



OECD SECRETARIAT: INPUTS TO THE RIO+20 COMPILATION DOCUMENT

In the face of pressing economic and environmental challenges, efforts to promote green growth as a new source of growth have been gaining momentum in recent years. The Rio+20 Conference in June 2012 represents a critical milestone in terms of providing impetus to this dynamic, and ensuring that it advances countries' common aspirations towards sustainable development and poverty eradication.

The OECD is committed to supporting countries in reaching positive outcomes at Rio+20, and thereafter to implement emerging agreements. For any targets, goals or other commitments agreed at Rio+20, countries will need:

- cost-effective and politically implementable policy measures to achieve them;
- robust indicators and data to help track their progress;
- mechanisms to review progress and provide guidance on any necessary policy adjustments; and
- dedicated platforms and innovative ways to facilitate co-operation at the international level.

The OECD's analysis, indicators, country reports and policy recommendations provide a sound basis to support these efforts. OECD's contribution to Rio+20 will include a global *Environmental Outlook to 2050* and a range of analysis and policy guidance linked to the Green Growth Strategy. Together, these can help ascertain the implications of demographic and economic trends for four key areas of global concern – climate change, biodiversity, freshwater and the health impacts of environmental pollution – and to identify concrete ways in which green growth initiatives can address these to promote sustainable growth and well being.

The OECD sees green growth as a practical and flexible approach for accelerating progress in the economic and environmental pillars of sustainable development, while taking full account of the social consequences of greening the growth dynamic of economies. The focus of green growth strategies is ensuring that natural assets can deliver their full economic potential on a sustainable basis. That potential includes the provision of critical life support services – clean air and water, and the resilient biodiversity needed to support food production and human health.

There is no “one-size-fits-all” prescription for implementing green growth. Greening the growth path of an economy depends on policy and institutional settings, level of development, resource endowments and particular environmental pressure points. Advanced, emerging, and developing countries will face different challenges and opportunities. The OECD is working to identify some of the policy mixes that can help countries in different situations implement green growth in a way that contributes to poverty eradication, employment opportunities, and a strong and sustainable economy.

In May 2011, the OECD Green Growth Strategy¹ was welcomed by governments from over forty developed and emerging economies as a useful tool for expanding economic growth and job creation through the sustainable use of natural resources, efficiencies in the use of energy, and valuation of ecosystem services.

The **Green Growth Strategy** is a contribution to the Compilation Document. It identifies the sources of green growth and the policy frameworks needed, including for addressing the process of structural adjustment and facilitating employment opportunities. It provides insights on the key issues that will require enhanced international co-operation and the indicators that can help measure progress towards green growth objectives. This note provides details on the deliverables and background material of the some of the key areas of continued OECD work related to green growth, which can be used to inform specific issues raised in the Compilation Document.

¹ The Strategy consists of: a *Summary for Policymakers* (www.oecd.org/dataoecd/32/49/48012345.pdf), *Towards Green Growth* (www.oecd.org/dataoecd/37/34/48224539.pdf), *Tools for Delivering on Green Growth* (www.oecd.org/dataoecd/32/48/48012326.pdf), and *Towards Green Growth: Monitoring Progress - OECD Indicators* (www.oecd.org/dataoecd/37/33/48224574.pdf)

I. OECD Environmental Outlook to 2050

Over the last four decades, the world's population has increased by over 3 billion people, and the size of the world economy has more than tripled. This growth, however, has been unevenly distributed and incurred significant cost to the environment. Natural assets have been and continue to be depleted, and the services they deliver have already been compromised by environmental pollution. Providing for a further 2 billion people by 2050 and improving the living standards for all, will challenge our ability to manage and restore those natural assets on which all life depends. Failure to do so will have social consequences, especially for the poor, and ultimately undermine growth and human development of future generations.

The *OECD Environmental Outlook to 2050* focuses on four areas: climate change, biodiversity, water and the health impacts of pollution and asks "What could the next four decades bring us?" Based on model-based projections, it looks forward to the year 2050 to ascertain what demographic and economic trends might mean for the environment if humanity does not manage natural assets with much greater care, and examines how specific policy actions can help to shift these projections to a more sustainable course. Can the planet's resource base support ever-increasing demands for energy, food, water, wood products and other natural resources, and at the same time absorb our waste streams? Or will the growth process undermine itself? How can we balance the environmental, economic and social objectives and secure the life support systems on which all human development depends?

See: www.oecd.org/env/outlook

II. Selected areas of OECD work on green growth

Green growth country reports

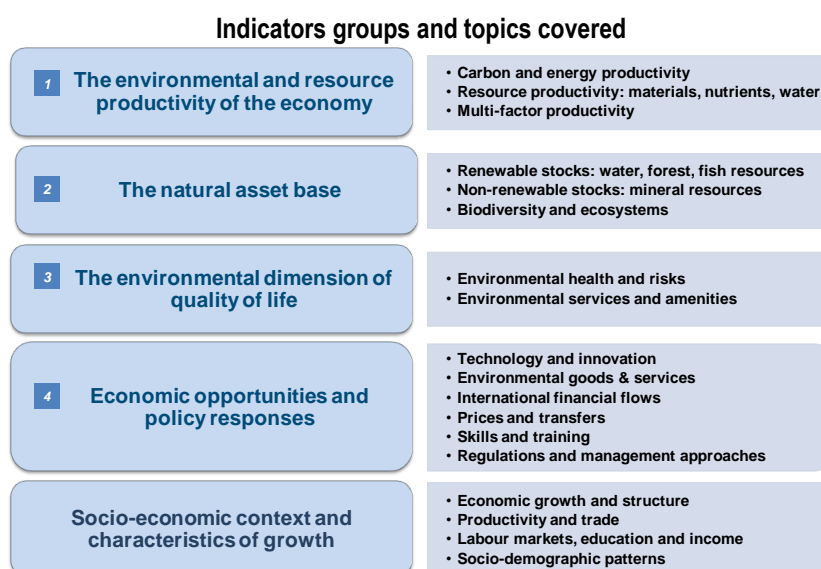
Building on the general framework developed in the Green Growth Strategy, the OECD is mainstreaming green growth in its national and multilateral policy surveillance exercises to provide policy advice that is targeted to the needs of individual countries. These include the Economic Surveys, Environmental Performance Reviews, Innovation Reviews, and Investment Policy Reviews, as well as the *Going for Growth* annual report and the Green Cities Programme. These analyses will cover advanced, emerging and other economies. Already a number of Economic Surveys and Environmental Performance Reviews have examined selected green growth issues, and can provide some first insights into countries' recent actions to green their economies, for example some recent ones include:

- OECD (2011), *OECD Economic Surveys: India 2011*, chapter on "Phasing out energy subsidies", OECD Publishing. www.oecd.org/document/36/0,3746,en_2649_33733_48079140_1_1_1_1,00.html
- OECD (2011), *Greening Public Budgets in Eastern Europe, Caucasus and Central Asia*, OECD Publishing. www.oecd.org/document/51/0,3746,en_2649_37465_48665971_1_1_1_1,37465,00.html
- Jones, R. S. and B. Yoo (2011), "Korea's Green Growth Strategy: Mitigating Climate Change and Developing New Growth Engines", OECD Economics Department Working Papers, No. 798, OECD Publishing. www.oecd-ilibrary.org/economics/korea-s-green-growth-strategy_5kmbhk4qh1ns-en
- Capozza, I. (2011), "Greening Growth in Japan", OECD Environment Working Papers, No. 28, OECD Publishing. www.oecd-ilibrary.org/environment/greening-growth-in-japan_5kggc0rpw55l-en
- Carey, D. (2010), "Implementing Cost-Effective Policies in the United States to Mitigate Climate Change", OECD Economics Department Working Papers, No. 807, OECD Publishing. [www.oecd.org/officialdocuments/displaydocumentpdf/?cote=eco/wkp\(2010\)63&doclanguage=en](http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=eco/wkp(2010)63&doclanguage=en)
- OECD (2010), *OECD Economic Surveys: Australia 2010*, including a focus on water management, OECD Publishing. http://www.oecd.org/document/37/0,3746,en_2649_34569_46255013_1_1_1_1,00.html
- OECD work on Green Cities: www.oecd.org/greencities

Green growth indicators and measurement tools

Developing and implementing framework conditions that promote green growth requires a good understanding of the determinants of green growth and of related trade-offs or synergies. It also requires appropriate information to support policy analysis and to monitor progress.

Monitoring progress towards green growth requires indicators based on internationally comparable data. The report *Towards Green Growth: Monitoring Progress - OECD Indicators* (www.oecd.org/dataoecd/37/33/48224574.pdf) proposes a preliminary set of twenty-five indicators on the basis of existing work in international organisations, and in OECD and partner countries. The proposed set is neither exhaustive nor final, and has been kept flexible so that countries can **adapt it to different national contexts**. It has been structured to capture the main features of green growth:



In the coming years, the OECD will work with countries to advance the green growth measurement agenda, fill some of the most important information gaps, and contribute to the implementation of the System of Environmental and Economic Accounting (SEEA) in areas relevant to green growth. The aim is to:

- Fill gaps in environmental-economic data at the **industry level**.
- Develop and improve the physical data for key stocks and flows of **natural assets**, including information on **land resources and non-energy mineral resources** that often constitute critical inputs into production.
- Further develop physical data to help improve **material flow analyses**.
- Improve information on **biodiversity**.
- Develop **monetary values** to reflect prices and quantities for (changes in) key stocks and flows of natural assets. Such valuations, even if incomplete and imperfect are required for **extended growth accounting models**, more comprehensive balance sheets and for adjusted measures of real income.
- Produce information on how environmental concerns trigger **innovation** in companies.
- Develop indicators on **environmental regulation** to complement indicators on economic instruments.
- Improve measures on both the objective and the subjective dimensions of **quality of life**, in particular measures of environmentally induced health problems and related costs; and public perceptions.
- Identify a small set of '**headline**' indicators to track central elements of green growth and which are representative of a broader set of green growth issues.

Further information and key documents:

- Environmental Statistics and Indicators: www.oecd.org/env/indicators
- Measuring Progress in Societies: www.oecd.org/progress
- Measuring sustainable development, UNECE, OECD, Eurostat (2009): www.oecd.org/dataoecd/30/20/41414440.pdf
- Measuring the Relationship between ICT and the Environment (2009): www.oecd.org/dataoecd/32/50/43539507.pdf
- Sustainable Manufacturing Toolkit (2011): www.oecd.org/innovation/green/toolkit

Green Growth and Developing Countries

To realise global sustainable development, the collective efforts of all nations are needed. Developing countries are particularly important in meeting this objective because these countries will increasingly be sources of economic and population growth, and this will be accompanied by new pressures on the environment and natural resources. Given the importance of natural assets in low-income economies, green growth can help foster more resilient economic growth and better livelihoods for the poor.

OECD is exploring how green growth strategies can be applied in the context of developing countries, taking into account differences in natural resource endowments, levels of socio-economic development, sources of economic growth, and institutional capacity. A preliminary report on **Green Growth and Developing Countries** will be part of OECD's contribution to the Rio+20 Conference in June 2012. It will identify promising areas in which green growth objectives could be achieved and the policies, regulations, technology transfer and new market and innovation opportunities that could help to deliver them. The report will recognise the importance of international co-operation and the mutual benefits between the advanced and developing economies in striving for greener growth.

OECD countries make up the main donor countries, and have been working with partner countries to identify **how development assistance can best support sustainable development**. The OECD has been tracking aid for environmental purposes for over a decade. It has used "Rio-markers" to track international public finance flows that support the Rio Conventions on biodiversity, desertification, and climate change. At the same time, OECD also collects data on aid flows to key sectors related to green growth and sustainable development such as energy, water, agriculture and forestry. Forthcoming OECD work in early 2012 includes comprehensive guidance on capacity development for environmental management. It consists of recommendations to help build the necessary capacity for implementing green development policies and facilitating environmental governance, finance and planning in both developing countries and by development support providers.

Further information and key documents:

- OECD 2012(forthcoming) *Greening Development: Capacity Development for Environmental Management* www.oecd.org/document/39/0,3746,en_2649_34421_40859367_1_1_1_1,00.html
- Statistics on Environmental Aid: www.oecd.org/document/59/0,3746,en_2649_34421_46670203_1_1_1_1,00.html
- OECD (2009), *Integrating Adaptation to Climate Change into Development Co-operation: Policy Guidance* www.oecd.org/env/cc/adaptation/guidance
- OECD (2008), *Natural Resources and Pro-poor Growth: The Economics and Politics* <http://www.oecd.org/dataoecd/61/43/42440224.pdf>
- OECD (2005), *Environmental Fiscal Reform for Poverty Reduction* www.oecd.org/dataoecd/14/25/34996292.pdf

Innovation and technology transfer

Innovation is key to green growth. It helps decouple growth from natural capital depletion and contributes to economic growth and job creation. Business is the driver of innovation, but governments need to provide clear and stable market signals, for example through carbon pricing. Recent OECD work explores policy actions for the deployment and transfer of new technologies and innovations as they emerge. Some of the key findings include:

- **Investing in energy and environmental R&D is not enough.** Only a small share of the key green growth inventions emerge from energy or environmental R&D. R&D in fields such as chemistry, material sciences and engineering are also important sources of scientific research for green technologies.
- **Carbon and resource prices are essential to stimulate green innovation.** Putting a price on carbon is critical for incremental improvements to clean tech and the take up of low-carbon technologies, but it will not necessarily lead to breakthrough innovations. Public and private investment in research is also needed, including in emerging and developing economies that may need to adapt existing technologies to their own local context.
- **Emerging and developing economies have opportunities to leapfrog, e.g. by an effective use of ICT.** ICT offers important opportunities for greening growth in countries that are still developing their infrastructure, e.g. in integrating ICT in electric grid systems, and in using ICT to enhance access to information and markets.
- **Not all policies for green innovation cost money.** Removing regulatory barriers to the growth of new firms can help spur entrepreneurship and generate new business models that challenge incumbent firms. OECD's work on innovation has found that young firms account for a large share of patenting.
- **A key factor in facilitating technology transfer is the absorptive capacity in recipient countries.** The higher the level of domestic human capital, the higher the level of technology transfer as well as the positive local spillovers from trade and foreign direct investment. This illustrates the importance of long-term capacity building and education in technical and scientific areas.
- **Technology-neutral domestic policy regimes and international policy co-ordination are important factors for increasing the flow of technologies across borders.** If environmental policy is too prescriptive and un-co-ordinated this can result in fragmented technology markets, with the potential market for the innovations induced split across different policy jurisdictions.
- To accelerate the diffusion of innovation, **new mechanisms for enhancing technology transfer to developing countries** are currently being explored e.g. voluntary patent pools and other collaborative mechanisms for leveraging intellectual property. Some good practice already exists but significant scale-up is required. Governments need to underpin such new mechanisms by supporting investments in the required knowledge networking infrastructure, fostering the sharing of public-sector knowledge, and developing guidance and soft rules to underpin these mechanisms.

Further information and key documents:

- OECD (2011), *Fostering Innovation for Green Growth*
www.oecd.org/document/3/0,3746,en_2649_37465_48593219_1_1_1_37465,00.html
- OECD (2011), *Invention and Transfer of Environmental Technologies*
www.oecd.org/document/28/0,3746,en_2649_37465_48792476_1_1_1_37465,00.html
- OECD (2010), *Eco-Innovation in Industry: Enabling Green Growth*
www.oecd.org/document/34/0,3746,en_2649_37465_44416162_1_1_1_37465,00.html

Ensuring freedom of investment for green growth and preventing protectionism

International investment is a vital source of finance and a powerful vector of innovation and technology transfer as countries seek to promote green growth. Work at the OECD on "Harnessing Freedom of Investment for Green Growth" addresses how the international investment policy community can help countries achieve green growth. It underscores the importance of continued monitoring by governments of their investment treaty practices with regard to environmental goals. It is also important that new environmental measures observe key international law principles such as non-discrimination (creating a level playing field for domestic and international investors). International investment arbitration is assuming a growing role in resolving disputes involving environmental issues, placing special responsibility on the investment policy community to ensure the integrity and competence of arbitral tribunals and to improve their transparency.

The Freedom of Investment Roundtable (FOI)² hosted at the OECD also addresses concerns expressed by some countries that investment could be affected if the green growth policy agenda were captured by protectionist interests. However, to date, none of the 42 OECD and emerging economies that report regularly to the Roundtable about investment measures have reported overt discrimination against non-resident or foreign investors in relation to environmental policy. Nonetheless, vigilance is encouraged. Environmental policy measures that appear to be neutral may potentially involve de facto discrimination or create barriers to trade which constrain development. Some environment-related state aids (such as grants, loan guarantees or capital injections for individual firms), may potentially pose risks to competition. The FOI Roundtable will continue to monitor investment measures to ensure that they are not used as disguised protectionism.

Further information and key documents:

- OECD (2011), *Harnessing Freedom of Investment for Green Growth*
www.oecd.org/document/0/0,3746,en_2649_34887_47721600_1_1_1_1,00.html.
- OECD (2011), "Defining and Measuring Green FDI: an Exploratory Review of Existing Work and Evidence", OECD Working Paper on International Investment No. 2011/2
www.oecd.org/dataoecd/26/8/48171454.pdf
- OECD (2010), *Transition to a low-carbon economy: public goals and corporate practices*,
www.oecd-ilibrary.org/finance-and-investment/transition-to-a-low-carbon-economy_9789264090231-en.

Green growth sectoral studies: energy, food and agriculture, water

It is important to understand the implications of green growth for key sectors and themes such as energy, food and agriculture, and water. The key message from OECD sector-specific work to date is that, over the longer term, greening these sectors can reinforce environmental sustainability, economic growth and social well-being. Indeed, green growth is essential to meet the energy, food and nutrition, and water and sanitation requirements of future generations. Some of the priority areas where coherent action is required include:

- **Increase productivity in a sustainable way.** If resources are used more efficiently throughout the supply chain, production can be increased to meet the demands of an expanding population with changing dietary and consumption habits while natural resources are used sustainably and natural capital is conserved. Higher priority needs to be given to research, development, innovation, education and information.

² The OECD-hosted Freedom of Investment Roundtable is an intergovernmental forum that brings together OECD member and non-member governments from around the globe at regular meetings. It helps governments design better policies to reconcile openness to international investment with legitimate regulation in the public interest.

- **Ensure that well functioning markets provide the right signals.** Prices that reflect the scarcity value of natural resources will contribute to greater efficiency. Economically inefficient and environmentally harmful subsidies should be phased-out. The Polluter Pays Principle needs to be enforced through charges and regulations. Incentives should be provided for maintaining biodiversity and environmental services.
- **Establish and enforce well-defined property rights.** Over-exploitation can result when marine resources, land and forests lack clearly defined rights and ownership.
- **Address the political economy of reform.** Ensuring involvement by all relevant stakeholders and phasing-in policy reforms will be important for successful implementation. Addressing the distributional and competitiveness aspects of policy reform to meet green growth objectives is essential. A multi-level approach integrating international, national and local decision-makers and stakeholders can help identify challenges and formulate coherent policy responses.

Further information and key documents:

- OECD, IEA (2011, forthcoming), *Green Growth Studies: Energy (Preliminary Report)*
http://www.oecd.org/document/38/0,3746,en_2649_37465_48469158_1_1_1_37465,00.html
- OECD (2011), *A Green Growth Strategy for Food and Agriculture: Preliminary Report*
www.oecd.org/dataoecd/38/10/48224529.pdf
- OECD work on green growth for food, agriculture and fisheries:
www.oecd.org/agriculture/greengrowth
- OECD (2011), *Meeting the Challenge of Financing Water and Sanitation: Tools and Approaches*, OECD Studies on Water, OECD Publishing.
www.oecd.org/document/31/0,3746,en_2649_37465_48911647_1_1_1_37465,00.html
- OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Studies on Water, OECD Publishing.
www.oecd.org/document/13/0,3746,en_2649_37465_48896205_1_1_1_37465,00.html
- OECD work on Water:
www.oecd.org/water

Green Growth Knowledge Platform

The Green Growth Knowledge Platform (GGKP) embodies a core partnership between the Global Green Growth Institute, OECD, UNEP, and the World Bank. The GGKP's mission is (i) to enhance and expand efforts to identify and address major knowledge gaps in green growth theory and practice, and (ii) to help countries design and implement green growth policy.



The GGKP aims to foster global network of researchers and development experts that identifies and addresses major knowledge gaps in green growth theory and practice. Through widespread consultation and world-class research, GGKP provides practitioners and policymakers with better tools to foster economic growth and implement sustainable development.

For further information: www.greengrowthknowledge.org



For more information on the OECD Green Growth Strategy, see: www.oecd.org/greengrowth

or email: greengrowth@oecd.org

Green Growth Strategy

International Green Growth Dialogue (IGGD)

Join the discussion on the secure website: <https://community.oecd.org/community/greengrowth>

To register, please email your contact details to: greengrowth@oecd.org. Registered users will receive a regular newsletter on green growth topics.