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Switch from coal to natural gas may not slow climate change

Although the burning of natural gas emits far less carbon dioxide than coal, a new study concludes that a greater reliance on natural gas would fail to significantly slow down climate change.



Credit: Robert Kerton/SciencelImage

The study by Tom Wigley – Adjunct Professor at the University of Adelaide and a senior research associate at the National Center for Atmospheric Research (NCAR) in the US – underscores the complex and sometimes conflicting ways in which fossil fuel burning affects Earth's climate.

While coal use causes warming through emission of heat-trapping carbon dioxide, it also releases comparatively large amounts of sulfates and other particles that, although detrimental to the environment, cool the planet by blocking incoming sunlight.

The situation is further complicated by uncertainty over the amount of methane that leaks from natural gas operations. Methane is an especially potent greenhouse gas.

Adj. Prof. Wigley's computer simulations indicate that a worldwide, partial shift from coal to natural gas would slightly accelerate climate change through to at least 2050, even if no methane leaked from natural gas operations, and through to as late as 2140 if there were substantial leaks.

After that, the greater reliance on natural gas would begin to slow down the increase in global average temperature, but only by a few tenths of a degree.

'Relying more on natural gas would reduce emissions of carbon dioxide, but it would do little to help solve the climate problem,' concludes Adj. Prof. Wigley.

'It would be many decades before it would slow down global warming at all, and even then it would just be making a difference around the edges.'

The study will be published in the peer-reviewed journal *Climatic Change Letters* in October.

Source: NCAR

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