

ENERGY DEMAND CONTINUES TO GROW

Energy and human development are linked. The left chart indicates that between now and 2050, the world population is expected to grow to almost 9.7 billion from 7.7 billion people, and global gross domestic product (GDP) is expected to more than double. Billions of people in developing economies are expected to see their incomes grow to levels considered middle class.⁽⁴⁸⁾ That translates to more demand for homes, transportation, electricity, consumer goods and the energy to power them.

Energy demand is likely to rise over this same time period, given population growth and the linkage between energy use and living standards. The Outlook projects efficiency gains that reduce energy use per capita in developed countries, whereas developing nations increase energy per capita as they pursue improved living standards. This increased demand in developing countries, which represent about 85% of global population, leads to a 14% higher estimate of energy demand in 2050 versus 2019.

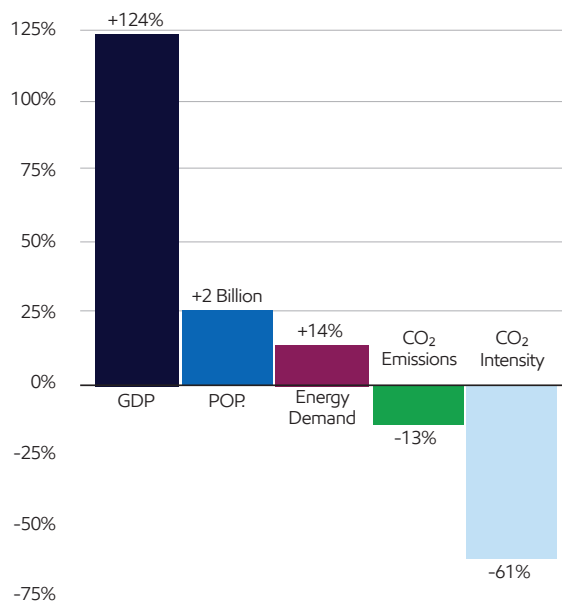
Energy-related greenhouse gas emissions are projected to peak by 2030 before declining about 15% to 2050, marking a significant improvement versus the emissions growth that occurred over the past decade. Efficiency gains and a shift in the energy mix, including increased use of lower-carbon sources, enable a more than 60% improvement in the carbon intensity of global GDP from 2019 to 2050.

The right chart shows how energy demand is expected to grow during the same period and the energy sources that are expected to meet that demand. The IEA's Stated Policies Scenario reflects

current policy settings based on a sector-by-sector assessment of the specific policies that are in place, as well as those that have been announced by governments around the world. It offers a relevant scenario to compare and contrast with ExxonMobil's Outlook. Although differences in assumptions lead to some variation between the scenarios, directionally similar observations can be made. Both project that wind and solar will make up about 10% of primary energy demand compared to less than 2% today. Both also indicate that oil and natural gas will account for more than 50% of total primary energy in 2050.

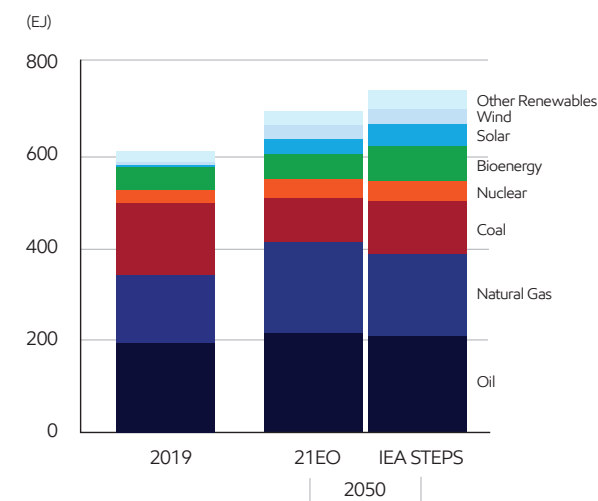
Key dimensions of the Energy Outlook

(Growth from 2019 to 2050)



Source: ExxonMobil 2021 Energy Outlook

Oil and natural gas remain important



Source: EM Analysis; IEA World Energy Outlook (WEO) 2021