

Framework for Industry's net-zero Transition
Kick-off Meeting

Wednesday, 13 April 2022, 09:30-12:30 CET

SUMMARY

Background and context

Countries that have set net-zero targets cover around 90% of the total current global carbon dioxide (CO₂) emissions. This is a promising step to prevent a global climate disaster, but there are still uncertainties about the regulatory measures, the enabling market conditions and the financing sources and instruments that will make this net-zero transition possible for countries and companies. A five-fold increase of investments in the low-carbon measures is required in 2026-2030 compared to 2016-2020 to be consistent with a net-zero pathway.

There are salient challenges for the manufacturing industry, which is the sector with the largest energy use (including the use of fossil fuels as feedstock). At the end of 2019, the industry sector emitted 15 gigatonnes (Gt) of the total energy- and process-related CO₂ emissions, *i.e.* 40% of the global CO₂ emissions. Moreover, the industrial output and use of basic materials such as steel, cement, and plastics is increasing globally and even more prominently in emerging and developing economies.

The array of measures for low-carbon transition aligned with a net-zero path are well identified, including material efficiency and circularity, energy efficiency, renewable energy, clean hydrogen deployment, electrification, and carbon capture, use and storage. However, no single technology can curb all emissions, and the suitability and cost efficiency of the technologies depends on the industrial sector, the domestic natural resources endowment, and the local market conditions. Moreover, countries have different priorities for their industrial development, and face different challenges and issues, among other things based on their existing industrial footprint. Therefore, a flexible approach is required to overcome the barriers of deploying low-carbon technologies.

The understanding of the urgency to reduce the carbon emissions of the industry sector has gained momentum over the last decade. Stakeholders from the public and private sectors have launched a range of initiatives to accelerate the net-zero transition. Environmental, Social and Governance (ESG) considerations weigh increasingly in investment decisions. While this is encouraging, additional efforts are needed to identify enabling market conditions and financing solutions, in order to mobilise investments aligned with the net zero pathways.

OECD Framework for Industry's net-zero Transition

- The “Framework for Industry’s net-zero Transition” proposes five practical steps to facilitate the development of instrumental market and financing solutions to accelerate the net-zero transition of a specific sector or technology of the manufacturing industry at a country level. The Framework is designed to deliver upon implementation a list of projects consistent with a net-zero pathway, along with bespoke market enabling and finance solutions that would enhance their bankability.
- The Framework will contribute to broader policy discussions and exchange of best practices to increase the availability of finance that is mobilised and invested in the industry transition of emerging and developing economies.
- The OECD’s Clean Energy Finance and Investment Mobilisation (CEFIM) team will coordinate the Framework implementation. It will engage three major stakeholder groups involved in the industry’s transition: (i) policy makers, (ii) industry actors interested in identifying solutions to seize the opportunities of industry transition with low-carbon technologies, and (iii) finance institutions that will be developing the instruments and vehicles to finance the net-zero transition.
- As the Framework will be implemented at the request of countries, country engagement for a successful implementation is also crucial. In this regard, identifying the project coordinator(s) in the country policy makers’ stakeholders group will be a key success factor, given that several line ministries can share responsibilities on defining strategy and policies related to the industry sector. As an example, in Indonesia, the Ministry of Energy and Mineral Resources is in charge of energy-related CO₂ emissions, the Ministry of Industry has the overall responsibility over emissions from industrial processes, and the Bappenas is responsible for the country development planning. Setting an enabling regulatory framework can create the conditions to make net-zero projects economically viable, thus simplifying the investment cases and the financing instruments to bring the projects to fruition. As business cases of decarbonisation projects in the short- and mid-term are proven in other countries, the engagement of policy makers in the position to adapt and deploy these successful regulations in their country would accelerate the achievement of positive outcomes.
- Many existing initiatives propose global solutions but lack specific projects and tailored financing. The Framework implementation aims to identify projects and ensure their consistency with a net-zero pathway, relying on existing modelling of national and international organisations, instead of developing new scenarios. Providing incentives for project developers can stimulate their participation and engagement in the process of building project-level business cases and address the financing gap.

Session 1: The suitability of the Framework in view of the global industry sector developments

- Low-carbon technology solutions are well known and demonstration projects already exist, but building viable business case is required to scale up. The increase of operating costs faced by basic materials manufacturers range from 20% to 200% over the costs of conventional production processes. The risks are especially high for the first movers, who may lose competitiveness without enabling market incentives, de-risking instruments or financial support. Moreover, industrial players expect a good visibility of the planning of energy systems and infrastructures to invest, as competitive access to renewable energy, green hydrogen, or CO₂ storage can facilitate investment decisions.
- The current situation of the industry sector in a given country has a strong impact on its net-zero pathway and the suitability of solutions, given the risk caused by stranded assets and the opportunities of plant retrofitting. For instance, the steel and mining industry is the largest employer in South Africa and a large downstream industry relies on these two sectors. Building a roadmap requires reinforced planning integrating social aspects by involving industrial actors all along the value chain as well as labour organisations to build capacity and protect jobs. Fossil fuels represent 75% of energy use in Indonesia, and it is critical to ensure that new sources of energy will provide a stable and cost-competitive supply to energy-intensive sectors.
- Global factors such as regional trade, multinational decisions and international supply chains affect investment decisions, especially for globally traded commodities like steel or chemicals. Therefore, the leeway of countries can be limited and the proposed solutions must factor in the influence of global markets. For instance, a higher quality of iron ore is required to produce steel in direct reduction plants fuelled with green hydrogen, compared to the traditional blast furnace process. Trade instruments can also support the development of a local green industry and guarantee a global level-playing field. Carbon pricing instruments are emerging, including the emissions from the industry sector. For instance, Indonesia will implement a carbon tax on July 2022, applied initially on coal-fired power plants, but it is planned to cover more sectors in the future. In this context, international collaboration can help to harmonise the definition of low-carbon commodities and build capacity on data collection and disclosures.

Session 2: Possible finance and market solutions for industry's low-carbon transition

- A wide array of sustainable finance products are deployed globally, such as green bonds. A growing number of financial institutions and manufacturing companies are taking initiatives to adopt sustainability-linked financing frameworks to better track and channel their investments in low-carbon projects. Project eligibility criteria include the achievement of performance indicators such as the reduction of CO₂ emissions. International organisations that work with the private sector as well as governments can accompany and guide companies to identify the most suitable financial products. The public sector can also implement ad hoc financial vehicles: for instance, the government of South Africa has worked with the private sector to set up a Steel Fund, together with the private sector, to assist the companies in their transformation and preserve their competitiveness.

- Different solutions are required across the entire innovation cycle, depending on the maturity of the technologies. The main question is what type of capital will be the most efficient at each stage of the value chain. Commercial finance add a significant risk premium on technologies that have not reached commercial scale or with limited return of experience, such as direct air capture of CO₂, or electrolyzers to produce green hydrogen. Concessional equity and debt, typically offered by development finance institutions, can help to lower the cost of finance, and in turn, the financial risk for the industrial actors. Allowing projects to scale more rapidly can accelerate learning and achieve earlier commercialisation of low-carbon technologies. For instance, Carbon capture, use and storage (CCUS) is a critical technology to curb the emissions in the cement sector, but it will still take several years to achieve sufficient maturity for global deployment. Industry may look for bespoke solutions to minimise the risk of investing in the first CCUS projects.
- The OECD has issued Blended Finance Principles¹, detailed guidelines on their use, and are working to develop clean energy specific guidelines for the use of blended finance to mobilise commercial finance. The use of concessional funds should be minimised and directed to address market failures. The use of development finance in blended finance structures should focus on mobilising commercial finance and increasing leverage ratios versus a focus on direct financing of projects. Financial risk sharing between industrial companies, the public sector and financial institutions is critical, for instance to support actors with limited access to capital such as micro, small and medium enterprises (MSMEs), which provide the majority of industrial jobs in many emerging and developing economies. The Small Industries Development Bank of India (SIDBI) implemented a risk sharing facility to finance more than a hundred projects and enabling to cover more than 75% of the risk.
- Instruments to stabilise the revenues of innovative projects encourage investors to step in as it reduces the risk of higher production costs of low-carbon technology, also called green premium. Demand-pull instruments, such as green hydrogen quotas for refineries and fertiliser plants in India, green cement public procurement in South Africa, or green materials procurement commitments or offtake agreements provide positive market signals and can unlock investments in low-carbon solutions. Contracts for difference have been developed in Europe over the last decade, notably to stabilise the revenues of renewable electricity generators and thus support the transition of the energy sector. Similarly, Carbon Contract for Difference (CCfD) could help the industry net-zero transition. New mechanisms are emerging, such as the funding instrument H₂Global launched by the Germany's Federal Ministry of Economic Affairs and Climate Protection to purchase green hydrogen abroad and resell it in Germany. If the purchasing price is higher than the maximum acceptable price for consumers, the German government would compensate the resulting losses.

Session 3: Opportunities for collaboration in implementation of the Framework

- Transition may require different instruments all along the net-zero path, and a sector can have very different structure and issues in different countries. Maintaining alignment between short-term, mid-term and long-term timeline, can also enable to identify transition projects that can be deployed quickly and help to reduce CO₂ emissions in alignment with the net-zero

¹ <https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/guidance-and-principles/#principle-1>

pathway, even though new technologies could eventually supersede them. Collaboration with local associations and companies to understand their biggest challenges will be useful.

- There are examples of studies that analyse the concessionality in different sectors and it can be an opportunity to see how the Framework implementation can help to identify to where the concessional funding has the most leverage, for instance through analysis of marginal abatement cost curves.
- Limiting the scope of the Framework to a specific country and sector or technology would facilitate the identification of synergies with other initiatives, and limit the risk of overlap with other initiatives. This would also provide more opportunities to focus on projects and build bespoke solutions.
- The Framework could benefit from interactions with existing programmes in order to understand how projects have been prepared.
- Developing the Framework can also reinforce the consistency between the long-term vision at country level and the implementation at project scale. Therefore, engaging various stakeholders group from the beginning of the implementation will be critical.

Wrap-up and next steps

- The Framework for Industry's net-zero Transition will add value to the existing programmes and is a timely initiative to identify projects compatible with science-based targets and a net-zero emissions economy.
- Most of the countries are now announcing pledges and roadmap to achieve net-zero emissions. Embracing the industry net-zero transition can bring additional benefits, for instance creating local markets, develop new activities and support employment. This transition will require massive capital investments both in existing and new assets, especially when including the entire value chain and the required infrastructures. It may also increase production costs of industrial goods and create competitiveness challenges.
- Therefore, mobilising capital to achieve the transition will play a key role to achieve the net-zero transition and limit the global temperature increase as stipulated in the Paris Climate Agreement. While existing financing models still have to contribute, for instance in energy efficiency, we observe a growing momentum of sustainability-linked instruments and blended finance.
- Ensuring common definitions of green technologies and green products would help to ensure the consistency of the capital mobilised by these new instruments with the net-zero transition. Tailored market enabling solutions and financing solutions are emerging, considering country, sector, project and product needs, for instance combining grants, concessional financing, and a mix of supply-side and demand-side measures. We need to understand against which conditions and criteria these complex financing instruments can be the most effective.
- Exchanges between government, finance and industry must be strengthened. Many initiatives on industry decarbonisation exist, and collaborating with other organisations to ensure complementarity can increase the impact of the Framework outcomes.
- The CEFIM team will collect written feedback to the draft of the Framework for Industry's net-zero Transition until 22 April. The OECD review process will then start in May, in parallel of bilateral discussions with possible stakeholders that will participate in implementing the Framework. The release of the Framework is planned early September.
- The implementation of the Framework will start in Indonesia during the second half of 2022 and in Thailand in 2023. Subsequently, the CEFIM team will prepare a Guidance Document building upon the experience of the Framework Implementation, and enabling to replicate the implementation in other countries or sectors.