



Harnessing **DECARBONIZED ENERGY** to power growth

Good for the planet or good for the economy? With over 110 countries, from the European Union to Japan, pledging to meet the goal of net-zero emissions by 2050, this is a recurring question. Behind it lies the assumption that you need to choose between growth and sustainable solutions. The truth, though, may be rather different. Recent research shows that decarbonized energy can offer a sustainable way for countries with non-fossil fuel based economies to boost their growth. The economic opportunities are immense. All that remains is to put companies in a position to take them.

In calling on the energy sector to achieve net-zero emissions, the International Energy Agency (IEA) acknowledges that this is a “monumental” task¹ involving enormous challenges. The energy sector is currently responsible for over 75% of greenhouse gas (GHG) emissions². Primary energy demand has swelled by 60% over the last 30 years and could double by 2050³.

ENERGY: A STRATEGIC AREA (STILL) CHARACTERIZED BY A RELATIVE STATUS QUO

Hitting the targets will therefore take major changes in a highly sensitive area. For nations, energy remains a deeply strategic issue that is intertwined with key questions such as energy security, limiting imports and export-related benefits. “Many countries see developing their energy sector as chiefly about

strengthening energy security. They also want to be better able to withstand geopolitical stress and market fluctuations, particularly in oil and gas”, says Cécile Segueineaud, Energy program head at New Global Perspectives, a think tank, and a specialist in the political, technology and economic aspects of the energy transition. Until now, anyone talking about energy was primarily talking about fossil fuels. Despite growth in renewables such as wind and solar power, the global energy mix has not seen significant structural changes in three decades. “Fossil fuel energies continue to dominate to a large extent, with captive use of oil in transport, coal and oil in industry, and fossil fuels in power generation”, explains Ms. Segueineaud.

COULD ECONOMIC POTENTIAL SIGNAL THE TIPPING POINT?

But now we have had a global pandemic, and the signs of a paradigm shift are increasing. There seems to be a growing consensus that to respond to a crisis of such unprecedented size, environmental issues need to be not only considered, but prioritized. Exemplified by the Biden administration’s \$2 trillion infrastructure plan, stimulus programs around the world feature big environmental components.

As rebuilding gets underway, the International Monetary Fund (IMF) showed in a working paper published in March⁴ how investing in clean energy can help to stimulate economies over the long run.

The authors looked at green and non-eco-friendly investments linked to energy and land use, i.e. the two main sources of GHG emissions, in various countries and over several decades. The aim was to measure, for each dollar of investment, by how much GDP had increased over the ensuing years. Investments in green projects were found to have a far greater economic impact than investments in non-eco-friendly investments.

Harnessing decarbonized energy will help to address three decisive challenges, namely employment, competitiveness, and innovation. However, Ms. Segueineaud cautions that to achieve a successful transition, it is important not to focus solely on developing decarbonized energy production: "It is critical to take a systemic approach by integrating energy efficiency, low-carbon infrastructure, power networks and the circular economy. The IMF stresses the importance of a just transition, which among other things involves supporting workers to make the transition from fossil fuel energies to low-carbon energies." The IEA report on achieving a sustainable recovery points out that energy efficiency in buildings and industry and the PV sector are the areas that create the most jobs in return for investment, i.e. between 10 and 15 jobs per million dollars of investment, or between two and three times more than the number created by fossil fuel energies.

INVENTIVENESS AND INVESTMENT, BUT ALSO COOPERATION

Simply put, the energy sector's prospects over the coming years and decades are huge. Achieving a low-carbon industrial revolution will primarily involve meeting the technological challenges. Some key innovations in areas such as power storage or hydrogen, for example, are not yet commercially available. Says Ms. Segueineaud: "The IEA has estimated⁶ that to achieve carbon neutrality by 2070 in the energy sector, 75% of emissions reductions in industry need to come from technologies that are not yet available on the market."

As Bill Gates observes in his latest book⁷, innovative efforts need to focus on the breakthrough technologies that will be adopted by industry and individuals. These include carbon capture, utilization, and storage (CCUS) facilities, which will surely play a vital part in achieving a net-zero emission world by capturing carbon from combustion gases or directly from the atmosphere for underground storage or reutilization.

Despite the economic prospects, companies cannot do it alone. Clear, long-term policies must be set to give confidence to participants and investors across all low-carbon sectors. This means building an integrated and planned vision that includes the associated infrastructure. Industrial clusters need to be created and backed by investment support mechanisms and demand support policies. "One of the keys will be to create close collaboration among all stakeholders, including government, the private sector, investors, and local decision-makers, through joint ventures and other public private partnerships, to make sure that the investment and innovation risks are shared", stresses Ms. Segueineaud. Doing this successfully will ensure that the benefits are also shared, which would be good for the planet and the economy.

1. <https://www.iea.org/reports/net-zero-by-2050>
2. <https://www.iea.org/reports/net-zero-by-2050>
3. <https://www.connaissancesenergies.org/sites/default/files/pdf-actualites/ieo2019%20%281%29.pdf>
4. <https://www.imf.org/en/Publications/WP/Issues/2021/03/19/Building-Back-Better-How-Big-Are-Green-Spending-Multipliers-50264#:~:text=The%20estimated%20multipliers%20associated%20with,on%20sectors%2C%20technologies%20and%20horizons>
5. <https://www.iea.org/reports/sustainable-recovery>
6. <https://www.iea.org/reports/energy-technology-perspectives-2020>
7. *How to avoid a climate disaster*, Flammarion, 2021

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