

B7 Flash

Energy, Climate and Environment

Executive summary

COP 28 witnessed a strengthened commitment to reduce global greenhouse gas (GHG) emissions. However, current progress is insufficient to prevent a temperature increase above the critical 1.5°C limit set by the Paris Agreement, making an immediate acceleration of the energy transition essential.

This acceleration, though necessary, carries risks for the competitiveness of G7 economies, especially in the industrial sector, which is highly exposed to global competition. Among the main competitive disadvantages, the **high cost of GHG emissions in the G7** compared to countries that have not yet adopted effective sustainability policies stands out, with the European price of emission allowances in 2023 being ten times higher than the Chinese price. **High electricity prices are a further burden**, especially for European companies and consumers who bear some of the highest prices internationally, twice as high as those on the Chinese market. Another aspect to consider is the value of **stranded assets** due to the premature obsolescence of fossil fuel-

based energy infrastructure, borne more heavily by countries undergoing a faster energy transition. Lastly, it is necessary to acknowledge the risk factor linked to the Chinese dominance of the **supply chains involved in the energy transition**, with shares ranging from around 80% for photovoltaics to 65% for batteries, with the prospect of transitioning from the historical dependence on fossil fuels of our energy systems to one for the supply of green technologies.

Addressing these challenges requires a significant **increase in public and private investments**, regulated by converging public policies among G7 countries. Such policies must establish clear market rules to mitigate the economic impacts of the transition, promote a resilient and diversified global energy landscape, encourage the transition, and mitigate market weaknesses. The resulting development, in addition to mitigating the risks and costs of the transition, would allow G7 countries to fully capture its benefits in terms of energy independence and resilience, environmental benefits, wealth and new jobs' creation.

“ Torino's conference represents a unique opportunity to discuss and outline effective strategies to address one of the most relevant challenges of our time: turning the ecological transition into a major opportunity for innovation and competitive development. In this context, the involvement of the G7 business community provides a valuable platform for collaboration with Ministers given the complex challenges posed by sustainability goals. It is crucial to create synergies between the public and private sectors, promoting an approach to the transition based on technological neutrality and incentivizing investments in the circular economy, capable of combining environmental protection, supply chain security, and competitiveness. Thanks to the contribution of the Conference's participants, we aim to promote shared industrial policy pathways and objectives that are aligned with the COP 28 goals.

Katia Da Ros | Vice President for Environment, Sustainability and Culture, Confindustria

“ The ongoing energy transition, driven by technological innovation and the efficient, sustainable use of resources, is having a profound effect on energy production and distribution, as well as on business activities, transportations, trade, and in fact, on our lifestyles. COP28 underscored the urgent need for immediate action to combat climate change and, at the same time, the need for a global and coordinated initiative to support this change. We are facing challenges that I do not hesitate to call epochal: energy security and independence, environmental sustainability, technological innovation, economic competitiveness, and international cooperation. The G7 countries are in a privileged position to lead the change. Cohesive and forward-looking political leadership at the G7 level is essential to accelerate the transition and ensure a healthy and economically prosperous future for generations to come.

Fabio Pompei | CEO Deloitte

“ Energy transition and decarbonization are necessary and irreversible processes. We are talking about a path that directly involves us and we can pursue to the fullest thanks to the technologies, skills, and tools at our disposal. In response to the most urgent challenges, we offer our solutions for energy efficiency, local renewable energy production, and a consolidated know-how gained through experience in the industry. We are proud to participate in a significant and urgent moment of discussion, alongside institutions and the industry's most important stakeholders, to collectively accelerate the journey towards Net Zero by 2050.

Emanuela Trentin | CEO Siram Veolia

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COP 28 in Dubai witnessed the G7 Countries, among the 123 signatories to the Climate and Health Declaration, strengthen their commitment to take urgent action to reduce global greenhouse-gas (GHG) emissions.

The implementation of the first Global Stocktake (GST)¹ marked a significant achievement, as it enables the monitoring of progress towards the Paris Agreement goals. Attention was focused on accelerating the development of zero and low-emission technologies and significant commitments have been established to triple global renewable energy capacity to at least 11.000 GW and improve the annual rate of increase in energy efficiency from 2% to 4% by 2030. At the same time, 22 countries committed to triple nuclear energy capacity by 2050 and the crucial role of low-emission technologies, alongside transitional fuels (such as natural gas), in accompanying transformation while ensuring a gradual and efficient pathway and the security of energy supplies, was globally recognized.

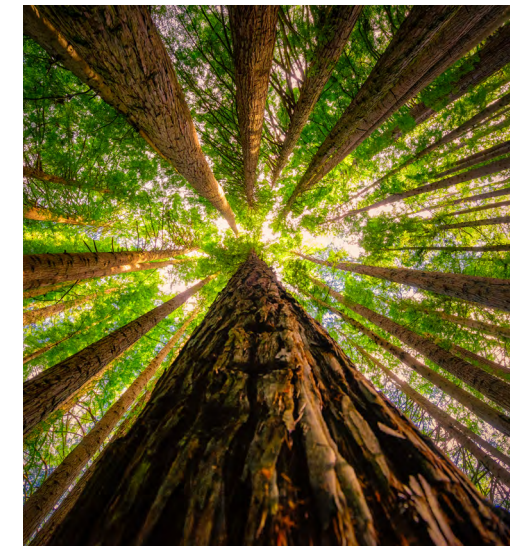
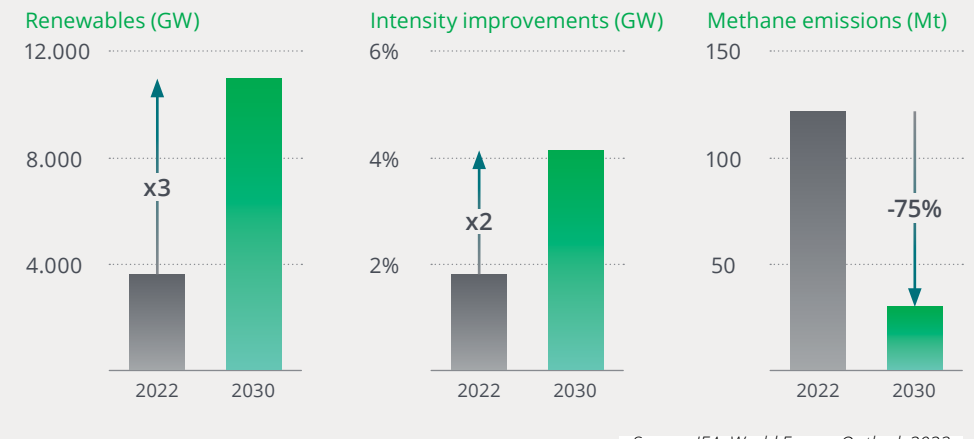
Although no specific reduction target was defined, COP 28 also placed an emphasis on reducing direct methane emissions from fossil-fuel activities. This is deemed to be one of the most effective short-term measures for reducing GHGs, with the International Energy Agency's (IEA) "Net Zero emissions" (NZE) scenario deeming a 75% reduction target by 2030 technically feasible².

The path outlined to Net Zero emissions requires significant acceleration.

The COP 28 commitments on renewables development are in line with the IEA NZE scenario. However, it should be emphasized that progress is still too slow, leading to a predictable increase in global temperatures far above the Paris Agreement's 1,5 °C threshold.

For instance, given the need to reduce emissions by 80% in advanced economies and 60% in emerging markets and developing economies from 2022 levels by 2035³, global CO₂ emissions in 2023 grew by 1.1% (410 million tonnes, Mt), reaching a new high of over 37,4 billion tonnes, Gt⁴.

Global renewables power capacity, primary energy intensity improvements, and energy sector methane emissions in the NZE scenario, 2022 and 2030

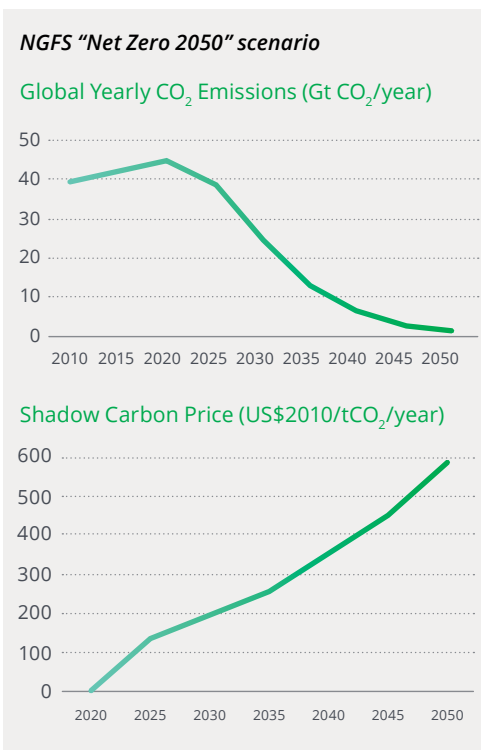


Despite the rapid progress in the deployment of some clean energy technologies (eg, solar photovoltaic and electric vehicles), a strong acceleration in energy transition will have to be made starting from 2024.

While considering the desired acceleration, it is necessary to keep in mind that the energy and environmental transition, together with ongoing geopolitical crises and tensions, poses **risks to the competitiveness of G7 economies**, in particular concerning the industrial sector, exposed to international competition.

Among some of the risks to competitiveness, the **cost of GHGs' emissions** stands out prominently. In 2023, the cost of GHG emission allowances in China was 9,03 US \$/tCO_{2e}⁵, by far lower than the cost in other operating emission trading systems and 10 times the value of 90,00 US \$/tCO_{2e}⁶ of the EU Emissions Trading System (ETS). The current gap is also set to worsen with the extension from 2029 of the obligation to purchase allowances for European companies in the construction and road transport sectors - currently excluded from the Chinese national program - together with those of other industrial sectors and domestic aviation, as well as with the reduction of emission thresholds and free allowances allocation phase out expected in

the coming years. This evolution is expected to lead to a substantial increase in the price of CO₂ allowances for European companies, which, according to the Net Zero scenario, could more than doubled, reaching 200 US \$/tCO_{2e} by 2030⁷.



—Source: Network for Greening the Financial System (NGFS):— climate scenarios for central banks and supervisors

Another detrimental aspect impacting the competitiveness of industrial systems, particularly for European countries, is **the cost of energy**. Although electricity and gas prices in many countries fell in 2023 from their peak in 2022, the cost of electricity remains significantly higher than pre-Covid levels. In 2023, wholesale electricity price averaged 115 US \$/MWh in Europe, approximately twice the Chinese cost⁸, reaching 138 US \$/MWh in Italy⁹, 127 US \$/MWh in Germany¹⁰, 125 US \$/MWh in Great Britain¹¹ and 105 US \$/MWh in France¹².

Another relevant risk factor is linked to the **green technologies supply chains** controlled by Asian markets, with a real prospect of shifting from historical dependence on fossil fuels to a technological one. China holds a largely dominant position in the manufacturing of the technologies needed for the green transition, ranging from the availability of raw materials and semi-finished products to the production of components and final products. In the photovoltaic sector, about 75%-85% of cells and modules, as well as 96% of wafers, are Chinese¹³, likewise 65% of electric vehicle cells, 85% of anodes¹⁴, nearly 80% of cathodes¹⁵ and 65% of refined lithium¹⁶ in the electricity storage sector.

A final aspect to further emphasize is related to the **stranded assets** due to the early obsolescence of energy infrastructures. According to the Intergovernmental Panel on Climate Change (IPCC), global estimates of stranded fossil-fuel assets as of 2035, including financial resources, infrastructure, equipment, contracts, and jobs, cumulatively amount to at least US \$1 trillion, based on current low-carbon technological trends and in the absence of more aggressive climate policies. This amount will rise to more than US \$4 trillion by the time climate policies aiming to meet the 1,5°C goal is implemented. On top of such estimate, the cost for the potential early decommissioning of electricity transmission and distribution networks not compliant with the renewable generation mix should be added, together with industrial and civil fossil-fuel-based equipment¹⁷.

Stranded assets and resources, unable to be recovered or repurposed due to premature obsolescence in the context of the green transition, will thus become an economic burden for businesses and consumers. Identifying the appropriate level of public finance support is essential to mitigate the negative effects associated with the consequent capital destruction.

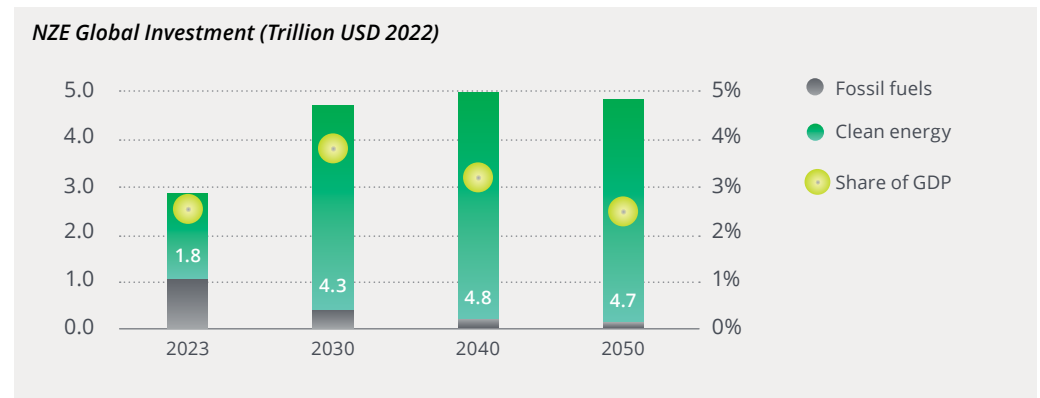
Source: ⁵ International Carbon Action Partnership (ICAP), 2023 [Link](#) | ⁶ International Carbon Action Partnership (ICAP), 2024 [Link](#) | ⁷ The Central Banks and Supervisors Network for Greening the Financial System (NGFS), 2023 [Link](#) | ⁸ International Energy Agency (IEA), 2024 [Link](#) | ⁹ Electrical Market Manager (GME), 2023 [Link](#) | ¹⁰ International Energy Agency (IEA), 2024 [Link](#) | ¹¹ Great Britain's independent energy regulator (Ofgem), Ofgem, 2024 [Link](#) | ¹² International Energy Agency (IEA), 2024 [Link](#) | ¹³ International Energy Agency (IEA), 2023 [Link](#) | ¹⁴ International Energy Agency (IEA), 2022 [Link](#) | ¹⁵ International Energy Agency (IEA), 2023 [Link](#) | ¹⁶ International Energy Agency (IEA), 2023 [Link](#) | ¹⁷ Intergovernmental Panel on Climate Change (IPCC), 2022 [Link](#).

Public and private investment are still insufficient to face the necessary effort.

According to IEA scenarios¹⁸, global investment to achieve the NZE goal by 2050 requires an increase up to US \$4,3 trillion in annual clean energy investment by 2030, compared to the current US \$1,8 trillion.

In this context, the G7 countries will face significant challenges. In accordance with the principle of technological neutrality, G7 policies will have to support the businesses competitiveness during transition phase by **establishing clear and long-lasting market**

rules to facilitate the deployment of private capital and avoid market distortions, **co-financing the construction of necessary infrastructures** and **the deployment of decarbonized energy carriers** to mitigate the economic impacts deriving from the transformation of the energy mix. The resulting development, in addition to mitigating the risks and costs of the transition, would allow us to fully capture its benefits in terms of energy independence and resilience, environmental benefits, wealth and new jobs' creation.



—Source: International Energy Agency (IEA), World Energy Outlook 2023: NZE Investment trends as share of global GDP, 2023-2050—

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