

Towards a nature-positive economy roadmap for Europe

PUBLIC CONSULTATION

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Help us build a **Nature-Positive Economy** **Roadmap for Europe** – Public Consultation

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1. Introduction

This report presents the results of a **synthesis exercise**, designed to provide a targeted capture of current initiatives and activities in Europe and beyond that are enabling a transition towards the nature-positive economy (NPE).

This work consolidates an evidence base that provides an indicative baseline of **‘where we are today’** and where leading organizations and countries are advocating for **‘future priorities’** and **‘pathways to transformation’**.

This work will be combined with parallel efforts to develop **multi-stakeholder NPE roadmaps in our pilot sectors** to inform the development of an overall high-level GoNaturePositive! NPE Roadmap for Europe to be launched in 2027.



1. Introduction

The current NPE landscape is **fast moving** yet the scale of the **challenge remains immense**. Where ambitious economic policies and strategies do exist, there is ongoing uncertainty around implementation and whether targets will be achieved. Trends also include regulatory roll-backs, delays, and simplification efforts.

Given the inherent complexity, nature and biodiversity often **lacks the private-sector uptake** versus other competing and more easily measurable sustainability priorities.

We present a range of statistical data, future ambitions and current/planned initiatives. **We invite you to help us** take stock of this complex picture and share your own **conclusions and suggestions to inform the development of our NPE roadmap for Europe.**



2. Approach



Reviewing policy and economic data

Investigated and identified core and associated cross-sector **European policies** that are aligned to the Nature Positive Economy. Extracted relevant **economic data** from the publicly available Eurostat database.



Review of existing NPE roadmaps

Examined eight recently launched **Nature Positive Economy Roadmaps** seeking to advance agendas at national level (Austria, UK, Japan and Australia), for business and finance (EU), and expert bodies working across all stakeholder groups (Global).



Targeted review of literature

Drawing on c.110 references to literature from academia and practice, an assessment was conducted to shortlist the **promising market opportunities**, leading to 10 key clusters of high future potential. Also, around 29 sources were consulted to extract **baseline assessments and challenges**, cutting across policy and regulation, finance and investment, technology, and societal change.



Key Findings

Where are we now?

KEY FINDINGS 1 – Quantifying the Nature Positive Economy in Europe

ECONOMIC DATA

Key Findings 1 presents some quantitative indications of current efforts in Europe (not exhaustive) to simultaneously tackle both (a) **reducing nature-negative** economic activities (avoid, minimise, restore and offset) and (b) **accelerating nature-positive** economic activities (protection, regeneration), leading to a transformation of our socio-economic systems, and contributing towards the full recovery of nature by 2050 and prosperity for all.

We welcome suggestions to include **other comparable quantitative datasets** from reputable sources in our analysis going forward.

Lastly, although we focus on economic data, we recognise that nature holds many different, equally important types of worth (like spiritual, cultural, intrinsic).

INTERPRETATION & CAVEATS

I) **Under-measurement:** existing economic metrics and data rarely incorporates the true value of nature and its services

II) **Valuation methods:** there are no simple measures like carbon, rather biodiversity and nature measures are diverse and must be adaptable to uncertainty

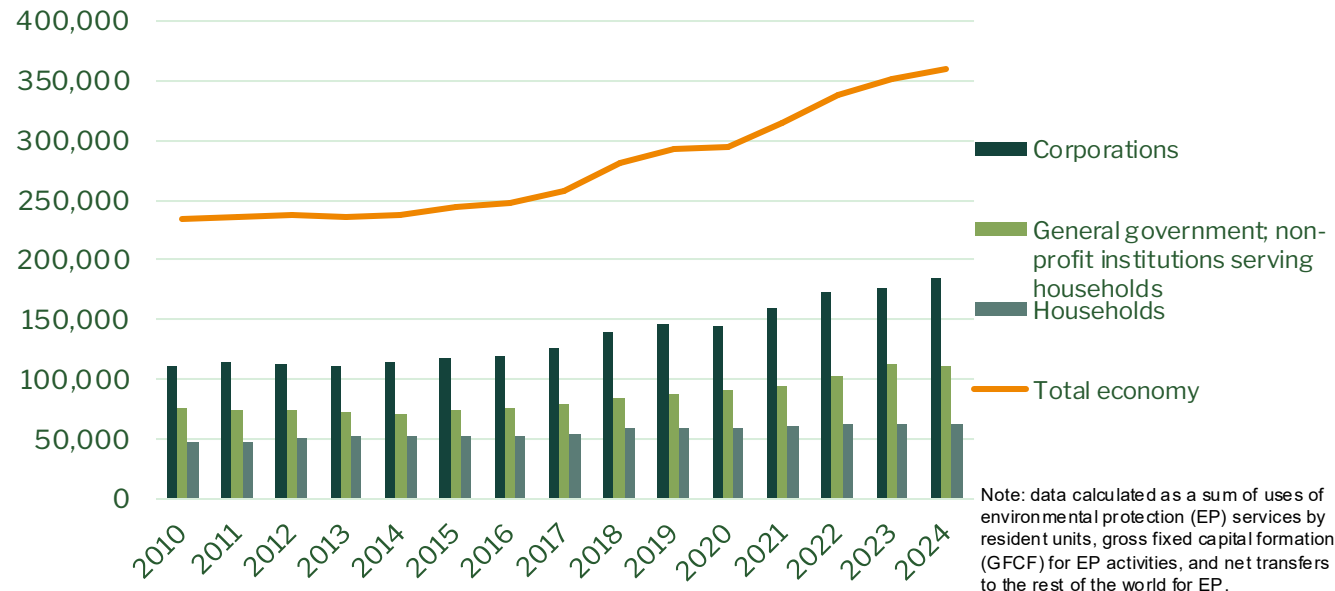
III) **Vested interests:** different regions in Europe will gain more or less depending on existing (or potential future) natural capital (landscapes, water, ocean) and environmental conditions/variables (heat, wind, etc.)

IV) **Data accuracy:** cited stats may be based on limited data and uncertain assumptions



National expenditure on environmental protection by institutional sector in the EU-27

in € Mio. measured in current prices



DATA EXPLANATION

Data is based on mandatory reporting, which covers the following characteristics which are defined in accordance with European Systems of Accounts (ESA):

- output of environmental protection services. Market output, non-market output and output of ancillary activities are distinguished,
- intermediate consumption of environmental protection services,
- intermediate consumption of environmental protection services for production of environmental protection services,
- imports and exports of environmental protection services,
- valued added tax (VAT) and other taxes less subsidies on products on environmental protection services,
- gross fixed capital formation and acquisitions less disposals of non-financial non-produced assets for the production of environmental protection services,
- final consumption of environmental protection services,
- environmental protection transfers (received/paid).

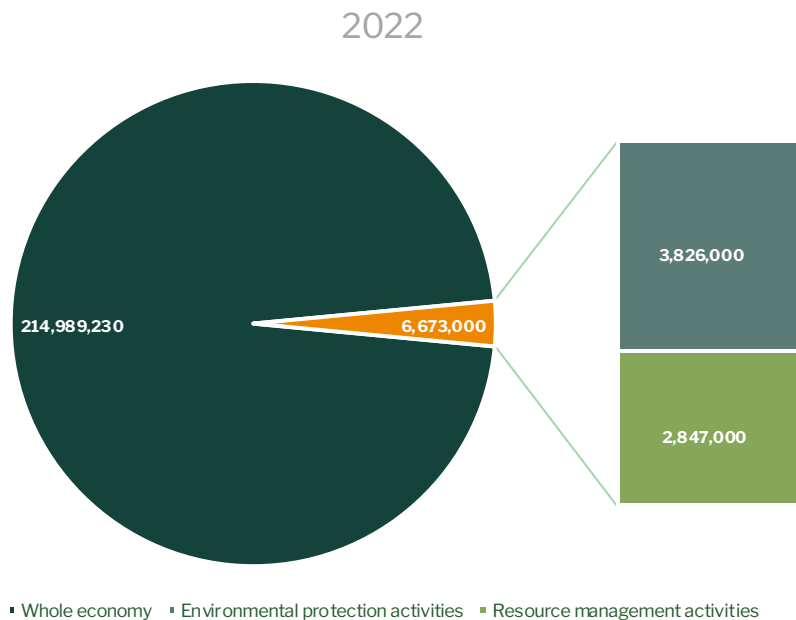
Source:
https://ec.europa.eu/eurostat/cache/metadata/en/env_ac_ep_ea_sims.htm

Note: Data measured at current prices and not adjusted for inflation.

Source: Eurostat (2025). National expenditure on environmental protection by institutional sector. DOI: https://doi.org/10.2908/ENV_AC_EPNEIS1 (latest access on 11/20/2025)

Employment in the EGSS in the EU-27

Percentage in EGSS to total employment



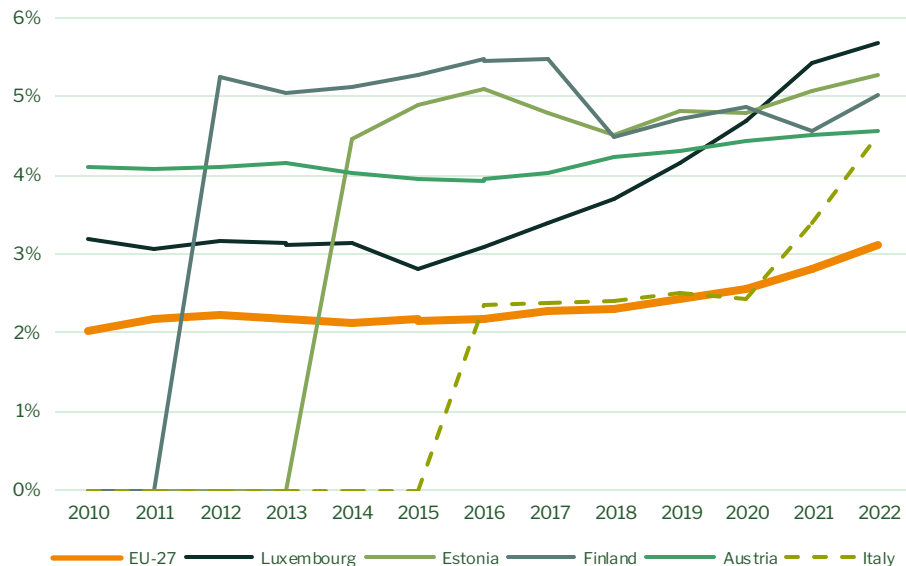
The Environmental Goods and Services Sector (EGSS) includes activities classified as environmental protection (CEPA) and resource management (CReMA).

Environmental protection activities prevent, reduce, or eliminate pollution and environmental degradation, including the restoration of habitats and ecosystems. Examples include electric vehicles, emission filters, wastewater treatment systems, and noise insulation.

Resource management activities aim to preserve natural resources and prevent their depletion. Examples include renewable energy production, energy-efficient buildings, seawater desalination, and rainwater harvesting.

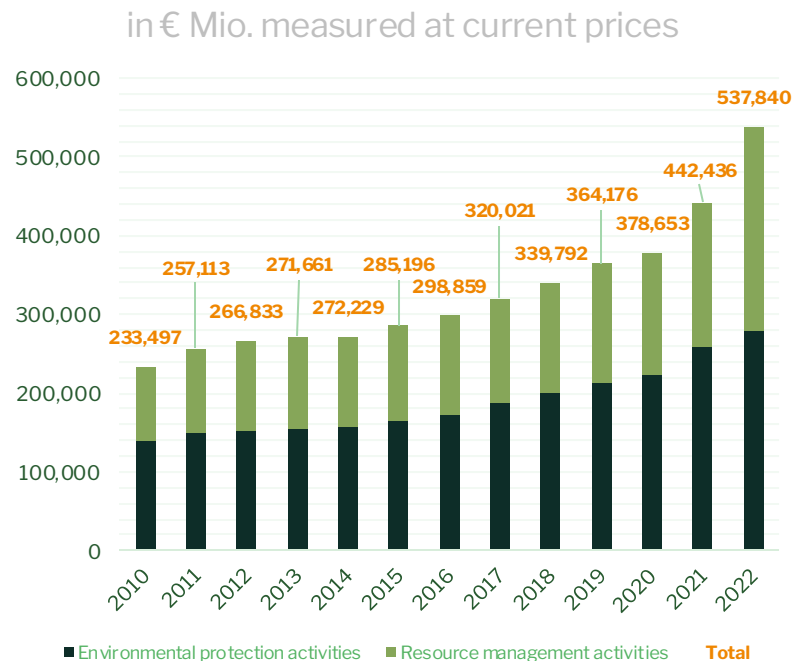
Some CEPA and CReMA products and activities are more closely linked to the protection and sustainable management of nature and biodiversity than others. However, due to data limitations, these categories are presented in aggregated form and are not further disaggregated by subcategory.

Top 5 by EGSS employment share in 2022



Gross Value Added in the EGSS in the EU-27

in € Mio. and as a percentage of GDP



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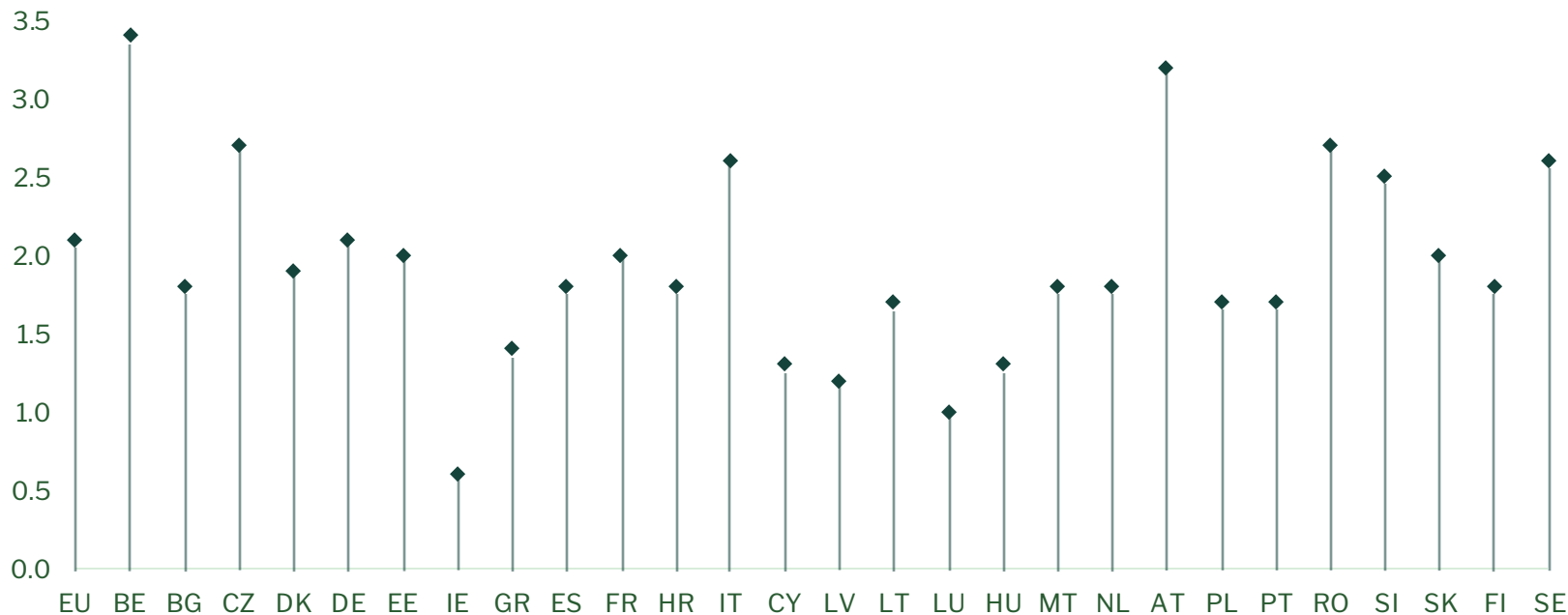
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National expenditure on environmental protection in 2022

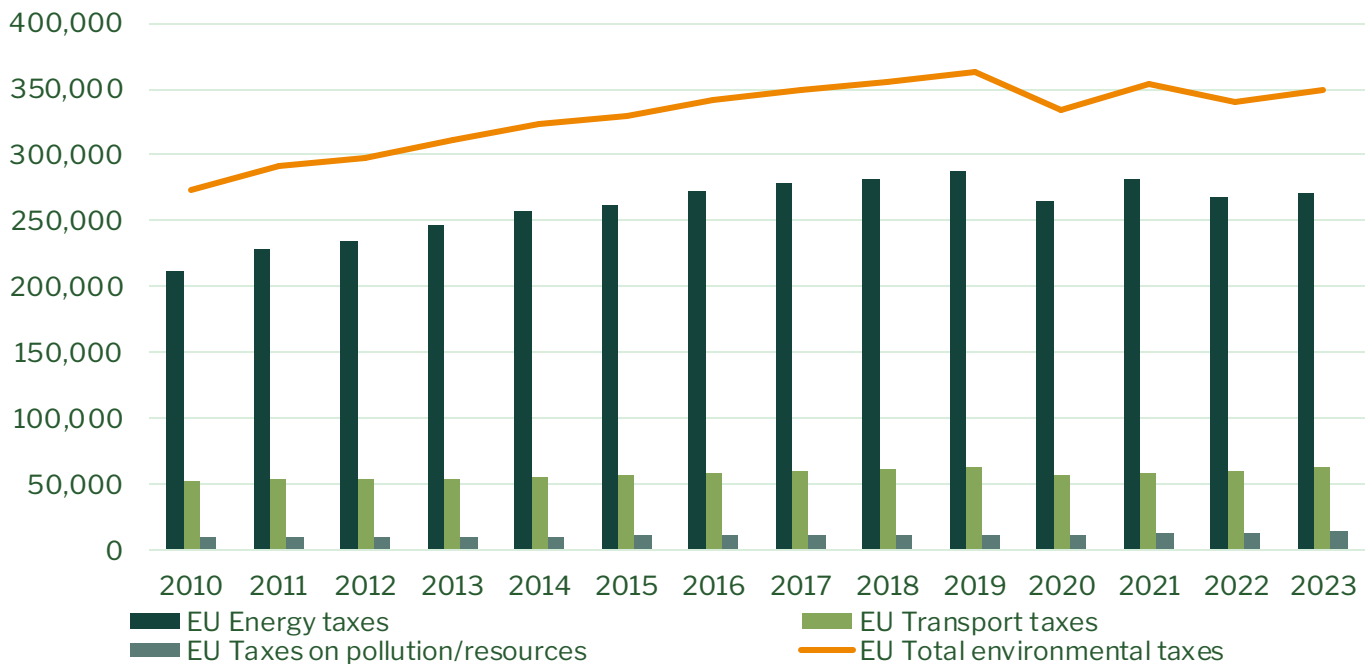
Percentage of GDP





Environmental tax revenues in the EU-27

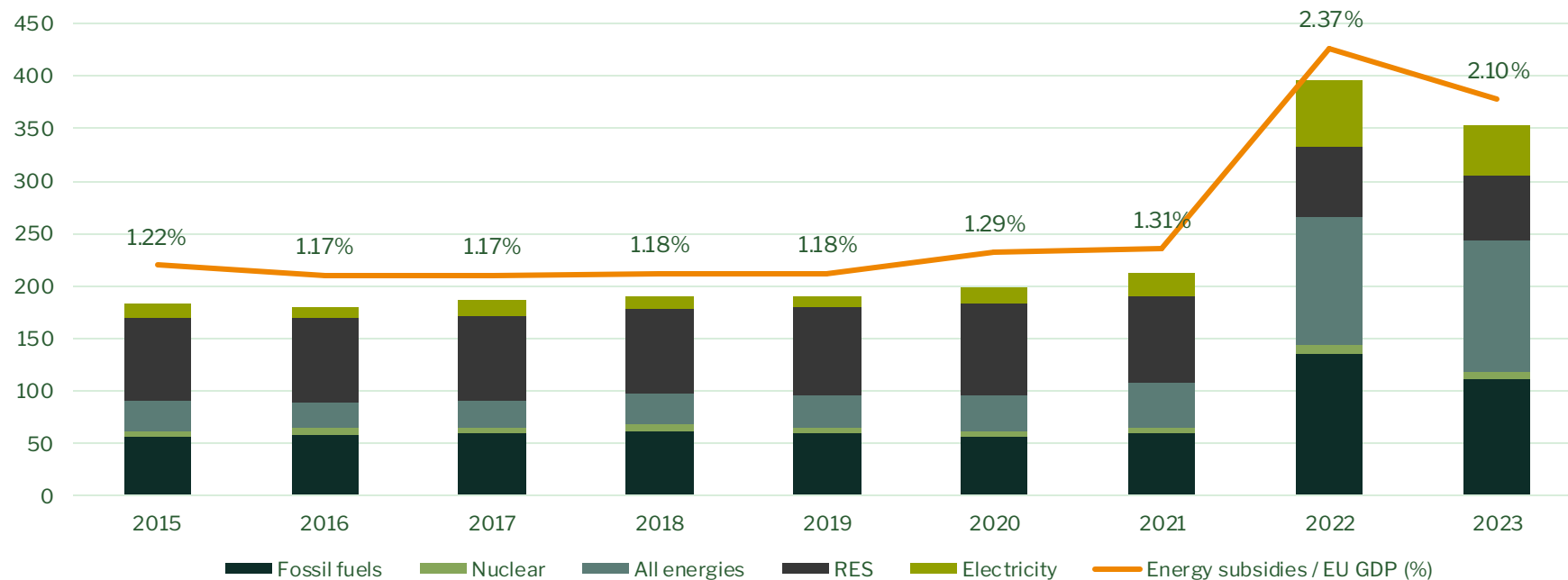
in € Mio. measured at current prices





Subsidies to environmental harmful practices proxied by total energy subsidies in the EU-27

in € bn. expressed in 2023 constant prices and percentages of GDP



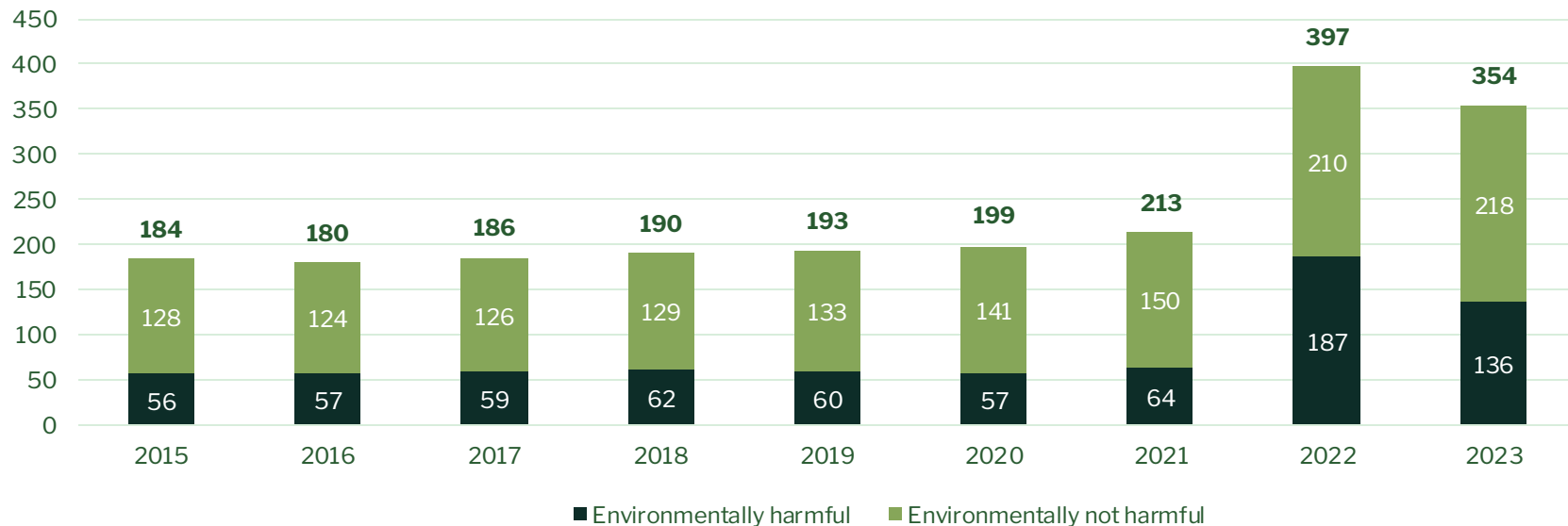


Energy subsidies by environmental impact in the EU-27

in € bn. expressed in 2023 constant prices

Energy subsidies **are environmentally harmful** if the price or cost reduction that they bring about maintains or increases the availability or the use of energy sources that cause significant negative environmental impacts.

There are subsidies that are categorized as “**fossil fuel subsidy**” and “**not environmentally harmful**” – typically these are linked to measures such as covering the cost of closing coal power plants, to rehabilitating former mine sites or to social measures.





Total Green Investments

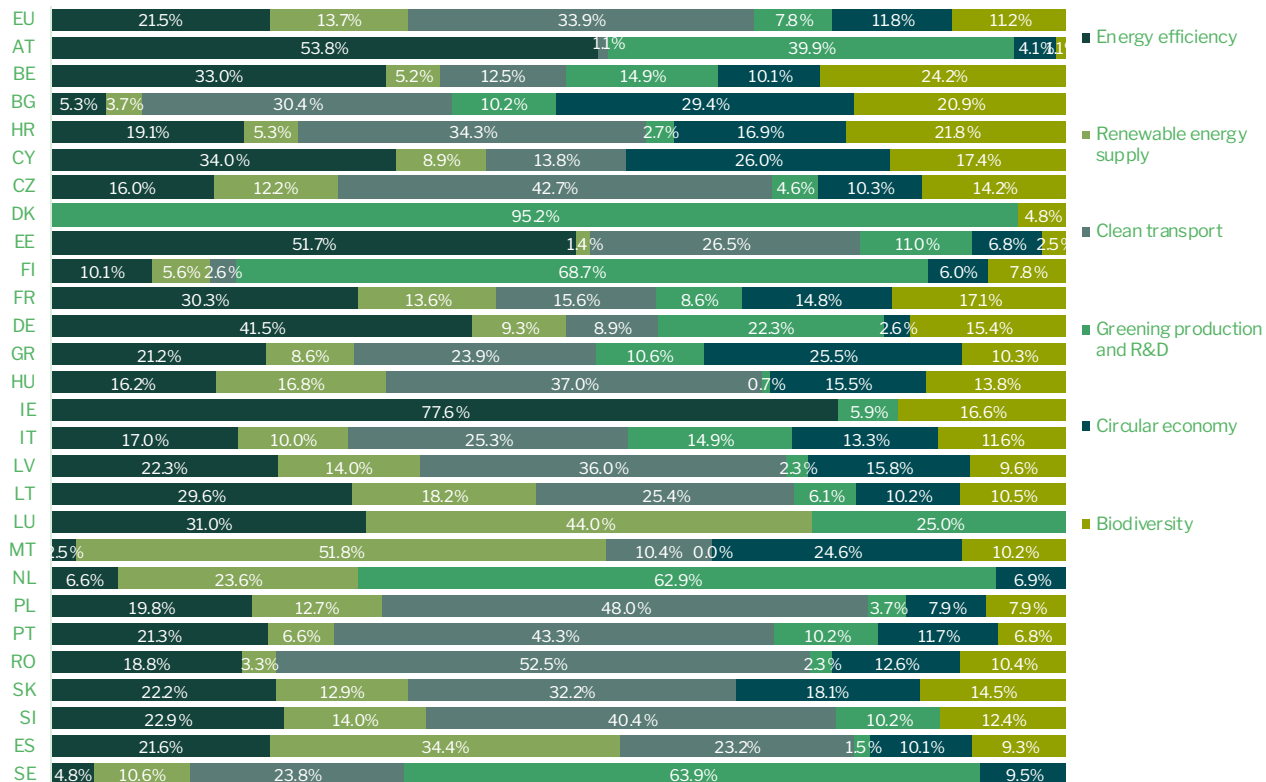
Percentages by category

Climate Action Network (CAN) Europe's calculations show that for the 2021-27 period, **130.7 billion Euros** have been allocated to the **green transition** across the 27 EU member states' cohesion policy **spending plans**.

These figures include the contributions of **cohesion policy funds** to **climate mitigation, biodiversity protection and restoration**, and **circular economy** targets – excluding climate adaptation investments. For a more complete picture, further data is needed to illustrate where private-sector spending is being directed across member states across the same timeframe.

Observations:

- Biodiversity is increasingly on the agenda of European countries, with a few countries taking it as seriously as energy-related investments in terms of public funding priorities
- In 2024, about 47% of the **EU's** net electricity generation came from renewable sources (including wind, solar, hydro, biomass, etc.) and across the **EU's** whole energy system, renewables make up about a quarter (~25%) of energy consumption
- Cleaner energy investments are known to have beneficial impact on nature, in terms of lower SO₂, NO_x, and particulate matter, as well as reduced mining, acid rain and damage to forests, crops, and freshwater ecosystems.
- However, nature-negative aspects of non-biodiversity categories need to be **managed carefully**, considering land-use, spatial planning and avoiding overreliance on i.e., forest biomass, large hydropower, rare earth minerals, etc.





Landscape of relevant Policy Instruments

Europe has a range of current laws, strategies and frameworks, whereby markets, businesses and governments are expected to operate within environmental limits, making it a global leader versus other economies. How do we judge their effectiveness and which policy levers need to be strengthened?

Environment

Regulation or Directive

(Legally binding)

Environmental Liability Directive (2007)

EU Nature Restoration Regulation (2024)

LIFE (2021)

EU Habitats Directive (1992, 2013)

EU Birds Directive (2009, 2019)

8th Environment Action Programme to 2030 (2022)

Environment

Communication or Other

(Non-legally binding)

Kunming-Montreal Global Biodiversity Framework (2022)

EU Biodiversity Strategy 2030 (2020)

European Green Deal (2019)

European Green Deal Investment Plan (2020)

EU Pollinators Initiative (2018)

Economic Development

Regulation or Directive

(Legally binding)

Multiannual Financial Framework (2021, 2024)

InvestEU (2021, 2024)

Corporate Sustainability Reporting Directive (2022)

Strategic Environmental Assessment Directive (2001)

Environmental Impact Assessment (2011, 2014)

EU Taxonomy Regulation (2020)

Economic Development

Communication or Other

(Non-legally binding)

Circular Economy Action Plan (2020)

EU Bioeconomy Action Plan (2018) and Bioeconomy Strategy (2025)

Roadmap towards Nature Credits (2025)

OECD Due Diligence Guidance for Responsible Business Conduct (2018)

Climate

Regulation or Directive

(Legally binding)

European Climate Law (2021)

LULUCF Regulation (2018, 2023)

Paris Agreement (2015)

Energy Efficiency Directive (2023)

Just Transition Fund (2021, 2024)

Green Claims Directive (Proposal)

Climate

Communication or Other

(Non-legally binding)

EU Strategy on Adaptation to Climate Change (2021)

Communication on Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society (2024)

Communication on Stepping up Europe's 2030 climate ambition (2020)



Key Progress Highlights

Policy and economic environment



Global targets for nature loss have failed and will not be achieved by 2030 (WWF Living Planet Report, 2024)

Current targets have failed and transformative change is required to reach them by 2030 and beyond, with 30% of them stalled or getting worse from the 2015 baseline. National biodiversity strategies and action plans lack financial and institutional support. Biodiversity loss and ecosystem degradation are estimated at almost US\$7 trillion per year, and in contrast Nature based Solutions funding is c. \$200bn. Over half of GDP is moderately or highly dependent on nature and its services. Notable food production is the leading cause of habitat loss, accounts for 70% of water use and is responsible for over a quarter of greenhouse gas emissions.



81% of habitats are in poor status in the EU (European Commission, 2021)

Soil degradation resulting in EUR50bn per year in the EU. Agri output of 5bn is dependent on pollinators which is at risk. Around 25% of global disease burden is attributed to avoidable environmental factors. Also, 1 in 3 bee and butterfly species are in decline. The European Nature Restoration Regulation will set legally binding targets nature restoration across habitats in an attempt to address the challenges.



Key Progress Highlights

Policy and economic environment



EU Omnibus proposals for corporate sustainability reporting (CSRD, CSDDD, Taxonomy) (EC, 2024)

According to European Sustainability Reporting Standards (ESRS), biodiversity is a core mandatory topic and will mandate that the largest firms (under 15,000 enterprises) identify and disclose main pressures and impacts on biodiversity, key sites where operations may affect biodiversity, dependencies on natural inputs and systems, as well as physical and transition risks and opportunities. This is encouraging enterprise take-up of frameworks such as TNFD, BGF Target 15 and SBTN. However, most of Europe's economy is made up of SMEs who are not included. The emerging Omnibus II proposal may support investment but is fueling deregulation concerns.



EU Biodiversity Strategy Dashboard - out of 29, progress is being made for 10 sub-targets (EC, 2025)

Based on current tracking, half of the actions under the strategy's four pillars – protecting areas, restoring ecosystems, enabling transformative change, and external action and now completed. Sadly, common bird and pollinator populations continue to decline, resulting in negative trends for two sub-targets. The pace of designated new protected areas and transition to organic farming needs to triple to get back on-track.



Key Progress Highlights

Fiscal and business environment



Nature-negative financial flows and subsidies (Bloomberg, 2024; UNEP, 2022)

The investment gap for nature is widening: \$948bn nature investment gap in Oct 2024 from \$700bn in 2020. Activities with a direct negative impact on nature is estimated around \$7 trillion (\$1.7tn - public funding and \$5tn - private funding), with the public sector investing the most (80%) in nature-positive financial flows (\$165bn).



Macro-criticality of nature-related risks for the financial system and the economy (European Central Bank, 2025)

Around 72% of Euro area firms are critically dependent on ecosystem services, and these firms account for $\frac{3}{4}$ of all corporate bank lending in the region, representing a future threat for financial stability. Water-related risks are dominant and could constitute 7 – 9% of global GDP, with significant impacts on the manufacturing sector.



Not enough nature targets and transition plans (McKinsey, 2022; WBA 2024)

McKinsey found 83% of the world's top 500 firms have set climate-related targets, although 51% of them acknowledge biodiversity loss, only 5% have set biodiversity targets. Similarly, WBA found only 5% of c. 800 firms have assessed impact on nature and less than 1% assessed dependencies on nature.



Key Progress Highlights

Fiscal and business environment



Assessment of biodiversity impact for Financial Institutions (Finance for Biodiversity, 2025)

200 financial institutions, representing €23 trillion in assets, have committed to assess their impacts on biodiversity, set targets to reduce them, and engage with their investees to increase positive impacts on nature.



Strong but untapped Retail Investor demand (Sustainable Finance Observatory, 2025)

Around 74% of EU retail investors have sustainability-related objectives. However, in most client advisory meetings, sustainability preferences are not assessed and only 19% of investors hold sustainable financial products. Therefore, private EU household savings for NP investments are an untapped opportunity.



Increased reporting of exposure (ICAEW, 2024)

Nature risks are partly covered under environmental pillar of ESG (USD 53+ tr in assets) but TNFD seeks to go beyond this framing, with 500 organizations voluntarily committed to public reporting against TNFD criteria, representing USD 6.5+ tr in market capitalization (publicly listed) and USD 17.5 trillion (assets under management).

Reducing risks and increasing resilience

Europe's economy is currently heavily dependent on nature and at risk of systemic shocks from nature degradation. Europe also has a significant dependency on imports of natural resources and highly complex value chains and global trade flows.

1. The ECB (2024) highlights that many ecosystem services are “public goods” and under-valued or unpriced, meaning nature degradation introduces real economic fragility. They also estimate global habitat loss linked to European economic activity, with euro-area non-financial corporations causing around 217 million hectares of natural habitat loss outside Europe. Also, 75% of euro-area bank loans go to companies that have a high exposure to nature risks.
2. Furthermore, the ECB (2024) (drawing on the INCA project) estimated the value of ecosystem services in the EU (2019) at €234 billion/year. Examples include: nature recreation (~€80.3bn), water purification (~€61.9bn), flood control (~€18bn), carbon sequestration (~€13.3bn), and pollination (~€4.9bn).
3. An ENEA-MA (2013) report points out that the costs associated with the Natura 2000 network (conservation and restoration programme) is estimated at €5.8 bn/year — meaning the economic and social benefits (c.200–300 bn) far outweigh the management cost in their assessments. Similarly, EC (2025) based on data underpinning the Nature Restoration Regulation, every 1 Euro invested into nature restoration adds €4 to €38 in benefits.

Increasing nature and linkages to prosperity and well-being

Relative to value of natural capital, Europe needs to invest more to pivot its current scientific, industrial and entrepreneurial base towards transformative solutions that address long-term environmental concerns, tapping into increasing societal acceptance for products and services that benefit nature.

1. A JRC (2021) report estimated “selected seven ecosystem services” generated ~€172 bn/year in the EU. Another JRC (2025) study shows that natural capital contributes significantly to regional economic growth. Specifically: a 10% increase in natural capital (in their model) is associated with a 0.7% rise in regional Gross Value Added (GVA)
2. From the recent NetworkNature / EU expert report: the transition to a nature-positive economy could unlock up to USD 10 trillion of business potential annually (globally) and nearly 400 million jobs by 2030 (EC, 2025).
3. A Naturvation (2020) study estimating the economic value of nature-based solutions (green infrastructure, urban green spaces) in European cities finds USD 1.52 billion/year of value from recent NBS.
4. The EC has announced €50 million in funding to develop solutions for climate, which includes nature-based solutions. EU LIFE funding has allocated €2.15 billion of funding for nature and biodiversity. In the Horizon Europe programme, between 2021-2027, there is a budget of c.€8.952 billion for NbS.



Summary of Key Findings 1

Europe has strong policy ambitions and a growing green economy, but nature-positive investment remains insufficient, misaligned, and largely led by public funding.

Nature loss is creating systemic economic and financial risks, while the value of ecosystem services and restoration benefits is vastly underpriced. Closing the finance, implementation, and data gaps are critical to unlocking a resilient, nature-positive economy in Europe.

1. Europe is building jobs around nature, but is there more that can be done around building **high-value** and resilient nature-positive **industries** at scale?
2. To what extent do other environmental sectors (i.e., clean tech) count towards nature-positive, particularly in terms of mitigation and why might **direct investment in biodiversity be better** for some European countries?
3. Governments are simultaneously paying to restore nature and **paying to degrade** it and public budgets may be working against themselves.
4. Europe has a measurable nature-positive economic base, but financial flows are **misaligned**, and nature-positive activity is still **overshadowed by nature-negative incentives**.
5. Europe taxes environmental harm, but it is unclear if this is effectively **converted into revenue to support nature recovery**.
6. Globally, Europe leads on policy design, **but transformational delivery, financing, and scale** appear to be critical weaknesses.
7. Nature loss is a systemic financial risk, yet **business and finance responses remain early-stage** and insufficient.
8. Nature is not just an environmental issue — it is a core economic asset, and investing in it yields **high social and economic returns and value**.
9. Nature risk appears to be recognized at macro level **but less so at firm level**.



Nature-positive economy roadmaps

*What can we learn from existing
roadmaps and market opportunities?*



KEY FINDINGS 2 – Mapping existing NPE Roadmaps

NPE Roadmaps

The following roadmaps in this section were carefully selected based on their **scope, ambition and specific actionable** recommendations that have the potential to address nature-negative and/or increase nature-positive outcomes, as opposed to broad frameworks.

The analysis of roadmap data looks at:

- 1) Comparison of future visions**
- 2) Comparison of future visions mapped alongside thematic areas of most promising market opportunities**
- 3) Comparison of pathways to transformation**

We welcome suggestions to review other compelling NPE roadmaps, ideally cross-sector, perhaps at city level and in other languages. However project resources are limited, preventing an exhaustive approach.

LIST OF SOURCES:

1. Biodiversitäts-Strategie Österreich 2030+ (Austria)
2. Transition Strategies toward Nature Positive Economy (Japan)
3. Nature Positive Plan: better for the Environment, better for Business (Australia)
4. Recovering Nature for Growth, Health and Security: Natural England's Strategy (England)
5. Nature Credits Roadmap (European Commission)
6. Global Roadmap for a Nature-Positive Economy (WWF)
7. Exponential Roadmap for Natural Climate Solutions (Exponential Roadmap Initiative)
8. Roadmaps to Nature Positive: Foundations for all Businesses (WBCSD)
9. Vision 2050 (WBCSD)
10. Business Investment in Nature (UK)

Comparison of future visions across selected nature-positive economy roadmaps

Each documented vision is color coded to a corresponding roadmap (bottom of page) and is positioned against a timeline (top of page) and a cluster (grey, boxes).

Our analysis led us to map visions across six prominent clusters. Some may also have relevance across two or more clusters.

Our 10 areas of promising market opportunities (in purple), are based on a review of existing literature and mapped to a corresponding cluster.



Comparison of pathways to transformation across selected nature-positive economy roadmaps

Each NPE roadmap provides an indication of **initiatives and activities over the next five years (2025-2030)** that must be pursued to achieve their respective visions.

These can also be clustered as **drivers** of change, some of which cut across stakeholder groups or require collaboration between them to achieve the desired outcomes. Each driver can be further grouped (i.e., *natural resource*) based on related goals.



Summary of Key Findings 2 and Recommendations for Future Work

Taking a system wide view and comparison of pioneering **NPE roadmaps** allows us to take stock and visually absorb a variety of emerging **future visions, market opportunities and transformation pathways**. In the next stage our work, we will look at transformation across:

- 1) Policy level changes at national level
- 2) Rules of the game changes at international level
- 3) Guidance or agreed frameworks at corporate level
- 4) Specific solutions at instrument/practice level

Roadmap components in each vision and pathway are not necessarily in competition. They provide direction at various scales over time and offer potential for a more in-depth analysis within each cluster. This may uncover impactful **opportunities for synergy and to maximise the rate of return on natural capital investment** across Europe. In each area, our work raises key questions such as **‘what are the gaps and key enablers’** and **‘what are the key roadblocks’** over the next five years and beyond.

CONSULTATION

We invite experts from business, government, finance, research, standards, citizens groups and nature-based enterprises to provide feedback on the content of this document – feedback to dharm.kapletia@tcd.ie.

NEXT STEPS

- 1) Further analyse the **linkages** between the **baseline** situation in Europe and how future **visions and pathways** will specifically address current challenges
- 2) Map which ‘pathways to transformation’ will **accelerate the performance** of current and planned European policies and regulations (aligned to the NPE)
- 3) Combine this high-level analysis with an **aggregate analysis** of the project’s six pilot (sectoral) roadmaps to draw more robust conclusions (integrating top-down and bottom-up)
- 4) Combine all insights and work towards the delivery of a high-level **GoNaturePositive! NPE Roadmap, for release in 2027**

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> Literature review references (c.110) available on request



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