

Energy and Carbon Emissions in a World Context

The purpose of this section is to place the developing countries (defined throughout the report to include the current and former centrally-planned economies) and developed countries (members of the OECD) in a global perspective with regards to such indicators as: economic output; energy consumption; and energy-related carbon emissions.

Key findings of this section include:

- ✓ Since 1970, world economic growth rates have exceeded increases in energy use and energy-related carbon emissions. Between 1970 and 1992, world gross domestic product increased 85 percent, while energy use and carbon emissions rose 66 percent and 51 percent, respectively.
- ✓ Growth in world carbon emissions has been less than growth in energy consumption. This has resulted partly from the increased relative importance of noncarbon-emitting energy sources, primarily nuclear power, and partly from a switch away from coal and towards natural gas in the non-OECD.
- ✓ Economic growth has been slightly faster in developing than developed countries. OECD economies grew 83 percent between 1970 and 1992, compared to 88 percent in the non-OECD.
- ✓ Since 1970, energy use trends have differed markedly for developed and developing countries. Between 1970 and 1992, OECD energy consumption grew only half as fast as GDP; in contrast, energy consumption grew faster than GDP in the developing countries.
- ✓ Since 1970, electricity use (and associated carbon emissions) worldwide have increased faster than overall energy use and GDP. This trend has been especially pronounced in the developing countries.
- ✓ The OECD consistently used less energy to produce a unit of economic output than the rest of the world. In 1991, for instance, the OECD produced a unit of output using little more than half the energy required by the non-OECD.
- ✓ Nonetheless, developed countries, with 16 percent of world population as of 1992, accounted for 52 percent of world energy consumption. The OECD countries in 1992 consumed about six times as much energy per capita as the non-OECD countries. Between 1970 and 1992, however, non-OECD countries increased their share of world energy consumption from 39 percent to 48 percent.
- ✓ The developed countries as of 1992 accounted for about 48 percent of energy-related world carbon emissions. As with energy consumption, the OECD's share of world carbon emissions declined between 1970 and 1992 (from 57 percent to 48 percent), while emissions from the developing countries grew rapidly.
- ✓ Evolution of energy use and carbon emissions patterns in the developing countries towards patterns more like the developed countries is likely to have profound implications for world energy use and carbon emissions. If developing countries had consumed fossil fuels and emitted carbon at the same per capita rates as developed countries did in 1990, for instance, world fossil fuel consumption would have tripled, while world carbon emissions would have nearly tripled from actual levels.

WORLD
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