Stiftung KlimaWirtschaft

CDP
DRIVING SUSTAINABLE ECONOMIES

Win-Win for everyone

How a faster rollout of renewable energy across the globe is just good business

Table of content

Key findings and recommendations

Findings:

- **Many companies in the EU are setting science-based emission reduction targets aligned with 1.5 °C as well as renewable energy targets. Setting such targets is now an integral part of a businesses' forward-looking strategy.** For companies in the EU, switching to renewable energy is a long-term strategy to increase the resilience of energy supply and reduce costs.

- **Within the EU, the manufacturing sector, followed by services and materials industries**, have set targets for the uptake of renewable or low-carbon energy, thereby boosting demand.

- **Tripling the expansion rate of renewable energy capacities globally by 2030 is essential to keep 1.5 °C in reach and adjust to the expected rise in demand for clean energy.** To reach 100 % decarbonized power systems by 2035 across the EU will require a major overhaul of Europe's energy system with a higher rate of renewable energy deployment.

- **Businesses in the EU and across the globe are relying on supportive framework conditions for an accelerated global expansion of renewable energy to reach their emission reduction objectives both domestically and at production sites abroad.** Almost half of all companies disclosing through CDP in the EU state that they support and engage in policy processes on climate change mitigation generally, more than a quarter specifically on low-carbon products and services, as well as around 15 % on carbon prices, taxes and subsidies.

Recommendations:

- **COP28 must result in an agreement to triple renewable energy capacity, double the energy efficiency rate and phase out fossil fuels. While these three targets are interconnected, they are not interchangeable and thus require unique approaches to be achieved.** The agreement at COP28 should compel governments, companies, and financial institutions to urgently act on these targets, aligning with the scientific recommendations and guidelines.

- **The targets agreed upon at COP28 must be substantiated with country-specific action.** Advanced economies must commit to reaching 100 % decarbonized power systems by 2035.

- **Non-state actors must be both incentivized and held accountable to ensure a swift, orderly, and equitable transition to clean energy.** This requires a regulatory framework that ensures that companies stick and report on the progress to reach their committed climate targets, but also find the enabling environment and support to implement them.

- **Specific recommendations for the European Union and its Members States:**

  - 1. Driving ambitious international renewable energy targets;
  - 2. Fostering international level-eyed partnerships;
  - 3. Mobilizing public and private investments and reorienting financial flows from fossil fuels to clean alternatives;
  - 4. Establishing regulatory frameworks and incentives for a significantly faster renewable energy expansion;
  - 5. Enhancing energy infrastructure for regional integration and technological developments;
  - 6. Supporting emerging and developing economies through the provision of finance and capacity-building.

Introduction

"The pathway to 1.5 °C has narrowed in the past two years, but clean energy technologies are keeping it open." [1]

Fatih Birol
IEA Executive Director

1 IEA (2023a): The path to limiting global warming to 1.5 °C has narrowed, but clean energy growth is keeping it open, IEA, Paris, 26 September 2023 [Accessed 25.11.2023]

The expansion of renewable energy sources stands as a pivotal element in the ongoing worldwide efforts to combat climate change. The economic case for renewable energy rollout is clear. Renewable energy generation in the 2020s is by far the cheapest on a levelized cost comparison (Lazard, 2023).[2] As the IEA showed this year in its report "Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach" (2023), the rollout of renewable energy generation capacities is essential to keep the Paris goals in reach. On a global scale, the share of renewable energy in the global electricity mix is poised to exceed 50 % by 2030, representing a significant increase from the current 30 %.

However, in the same report, the IEA raises substantial concerns that this will be enough to limit global warming to 1.5 °C and even 2 °C. The IEA's Net Zero Emissions by 2050 scenario[3] entails that electricity output from unabated fossil fuels will fall 40 % by 2030 and virtually disappear by 2050. In line with science, it is essential that renewable energy capacity is tripled to achieve the Paris Agreement goals. Rapid decarbonization in this decade is crucial to reach 1.5 °C.

At the same time, the report highlighted a silver lining: 65 % of global emissions can be mitigated by technologies that are already firmly placed in the market today. As such, the transition to net-zero is turning into a race for future markets and competitiveness at a faster pace than many anticipated.

In this policy briefing, Stiftung KlimaWirtschaft and CDP put a spotlight on the rising clean energy demand for business in Europe and its ramifications for a global energy transition.

2 Lazard (2023): 2023 Levelized Cost Of Energy+, 12 April 2023 [Accessed 25.11.2023]
3 IEA (2023b): Net Zero Emissions by 2050 Scenario (NZE). Global Energy and Climate Model, IEA, Paris, License: CC BY 4.0

The energy transition from a business perspective[4]

Ahead of COP28, more than 130 companies representing nearly $1 trillion in annual revenue have signed the Fossil to Clean letter urging national governments to address the issue of fossil fuel production and the need for a rapid phase out.[5]

Companies are already setting ambitious emission reduction targets to transition their business and value chains. In the European Union, more than 5100 companies disclosing to CDP account for 90 % of Europe's market capitalization. From these, half of them (2550) reported at least one emission reduction target active in 2023. Of the total disclosing companies in the EU, more than 350 have at least one target approved by the Science-Based Target Initiative (SBTi) – the majority of the targets set to be achieved before the end of 2030[6] – and nearly 1550 companies state to have a 1.5 °C transition plan.[7]

An in-depth analysis of emission reduction targets reported by EU headquartered companies in 2022 shows that a significant number of companies (over 800 of more than 2100 analyzed companies) are setting science-based emission reduction targets aligned with 1.5 °C in the EU, with an average of 2 °C – 2.2 °C temperature alignment; 65 % of emissions reported by companies in the EU are covered by targets of 2 °C or lower. A detailed analysis of companies' alignment to these temperatures can be observed in Figure 1.

4 CDP has prepared the data and analysis in this briefing based on responses to the CDP 2022 and 2023 Climate Change questionnaires. No representation or warranty (express or implied) is given by CDP as to the accuracy or completeness of the information and opinions contained in this report. You should not act upon the information contained in this publication without obtaining specific professional advice. To the extent permitted by law, CDP does not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this report or for any decision based on it. All information and views expressed herein by CDP are based on their judgment at the time of this report and are subject to change without notice due to economic, political, industry and firm-specific factors. Guest commentaries were included in this report reflect the views of their respective authors; their inclusion is not an endorsement of them.

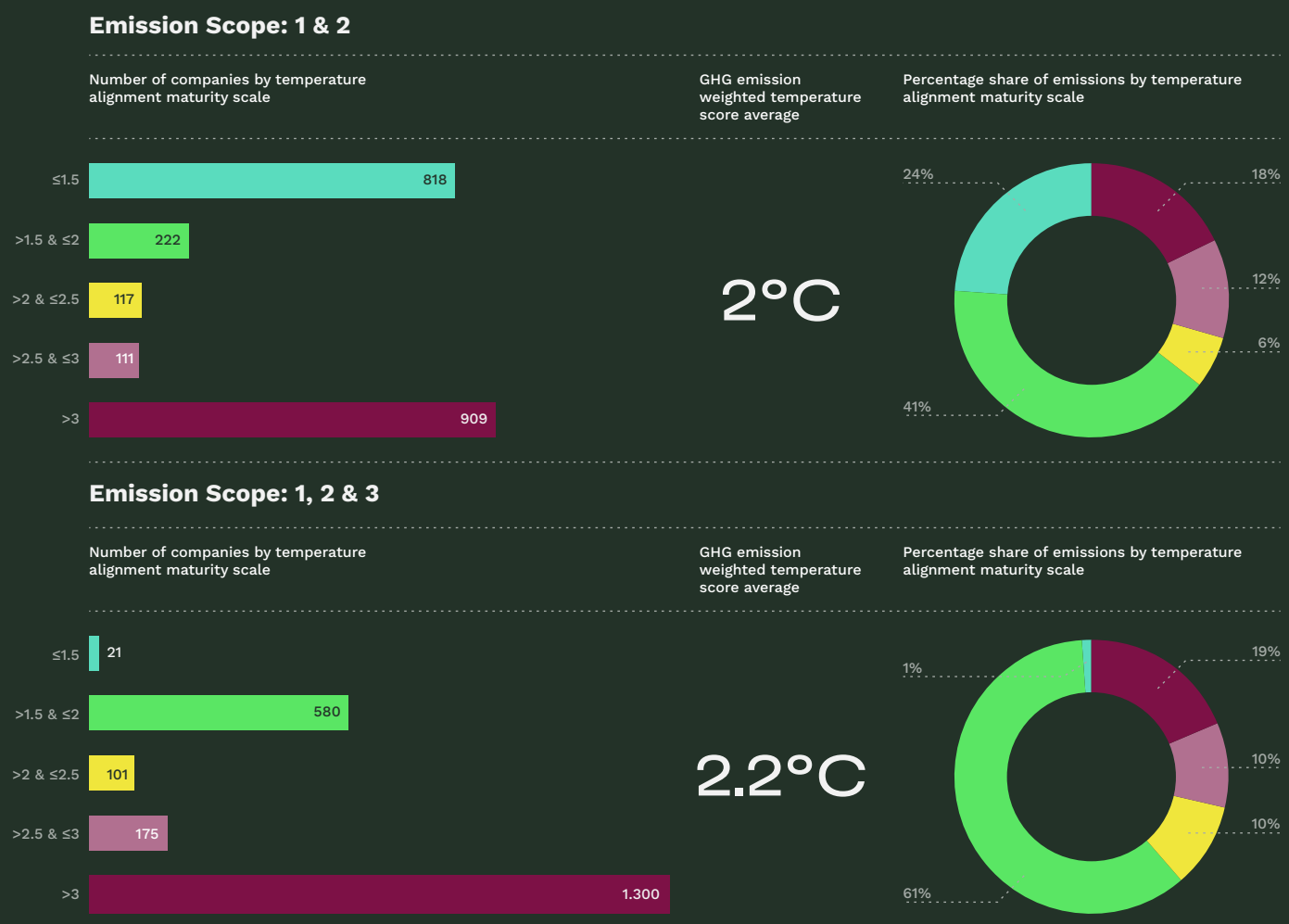
5 This letter was coordinated by We Mean Business Coalition and its partners through the Fossil to Clean campaign. See the letter on https://www.wemeanbusinesscoalition.org/cop28-businesses-urge-governments-to-phase-out-fossil-fuels/

6 Science-Based Targets initiative (2023): Companies taking action; Data publicly accessible from the SBTi webpage, updated on November 2023, and matched with the companies responding to CDP's questionnaire on Climate Change in 2023.

7 Please note this is self-reported data by companies that reflects their own assessment of a 1.5 °C aligned transition plan. This does not mean that all companies that state to have a transition plan align to 1.5 °C have with all the elements of a credible plan. Further, a 2022 CDP analysis has shown that below 1 % of the over 4000 companies assessed fulfil the indicators to have a credible transition plan, based on their disclosure. For more information on credible transition plans, please see here.

Figure 1:

Temperature alignment of emission reduction targets reported by companies in 2022 in the EU[8]



With European businesses and their supply chains operating globally, the expansion of renewable energy capacity globally bears immense significance for these businesses in their commitment to achieving their targets to cut their own emissions. This rapid deployment not only drives these companies towards their climate goals, but also demonstrates that accelerating the energy transition to renewable energy is sound business practice.

*8 Based on the methodology of the **temperature rating**: Based on 2177 evaluated companies. The CDP/WWF temperature rating methodology is open source. The methodology first analyses and quality checks corporate targets to quantify and standardize their reported ambition. In a next step it selects suitable climate benchmarks (SDA, IPCC) and finally determines the temperature alignment of targets. The results indicate the global temperature rise (in °C) if companies reach their targets - it thus reflects ambition, not progress.*

Corporate renewable energy targets

Companies globally are key drivers of the energy transition by establishing renewable energy targets for 2030 or earlier. The global momentum to increase renewable energy usage through corporate target setting is evident.

More than 30 % of companies headquartered in the EU disclosing data via CDP report at least one net-zero or low-carbon energy target (1577 companies). The data reveals that a significant number of companies in the EU have established renewable energy intensity and portfolio targets, with many aiming to achieve these by 2030 or earlier. To achieve these targets within the next 7 years planning horizon, implementation must be achieved swiftly to create urgency for regulatory frameworks. On top of that, despite the multitude of disclosed renewable energy targets, more ambitious efforts are required to maintain global temperatures below the 1.5 °C threshold. A more detailed examination of the renewable energy targets ambition is provided in Figure 2.

Figure 2:

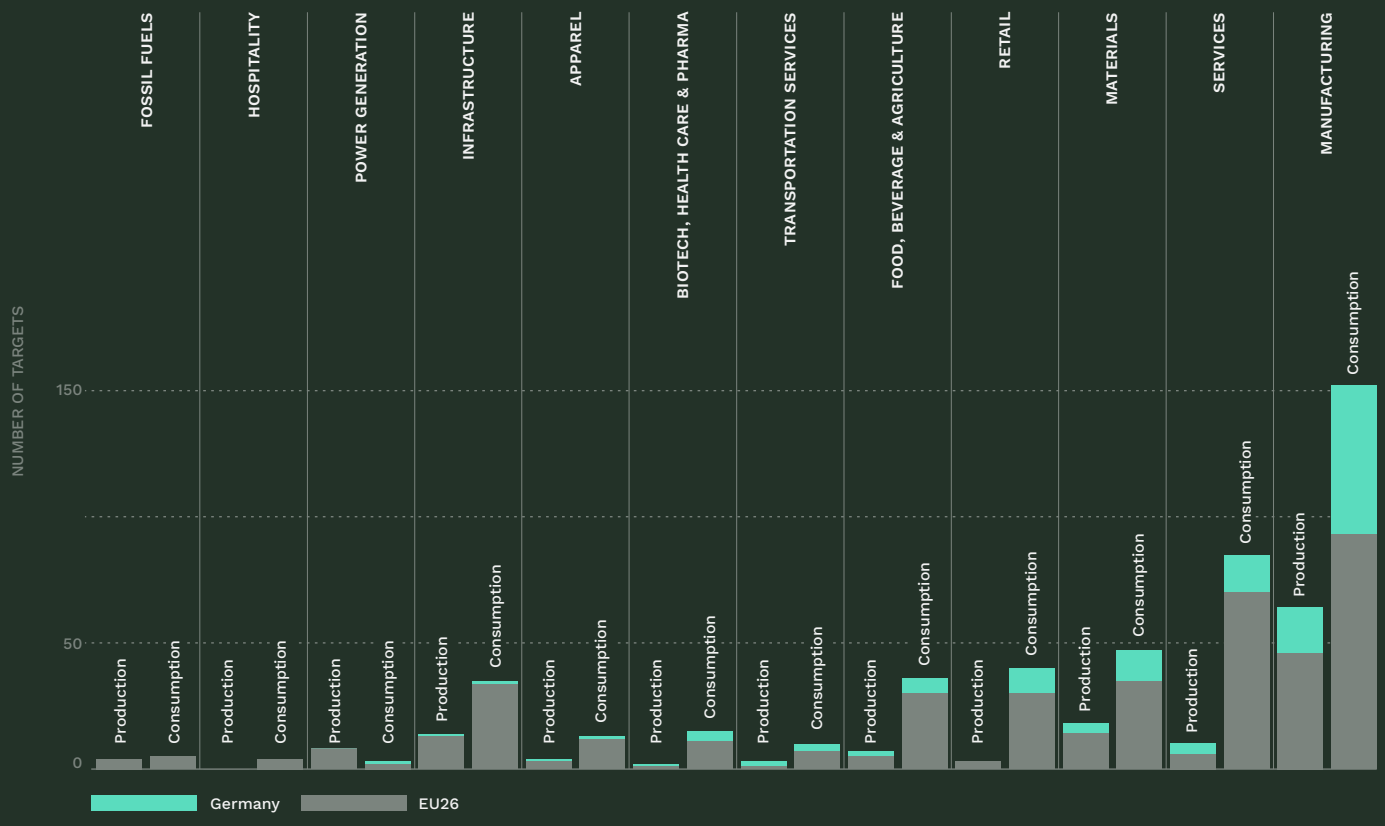
Renewable energy targets by target year and percentage share of ambition (in the EU)[9]

In light of these considerations, it becomes clear that a significant expansion of renewable energy generation capacity is not just a matter for global climate policy, but also a function of reaching individual businesses' clean energy targets. Such targets form by now an integral part of a businesses' forward-looking strategy into a future that will be dominated by demand for green products and the availability of cost competitive clean energy alternatives to the current fossil fuel-reliant energy system. For businesses in the EU, switching to renewable energy is a long-term strategy to increase the resilience of energy supply and reduce costs.

9 Figure 2 displays a scatter plot showing the global renewable energy targets reported to CDP in 2023. This plot compares the targets based on their set target year (ranging from 2023 to 2050) and their share ambition percentage. The larger a data point's size, the more targets are grouped under that particular year and ambition level.

Figure 3:

Companies reporting new or underway renewable energy targets for consumption or production in the EU



In a more detailed analysis of the targets set to boost renewable or low-carbon energy sources, data disclosed through CDP reveals that the manufacturing, services, and materials industries in the EU are leading in the reporting of such targets. The distribution of these targets, categorized by energy consumption and production, is depicted in figure 3.

Shifting energy systems in the EU and beyond

The 2023 World Energy Outlook report by the IEA forecasts a transformative shift in the energy landscape by 2030, marked by a predominant uptake of renewable energy technologies.[10] It projects that renewables will constitute nearly half of the global electricity mix, a substantial increase from the current 30 %. This includes solar PV generating more electricity than the entire current generation of the US power system. Furthermore, the report indicates that investment in new offshore wind projects will triple that of new coal and gas power plants.

In the European Union, the energy mix is undergoing a fundamental shift from fossil-fuel based energy consumption toward renewable and other clean energy. The shift in demand for the industry and manufacturing sectors to substitute energy sources is exemplary. The consultancy McKinsey[11] is estimating that the manufacturing sector's demand is to increase by 200 terawatt-hours (TWh), making up a quarter of the overall increase in electricity use from 2,900 TWh in 2021 to 3,700 TWh by 2030.

Renewable energy consumption has grown steadily, with 22.5 % of the energy used in 2022 coming from renewable sources.[12] This achievement, largely due to a surge in solar power use, exceeds the EU established goal of 20 % by 2020. However, reaching 100 % decarbonized power systems by 2035 will require a higher rate of renewable energy deployment. Such a significant shift demands a major overhaul of Europe's energy system.

10 IEA (2023c): World Energy Outlook 2023, October 2023, IEA, Paris, License: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A)
11 Schülde, M., Veillard, X. and Weiss, A. (2023): Four themes shaping the future of the stormy European power market, McKinsey & Company, 27 January 2023 [Accessed 16.11.2023]
12 EEA (2023): Share of energy consumption from renewable sources in Europe, European Environment Agency, 24 October 2023 [Accessed 26.11.2023]

Respectively, the increasing demand for hydrogen overall in the EU's economy is staggering. Deloitte (2023)[13] calculates an increase in hydrogen consumption to 26 million tons (MtH2eq) by 2030, a threefold increase from today's 8 MtH2eq.[14] Demand is to almost triple again until 2040 just in the EU. Industry and manufacturing are crucial to kickstart the new market, making up around two-thirds of initial demand in 2030 globally.

The expected shift in demand for renewable electricity and derivatives requires a much faster expansion of generation capacity globally. Governments, energy companies, and financial institutions must urgently progress in phasing out fossil fuels. In particular, the oil and gas sector is required to step up its game. A recent IEA report[15] found the sector "invested around USD 20 billion in clean energy in 2022, or roughly 2.5 % of its total capital spending". The IEA further outlines that "to align with the aims of the Paris Agreement [producers] would need to put 50 % of their capital expenditures towards clean energy projects by 2030".

13 Deloitte (2023): Green hydrogen: Energizing the path to net zero. Deloitte's 2023 global green hydrogen outlook, Deloitte Touche Tohmatsu Limited
14 European Commission (2023): COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the European Hydrogen Bank, COM(2023) 156 final, 16 March 2023, Brussels
15 IEA (2023d): Oil and gas industry faces moment of truth – and opportunity to adapt – as clean energy transitions advance, IEA, Paris, 23 November 2023 [Accessed 26.11.2023]

Challenges to the rollout of renewable energy

Despite the clear interest for businesses to expand renewable energy in line with their climate targets significant challenges remain:

- **1) Infrastructure development is critical:** The emerging energy system requires significant new investment in grids and storage solutions. The IEA is estimating that global investment in energy grids must double to more than $600 billion every year by 2030.[16] This covers, in many cases, new investment in cross-border grids, requiring oftentimes a new understanding of energy policy that thinks in regional system dimensions rather than in national boundaries.[17]

- **2) Lack of sufficient incentives for investment:** Global investment in clean energy and supporting grids has to quadruple to $5 trillion a year to a cumulative investment of $44 trillion by 2030.[18] Especially in emerging and developing economies, capital costs remain relatively high, putting capital intensive renewable energy projects at a real and comparative disadvantage to fossil fuel alternatives.[19] This leads to an economic reality where low capital fossil alternatives are more attractive in the short term, but lead to significant lock-in risks. Only 2 % of global investment in renewable energies has been channeled into African countries, although the continent accounts for around 20 % of the world's population and has around 60 % of the world's best solar locations.[20] In the current context of geopolitical crisis and economic turmoil, the shift in central bank interest rate policy is likely to exacerbate this trend.

16 IEA (2023f): Electricity Grids and Secure Energy Transitions, IEA, Paris, License: CC BY 4.0
17 IEA (2023g): Co-operation across borders is key to building interconnected power systems of the future, IEA, Paris, License: CC BY 4.0, 16 August 2023
18 IRENA (2023a): Investment Needs of USD 35 trillion by 2030 for Successful Energy Transition, International Renewable Energy Agency, 28 March 2023 [Accessed 26.11.2023]
19 IRENA (2023b), The cost of financing for renewable power, International Renewable Energy Agency,Abu Dhabi
20 IEA (2023e): Financing Clean Energy in Africa, World Energy Outlook Special Report, IEA, Paris, License: CC BY 4.0

» **3) Policy and regulatory uncertainties:** Policy frameworks across developed, emerging and developing economies continue to exhibit inconsistencies that put renewable energy expansion at a disadvantage. Such inconsistencies can result from large scale energy system planning, such as the heavily centralized system in South Africa that puts decentralized, often privately funded renewable energy projects, at a disadvantage.[21] However, minor technical regulatory adjustments can remove barriers for the uptake of renewable energy. For example, interviews conducted with German companies as part of the 'Ambition Loop' project revealed key policy areas for the German government to address, amongst others, ensuring competitive energy prices and improving public permitting procedures.[22]

Prior to COP28, a broad alliance of supporting countries has signaled strong support for a target to triple renewable energy deployment by 2030. However, for these targets to be realistically implemented, they will have to be substantiated by respective national, regional and international policies.

21 Hanto, J., Schroth, A., Krawielicki, L., Oei, P-Y., and Burton, J. (2022): South Africa's energy transition - Unraveling its political economy, Energy for Sustainable Development, Volume 69, 2022, Pages 164-178, ISSN 0973-0826
22 CDP (2023): Ambition Loop project, Using Business Data to Drive Informed Policymaking on Energy and Climate

Key policy recommendations

Based on the presented data, businesses in the EU and across the globe are relying on supportive framework conditions for an accelerated global expansion of renewable energy to reach their emission reduction objectives both domestically and at production sites abroad. Almost half of all companies disclosing through CDP in the EU state that they support and engage in policy processes on climate change mitigation. More than a quarter specifically on low-carbon products and services, and around 15 % on carbon prices, taxes and subsidies. To ensure both economic perspective and effective climate protection, a substantial increase in renewable energy deployment is imperative.

The following policy recommendations, addressed *towards the European Union and its Member State governments*, for their national ambition and international cooperations, are essential to triple the build out of renewable energy to meet the rising demand for clean energy and green hydrogen:

» **1. International target setting and respective regional and national targets:** Set a clear and ambitious global target to elevate renewable energy capacity to 11 terawatts (tripling deployment) alongside rapid and deep decarbonization efforts, such as 100 % decarbonized power systems by 2035 for developed economies; 2040 for developing economies. This goal should be embraced by international organizations, in particular multilateral development banks, and form a key part of their mandate to substantiate the target with investments in emerging and developing economies. The goal should be reflected in the national action plans, with country-level sector pathways and financing roadmaps, to accelerate the transition to clean energy.

- **2. Level-eyed international Partnerships:** Encourage international co-operation and partnerships to facilitate the rapid global expansion of renewable energy capacity. This must include new bilateral economic partnerships that set a new paradigm for trade relationships with a focus on climate neutrality and support to the Global South through the provision of resources and capacity-building.

- **3. Investment:** The capital intensity of building out renewable energies and grids requires new ways of mobilizing investment. Private and public sector finance for the expansion of renewable energy is critical in facilitating the energy transition and stop the expansion of new fossil fuel production capacity. Public funding and policy support are crucial to enable financial flows that align with the transition, thus the following policy options should be pursued to create direction and support for the private sector:

  - a. Multilateral instruments such as the Climate Investment Fund and the Green Climate Fund should be strengthened and enabled to leverage private capital. This includes substantial support to promote technology transfer, knowledge sharing, and financial support to emerging and developing economies, to build out the necessary infrastructure for renewable energy.

  - b. International, multilateral, development banks have a key role in promoting large scale, cross border clean energy infrastructure projects. Through equity finance, guarantees, mezzanine finance and re-financing, institutional investors should be incentivized to invest in infrastructure projects in emerging and developing economies. Such projects should be thoroughly screened for climate-related risks, including transitional risks, as well as on portfolio level.

  - c. Development of renewable energy should take place in line with the principles of a just transition and through a multilevel governance approach, including local communities. A faster energy transition in debt struck countries should be linked to possible debt alleviation programs under the IMF. Close coordination between the IMF and the MDBs is required to implement this.

- **4. Governance of the energy transition:** Building on the outcome of the Global Stocktake, robust accountability systems for national and corporate climate commitments are key to track progress and ensure integrity. Further, interoperability of such systems across different geographies is key. The supportive regulatory frameworks and financial incentives must encourage the private sector to step up investment in renewable energy technologies. In order to reduce capital costs, political commitment and a regulatory framework that does not favor a fossil status quo are key. As outlined by the IEA, the implementation of the energy transition requires policy adjustments and a regulatory framework on the ground. Where possible, technical assistance should be provided to the Global South, linked to access to investment from multilateral and bilateral development banks.

» **5. Build-up and modernize energy infrastructure:** The energy transition requires deeper regional integration of energy systems including grids and storage solutions, making the build out of cross-border infrastructure essential. The commitment for the tripling of renewable energy capacity rollout should be accompanied by regional bodies committing to enable cross-border integration of energy systems and enable regional energy markets. Dedicated investment and technology transfer programs linked to development support have to enable smarter, digital grids and storage solutions across emerging and developing economies.

By implementing these policy recommendations, the European Union, its Members States and businesses can work together to accelerate the deployment of renewable energy and contribute to the urgent global efforts to combat climate change, while promoting economic stability and growth. It is essential to ensure the credibility of data within the five outlined policy recommendations to encourage enhanced climate action. Achieving this involves establishing accountability standards that ensure data comparability, accessibility, and reliability throughout the entire process.

To establish clear pathways for companies, COP28 offers a vital opportunity for governments to develop robust roadmaps with clear objectives for concrete actions that can be held accountable in the global push to keep 1.5 °C within reach. This agreement should be supported by national plans and policies.

About Stiftung KlimaWirtschaft and CDP

In 2022, SKW and CDP started a collaborative effort to scrutinize the climate ambition of German corporations and their interconnections with climate policy, as part of the *'Ambition Loop'* project, initiated by We Mean Business. The primary objective of this project was to amplify ambition loops facilitating governments in translating the ambition outlined in their Nationally Determined Contributions (NDC) into effective strategies and policies, with active involvement from climate leaders within the corporate sphere.

The present briefing, titled 'Win-Win for everyone: How a faster roll-out of renewable energy across the globe is just good business,' represents a seamless extension of the ongoing collaboration between the two organizations. Its purpose is to foster a mutually beneficial cycle between policy advancements and corporate action.

Stiftung KlimaWirtschaft

Stiftung KlimaWirtschaft – German CEO Alliance for Climate and Economy is a nonprofit foundation whose sole mission is to promote climate protection and the sustainable use of natural resources. As a CEO alliance of more than 30 companies from all sectors of business and industry, we work with government, think tanks and civil society to develop constructive solutions for the transition to a climate-neutral economy. As Foundation 2 ° we have been arguing for ambitious climate targets and ambitious climate policies at the national, European and international level since 2007. We renamed our foundation "Stiftung KlimaWirtschaft" in 2021 to better reflect who we are and how we work.

The expressed views and opinions are the ones of Stiftung KlimaWirtschaft and do not necessarily reflect those of its supporting companies.

CDP

CDP Europe is a charitable organization registered in Brussels and Berlin and on the EU Transparency Register since 2012. It is part of the CDP Global System, a global non-profit that runs the world's environmental disclosure system for companies, cities, states and regions. Founded in 2000 and working with more than 740 financial institutions with over $130 trillion in assets, CDP pioneered using capital markets and corporate procurement to motivate companies to disclose their environmental impacts, and to reduce greenhouse gas emissions, safeguard water resources and protect forests. Nearly 20,000 organizations around the world disclosed data through CDP in 2022, including more than 18,700 companies worth half of global market capitalization, and over 1,100 cities, states and regions. Fully TCFD aligned, CDP holds the largest environmental database in the world, and CDP scores are widely used to drive investment and procurement decisions towards a zero carbon, sustainable and resilient economy. CDP is a founding member of the Science Based Targets initiative, We Mean Business Coalition, The Investor Agenda and the Net Zero Asset Managers initiative. Visit *cdp.net* or follow us *@CDP* and on *LinkedIn* to find out more.

In Europe, CDP Worldwide (Europe) gGmbH is a charitable limited liability company headquartered in Berlin, Germany, registered on the EU Transparency Register since 2012. It is a wholly owned subsidiary of CDP Europe AISBL, a charity based in Brussels, Belgium (together: "CDP Europe"). CDP Europe is part of the non-profit CDP Global System ("CDP"), which refers to three legally separate organizations: CDP Europe (BE), the CDP Worldwide Group (UK), and CDP North America, Inc. (US). More information on CDP Europe's governance and finances can be found *here.*

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