

International Energy Agency at COP24

An energy strategy to meet the planet's climate goals

Meeting the long-term objectives of the Paris Agreement means changing the way we produce and use energy. It will require a greater emphasis on energy efficiency and innovation, speeding up the deployment of low-carbon renewable technologies like solar PV and wind, retiring some existing assets and accelerating the development of carbon capture, utilisation and storage.

The International Energy Agency promotes climate action through cutting-edge data, analysis, solutions and policy advice to inform governments, industry and key stakeholders. Our work spans the full spectrum of energy technologies – from energy efficiency to renewables, and also hydrogen, nuclear, and technologies such as carbon capture, utilisation and storage – as well as all fuels.

The IEA takes an “all-of-the-above” approach to the clean energy transitions – emphasizing policies that increase the share of low-carbon energy, boost clean-energy investments and RD&D, and enhance innovation, ensuring energy security, reducing air pollution and promoting energy access for all.



Where are we today?

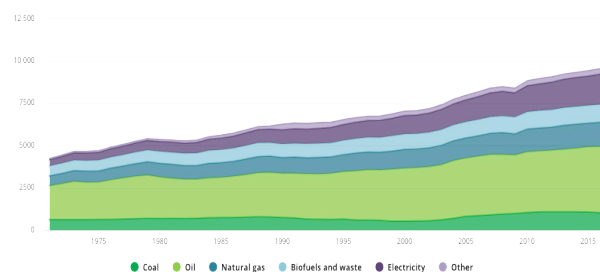
Without ambitious policy action, the long-term goals of the Paris Agreement risk slipping out of reach. Global energy-related carbon emissions need to peak around 2020 and then decline steeply to reach these goals. But emissions are rising and will keep doing so under current and announced policies, as outlined in the IEA's New Policies Scenario, which shows higher global emissions to 2040.



Fossil fuels are stubborn

They account for 81% of the global energy mix, a share nearly unchanged in three decades. While low-carbon energy has been growing rapidly, it has only just kept pace with rising energy demand.

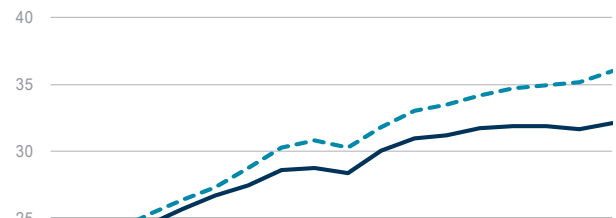
World TFC by fuel, Mtoe



While efficiency gains are slowing...

The impact of efficiency policies around the world has been significant over the last decades. But efficiency gains have been overwhelmed by fast-growing energy demand in emerging countries.

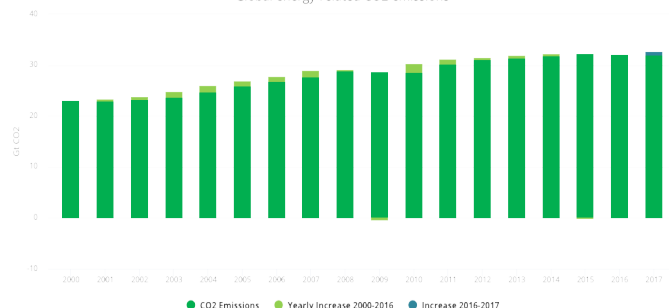
Gt CO₂-eq



and carbon emissions are still rising

In 2017, emissions reached a historic high after three years of remaining flat. We expect another increase to a record high level in 2018.

Global energy-related CO₂ emissions

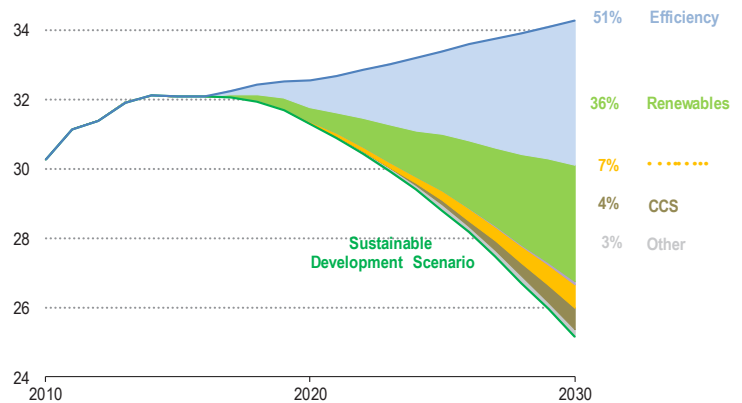




Where do we need to go?

The IEA's Sustainable Development Scenario (SDS) describes a pathway for the global energy sector to achieve the Paris Agreement's long-term goals, as well as substantial reduction in air pollution and universal energy access. In the SDS, the role of fossil fuels declines rapidly, with coal demand peaking by around 2020, and oil demand peaking soon after.

The share of electricity in final energy consumption would increase alongside a substantial decrease in the carbon intensity of power generation



The share of electricity generated from renewable sources doubles to almost 50% in 2030, with solar PV and wind the fastest growing technologies. The share of electricity in total final energy consumption provides a pathway for clean energy transitions through the electrification of end use sectors, with high potential in transport and buildings, but more challenges in industry.

Much higher shares of EVs and biofuels

Global EV sales need to reach 900 million by 2040. Last year, sales increased 54% to reach 3 million, and are on track to meet the SDS goal. Biofuel use would need to triple, driven by cost reductions of advanced biofuels, widespread sustainability governance and greater uptake in aviation and marine transport. So far, it is not on track to meet these goals.

Carbon capture, utilisation and storage

In the SDS, especially in industry, where certain applications make it challenging to replace coal, carbon capture, utilisation and storage technology can play an important role in decarbonisation.

What do we need to do?

The SDS provides a pathway to meet the goals of the Paris Agreement, as well as achieving universal energy access to modern energy, and significant reductions in air pollution. Thanks to technology and fuel cost declines, and with well-integrated policy packages, this would require additional cumulative investment in the energy sector of just 15% by 2040.

Recommended action

- ✓ Create incentives through price optimization
- ✓ Focus on greater electrification of energy services along with decarbonizing electricity supply
- ✓ Re-direct investment to energy efficiency and low-carbon energy sources
- ✓ Create well-integrated policies that align renewable energy, efficiency and climate goals
- ✓ Boost innovation with clean technology research, promote CCUS
- ✓ Promote greater electrification of energy services while decarbonising electricity
- ✓ Create policy frameworks for stimulating clean technology deployment in transport, buildings and industry
- ✓ Re-direct investments towards energy efficiency and low-carbon energy
- ✓ Tackle “blind spots” that get less attention but have big impact on energy demand
- ✓ Improve tracking progress of clean energy in a more comprehensive manner

How the IEA supports global clean-energy transitions:

Tracking Clean Energy Progress

A comprehensive scorecard of 38 sectors and technologies

World Energy Outlook

The world's gold standard energy analysis and modelling

Clean Energy Transition Programme

Supporting transitions in emerging nations

Innovation & RD&D tracking

Enhanced analysis and tracking, including gaps and needs

Energy Efficiency

gghsgj sghdgj gjshgdjsg
shjshdkshdh

Analysis of blind-spots

Growing energy demand from petrochemicals, A/Cs, or trucking

Technology collaboration Programmes

supporting 40 partner research organizations

Expanding the IEA Family

We now account for 75% of global energy demand

[iea.org/cop24](https://www.iea.org/cop24)

The International Energy Agency is the world's energy authority, providing data, analysis and solutions on all fuels and all technologies; helping governments, industry and citizens make good energy choices.