



PERSPECTIVES

Experts' views on the green and social transition

Trimestrial - special issue - December 2023

Special Edition on Renewables

Electricity is key to decarbonisation

by **Séverine Mateo**,
Global Head of the Low-Carbon
Transition Group at BNP Paribas



Decarbonising power generation is a priority if we want to achieve carbon neutrality. The power sector has a direct impact (33% of greenhouse gas emissions), so decarbonising power generation is crucial to make electrification efficient, produce green hydrogen and low-carbon fuels, and to capture carbon.

Renewable energies are key to produce zero carbon electricity. However, nuclear has regained new momentum in Europe, with promising developments most notably in the field of small modular reactors.

The rollout of solar energy is considered to be on track with the IEA's

"THE EU HAS SET THE AMBITIOUS GOAL OF DOUBLING ITS WIND CAPACITY TO 420 GW BY 2030."

net-zero pathway. Nevertheless, the development of wind energy, particularly offshore wind, is lagging behind. This is mainly due to supply chain tensions, sharp inflation and poor auction design in many countries. These factors have undermined revenues for wind farm developers and turbine manufacturers.

Accelerating the development of renewable energies will require financial and political support, much like the Inflation Reduction Act in the United States. The EU has set the ambitious goal of doubling its wind capacity to 420 GW by 2030.

It is keen to support the wind industry with measures such as revising auction design, indexation of tariffs, boosting permits, and financing with the support of the EIB.

RENEWABLES AT THE HEART OF THE COP28 AGREEMENT

COP28 is notably ending with an agreement that aims to triple the world's renewable energy capacities by 2030. One can only hope that this agreement will remind everyone that boosting renewables is crucial during the fossil fuel phase-out. BNP Paribas, as a global leader in financing the energy transition¹, is fully committed to this shift.

Launched in 2017 with the exit from non-conventional hydrocarbons and continued in 2023 with the accelerated exit from oil exploration, this transition also depends on the development of renewable energies. At the end of 2022, the financing of low-carbon energies thus represented almost 60% of the bank's financing of energy production.

BNP Paribas is therefore already a renewables bank, supporting several clean energies, not to mention energy efficiency projects and carbon-free mobility. In this way, we strive to ensure that every company or individual can make their transition with ambition and peace of mind.

Antoine Sire, *Global Head of Company Engagement at BNP Paribas*



¹Data from Bloomberg, 2023

Support for the energy transition is central to our business model

Electricity production is key for the energy transition, because of its direct impact and the importance of electrification.

BNP Paribas is therefore committed to supporting the rollout of renewable energies, while gradually pivoting away from coal.

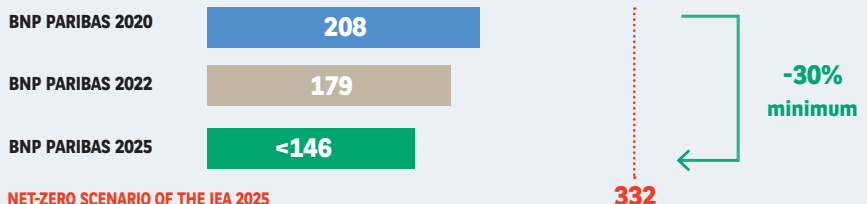
Power generation Within the energy mix that we finance

ACTIVITIES TOWARDS LOW CARBON
>80% in 2030
WITH A MAJORITY OF RENEWABLES

CREDIT RISK FOR THE PRODUCTION OF LOW-CARBON ENERGIES
40 billion euros by 2030
WITH A MAJORITY OF RENEWABLES

Reduce the emission intensity of our financing in the power sector

in grams of CO₂ per kilowatt hour



What are the challenges and solutions for the energy transition?

As with any transformation, the energy transition faces drawbacks but solutions and policies exist.

Offshore wind: a promising context despite headwinds

by **Romain Talagrand**,
Global Head of Renewables Financing,
Low Carbon Transition Group at
BNP Paribas CIB



Although there is pressure on the wind power sector due to rising construction costs and interest rates, governments' initial support measures are on track. But they are still not enough to achieve the goal of mass roll-out by 2030.

Offshore wind is a vital pillar of the energy transition, thanks to its high load factor (ratio between effective production and rated capacity), the larger size of production units and the easing of site restrictions. This explains why public policy is focused on a yearly rollout schedule of 80 GW by 2030, as compared to around 10 GW today. Nevertheless, the sector has recently faced considerable additional costs, increased financing costs and the slowness of regulators. Projects have therefore been delayed or cancelled, while the share prices of developers and equipment manufacturers have come under pressure.

A number of measures have been taken by public authorities. For instance, the United Kingdom has raised remuneration levels for 2024 tenders significantly. However, there are fears this will not suffice to reach the intended goals. Wood Mackenzie forecasts annual installation rates of only 30 GW in 2030.

The main emphasis should be on developing interconnections with the electricity network, as well as strengthening the supply chains that will not be capable of handling the volumes targeted in large-scale investments (ships, cables and turbines).

That said, the financial context remains promising. This is underscored by a [recent partnership between Iberdrola and Masdar](#) to co-invest up to €15 billion in green projects, mainly in offshore wind, in Europe and the United States.

Legal lift for the low-carbon industry

by **Ravina Advani**,
Managing Director, Head of the
Low-Carbon Transition Group
Americas at BNP Paribas CIB



The US energy transition is growing swiftly thanks to the Inflation Reduction Act.

The passage of the Inflation Reduction Act (IRA) in the US last year signalled immense government support for the energy transition. The industry has been boosted by the IRA's robust tax credits and favourable monetisation schemes, making low-carbon technologies such as carbon sequestration and hydrogen more economically viable.

Since this act came into force, growth in the renewables sector has soared – more than 270 clean energy projects totalling more than \$130 billion in investments have been announced. Backed by green financing, the private sector is expected to spend trillions more to benefit from the IRA's incentives over the next decade.

Several factors challenge the region's path to transition: inflation, rising interest rates, volatility in commodity prices, supply chain disruptions, growing interconnection queues, geopolitical conflicts and humanitarian crises. Yet our clients' activities clearly indicate a momentum and desire to transition.

US renewable developers are forging record levels of partnerships and acquisitions. Many of the largest sponsors and infra funds are creating dedicated teams and products for low carbon. Global infrastructure fundraising is headed for its lowest level in almost a decade, but the energy transition accounted for 66% of all sector-focused capital.

Seeking a balance between renewable energies and biodiversity

by **Yves Floch**,
Energy Transition and Ocean Expert,
CSR Group at BNP Paribas



Renewable energies are developing in response to the fight against climate change. However, their impact on biodiversity should not be forgotten.

Solar panel farms often lead to artificialisation of land, wind turbine blades can kill birds and, last but not least, any type of project can disturb wildlife during their breeding season. To limit these impacts, the [IUCN](#) and many public authorities promote the 'ARC' approach: avoid, reduce, compensate.

Avoid by preventing any possible impacts, for example by studying the flight paths of migrating birds or by selecting areas that have already been artificialized. Reduce by taking into account the biodiversity present during construction. Lastly, compensate for the unavoidable impacts by adding vegetation to a new area.

"TO LIMIT THESE IMPACTS, THE IUCN AND MANY PUBLIC AUTHORITIES PROMOTE THE 'ARC' APPROACH: AVOID, REDUCE, COMPENSATE."

BNP Paribas draws inspiration from the ARC framework for any project of significant size. In addition to this framework, renewable projects must comply with the [Equator Principles](#). These aim to achieve the healthy management of environmental and social risks when financing projects. Biodiversity and wildlife aspects are often taken into account.

The financial sector's crucial role

Apart from financing, banks must also act as advisors to support the transition of households and SMEs.

Consuming less and cleaner

by **Monique Becuwe**,
Energy Transition Stream Leader at
BNP Paribas Personal Finance



In Europe, 57% of the population still use fossil fuels for heating. They still need persuading to make the shift to a cleaner and cheaper form of energy.

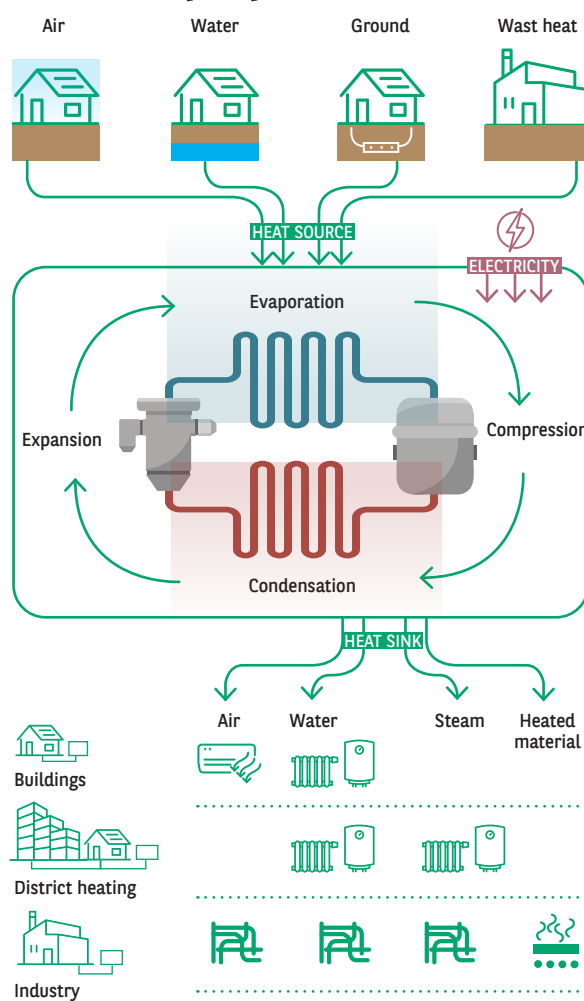
The ecological transition will mean reducing our energy consumption. Two ways of doing this are foreseen. The first is to improve the energy efficiency of our homes, in order to consume less energy for heating, while excluding the use of fossil fuels and turning to cleaner systems such as heat pumps. The second way is through energy conservation, which can comprise measures such as lowering the temperature to 19°C, turning off our devices at night, etc. This involves adopting behaviour changes over the longer term.

Heat pumps are a form of heating that is increasingly recommended and supported by governments. They can help to reduce heating bills by two-thirds. A heat pump can also be enhanced by installing solar panels, thus cutting costs. Saving money is the most decisive factor for households, before the use of greener energy.

If individuals want to be reassured about their investments, they should call on certified professionals, who will make an assessment of their needs.

Regarding innovation, the services side is developing through apps that enable people to manage their electricity or heating. Home batteries are another key focus, as they can facilitate energy independence when connected to solar panels.

How a heat pump works



Source: IEA 2022

Facilitating SMEs' access to green finance

by **Arnaud Algrin**,
Head of Low-Carbon Transition
for MidCaps & SME Initiative at
BNP Paribas



The energy transition is accelerating and financial institutions must be prepared to assist SMEs to meet this challenge.

Over the last two years, clean energies and energy efficiency have emerged as key issues for SMEs and intermediate-sized companies (midcaps). Besides

environmental concerns, the transition is essential to reinforce resilience and competitiveness as solutions to soaring fossil fuel prices.

With that in mind, financial institutions can play a vital role in supporting SMEs and midcaps. The first step is to raise their awareness and offer them accessible advice on simple measures they can take, such as installing solar panels or heat pumps. Banks can also facilitate access to

specific funds and state aid, like grants or tax breaks, etc. This blend of a wide range of green finance (including leasing) and advice is a key factor, enabling SMEs to cope with the costs of transition.

Lastly, banks can help companies to assess their ESG impact, e.g. their carbon footprint, either directly or through partners. This assessment is essential nowadays, particularly for accessing green finance and for reporting to stakeholders.

The five pillars for the energy transition

Energy efficiency, electrification and renewable energies are the solutions for the fossil fuels phase-down.

The IEA's net-zero scenario is based on energy efficiency and renewables

by Tilly Undi,
Oil and Gas, Energy Transition and
Carbon Neutrality Expert, CSR Group
at BNP Paribas



The new IEA World Energy Outlook highlights that the booming clean energy sector still needs to be scaled up internationally.

The report assesses the evolution of energy security 50 years after the IEA's foundation. It also suggests where the focus should be at the COP28 conference in Dubai, especially considering how today's energy trends will impact and be impacted by key areas such as investment, trade flows, electrification and energy access.

Under today's policy settings, clean energy technologies are set to play a much greater role in 2030 than today with:

- nearly 10 times as many electric cars on the road;

- renewables accounting for 50% of the global electricity mix, up from around 30% today;
- heat pumps and other electric heating systems outselling gas boilers globally;
- peaks in demand for oil, gas and coal.

Transitions are thus getting competitive, mainly thanks to the faster than expected deployment of photovoltaics and electric vehicles.

Despite the impressive clean energy growth, demand for fossil fuels remains much too high to keep within reach of the Paris Agreement. The pathway to a 1.5°C limit on global warming is very tough, but it remains open, if rapid, people-centred and orderly transitions are implemented.

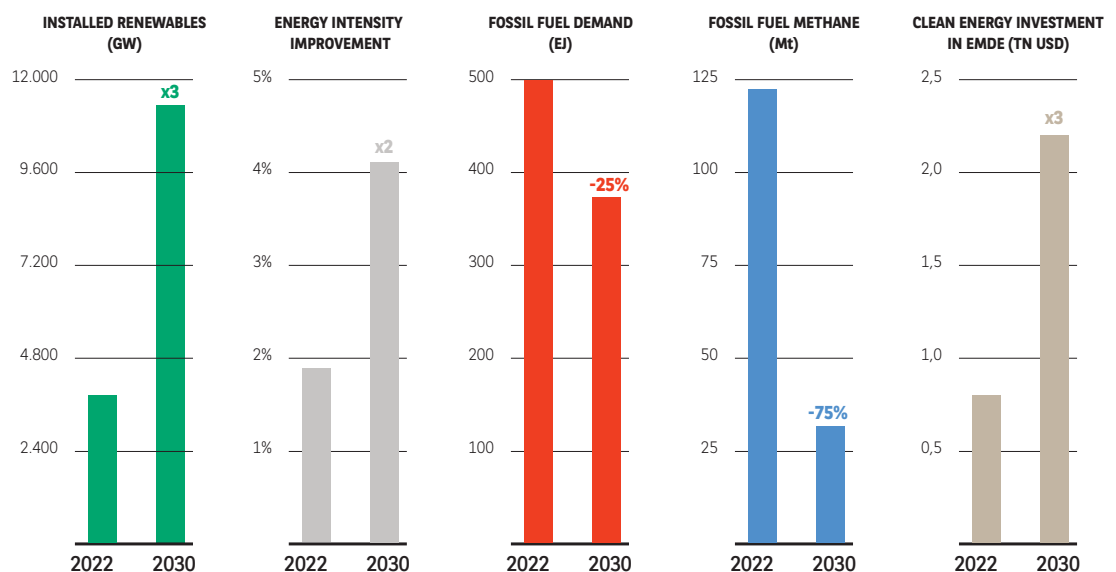
Five measures are crucial: tripling global renewable energy capacity; doubling the rate of energy efficiency improvements;

slashing methane emissions from fossil fuel operations by 75%; and developing innovative, large-scale financing mechanisms to triple clean energy investments in emerging/developing economies and ensure an orderly decline in fossil fuel use.

Different transitions, based on various starting points, must happen globally and mainly in emerging markets and developing economies. In fact, they will account for almost 80% of the global growth in electricity demand in the 'stated policies scenario' (current policy landscape), and for over two-thirds in the 'net-zero emissions scenario'. It is then essential to strengthen international cooperation and invest more in clean technologies, broader than the OECD countries and China. Finally, as energy transitions massively rely on electrification, security must be a focus in the policy agenda, through reliable grids, diversified low-carbon supply and critical minerals.

5 pillars to keep 1.5°C alive

In the run-up to COP28, the International Energy Agency (IEA) highlighted the strategy to implement by 2030 in order to achieve the objectives of the Paris Agreement. The strategy is split into five pillars, aimed at shifting from fossil fuels to clean energies and limiting the impact of our energy consumption on the climate.



Source: IEA 2023

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