

The CEO Alliance for Europe's Recovery, Reform and Resilience

Our contribution towards a more resilient, digitalized, prosperous, and sustainable Europe for future generations



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Who we are Founded in the midst of the Covid-19 pandemic in 2020 and among the EU's historic decisions on climate neutrality, the CEO Alliance for Europe's Recovery, Reform, and Resilience (R3) is a group of leading European companies across different industries. Representing approx. 1.5 mn employees and more than EUR 570 bn in revenue, we all stand ready to strongly support the European Union's Recovery Plan "Next Generation EU" (NGEU) to kick-start the economies in short-term, but also prepare for the longer-term transformation to build a more resilient, digitalized, prosperous, and sustainable Europe for future generations. In particular, we share the EU's goal of climate neutrality by 2050, support the EU Green Deal and endorse a just transition, addressing societal impact of the transformation towards net zero carbon.

What makes us unique The CEO Alliance is truly an "Action Tank". We have already pledged to invest more than EUR 100 bn over the next ten years in our respective decarbonization roadmaps to help reach these climate targets. Every member has defined its own strategy to address decarbonization. Nevertheless, each member depends on other companies and industry sectors in order to reach the respective CO₂ targets across our entire value chains.

We see and pursue collaboration potential in the following fields: In energy systems, in particular for modernization of power grids, for renewable power generation and for production of green hydrogen; in mobility and transport, for EV charging infrastructure; in zero-impact manufacturing, in particular for batteries; in urban environments, for sustainable healthy buildings and cities and in supply chains, for carbon footprint tracking. Across these fields, we accelerate key enablers such as sustainable finance and digitalization.

Consequently, we as Alliance are first movers and initiated pan-European Joint Projects with strong emphasis on cross-sector collaboration and ecosystems.

Our members



The CEO Alliance represents members from key industry sectors: ABB, AkzoNobel, E.ON, Enel, Ericsson, H2 Green Steel, Iberdrola, Philips, SAP, Scania, Schneider Electric and Volkswagen.



Global societal momentum for fierce action towards climate neutrality

Unique situation

Today, policy makers, scientists, think tanks, media, citizens and more are fully aware of the risks of the climate crisis (the terminology has evolved from the ostensibly innocent "climate change"). All are committed to make the Paris climate agreement a reality, limiting the global warming to at most 2°C compared to pre-industrial levels, with efforts aiming at well below 2°C. Both policy leaders and business leaders pull and push in the same direction, instead of finding only the lowest common denominator or even working against each other.

Long-term vision

Across the world, we see societal and political commitment for a long-term vision: the EU has committed to build a climate neutral society by 2050. Under President J. Biden, the U.S. has rejoined the Paris climate agreement in his first days in office 2021. Japan and China have committed to carbon neutrality by 2050 and 2060. This commitment of four of the five largest global economies is a historical turning point. Similarly, leading global companies have anchored the transition to carbon neutrality as one key pillar in their strategies.

Tangible goals

Decade-long visions have to be – and are – substantiated by mid-term intermediate targets. In particular, the EU has agreed to the EU Green Deal and set its eyes on at least 55% GHG emission reductions by 2030 (compared to 1990 levels). These EU targets will have to be translated into ambitious National Energy and Climate Plans (NECPs) for all member states. In the private sector, companies have defined ambitious GHG emission reduction targets across their business activities for 2025 and 2030.

Financial firepower

With the Next Generation EU Recovery Package (of EUR 750 bn alone) and targeted reinforcements to the EU budget for 2021 to 2027, the EU has committed a total financial firepower of ~EUR 1.85 tn to the transformation. President J. Biden has launched the economic recovery plan for the U.S., Build Back Better, aiming to invest more than USD 7.3. tn in green infrastructure, health care and more.



We are convinced that the ambitious climate targets of the EU Green Deal (EUGD) and in particular GHG emission reductions of at least minus 55% by 2030 (compared to 1990 levels) are achievable – if the emission reduction measures are implemented across all sectors and in cross-sectoral collaboration. **We act now.**



The path to net zero is clear: it is about implementation

Our approach

Regarding the European transformation towards a climate neutral economy, there are good news: the quest for insights about complex, cross-industry "roadmaps" or "pathways" for decarbonization is over. In principle, scientists, policy makers and business leaders all know what has to be done in order to transform our society and industry towards net zero carbon. Countless studies of experts, from research institutions to think tanks, from political institutions to private sector companies as well as leading banks and consultancies, emphasize three key pillars:

- Accelerating the energy transition and electrification, based on renewables
- Building up infrastructures for a climate neutral economy
- Industrializing and championing key technologies, including smart and digital

The even better news: along these three pillars, the transformation towards a climate neutral economy is clearly spelled out, as the technologies and skills are already there, at our fingertips, and offer visible opportunities for sustainable investments and job creation.

The next ten years will see transformations on unprecedented scale – from evolutionary to revolutionary, from step-by-step to disruptive. Either the society (policy makers, business leaders and citizens) will jointly manage the key steps towards a more resilient, prosperous and climate neutral economy – or, in case of failure, the consequences will force further transformation.



The CEO Alliance will take bold steps and jointly realize pan-European projects with emphasis on cross-sector collaboration. We will make significant investments with tangible impact already in 2021, a compelling contribution towards climate targets 2030 and future-proof job creation.



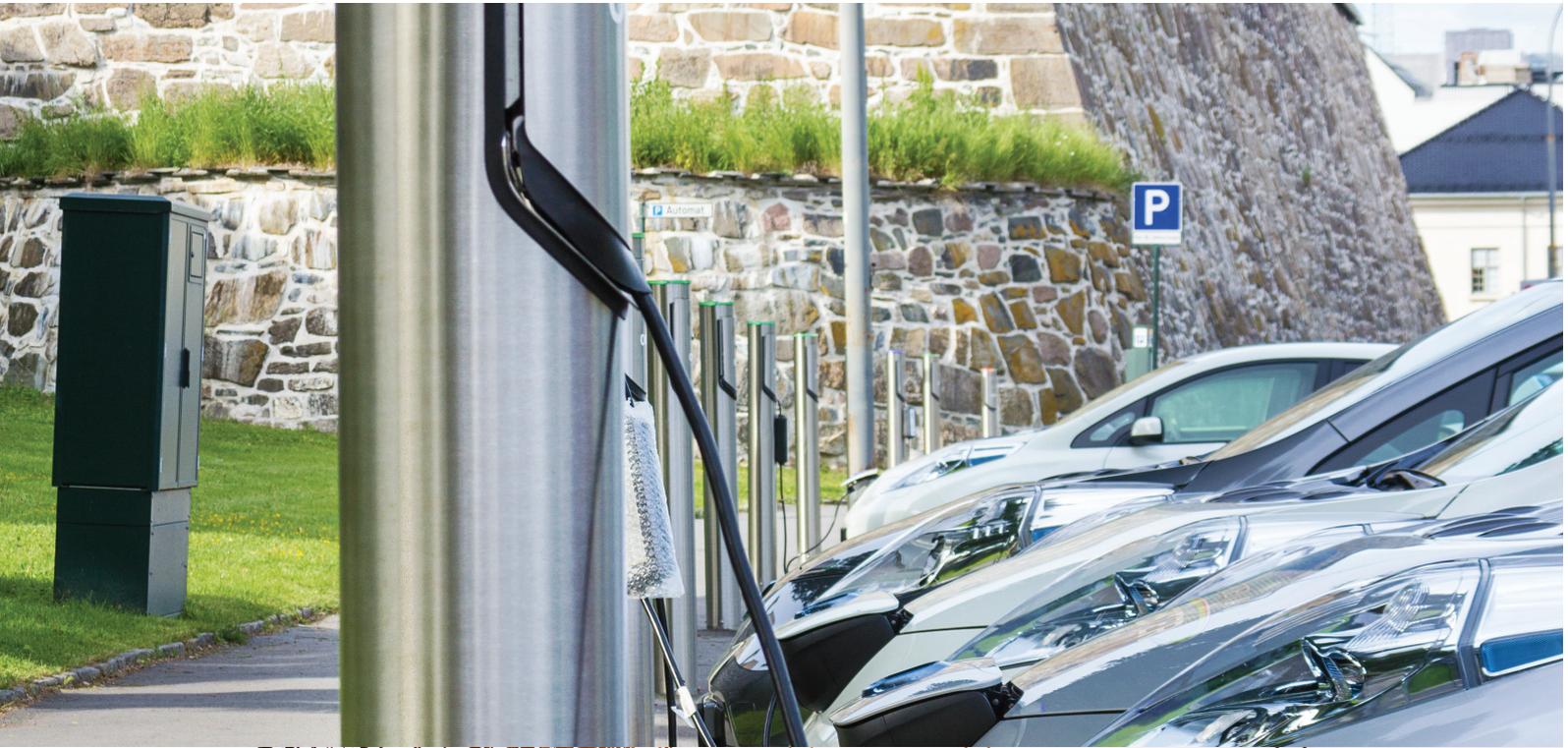
1 | Accelerating the energy transition and electrification, based on renewables

Energy is basically the fundament of our society and all our industry activities and responsible for the majority of all GHG emissions. In the EU, power generation alone is responsible for ~23% of annual GHG emissions. Consequently, we have to boost the ramp-up of renewable power generation and rapidly phase out fossil fuel-based power generation, electrify industry processes wherever possible and move to renewable energy carriers where needed (e.g. green hydrogen for heavy industry). For that, the technologies are readily available, with wind and solar having achieved record cost reductions, being now economically competitive with traditional power generation and having surpassed them in terms of newly added capacity per year. Experts see the need to boost renewable power generation capacity from ~430 GW in 2017 to ~845 GW by 2030 and to ~2,200 GW by 2050.

This also offers massive opportunities for Europe, regarding investments and job creation, as experts estimate that the total annual investment of the EU member states in the power sector would need to more than double to an average of EUR 200 bn p.a. for the next 30 years. Until 2050, this would sum up to EUR 6 tn.



E-buses for Europe: The main goal is to foster electrification of all the public transport bus fleets across the EU by 2030 through deployment of industrial initiatives in cities, building on a broad set of business models and complementary services.



2 | Building up infrastructures for a climate neutral economy

The accelerated energy transition requires strengthening and evolution of the power grids on transmission and distribution level, to ensure stability of the system. In mobility and transport, the switch to electric vehicles as the best option for decarbonization requires charging infrastructure. And the future net zero carbon economy requires further infrastructure, such as a hydrogen value chain infrastructure for deployment in heavy industry first (industrial valleys), or district heating and cooling for sustainable smart cities.

Hence, the EU needs to massively build up infrastructure – experts estimate that needed total investments for infrastructure from 2020 to 2050 are EUR ~4 tn. Infrastructure (in particular in this order of magnitude) is per se within the responsibilities and competencies of the state. However, the required transformation cannot be realized by the public sector alone, but requires private sector innovation and entrepreneurial spirit.



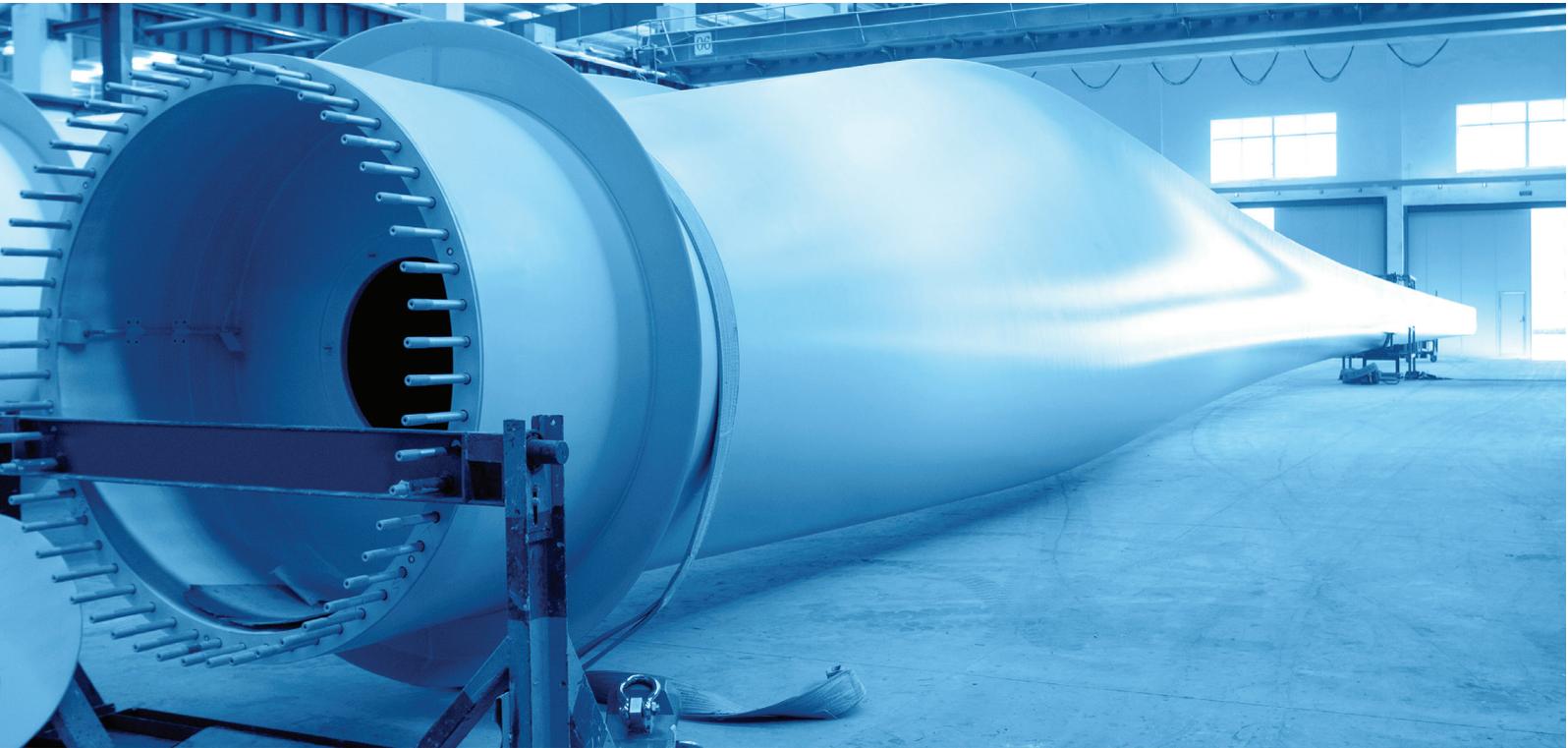
Cross-EU charging infrastructure for heavy duty trucks: In this project, we will develop a roadmap for an EU-wide charging infrastructure, realize pilots for electrifying relevant corridors by 2023 and pursue a visible ramp-up, focusing on charging infrastructure and catenary.



Sustainable healthy buildings for the future of work and living: Sustainability in buildings requires bringing together a range of different players and solutions, from materials to technologies. The project will present best practices (incl. integrating EV), incentivize aligning own building strategies and contribute bottom-up policy recommendations.



Integration of EU Power systems, in particular grids: Focus is the evolution and digitalization of distribution grids (as backbone of the future power system), to e.g. empower customers, foster cost-effective integration of distributed resources and strengthen public EV charging networks.



3 | Industrializing and championing key technologies

Industrializing and championing key technologies: Decarbonization requires deployment of key technologies at scale. For example, the deployment of batteries in the mobility and transport sector as well as in the power sector will lead to huge demand increase in Europe, adding up to ~750 GWh p.a. for the mobility and transport sector alone (~50 giga-factories with each 16 GWh p.a.). For electrolyzers for the production of hydrogen, experts see the need to ramp up hydrogen production from marginal level today to ~105 TWh in 2030 and ~1,125 TWh in 2050. In addition, digital and smart technologies will play a crucial role in many industry sectors and processes. This means both rapid deployment (adding new solar and wind power plants, building and selling battery electric vehicles) as well as scaling up the required manufacturing capacity for all these technologies.



Rapid build-up of battery production: We will support the EU's industrialization of sustainable battery production, with activities and collaboration along the value chain.



Green hydrogen value chain: We will jointly push the build-up of a European green hydrogen value chain, to foster commercial and technological availability wherever and whenever needed.



Digital carbon footprint tracking: In order to ensure transparency on carbon emissions along the full supply chain of products, we will realize an open, trusted and decentralized platform – establishing pilots, shaping global standardization and collaborating on suitable frameworks.

We know how to do it – implementation is about cross-sector collaboration and new ways in policy making

Cross-sector collaboration

In the last years, more and more companies have realized that future company success, deep decarbonization and sustainability require a cross-sector perspective. It is about the full value chain, the full lifecycle of products – and even more, about ecosystems: A company will first tackle its own business operations. Then its supply chain (procurement of material and components). Then the lifecycle of its products. This coupling or convergence of sectors can be seen across all industries – and it accelerates innovation and emergence of new, sustainable business models: such an expansion of the perspective of talented customer experts, engineers and business developers beyond their traditional industry silos triggers cross-sector fertilization.

New ways of policy making

Cross-sector partnerships and activities of companies are needed and welcome – but on themselves, they are not enough. In order to make the transformational journey to net zero carbon successful, policy leaders and decision makers should apply cross-sectoral policy frameworks for deep decarbonization and move from industry sectors to system thinking to foster and accelerate systemic transformations.

Possible key instruments would be (i) evolving carbon pricing schemes towards an ambitious instrument, forcing internalization of external costs across sectors and lifecycles of products and (ii) deploying investment frameworks to incentivize and accelerate the build-up of manufacturing capacity of key technologies, and (iii) developing new collaboration models between the public and private sector to enable and accelerate the build-up of required infrastructures. Last but not least, the public sector should act as role model in public procurement, especially regarding public buildings, public transport and all relevant elements (facility management, office devices, power supply, etc.) in order to create a market pull, increase exposure of customers to low or zero carbon technologies, accelerate innovation and much more.



The CEO Alliance will foster this combination of cross-sector collaboration in the private sector and new ways in policy making in the public sector in order to create an unstoppable momentum towards net zero carbon.



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