# 1 Introduction

1.1 About the Green Growth Index

Green Growth Index is a composite index measuring a country's performance in achieving sustainability targets including Sustainable Development Goals (SDGs), Paris Climate Agreement, and Aichi Biodiversity Targets for four green growth dimensions – efficient and sustainable resource use, natural capital protection, green economic opportunities, and social inclusion (Acosta et al., 2019a). The Index is the first metric for green growth that explicitly links to sustainable development. In order to make the Index relevant at the national and international level, it has been imperative for GGGI to align the Index with global sustainability goals and targets. This complementary set of internationally accepted targets and related indicators serves as a reliable reference for the Green Growth Index and allows governments to align their pathway to green growth with achieving the SDGs and national climate and biodiversity goals (Acosta et al., 2019b).

The four dimensions of green growth are closely interlinked (Figure 1). Using natural resources efficiently and sustainably will produce more goods and services with less resources. It will protect natural capital including water, energy, land, and materials as well as the ecosystem services they provide. A healthy ecosystem characterized by, for example, fertile soil, multifunctional forests, productive land and seas, good quality freshwater and clean air, and pollination increases economic productivity and creates new economic opportunities. Green Growth advocates the protection of natural capital because it provides sources of economic growth such as green jobs, trade, and investment. And it emphasizes not only people benefitting from growth but also people contributing to the efficient use and protection of natural resources. This makes social inclusion a key mechanism to both achievement and distribution of gains from green growth.

Figure 1 Conceptual Framework for the Green Growth Index
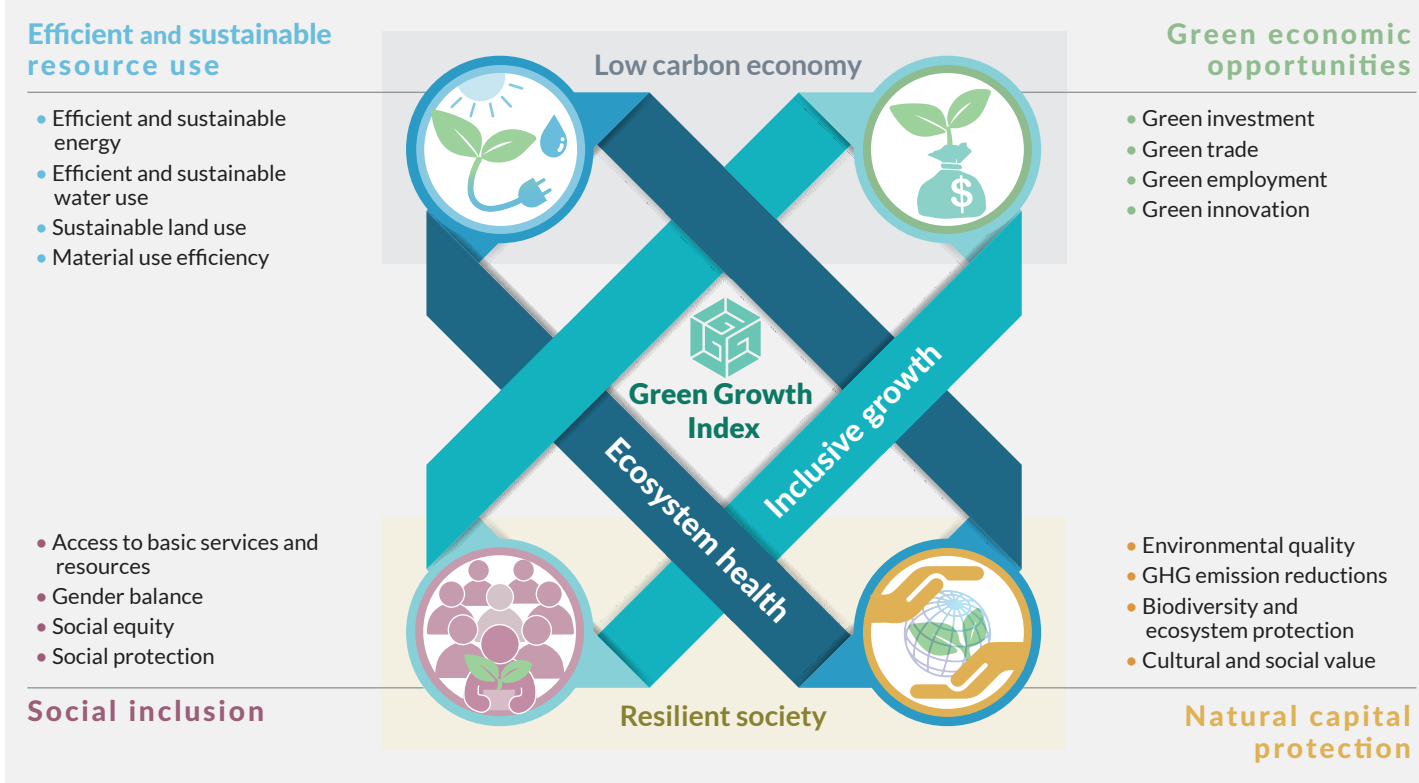
The interlinkages among the four green growth dimensions were drawn from the concepts of low carbon economy, resilient society, ecosystem health, and inclusive growth (details are available in Acosta et al., 2019a). These concepts guided the determination of four indicator categories that represent each dimension. They can be interpreted as "pillars" of green growth, forming the basis for transition to efficient and sustainable resource use, enhancement of natural capital protection, creation of green economic opportunities, and enablement of social inclusion. Box 1 presents the definitions of the indicator categories.

Box 1 Definitions of the indicator categories in Figure 1

1. Efficient and sustainable energy refers to delivering more services or products per unit of energy used and meeting present needs by using renewable sources to ensure sustainability of energy for future use (IRENA & C2E2, 2015; Kutscher, Milford, & Keith, 2018).

2. Efficient and sustainable water use refers to delivering more services or products per unit of water used, reducing environmental impact resulting from water scarcity and pollution, and improving water allocation among competing uses (UNEP, 2014; Wang, Yang, Deng, & Lan, 2015).

3. Sustainable land use refers to delivering more services or products for a fixed amount of land used and without compromising many ecosystem services provided by land (Auzins, Geipele, & Geipele, 2014; Smith, 2018).

4. Material use efficiency refers to delivering more services or products per unit of raw material used and reducing material demand through increased recycling, longer-lasting products, and component re-use, among others (Allwood, Ashby, Gutowski, & Worrell, 2011; Lifset & Eckelman, 2013).

5. Environmental quality refers to properties and characteristics of the environment which may affect the health of human beings and other organisms, including air, water and noise pollution, access to open space, and visual impacts of buildings (EEA, 2015, 2017).

6. Greenhouse gas (GHG) emission reduction refers to the reduction and removal of CO_2 and non-CO_2 emissions from the atmosphere in order to address climate change (IPCC, 2013; Symon, 2013).

7. Biodiversity and ecosystem protection refers to the protection of species, habitats, and ecosystems as well as the services they provide, with protected areas as an important measure to achieve biodiversity conservation (UNEP-WCMC & IUCN, 2016; IPBES, 2018).

8. Cultural and social value refers to the societal value given to natural capital due to its importance to communities and their local culture, which encourages sustainable use and protection of natural resources (Small, Munday, & Durance, 2017; da Rocha, Almassy, & Pinter, 2017).

9. Green investment refers to public and private investment that promotes, in a direct or indirect manner, sustainable resource use, including material, water, energy, and land, and natural capital protection, such as environmental protection and climate action, advancing sustainable development and green growth (Eyraud, Wane, Zhang, & Clements, 2011; Lović Obradović, 2019).

10. Green trade refers to the competitiveness of a country to produce and export environmental goods that can contribute to environmental protection, climate action, green growth, and sustainable development (PAGE, 2017a; European Parliament, 2019).

11. Green jobs refer to employment created and sustained by economic activities that are more environmentally sustainable; contribute to protecting the environment and reduce people's environmental footprint; and offer decent working conditions (UNEP, ILO, IOE, & ITUC, 2008; ILO, 2015).

12. Green innovation refers to product, process, and service innovations such as energy-saving, pollution-prevention, waste recycling, green product designs, or corporate environmental management that yields environmental benefits (Schiederig, Tietze, & Herstatt, 2011; Gao et al., 2018).

13. Access to basic services refers to the general availability of services, such as telecommunications, financial, water and sanitation, and energy services, to people regardless of income and location, and which requires an effective governance at multiple scales due to the local nature of these services (OECD & WB, 2006; UCLG, 2014).

14. Gender balance refers to equality based on gender in terms of rights, resources, opportunities, and protection, and the ability to use them to make strategic choices and decision. Women's social and economic empowerment at work, home, and communities increases inclusive growth and reduces poverty (UNICEF, 2011; UN Women, 2018).

15. Social equity refers to a fair and equitable public and social policy, giving equal opportunities to all by a fair allocation of and access to resources that take into account social inequalities. Addressing and embedding equity issues in the design of a policy will lead to sustainable economic growth over the long term (Clench-Aas & Holte, 2018; OECD, 2018).

16. Social protection refers to programs designed to provide benefits to ensure income security and access to social services, contributing to social equity and inclusive society and reducing poverty and exposure to risks (UNRISD, 2010; ESCWA, 2015).

The scores for the Green Growth Index range from 1 to 100, with 1 having the lowest or very low performance and 100 having the highest or very high performance. Because the indicators are benchmarked against sustainability targets (see Chapter 1.2.3 Link to the SDGs), a score of 100 on the index, dimensions, and indicator categories means that a country has reached a given target. The scores are classified in a given range and can be interpreted as follows:

• 80–100 are very high scores, having reached or almost reached the target.
• 60–80 are high scores, taking a strategic position to completely reach the target.
• 40–60 are moderate scores, finding the right balance to move forward to and avoid moving away from the target.
• 20–40 are low scores, identifying the right policies to align development toward achieving the target.
• 1–20 are very low scores, requiring significant actions to improve position relative to the target.

1.2 Updates in the 2020 Green Growth Index

1.2.1 Main improvements

First published in 2019, GGGI has envisaged to annually review the Green Growth Index to continuously improve its relevance to policy and decision making. There are two main improvements in the Index this year: first is the computation of trend from 2005 to 2019, and second is the replacement of several proxy variables with more relevant indicators or better data availability. The motivations for these are as follows:

1. **Motive 1:** The availability of other indicators with improved country coverage from the UNSTATS SDG database.
2. **Motive 2:** The inclusion of new indicators which are currently being suggested to be part of the UNSTATS SDG database.
3. **Motive 3:** The exclusion of indicators for which time-series data are not available and its availability is not expected to change in the near future.
4. **Motive 4:** The rescaling/redefining of indicators for which time-series data show erratic trend over time.
5. **Motive 5:** The creation of interlinkages between the Simulation Tool and Green Growth Index which requires adjustment in definition and unit of the indicators.

Table 1 presents the 10 indicators which have been updated in the 2020 Green Growth Index, including mainly indicators from natural capital protection and social inclusion. The motivations were almost equally important for the different indicators, except for Motive 2 which is relevant only for SE1: Inequality in income based on Atkinson (Index). This indicator, which was accessed from the United Nations Development Programme (UNDP) database last year, is no longer available for download this year. More importantly, there are ongoing debates on the inclusion of Palma Ratio as a measure of income inequality in the SDG 10 (IISD, 2019). The income inequality indicator based on Atkinson Index was thus replaced with Palma Ratio, which is the ratio of the top 10% to the bottom 40% share of gross national income and measures shifts at the ends of these distributions (Fukuda-Parr, 2019). Among the indicator categories, the GHG emissions reduction (GE) has the highest number of updated indicators, but motivations were mainly to align units of measurement for linking to the Simulation Tool (Acosta et al. 2020).

Table 1 List of replaced indicators and motivations for updating in the 2020 Green Growth Index

Dimension	Indicator	Motivations for replacing
Efficient and sustainable resource use	SL1: Average soil organic carbon content (Ton per hectare)	Motive 3
Natural capital protection	GE1: Ratio of CO_2 emissions excl. AFOLU to population (Metric tons per capita)	Motive 5
	GE2: Ratio of non-CO_2 emissions excl. AFOLU to population (Ton per capita)	Motive 5
	GE3: Ratio of non-CO_2 emissions in Agriculture to population (Gigagrams per 1000 persons)	Motive 5
	BE3: Soil biodiversity, potential level of diversity living in soils (Index)	Motive 3
Green economic opportunities	GN1: Share of patent publications in environmental technology to total patents (Percent)	Motive 4
Social Inclusion	GB2: Share of female to male with account in financial institution (% age 15+) (Percent)	Motive 1
	SE1: Inequality in income based on Atkinson (Index)	Motive 2
	SE2: Ratio urban-rural access to basic services (water, sanitation and electricity) (Percent)	Motive 4
	SP2: Healthcare access and quality index (Index)	Motive 1

1.2.2 Updated indicator framework

The new indicators have been validated and confirmed by 110 experts from 54 countries (11 countries in Africa, 16 in Asia, 10 in the Americas, 13 in Europe, 4 in Oceania) with representations from GGGI, international expert group, scientific community, policymakers, and non-government organizations (NGOs) (Figure 2), through online expert consultations (see Chapter 5 Expert consultations). While NGOs appear to be underrepresented, six (21%) of the members of the international expert group are also from NGOs, increasing the total number of experts to 12 out of 110 (Figure 2). In 2018, the Green Growth Performance Measurement (GGPM) team formed the international expert group to continuously support the development of the Green Growth Index. Many experts in this group are also members of the Green Growth Knowledge Partnership (GGKP) Metrics and Indicators Working Group.

Finally, the indicators for GB2 and SP2 were replaced with similar indicators that were recently included in the UNSTATS SDG database, SDG Indicators 8.10.2 and 3.8.1, respectively. For the new indicator for GB2, mobile-money-service provider was added with account at a financial institution. Combining these two indicators enhanced the measurement of financial inclusion because mobile money provides account ownership and payment services to people in remote and underserved areas in developing and emerging countries (Hamdan, 2019; Navis, 2019). The new indicator for SP2 is a composite index of 14 indicators covering four categories: reproductive, maternal, newborn, and child health; infectious diseases; non-communicable diseases; and service capacity and access (UNSTATS, 2020b). Currently, there are over 100 low- and middle-income countries that are working hard to achieve universal health coverage (UNDP, 2019b). Thus, this will improve inclusion in health services.

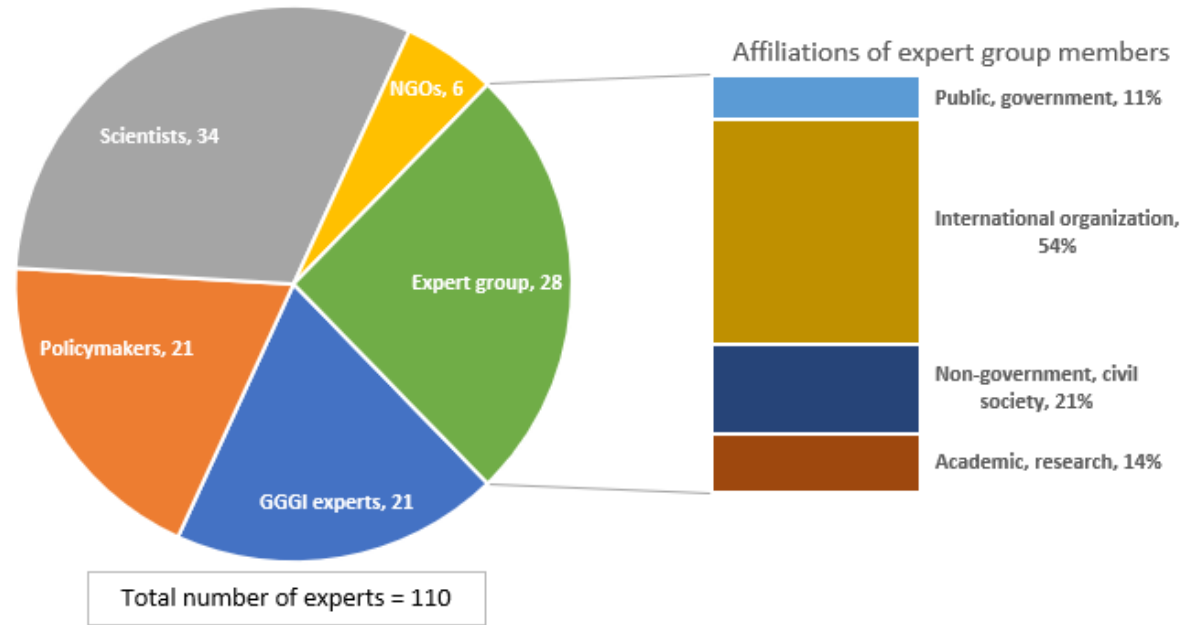**Figure 2** Characteristics of the experts who participated in the review of the new indicators

Figure 3 presents the updated indicator framework with the new green growth indicators for the 2020 Green Growth Index. The new indicator for SL1 is biological fixation, cropland nutrient flow per unit area, which has time-series data from 1961 to 2018. It was published by the FAO and, as of December 2020, available for download from the FAOSTAT database. It replaced the average soil organic carbon content which data was available only for 2019. This new indicator, also referred to as biological nitrogen fixation, is considered as an alternative sustainable practice for soil management to reduce the harmful impacts of overusing inorganic and manure fertilizers on ecosystems (Mohammadi, Sohrabi, Heidari, Khalesro, & Majidi, 2012; Soumare et al., 2020). These include, among others, pollution of groundwater, increased atmospheric nitrous oxide (N_2O), and influence of global carbon cycles from direct use of nitrogen fertilizer as well as carbon dioxide (CO_2) emissions from producing nitrogen fertilizer (He et al., 2016; Montañez, 2000). The new indicator for BE3 is above-ground biomass stock in forest in tons per hectare, which was developed by FAO and is one of the SDG indicators for sustainable forest management (SDG 15.2.1). Like the previous indicator for SL1, the previous indicator for BE3 has also limited time-series data, only for 2016 and 2019. The new indicator has data for 2000, 2010, and 2015-2020. An increase in above-ground biomass indicates gains in biomass due to forest growth, while a decrease indicates losses in biomass due to deforestation, forest fires, pest, and diseases, etc. (UNSTATS, 2020a). Maintaining species diversity has a positive impact on above-ground biomass (Li, Su, Lang, Liu, & Ou, 2018; Pokhrel & Sherpa, 2020) and the same is the case for forest restoration (Damptey, Birkhofer, Nsiah, & de la Riva, 2020).

The time-series data for the previous indicators for GN1 and SE2 showed an erratic trend, which had significant impacts on the stability of the Index trend. In the case of GN1, annual changes on the share of patent publications in environmental technology to total patents were erratic because countries were not able to publish patents every year, causing spikes in years when they were able to do so. Moreover, when no patent was published in a given year, although several were published in the past years, it directly implied that the country lacks innovation capacity. This may not make sense when considering innovation capacity over time because the patents which were published in previous years (and which continue contributing to greening the economy) are ignored. Several experts suggested using a moving average instead of a cumulative share of patent publications in environmental technology to total patents. With regards to SE2, the spikes in the trend in the ratio of urban-rural access to basic services were caused by the data paucity on urban and rural access to safely managed drinking water and sanitation. Consequently, these indicators were excluded from SE2 indicator for this year and until data availability improves in the next years. The SE2 only consists of urban-rural share in access to electricity in the 2020 Green Growth Index.

Figure 3 Updated Indicator Framework for the 2020 Green Growth Index

Dimensions [Goals]	Indicator categories [Pillars]	Indicators [metrics]	
Efficient and sustainable resource use	Efficient and sustainable energy	EE1	Ratio of total primary energy supply to GDP (MJ per $2011 PPP GDP)
		EE2	Share of renewable to total final energy consumption (Percent)
	Efficient and sustainable water use	EW1	Water use efficiency (USD per m^3)
		EW2	Share of freshwater withdrawal to available freshwater resources (Percent)
	Sustainable land use	SL1	Soil nutrient budget (Nitrogen kilogram per hectare)
		SL2	Share of organic agriculture to total agricultural land area (Percent)
	Material use efficiency	ME1	Total domestic material consumption (DMC) per unit of GDP (Kilogram per GDP)
		ME2	Total material footprint (MF) per capita (Tons per capita)
Natural capital protection	Environmental quality	EQ1	PM2.5 air pollution, mean annual population-weighted exposure (Micrograms per m^3)
		EQ2	DALY rate due to unsafe water sources (DALY lost per 100,000 persons)
		EQ3	Municipal solid waste (MSW) generation per capita (Tons per year per capita)
	Greenhouse gas emissions reductions	GE1	Ratio of CO_2 emissions to population, including AFOLU (Tons per capita)
		GE2	Ratio of non-CO_2 emissions to population, excluding AFOLU (CO_2e per capita)
		GE3	Ratio of non-CO_2 emissions in agriculture to population (CO_2eq tons per capita)
	Biodiversity and ecosystem protection	BE1	Average proportion of key biodiversity areas covered by protected areas (Percent)
		BE2	Share of forest area to total land area (Percent)
		BE3	Above-ground biomass stock in forest (Tons per hectare)
	Cultural and social value	CV1	Red list index (Index)
		CV2	Tourism and recreation in coastal and marine areas (Score)
		CV3	Share of terrestrial and marine protected areas to total territorial areas (Percent)
Green economic opportunities	Green investment	GV1	Adjusted net savings, including particulate emission damage (Percent GNI)
	Green trade	GT1	Share of export of environmental goods (OECD and APEC class.) to total export (Percent)
	Green employment	GJ1	Share of green employment in total manufacturing employment (Percent)
	Green innovation	GN1	Share of patent publications in environmental technology to total patents (7 yrs moving ave.)
Social inclusion	Access to basic services and resources	AB1	Population with access to safely managed water and sanitation (Percent)
		AB2	Population with access to electricity and clean fuels/technology (Percent)
		AB3	Fixed Internet broadband and mobile cellular subscriptions (Number per 100 people)
	Gender balance	GB1	Proportion of seats held by women in national parliaments (Percent)
		GB2	Gender ratio of account at a financial institution or mobile-money-service provider (Ratio)
		GB3	Getting paid, covering laws and regulations for equal gender pay (Score)
	Social equity	SE1	Inequality in income based on Palma ratio (Ratio)
		SE2	Ratio of urban-rural access to basic services, i.e. electricity (Ratio)
		SE3	Share of youth (aged 15–24 years) not in education, employment, or training (Percent)
	Social protection	SP1	Proportion of population above statutory pensionable age receiving pension (Percent)
		SP2	Universal health coverage (UHC) service coverage index (Index)
		SP3	Proportion of urban population living in slums (Percent)

1.2.3 Link to the SDGs

The updated indicator framework for the 2020 Green Growth Index has two additional SDG indicators - BE3: Above-ground biomass stock in forest for Goal 15 on life on land and SP2: Universal health coverage (UHC) service coverage index for Goal 3 on good health and well-being. With these, the Green Growth Index now covers 27 SDG Targets, which are represented in 23 indicators (Figure 4A). Two of these 23 indicators are either included in different SDG Targets as in the case of ME1: Total domestic material consumption per gross domestic product (GDP) and ME2: Total material footprint per capita, which are both in Goal 8 on decent work and economic growth and Goal 12 on responsible consumption and production. The other three indicators are composite of different SDG indicators:

- BE1: Proportion of Key Biodiversity Areas (KBAs) covered by protected areas, which combines marine (SDG 14.5.1), freshwater and terrestrial (SDG 15.1.2), and mountain (SDG 15.4.1) biodiversity
- AB1: Access to safely managed water and sanitation, which covers both drinking water (SDG 6.1.1) and sanitation (SDG 6.2.1) services
- AB2: Access to electricity and clean fuels/technology, which combines access to electricity (SDG 7.1.1) and primary reliance on clean fuels and technology (SDG 7.1.2)

But still, 15 indicators are not SDG indicators and thus do not have SDG Targets (Figure 4B). Except for CV3: Share of terrestrial protected areas to total territorial areas, which has Aichi Biodiversity Target, other indicators do not have specific global targets at present. Even for the indicators on GHG emissions reduction, there are no globally agreed climate targets. National targets are determined by governments in their National Determined Contributions (NDCs). Global targets are necessary to benchmark countries' performance against the same measurement.

To come up with sustainability targets for all the green growth indicators, the following criteria were adopted:
1. For SDG indicators, the SDG targets, both explicit and implicit, which were suggested in the Organisation for Economic Co-operation and Development (OECD, 2019a, 2019b) and UN Sustainable Development Solutions Network (SDSN) (Lafortune et al., 2018; Sachs et al., 2019; Sachs et al., 2018) reports were used. If the interpretation of implicit targets is different, the SDSN values, which are applied on a global context, were adopted.
2. For non-SDG indicators, the targets suggested in scientific literature and reports from international organizations were used.
3. For SDG indicators not included in the OECD and SDSN reports, the mean of the top five performers was used.
4. For non-SDG indicators with no available information from the literature and reports, the mean of the top five performers was used.

Criteria 3 and 4 follow methods that were used in other global indices such as SDSN's SDG Index (Sachs et al., 2019; Sachs et al., 2018) and UNEP's Green Economy Progress (GEP) (PAGE, 2017b, 2017a). The details on the sustainability targets used to benchmark the indicators of the 2020 Green Growth Index are discussed in Chapter 5.3.3 Sustainability targets.

1.3 Purpose and structure of the report

Considering the significant updates on the 2020 Green Growth Index with the replacement of about 28% of the 36 indicators, the country performances from last year's report on the Index cannot be compared to those from this year. This is a common practice for global indices particularly when the development process evolved over years, as also is the case for the following global indices:

Human Development Index (HDI)

"Because national and international agencies continually improve their data series, the data—including the HDI values and ranks—presented in this report are not comparable to those published in earlier editions." (UNDP, 2019: p. 295)

"It is misleading to compare values and rankings with those of previously published reports, because of revisions and updates of the underlying data and adjustments to goalposts." (UNDP, 2018: p. 1)

SDG Index

"Since the indicators, data, and methodology have been revised for the 2018 Index, the rankings and scores are not comparable with the 2017 and 2016 editions. Therefore, a change in a country's ranking does not necessarily signify a change in its SDG performance." (Sachs et al., 2018: p. 11)

"Due to changes in the indicators and some refinements in the methodology, SDG Index rankings and scores cannot be compared across the 2016, 2017 and 2018 editions of the report." (Sachs et al., 2018: p. 36)

Environmental Performance Index (EPI)

"Changes in methodology between versions of the EPI mean that historical EPI scores are not comparable. Differences in EPI scores across EPI iterations are largely due to additions and subtractions of indicators, new weighting schemes, and other aspects of the methodology—not necessarily to decreased or increased performance." (Wendling et al., 2018: p. 10)

Figure 4 Links of Green Growth Index to Sustainable Development Goals

A Sustainable Development Goals (SDG) indicators used in the Green Growth Index

Dimensions	Indicators		Sustainable Development Goals (SDGs)*		
			Goal	Target	Indicator
Efficient and sustainable resource use	EE1	Ratio of total primary energy supply to GDP	Affordable and clean energy	7.3	7.3.1
	EE2	Share of renewable to total final energy consumption	Affordable and clean energy	7.2	7.2.1
	EW1	Water use efficiency	Clean water and sanitation	6.4	6.4.1
	EW2	Share of freshwater withdrawal to available freshwater resources	Clean water and sanitation	6.4	6.4.2
	ME1	Total domestic material consumption per unit of GDP	Decent work and economic growth	8.4	8.4.2
			Responsible consumption and production	12.2	12.2.2
	ME2	Total material footprint per capita	Decent work and economic growth	8.4	8.4.1
			Responsible consumption and production	12.2	12.2.1
Natural capital protection	EQ1	PM2.5 air pollution, mean annual population-weighted exposure	Sustainable cities and communities	11.6	11.6.2
	EQ2	DALY rate due to unsafe water sources	Good health and well-being	3.9	3.9.2
	BE1	Proportion of KBAs covered by protected areas	Life below water	14.5	14.5.1
			Life on land	15.1 / 15.4	15.1.2 / 15.4.1
	BE2	Share of forest area to total land area	Life on land	15.1	15.1.1
	BE3	Above-ground biomass stock in forest	Life on land	15.2	15.2.1
	CV1	Red list index	Life on land	15.5	15.5.1
	CV3	Share of terrestrial and marine PAs to total territorial areas	Life below water	14.5	14.5.1
Social inclusion	AB1	Access to safely managed water and sanitation	Clean water and sanitation	6.1 / 6.2	6.1.1 / 6.2.1
	AB2	Access to electricity and clean fuels/technology	Affordable and clean energy	7.1	7.1.1 / 7.1.2
	AB3	Internet broadband and mobile cellular subscriptions	Partnerships to achieve the goal	17.6	17.6.2
	GB1	Seats held by women in national parliaments	Gender equality	5.5	5.5.1
	GB2	Gender ratio of account at a financial institution or mobile-money-service	Decent work and economic growth	8.10	8.10.2
	SE2	Ratio of urban-rural access to basic services, i.e. electricity	Affordable and clean energy	7.1	7.1.1
	SE3	Youth not in education, employment or training	Decent work and economic growth	8.6	8.6.1
	SP1	Proportion of population receiving pension	No poverty	1.3	1.3.1
	SP2	Universal health coverage service coverage index	Good health and well-being	3.8	3.8.1
	SP3	Proportion of urban population living in slums	Sustainable cities and communities	11.1	11.1.1

* Details on SDG targets and indicators are available on these links: https://unstats.un.org/sdgs/indicators/database/; https://unstats.un.org/sdgs/metadata/

Figure 4 Links of Green Growth Index to Sustainable Development Goals (continued)

B Link of green growth indicators to SDGs and other sustainability targets

Dimensions	Indicators		Link to SDGs and other targets		
			Sustainable Development Goals (SDGs)*		Other targets
Efficient and sustainable resource use	SL1	Soil nutrient budget	Life on land	15.3.1	Aichi
	SL2	Share of organic agriculture to total agricultural land area	Zero hunger	2	Aichi
			Responsible consumption and production	12	
Natural capital Protection	EQ3	Municipal solid waste generation per capita	Sustainable cities and communities	11.6.1	
	GE1	CO$_2$ emissions to population, including AFOLU	Industry, innovation and infrastructure	9.4	9.4.1
			Climate action	13	Climate
	GE2	Non-CO$_2$ emissions to population, excluding AFOLU	Climate action	13	Climate
	GE3	Non-CO$_2$ emissions in agriculture to population	Climate action	13	Climate
	CV2	Tourism and recreation in coastal and marine areas	Responsible consumption and production	12.B	
	CV3	Share of terrestrial and marine PA's to territorial areas	Life on land	15.1	Aichi
Green economic opportunities	GV1	Adjusted net savings, including particulate emission damage	Responsible consumption and production	12	
	GT1	Share of environmental goods to total export	Responsible consumption and production	12	
	GJ1	Share of green employment in manufacturing	Industry, innovation and infrastructure	9	
	GN1	Share of environmental technology to total patents	Responsible consumption and production	12	
Social inclusion	AB3	Fixed Internet broadband and mobile cellular subscriptions	Industry, innovation and infrastructure	9.c	
	GB2	Gender ratio of account at a financial institution or mobile-money-service	Gender equality	5.1	
	GB3	Laws and regulations for equal gender pay	Gender equality	5.c	
			Reduced inequality	10.2	
	SE1	Inequality in income based on Palma ratio	No poverty	1.1.1 1.2.1	
			Reduced inequality	10.1.1	

* Details on SDG targets and indicators are available on these links: https://unstats.un.org/sdgs/indicators/database/; https://unstats.un.org/sdgs/metadata/

To allow comparison of scores and ranks over time, this edition of the report includes trends in the Green Growth Index – comparing changes in their green growth performance in the last one and a half decades. The 2020 Green Growth Index presents the results for about 117 countries from 2005 to 2019, including key highlights on differences in green growth performance among countries and regions, and across dimensions and indicators. Details on the concept and methods for developing the Green Growth Index were already discussed in the previous report and will not be repeated here. Only the summary of the methods is presented to enable readers and users of this report to understand the context for developing the Index (Appendix 1). The structure of the report is as follows:

Chapter 1 briefly describes the concept of the Green Growth Index and explains the improvements made on its indicator framework. This chapter also briefly mentions the experts who contributed to the review of the indicator framework.

Chapter 2 provides a global overview of the Green Growth Index and its dimensions using maps to present a bird's eye view of the countries' green growth performance. This chapter also presents country and subregional dashboards on the Index, dimensions, and indicators to provide contexts to the geographical differences in performance.

Chapter 3 presents the regional outlook of the Green Growth Index with a special focus on the performance of regions on the four green growth dimensions and the trend in performance from 2005 to 2019.

Chapter 4 presents the pattern of distribution of the Green Growth Index scores by region and discusses the performance of top performing countries in each region.

Chapter 5 provides details of the expert consultations that were conducted to review the green growth indicators for the 2020 Green Growth Index. This chapter describes the online survey and feedback collected from experts from this survey as well as challenges that need attention in the next steps forward.

Chapter 6 presents the projects at GGGI which will apply the Green Growth Index and its Simulation Tool to support GGGI Member Countries and its Regional Partners to support greening of National Development Plans and Framework and assess co-benefits from COVID Green Recovery Plans.

Chapter 7 provides the detailed results of the Green Growth Index for each country, including those which cannot be ranked due to lack of data for some green growth indicators. This chapter presents tables of the Index, dimensions, indicator categories, and normalized indicators for all countries and classified by regions.