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WORLD ECONOMIC FORUM

Delivering on the European Green Deal:
A Private Sector Perspective
Second Edition

INSIGHT REPORT

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Images: Getty Images

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Foreword

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Five years after the launch of the European Green Deal, the political landscape in Europe shows that we need to speed up progress towards becoming a cleaner, more resilient and competitive region. Urgent action is needed to deliver a European economy that is growing, attracting investments and which takes full advantage of the potential the single market brings. To get there, we will need to harness transformative technologies to boost productivity while securing the highest possible living standards across our continent.

As co-chairs of the CEO Action Group for the European Green Deal, we remain deeply committed to the EU's climate agenda, and strongly urge both public and private sector leaders not to backtrack on their ambition to reach net zero by 2050, and to ensure that climate neutrality is the natural result of a powerful and dynamic European economy.

This CEO Action Group has spearheaded positive action across the European Green Deal's objectives for the last five years, from reducing emissions to improving energy and resource efficiency. In this report, we evaluate the steps already taken – and those still needed – by European businesses and governments to deliver on our climate targets. Europe accounts for 7% of global emissions and to make meaningful progress going forward, including systemically decarbonizing our supply chains, global efforts will be necessary.

What is also clear from this report is that getting to net-zero by 2050 remains difficult – but we believe it is possible. Today, regulatory complexity, fragmented markets and a patchy financing landscape are hindering full cross-industry decarbonization and enhanced resource efficiency. Based on multistakeholder input, we offer insights and strategic recommendations that would help foster alignment between decision makers on EU and national levels, as well as across industry sectors. Swift and synchronized action is needed to tackle these systemic limitations across EU member states.

Multistakeholder collaboration is essential as Europe's leadership mobilizes around the structural reforms necessary to unlock higher productivity and growth. We will be at the frontlines to help ensure that Europe delivers on the mutually reinforcing objectives of economic dynamism and climate neutrality.

The CEO Action Group for the European Green Deal is a great example of how ambitious public-private dialogue and cooperation can make a difference for the future of Europe. This report provides the second assessment of private-sector efforts in building practical pathways for Europe's net zero by 2050. Its findings emphasize that commitment to these objectives will be vital while tackling market and regulatory fragmentation to accelerate industrial net-zero innovation and enhance the region's economic competitiveness. The report also underscores the role of multistakeholder collaboration to sustain the momentum for green innovation and industrial decarbonization across Europe. The World Economic Forum looks forward to supporting these efforts, which remain crucial to supporting prosperity across the continent.

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Executive summary

Advancing Europe's green transition while driving competitiveness requires functional regulation and the full potential of the single market.

The second edition of *Delivering on the European Green Deal Objectives: A Private Sector Perspective* is focused on assessing the progress of the European private sector towards climate neutrality. It analyses the European market context to support the green transition across innovation, financing, permitting and workforce transformation. The report is based on an analysis of environmental data on publicly listed European companies, two workshops held during 2024, a targeted survey and interviews with executives of the CEO Action Group for the European Green Deal, in addition to secondary research.

The Scope 1 and Scope 2 emissions of the analysed companies decreased by 28% between 2019 and 2023, while Scope 3 emissions remained relatively stable. Target-setting is less prominent across energy, water and waste management, although European companies have managed to improve their overall resource efficiency. Energy efficiency is an area where significant improvements have been made. Setting supply-chain-related targets remains challenging for companies in the absence of internationally aligned sustainability standards for supply chain management.

For companies surveyed and interviewed, Europe's compliance and reporting demands are cited as the biggest obstacles to fulfilling sustainability commitments (more so than the costs of decarbonizing or low customer demand). Fragmented regulations and the absence of global standards are the main barriers to both European innovation and supply chain decarbonization. Most companies struggle with accessing public funding due to complex application processes and documentation requirements. To adapt to job market changes, companies offer employee training, talent retention schemes and graduate upskilling programmes, though few focus on reskilling experienced hires. Companies appeal for stronger EU market integration, particularly in capital and energy markets and standardization.

The report also provides an overview of Europe's preparedness for the green transition through an analysis of research and development (R&D) investments, innovation potential, permitting processes, funding landscape and workforce transformation. Besides the workforce, all areas would benefit from greater standardization, harmonization and transparency. The workforce transformation in particular will require close collaboration between the public and private sectors and a commitment from the private sector to ensure a just transition.

For each of the analysed areas, the report provides detailed recommendations for both the public and private sectors. Public authorities should prioritize a lean and predictable regulatory framework to cultivate European innovation and strengthen efforts to develop globally accepted sustainability standards. Moreover, simplifying sustainability reporting, standardizing and digitalizing permitting processes, improving transparency and accessibility of funding mechanisms, and reallocating carbon revenues to climate action will be essential to reaching net zero by 2050. Continuous public-private dialogue is needed to succeed in the ambition of decarbonizing while strengthening competitiveness. Joint action is required on reskilling and job creation and transition for workers impacted by the green transition, and increasing European R&D investments.

Introduction

Improved innovation and financing, streamlined permitting and workforce transition are key enablers for the European net-zero mission.

Global carbon emissions reached all-time highs in 2023,[1] yet the European Union (EU) has managed to reduce its emissions by 33% since the 1990s.[2] The growth in disposable income per capita in the EU, however, is only half of that in the US, and innovative investments in the EU are also lagging behind the US.[3] The International Monetary Fund (IMF) forecasts the EU27 economy to grow at an average of 1.6% until 2029, compared to 2.1% for the US over the same period.[4] At the same time, reaching climate neutrality by 2050 remains a key priority for the European Commission.[5] If successfully integrated into the EU's broader growth and competitiveness agenda, this could make Europe the market-maker for renewable and net-zero technologies.[6] Delivering on the targets set out in the European Climate Law and reaching economy-wide climate neutrality by 2050 is, however, currently being held back by structural limitations.[7]

Based on data collected from more than 300 European companies, Scope 1 and Scope 2 emissions fell by an estimated 28% between 2019 and 2023.[8] Given that 75% of the EU's emissions originate from economic activities of the private sector,[9] it is imperative that the private sector remains steadfast in reaching its existing decarbonization targets and receiving clear direction on interim ones. This could enable society-wide decarbonization and the scaling up of new solutions and investments in sustainable and green technologies.[10]

Economic value generation and delivering on climate objectives should be mutually reinforcing. Establishing the best enabling environment possible must be a principal priority for national policy-makers and the incoming European Commission in the period 2025-2029. Companies will need to commit to investing in making their operations more sustainable, increasing their R&D investments in Europe, and taking collective responsibility to support their labour force in navigating the transition.

To continue delivering on the European Green Deal (EGD) objectives, four broad enablers have been identified that should remain priorities: regulation, permitting, financing and skills.[11] European companies especially struggle with the reporting burden, which continues to be an issue for the public sector to address in a synchronized way across member states.[12]

BOX 1 **Methodological note**

In this iteration of the report, the analysis focuses on a broader private sector sample to track environmental target setting and actual performance. The study examines companies across metrics like emissions, energy, waste and water. Secondary research includes AI-augmented analysis of public reports and data sets, covering European innovation potential, R&D, permitting environment and workforce transformation. The analysis covers developments over the period 2019-2022, and where updated data is available up until 2023. For details on the methodology, please consult the appendix.

1 Performance of the European private sector

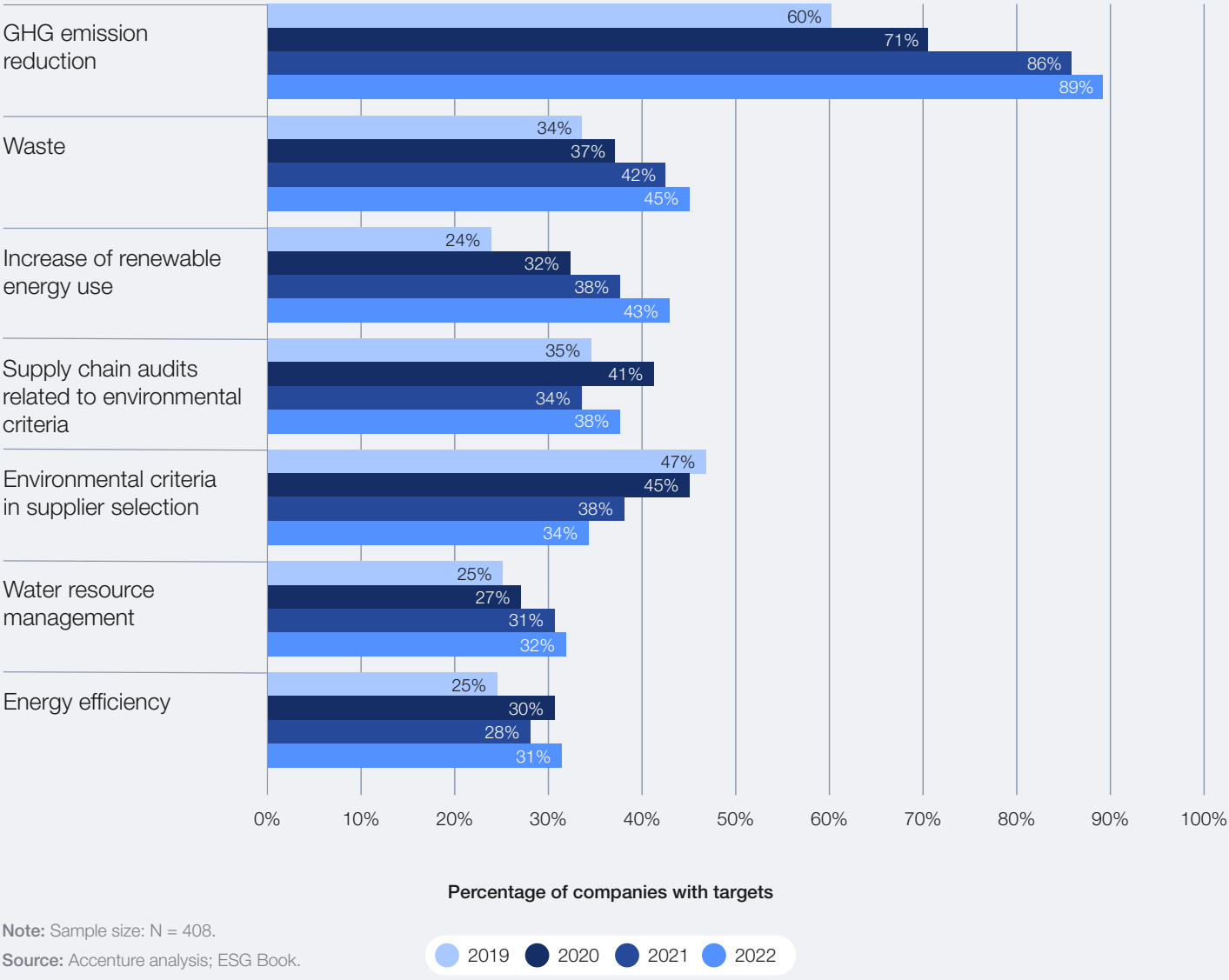
Despite significant private sector decarbonization efforts, action remains insufficient to reach climate neutrality by 2050.

1.1 Emissions

European companies are global leaders in setting emission reduction targets.[13] Since the inception of the European Green Deal in 2019, the share of analysed companies with emission reduction targets has steadily increased from 60% to 89% in 2022.[14] The trend has been similar across all industry sectors, without notable deviations.[15] These targets are associated with a 28% reduction in Scope 1 and 2 emissions of analysed companies between 2019-2023. Their Scope 3 emissions, however, remained relatively stable.[16]

In comparison, emissions of the entire private sector[17] in the EU27 decreased by 11% over the same period.[18] US private sector emissions[19] dropped by 6% between 2019 and 2023.[20] In China, private sector emissions increased by 7% between 2019 and 2022.[21]

FIGURE 1 **Environmental target setting by the European companies (% of companies with targets)**

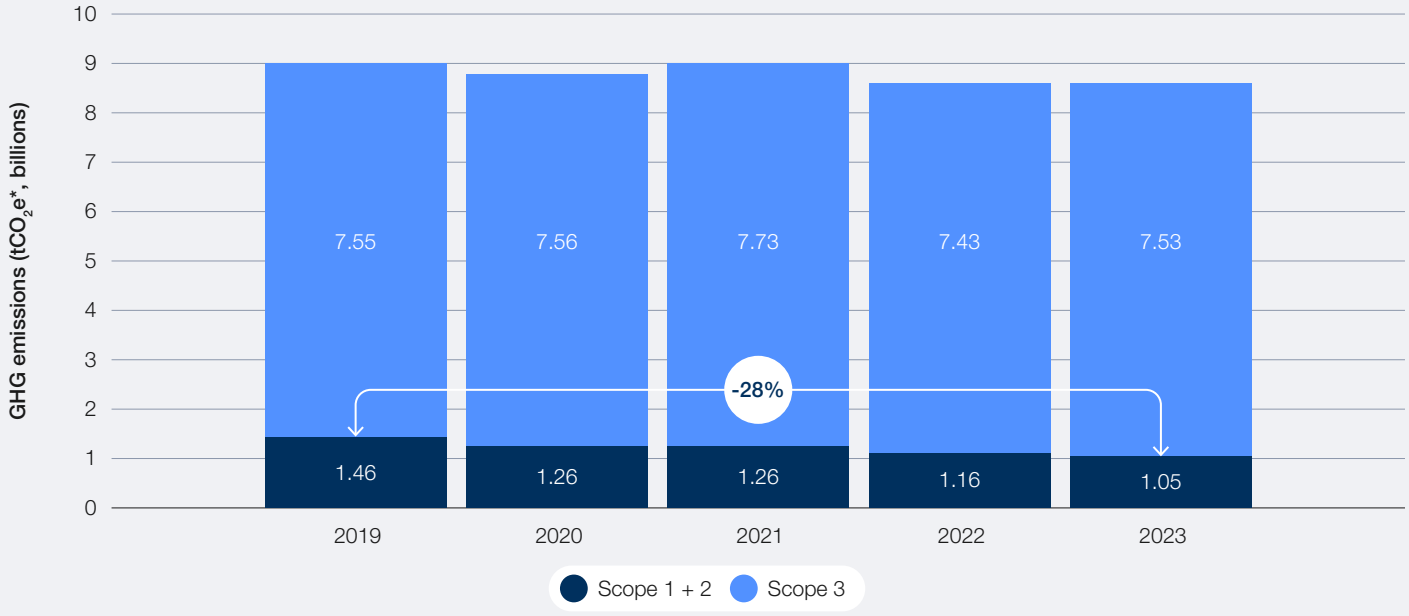


Note: Sample size: N = 408.

Source: Accenture analysis; ESG Book.

A recent analysis confirms that among the largest global companies, European ones are more likely to adopt decarbonization targets. In 2024, 96% of European G2000 companies (the world's largest 2,000 companies by revenue) have some kind of emission reduction targets in place, and 64% have full net-zero commitments across all three scopes of emissions. The adoption of full net-zero commitments is two times higher in Europe than in other regions.[22] The same analysis suggests that on top of target setting, European companies introduce more decarbonization initiatives than their global peers and hence are more successful in reducing their emissions.[23]

FIGURE 2 | **GHG emissions of European companies (tCO_2e, billions)**

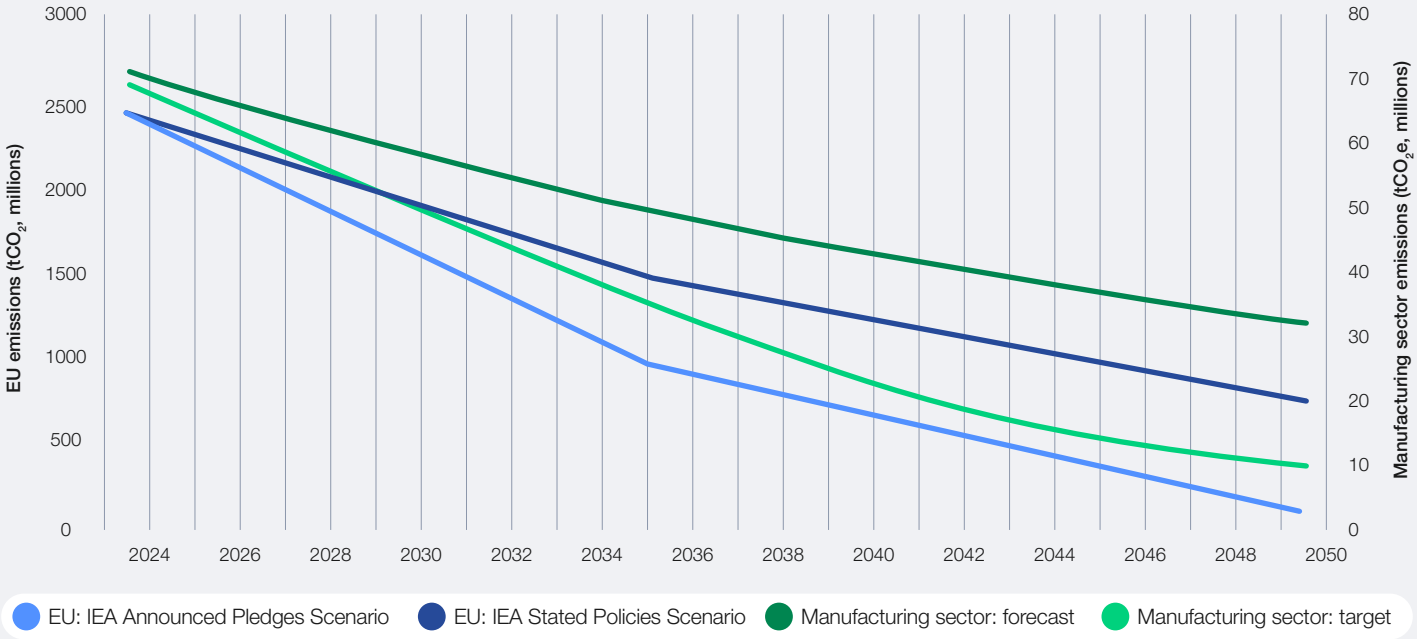


*tonnes of CO_2 equivalent. **Note:** Sample size: N = 351.

Source: Accenture analysis; ESG Book.

Although the drop in emissions over the last few years seems significant, it is not sufficient to achieve net zero by 2050 in alignment with the EGD and its associated Climate Law. According to the International Energy Agency, with the current reduction trajectory, around 30% of today's emissions of the EU will remain by 2050.[24] The situation is similar for analysed European companies from the manufacturing sector, although in this case, 45% of current emissions are forecasted to remain in 2050.[25]

FIGURE 3 | **Forecasted CO_2 emissions of the European Union (tCO_2) and European manufacturing sector (tCO_2e)**



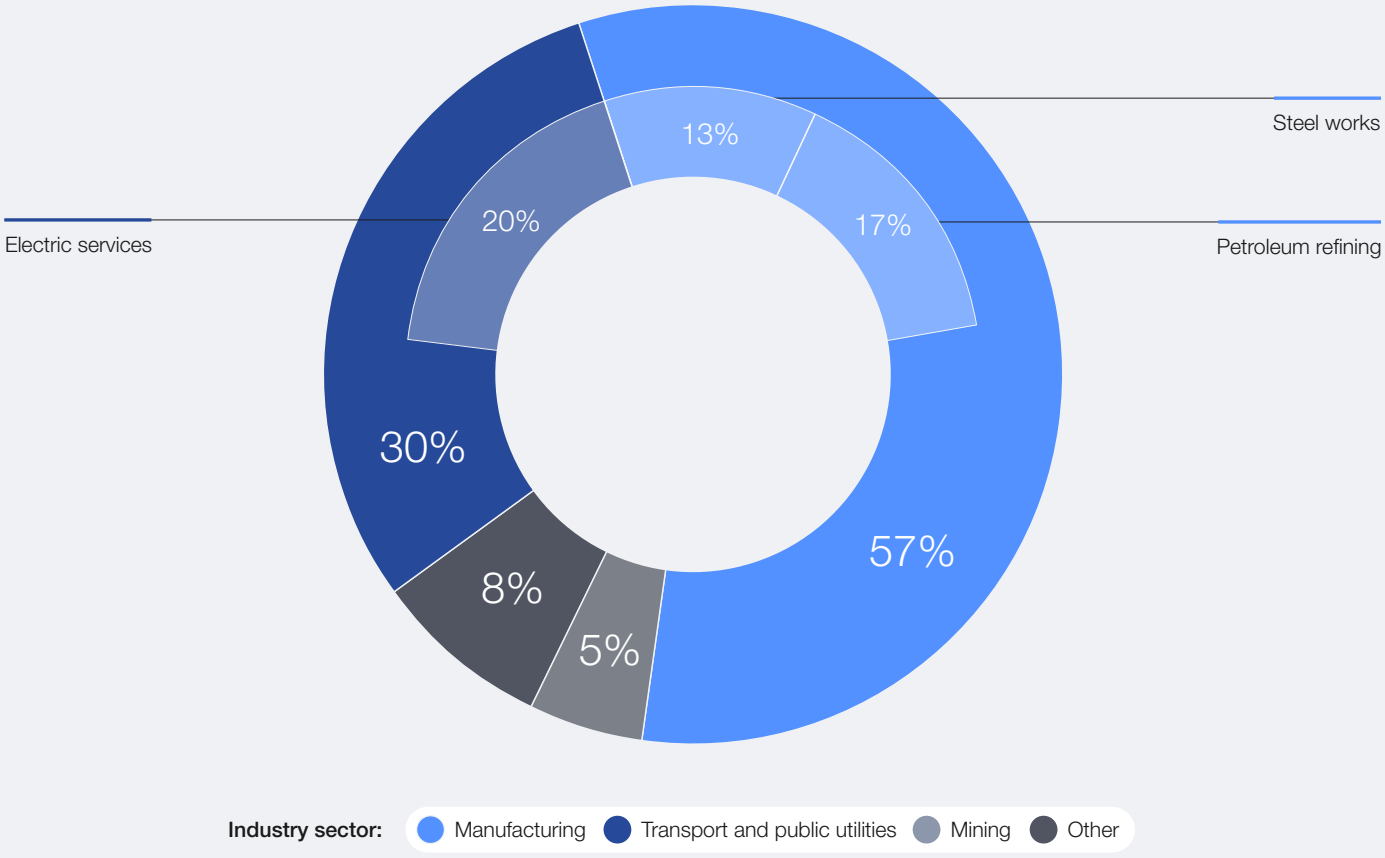
Note: Stated policies scenario represents current emission reduction trajectory, announced pledges scenario represents adherence to national energy and climate targets.

Source: International Energy Agency (IEA). (2024). *World Energy Outlook 2024*; SBTi, *ESG Book*; Accenture analysis.

According to a recent analysis, in 2024 European G2000 companies outperformed their global peers, but only 21% of them are on track to achieve net zero by 2050. 47% are off-track but are reducing emissions, while the remaining 32% are still increasing their emissions.[26]

To deliver on the emission reduction targets, it is critical to understand the importance of hard-to-abate sectors. Half of the Scope 1 and 2 emissions of companies analysed for this report are attributable to just three industry sub-sectors: electric services (20%), petroleum refining (17%) and steel (13%).[27] The situation is similar for Scope 3 emissions, where three sub-sectors contribute to over half of emissions: petroleum refining (33%), automotive (11%) and metal mining (8%).[28] Any improvement in these would translate to substantial overall emission reductions.

FIGURE 4 **Sectoral distribution of cumulative Scope 1 and 2 emissions between 2019 and 2023**



Note: Sample size: N = 351.

Source: Accenture analysis; ESG Book.

1.2 Energy use and efficiency

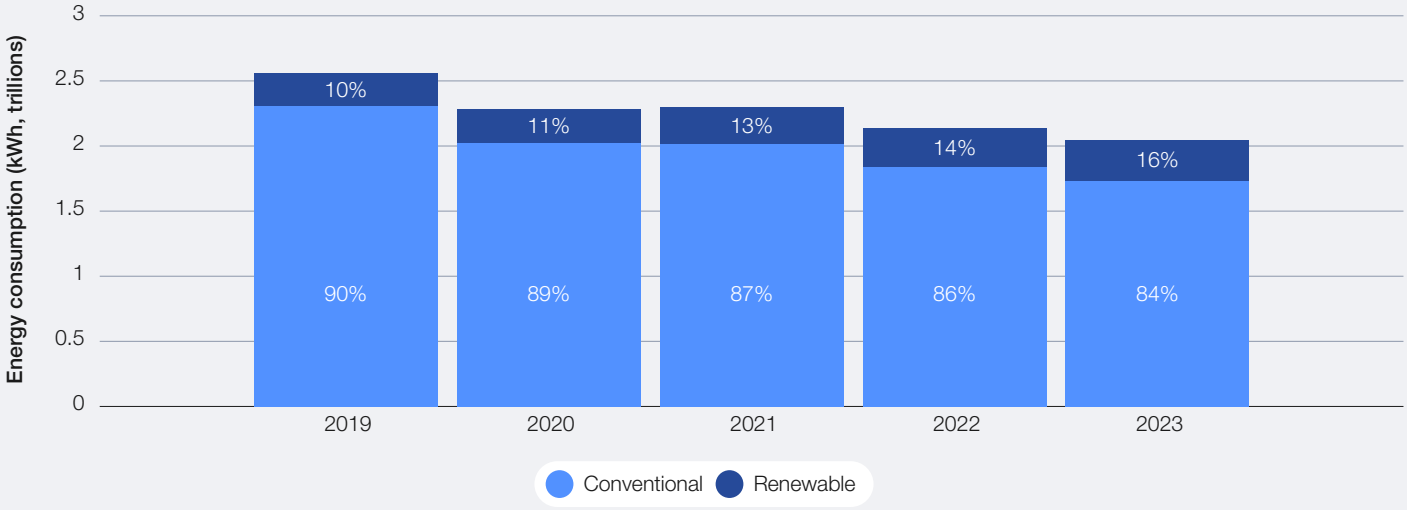
Reducing emissions requires pulling several levers and energy efficiency is particularly important. In 2019, 25% of analysed European companies set energy efficiency targets and by 2022 this reached 31%, significantly lower than the share of companies with emission reduction targets.[29] Manufacturing, transport and public utilities have the highest rate of energy efficiency target setting, covering 35% of companies in 2022. On the opposite end, the service sector covered 17% in the same year.[30] There is an underlying rationale for this, as energy accounts for a notable share of operating expenses in manufacturing and transport, and efficiency improvements are directly linked to lowering costs. The service sector has lower emissions to begin with (accounting for 0.1% of analysed companies' Scope 1 and 2 emissions)[31] and therefore has less to gain from investing early in energy efficiency measures.

The next lever that directly reduces emissions is renewable energy use. Overall, 43% of analysed European companies had renewable energy targets in 2022, an increase of 19 percentage points since

2019.[32] The transport and public utilities sectors lead this trend, with 53% of companies having renewable energy targets in 2022; services are again on the opposite end, with 29% of companies having such targets.[33] Both targets translate into actual changes in total and renewable energy consumption. Between 2019 and 2023, total energy consumption dropped by 20%, accounting for the majority of emission reductions. Over the same period, the share of renewable energy in total consumption grew from 10% to 16%.[34]

A recent study found that in 2024, 35% of European G2000 companies have energy efficiency targets, and 55% have renewable energy targets.[35] The same research revealed that 97% of European G2000 companies actively leverage energy efficiency and renewables to lower their emissions.[36]

FIGURE 5 **Energy consumption of European companies, kilowatt hours (kWh)**



Note: Sample size: total N = 229; renewables N = 228.

Source: Accenture analysis; ESG Book.

1.3 Circularity and resource management

Resource efficiency is an important measure of companies' environmental impact, particularly in relation to the circular economy. The amount of waste produced by companies is one of the clearest indicators of resource use. In 2022, 45% of the analysed companies had waste-related targets, an increase from 34% in 2019.[37] The manufacturing sector drives this trend, with 62% of companies having waste-related targets in 2022 compared to 48% in 2019.[38] The service sector is on the opposite end, with just 14% having targets in 2022 and 10% in 2019.[39] These targets have not yet translated into measurable progress in waste management, however. Between 2019 and 2023, the amount of waste generated by the analysed European companies grew by 16%.[40] This growth is largely attributable to a single sector, as over 90% of waste comes from the mining sector,[41] where mineral waste remains difficult to recycle. Excluding the mining sector, waste generation has been relatively stable between 2019 and 2023. This trend is also observed for recycling rates between 2019 and 2023, which grew slightly for the analysed companies from 64% to 67%.[42]

The top three challenges related to the circular economy and implementation of circular waste solutions in business, as indicated by surveyed companies, are a lack of circular infrastructure along the supply chain, the cost and availability of solutions, and permitting processes.[43]

Water resource management is another key sustainability metric used by companies. In 2019, 25% of analysed companies had water resource management targets, which increased to 32% in 2022.[44] Again, the manufacturing sector leads in setting water-related targets, with 38% of companies setting targets in 2019 and 50% in 2022.[45] This is notable as the manufacturing sector consumes around 2 billion tonnes of water each year, accounting for half of total water consumption (the portion of water not returned to the original source after being withdrawn) of analysed companies.[46] Water-related targets also translate to use efficiency improvements, as water withdrawals (freshwater taken from water sources and conveyed to a place of use) dropped by 5% between 2019 and 2023 and water consumption by 9% over the same period.[47]

1.4 Supply chains

Between 2019 and 2022, the share of companies that conduct supply chain audits increased slightly from 35% to 38%.

Substantial reductions in Scope 1 and 2 emissions can be observed for the analysed companies across Europe; yet Scope 3 emissions remain stable. Between 2019 and 2022, the share of companies that conduct supply chain audits increased slightly from 35% to 38%. The share of companies that use environmental criteria in supplier selection, however, dropped from 47% to 34% over the same period.[48] Surveyed companies highlight two main obstacles in decarbonizing their supply chains: a lack of unified internationally respected regulations, and a lack of quality supplier data, while the cost of decarbonization comes in third.[49] This finding is reconfirmed by interviews conducted with executives, who also pointed to the fact that in some regions there has been little progress in adopting and adhering to European standards.

This suggests that the effective management of Scope 3 emissions requires coordinated action across global supply chains. In the absence of alignment with global standards, this can create disadvantages for European companies, who will struggle with higher costs when competing in markets outside of the EU.[50] Without clear global consensus, it is unsurprising that over two-thirds of the surveyed companies do not make any efforts to help suppliers in acquiring the skills needed for the net zero transition.[51]

BOX 2 **EU support for supply chain partners through the Global Gateway programme**

The EU's Global Gateway programme aims to mobilize €300 billion in infrastructure investments from 2021 to 2027, focusing on sustainable, climate-resilient and secure projects in digital, energy, health and transport sectors. It is an important tool to help bring EU supply chains along in the green transition. The initiative emphasizes transparency, good governance and equal partnerships with developing regions. It seeks to strengthen global supply chains through secure, high-quality infrastructure, in close collaboration with the private sector to help catalyse investments.[52]

With both CBAM (Carbon Border Adjustment Mechanism)[53] and CSDDD (Corporate Sustainability Due Diligence Directive)[54] coming into force in 2026, executives point to the responsibility of larger companies in their supply chains[55] and propose that larger companies provide the necessary tools, finance, and inspiration to their suppliers and smaller companies along their supply chains to decarbonize.[56] Additionally, executives invite the public sector to support the establishment of a centralized solution for environmental reporting.[57] This can be supported by the private sector through expertise and innovative technology.[58] A centralized solution would be especially favourable for small- and medium-sized enterprises (SMEs).[59]

TABLE 1 **Automated environmental reporting case study**

Existing foundation for GHG emission tracking	Enablers of comprehensive environmental reporting
Duke Energy teamed up with Accenture, Avanade and Microsoft to create a cloud platform to track methane emissions from natural gas assets.[60] The platform gathers real-time data using satellites, aircraft and ground sensors. By leveraging digital technologies such as cloud computing, AI, and IoT sensors, it assists companies in meeting regulatory standards and achieving sustainability goals, while integrating various data streams to optimize emissions management.[61]	Satellites provide additional types of data that can be included in environmental reporting: – CO_2 emissions[62] – Energy efficiency[63] – Land use details and forest asset management[64] – Water quantity and quality[65] – Chemical analyses of land and water[66] – Biodiversity protection through plant disease detection[67]

Source: Accenture, Microsoft, Planet Labs, Pixxel, Satelytics.

TABLE 2 **Recommendations: decarbonization**

Challenge	Recommendations	Public sector	Private sector
Transparency of climate reporting	– Consider centralizing GHG tracking with the help of new technologies	✓	✓
Addressing the root causes of emissions by leveraging key decarbonization levers	– Identify the main drivers of emissions across value chains – Quantify the impact of these drivers on overall emissions – Identify evidence-based solutions – Set specific measurements that support the implementation and execution of the identified solutions	✓	✓
Development of global standards	– Develop global sustainability standards based on an internationally accepted baseline, ideally with internationally recognized standardization bodies – Ensure compatibility and complementarity of these standards with regional and national regulations – Leverage diplomacy to sign multilateral agreements with third parties on standards' implementation and recognition	✓	
Continuous private-public feedback loops	– Set up sectoral fora for continuous public-private dialogue, similar to the Clean Industry Dialogues – Run regular business surveys on the economic and regulatory environment of the EU – Define means of measuring regulatory success, based in part on business input – Regularly measure success against agreed criteria. – Ensure private sector involvement in Global Gateway priorities and co-design of joint investment projects	✓	✓

2 Enablers of private sector decarbonization

Complexity and fragmentation limit Europe's potential to decarbonize and innovate in a symbiotic manner.

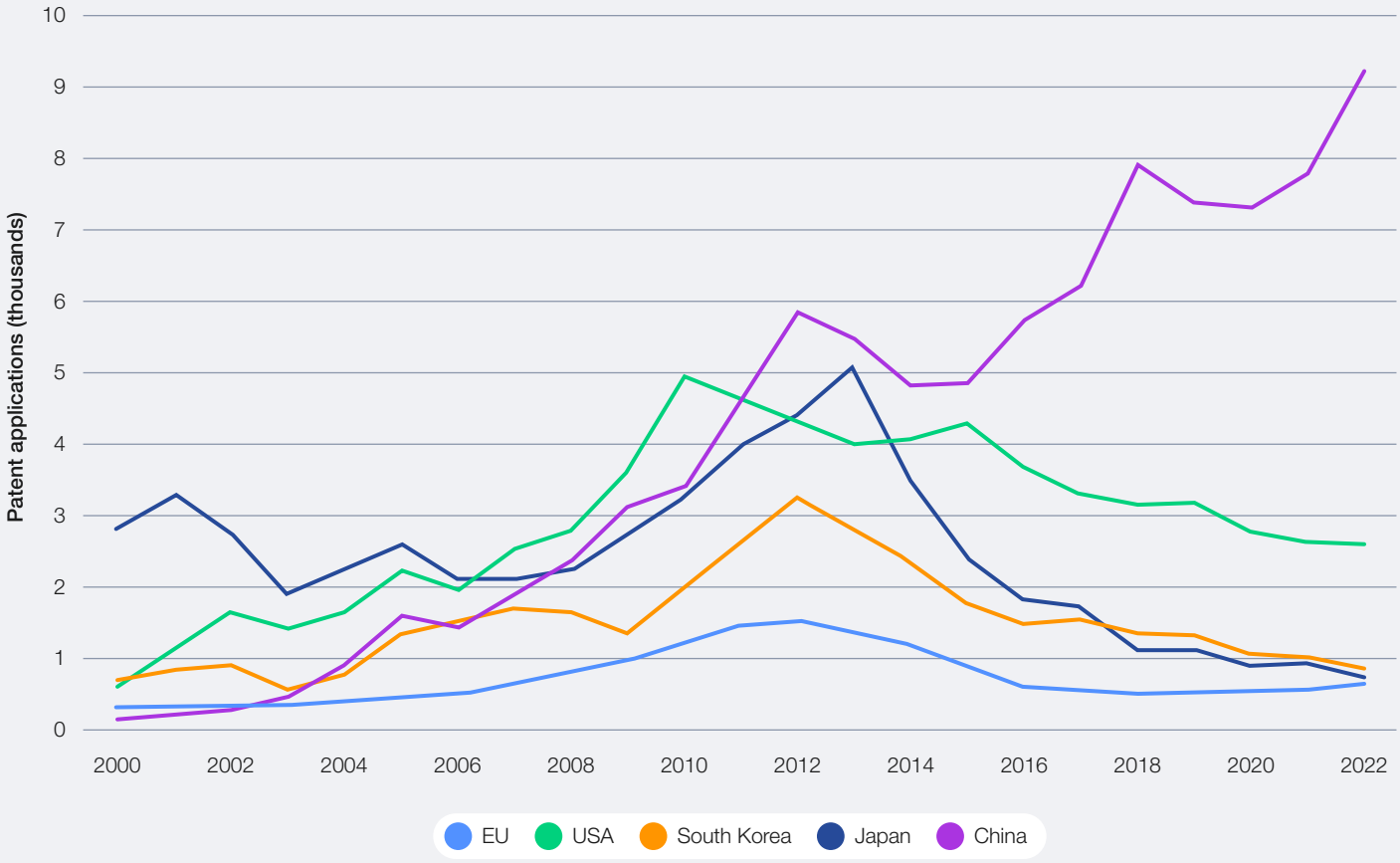
2.1 Innovation and permitting

Innovation and R&D

Although the objectives of the EGD are largely focused on emissions reductions and nature positivity, innovation is a central enabler to help Europe meet its climate targets.[68] Currently, the EU remains dependent on the import of key renewable technologies,[69,70] threatening a similar reliance as was experienced with imported natural gas and that resulted in the 2020 energy crisis.[71]

China, for example, has already taken the lead in renewable technology innovation, and is critical for European technology value chains. Its patent applications for renewable technologies have skyrocketed in the last decade, while patents in other regions have declined.[72]

FIGURE 6 **Renewable patent applications in selected economies (thousands)**



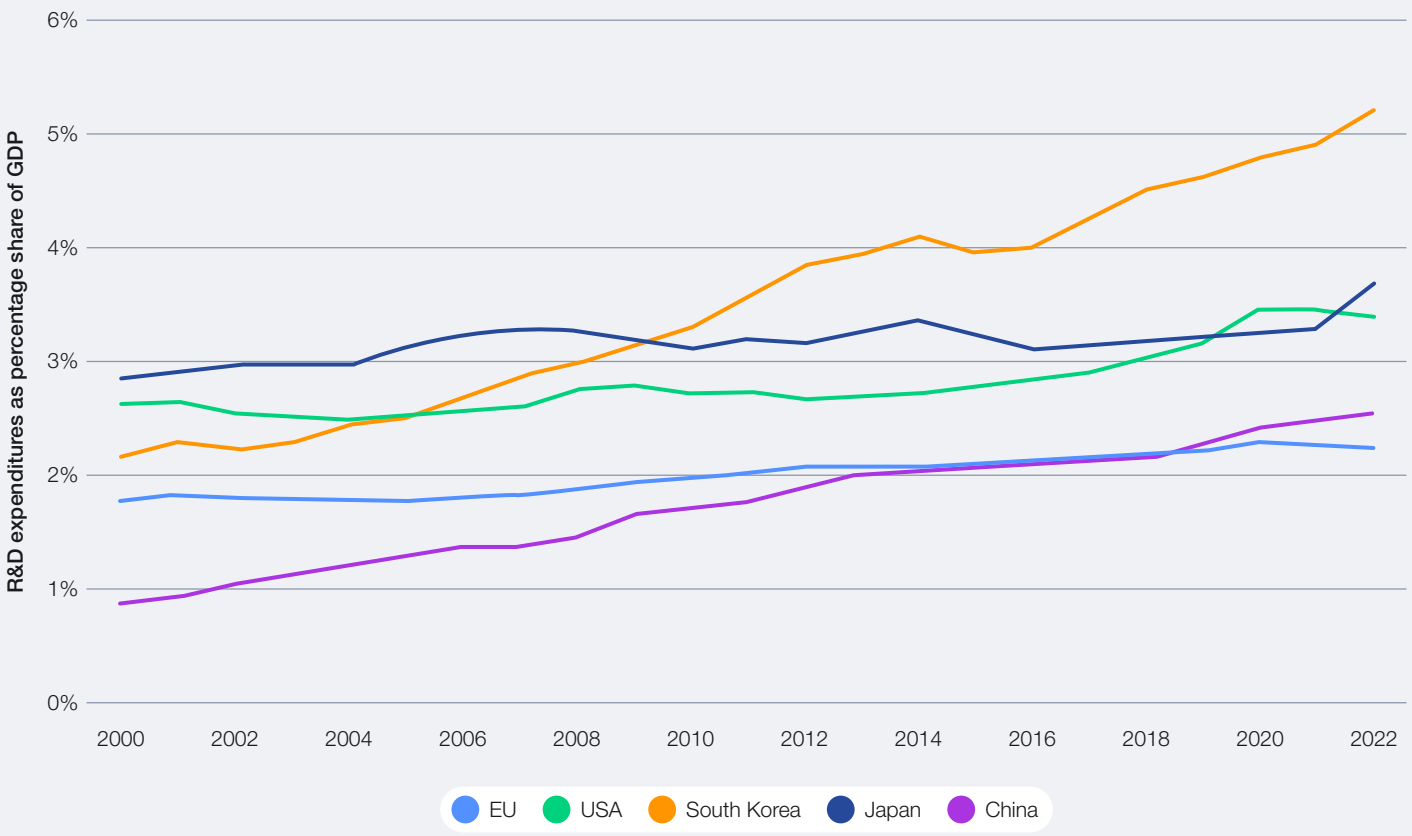
Note: Includes geothermal energy, hydro energy, solar energy, wind energy technology

Source: World Intellectual Property Organization (WIPO). (2023). *WIPO statistics database*; International Renewable Energy Agency (IRENA). (2024). *Renewable capacity statistics 2024*.

Renewable energy technologies contribute to approximately 1% of Chinese GDP (gross domestic product), compared to 0.1-0.3% in the EU, US, Japan and Korea.[73,74,75,76,77,78] The EU does have the foundation and capacity necessary to improve its position in the global green tech race, however, as over one-fifth of clean technologies is still developed in the region.[79] European manufacturing capacity for wind technology and hydrogen electrolysers, for example, is still notable globally (e.g. 26% of global capacity for electrolysers, 41% for offshore wind towers, 25% for offshore wind nacelles).[80]

According to surveyed companies, the EU holds competitive advantages in emerging technologies, such as hydrogen and carbon capture and storage (CCS), which were mentioned by 63% of the companies.[81] Interviewed executives remain concerned, however, about the EU effectively leveraging public procurement to sustain that advantage and promote these domestic technologies.[82]

FIGURE 7 | **Research and development expenditure as percentage of GDP in selected economies**



Source: World Bank. (2024, data covering 2000 to 2021). *Research and development expenditure (% of GDP)*; Eurostat. (2024). *Research and development expenditure in the EU*; Moris F., Rhodes, A. (2024). *Research and Development: U.S. Trends and International Comparisons*; U.S. National Science Foundation; Statista. (2024). *China research and development spending ratio to GDP*; Statista. (2024). *Research and development spending as a share of gross domestic product (GDP) in South Korea from 2015 to 2022*; Statistics Bureau of Japan. (2023). *Science and technology research data.*

One of the factors contributing to the EU's innovation gap is its low investment in R&D. Overall, the EU spends less of its GDP on R&D than China, South Korea, Japan and the US. According to the European Commission, European companies spend 59% of their R&D budgets in the EU, compared to US companies spending 63% in the US.[83] Asian companies spend even more of their R&D budgets domestically, spending 76%, 77% and 79% in China, South Korea and Japan, respectively.[84] In addition, European companies' share in global R&D has been declining since 2012.[85] Surveyed companies quote the regulation of business as the top barrier to increasing their investments in Europe.[86] The EU has prioritized comprehensive regulatory frameworks imposing strict compliance requirements[87] that increase the cost of compliance.[88]

To further understand the European innovation gap, it is worth looking at the innovation potential and business complexity of the EU.[89] Innovation potential is based on science and innovative investments, technological progress, technology adoption and socioeconomic impact of innovation.[90] Business complexity refers to the complexity of establishing and operating business.[91]

Overall business complexity in the EU is slightly lower than in South Korea and China, but complexity is high in its largest economies, namely France, Italy and Germany. For both innovation potential and business complexity, there is a high variance between individual EU member states, suggesting that there are best practices in some states that can be replicated across the bloc.

FIGURE 8 | **Innovation potential and business complexity of selected economies**

Note: Average for EU calculated as GDP weighted average of individual member states; Estonia, Latvia, Lithuania excluded due to unavailable data on Global Business Complexity Index.

Source: Dutta, S., Lanvin, B., Rivera León, L., and Wunsch-Vincent, S. (2023). *Global innovation index 2023: Innovation in the face of uncertainty (16th edition)*. World Intellectual Property Organization; Eurostat. (n.d.). *GDP and main components (output, expenditure and income)*; TMF Group. (2023). *Global business complexity index 2023*; World Bank. (n.d.). *GDP (current US$)*.

To improve green innovation in Europe, it is crucial to understand what sets the EU back. According to surveyed companies, regulatory uncertainty is the top barrier to scaling green solutions (69% of companies), followed by the complexity of the regulatory landscape (50%) and permitting delays (34%).[92] Some companies also pointed to the fact that permitting processes for net-zero technologies are more complicated in the EU than in other global regions.[93]

TABLE 3 | **Recommendations: innovation potential**

Challenge	Recommendations	Public sector	Private sector
Reduce reporting burden and improve predictability	– Where possible, collaborate with existing global standard-setters and frameworks to ensure European businesses and supply chain partners align with global systems. – Deliver on the EU's commitment to reducing the reporting burden by at least 25% and streamline reporting requirements as soon as possible. – Regularize stakeholder dialogue with the private sector and civil society to ensure regulations are fit for purpose. – Develop sector-based sustainability reporting requirements, ideally in collaboration with global standard-setters. – Ensure regulatory stability and predictability including through mandating periods during which regulations cannot be amended.	✓	
Tax incentives for innovative projects	– Design EU-wide guidance on suitable tax credits or exemptions for both business and households to ensure demand and investment returns during product commercialization and scale up. – Consider both production tax credits and investment credits.	✓	
Stability and predictability of incentives	– Set in place collaborative mechanisms between industry, academia and the public sector to identify technologies and projects of strategic importance to the green transition. – Strategically plan long-term incentives for these technologies and insulate them from political changes. – For investment in key technologies, assure investors with fiscal stability clauses and/or tax stabilization clauses over an agreed timeline. – Do not set targets without consulting industry on the feasibility of product scale-up and putting in place sufficient demand incentives. – Introduce periodic reviews of incentives and technologies for new investments without affecting ongoing or existing ones.	✓	
Common innovation objectives	– Engage in pan-European, sectoral and cross-sectoral dialogue to identify common innovation priorities. – Agree and commit to innovation priorities, including capital commitments and clear guidance on financing gaps needed to be filled by private actors.	✓	✓
Business-driven innovation	– Identify regulatory and administrative bottlenecks that inhibit innovation. – Design business-centric solutions for these bottlenecks based on industry knowledge. – Supply public institutions with innovation solutions through continuous dialogue.	✓	✓
Allowing calculated risk	– Intentionally infuse some capital in early stage, high-risk investments and accept the chance of failure. – Engage with the public sector to co-fund these investments. – Increase the use of pilot projects and/or sandbox trials to reduce the risk of large-scale costly industry failures by further diversifying risks to public funds. – Collect lessons learnt for a central platform from successful and failed investments. – Establish regular feedback loops for prioritized investments.	✓	✓
Furthering academic collaboration	– Engage in dialogue with the public sector to identify academic institutions that are working on the technologies relevant for various sectors. – Support with the assessment of technologies' viability for commercial purpose. – Support the commercialization of technologies, leveraging the scale of own operations.	✓	✓

Permitting

According to Business Europe, 83% of companies see both the complexity and duration of industrial permitting as major obstacles to investing in Europe.[94] Specific challenges include the response times of public authorities, the complexity of both EU and national legislation, and the lack of coordination between authorities.[95] Additionally, 63% of companies experience regular delays of Environmental Impact Assessments (EIA).[96] Reasons for this include the following:

- mandatory deadlines not being respected by authorities
- lengthy public consultation
- unconstructive stakeholder engagement
- difficulty navigating multiple EU and national legislations related to EIA[97]

In this context it is unsurprising that 81% of wind capacity in the EU is stuck in permitting at various stages of the process.[98] Such delays translate to significant additional costs for renewables' developers, which can account for as much as 36% of a project's value (see Figure 9).

FIGURE 9 **Examples of financial impact of permitting delays on renewable energy projects**

Technology	Onshore wind 35MW	Hydropower 4MW	Hydropower 1MW	Rooftop solar 380kw
Delay	7 years	7 years	3-4 years (projected)	2 years
Cost of delay	€4,850,000	€1,750,000	€360,000-600,00 (projected)	€25,000
Cost as % of project value	9% (estimate)	26% (estimate)	22-36% (projected estimate)	10%

Source: Accenture analysis; Eurelectric. (2020). *Statement on RES permitting*; International Renewable Energy Agency (IRENA). (2023). *Renewable power generation costs in 2022*; European Central Bank. (2024). *2022 average EUR/USD exchange rate*.

On average, the complexity of planning and timelines in the EU,[99] based on the Global Business Complexity Index, is the highest out of the major global economies; but it is important to note that it varies significantly between member states, with processes in bigger member states tending to be more complex.[100]

FIGURE 10 | **Planning and timelines score of Global Business Complexity Index in selected economies**

Country/region	Planning and timelines complexity	
Italy	●●●●●	Very high
Poland	●●●●●	
Austria	●●●●●	
France	●●●●●	
Germany	●●●●●	
Sweden	●●●●●	
Croatia	●●●●	High
EU	●●●●	
Greece	●●●●	
Hungary	●●●●	
Slovenia	●●●●	
South Korea	●●●●	
Spain	●●●●	
Finland	●●●	Medium
Malta	●●●	
Romania	●●●	
Belgium	●●●	
Bulgaria	●●●	
China	●●●	
Cyprus	●●●	
Portugal	●●●	
Slovakia	●●●	
Ireland	●●	
Czech Republic	●	Very Low
Denmark	●	
Japan	●	
Luxembourg	●	
Netherlands	●	
USA	●	

Note: Average for EU calculated as GDP weighted average of individual member states.

Source: TMF Group. (2023). *Global business complexity index 2023*. https://www.tmf-group.com/en/news-insights/publications/global-business-complexity-hub/#anchor1.

The RES Simplify project, conducted by the Directorate General for Energy of the European Commission together with renewable energy private sector players, analysed barriers in renewable energy permitting, with wind, solar, hydro and geothermal technologies being the scope of the analysis.[101] It provided EU-wide recommendations to resolve them, including establishing one-stop-shop, digitalization, and early public engagement, among others.[102] Many of these recommendations have been included in the Net Zero Industry Act, although the effects are not expected to be felt before 2026.[103] In the meantime, case studies from Denmark, the Netherlands and Finland show how such recommendations can work in practice.

TABLE 4 | **Permitting case studies**

Danish Energy Agency (DEA)	Consolidated environmental law in the Netherlands	Environmental permitting reforms in Finland
The Danish Energy Agency acts as a single point of access for regulatory and permitting processes, including coordination with relevant stakeholders. The agency built upon its previous experience in managing oil and gas permitting in the North Sea and expanded this model to offshore wind farms. It also provides a digital data platform with environmental, water, nature and land use data providing transparency on the same sources used by regulatory agencies and developers.[104]	In the Netherlands, the Environment and Planning Act, effective as of 1 January 2024, centralizes 26 laws, encompassing housing, infrastructure and environment, into one unified framework. It introduces a one-stop-shop for permits, where developers can submit a single application for all required permits that is handled by one authority, with an application process available through an online portal. If the authority fails to issue a decision within the set deadline, the permit is automatically issued "lex silencio positivo", which guarantees that the project will not be put on hold due to administrative delays.[105]	For Finland to reach carbon neutrality by 2035, it has prioritized the permitting application processes for projects promoting the green transition between 2023 and 2026 and select industrial projects can omit traditional zoning requirements if they meet certain environmental criteria. By January 2026, it aims to introduce a Permit and Supervisory Authority (VALO), which will handle several permits in a single process, merging tasks otherwise performed by several agencies. The permitting process is also supported through the electronic handling of permit applications as well as a website where required permits can be mapped to projects.[106]

Source: Loyola Associates, Business Finland.

The EU has identified additional critical net-zero technologies for which similar recommendations are needed, namely grid infrastructure, hydrogen, carbon capture and storage (CCS), batteries and biogas.[107] These technologies bring unique permitting challenges, such as geological permits for CCS or hydrogen import-export permits, to name a few.[108] Future-proofing European renewable energy permitting to account for evolving technology requires five steps:

1. Strategic planning of permitting processes while technologies are scaled up.
2. Centralization of permitting activities in one-stop-shops.
3. Standardization of permitting processes across member states.
4. Digitalization of permitting applications and processing.
5. Early and effective public engagement.[109]

It is also important to remember that sustainability covers many technologies beyond energy. Biotechnology and sustainable chemicals, for example, are innovative sectors that expect 14% and 15% annual growth respectively by 2030.[110,111] Both are struggling with lengthy permitting processes in the EU, underscoring the need for a holistic approach to reduce approval timelines.[112,113]

There are best practices that can be adopted to streamline permitting and reduce delays. They need to be planned strategically across multiple technologies and account for the conflicting priorities of the European Green Deal. By simplifying permitting frameworks, improving coordination between regulatory bodies, and adopting digital tools for transparency and efficiency, the EU can accelerate the green transition and achieve its climate goals. Improved permitting is a much-needed enabler of European competitiveness.[114]

TABLE 5 | **Recommendations: permitting**

Challenge	Recommendations	Public sector	Private sector
Strategic planning of technology permitting	– Continue identifying technologies of strategic importance to the green transition during their early commercialization. – Understand the permitting needs for these technologies. – Plan permitting processes ahead of the technology reaching market maturity. – Continuously assess the potential permitting needs of technologies in R&D.	✓	✓
Central permitting orchestration	– Create a central platform to enable exchange of best permitting practices. – Establish a single point of contact for all permitting-related matters. – Apply a pan-European perspective to analyse permitting needs of technology ecosystems (e.g. energy systems).	✓	
Improving baseline for all European permitting processes	– Review existing industrial and infrastructure permitting processes and identify the core elements that apply across sectors. – Develop a technology-agnostic permitting baseline valid across member states. – Identify sector-specific deviations from the baseline. – Develop sector-specific sub-processes to complement the baseline.	✓	
Digitalization of the permitting processes	– Digitalize workflows of standardized processes. – Develop a set of standard input forms and documents. – Develop a central platform for the management of all permitting activities. – Set clear rules and timelines. – Deploy AI to expedite screening of applications. – Include public consultation in the digital workflow.	✓	
Effective public consultations	– Provide access to digital platforms for all parties involved in the consultation process. – Nominate public officials to proactively engage impacted communities. – Collect feedback and integrate lessons learnt.	✓	✓
Continuous learning	– Establish a culture of sharing best practice and lessons learnt. – Build a database of best practices and lessons learnt. – Improve processes and tools based on learnings.	✓	✓

2.2 Funding and financing

> Only 20-25% of the investment needs will be covered by the public sector, translating to roughly €0.9 trillion of private capital required.

EU public funding

Globally, €4.6 trillion[115] is needed annually to achieve the 1.5°C target by 2050, which is more than four times higher than the 2022 global investments across energy transition technologies.[116] According to the European Commission, the EU needs €1.2 trillion annually by 2030 to deliver on its 55% emission reduction target.[117] Only 20-25% of the investment needs will be covered by the public sector,[118] translating to roughly €0.9 trillion[119] of private capital required. The European Commission estimates the gap in private funding to stand at €477 billion.[120]

A small part of the investment gap can be closed by the efficient use of revenues from the Emissions Trading System (ETS) and the CBAM (Carbon Border Adjustment Mechanism). It is estimated that 33% of ETS revenues, approximately €9 billion, remain unused despite clear guidance from the EU that member states should use these budget allocations for investments into renewable energy, energy efficiency improvements and low-carbon technologies.[121] The revenues from CBAM are projected to reach over €2.1 billion per year by 2030[122] and are currently not earmarked for climate action. Yet these funds are still insufficient to cover all the required investments, which underscores the importance of public-private partnerships in mobilizing the necessary capital.

Blended finance

Blended financing models, which combine public and private funds, are essential for enabling an effective energy transition. Blended finance partnerships vary by technology and project maturity. Public funding mitigates risks in early-stage innovations to demonstrate financial viability, often through grants, loans and equity. Public funding aids early market development for green products by providing predictable incentives and tax credits.[123,124,125]

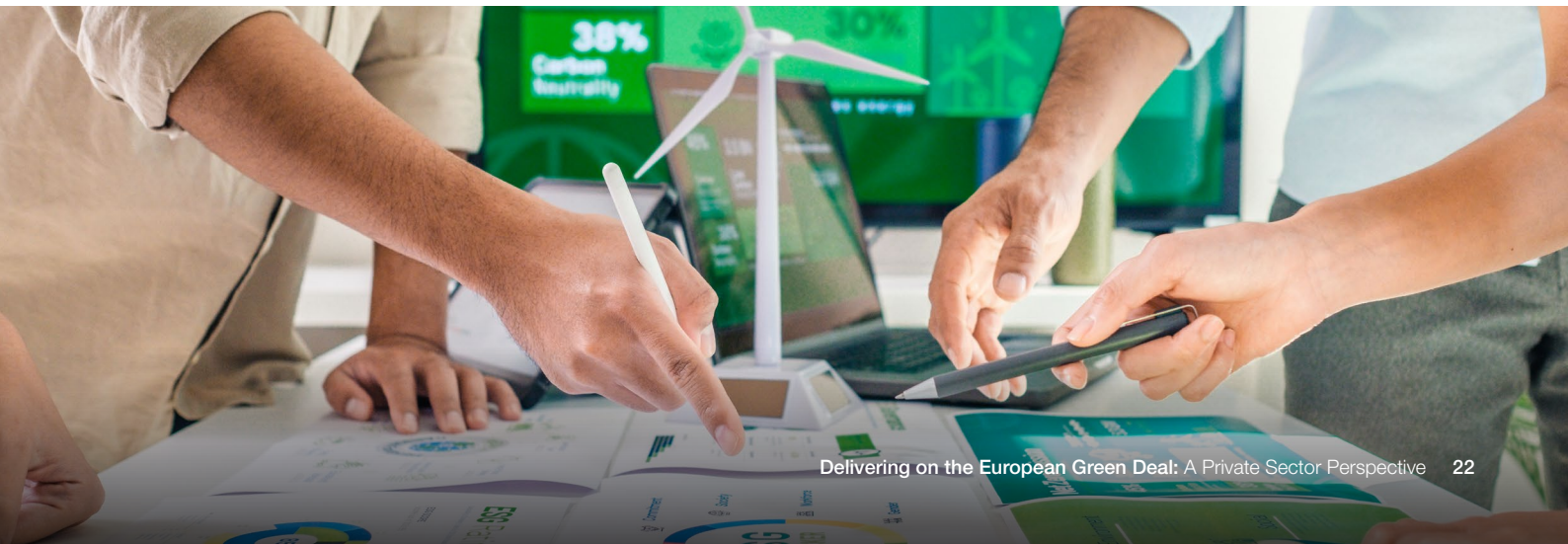
The effective use of public funding can improve the business case for green investments by providing guarantees, subsidies and first-loss capital for proven emission-reducing technologies.[126,127,128]

The EU focuses on direct financial support with most financing being distributed through grants, loans and financial guarantees. Tax incentives have also proven efficient, however, in attracting investments as seen with the Inflation Reduction Act (IRA) in the US.

Offtake agreements, where the buyer agrees to purchase the producer's future output often before production begins, are needed to ensure the long-term profitability required to mitigate risks for investors. In the case of Swedish H_2 Steel, half of the initial annual volumes of 2.5 million tons have been sold in binding five- to seven-year customer agreements. The H_2 Steel project is also an example of combining various financing instruments from both public and private sources in the form of equity and debt.[129,130,131,132,133,134,135,136]

The predictability of the regulatory system is critical to support any kind of long-term supply-demand commitment. As highlighted by interviewed executives, a lack of clarity on the future state of incentives for clean technologies, notably for Sustainable Aviation Fuel (SAF) and hydrogen electrolysers, makes it difficult for the private sector to plan and ensure long-term profitability. The complexity of going through the funding process is a major obstacle for European businesses seeking to tap into EU funding. Almost all of the surveyed companies said that the funding landscape in the EU is either very complex or somewhat complex.[137]

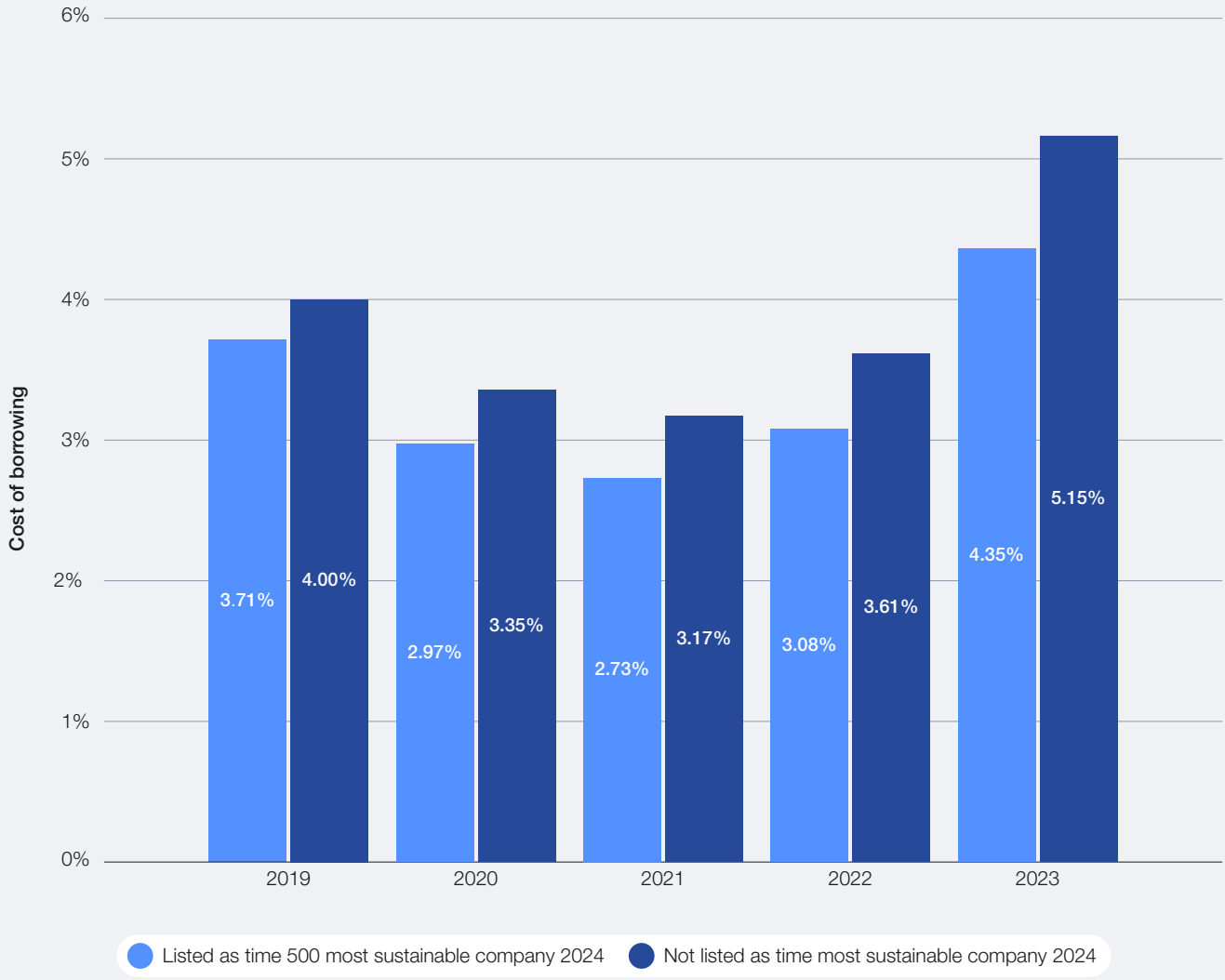
By contrast, under the IRA (Inflation Reduction Act) in the US, interviewed applicants received a first go/no-go decision on funding within six weeks of applying, based on a 1.5-page document. The full process lasted three months and only required 40 pages of application. In the EU, the same applicant was required to submit 400 pages of application to enter the process, which took nine months to complete.[138]



BOX 3 | Sustainability of business translating to lower cost of borrowing[139]

Studies of the European Central Bank[140] and De Nederlandesche Bank[141] suggest that greener companies pay lower interest rates than more carbon intensive ones. Our analysis of cost of borrowing of more than 1,200 European companies indicates that sustainability has measurable impact. For example, European companies from Time's World's Most Sustainable Companies of 2024[142] list have lower cost of borrowing than those who fall outside of the list. The gap between companies from the list and outside of it has been growing between 2019 and 2023, in favour of the listed companies.

Cost of borrowing of European companies



Note: Sample size: total N = 1225, companies listed on Time 500 Most Sustainable Companies 2024 N = 178, companies not listed on Time 500 Most Sustainable Companies 2024 N = 1,047; Data courtesy of S&P Global Market Intelligence.

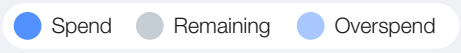
Source: Accenture analysis, S&P Global Market Intelligence, Time.

Complexity

The European public funding landscape is characterized by a lack of sufficient transparency and coordination between different levels of management – both regional and central. Currently, there is no single source of information that provides a comprehensive overview of all the available funding programmes, eligibility criteria and application processes for green initiatives. This fragmented information landscape makes it difficult for businesses, particularly small- and medium-sized enterprises (SMEs), to identify and access appropriate funding opportunities.

FIGURE 11 | **Use of public funding programmes in the EU**

#	Programme name	Available budget (€, billions)	Distribution as of year
1	Connecting Europe Facility (CEF) in the sectors of Transport and Energy	12.44	2022
2	The Innovation Fund (InnovFund)	40.00	2022
3	Horizon Research in the Climate, Energy and Transport sections	33.43	2022
4	Programme for the Environment and Climate Action (LIFE)	3.31	2022
5	The European Maritime, Fisheries and Aquaculture Fund (EMFAF)	1.83	2022
6	RENEWFM (the renewable energy financing mechanism)	N/A	N/A
7	Recovery and Resilience Facility (includes support for REPowerEU)	723.82	2022
8	Global Europe	80.59	2022
9	Pre-Accession Assistance	14.16	2022
10	ITER (International Thermonuclear Experimental Reactor)	5.61	2022
11	European Agricultural Guarantee Fund (EAGF)	291.09	2022
12	InvestEU	10.28	2022
13	Overseas Countries and Territories	0.50	2022
14	European Agricultural Fund for Rural Development (EAFRD)	95.51	2022
15	Just Transition Fund (one of the three pillars of the Just Transition)	19.32	2022
16	European Regional Development Fund (ERDF)	226.05	August 2023
17	Cohesion Fund (CF)	36.74	August 2023
18	REACT-EU (Recovery assistance for cohesion and the territories of Europe)	50.62	August 2023
19	Modernization Fund	57.00	March 2024
20	Clean Aviation Joint Undertaking	4.00	September 2023
21	Social Climate Fund	86.70	N/A
22	Research Fund for Coal and Steel (RFCS)	0.111	N/A



Source: European Climate, Infrastructure and Environment Executive Agency: European Commission. (n.d.). *CINEA Project Portfolio, Programmes 1-6*; Financial Transparency System. (n.d.). *Financial Transparency System – Analyse*. European Commission. Programmes 7-15; Policy Department for Structural and Cohesion Policies Directorate-General for Internal Policies. (2024). *Absorption Rates of Cohesion Policy Funds: European Parliament. Programmes 16-18*; Clean Aviation. (2023). *Clean Aviation's daring projects*: *Programme 20*; Clean Aviation. (2023). *€380 million for 8 new daring Clean Aviation projects to pave the way for highly efficient aircraft by 2035*; Widuto A., Members' Research Service. (2023). *Social Climate Fund*. *Programme 21*. European Parliament; European Commission. (n.d.). *Big tickets for Coal*; European Commission. (n.d.). *Big tickets for Steel*. *Programme 22.*

The complexity and fragmentation of EU funding processes are key reasons for the underutilization of available funds. Of the 18 funding programmes launched between 2021 and 2027, only 7 have been allocated in line with their timeline progress (see Figure 11). Almost two-thirds of surveyed companies did not use EU public funding and those that did underscored the complexity of the process, with the main obstacles being the number of steps in the process, challenges in identifying if a company is eligible, and filling out the documents.[143]

Interviewed executives also pointed to challenges in the funding of technology scale-up and developing

the market for green products until they reach price parity with higher carbon alternatives.[144] Executives point to the fact that to become the market-maker for sustainable solutions, the EU needs clear demand signals through targets for green products and improved procurement policies.[145]

Despite these challenges, the EU's funding mechanisms have the potential to drive significant progress in the green transition if they are made more accessible, with clear qualifying guidance and transparency. The EU's public funds, when combined with private sector capital, can provide the necessary financial support to scale-up green technologies and accelerate the transition to a low-carbon economy. Surveyed companies see Europe as the top location for net-zero investments, slightly surpassing the US.[146] Streamlining access to the EU's funding therefore holds a promise of providing a much-needed boost to the EU's attractiveness for renewable and net-zero technology investments.

TABLE 6 **Recommendations: financing green investments**

Challenge	Recommendations	Public sector	Private sector
Simplified and standardized funding application process	– Continue reviewing existing processes for funding applications and develop one standardized process. – Identify specific exceptions from standard process as necessary. – Develop a standardized set of documents to support the application process.	✓	
AI-powered digital platform with centralized funding management	– Develop a central knowledge database with clear classification of funds and eligibility criteria including an interface for direct application to relevant funding. – Ensure easy tracking of application, including estimated timelines. – Develop an EU database of all applications and past decisions. – Use AI in application screenings and to match funding applications with available funding options and proactively point applicants to the right funding based on submitted information.	✓	
ETS (Emissions Trading System) revenue allocation to climate action	– Mandate 100% allocation of ETS revenues to climate action. – Allocate revenues to projects within the EU, prioritized based on the principle of equal access to affordable energy.	✓	
CBAM revenue allocation to climate action	– Mandate 100% allocation of CBAM revenues to climate action. – Allocate revenues to projects targeting decarbonization of supply chains outside of the EU.	✓	
Risk sharing through collaboration	– Establish consortia composed of financiers, insurers and sectoral investors targeting specific technology, subsector or sector investments. – Invest small but at scale to reduce risks. – Make greater use of transition plans to help catalyse financing for climate investments of suppliers and SMEs.	✓	✓
Enablement of public funding	– Engage in public-private dialogue to design funding mechanisms to support priority areas. – Assess the effectiveness of public funding use in the decarbonization of industry sectors. – Feed back to the public sector through regular dialogue focused on the efficiency of financial support.	✓	✓
Supply chain decarbonization	– Use offtake agreements to guarantee stable investment returns on green projects. – Agree within sectors to offer more favourable purchasing contract terms to suppliers committed to climate action. – Share solutions and resources with supply chain partners to support their climate action, e.g. Environmental, social and governance (ESG) data collection and analysis tools, regulatory advisory, etc. – Co-finance supply chain partner training on sustainable practices, solutions and regulation.		✓

2.3 Workforce and skills

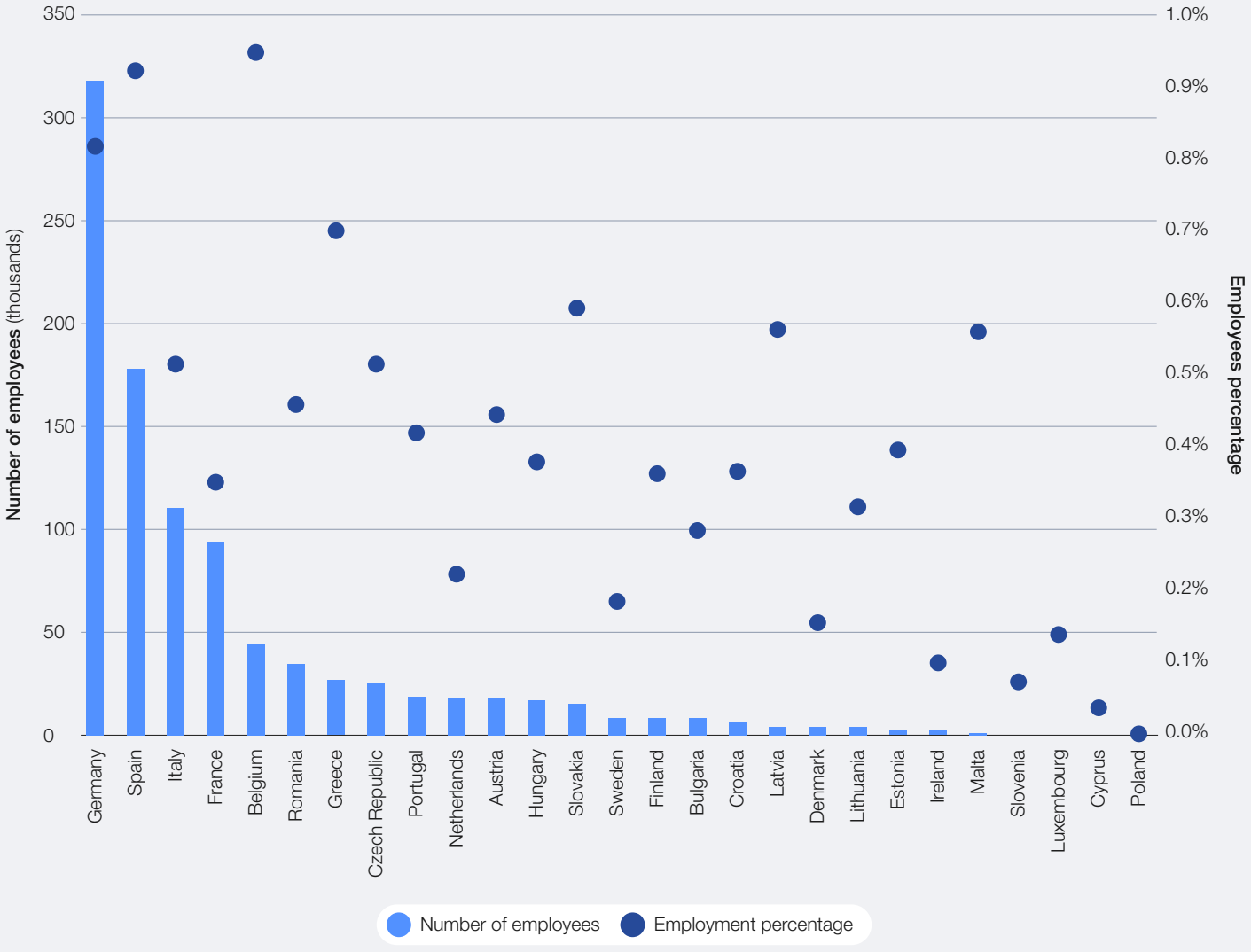
Changes to the job market

Unlocking investments and permitting bottlenecks will speed up the scale-up of green technologies, thereby accelerating the transformation of the European economy and its job market. The transition will also result in the redistribution of skills demand to green sectors, providing opportunities for some displaced workers through reskilling or redefined job scopes.

The European Green Deal is expected to have a moderately positive impact on the job market, creating 950,000 additional net new jobs (0.5% growth of the job market); however, green jobs will not always be created in places where brown jobs (jobs with high levels of carbon output) are liquidated.[147] 14 million people who work in the brown sector will need to significantly transform their existing skillsets or develop entirely new ones.[148]

The green transition will particularly impact sectors that are resource-intensive and characterized by high GHG emissions. Job reductions will affect critical economic sectors, including energy, transport and agriculture, while job creation will be spread across multiple industries given the cross-sectorial application of sustainable solutions and new skills required. Sectors like transport and construction will likely notice job redefinitions, requiring new skills related to new technologies.[149,150,151]

FIGURE 12 **Net new job creation induced by the European Green Deal in the EU by 2030**



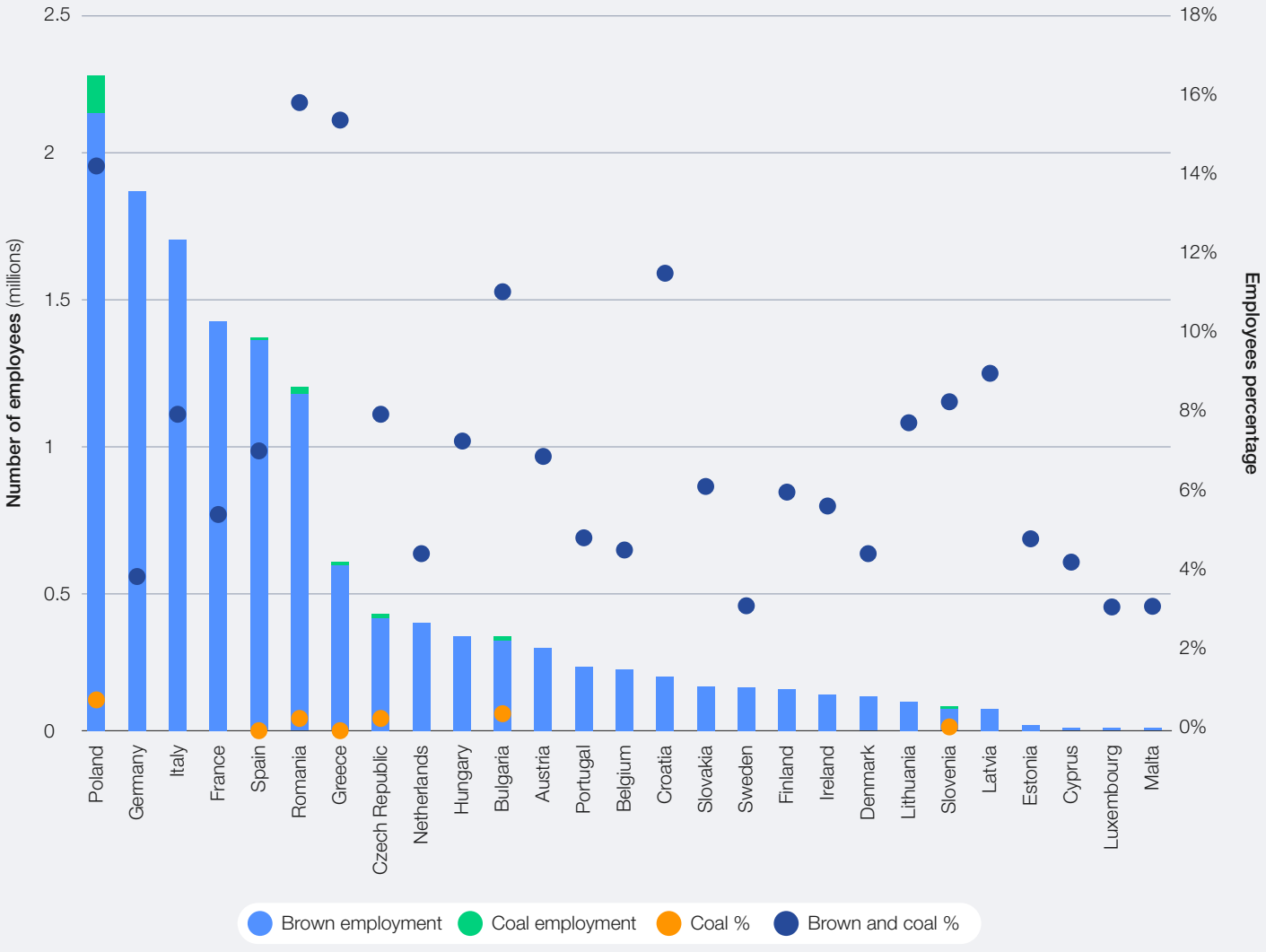
Note: Net new jobs represent cumulative effect of job creation, job redefinition, job substitution and job destruction.

Source: Accenture analysis; Lamio, E. (2021). *The European Green Deal: moving to action. Opportunities and challenges for the European citizens; The EU green deal and the future of the European labour market: which challenges and opportunities?*; Institute of European Democrats; Eurostat. (2024). *Employment and activity by sex and age - annual data*.

The impact of job reductions or redefinitions on the job market in OECD countries is expected to be moderate, as sectors that account for 80% of their emissions employ 8% of the total workforce.[152] On average, 7.5% of jobs in the EU27 are in brown sectors (Figure 13).

The effects of job creation will be different across member states with countries such as Germany, Spain, Italy and France expecting higher net job creation. The share of brown jobs in the total job market exceeds the EU average in Bulgaria, Croatia, Czechia, Greece, Italy, Latvia, Lithuania, Poland, Romania and Slovenia.[153,154,155] Around 200,000 people are employed in the coal sector across Bulgaria, Czechia, Greece, Poland, Romania and Slovenia, with more than half based in Poland.[156] As the European country with the highest number of brown sector jobs, Poland can expect no net new job creation due to the substantial job losses expected in this sector.[157]

FIGURE 13 **Brown and coal sector employment in the EU in 2021**



Source: Accenture analysis; Vandeplas, A., Vanyolos, I., Vigani, M., Vogel, L. (2022). *The possible implication of the green transition for the EU labour market (Discussion Paper No. 176).* European Commission; Eurostat. (2024). *Employment and activity by sex and age - annual data*.

By 2035, the job market in the EU is expected to grow by 2%, by around 6.5 million jobs. Sectors with the highest growth potential are professional services, transport and manufacturing. Around one quarter of new jobs are expected to require technical skills that are common among brown sector workers. Some European regions with the highest share of brown sector jobs will have an abundance of engineering and technical talent that can do these jobs, as evidenced by companies increasingly opening manufacturing plants in Czechia, Poland, Romania and Slovakia.[158] Additionally, in the brown sector there is a large pool of engineers and technicians who could be reskilled. Efforts to re-skill such workers have already started in Poland, where former coal miners are being trained to become wind technicians.[159]

TABLE 7 | **Workforce transformation case studies**

Transition planning and management	Reskilling for renewables	Providing focused financial aid
German Ruhr region transformation	**Polish coal miners become wind technicians**	**French Transco reskilling programme**
The Ruhr region's transition from coal, iron and steel industries is a successful example of industrial transformation. In 1957, these sectors employed about 800,000 people, around 70% of the region's workforce. By 2007, over 400,000 jobs were liquidated. Despite that, total employment levels remained stable due to effective structural policies. Early efforts focused on technological modernization and support for workers facing job losses. A sector-expertise approach was then implemented. A pivotal move was the establishment of higher education institutions and technology centres, branding the Ruhr as a "knowledge region". Enablers of this transition were consistent government engagement, strong social partnership participation, public investment in education and innovation, cooperative institutional restructuring, and active labour market policies.[160]	EDF Renewables Polska launched a reskilling programme in 2023 designed to assist Polish coal miners to transition to the renewable energy sector, focusing on technical roles in wind turbine operation and maintenance. The free two-week programme covers safety protocols, first aid, fire awareness and specialized training in operating suspended platforms and overhead cranes. The curriculum includes a visit to a wind farm and acquiring practical hands-on experience. The programme is accredited by the Global Wind Organisation and provides globally recognized certification that allows miners to engage in wind energy projects worldwide. The programme also integrates job placements, including sessions where miners can meet with potential employers and participate in job interviews, enhancing their chances of employment.[161]	Launched in January 2021, the French Transitions Collectives (Transco) scheme assists employees in sectors and regions facing job shortages, like healthcare, construction and digital technology. Companies, depending on their size, either unilaterally or through negotiation, set up agreements outlining at-risk jobs and training plans for employees. Transco has two main components: Transitions collectives – supports employees retraining for new roles by maintaining their salaries during the training period. Participants have the option to return to their original company post-training. Transco – Congé de mobilité allows for training during the employment transition; salary costs are shared between the employer and the state. To support these efforts, the French government has established platforms across the country, coordinating between employers, training providers and local government bodies.[162]

Source: European Commission, Notes from Poland, Transco.

Mitigating impact

Due to regional differences in the job market, efforts supporting equal employment growth across Europe will be needed, including taking job churn into account when supporting the placement of new industries across Europe. Changes to the job market will have either a frictional effect, meaning they will move to other industries within a largely similar scope of work; or be more structural in nature, due to their high specialization, which will require significant reskilling or relocation. Ensuring a just transition will subsequently require tailored approaches for regions impacted by the phasing out of carbon intensive jobs, including the development of new industrial sectors. The German Ruhr region is a good example of mitigating structural changes to the job market by building policies that encourage sectoral diversity to protect workers and mitigate losses from economic changes in specific industries.[163]

To tackle the changes awaiting the job markets, public and private actors will need to work together to mitigate the impact, implementing pre-emptive interventions in addition to more temporary solutions. Pre-transition actions can happen at the employer level through reskilling programmes as well as at the regional or national levels through education policy. They can also include forward-looking employment plans made by companies to prepare for large-scale layoffs. Temporary solutions include any actions that aim to mitigate the immediate impacts of layoffs, such as income support and social protection. There are also reskilling and upskilling initiatives that can foster demand for new roles for which people might be requalified. It is important to establish a business environment that supports green investments, which will create sector-specific but also generalist roles (e.g. accounting, administration, IT etc.).[164,165,166]

Collaboration between the public and private sectors will be crucial for successfully managing workforce transitions. On the public policy side, job transition assistance, including search, training, and temporary financial support, will be central. On the private sector side, proactive reskilling within companies and cooperation with government to manage larger layoffs will be critical. Initiatives like the French Transco programme are good examples of de-risking reskilling programmes through public social security schemes;[167] the private sector must also commit to ensuring the job security of their workforce. This will be challenging, as evidenced by the failure of recent efforts to provide such job assurances to European natural gas sector workers.[168] To ensure social inclusion in the green transition, public-private collaboration will be imperative.

TABLE 8 **Recommendations: just transition and labour markets**

Challenge	Recommendations	Public sector	Private sector
Skill planning aligned with green transition	– Policy-makers should identify skills needed to support long-term decarbonization strategies to shape educational curricula and create a pipeline of talent. – The private sector should establish strategies to ensure their workforce develop and acquire key skills. – Understand which skills will be obsolete to help mitigate fallout from redundancies.	✓	✓
Reskilling of existing workforce	– Identify jobs threatened by the transition. – Identify future jobs with similar skills and scope of work requirements. – Design specific public regional and/or national reskilling programmes, integrating regional perspectives in programme design and skills identification. – Link the public unemployment aid with participation in reskilling programmes. – The private sector should develop in-house training programmes to build skills within their existing workforce aligned with their transformation plans. – The private sector should support the development of career transition pathways based on existing skills to minimize friction.	✓	✓
Hiring incentives for employers	– Engage employers to promote the hiring of reskilled employees. – Design compensation schemes to ensure consistency of income of reskilled employees by subsidizing their pay in their new place of employment (e.g. direct subsidies, tax credits etc.).	✓	
Improved cross-border work capabilities	– Identify and remove barriers to workforce cross-border mobility (e.g. taxation, centre of vital interests etc.) – Harmonize regulations to allow workers to engage in remote work across borders (e.g. taxation, centre of vital interests etc.) – Harmonize regulations related to the cross-border recognition of skills and professional qualifications.	✓	
Handling dialogues on redundancy	– Engage in cross-sectoral dialogue on redundancies. – Identify cross-sectoral transferability options for redundant workers based on current skills in order to retain the maximum value of their knowledge and experience. – Build alliances to transfer workforces between sectors and industries. – Communicate redundancies to social partners early and transparently. – Engage in dialogue with social partners to create buy-in for workforce transfers.		✓
Just transition for experienced workers	– Include the hiring of reskilled workers in workforce transition plans. – Publicly commit to hire re-skilled workers from brown sectors to build social buy-in for the green transition. – Collaborate with government agencies to hire reskilled workers.		✓
Support for workforce mobility and remote work	– Identify issues related to cross-border mobility of workforce and cross-border remote work. – Engage in dialogue with public authorities to address identified issues.		✓
Stimulation of workforce mobility	– Design relocation schemes and housing support for employees willing to relocate. – Offer trial periods with full housing support for employees willing to relocate. – After successful trials, offer mid- to long-term employment guarantees to mitigate relocation risk for employees.		✓

Conclusion

Since the launch of the European Green Deal in 2019, Europe has made notable progress on its climate targets, with strong private sector engagement and leadership in target-setting and decarbonization pathways. To achieve both climate neutrality and economic prosperity, however, Europe must become a leader in emerging clean industries. Though Europe's leadership has raised the bottom line for sustainability reporting in the global economic marketplace, its regulatory complexities and compliance burdens present major challenges to the region's business environment.

Europe faces fragmentation that limits innovation and R&D investment compared to the US and China. Its reliance on imported renewable technologies is risky, echoing the region's previous dependence on imported natural gas. Although competitive in hydrogen and carbon capture, Europe must boost R&D expenditure and simplify its regulatory processes to stay ahead globally. Slow permitting and delayed funding are still hindering the scaling-up of the technologies needed to reach net zero.

Discussions with executives and advisers this year highlighted that agreeing on interim targets could help guide the private sector, especially by guiding financing towards investing in net-zero technologies like carbon capture and storage. Energy efficiency is vital and remains a key driver for reducing emissions; but further gains become challenging as companies become increasingly energy efficient. Europe should set clear goals and strategies to stimulate demand for sustainable products, leverage procurement policies, simplify reporting and align with international standards.

Focusing on these priorities will not only enable Europe to deliver on its climate commitments, but will strengthen the economic fundamentals that will support higher productivity, growth and continued prosperity for people across the continent.

Appendices

Details of data sources

This report is based on combined primary and secondary research.

Primary data sources are:

1. Analysis of ESG Book data on environmental targets and performance of publicly listed European companies. Data is broken down into six types of samples described later in the appendix and subject to additional processing. The source is annotated as "World Economic Forum and Accenture analysis of ESG Book data".

2. World Economic Forum and Accenture survey of cross-sectoral group of the World Economic Forum member companies in Europe, public and private, conducted between 31 July 2024 and 23 September 2024; sent to 256 companies and answered by 33. The source is annotated as "World Economic Forum and Accenture survey of companies".

3. Interviews with four executives of the CEO Action Group for the European Green Deal, three interviews conducted virtually and one in writing. The source is annotated as: "World Economic Forum and Accenture interviews with the CEO Action Group executives".

4. Two workshops for the executives of the CEO Action Group for the European Green Deal and public sector officials conducted in 2024. Source is annotated as: "World Economic Forum and Accenture workshops with the CEO Action Group".

5. Meeting of the chief executive officers of the CEO Action Group for the European Green Deal during the Sustainable Development Impact Meeting in October 2024. Source is annotated as: "Vision Europe 2030: Green, Competitive and Growing – SDIM Session Summary".

6. Analysis of ESG Book emission data and SBTi targets for publicly listed European companies from the manufacturing sector. The source is annotated as "World Economic Forum and Accenture analysis of ESG Book and SBTi data".

7. Analysis of S&P Global Market Intelligence data on cost of borrowing of publicly listed European companies. Company data is mapped to Time's list of 500 Most Sustainable Companies in 2024 and broken down into two groups: 178 companies included in the list and 1,047 companies not included in the list. Sample description is included later in the appendix. Data is annotated as "World Economic Forum and Accenture analysis of cost of borrowing".

Secondary research covers analyses of publicly available reports, articles, blogs, press releases, data sets etc. Artificial Intelligence (AI) was used to support the secondary research, mainly for screening of reports and data sets.

Industry classification used in the report is based on Standard Industry Classification (SIC) codes. Industry sectors are defined based on top level of SIC code category (first two digits). Industry subsectors are defined based on the full SIC code category (four digits).

Data processing

ESG Book

1. Raw ESG data was sourced from ESG Book on 16 September 2024.

2. Quantitative data (emissions, energy, waste and water samples) was checked for completeness and presence of outliers (defined as values deviating from the mean by more than two standard deviations).

3. Data with a maximum of two missing values and/or outliers for a single parameter in the 2019-2023 period was selected for further processing. The rest of the data was discarded.

4. Missing values and outliers were replaced with linear regression of data from the remaining years, for which data was complete.

5. In the case of negative regression values for a single parameter in the 2019-2023 period, data was discarded.

6. In the case of an annual change exceeding 10 times the base year, the data was discarded.

SBTi and ESG Book data for emission forecast

1. In addition to ESG Book emission data, SBTi data on targets was sourced on 18 March 2024.

2. For each analysed company, a forecast of emissions between 2023 and 2050 was prepared as linear regression of 2029-2023 ESG Book data after processing. Aggregated forecast for all analysed companies is a sum of individual regressions.

3. For each analysed company, emissions aligned with SBTi reduction targets were calculated based on values of SBTi targets applied to base year emissions sourced from ESG Book (after data processing). Linear regression was applied to populate annual data for the years in between SBTi target years. Aggregated targets for all analysed companies are a sum of individual regressions.

Types of company samples

TABLE 9 **Types of company samples**

No	Sample name	Sample description
1.	**Targets sample**	Sample consisting of companies that have available data on at least one of the analysed targets (emission, energy efficiency, renewable energy, waste, water resource management, supply chain) in four consecutive years between 2019 and 2022.
2.	**Emission sample**	Sample consisting of companies that have available data (after processing) on Scope 1, Scope 2 and Scope 3 between 2019 and 2023.
3.	**Energy sample**	Sample consisting of companies that have available data (after processing) on total energy consumption and renewable energy consumption between 2019 and 2023.
4.	**Waste sample**	Sample consisting of companies that have available data (after processing) on waste generation and percentage of waste recycled between 2019 and 2023.
5.	**Water withdrawal sample**	Sample consisting of companies that have available data (after processing) on water withdrawals between 2019 and 2023.
6.	**Water consumption sample**	Sample consisting of companies that have available data (after processing) on water consumption between 2019 and 2023.
7.	**Emission forecast sample**	Sample consisting of manufacturing sector companies with available SBTi targets and complete Scope 1 and Scope 2 emission data between 2019 and 2023 after processing of ESG Book data.
8.	**Financial sample**	Sample consisting of companies that have available data on cost of borrowing in all consecutive years between 2019 and 2023. Only companies with cost of borrowing greater than 0% and lower than 25% are included in the sample.

Analysis details for utilization of public funding programmes in the EU

- The available budget for the programmes reported by CINEA (i.e. programmes 1-6) refers to the budget with climate contribution; for the rest of the programmes (i.e. programmes 7 – 22), it refers to the overall budget.
- CINEA focuses on climate-related objectives, therefore the comparison is made directly to the target climate contribution of the budget.
- The Financial Transparency System provides information on funds under direct and indirect management. Budget spend seems to also be recorded for the overall programme, not only climate-related initiatives; therefore, the comparison of the budget spent is based on the programmes' total budgets.

European company samples' composition

TABLE 10 **Sectoral breakdown of company samples based on SIC codes**

Dimension / Sector	Targets sample	Emission sample	Energy sample	Waste sample	Water withdrawal sample	Water consumption sample	Emission forecast sample	Financial sample
Agriculture, forestry, fishing	0	0	1	0	1	1	0	4
Construction	20	12	5	6	5	5	0	54
Finance, insurance and real estate	57	43	31	35	5	39	0	108
Manufacturing	174	149	110	152	123	96	81	561
Mining	9	7	7	5	9	6	0	38
Public administration	4	3	1	1	2	1	0	9
Retail trade	20	22	8	13	4	5	0	65
Services	42	19	18	10	4	10	0	187
Transport and public utilities	34	44	20	22	17	18	0	155
Wholesale trade	9	8	3	3	1	1	0	44
Other (data on standard industry classification (SIC) not available)	39	44	25	37	20	30	0	0
Full sample	**408**	**351**	**229**	**284**	**191**	**212**	**81**	**1225**
Source	**ESG Book**	**ESG Book**	**ESG Book**	**ESG Book**	**ESG Book**	**ESG Book**	**ESG Book SBTi**	**S&P Global Market Intelligence**

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