies key **enablers** to realise them. It then measures progress for both the objectives and their enablers. This approach is different from traditional monitoring practices, which tend to focus on headline targets only and miss out on more granular developments in the enabling conditions for the transition. Observing the development of enablers provides insights on the current trend of the transition in a given sector or policy field, and an indication of how progress on the objectives may continue in the future.

A total of 104 **indicators** were identified to measure past progress over a set period (using data mainly from 2015–2021). Data trends are combined with an expert assessment of up-to-date developments in EU policy, to arrive at a robust progress assessment for each building block. To be consistent with EU planning and monitoring, progress is measured against the EU's own vision for a climate neutral future, formed from official EU documents and the targets and benchmarks indicated therein.



# Thirteen building blocks of a climate neutral future

The 13 building blocks used for this assessment combine classic economic sectors with cross-cutting policy areas that all have a bearing on the EU’s ability to achieve climate neutrality. The sectoral building blocks include mobility, industry, buildings and the agrifood system, with electricity as a key driver for the transition at large. The need for carbon dioxide removal to compensate for residual greenhouse gas (GHG) emissions is also considered.

The cross-cutting building blocks strongly influence sectoral developments and support their GHG emission reductions. Finance, clean technology, and lifestyles underpin the necessary changes in the sectors, while governance covers the overarching decision-making framework for climate policy. Just and inclusive transition measures are key to manage the impact on EU regions and citizens. The EU’s responsibility to respond to climate change impacts and counteract vulnerabilities of its citizens is covered under adaptation, and the final cross-cutting building block assesses the consistency of EU external action with climate neutrality.



**Figure 1:**  
Building blocks for the transition to climate neutrality



## Results: Positive signals and urgent areas for policy intervention

As the EU finalises the legislation related to the European Green Deal, the analysis across 13 building blocks reveals strengths and weaknesses in the EU's progress towards climate neutrality.

Some of these insights can serve as inspiration and a source for optimism that policies are already working, while others are cause for concern and point to the need for stronger, targeted action. An overview of progress can be found in Figure 2. Detailed analysis and interpretation for each building block can be found in Chapter 4 of the full report. The top line insights are as follows:



**1** The assessment shows that the EU has, over the period analysed, moved in the right direction, but needs to significantly speed up its actions to be on an effective path towards climate neutrality by 2050.



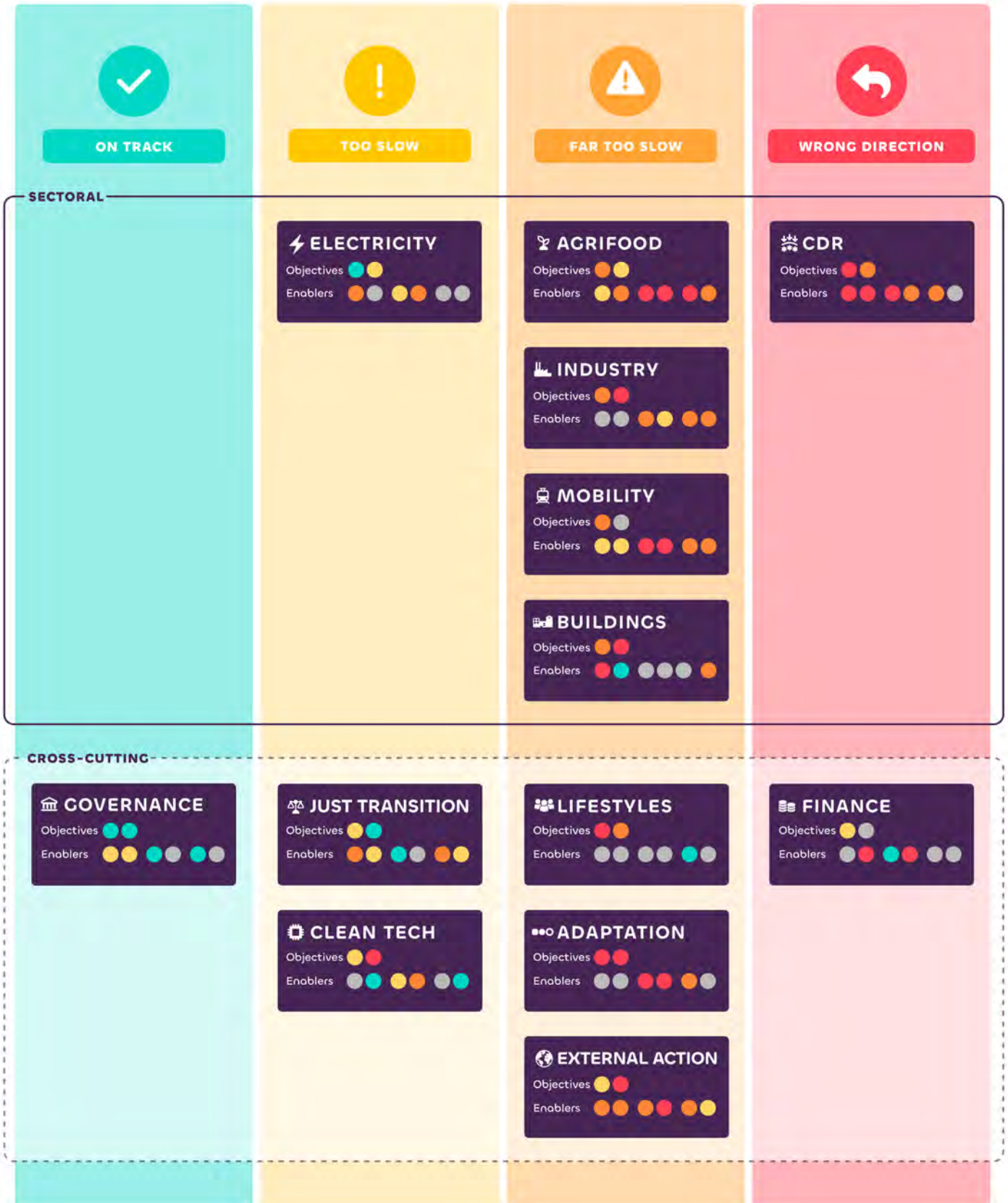
**2** At the outset of European Green Deal implementation, only one of the building blocks showed developments at a pace that puts it 'on track'. The observed trend for three of 13 building blocks was 'too slow' and in seven 'far too slow' when compared to what EU documents set out as is required to be on a path to climate neutrality by 2050 at the latest. In two areas, developments were moving in the 'wrong direction'.

**3** Progress within the **sectors** revealed a broad spectrum. *Electricity* was almost ‘on track’, but the share of renewable energy and level of system integration was building up too slowly to cater for future needs in a timely manner, particularly as electrification progresses in other sectors. In *mobility, industry, buildings, and agrifood*, progress was found to be ‘far too slow’ over the assessed period, requiring a clear acceleration of change under Green Deal policies to put the EU on a path to climate neutrality. *Carbon dioxide removal* was moving in the ‘wrong direction’ primarily due to shrinking natural sinks.



**4** The **cross-sectoral building blocks** also varied in their progress: *governance* was assessed as being ‘on track’, while *just and inclusive transition, clean technology, lifestyles, and external action* were found to be heading in the right direction but too slowly – particularly the latter two areas need to significantly speed up. Progress on *adaptation* was on the tip of going in the wrong direction and *finance* was clearly off track. Adequate financing is of particular concern considering the lack of climate investments and the increase in fossil fuel subsidies, that can negatively affect the transition in all sectors, slowing down progress if this remains unaddressed. The result for *governance* is, however, a promising signal. It indicates that an increasingly robust framework is being put in place to facilitate adequate actions in sectors and cross-cutting building blocks alike.

**Figure 2:** Progress across the building blocks for reaching climate neutrality



## A likely speed boost from recent policy changes

The findings, largely derived from data for 2015–2021 and up-to-date qualitative information, need to be understood in the context of a rapidly developing landscape of EU climate policy. The European Green Deal and the subsequent ‘Fit for 55’ package of measures include expanded and additional policies that are and will continue to provide further guidance and levers to steer the building blocks in the right direction. This wealth of new policy initiatives at EU level for climate neutrality and for greater energy independence are signs that EU institutions are engaging with several of the necessary sectoral transitions. When deciding progress classifications for the building blocks for this report, the respective expert authors accounted for some of these recent political developments, thus supplementing the analysis of indicator values. Going forward, the indicator values themselves will show a changing reality if the policies have been designed effectively and if their implementation is sound and timely. Future reiterations of the assessment will be able to analyse such effects or the lack thereof.

The task is now for policy-makers to consider where the results of the assessment identify areas of inadequate progress that are not already addressed by recent policy changes, and therefore require additional targeted action.

### Reform of the EU emissions trading system explained

The EU's emissions trading system (EU ETS) is one of the world's largest carbon markets and the EU's key tool for reducing greenhouse gas emissions.

The system puts a price on carbon. Every year, entities covered by the ETS have to buy "allowances" corresponding to their greenhouse gas emissions.

Every year, a cap is set on how many allowances are put on the market for that year and each year; that cap then decreases with every passing year. This creates financial incentives for companies to cut emissions.

However, certain sectors that are exposed to 'carbon leakage' get free allowances to support their competitiveness.

### Contribute to neutrality?



### What will change with the reform?

more ambitious emissions reduction goals

Extracts from 'Fit for 55'  
(Source: [consilium.europa.eu](https://consilium.europa.eu))

### Which sectors are currently covered

energy-intensive sectors (e.g. steel, industry and paper)

# Looking forward: Recommendations for policy-makers

The assessment underscores that to navigate this decisive decade for climate action, EU policy-makers urgently need a tracking system that is capable of indicating clearly and comprehensively where progress is sufficient, where it is not fast enough, or where it is even going in the wrong direction. Such insights will be key to formulating corrective policies or revising existing policies to align better with a path to climate neutrality – as well as identifying and removing of policies that set the wrong incentives.

The assessment found that, in principle, the EU already has a governance system in place that is correctly designed for the transition to climate neutrality. Yet, it needs to continue evolving and above all, needs to be implemented adequately. Article 6.1 of the EU Climate Law obliges the European Commission to assess progress towards climate neutrality, the lack of a sufficiently granular monitoring framework is an obvious blind spot. ECNO has been set up to fulfil this function in the absence of EU institutions doing it as comprehensively as needed; ultimately however, it is decision-makers who need to own this process.

The assessment has also revealed that presently, data to measure progress on important objectives and enablers is missing and that existing targets and benchmarks are often out-of-date. Such data gaps lower the accuracy of any progress assessment and leave policy-makers with blind spots that undermine their ability to make the right decisions.

These considerations lead to the following set of recommendations for EU institutions:



## Take action

on the areas where the assessment shows particularly concerning developments, meaning where certain objectives and particularly crucial enablers of change were found to be going in the wrong direction. This concerns finance and carbon dioxide removals overall, but also specific enablers within other building blocks, such as shifting livestock production towards a more sustainable model, a modal shift in passenger and freight transport, or adaptation to climate impacts in agriculture and forestry.

## Set up an official monitoring system

designed to inform policy-making, based on a comprehensive set of indicators, which looks at the structural changes under the emissions curve and their enabling conditions.



## Integrate and align the monitoring system with other EU tracking systems

(e.g., 8th Environmental Action Programme, EU Semester, etc.) to reduce administrative effort and inform multiple processes in a coherent manner, including national-level planning and reporting.



## Close data gaps

via new reporting obligations and adjusted data collection routines.



## Design an action trigger mechanism

possibly akin to the Alert Mechanism Report under the European Semester, to verify the seriousness of an observed lack of progress and ensure targeted policy interventions are put forward if needed.



## Regularly update

both the underlying pathways and the progress assessment – at least every two years.



## Involve expert stakeholders

from Member States, civil society, business, and academia in the development of the system in a transparent and open fashion to enhance support and facilitate its application.

There is a **window of opportunity** to implement these recommendations for a better official EU monitoring system through the upcoming reviews of the Governance Regulation and the EU Climate Law in 2024. But there is no need to wait. Under the existing obligation for a progress assessment, the European Commission can already kickstart the process.

With this first in-depth assessment report, the ECNO wants to inform a broader dialogue on how the EU can best track progress and to highlight areas for priority action based on its findings. **ECNO welcomes feedback** and exchange with all interested parties on both the methodology and results of this exercise. ECNO intends to repeat this assessment on an annual basis and seeks to progressively expand its understanding and refine the underlying approach to further improve the insights for policymakers.

If you have any questions or comments, please contact the ECNO team:  
**[info@climateobservatory.eu](mailto:info@climateobservatory.eu)**



[climateobservatory.eu](https://climateobservatory.eu)