The OECD green growth indicators are organised around four main objectives: establishing a low carbon, resource efficient economy; maintaining the natural asset base; improving people’s quality of life; and implementing appropriate policy measures and realising the economic opportunities that green growth provides. Six headline indicators aim at communicating central elements of green growth in a balanced way: carbon and material productivity, environmentally adjusted multifactor productivity, a natural resource index, changes in land use and cover, and population exposure to air pollution.

**Key messages**

The global economic and financial crisis relieved some pressures on the environment. As growth resumes, however, these pressures will intensify and quickly exceed pre-crisis levels unless governments strengthen relevant policies.

Stronger, sustained efforts are needed to improve the efficient use of energy and natural resources in order to reverse environmental damage, maintain the economy’s natural asset base and improve people’s quality of life. This requires concerted action by Finance, Economy, Industry and Agriculture and other ministries whose policies affect the environment and which can promote green growth. Building human capital through education and skills development will be essential.

**Are we becoming more efficient in using natural resources and services from the environment?**

- Over the past 20 years, the environmental productivity of OECD economies in terms of carbon, energy and materials has grown, but with wide variation across countries and sectors. Carbon dioxide emissions and fossil fuel use have decoupled from economic growth, and renewable energy plays a growing role in efforts to diversify and de-carbonise energy supplies. Today, OECD countries generate more economic value per unit of material resources used than in 1990, and efforts to recycle waste are starting to pay off. Nutrient use in agriculture is also improving, with surpluses declining relative to production.

- These developments are due to a combination of factors: policy action; the downturn in economic activity due to the crisis; the rise of the service sector, offshoring resource- and pollution-intensive production, and rising trade volumes.

- In many areas productivity gains are small and environmental pressures remain high: carbon emissions continue to rise; fossil fuels continue to dominate the energy mix, sometimes benefiting from government support; the consumption of material resources to support economic growth remains high, and many valuable materials continue to be disposed of as waste.
Is the natural asset base of our economies maintained?

- The information available to assess countries’ natural assets is incomplete and of varying quality. Progress has been made with the management of renewable natural resources in quantitative terms. Global fish production from marine capture has stabilised; the commercial use of forest resources shows a sustainable picture, and abstraction of renewable freshwater resources remains stable despite increasing demand.

- The overall pressure on natural resources however remains high, and important challenges remain regarding the quality of natural resources, the ecosystem services they provide and their integrated management. Biodiversity rich areas are declining and many ecosystems are being degraded. Threats to biodiversity are particularly high in countries with a high population density and where land use changes and infrastructure development lead to an increasing fragmentation of natural habitats. Many animal and plant species are endangered; one third of the world’s fish stocks are overexploited, and many forests are threatened by degradation, fragmentation and conversion to other land types. Pressures on water resources remain high; in some cases local water scarcity may constrain economic activity.

Do people benefit from environmental improvements?

- Most people in the OECD benefit from improved sanitation; almost 80% benefit from public wastewater treatment. Human exposure to air pollution from sulphur dioxides and particulates is decreasing. At the same time, ground-level ozone, nitrogen oxides and very fine particulates continue to affect human health. Estimates of the cost of air pollution in OECD countries show that the benefits of further pollution mitigation could be considerable. Challenges also remain regarding the upgrade of ageing water supply and sewage systems, and the access to efficient sewage treatment in small or isolated settlements.

Does greening growth generate economic opportunities?

- Country efforts to implement green growth policies by supporting new technologies and innovations, and using economic instruments are accelerating. Comparable information about the economic opportunities, in terms of jobs and competitiveness, arising from green growth policies however remains scarce. The dynamic aspects of green growth are difficult to capture statistically, and many measurement efforts have been focusing on “green activities” rather than the “green transformation” of the economy and global supply chains.

- Sectors producing environmental goods and services hold a growing (albeit modest) share of the economy. Public R&D spending dedicated to environment and energy efficiency has increased, as has the share of “green” patents. The use of environmentally related taxes is growing but remains limited compared to labour taxes. The share of support to farmers that exerts the greatest pressure on the environment has decreased, whilst the share that includes environmental requirements has grown.

- International financial flows that promote greener growth are evolving. While carbon markets shrank due to the financial crisis and reduced industrial output, new opportunities appeared in the field of clean energy, where international investment flows have surpassed investment in fossil fuel technology. New opportunities have also emerged with financial institutions issuing green bonds, and export credit agencies facilitating private investment in projects that undergo environmental impact assessments. Development aid for environmental purposes has continued to rise and aid for renewable energy surpassed aid for non-renewables.

- Much development still takes place at the margin though, and policies often lack coherence, thus undermining the transition to green growth. Countries continue to support fossil fuel production and consumption in many ways. And variations in energy tax rates, low levels of taxation on fuels with significant environmental impacts, and exemptions for fuel used in some sectors impede the transition to a low-carbon economy. Their reform provide important opportunities for countries to generate more tax revenue while achieving environmental goals more cost-effectively.