Monitoring Green Growth in the Latin America and the Caribbean (LAC) Region: Progress and Challenges

Development Bank of Latin America

Organisation for Economic Cooperation and Development

UN Industrial Development Organization

CONTENTS

FOREWORD

Under the leadership of UNIDO's LAC Programme, and in cooperation with the OECD, the Latin American Development Bank (CAF), the American and Caribbean Economic System (SELA), and the United Nations Environment Programme (UNEP), the project "Monitoring green growth in the LAC region" aims to establish a set of indicators to monitor green growth in the Latin America and Caribbean (LAC) region. It is based on the OECD Green Growth measurement framework (OECD, 2011: "Towards Green Growth: Monitoring Progress") and draws from UNEP's experience with environmental indicators.

In the first half of 2012, UNIDO's LAC Programme initiated the project with seven LAC countries: Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Paraguay and Peru. A UNIDO-SELAOECD workshop in Caracas in March 2012 introduced the OECD methodology, discussed its applicability to the LAC region and laid out an agenda where the participant countries committed to producing national indicator-based reports.

The project has benefitted from OECD and UNIDO Technical Branches (environment and statistics) expertise to help address countries implementation challenges, suggest areas for further improvement, and ensure consistency of work across countries through for instance the OECD-UNIDO workshop in Paris in June 2012 where countries representatives and key experts reviewed the progress and help advance the preparation of the reports.

Preliminary results were presented at the high-level forum in Quito in September 2012, organized jointly by UNIDO and MIPRO (Ministerio de Industrias y Productividad, Ecuador). The event brought together high-level officials from Ministries of Industry, Economy, Energy and Environment as well the representatives of the private sector, industry development agencies, and financial institutions in the LAC region.

This first joint publication by CAF, OECD, and UNIDO aims to review the progress to their date of participant countries in applying the OECD Green Growth Indicators (GGI) framework to national circumstances and share preliminary experiences and best practices.

The indicator-based reports are not intended to be a benchmark instrument, but rather to serve as national instruments of monitoring. Although the provision of specific measurement guidelines extends beyond its scope, the UNIDO-OECD project nonetheless brings in the experience from other international initiatives, such as the UNEP ILAC indicators, UNEP Green Economy, UNEP Global Environmental Outlook, SERIEE - Expenditure on Environmental Protection, the World Bank Wealth Accounting and the Valuation of Ecosystem Services (WAVES), and the OECD work with environmental indicators and material flow accounting.

As such, the UNIDO-OECD project does not intend to undervalue efforts of other national and international organizations that contributed significantly to the creation of national capacities for measuring progress with indicators in the LAC region. On the contrary – it rather complements international work by drawing from the available methodologies to adjust the set of green growth indicators to the LAC regional context. Derived information is meant to be relevant to the countries, consistent, timely, easy to interpret, transparent, and publicly available at low cost.

EXECUTIVE SUMMARY

Green growth has several dimensions, which are not easily captured by a single indicator and a small set of measures is needed to describe its main features. The list of green growth indicators proposed by the OECD and its associated conceptual framework constitute a good starting point for countries who want to communicate clearly their development objectives and measure their progress towards green growth.

This joint publication by CAF, UNIDO and OECD, has three main objectives:

- To present the OECD green growth indicators (GGI) framework for measuring progress and discuss its applicability in the LAC region;
- To review the progress to date of participant countries in applying the OECD GGI framework;
- To share preliminary experiences and best practices in applying the OECD GGI framework to national circumstances

The proposed set of green growth indicators for LAC described in this publication represents a powerful tool for evidence-based decision making and for assessments of policies. The indicators will help to alert to pressing issues that require immediate consideration, further analysis and/or policy action. The list of indicators is flexible and could be streamlined around a few indicators that would track central elements of green growth for targeted communication purposes.

The outcomes of the project will be valuable for strategic policy planning, helping to articulate the pragmatic role of green growth tools to achieve sustainable development and supporting policy coherence through clear interpretation of indicators against defined policy issues related to environmental aspects of growth that affect people's lives. Already reflecting on their policy agendas and information needs, the LAC countries identified a number of areas where indicators are of practical use. The most common need for indicators was to set strategic objectives that would help to integrate environmental and resource productivity into other growth policies to improve the wellbeing of people.

The indicators have been seen as useful for raising awareness, improving capacity to monitor progress, strengthening assessment of environmental impacts in a holistic way, and understanding the origins of downward risks for economic development.

The work on indicators solicited the exchange of good practices between countries in the LAC region. An important element in this context was to entice cooperation among ministries, national statistical offices and research institutes in supporting continuous supply of reliable information. The establishment of national platforms for sharing good practices was deemed as one of possible options to assist the users of green growth indicators in the LAC region.

The project "Monitoring green growth in the LAC region" is expected to evolve and continue in 2013 - 2014 with the support of associated partners. Other LAC countries are planning to join the initiative and the methodological procedures further developed with the technical support of INEGI (Mexico) in cooperation with OECD and UNEP.


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THE ARCHITECTURE OF THE PROJECT

"MONITORING GREEN GROWTH IN THE LAC REGION"

THE ARCHITECTURE OF THE PROJECT

The project “Monitoring green growth in the LAC region” is the product of joint international efforts. UNIDO in cooperation with OECD, CAF - Latin American Development Bank, SELA - Latin American Economic System, and UNEP initiated a pilot study to test the applicability of the OECD green growth indicators in the LAC region. Participating countries of Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Paraguay and Peru were engaged to adjust a set of green growth indicators to their circumstances and put them to use in their country reports.

The project was officially launched in Caracas (Venezuela) in March 2012 at SELA headquarters with the participation of the focal points and representatives of UNIDO, OECD, CAF and SELA.

Its overall objective was to enable governments and other stakeholders to support decision-making with evidence based on a clearly defined set of indicators. The OECD approach to measuring green growth was discussed with participant countries and associated partners, which provided useful feedback on the adjustments for its implementation in the LAC region. At that occasion, the project agenda was set and deliverables were agreed with the associated partners that were present at the Caracas meeting. Training was provided at several workshops and multilateral videoconferences that were carried out between April and September 2012.

The first drafts were discussed at the June 2012 OECD-UNIDO workshop at the OECD Headquarters in Paris. Focal points from national governments and statistical institutes of Colombia, Costa Rica, Ecuador, Guatemala, Mexico and Paraguay presented their international experts, and OECD key staff. This meeting was a turning point in the project as it helped to review the progress, pitch the interest, and sustain motivation of countries to deliver the final drafts. It has also drawn interest from other Latin American countries, including Peru and Chile which expressed intention to participate in the project. It was emphasized that the set of proposed green growth indicators should be chosen to support policy making at a country level, to provide a standard and simple structure of reporting, to reflect national characteristics,

Caracas - Venezuela

and to serve as a management tool that is tailored to specific circumstances with no benchmarking among countries.

Preliminary results were presented at a high-level event in September 2012 in Quito (Ecuador), the SERE forum (Semana de Eficiencia de Recursos en Ecuador) dedicated to indicators monitoring environmental productivity of economies, jointly organized by the Ministry of industries and productivity (MIPRO) of Ecuador and UNIDO's Regional Programme for LAC. The focal points from participating countries presented their draft reports to policy makers from Ministries of Industry, Economy, Energy and Environment as well as to representatives from the private sector, industry development agencies and financial institutions in the LAC region. The forum was important to gain political commitment for applying green growth indicators to support the development and monitoring of national policy agendas.

Quito-Ecuador

Paris - France

GREEN GROWTH

AS A PRAGMATIC WAY TO ACHIEVING SUSTAINABLE DEVELOPMENT IN THE LAC REGION


2

GREEN GROWTH

Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies (OECD, 2011: Towards Green Growth). To do this it must catalyze investment and innovation which will underpin sustained growth and give rise to new economic opportunities.

Green growth is not a replacement for sustainable development. Rather, it provides a practical and flexible approach for achieving concrete, measurable progress across its economic and environmental pillars, 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. Natural assets are not infinitely substitutable and green growth policies take account of that.

Green growth has several distinct aspects and each commands different measurement issues. For that reason, Ministers of OECD Member countries have given the OECD a strong mandate to advance the measurement agenda. The OECD measurement framework (OECD, 2011: Towards Green Growth: Monitoring Progress – OECD Indicators) supports the Green Growth Strategy that provides a toolkit of green growth policies, which countries can draw upon in developing their own nationally-specific approaches.

The first set consists of broad framework policies that mutually reinforce economic growth and the environment. These include core fiscal and regulatory settings such as tax, competition and innovation policies. The second set includes policies providing incentives to use natural resources efficiently and making pollution more expensive. These policies include a mix of price-based instruments, for example, environmentally related taxes as well as non-market instruments such as regulations, technology support policies and information-based approaches to address consumer behavior. An essential element of these policies is the phasing-out of inefficient and environmentally harmful subsidies. At the same time, any unintended distributional consequences need to be addressed through targeted compensatory measures.

There is a great potential for green growth policies to address economic and environmental challenges and unlock sources of growth through the following channels:

- **Productivity**. Incentives for greater efficiency in the use of resources and natural assets: enhancing productivity, reducing waste and energy consumption and making resources available to highest value use.

- **Innovation**. Opportunities for innovation, spurred by policies and framework conditions that

allow for new ways of addressing environmental problems.

- **New markets**. Creation of new markets by stimulating demand for green technologies, goods, and services to create job opportunities.

- **Confidence**. Boosting investor confidence through greater predictability and stability around how governments are going to deal with major environmental issues.

- **Stability**. More balanced macroeconomic conditions, reduced resource price volatility and supporting fiscal consolidation through, for instance, reviewing the composition and efficiency of public spending and increasing revenues through the pricing of pollution. It can also reduce risks of negative shocks to growth.

- **Resource bottlenecks** which make investment more costly, such as the need for capital-intensive infrastructure when water supplies become scarce or their quality decreases (e.g. desalinization equipment). In this regard, the loss of natural capital can exceed the gains generated by economic activity, undermining the ability to sustain future growth.

- **Imbalances** in natural systems which raise the risk of more profound, abrupt, highly damaging, and potentially irreversible, effects – as has happened to some fish stocks and as could happen with damage to biodiversity under unabated climate change. Attempts to identify potential thresholds suggest that in some cases – climate change, global nitrogen cycles and biodiversity loss – these have already been exceeded.

A green growth framework also recognizes that focusing on GDP as a measure of economic progress overlooks the contribution of natural assets to wealth, health and well-being. It therefore targets a range of measure of progress, encompassing the quality and composition of growth, and how this affects people's wealth and welfare. In this and many other respects, green growth is an essential component of sustainable development.


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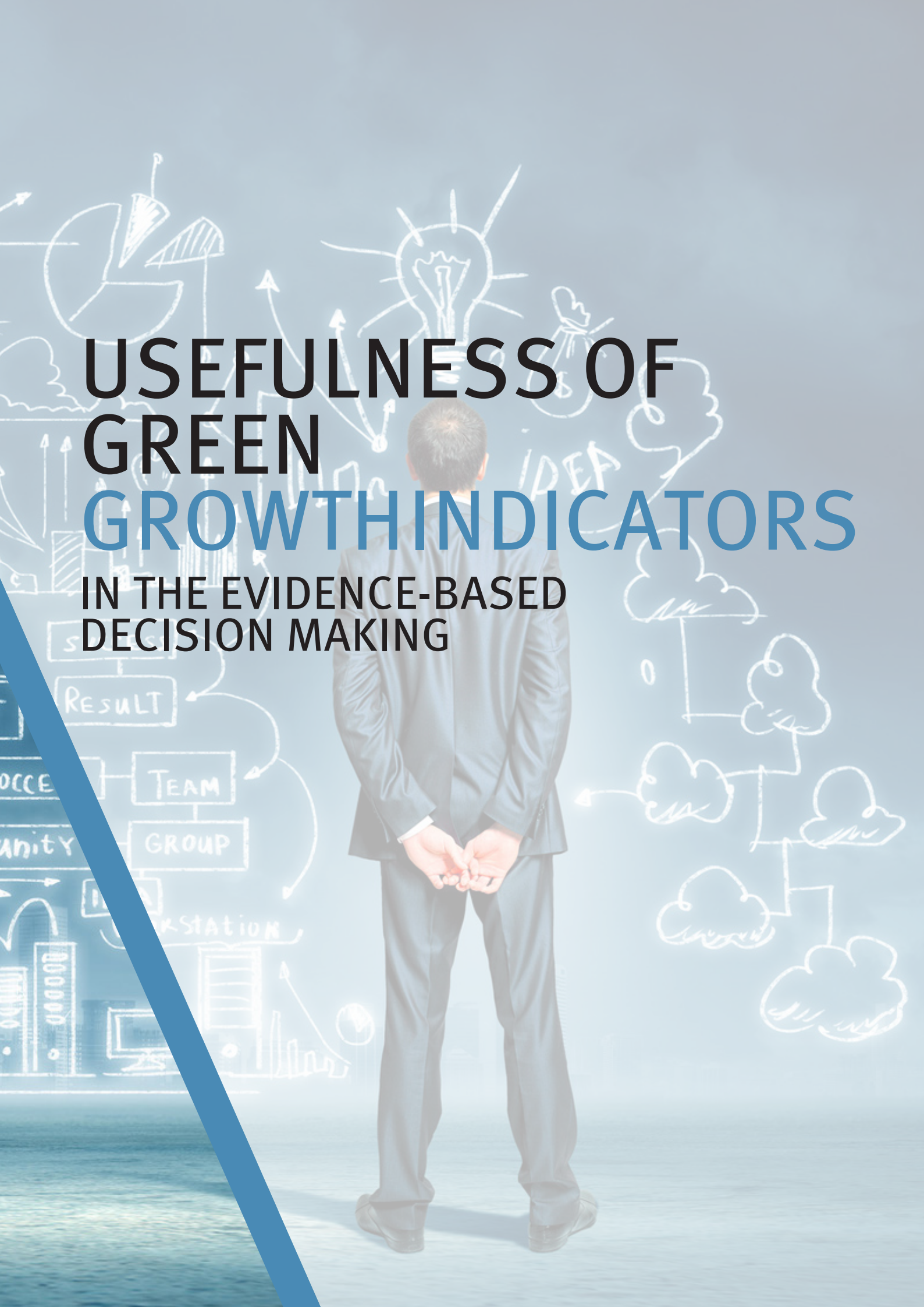

USEFULNESS OF GREEN GROWTH INDICATORS

IN THE EVIDENCE-BASED DECISION MAKING

USEFULNESS OF GREEN GROWTH INDICATORS

Measurement is necessary for evidence-based policy making. Indicators can serve many purposes, which depend on the level at which they are applied, on the audience to be reached, and on the quality of the underlying data. They facilitate policy accountability by drawing attention to major trends and tracking progress of policies. A key function of indicators is to simplify the communication process by which the results of analysis and accounting are provided to the users and to adapt information to their needs. Due to this simplification and adaptation, the indicators may not always meet strict scientific demands to demonstrate causal chains. They rather represent trade-offs among their relevance for users and policies, their statistical quality, and their analytical soundness and scientific coherence.

The OECD Green Growth measurement framework

Monitoring progress towards green growth requires indicators based on internationally comparable data. These need to be embedded in a conceptual framework and selected according to well specified criteria. Ultimately, they need to be capable of sending clear messages which speak to policy makers and the broader public. The aim is to strengthen countries' capacity to monitor and assess progress towards green growth.

A set of 25 green growth indicators is presented in the 2011 OECD report (Towards Green Growth: Monitoring Progress). The selection of indicators was made on the basis of existing work in the OECD, other international organizations, and consultations with OECD member and partner countries. The indicators were selected according to their policy relevance, analytical soundness, and measurability, and structured in line with the measurement framework (Chart 3.1.). The proposed set is flexible so that countries can adapt it to their national contexts.

The various dimensions of green growth are not easy to capture in a single indicator. Thus, countries agreed to develop a small set of measures rather than to construct a composite index. The ambition is pragmatic: green growth indicators are seen as a set of markers on a path to greening growth and of seizing new socio-economic opportunities.

The indicators of environmental and resource productivity track the extent of production and consumption becoming greener. But rising productivity is not enough – an absolute decline in environmental pressures is often needed to insure against any future shocks to growth. To this end, the second group of indicators focuses on monitoring the natural asset base and whether it is being kept intact and within sustainable thresholds. The third group of indicators on the environmental quality of life captures the direct and indirect interaction between people and the environment. Finally, greening the economy also generates opportunities for growth and employment. The fourth group of indicators aims to capture these economic opportunities and the policy responses that arise from green growth.

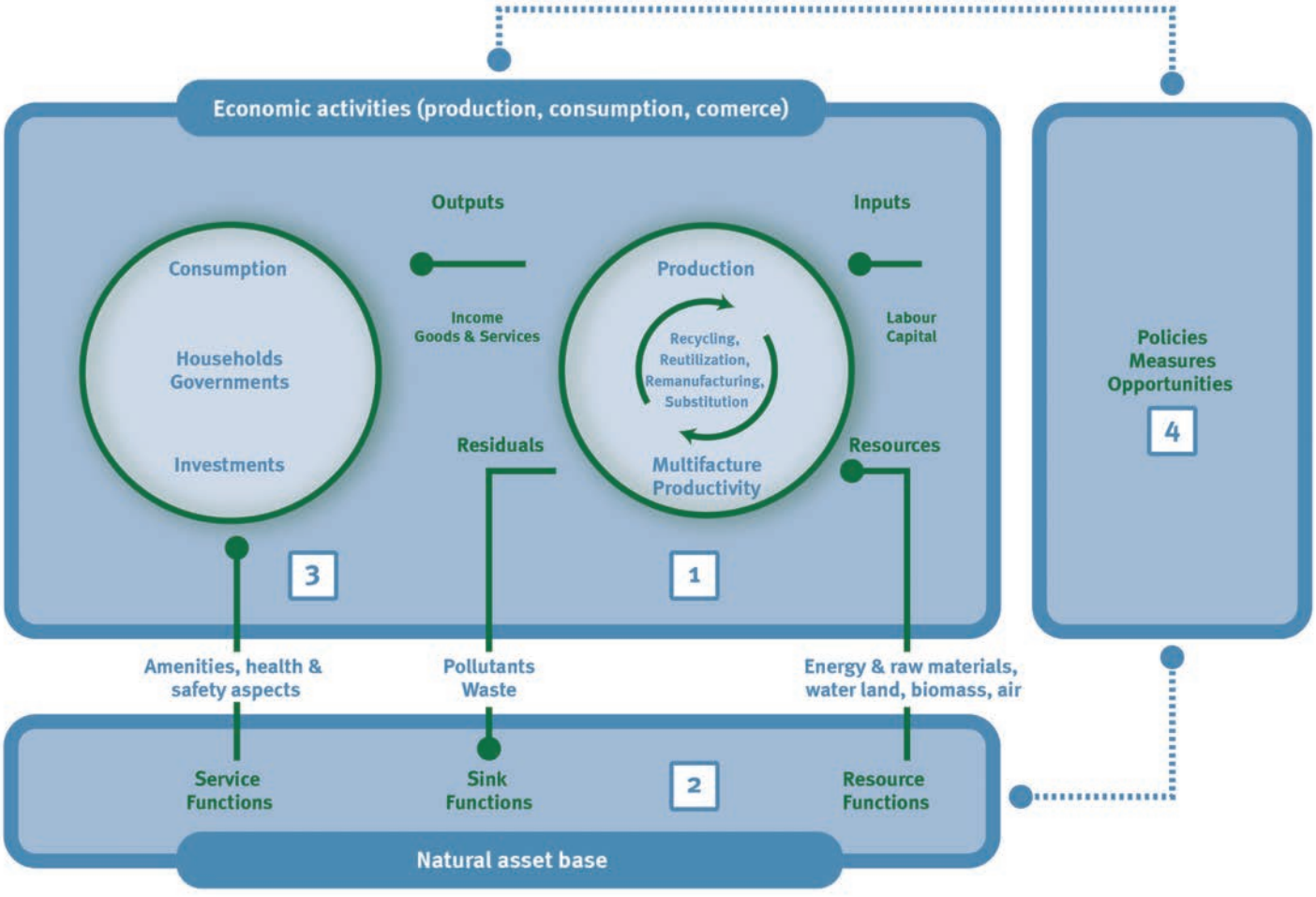

Chart 3.1. The OECD Green Growth measurement Framework

USEFULNESS OF GREEN GROWTH INDICATORS

1. **Indicators monitoring the environmental and resource productivity of production and consumption.** These indicators represent the volume of output generated per unit of input. These inputs can be considered as services provided from natural assets. The choice of specific indicators aimed to capture key aspects of the transition to a low-carbon, resource-efficient economy, and included inputs required for both production and consumption. Rising environmental and resource productivity is a necessary condition for green growth.

2. **Indicators describing the natural asset base.** While environmental and resource productivity might increase, growth will not be sustainable unless the natural asset base is kept intact. This implies that net investment is positive – more should be added to the asset base in the form of investment or natural regeneration than is subtracted though depreciation or depletion. A major question is how easily one type of asset can be substituted for another. The selection of indicators aimed to cover both direct inputs to production as well as less direct inputs provided by ecosystem services such as biodiversity.

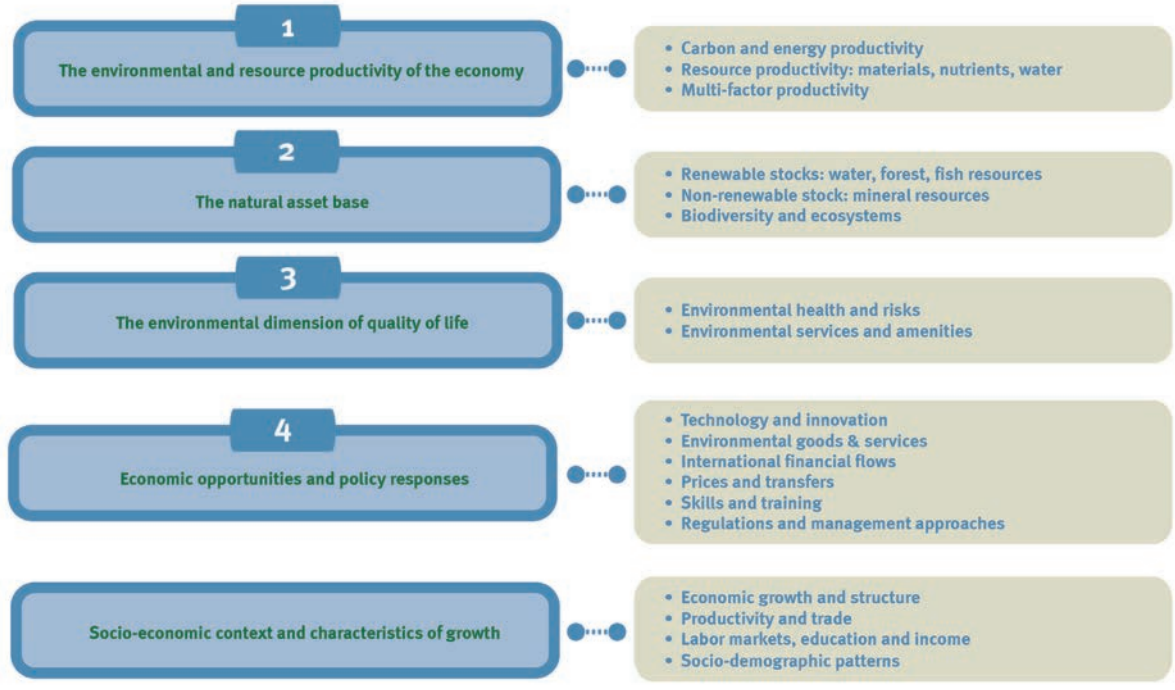

Chart 3.2. Indicator groups and topics covered

3. **Indicators monitoring the environmental dimension of quality of life.** Environmental conditions affect people's health and well-being. Moreover, poor environmental air or water quality may not only impact human health adversely, it may also result in income growth that is not accompanied by a rise in overall well-being.

4. **Indicators describing policy responses and economic opportunities**. This set of indicators aimed to capture the policy frameworks that influence the behaviour of producers and consumers, and the economic opportunities created by green growth such as innovation, the environmental goods and services sector, and employment.

   These indicators are complemented with generic indicators describing the socio-economic context and characteristics of growth. The information required to present indicators is sometimes limited and contextual information then becomes an imperfect but yet important complement. For example, comparable data on environmental pressure are rarely available by industrial activity, and consistent measures that combine environmental and economic information can only be constructed at the level of the entire economy. In such cases, it is important to supplement the economy-wide indicator with information on countries' industry structure.

Guidance for application of indicators in the LAC region

A pragmatic and dynamic approach is needed for implementing indicators in the LAC region. There is no universal set of indicators that could serve all purposes and audiences. Therefore, indicators need to be adjusted regularly by taking into account the advances in science, policy concerns and data availability.

Each set of indicators needs to be based on specific selection criteria to streamline the choice of relevant indicators and to ensure their validity along the principles of policy relevance, analytical soundness, and measurability. The indicators can be derived from different data sources, including monitoring systems, official statistics and accounting systems, business surveys, and from associated analytical approaches. The suitability of each data source depends on the purpose of use and the level of application.

Given a potentially broad variability of data at hand, the System of Integrated Environmental and Economic Accounts (SEEA) is an important step towards international comparability of statistics. The Central Framework of the SEEA was adopted in 2012 by the UN Statistical Commission. It will be supplemented with the second volume on experimental ecosystem accounts, and the third volume on SEEA applications and extensions. The use of common concepts, definitions, and classifications is central to the usefulness of the SEEA for deriving indicators that monitor the interactions between

the economy and the environment. Monetary and physical data can thus be combined in a consistent format, for example, to calculate resource productivity ratios.

The SEEA also facilitates further breakdown of national indicators, which is often needed to focus on a particular area of interest or to better understand the broader context. For example, spatial disaggregation helps to understand the relationships between the location of natural resource stocks, settlement areas, and economic activities. Social disaggregation helps to understand the distributive aspects of environmental policies and economic instruments, and the environmental dimensions of life quality. Sectorial disaggregation helps to demonstrate structural changes over time, to analyze environmental pressures by different industries, and to distinguish government responses from those of the business sector or private households. This is particularly relevant for green growth indicators that need to inform about both the environmental effectiveness and the economic efficiency of policy instruments. A greater detail or breakdown of information may be needed particularly when indicators are meant to support sub-national or sectorial decision making.

International standardization needs to be ensured. The outcome of the assessment depends on the chosen denominator (e.g. GDP, population, land area) as well as on national definitions and measurement methods. Therefore, various denominators need to be used in parallel to balance the message conveyed. When interpreting the results, further scientific and policy-oriented information is needed to acquire their full meaning. Indicators usually address policy questions at the general level by depicting major issues and trends and by attracting attention to developments that require further analysis. They often need to be supplemented by qualitative information to explain the underlying driving forces within an appropriate context and by taking into account ecological, geographical, social, economic, structural, and institutional circumstances. The results can be interpreted against the reference values, that is, in view of national objectives, baselines and policy targets or environmental thresholds. It is worth noting that the choice of initial levels (e.g. of environmental pressures) and time horizons affects the interpretation of results.

It is essential to provide the right information for the right purpose and to ensure that information systems keep pace with changing demands and policies while maintaining continuity. This process requires seamless communication between suppliers and users of information, and flexible and co-operative institutional arrangements. Governments can help in this regard by applying integrated approaches to information, which involve different stakeholders such as enterprises, environmental NGOs, consumer associations, and the news media. A multi-stakeholder consultation process is useful in the process of data compilation. Finally, inter-governmental co-operation and coordination are necessary to harmonize objectives and to ensure continuity and quality of data supply.

Key Principles in selecting indicators to monitor progress with green growth*

Policy relevance:

The indicator set should have a clear policy relevance and in particular:

- Provide a balanced coverage of the key features of green growth with a focus on those that are of common interest to countries;
- Be easy to interpret and transparent, i.e. users should be able to assess the significance of the values associated with the indicators and their changes over time
- Lend itself to being adapted to different national contexts, and analyzed at different levels of detail or aggregation

Analytical soundness Measurability

The indicators should be analytical sound and benefit from a consensus about their validity. They should further lend themselves to further analysis, such as economic and environmental modeling and forecasting

The indicators should be based on data that are available, comparable, verifiable, available at a reasonable cost, of known quality and regularly updated

*These principles and criteria describe the "ideal" indicator; not all of them will be met in practice.

Chart 3.3. Key Principles in selecting indicators to monitor progress with green growth

PILOT STUDIES

EXPERIENCE AND IMPLEMENTATION CHALLENGES WITH GREEN GROWTH INDICATORS


4

PILOT STUDIES

The indicator-based reports of participant LAC countries are informative of the state, pressures and responses to challenges and opportunities arising from greener growth. A considerable wealth of information has been compiled, processed, and presented under the OECD-UNIDO guidance. Continuous consultations, coordination and capacity building were essential to streamline and facilitate the work. The selection of indicators and national aspects was based on institutional capacity, experience in the field of indicators and national industrial strategies. The work of countries also provides useful feedback on the applicability of the OECD framework.

Assessment of progress with national green growth indicators

The participant countries have made considerable progress in addressing implementation challenges with national green growth indicators. However further work is needed on the data side to improve the coverage of applied indicators (Chart 4.1).

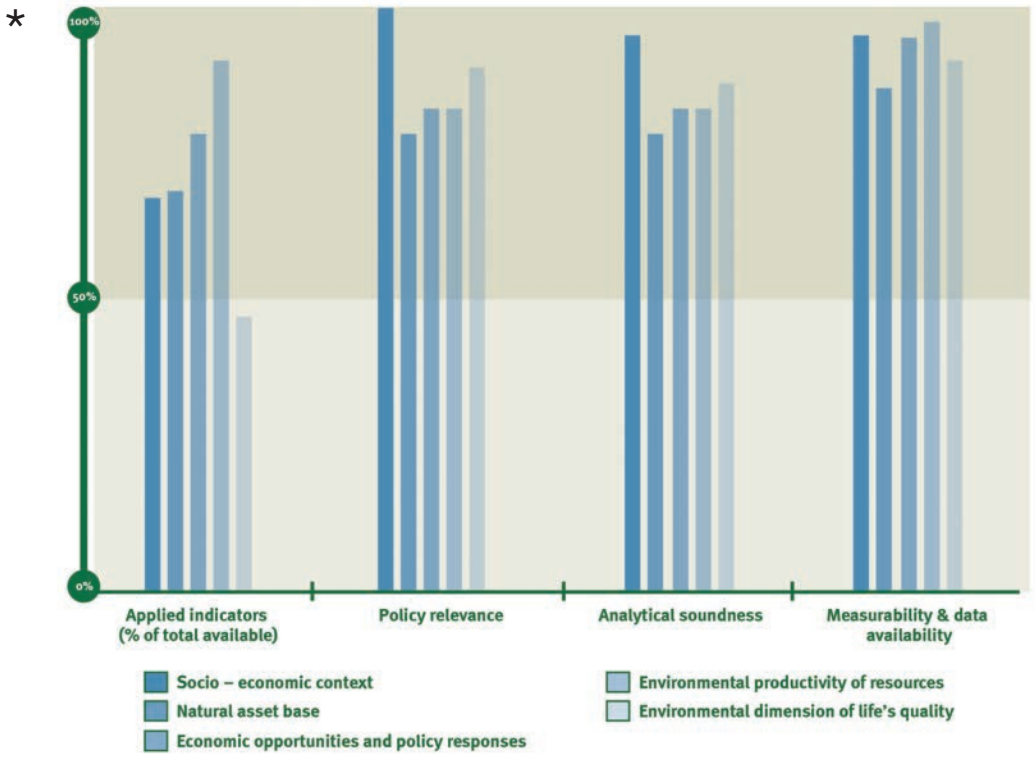

Chart 4.1: Application of green growth indicators in the LAC region

The level of detail and focus of indicators on selected green growth themes varies across participant countries. The vast majority of green growth indicators proposed in the OECD list were considered as relevant and useful in the LAC context. In particular, the indicators of economic opportunities and policy responses were considered among the most relevant of all. Environmental and resource productivity were considered as highly supportive of ongoing policy agendas, although further work is needed to improve their measurability particularly with respect to demand-side measures as the trade context is important in the LAC in view of the environmental pressures as well as business and employment opportunities.

Although information on the socio-economic context is commonly available, it was seen as challenging to interpret it against the other themes of green growth indicators. There is a wealth of information on the natural asset base and countries suggested further indicators of associated economic opportunities and policy responses. The development of measurement tools related to the environmental quality of life was considered as one of the priority areas for future work.

Implementation challenges

The main implementation challenges with national green growth indicators in LAC can be broadly summed to:

I. The challenges associated with compilation, harmonization, and continuous supply of data from national sources,

II. The coordination and balancing of resources needed for economic and environmental accounting among institutions at different levels,

III. An adequate reflection of national circumstances and issues related to policy challenges,

IV. A continuous revision of indicators in view of policy challenges, and

V. The interpretation of results in view of underlying policy issues and socio-economic circumstances

The project offers a unique opportunity for improving the inter-institutional cooperation within countries that would help to strengthen policy coherence. Given current institutional setups in some LAC countries, existing arrangements for developing and implementing green growth policies represented challenges for identifying the focal areas of green growth. Efforts have been made to address these issues by complementing the economy-level indicators with sector-specific information on trends and planned industrial policies. For example, some countries (e.g. Ecuador)

have initiated strategic policy documents to integrate environmental and resource productivity issues in their national policy agendas. In this context, the indicators were considered useful to support an integrated policy planning.

On the more technical side, there have been difficulties with the use of standardized algorithms to define green growth indicators accordingly to international statistical standards. Efforts were made to address the measurability concerns through the exchange of experience among countries as well as through capacity building support from the associated partners. With regard to the data, the main challenges have been to identify suitable data sources, verify information, and improve its accountability over time and space to tackle issues related to discontinuous data reporting over time.

Finally, the participant countries were interested in exploring further the possibilities to interpret the indicator-based results against long-term policy targets, social welfare objectives, and environmental tipping points. Interpretation of the results within the given context deemed as vital to reach out senior officials across national ministries.

Lessons learned

In the process of addressing these implementation challenges, the participant countries have exchanged valuable lessons for improving the quality of indicator-based reports; which are:

- Clear communication is important. Countries have made progress since OECD-UNIDO event in June 2012 to produce user-friendly and visually appealing reports (e.g. Paraguay), to adopt a more concise and standardized reporting (e.g. Colombia, Mexico, Paraguay) to accompany the indicator-based report with a summary for policy makers (e.g. Costa Rica) and to highlight concrete policy steps and their inter-linkages to facilitate application of the indicators in national policy agendas (e.g. Ecuador).

- Adaptation of the indicators to the national context is necessary to make them relevant. Some countries (e.g. Mexico, Colombia, Paraguay) have added more indicators on a particular natural resource because of its national importance. Particularly interesting are proposals for environmental quality of life indicators, and subsidies and business responses in the group of economic opportunities and policy responses.

- Exchange of experience and best practices between the participants has been useful to address data challenges and measurability issues. There are good examples of systematically describing variables (e.g. Mexico), providing useful annexes with further information (e.g. Costa Rica, Mexico, Paraguay), tackling data challenges and exploring innovative ways to combine

Implementation challenges and good practices with national applications in LAC

Implementation challenges	Good practices
Context	**Communication**
• Laying out strong foundation by drafting a well-presented socio-economic context, rather than a general national accounts or geography context;	• The benefits of user-friendly and visually appealing reports;
• Linking economic growth to environmental issues;	• Usefulness of concise and standardized reporting to support the policy work;
• Interpreting the results in view of underlying economic, social and political factors	• Identification of concrete policy steps and their inter-linkages to facilitate application of the indicators in national policy agendas
Indicator selection process	**Adaptation to the national context**
• Specifying the three criteria for each indicator;	• Development of new indicators that reflect better national contexts. Measurability and data compilation;
• Reflecting adequately national circumstances and related policy issues	• Systematic description of variables;
Data compilation	• Usefulness of annexes to provide background information and to clarify specific national circumstances;
• Compiling the data and tackling discontinuity over time;	• Application of innovative ways to combine graphical information with tables and diagrams to highlight specific issues for which the data is lacking;
• Harmonizing the data across national sources	• Clear exposition of the limitations to facilitate interpretations of indicator results
Measurement issues	**Knowledge exchange**
• Identifying the gaps;	• Peer-learning to advance with data compilation;
• Addressing the technicalities related to compliance with statistical standards;	• Peer-learning to advance with selection of indicators;
• Interpreting the results	• Peer-learning to advance with indicator algorithms
Inter-institutional coordination	
• Coping with limited (human) resources;	
• Coordinating an exchange of knowledge and information between national institutions at different levels;	
• Capacity building	

Box 4.1. Implementation challenges and good practices with national applications in LAC

PILOT STUDIES

graphical information with tables and charts to highlight specific issues (e.g. Guatemala on biodiversity), and to expose the limitations to facilitate interpretation of the results (e.g. Ecuador).

While the starting point of the project was to review the available data sources and use information at hand to construct the indicators, the next steps will aim at improving the contextual and technical features of the indicators chosen. In general, the socio-economic context will be strengthened to clearly identify the policy linkages between environmental issues and economic growth and wellbeing. To highlight relative and absolute decoupling of environmental pressures from economic growth, the presentation of environmental and resource productivity indicators will be further adjusted to show both the denominator and nominator of indicators (e.g. GDP and CO_2 trends along the GDP/CO_2 trends). Adjusting more accurately for national circumstances and policy challenges in each indicator should facilitate application in national policies.

Pilot Study of Colombia

Colombia is developing a Sustainable Development Policy that involves a strategy defining green economy activities. While this policy is being established, certain domestic entities such as the Department of Environment and Sustainable Development, the Department of Trade, Industry and Tourism the OECD, UNIDO, UNEP and SELA, have started to identify green growth indicators using the OECD methodology. The practical benefits of using the green growth indicators are to prioritize related policy actions, to support progress towards green growth, and to evaluate the sustainability of using the natural resources in the long run.

The National Office of Statistics - DANE, the Institute of Hydrology, Meteorology and Environmental Studies - IDEAM and the Department of Environment and Sustainable Development - MADS of Colombia, have been working on indicators recommended by multilateral institutions which are related to environment and sustainable development. Based on these indicators, MADS has selected those indicators according to the OECD methodology that are key to economic activities.

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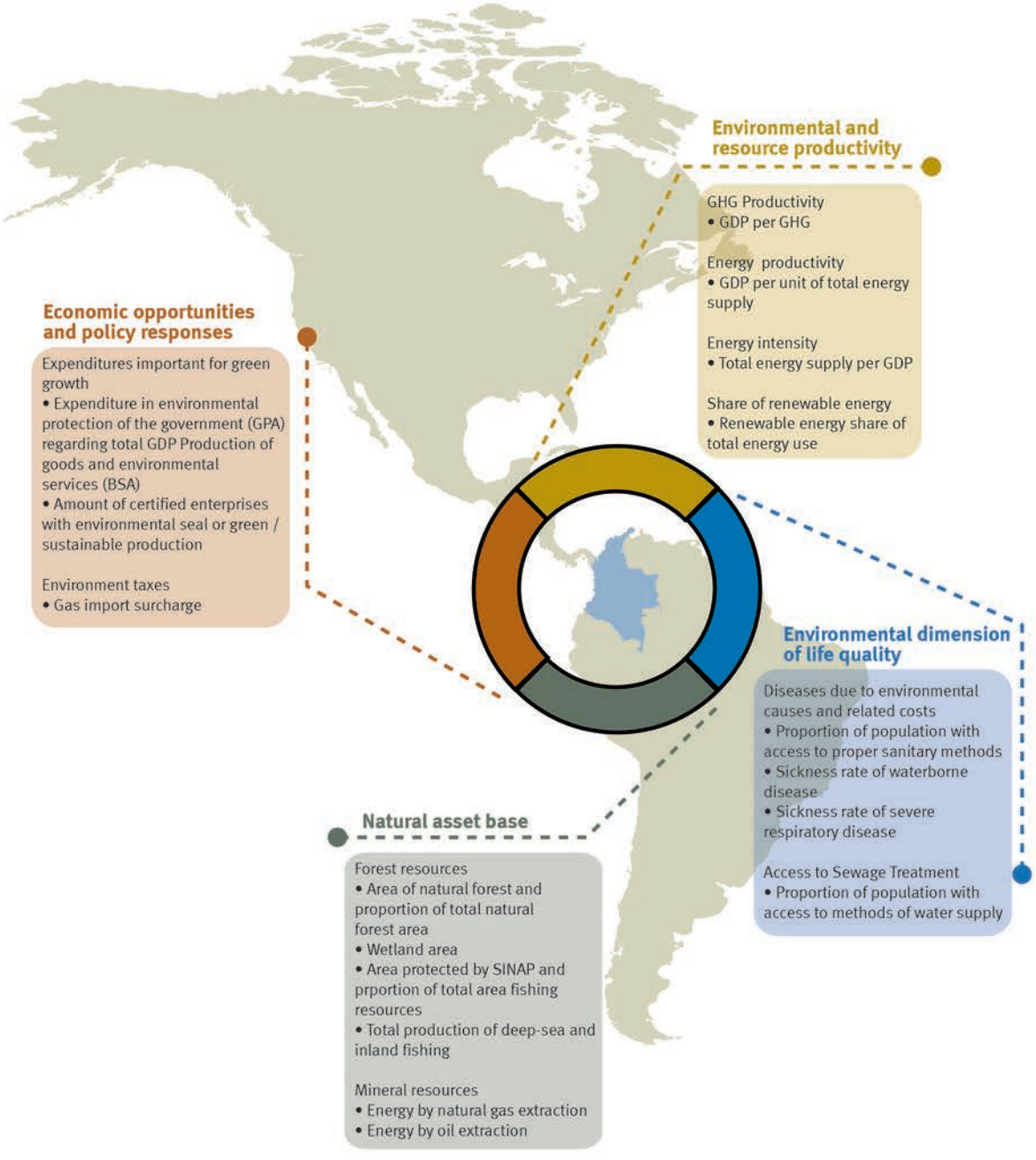
List of selected themes and green growth indicators in Colombia



PILOT STUDIES

Pilot Study of Costa Rica

For Costa Rica it is important to aim at high standardization of reporting. This challenge was met by using the so-called methodological sheets drawing from the UNEP ILAC work on sustainable development in the region. These sheets are written records, previously validated and issued officially by the governing body of national statistics (i.e. INEC). This institution establishes specific parameters of monitoring, such as the process of data construction, factual analysis, and presentation of results. The established principles of the national system of environmental information of Costa Rica can be applied to any type of variable, indicator or index, are code of identification, name, units, topic, related initiatives, geographical coverage, availability, degree of difficulty, general description of the variable, variables describing the indicator, calculation algorithm, interpretation, limitations, sources of information, and register types.

Specific challenges in Costa Rica:

- Ensuring that the report is incorporated as one task of the National Institute of Statistics and Census;
- Gathering skills among INEC, MEIC and MINAE for the green growth initiative and the use of its indicators to become a joint national effort;
- Completing each methodological sheet of indicators included in the report, and developing and researching more reliable sources which can contribute to constructing of new indicators;
- Re-establishing the initiative of green growth measurement with other international cooperation initiatives led by other agencies around the world and advancing related projects in the country;
- Collaborating on developing the green growth measurement tool to support national development plans in order for Costa Rica to become a nation based on sustainable development and carbon neutrality by 2021.

List of selected themes and green growth indicators in Costa Rica

PILOT STUDIES

Pilot Study of Ecuador

The green growth indicator report of Ecuador is a result of joint efforts to compile environmental and economic statistics. The work was strongly supported by the Ministry of Environment of Ecuador and has drawn from the ILAC indicators. The specific purpose of Ecuador's report is to reflect the relationship between economy and society that sustains production and consumption activity with the use of natural resources.

The objective is to facilitate the development and implementation of national environmental policy and related industrial strategies. Ecuador intends to apply these indicator-based policy instruments to improve the quality of life of citizens by guaranteeing a pollution-free environment and the preservation of environmental assets. Ecuador has already initiated a set of policies which govern environmentally-related sectors in order to improve and ensure the health of human lives:

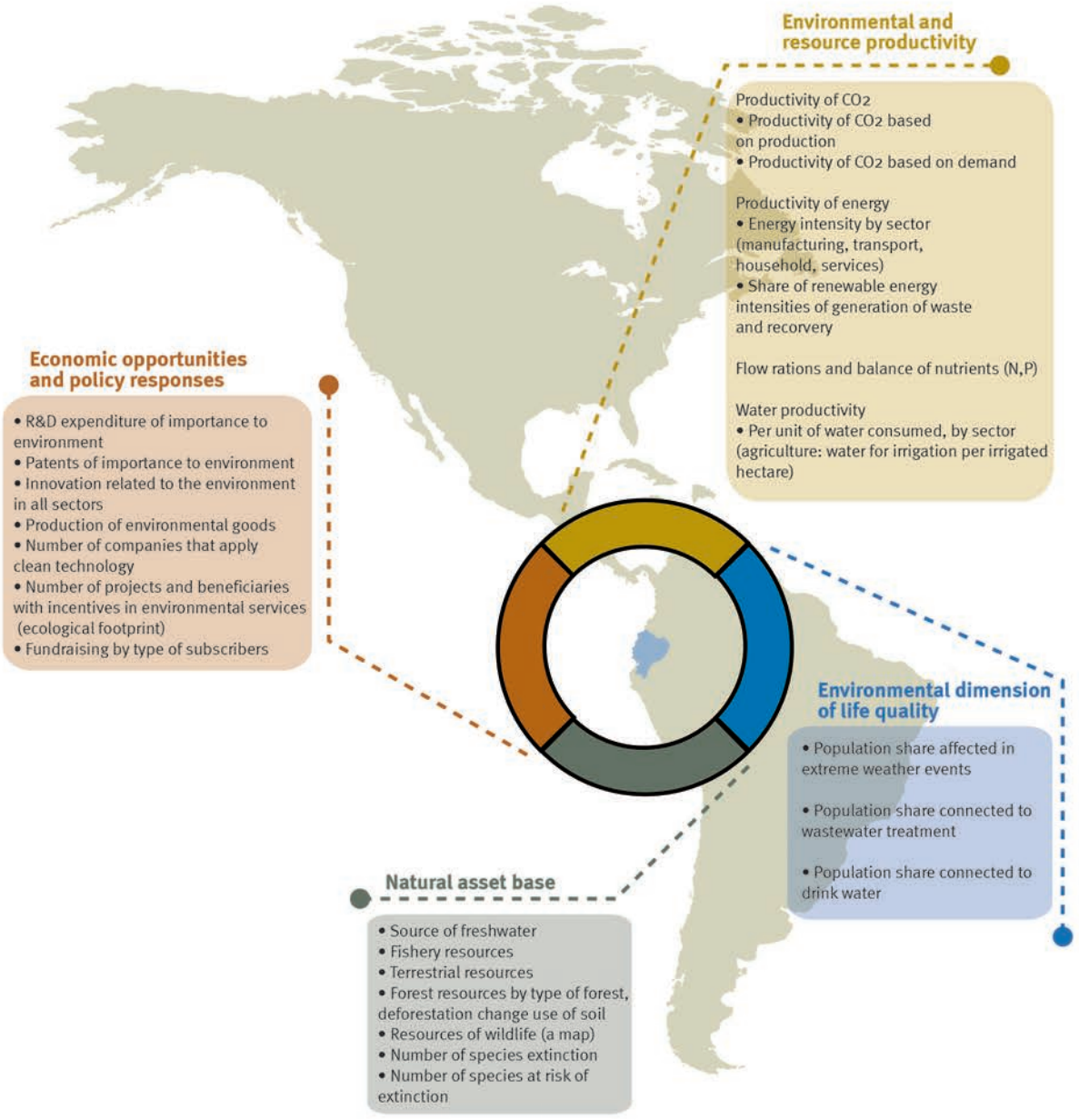
Specific challenges in Ecuador

- Prioritizing the choice of indicators and identifying the values of selection criteria;
- Involving collaborating institutions;
- Articulating indicators according to the availability of information;
- Aligning indicators to the national environmental development plan of information;
- Validating indicators;
- Updating timely publication;
- Integrating indicators into national strategies.

Policy 1	Policy 2	Policy 3
Articulate the national agreement for the economic and environmental sustainability	Efficiently use strategic resources for sustainable development: water, air, soil and biodiversity	Manage the adaptation to climate change to reduce the social, economic and environmental vulnerability
Policy 4	**Policy 5**	**Policy 6**
Prevent and control environmental pollution to improve the quality of life	Include the social dimension in environmental issues to ensure citizen participation	Strengthen the institutional framework to ensure environmental management

Table 4.2. Ecuador Environmental Policies

List of selected themes and green growth indicators in Ecuador



PILOT STUDIES

Pilot Study of Guatemala

The work on green growth indicators is seen as a constructive part of related government initiatives. In particular, the Government Plan which includes five priorities, among which is the National Agenda of Competitiveness that relates to the axis of competitive economic development in view of greener growth. The Government Plan was adopted on 21 February 2012 by the Constitutional President of the Republic of Guatemala and the Minister of Economy and all Ministers, civil society, corporate and academic sector as well as to the international community. Another related initiative is the Committee of Cleaner Production was formed on 30 August 2012 (Ministerial No. 597-2012). One of their objectives is to review the set of national green growth indicators and organize compilation of information needed for their construction. The Committee will seek public-private partnership for data compilation and management to construct national green growth indicators.

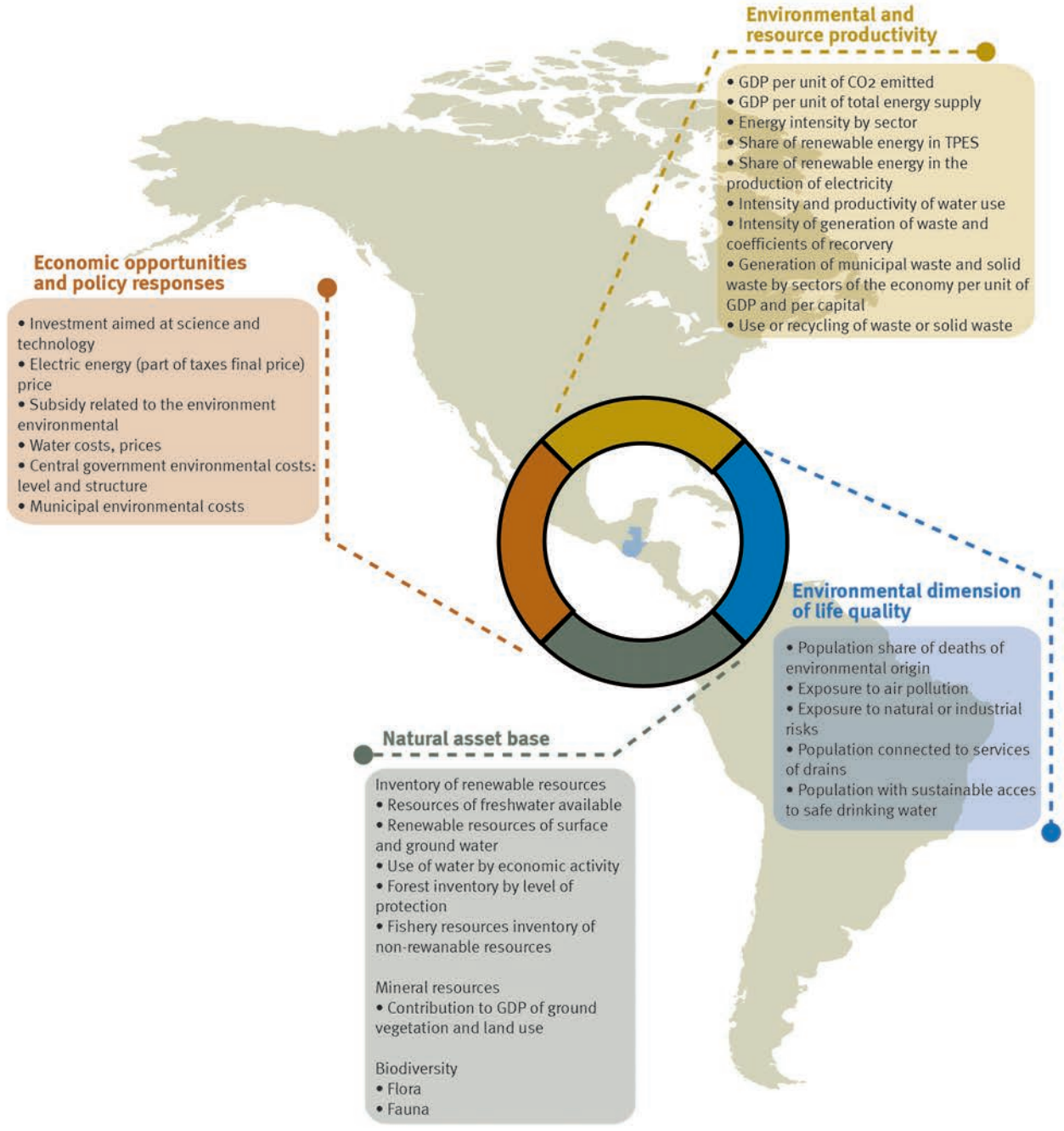
Specific challenges in Guatemala:

- The main challenge was that information is broadly dispersed across national research centers of universities as well as across the government agencies;

- To make an assessment of any indicator it is essential to have a database. Currently there is enough information for its construction in Guatemala, however, the data are not centralized but can be traced across various public and private institutions. In some instances, regardless of the compilation efforts, the historical series cannot be obtained.

4

List of selected themes and green growth indicators in Guatemala



PILOT STUDIES

Pilot Study of Mexico

The Project on Green Growth Indicators for Mexico was developed in the National Institute of Statistics and Geography (INEGI). It seeks to join the international efforts coordinated by OECD through their Green Growth Indicators (GGI) initiative, and particularly supporting the implementation project of Latin America and the Caribbean's GGI, headed by the work group of UNIDO.

In Mexico, INEGI is in charge of elaborating the Economic and Environmental Accounts, based on the proposed methodology by the United Nations through the System for Environmental and Economic Accounting (SEEA), from which it derives the manuals about specific resources such as water, forests and fisheries. This work provides conceptual and statistical bases that allow further development of the GGI initiative in Mexico, because they offer an important group of data to strengthen such project. The works produced since 2011 for the implementation of the GGI-Mexico, which include a compilation of various environmental and economic statistics, are embodied in the green growth indicator report. It presents the development of green growth indicators that broadly coincide with the ones proposed by the OECD and additional 8 alternative indicators. All indicators developed by INEGI cover the time period of 2003-2010, because the base year considered in the National Accounts of Mexico is 2003. In this sense, it is commented that as more up to date information derived from the National Accounts of Mexico is generated, the temporal coverage of indicators will gradually broaden.

INEGI functions also as an information generator. The frame of national accounting (Satellite Accounts included, and in particular environment accounts) constitutes itself in the practical platform for the development of green growth indicators, considering INEGI's experience and information availability on this matter. The data used as the present project's input is revised regularly with the country's environmental sector, while taking advantage of the instances offered through direct coordination with the experts on environmental issues as well as the collegiate work made through the Specialized Technical Committees, framed in the Law of the National System of Statistical and Geographic Information. This framework gives an exclusive role of INEGI to integrate environmental statistics in the System of National Accounts. Against this context and in view of more than 20 years of experience with the development of environmental accounting in Mexico, the elaboration of the GGI has been a very interesting task, considering that the main input in the development of the indicators are Mexico's economic and environmental accounts, a recurring project that is published according to the information schedule of national interest.

Specific challenges in Mexico:

- Continuously revising indicators seeking the opportunity areas;
- Reflecting reality and disseminating information to public.

4

List of selected themes and green growth indicators in Mexico

Economic opportunities and policy responses

Subsidy to electric energy service
• Subsidy rate to electric energy

Subsidy to water supply
• Subsidy rate to drinkable water supply

Taxes on fuel supply

Taxes on combustible supply
• Tax rate to combustible supply

Environmental taxes
• Participation of green taxes on fiscal collection

Environmental protection expenditure
• Relative rate of environmental protection expenditure in regard to the total costs for environmental depletion and degradation
• Cost of remediation by solid residues unit

Green businesses
• Number of cerfied companies in green processes

Expenditure on research and development.
• Participation of expenditure on research and develompment in regard to GDP

Environmental and resource productivity

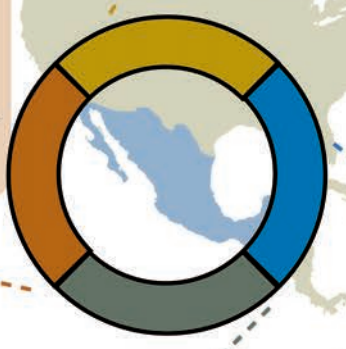
Ecological Gross Domestic Product
Productivity of the Criterion Gases Emissions

• Productivity of the criterion gases emissions by production
• Productivity of the criterion gases emission by demand

Productivity of Energy
• Productivity of energy consumption by the economy
• Productivity of energy consumption by productive sector
• Participation of renewable energies in production and energy consumption

Water productivity
• Water extracton productivity

Environmental Goods and Services
Productivity of the residual waters treatment service
Efficiency in residues recycling service



Natural asset base

Water Resource
• Water extraction by aquifer conditions

Fishing Resource
• Fishing production by type of catch

Mineral Resource
• Extraction rate of hydrocarbons

Land Resource
• Surface distribution by type of land use

Soil Resource
• Surface of soil that presents degradation

Wildlife Resource
Forest Resource
Surface of protected natural areas

Environmental dimension of life quality

Drinkable water service
• Potabilization rate of the water supply

Air Quality
• Per capita emissions of criterion gases

PILOT STUDIES

Pilot Study of Paraguay

The work is coordinated by the Department of Industry and Trade of Paraguay, which is the facilitator and the institution in charge of providing project inputs and related information. This department works together with other institutions such as the Department of Environment (SEAM), the General Office of Statistics, Surveys and Censuses (DGEEC), the Department of Planning (STP), among other partners. The green growth indicator report enables Paraguay to establish a relationship with other countries to join forces to secure the welfare of current and future generations and sustainability of the planet in general. By enacting different policy action programs, Paraguay aims to establish a national agenda for green growth initiatives, which includes the sustainable community development.

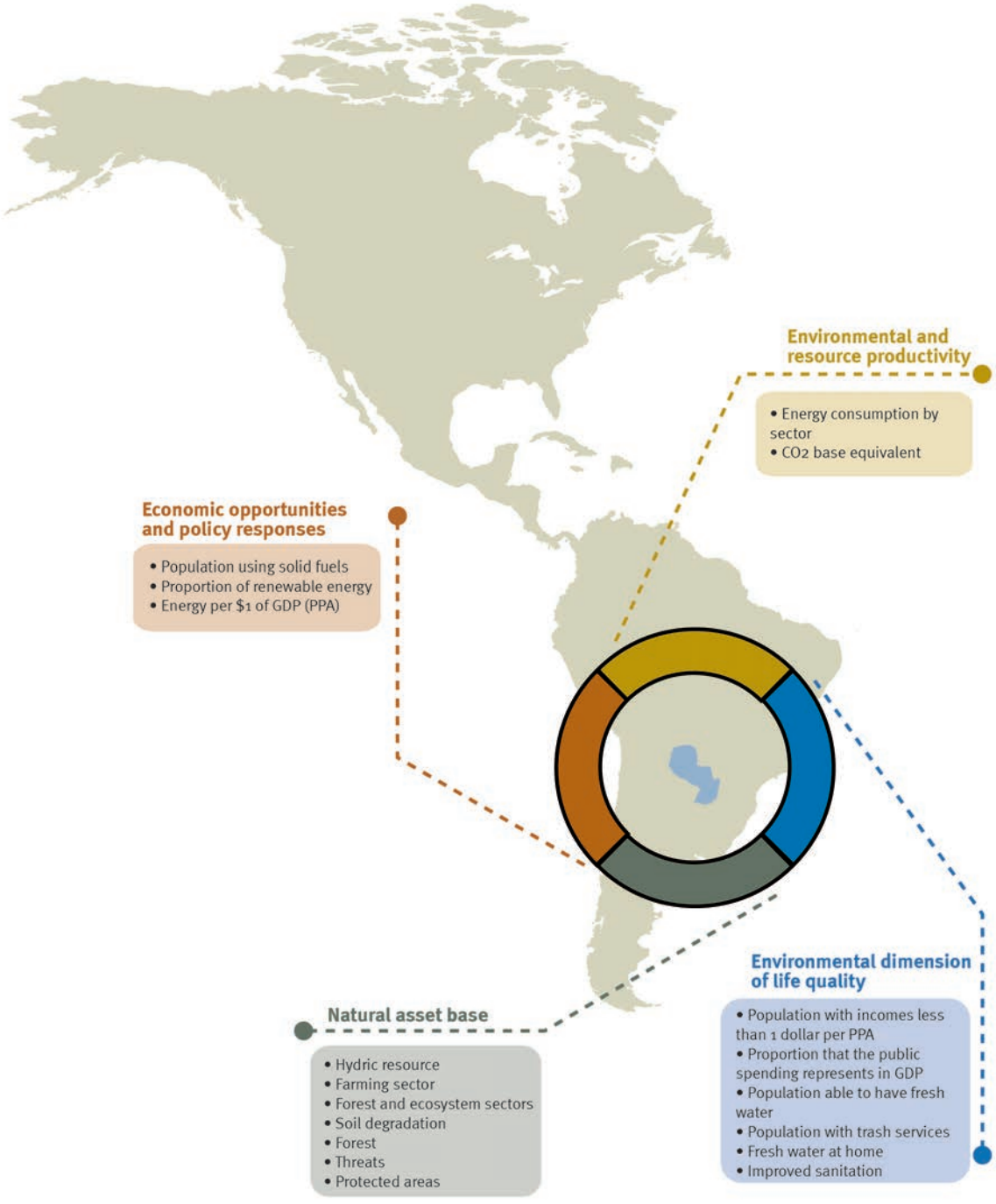
One of the main challenges has been the availability of the historical and recent 2011- 2012 data. Various public institutions support the process of data compilation for green growth indicators, while the Department of Industry and Trade is in charge of maintaining the database. The selected set of green growth indicators (18) corresponds to the period of 2000-2010, which is considered as medium and long term.

Specific challenges in Paraguay:

There is further need for an integrated analysis of Financial Flows (FF), Investment Flows (FI) and expenses of Operation and Maintenance (OyM) carried out by the country, considering the funded initiatives. These actions in other sectors can indirectly improve indicators of those analyzed subsectors, mainly the health sector regarding the dengue epidemic related to green growth issues.

4

List of selected themes and green growth indicators in Paraguay



PILOT STUDIES

Pilot Study of Peru

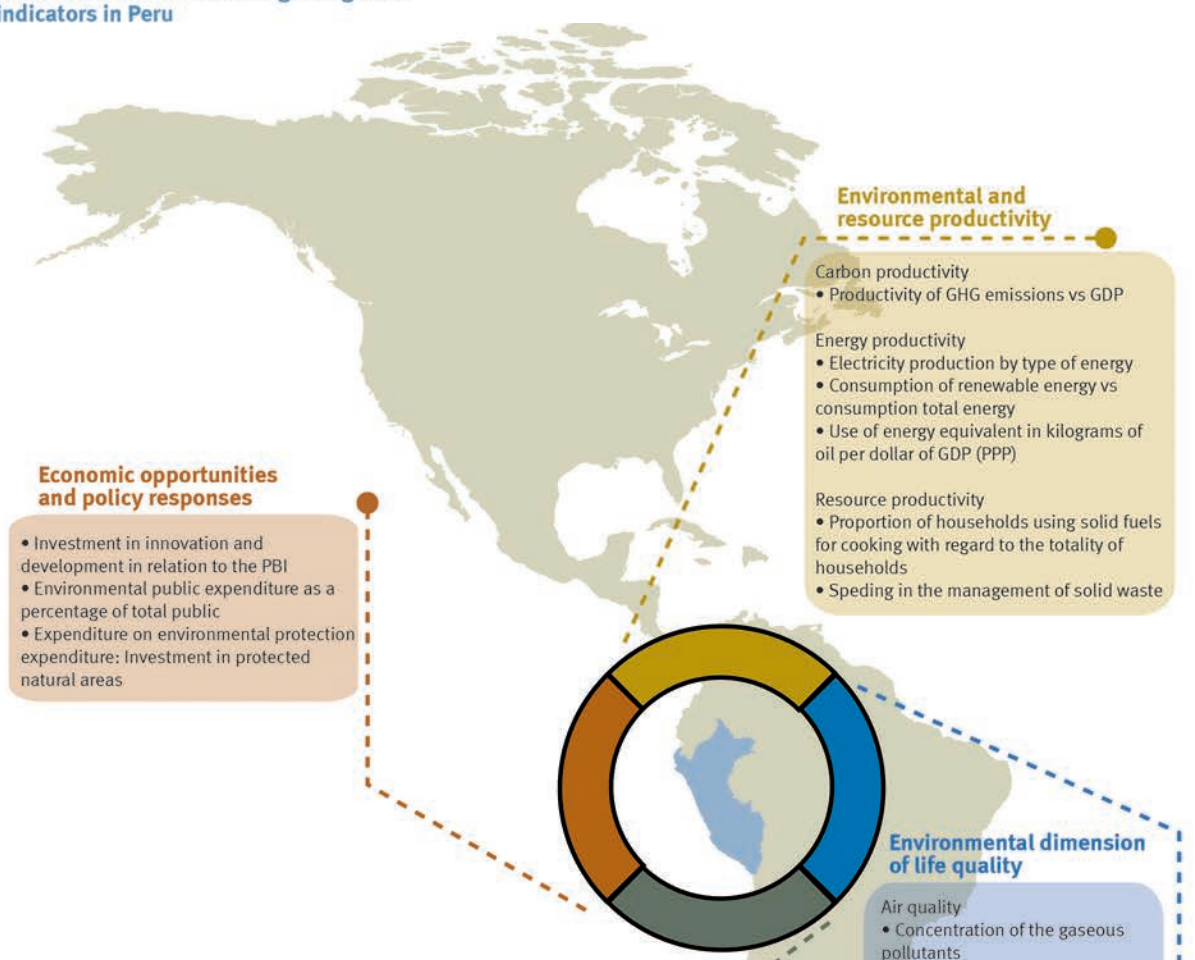
Among the main objectives of Peru's policy agenda is to start the transition to a green economy, which can simultaneously tackle poverty, food security and energy security in a single development strategy. This faces a series of challenges, which Peru considers require concerted global action. The market, aided by the state regulation and appropriate policy framework, should provide incentives for the use of clean production methods, should regulate polluting activities through a pricing system that considers the costs of the destruction of natural capital, and should reward the economically and environmentally efficient production systems.

Peru is one of the 10 world's most bio-diverse countries. It has the second largest Amazon rainforest after Brazil and has 84 of the 104 life habitat zones identified on the planet. This high bio-diversity that characterizes the country is due to a very contrasting geography expanding from coastal and marine ecosystems to high-altitude ecosystems, humid forests, and deserts. Peru has selected 39 indicators classified in 4+1 themes of green growth indicators.

Specific challenges in Peru:

- Integrating green growth indicators in policies
- Establishing network of institutional integration that contributes to the reporting of indicators as part of the modernization of Peru
- Implementing a working group to review the green growth indicators and allow finding solutions for updating and improving the quality of information to develop high-quality reporting on green growth

List of selected themes and green growth indicators in Peru



Environmental and resource productivity

Carbon productivity
- Productivity of GHG emissions vs GDP

Energy productivity
- Electricity production by type of energy
- Consumption of renewable energy vs consumption total energy
- Use of energy equivalent in kilograms of oil per dollar of GDP (PPP)

Resource productivity
- Proportion of households using solid fuels for cooking with regard to the totality of households
- Speding in the management of solid waste

Economic opportunities and policy responses

- Investment in innovation and development in relation to the PBI
- Environmental public expenditure as a percentage of total public
- Expenditure on environmental protection expenditure: Investment in protected natural areas

Environmental dimension of life quality

Air quality
- Concentration of the gaseous pollutants
- Air emissions to air pollutants by consumption of fuel
- Emissions by GHG per greenhouse water quality
- Volume of focused waste water without treatment
- Population with sustainable access to an improved source of water
- Water coverage of drinking water supply, sewer and water

Enviromentally related health
- Cases of IRAS
- Cases of EDAS treatment

Natural asset base

Water
- Water sheds share of the consumptive and non-consumptive use
- Water surface water availability vs water, slope of the Pacific

Forest resources
- Forest deforestation nation-wide
- Area reforested each year at the national level

Fish resources
- Production of fish products
- Fish vs GDP

Mineral resources
- Production mining metal products production vs national GDP

ASSOCIATED PARTNERS

ASSOCIATED PARTNERS

CAF Development Bank of Latin America

Sustainable development and regional integration are the pillars of the Mission of CAF and are defined as the guiding axes of its environmental strategy. For the institution, the main contribution of the environmental dimension to sustainable development is the recognition of the conservation and sustainable use of nature and the environment in Latin America, as a basis for promoting the improvement of the quality of life of societies, the overcoming of poverty, economic development and the spiritual welfare of the people, in the long term. The CAF focuses on the environmental perspective in:

- The responsible management of ecosystems and natural resources shared, of regional and international importance as well as the harmonization of environmental policies in Latin America.
- Capitalizing on the opportunities and the management of risks and impacts generated by physical integration.
- The conservation of the natural heritage and permanence of the functional relationships of ecosystems that ensure life.
- The promotion of greater regional environmental awareness, which will make possible the strategic assessment of its natural capital.

OECD Organization for Economic Cooperation and Development

Contacts / Lead authors of the CAF-OECD-UNIDO publication “Monitoring Green Growth in the LAC Region”: Nathalie Girouard, Green Growth Coordinator Ziga Zarnic, Green Growth Policy Analyst

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 cover advanced, emerging and other economies. Further information: http://www.oecd.org/greengrowth/.

SELA Latin America and Caribbean Economic System

To the Permanent Secretariat, a green economy must necessarily be redistributive and should

focus on policies that make inclusive growth and development, especially to the most vulnerable groups in rural areas, indigenous groups or women, who have traditionally faced major barriers to progress in the economic ladder. She would have to be from an economic system that considers its balance general holistic fair interaction of economic agents and factors of production, respect and proper functioning of the implied balance of natural capital and ecosystem of the environment, the needs of society and the proper harmony among developed countries emerging and developing to promote inclusive development.

UNEP UN Environment Programme

UNEP initiative for green economy initiative directed by the UNEP green economy, released at the end of 2008, provides analysis and guidance to countries on reforms of policies and investments to achieve a green transformation of key sectors of the economy. The main outcome of the initiative is the report on the green economy, released on the Governing Council of UNEP in February 2011 (UNEP 2011). As part of the initiative, a framework has been developed to assess progress in the transition towards a green economy. This framework of indicators and metrics, presenting options for Governments and other stakeholders,v will be part of the Advisory services on green economy that provides Governments UNEP.

UNIDO UN Industrial Development Organization - Regional Programme for LAC

Lead contacts of the project “Monitoring Green Growth in the LAC region” Carlos Chanduvi-Suarez, LAC Regional Programme Manager, Beatriz Ospina-Aragon, Advisor to the LAC Regional Programme Manager

Improving dialogue and cooperation with the authorities and representatives of the LAC countries is among UNIDO Director-General’s highest priorities. The Regional Programme for LAC countries defines several technical cooperation areas of interest for the 19 LAC participating countries and backs the support mechanisms defined for achieving sustainable development in the region. During this event most participants agreed to organize further EGMs in the region focused on thematic areas and technical issues related to sustainable industrial development. Nevertheless, the organization of other EGMs for drafting strategic development plans at the UNIDO Headquarter is not excluded. During UNIDO GC.13, a resolution was adopted (GC.13/Res.2), in which GRULAC requested UNIDO to organize and hold the 3rd LAC Regional Expert Group Meeting (3rd LAC EGM). The present proposal aims at strengthening the local agro-industrial value-chains and to articulate the national stakeholders of this sector. For achieving this objective, an innovative way of cooperation between the LAC countries and UNIDO has been defined with a view to making the most of: i) available UNIDO resources for the region; and ii) the own resources of LAC countries for strengthening their productive sectors.

PARTICIPATING COUNTRIES

PARTICIPATING COUNTRIES

Colombia

Ministry of Environment and Sustainable Development - MESD
Contact: Alejandra Torres
Associated institutions in Colombia

- Ministry of Trade, Industry and Tourism - MCIT
- National Administrative Office of Statistics – DANE
- Institute of Hydrology, Meteorology and Environmental Studies
- Mining and Energy Planning Unit – UPME
- Ministry of Finance and Public Credit - MHCP
- Ministry of Mining and Energy - MME
- National Institute of Health - INS
- National Natural Parks - PNN
- Colombian Institute of Rural Development – INCODER

Costa Rica

Ministry of Economy, Industry and Commerce, Costa Rica
Contact: Mr Jorge Rodríguez, Director de Cooperación Internacional
Associated institutions in Costa Rica

- Department of Economy, Industry and Trade
- Treasury Department
- Organization of the United Nations for the Industrial Development
- Central Bank of Costa Rica
- National Institute of Statistics and Census
- Geology and Mining Office
- Ministry of Environment and Energy
- Sectorial Office of Energy
- National Fund for Financing Forest
- National Laboratory of Land
- National System in Conservation Areas
- Social Security Office
- Public services monitoring office
- Ministry of science and technology

Ecuador

Ministry of Industry and Productivity (MIPRO), Ecuador
Contact: Mr Diego Vacas C., Dirección de Emprendimiento
Associated institutions in Ecuador

- Ministry of industries and productivity
- Ministry of environment
- SNGR: National Secretariat of risk management
- INEC: National Institute of statistics and censuses
- MCPE: economic policy Ministry
- IEPI: Ecuadorian Institute of intellectual property
- CONELEC: National Council of electricity MCDS
- MEER Social Development Ministry coordinator
- Ministry of electricity and renewable energy

Guatemala

Ministry of Economy, Guatemala
Contact: Mr Juan Carlos Ramos, Director de Programas y Proyectos de Cooperación
Associated institutions in Guatemala

- Ministry of environment and natural resources
- Ministry of economy Ministry of agriculture, livestock and supply
- Ministry of health published and assistance
- SOCIALENERGIA and mine
- University of San Carlos de Guatemala Universidad de Valle
- Chamber of industry
- AGEXPORT
- Foundation Center production GUATEMALAN
- Association of NGOs in nature and environmental resources
- The Committee of Cleaner Production

Mexico

National Institute for Statistics and Geography (INEGI), Mexico

Contact: Mr Raúl Figueroa Díaz, Director de Cuentas Satélite

Paraguay

Ministry of Industry and Trade, Republic of Paraguay

Contact: Mr Celso Cárdenas, Director del Centro Integral de apoyo a las Pequeñas y Medianas Empresas

Peru

Ministry of Environment, Peru
Contact: Ms Verónika Mendoza Díaz, Dirección General de Investigación e Información Ambiental, Viceministerio de Gestión Ambiental del Ministerio del Ambiente (MINAM)
Associated institutions in Peru

- Ministry of energy and mines
- Superintendence of sanitation and drinking water (SUNASS)
- Ministry of the Environment
- Ministry of Agriculture
- Ministry of the production
- National Institute of statistics and Informatics
- Bank Central of reservation of the Peru
- Ministry of economy and finance

ANNEX

APPLICATION OF NATIONAL GREEN GROWTH INDICATORS IN SEVEN PARTICIPANT LAC COUNTRIES

Themes and indicator groups	Mexico		Colombia		Costa Rica		Guatemala		Ecuador		Paraguay		Peru	
1. Selection Criteria	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**
M – Data & Measurability (1: short-term; 3: long-term availability)														
S – Analytical soundness (1: highest; 3: lowest)														
R – Policy relevance (1: highest; 3: lowest)														
2. Use of indicators														
Y- Yes; N- No; P- Proxy / new indicator used instead														
Socio-economic context														
Real GDP and economic growth	1;1;1	Y	...	...	1;1;1	Y	1;1;1	Y	...	...	1;1;1	N	1;1;1	Y
Net national disposable income	1;1;1	Y	...	...	2;1;1	N	2;1;1	N	...	...	2;1;1	N	1;1;1	P
Economic structure: Contribution of sectors to GDP	1;1;1	Y	...	...	2;1;1	N	1;1;1	Y	...	...	2;1;1	N	1;1;1	Y
Multifactor productivity	2;2;1	N	...	...	2;2;1	N	2;2;1	N	...	...	2;2;1	N	2;2;1	N
Labour productivity	1;1;1	Y	...	...	2;2;1	N	2;2;1	N	...	...	2;2;1	N	2;2;1	N
Labour force participation	2;2;1	N	...	...	2;1;1	N	2;1;1	N	...	...	1;1;1	Y	1;1;1	P
Unemployment	1;1;1	Y	...	...	1;1;1	Y	1;1;1	Y	...	...	2;1;1	N	1;1;1	Y
Inflation	1;1;1	Y	...	...	1;1;1	Y	2;1;1	N	...	...	1;1;1	Y	1;1;1	Y
Commodity prices	1;1;1	Y	...	...	1;1;1	Y	2;1;1	N	...	...	1;1;1	Y	1;1;1	Y
Income inequality	1;1;1	Y	...	...	1;1;1	Y	1;3;3	Y	...	...	2;1;1	N	1;1;1	Y
Education	1;1;1	Y	...	...	1;1;1	Y	1;1;1	Y	...	...	1;2;2	Y	1;1;1	Y
Health	1;1;1	Y	...	...	1;1;1	Y	1;1;1	Y	...	...	2;1;1	N	1;1;1	P
Environmental and resource productivity														
Carbon productivity														
1. CO_2 productivity														
Production-based CO_2 productivity	1;1;1	P	1;2;1	Y	1;2;1	Y	1;2;2	Y	...	...	1;2;2	Y	1;1;1	P
Demand-based CO_2 productivity	1;1;1	P	...	...	2;1;1	Y	...	...	...	...	2;2;2	Y	...	N
2. Energy productivity														
Energy productivity	1;1;1	Y	1;1;1	Y	1;2;2	Y	1;2;2	Y	...	...	1;2;2	Y	1;1;1	N
Energy intensity by sector	1;1;1	Y	1;1;1	Y	2;1;1	Y	1;2;2	Y	...	...	1;2;2	Y	...	N
Share of renewable energy	1;1;1	Y	1;1;1	Y	1;1;2	Y	...	...	...	...	1;1;1	Y	1;1;1	P
Resource productivity														
3. Material productivity (non-energy)	3;3;2	N	...	...	3;2;1	Y	...	...	...	...	...	...	3;2;1	N
Demand based material productivity	3;3;3	N	...	...	...	...	...	...	...	...	...	...	3;3;3	N
Biotic materials (food, other biomass)	3;3;3	N	...	...	...	...	...	...	...	...	...	...	3;3;3	N
Abiotic materials (metallic minerals, industrial minerals)	...	...	...	...	3;3;1	N	...	...	...	...	...	...	...	...
Waste generation intensities and recovery ratios	2;2;1	Y	...	...	3;3;1	N	...	...	...	...	...	...	3;2;2	N
Nutrient flows and balances (N,P)	2;2;2	N	...	...	...	...	...	...	...	...	...	...	...	...
4. Water productivity	1;1;1	P	...	...	2;3;1	N	...	...	...	...	1;2;2	Y	3;2;2	N
5. Evironmentally adjusted multifactor productivity	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Themes and indicator groups	Mexico		Colombia		Costa Rica		Guatemala		Ecuador		Paraguay		Peru	
1. Selection Criteria	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**
M – Data & Measurability (1: short-term; 3: long-term availability)														
S – Analytical soundness (1: highest; 3: lowest)														
R – Policy relevance (1: highest; 3: lowest)														
2. Use of indicators														
Y- Yes; N- No; P- Proxy / new indicator used instead														
Natural asset base														
Renewable stocks														
6. Freshwater resources	1;1;1	P	2;3;3	N	2;2;1	N	1;2;2	Y	...	...	1;2;2	Y	1;1;1	N
7. Forest resources	...	...	...	...	2;1;1	Y	...	...	...	...	...	...	...	...
8. Fish resources	1;1;1	Y	1;1;1	Y	...	...	1;2;2	Y	...	...	1;2;2	Y	1;1;1	P
Proportion of fish stocks within safe biological limits	2;2;2	Y	2;2;3	P	2;1;1	Y	1;2;2	Y	...	...	2;2;2	P	1;1;1	N
Non-renewable stocks														
9. Mineral resources	1;1;1	Y	1;1;1	Y	1;2;1	Y	1;2;2	Y	...	...	...	...	1;1;1	Y
Biodiversity and eco-systems														
10. Land resources	...	...	...	...	1;2;1	N	...	...	...	...	...	...	...	...
Land cover types, conversions and cover changes	...	...	2;2;2	P	...	...	...	...	...	...	...	...	1;1;1	N
State and changes from natural state to artificial or man-made state	1;1;1	Y	...	...	...	...	...	...	...	...	...	...	...	...
Land use: state and change	1;1;2	Y	...	...	...	...	...	...	...	...	...	...	1;1;1	N
11. Soil resources														
Agricultural land area affected by erosion	1;1;1	Y	3;3;2	N	1;2;1	N	...	...	...	...	...	...	1;1;1	N
12. Wildlife resources (tbd)														
Trends in farmland or forest bird populations	...	...	...	...	1;1;2	Y	...	...	...	...	...	...	...	...
Species threat status: mammals, birds, fish, plants	3;2;3	P	...	...	...	...	1;2;2	Y	...	...	...	...	1;1;1	Y
Trends in species abundance	...	...	2;2;2	N	...	...	1;2;2	Y	...	...	...	...	1;1;1	Y
Environmental quality of life														
Environmental health and risks														
13. Environmentally induced health problems & related costs	...	...	3;3;2	P	2;3;3	N	1;1;1	Y	...	...	2;3;3	Y	1;1;1	P
Population exposure to air pollution	1;1;1	P	...	...	...	...	1;3;3	Y	...	...	1;2;2	P	1;1;1	N
14. Exposure to natural or industrial risks and related economic losses	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Access to sewage treatment and drinking water														
Population connected to sewage treatment	1;1;1	Y	1;1;1	Y	2;1;1	Y	1;2;2	Y	...	...	1;1;1	Y	1;1;1	Y
Population with sustainable access to safe drinking water	1;1;1	Y	1;1;1	Y	...	...	1;2;2	Y	...	...	1;1;1	Y	1;1;1	Y

Themes and indicator groups	Mexico		Colombia		Costa Rica		Guatemala		Ecuador		Paraguay		Peru	
1. Selection Criteria	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**	**MSR**	**YNP**
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R – Policy relevance (1: highest; 3: lowest)														
2. Use of indicators														
Y- Yes; N- No; P- Proxy / new indicator used instead														
Economic opportunities and policy responses														
Technology and innovation														
16. R&D expenditure of importance to GG	1;1;1	Y	...	...	2;1;1	Y	...	...	...	...	...	...	2;2;1	N
17. Patents of importance to GG	...	N	...	...	1;2;3	N	...	...	...	...	...	...	1;2;2	N
18. Environment-related innovation in all sectors	...	N	...	...	3;1;1	Y	...	...	...	...	...	...	1;1;1	N
Environmental goods and services														
19. Production of environmental goods and services (EGS)	...	N	...	...	3;2;1	N	...	...	...	...	...	...	2;2;1	N
International financial flows														
20. International financial flows of importance to GG	...	N	...	...	3;3;2	N	...	...	...	...	...	...	1;2;2	N
Prices, taxes and transfers														
21. Environmentally related taxation	1;1;1	Y	...	...	1;1;2	Y	...	...	...	...	...	...	1;1;1	N
Level of environmentally related tax revenues														
Structure of environmentally related taxes (by type of tax base)	1;1;1	Y	...	...	...	...	...	...	...	...	...	...	1;1;2	N
Environmentally related subsidies	1;1;1	Y	...	...	1;3;2	N	1;2;2	Y	...	...	...	...	1;1;1	Y
Environmental expenditure: level and structure	1;1;1	Y	...	...	2;1;1	Y	...	...	...	...	...	...	...	...
22. Energy pricing	1;1;1	Y	...	...	2;1;1	Y	...	...	...	...	...	...	1;1;1	Y
23. Water pricing and cost recovery	1;1;1	Y	...	...	2;1;1	N	...	...	...	...	...	...	1;2;2	N
24. Regulations and management approaches	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Training and skill development	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Notes: The compiled information about the identification of selection criteria and indicators considered for application is based on responses of participant countries on the applicability of OECD green growth indicators to their national contexts. ".." denotes information that is being compiled or under revision of the associated institutions cooperating in the participant countries.

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Development Bank of Latin America
Organisation for Economic Cooperation and Development
UN Industrial Development Organization