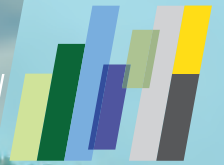


Environmental
Performance Reviews



Colombia

HIGHLIGHTS

2014



OECD
BETTER POLICIES FOR BETTER LIVES



UNITED NATIONS
ECLAC

Environmental Performance Reviews

What are EPRs?

The OECD conducts in-depth assessments of the environmental policies and programmes of selected OECD and key partner countries. These Environmental Performance Reviews (EPRs) identify good practice and make recommendations to strengthen the reviewed countries' policies and instruments for promoting green growth. They are conducted through a peer review process which involves countries assessing each other as equals.

The EPRs are based on national and international data and make wide use of economic analysis. Since work began in 1992, over 70 EPRs of OECD member and partner countries have been conducted.

WHY AN EPR OF COLOMBIA?

This is the first OECD review of Colombia's environmental performance. It has been prepared at the request of Colombia and in co-operation with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC). It aims to provide Colombian policy makers with a wide-ranging assessment of environmental conditions and policies to help inform the preparation of the 2014-18 National Development Plan. It will also provide a sound basis for the discussions on Colombia joining the OECD. The review involved a constructive and mutually beneficial policy dialogue between Colombia and the countries participating in the OECD Working Party on Environmental Performance. The main report presents 45 recommendations. These highlights summarise the main findings, with a special emphasis on:

- **Green growth**
- **Environmental governance**
- **Biodiversity**
- **Mining**



“Colombia needs to steer its economic development in a direction that is more environmentally sustainable and socially equitable.”

Alicia Bárcena, ECLAC Executive Secretary
Angel Gurría, OECD Secretary-General

Overview

Colombia has enjoyed impressive economic growth in recent years, but it remains one of the world's most unequal countries. Its rich biodiversity and ecosystems are coming under significant pressure from extractive industries, livestock grazing, road traffic and urbanisation. Internal armed conflict has undermined the rule of law, exacerbated many environmental pressures (mainly from illegal mining, cultivation of illicit drug crops and deforestation), and restricted access to protected areas and the management of natural resources. Until recently, environmental policies and institutions failed to keep pace with these pressures, and in some cases have been weakened. The serious economic and social damage caused by the extreme weather linked to La Niña in 2010-11 has prompted a strengthening of environmental governance. Colombia's desire to become a member of the OECD is also reinforcing the need to bring environmental policies and institutions in line with good international practices.

OPPORTUNITIES

- **The world's second most biodiverse country, with forest covering more than half the territory.**
- **Abundant water and improved access to water services.**
- **Low CO₂ emissions from fuel combustion per unit of GDP due to heavy reliance on hydropower.**
- **Potential to convert resources from well-managed minerals, metals and fossil fuels into infrastructure investment.**

CHALLENGES

- **Extensive cattle farming, contributing to land degradation, deforestation and greenhouse gas emissions.**
- **Poorly-regulated extractive industries, damaging human health and the environment.**
- **Climate change vulnerability, bringing significant economic, environmental and social costs.**
- **Poor environmental integration within the national policy framework.**
- **Wide disparities in income, landholdings and access to environmental services.**

COLOMBIA 2012

Population

46.6 million

GDP/capita, purchasing power parity

USD 10 700, less than one-third of the OECD average

Area

1.1 million km²

Population density

40.8 inhabitants/km²
(OECD average is 34.5)

Currency

USD 1.00 = COP 1 798

Core policy objectives for Colombia

"Aware of our great environmental wealth, while vulnerable to climate change, today I come to renew the commitment of my country, Colombia, to advance in the Sustainable Development Goals."

PRESIDENT JUAN MANUEL SANTOS, Rio+20 conference, 21 June 2012.

Green growth indicators | Colombia



The OECD has developed a set of green growth indicators and these are used to evaluate countries as part of their Environmental Performance Review: (1) the environmental and resource productivity of the economy; (2) the natural asset base; and (3) the environmental dimension of quality of life. These have been assessed for Colombia using national and international data.

ENVIRONMENTAL AND RESOURCE PRODUCTIVITY OF THE ECONOMY

- Colombia is endowed with abundant minerals, metals and fossil fuels. It is the largest coal producer in Latin America. Fossil fuels account for a third, and growing share, of domestic extraction of raw materials. They are mostly exported.
- CO₂ emissions from fuel combustion per unit of GDP are low, due to Colombia's heavy reliance on hydropower. They are expected to rise, however, as transport and the generation of electricity from fossil fuels increase.
- Transport, mainly by road, is already the largest consumer of energy and the largest source of CO₂ emissions from fuel combustion.
- While Colombia has low GHG emissions per capita and contributes only 0.4% of global emissions, emissions per unit of GDP are above the OECD average. This is linked to the high share of GHG emissions generated by agriculture: 35 % compared to the OECD average of 7% (Figure 1).
- GHG emissions could increase by 50% by 2020 compared to 2000, without taking account of deforestation, which remains a large source of emissions.
- Municipal waste generation per person is less than half the OECD average, but most waste is landfilled and 30% of sites do not comply with environmental standards.

Figure 1: Colombia's greenhouse gas and CO₂ emissions

Source: OECD-IEA (2013), IEA CO₂ Emissions from Fuel Combustion Statistics (database).

a) Partial estimate excluding emissions from LUCF and from solvent use. The IEA estimate for total GHG emissions includes an "other" category including emissions from forest fires and from decomposition of aboveground biomass that remains after logging and deforestation which is not shown here because of data uncertainty.

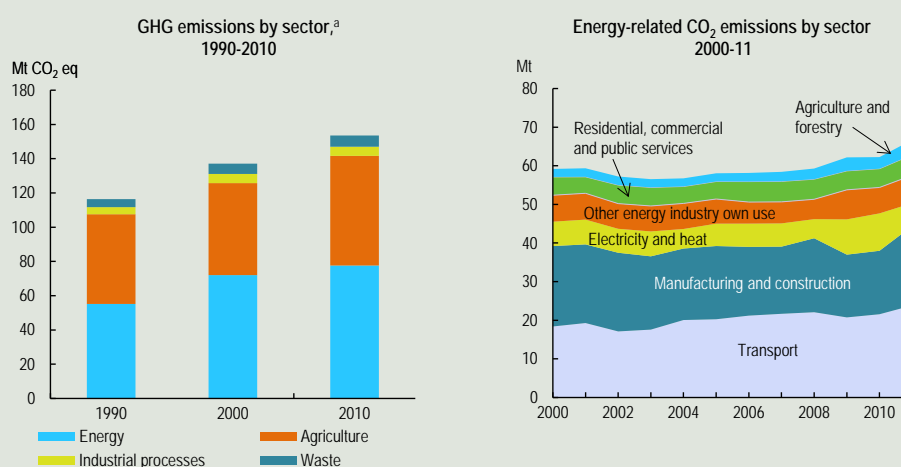
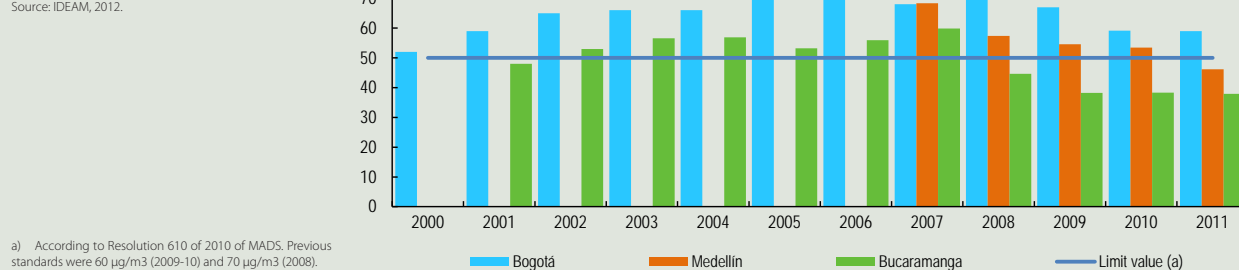


Figure 2: Particulate matter concentration in three cities

Source: IDEAM, 2012.



a) According to Resolution 610 of 2010 of MADS. Previous standards were 60 µg/m³ (2009-10) and 70 µg/m³ (2008).



NATURAL ASSETS

- Colombia is one of the world's mega-diverse countries; forests cover nearly 55% of the land area, significantly higher than the OECD average of 30%.
- Deforestation, mainly through conversion to pasture, has had a major impact on Colombia's Amazonian, Caribbean and, more recently, Andean regions.
- Marine and coastal areas make up nearly half of Colombia's territory. They include a rich variety of marine ecosystems that require international co-operation for effective management.
- Colombia considers that protected areas cover about 12% of terrestrial areas and 9% of marine areas. However, the latter estimate is higher than assessments that use International Union for Conservation of Nature criteria. It also includes an area which has been the subject of an international dispute. The government is committed to increasing terrestrial and marine protected areas to 17% and 10% by 2020 respectively, in line with the Aichi biodiversity targets.
- Despite abundant freshwater resources, a mismatch between population concentration and water availability means that more than one-third of the urban population lives in areas under moderate to high water stress.

THE ENVIRONMENTAL QUALITY OF LIFE

- Inequality, poverty and poor access to environment services are strongly linked. Colombia is close to achieving the Millennium Development Goal (MDG) on access to safe drinking water, but it still needs an estimated USD 1.7 billion to reach the MDG goals on sanitation. There are still large disparities in access to water services between urban and rural areas.
- Every year the health costs related to poor air and water quality are equivalent to 2% of GDP. These costs would be higher if estimates took account of the health impact of Colombia's high use of mercury and other hazardous chemicals in the mining sector.
- Urban air pollution is a serious problem for human health and the economy. Particulate matter (PM₁₀) concentrations in major cities have fallen (Figure 2), but urban air pollution control measures are outweighed by growing emissions, particularly from transport.
- One-fifth of Colombia's territory, 85% of the population and 87% of GDP are at risk from natural disasters.

Policies for green growth



Colombia's impressive economic growth is largely driven by a boom in commodity prices and better security. It now faces the challenge of ensuring that growth is socially equitable and environmentally sustainable. The inclusion of a chapter on environmental sustainability and risk prevention in the National Development Plan (PND) for 2010-14 was an important step forward, as was the country's adherence to the OECD Green Growth Declaration. But despite these initiatives, the country still lacks a coherent green growth policy framework. There is poor co-ordination between economic sectoral plans and environmental goals, and economic sectors are not accountable for their environmental performance.

INVESTING TO PROMOTE GREEN GROWTH

Public expenditure on water and sanitation has more than doubled in the past decade, and access to these services is better. However, significantly more investment is needed to prevent and control pollution, and to provide the environmental infrastructure that citizens require to be productive and healthy. The capacity and quality of public mass transport in cities also need to be significantly enhanced.

Despite recent increases, public investment is lower than in other emerging economies. Public investment programmes could do more to include environmental considerations, and to facilitate the engagement of the private sector. Royalties from exploitation of non-renewable resources have traditionally been an important source of funding for environmental investment in Colombia. A recent reform of the royalty system is expected to increase resources for infrastructure development and to distribute revenue more equitably across regions. However, this will need to be matched by strengthened institutional capacity of regional authorities.

Colombia has recognised the need to substantially strengthen innovation. Expenditure on R&D is set to rise, in part funded by an increased allocation from royalty

revenue, but will remain considerably lower than in most OECD countries. Colombia should take this opportunity to mainstream green growth into its innovation strategy, building on existing green public procurement and eco-labelling initiatives.

GREEN TAX REFORM

Revenue from environmentally-related taxes is low, contributing 0.7% of GDP and 3.7% of total tax revenue in 2011 (Figure 3). Many exemptions and preferential tax treatments continue to limit the transport fuel tax base, reduce potential revenue and inhibit incentives to reduce energy use. There are opportunities to strengthen green taxes as part of a much-needed, comprehensive fiscal reform.

Transport fuel prices and taxes do not take into account the environmental impact of fuel use. Lower taxes on diesel than petrol have seen demand for the more environmentally-damaging diesel more than double over the past decade. The government's tax take from natural resource extraction could be increased and used to finance priority public expenditures. Despite their negative environmental impacts (see page 14), the oil and mining industries still benefit from favourable tax and royalty treatment.

A HIGH VULNERABILITY TO CLIMATE CHANGE

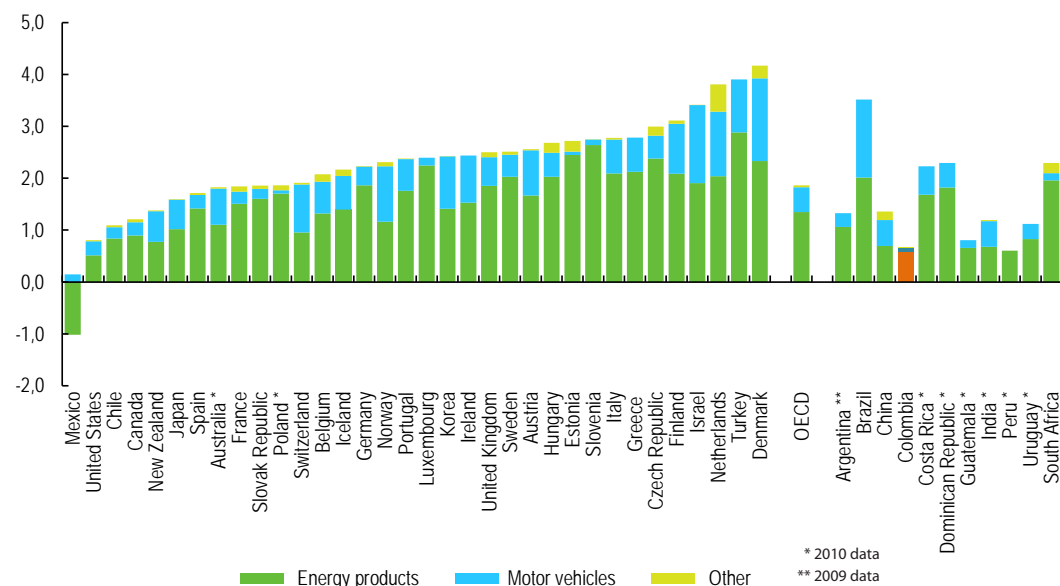
- Colombia is highly vulnerable to climate change. The Caribbean and Andes regions are projected to **shift from a semi-humid to semi-arid climate** over the course of this century. Impacts in the Andes are particularly worrying, as 75% of the Colombian population lives in this region, and run off from the mountains is an essential source of water for domestic and industrial consumption, irrigation and hydropower.
- Colombia's vulnerability to extreme weather events is strongly influenced by **deforestation**, slash-and-burn agriculture, artificial drainage of wetlands, changes of natural river courses and building of human settlements in areas at risk of floods or landslides.
- In the wake of the 2010-11 La Niña event, several new cross-government initiatives aim to **integrate climate change and disaster risk management into broader economic policymaking**. Related institutions are being developed. The last National Development Plan called for the preparation of a national adaptation plan, a low-carbon strategy including emission reduction from deforestation and implemented sectoral mitigation plans by 2014.

Figure 3:

Revenue from green taxes

% GDP

OECD countries and selected non-member economies, 2011



SUBSIDY REFORM

Removing Colombia's environmentally damaging subsidies would save money, generate resources for investment, and provide better incentives to use resources efficiently. Colombia has made progress in reducing transport fuel subsidies, which fell from about 1 to 0.3% of GDP between 2008 and 2011.

Subsidised prices for electricity and gas, water and waste aim to keep prices low for poor households. However, only a small share of the subsidies reaches the poor, and they undermine incentives for efficient resource use and waste minimisation. User charges do not cover the cost of service provision which threatens the financial sustainability of utilities.

The adverse environmental impacts of cattle ranching are reinforced by agricultural subsidies. The exemption of agrochemicals from VAT generates both fiscal and environmental costs: Colombia has one of the highest rates of fertiliser use in Latin America, with 70% of the nitrogen applied wasted. Low irrigation charges give farmers virtually no incentive to use water efficiently.

Next steps | towards green growth

- **Make green growth central** to the 2014-18 National Development Plan.
- **Make sectoral ministries accountable** for the environmental impacts of their policies.
- Subject major programmes and projects to **systematic strategic environmental assessment**.
- **Increase the use of environmentally related taxes**, and phase out environmentally harmful subsidies and tax expenditures, while mitigating any adverse impacts on poor and vulnerable groups.
- **Scale up mass transit systems significantly to reduce health and economic costs.**
- **Ensure that fuel taxes reflect their energy content** or their impact on GHG emissions and local air pollution.
- **Reform the water service pricing system** to help finance expanded access, to promote water-use efficiency, and to better target support to those in need.



Case studies

PAYING FOR ECOSYSTEM SERVICES The *páramo* (high Andean moorland) is a habitat with high biodiversity value. It is also the source of valuable ecosystem services, particularly in regulating the hydrological cycle (quantity and quality of water). It is estimated that **70% of the Colombian population's water supply originates from upland areas like Chingaza National Park**, which protects a large area of páramo habitat. Payments by the Bogotá water utility to the Chingaza National Park help to protect this habitat and thereby to secure most of the supply of good quality drinking water to Bogotá (home to 8 million people), as well as some of the water supply for the country's hydropower generation.

LIVELIHOODS BUILT ON DIVERSITY

Colombia has pioneered a sustainable biotrade programme called *Biocomercio Sostenible*. It provides technical assistance to help rural communities and medium-sized enterprises earn a living from local biodiversity such as Amazonian fruit, honey and its derivatives, and flora and fauna (e.g. caiman leather and meat, flowers...). According to the Humboldt Institute, **the Colombian market in bio-trade products is estimated to be worth USD 25 million a year**. Even so, and despite legal safeguards for fair and equitable sharing from the use of genetic resources, there is still room for growth as the size of the sector is much lower than in other Latin American countries.



FINANCING MARINE PROTECTED AREAS

Colombia is a regional and global leader in establishing marine parks and sanctuaries. Coralina (the Corporation for the Sustainable Development of the Archipelago of San Andrés, Old Providence and Santa Catalina) was awarded top honours at the 2010 Nagoya meeting of parties to the Convention on Biological Diversity for the establishment of the Seaflower Biosphere Reserve and marine protected areas. The reserve is piloting the use of **entrance fees to create a trust fund** over five years that could finance conservation activities. The implementation plan also involves a process of dialogue and advocacy led by Coralina with relevant stakeholders, including those in the tourism sector.

ALTERNATIVES TO MERCURY

Mercury is widely used in artisanal and small-scale gold mining. Colombia's mining towns in the Antioquia department record the world's highest levels of per capita mercury pollution. The United Nations Industrial Development Organization (UNIDO) has been working with stakeholders in artisanal gold and small-scale gold mining areas to develop cleaner technologies that reduce the use of mercury. These relatively small projects have shown that **the use of alternative technologies can help reduce mercury use by up to 48%**; the use of simple retorts during the heating of the amalgamated ore can allow 15% of the mercury to be recovered. The adoption in July 2013 of Law 1658 to reduce and eliminate mercury use is an important step. It aims to phase out the use of mercury in all production processes within ten years and in mining within five years.



CLEANING UP INDUSTRY

Colombia uses significant amounts of domestically produced and imported chemicals. It needs a robust policy framework that ensures chemicals' safe use throughout their life cycle. The National Centre for Cleaner Production and Environmental Technology has established alliances with 35 public and private sector institutions, worked with over 1 400 companies and trained over 12 000 people in **cleaner production techniques to reduce GHG emissions and to promote green chemistry**. Success stories include the reduced use of chemicals through chemical leasing.

PROMOTING FORMALISATION OF RECYCLERS

Informal recycling is an important feature of Colombia's municipal waste management system. The recycling of paper and cardboard, plastics and metals relies upon the collection efforts of an estimated 26 000 informal and independent recyclers (recicladores). In Bogotá alone, some 14 000 people rely on informal recycling for their livelihoods. **Informal recyclers account for an estimated 55% of all recycled municipal waste** and help overcome the lack of waste separation at source in Colombian cities and towns. In March 2013, for the first time, waste pickers became formally recognised as providers of a public service and were paid for their services. Bogotá's government pays them USD 49 per tonne of recyclable solid waste that they collect and transport to any of the 141 authorised scrap dealers.



In-depth | governing the environment



Despite having some of the key policy and institutional elements required for a modern, decentralised environmental management system, Colombia's environmental institutions were largely overwhelmed by environmental pressures in the first decade of the XXIst century. A re-established and stronger Ministry of Environment and Sustainable Development (MADS), and a new National Environmental Licensing Authority (ANLA), should help to redress this imbalance. However, much remains to be done to strengthen environmental governance at all levels, to improve environmental information and to enhance public participation in decision making.

OPPORTUNITIES

Environmental sustainability is a national goal.

Colombia's 2010-14 national development plan (PND) includes concrete targets and measures to promote environmental sustainability and risk prevention, and to improve the environmental quality of life.

A dedicated ministry for environment and sustainable development. This is an improvement on 2002, when environment was subsumed, and subsequently sidelined, by housing and territorial development policy. The new ministry (MADS) set up in 2011 provides a broad framework for the key areas of environmental policy, backed-up by the new regulatory authority, the National Environmental Licensing Authority, ANLA (Figure 4).

A comprehensive, performance-oriented system of environmental information. The quality and coverage of environmental information have improved. The Institute for Hydrology, Meteorology and Environmental Studies co-ordinates the efforts of four other research institutes in compiling and analysing environmental information. However, challenges remain in developing environmental data and strengthening the links between environmental, health and economic information to better support policy making (see page 13).

A proactive approach to international environmental objectives. This new approach has enabled Colombia to better link donor assistance with domestic environmental priorities, and to show impressive leadership in certain international areas, for example its championing of the Sustainable Development Goals at the Rio+20 conference.



CHALLENGES

Poor co-ordination and capacity among environmental organisations. The 33 Autonomous Regional Corporations (CARs) that are responsible for implementing environmental policies at the regional level are subject to few accountability constraints and controls, vulnerable to capture by local interests and under-financed. These weaknesses hinder the development of the national environmental information system, the implementation of environmental impact assessment (EIA) and licensing procedures. They undermine a consistent approach to environmental enforcement.

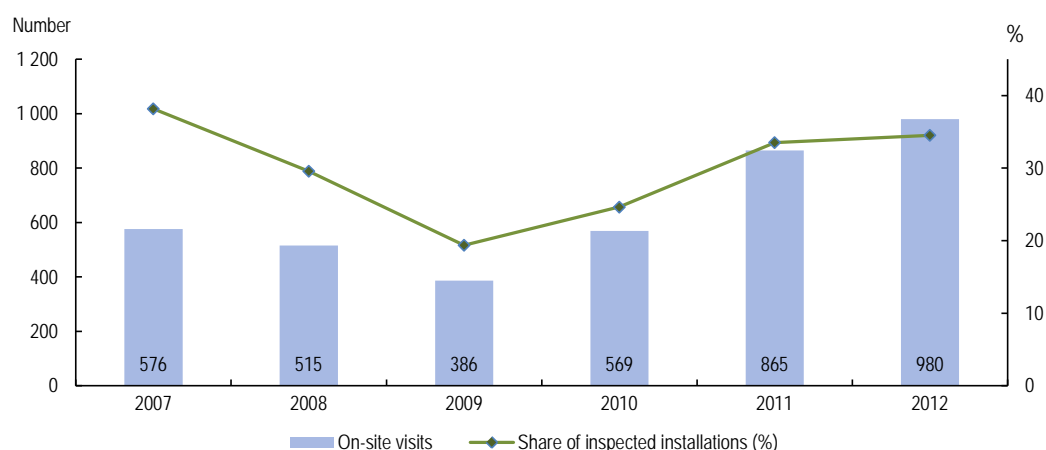
Low public spending on the environment. Colombia's environmental spending (excluding water supply) is relatively low and has not kept pace with overall trends in public spending. Public environmental protection expenditure was only 0.5% of GDP in 2010. This is still far below average levels in OECD countries when they were

at a similar stage of development, and is not enough for environmental authorities to carry out their functions properly.

A complex array of instruments and directives. This leads to incoherent policy requirements and uncertainty for enterprises. One example is the raft of conflicting legislation issued by the ministries of environment and ministry of mining, which has contributed to widespread non-compliance with environment-related licences. There are also gaps, such as the lack of an overarching legal framework for waste management to provide a comprehensive and consistent guide for action.

High levels of environmental non-compliance, such as with regulations concerning air emissions and wastewater discharges and water abstraction, illegal logging and mining linked with the armed conflict. All of this tends to undermine the rule of law in the environment sector.

Figure 4: More environmental inspections
by ANLA, the National Environmental Licensing Authority
Source : ANLA (2013),
Informe de Gestión 2012.



Next steps | environmental governance

- **Reinforce the role of MADS** as the main body for directing and overseeing the national environmental management system and for directing the work of Autonomous Regional Corporations.
- **Consolidate and streamline environmental laws** and regulations and align them with good international practices.
- **Eliminate overlapping and inconsistent environmental requirements** in other sectors, particularly extractive industries, energy and agriculture.
- **Promote public participation** in the environmental impact assessment process.
- **Strengthen the environmental information base,** ensuring the link with health and economic data.

In-depth | biodiversity



Colombia is considered the second most biodiverse country in the world. Much of the biodiversity resides in forests, which cover more than half the territory, considerably more than in most OECD countries. Colombia also has rich biodiversity in its coastal and marine areas. However, the threats to biodiversity come from many quarters, ranging from agriculture, infrastructure and extractive industries to pollution, climate change and invasive species.

OPPORTUNITIES

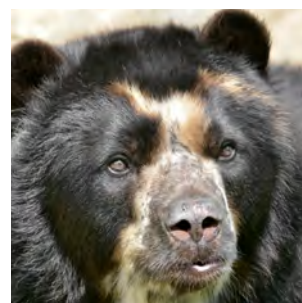
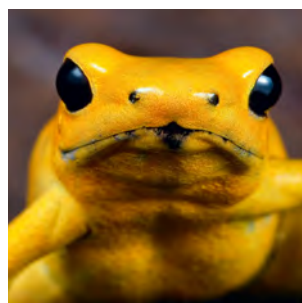
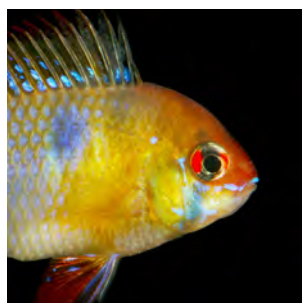
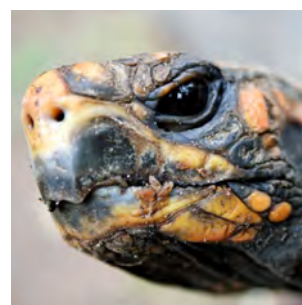
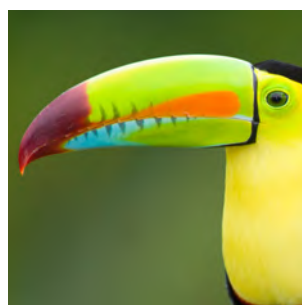
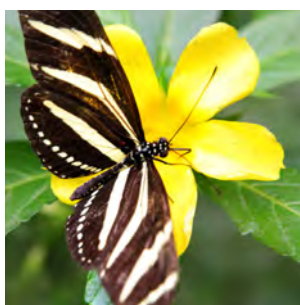
Biodiversity of global significance. Colombia sits at the confluence of the tropical Andes and Chocó biodiversity hotspots, with the tropical Andes considered perhaps the “hottest hot spot” in the world. It is one of the top four countries globally for species diversity and has a greater variety of ecosystems represented within its borders than any other country.

Better protection. Between 2010 and 2013, 2.4 million ha of land have been added to the protected area system. Colombia is committed to reaching the Aichi target of 17% terrestrial area and 10% marine area under protection by 2020, which will require a major effort. With more than one-quarter of the total protected area in indigenous reservations or collective territories, equitable benefit sharing between indigenous

people and companies seeking to exploit biodiversity and genetic resources is an important issue in Colombia.

A strengthened management framework. The integration of biodiversity into the 2010-14 PND and the adoption of a National Policy for the Integral Management of Biodiversity and Ecosystem Services in 2012 are important steps towards an effective framework for the conservation and sustainable use of biodiversity.

Strong legal basis for payments for ecosystem services (PES). Colombia has gained notable experience with PES and PES-like programmes (see case study on page 8). The legal basis for PES was extended in 2007, giving MADS responsibility for developing economic and financial tools to achieve Colombia's biodiversity objectives, including a PES system.



CHALLENGES

Habitat loss. 30% to 50% of Colombia's natural ecosystems have been transformed in some way, with agriculture and extractive industries among the main causes. Most mining titles are in the Andes, the region with the highest level of threatened and endemic species.

Illegal activities are a persistent threat to biodiversity. It is estimated that 40-50% of all timber is harvested illegally. Extensive illegal mining and illicit grazing and cropping are damaging protected areas.

Capacity weaknesses. Weaknesses in the environmental governance system, particularly among the Autonomous Regional Corporations, are important obstacles to achieving biodiversity goals (see pages 10 and 11).

Lack of biodiversity information and valuation. The lack of data on drivers of biodiversity loss, and of projections, hinders effective policy making. The economic value of biodiversity and ecosystem services is not sufficiently considered in policy making. Progress in this area would help mainstream biodiversity in economic and sectoral policies, and give better recognition to the role that natural capital plays in underpinning economic development.

ALLEVIATING PRESSURES FROM RANCHING

About 35% of Colombia's land area is used for livestock rearing, even though only half of this area is suitable for grazing. Extensive cattle breeding is a major factor in land degradation and deforestation, GHG emissions, water use and pollution. To address these problems, Colombia should both reduce incentives for extensive farming and support sustainable intensification of cattle rearing and greater use of silvopasture practices – combined grazing and agriculture with tree cultivation.

Next steps | biodiversity

- **Develop an action plan** to implement the 2012 National Biodiversity Policy that aims to reduce key pressures on biodiversity and ecosystems; provide the means needed to achieve the policy's objectives.
- **Strengthen the Colombian Environmental Information System (SIAC).** Develop good quality information on the national and global value of Colombia's biodiversity and ecosystem services, and on the main drivers of biodiversity loss. Use it to strengthen political and public support for biodiversity and development policies.
- **Develop a co-ordinated plan to reduce deforestation from cattle rearing;** promote more intensive but environmentally sustainable livestock rearing, along with silvo-pastoral practices.
- **Expand protected areas** to include under-represented and threatened ecosystems (e.g. forests in the central Andean valleys, dry forest in the Caribbean savannahs and páramos); continue to strengthen institutions and management capacities and reinforce financing.

Quick focus | mining



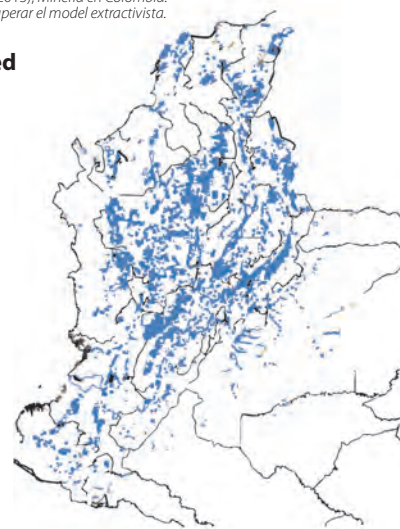
The increasing extraction of Colombia's exhaustible natural resources (oil, coal, gold) is driving economic growth. However, it is also a major cause of pollution of soil and water, degradation of sensitive ecosystems (e.g. the páramos), and severe damage to human health. Over the first decade of the millennium, the area covered by mining titles rose from 1 million ha to 8.5 million ha (about 8% of the land area). Although international companies are big players, artisanal and small-scale mining are also important, accounting for 70% of the gold mined in Colombia, and providing a livelihood for about 200 000 poor people.

- Weak enforcement.** Environmental policies in the mining sector have not been enforced effectively, if at all. By the end of 2010, less than a quarter of mining titles issued were subject to some form of environmental authorisation. Moreover, the number of title requests was increasing so fast that mining authorities had to temporarily suspend the applications to manage the backlog of requests (Figure 5). Between 16% and 32% of the land titled for mining is in areas of environmental importance. In 2011 a National Mining Agency was created to manage the mining registry and grant new titles in co-ordination with environmental authorities. In 2012, an Office of Environmental and Social Affairs was created in the Ministry of Mining and Energy.
- Environmental impacts of mining are not sufficiently monitored,** which makes it difficult to assess the related costs. Mining is responsible for large releases of hazardous chemicals to the environment – as much as 150 tonnes of mercury a year in artisanal and small-scale gold mining alone, according to UNIDO estimates. Air pollution near open pit mining areas is also of concern. It is the poor, working in illegal, traditional and unauthorised mining who receive the greatest exposure to hazardous substances such as dust (causing silicosis) and mercury.
- Illegal activity.** Armed groups have engaged in illegal mining of gold, coal, coltan, nickel, copper and other minerals. Under an interagency agreement on illegal mining, a Prosecution Unit for Crimes against Natural Resources and the Environment was created in the Attorney General's Office in 2011. Between January 2011 and July 2012, more than 595 illegal mines were closed, but many remain in operation.

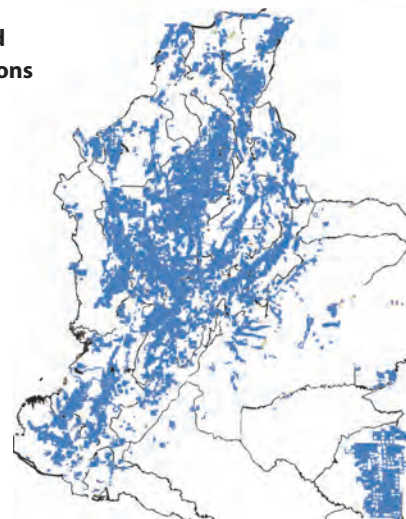
Figure 5: Mining titles 2012

Adapted from CGR (2013), *Minería en Colombia. Fundamentos para superar el model extractivista*.

Titles granted



Titles and applications



Next steps | responsible mining

- Increase resources substantially for enforcing regulations** governing small-scale and illegal mining, while recognising the importance of artisanal mining for livelihoods.
- Require environmental licensing** for mining exploration.
- Draw up and implement a comprehensive remediation strategy** for managing the health and environmental risks posed by contaminated sites.
- Review the fiscal treatment** of oil and mining to assess whether environmental externalities are sufficiently captured.



Useful resources

PUBLICATIONS

OECD Environmental Performance Reviews: Colombia 2014

OECD Publishing.

doi: 10.1787/9789264208292-en

Towards Green Growth

OECD Publishing.

doi: 10.1787/9789264111318-en

www.oecd.org/greengrowth/towardsgreengrowth.htm

Bases del Plan Nacional de Desarrollo 2010-2014,

Prosperidad para todos,

Departamento Nacional de Planeación, Bogotá.

WEB

EPR programme:

www.oecd.org/env/country-reviews/colombia2014.htm

Environmental data and indicators:

www.oecd.org/env/indicators

MORE INFORMATION

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Sources:

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