

Executive summary

Our 21st century way of life, and growing global population, have put essential environmental resources under pressure, including air, water and land, together with the animal and plant life they support. How successful are we in breaking the link between economic growth and environmental damage? The answer is a mixed picture, showing some progress in key areas such as air pollution, transport, energy, water and biodiversity protection, but not enough to safeguard our natural resources for the future.

Pressure on the environment is still increasing, but since the 1990s it has generally been at a slower pace than economic growth in OECD economies, a process known as relative decoupling.

Energy intensity – the amount of energy needed to create a unit of GDP – has fallen in OECD countries in the past two decades. The share of gas in the fuel mix rose, but overall fossil fuels continued to dominate energy supply. The share of renewable energy has remained relatively stable for the OECD at about 9% of total supply, with a slight increase in recent years. Factors underlying reduced energy intensity include structural changes in the economy, energy conservation measures and environmental policy actions, technical progress, and in some countries, the transfer abroad of energy- and resource-intensive production.

Progress in reducing energy use in per capita terms has been much slower, partly due to a 17% increase in energy demand for transport. **Road transport** continues to dominate the transport sector, resulting in additional fuel consumption and road building, affecting health and nature. Countries' efforts to promote cleaner vehicles have been largely offset by an increase in the number of vehicles on the road and increased vehicle use. Overall, transport activities remained coupled to GDP growth, and in more than one-third of OECD countries, road traffic growth rates exceed economic growth.

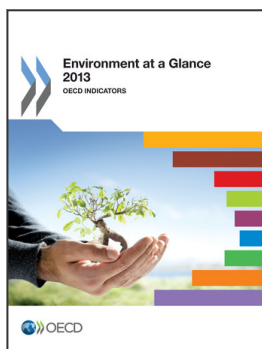
Material intensity – the amount of material resources needed to produce a unit of GDP – has also decreased since 1990. Material use has been relatively decoupled from economic growth in the OECD area. This is due partly to the rise of the service sector and the economic crisis, and partly to increasing imports and the displacement of resource-intensive production abroad.

Agricultural production in the OECD area grew more slowly from 2000 to 2010 than during the 1990s. At the same time, a range of agriculture-related environmental pressures decreased: greenhouse gas (GHG) emissions, water and fertiliser use, and nutrient surpluses (the potential transfer of nutrients to soil, water and air). A reduction in the level of agricultural support, particularly the most environmentally harmful types, has been an important factor in achieving this improvement.

Overall, stronger efforts are needed to make a decisive shift from relative to absolute decoupling that would reverse environmental damage, to protect the natural asset base and to improve people's environmental quality of life.

Key findings

- Overall, **greenhouse gas (GHG) emissions** are still growing worldwide, with CO₂ predominant and the main driver of the overall trend. Since 1990, **energy-related carbon dioxide (CO₂) emissions** have grown more slowly in OECD countries than they have worldwide. Today OECD countries account for less than half of world GHG emissions, but still emit far more CO₂ per capita; 10 tonnes per person compared with 4 tonnes per person in most other regions. Many OECD countries have decoupled their carbon dioxide (CO₂) emissions from GDP growth, though decoupling remains weak, and in many countries emissions have continued to rise.
- **Sulphur oxide (SO_x) and nitrogen oxide (NO_x) emissions** have decreased significantly since 1990 for the OECD as a whole (-69% and -36% respectively). Almost all OECD countries achieved an absolute decoupling of SO_x emissions from GDP while two-thirds achieved an absolute decoupling of NO_x emissions. However, in a few OECD countries, NO_x emissions continued to grow in line with GDP, and the steady growth in road traffic. Ground-level ozone, NO₂ concentrations, fine particulates, and toxic air pollutants continue to adversely affect human health, particularly in urban areas.
- **Freshwater abstractions** have remained generally stable in the OECD area since the 1990s, despite increasing demand for water from a range of sources. This is due to more efficient use and better pricing policies, but also to greater exploitation of alternative water sources such as re-used and desalinated water. Many OECD countries have achieved a relative decoupling of water abstractions from GDP growth, but results vary within and among countries.
- **Sewage treatment infrastructure** has significantly expanded; the share of the OECD population connected to a municipal wastewater treatment plant rose from about 60% in the early 1990s to almost 80% in 2010. A key challenge to further expansion of waste water treatment in some countries is finding other ways of serving small or isolated settlements. Many countries are facing increasing costs because of the need to maintain and upgrade ageing water supply and sanitation networks.
- The **area of protected land** has grown in almost all OECD countries to reach some 11% of the total. However, these areas are not always representative of national biodiversity, nor sufficiently connected. Threats to **biodiversity** are increasing, particularly from land use change and infrastructure development; many natural ecosystems have been degraded and many **animal and plant species** in OECD countries are endangered. Threat levels are particularly high in countries with a high population density.
- **Forest areas** have remained relatively stable at around 30% of the land area in the OECD. Most OECD countries present a picture of sustainable use of their forest resources in quantitative terms. There are however important variations within countries and many forests are threatened by degradation, fragmentation and conversion to other land types. Increased demand for wood to reach renewable energy targets is playing an increasingly important role in the commercial exploitation of forests.
- **Municipal waste** generated in the OECD area increased by 19% in the 1990s, but this rise slowed in the early 2000s. Today a person living in the OECD area generates on average 530 kg of waste per year; this is 30 kg more than in 1990, but 30 kg less than in 2000. OECD countries increasingly divert waste from landfills and incinerators and feed it back into the economy through recycling. Landfill nonetheless remains the major disposal method in many OECD countries.



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