



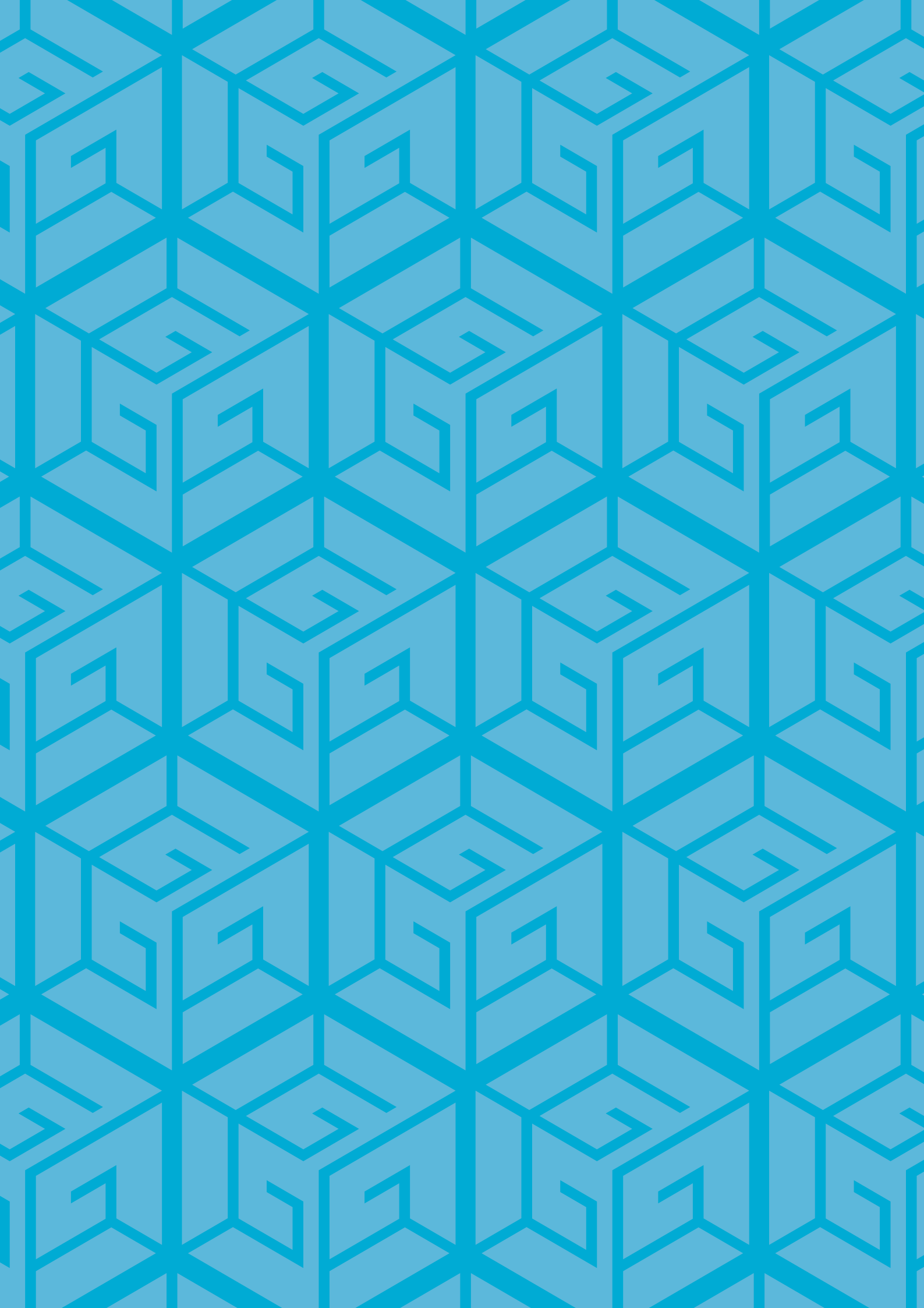
Global  
Green Growth  
Institute

# GGGI

## Peru Country Planning Framework 2017-2021





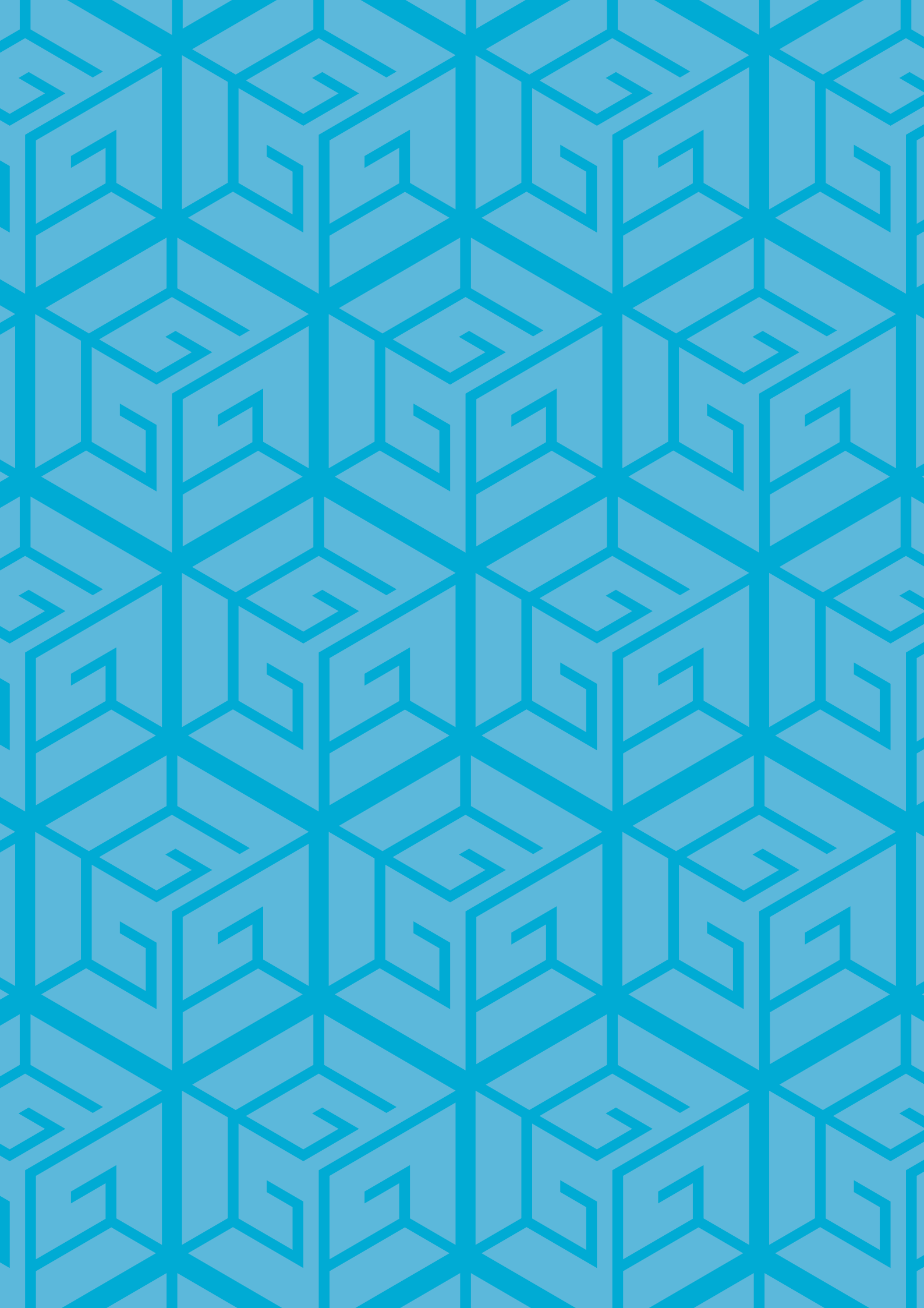


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# Abbreviations and Acronyms

<b>CO<sub>2</sub>e</b>	Carbon Dioxide Equivalent
<b>CPF</b>	Country Planning Framework
<b>GDP</b>	Gross Domestic Product
<b>GGGI</b>	Global Green Growth Institute
<b>GGPA</b>	Green Growth Potential Assessment
<b>GHG</b>	Greenhouse Gas
<b>GoP</b>	Government of Peru
<b>JDI</b>	Joint Declaration of Intent
<b>NDC</b>	Nationally Determined Contribution
<b>NFWP</b>	National Forest and Wildlife Plan
<b>NGGS</b>	National Green Growth Strategy
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>SDG</b>	Sustainable Development Goal
<b>SERFOR</b>	National Forest and Wildlife Service







# Executive Summary

## Background: Peru's Green Growth Challenges and Potential

1. Peru's rapid economic growth in the last decade has consolidated its status as an upper-middle income country and established its aspirations for membership in the Organisation for Economic Co-operation and Development (OECD). To this end, the Government of Peru (GoP) has committed to ambitious green growth goals that seek to reconcile economic development with the imperative of improving the livelihoods of its citizenry and sustainably managing its natural resource base and rich biodiversity.

2. In 2015, the GoP commissioned the Global Green Growth Institute (GGGI) to undertake a Green Growth Potential Assessment (GGPA), which highlighted three major areas with high-impact potential for achieving Peru's green growth vision: sustainable landscapes, water and energy. First, sustainable landscapes activities in Peru employ 25%<sup>1</sup> of the country's workforce while contributing to over half of the country's greenhouse gas (GHG) emissions through land-use change.<sup>2</sup> Second, water

resource management is a multi-level challenge. The Pacific Basin, home to over half of the country's population<sup>3</sup> and the majority of agricultural production, faces the greatest level of water stress as it contains less than 2%<sup>4</sup> of the total water supply. Finally, climate change impacts associated with extreme events such as droughts pose formidable challenges to the reliability of Peru's water-dependent energy sector. This impacts the sustainability of electricity services, and the long-term sustainability and competitiveness of Peru's growth model.

## Peru's Aspirations

3. Peru frames its green growth vision with international commitments and national priorities, which emphasize improved livelihoods for marginal populations, smallholders and businesses, as well as sustainable natural resource use in its productive processes. Realizing this vision is critical for Peru in attaining OECD membership, achieving its commitment to the Sustainable Development Goals (SDGs) and its Nationally Determined Contribution (NDC) to global climate change efforts.

4. Among its international commitments, OECD membership is a core driver of Peru's

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<sup>1</sup> This refers primarily to agricultural and forest activities. Ministerio de Trabajo y Promoción del Empleo, "Perú: Distribución de la peía ocupada, según sexo y rama de actividad económica, 2001-2004," [http://www.mintra.gob.pe/archivos/file/estadisticas/peel/estadisticas/oferta\\_laboral/sexo/2014/peru\\_total\\_sexo\\_005\\_2001-2014.pdf](http://www.mintra.gob.pe/archivos/file/estadisticas/peel/estadisticas/oferta_laboral/sexo/2014/peru_total_sexo_005_2001-2014.pdf).

<sup>2</sup> Ministerio del Ambiente, *El Perú y el Cambio Climático: Tercera Comunicación Nacional del Perú* (Lima, 2016), <http://www.minam.gob.pe/wp-content/uploads/2016/05/Tercera-Comunicaci%C3%B3n.pdf>.

<sup>3</sup> Instituto Nacional de Estadística e Informática, "Estado de la Población Peruana," 2014, [https://www.inei.gob.pe/media/MenuRecursivo/publicaciones\\_digitales/Est/Lib1157/libro.pdf](https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1157/libro.pdf).

<sup>4</sup> Autoridad Nacional del Agua, *Plan Nacional de Recursos Hídricos del Perú* (Lima, 2015), <http://www.ana.gob.pe/sites/default/files/plannacionalrecursoshidricos2013.pdf>.

economic development efforts, which aim to boost productivity growth, and reduce inequalities and informality.<sup>5</sup> However, Peru's governance structures and its capacity to prioritize and implement policies and investments pose challenges to achieving transformational green growth. These challenges are most effectively addressed through the implementation of high-impact policies in the areas of sustainable landscapes, water and energy. These areas incentivize the sustainable use of the country's rich natural heritage, and generate opportunities for eco-innovation and development of new economic sectors.<sup>6</sup>

## About the Country Planning Framework

5. The Country Planning Framework (CPF) is a five-year strategy that describes how GGGI will support Peru's green growth and align with its national priorities. The CPF and the GGPA were developed concurrently, resulting in an enriched participatory process with a wide range of government, private sector and civil society actors.

6. GGGI is uniquely placed as a trusted advisor to the Peruvian government through its support for sustainable landscapes and water policy development since 2013. GGGI will leverage this experience and its institutional allies in the sustainable landscapes, water and renewable energy sectors to assist the GoP in achieving its green growth vision—reducing poverty, spurring economic growth, reducing GHG emissions and sustaining ecosystems. Knowledge sharing will be a cross-cutting activity to enhance policy development and implementation in all sectors.

## GGGI's Theory of Change

### Strategic Outcome 1: Contribution to the NDC target of 30% GHG emission reduction through abating deforestation

7. Over the five-year period, GGGI's activities will contribute to the GoP's goal of:

- *Reducing 30 million tons of CO<sub>2</sub>e<sup>7</sup> through enabling conditions for forest management and implementing sustainable landscapes action plans that abate annual deforestation below the current 150,000-hectare average.*

8. GGGI will assist the GoP with inter-institutional coordination and evidence-based prioritization of high-impact sustainable landscapes initiatives under the National Green Growth Strategy (NGGS). This could include the development of concrete sustainable landscapes action plans aligned with national goals for forest, agriculture and biotrade, as well as the NDC and the Joint Declaration of Intent for Deforestation Reduction between Peru, Norway and Germany.

9. These action plans will promote land tenure security and increase economic opportunities—in particular for smallholder producers—through a sustainable landscapes approach. This approach combines forest management, climate resilient agriculture, agroforestry and biotrade activities with non-timber forest products. The design and implementation of payment for environmental services schemes are also key to the sustainable

<sup>5</sup> OECD, *Multi-dimensional Review of Peru: Volume I. Initial Assessment* (Paris, 2015), [http://www.keepeek.com/Digital-Asset-Management/oeecd/development/multi-dimensional-review-of-peru\\_9789264243279-en#page1](http://www.keepeek.com/Digital-Asset-Management/oeecd/development/multi-dimensional-review-of-peru_9789264243279-en#page1).

<sup>6</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1).

<sup>7</sup> This is an estimation of the GoP and is subject to change.

landscapes approach. Overall, this will result in reduced informality in land tenure while improving livelihoods for smallholder producers and reducing the current annual deforestation below the average of 150,000 hectares. Through this, GGGI will contribute to poverty reduction and to Peru's NDC target of 30% GHG emission reduction.<sup>8</sup>

### Strategic Outcome 2: Contribution to Peru's goal of reducing water stress in priority basins through increased investment in green infrastructure and water pricing

10. Over the five-year period, GGGI's activities will contribute to the GoP's goal of:

- Reducing water stress in the Rimac Basin through pricing corrections and the development of bankable projects for the USD 8 million green infrastructure investment fund;
- Developing price structures for sustainable use of water resources;
- Developing a bankable project for water reuse.

11. GGGI will build on its experience in providing Peru with a rigorous, evidence-based methodology for investment prioritization and a financing roadmap for infrastructure projects. GGGI will assist the GoP with the implementation of the NGGS, the Competitiveness Agenda 2014-2018 and the National Formalization Strategy to reduce water stress in key basins—especially the Rimac Basin, which is home to Lima and a third of the country's population. This includes active participation in the development of criteria for investment or

bankable projects for the new Rimac Basin Green Infrastructure Fund and developing a bankable project for water reuse, which is of prime interest to key water actors.

12. GGGI's assistance will include water pricing recommendations to promote efficient agricultural and industrial use in the framework of the *Competitiveness Agenda 2014-2018* and the *National Formalization Strategy*. Additionally, GGGI will seek to assist the GoP in developing and implementing a green infrastructure investment plan for the NGGS that includes maximizing impact of the new Rimac Basin Green Infrastructure Fund. By increasing public and private investments in water, as well as developing financial incentives for efficient use, GGGI will help the GoP reduce water stress in priority areas and increase access for end users. This aligns with the NDC adaptation objective of ensuring sufficient water quantity in the face of climate change.

### Strategic Outcome 3: Contribution to increased climate resilience and long- term sustainable growth through energy efficiency and diversification of the energy mix

13. Over the five-year period, GGGI's activities will contribute to:

- Reducing energy intensity below 0.17 tons of oil equivalent per thousand dollars<sup>9</sup> through investments in the implementation of energy efficiency in key sectors;
- Exploring the potential to unlock USD 403 million for domestic renewable sources to

<sup>8</sup> GoP, "Intended Nationally Determined Contribution from the Republic of Peru," September 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Peru/1/INDC%20Per%20C3%BA%20english.pdf>.

<sup>9</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1).

improve the sustainability of Peru's energy mix.<sup>10</sup>

14. Peru's energy mix is dominated by hydropower (49%) and natural gas (31%). Peru's high vulnerability to climate change and prospects of water stress in key economic regions, as well as the dominance of hydropower in the country's energy matrix,<sup>11</sup> pose significant challenges to sustaining reliable electricity services and economic growth while responding to the effects of climate change. Government-subsidized prices for domestic natural gas resources have undermined both the urgency for climate-smart energy planning and substantial opportunities for energy efficiency gains in manufacturing, transportation and mining.<sup>12</sup> In response, GGGI will perform an assessment to determine the optimal investment options in renewables, as well as our value-added niche as an institution. In light of climate issues and frequent climate phenomena such as extreme flooding and droughts, the GoP has realized that energy efficiency is an important element in achieving climate resilience and growth. To this end, GGGI will prioritize its energy work on energy efficiency, followed by advisory support in identifying investment options for domestic renewable energy that improves the country's energy mix.

15. GGGI will assist the GoP in developing a strategy to engage the private sector and

tools to scale up investments in energy efficiency and renewable energy. This will be accomplished by: (1) identifying policy barriers and opportunities in energy efficiency; (2) developing risk-reducing facilities and innovative financing mechanisms aimed at increasing access to domestic and international funding for energy efficiency and renewable energy; and (3) supporting the identification and development of investment options and bankable projects. Furthermore, capacity and awareness building will be integrated into all activities. This work will be undertaken directly with the National Development Authority as the lead government counterpart for access to Green Climate Fund financing and increased investment in non-conventional renewables (e.g., solar and wind energy). GGGI will also work closely with key ministries such as the Ministry of Energy and Mines (as the steward for energy policy) and the Ministry of Production, which provides an important supporting role for businesses.

16. By abating natural gas expansion and boosting energy efficiency, GGGI will contribute toward the 30% GHG emission reduction target in Peru's NDC. By reducing dependence on hydropower and promoting climate-smart energy management, GGGI will contribute to lowering the climate vulnerability of the energy supply, enable growth, and at the same time, protect the country's natural capital.

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<sup>10</sup> This estimate is based on projected market size in the period 2009-2020. COFIDE, "Role of National Development Bank for Catalyzing Carbon Investment," Latin American Carbon Forum, 2010,

<sup>11</sup> Ministerio de Energía y Minas, *Anuario 2015* (Lima, 2016), [http://www.minem.gob.pe/\\_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350](http://www.minem.gob.pe/_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350).

<sup>12</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1); and Ministerio de Energía y Minas, *Reference Plan for the Efficient Use of Energy* (Lima, 2009).



# 1. Introduction to the Country Planning Framework

17. The Country Planning Framework (CPF) lays out the Global Green Growth Institute (GGGI)'s green growth objectives and interventions that aim to support Peru in the 2018-2022 period. The CPF objectives are derived from the *GGGI Strategic Plan*, reflect GGGI's comparative advantage, and are in alignment with national goals and priorities of economic growth, poverty reduction, social inclusion and environmental sustainability.

18. Central to the CPF is **joint ownership** between GGGI and the Government of Peru (GoP). The CPF formulation is undertaken by GGGI's country team in close dialogue with government counterparts and other national stakeholders. The document is co-owned and endorsed by the GoP, demonstrating

commitment among both parties to collaborate on mutual goals.

19. The CPF is aligned to GGGI's corporate values, demonstrating:

- **Transformational outcomes** – GGGI takes a long-term outlook and aims for catalytic CPF outcomes that can trigger transformational change. The achievement of these outcomes is enhanced through partnership and synergy with other development actors;
- **Boldness** – GGGI responds to challenges with optimism. CPF outcomes seek to design and scale up creative new solutions and continually learn and adapt to evolving local contexts;
- **Excellence** – The CPF process is underpinned by technical rigor, demonstrating thought leadership and drive toward continuous improvement;
- **Inclusiveness** – GGGI respects and prioritizes diversity, information sharing among a broad set of stakeholders and equal opportunity in its collaboration and interventions. CPFs are designed to respond to national poverty reduction and social inclusion challenges;

- **Integrity** – GGGI upholds high standards for transparency and accountability. CPF analysis balances the findings of analytical reports and data with stakeholder feedback.

20. In drafting the Peru CPF, GGGI consulted extensively with green growth stakeholders from across government, financial institutions, civil society and private sector. Consultations were held via bilateral meetings, roundtables and workshops, hosted jointly by GGGI and its partners in Peru. The CPF aligns with national development policies and strategies such as the *National Energy Efficiency Plan 2014-2018*, the *National Climate Change Strategy*, the *National Water Resource Plan*, as well as international commitments under the Sustainable Development Goals (SDGs) and Peru's Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change.

21. GGGI's ability to achieve the long-term outcomes of the CPF will depend on resource mobilization and the anticipated cooperation and support of the GoP and other relevant stakeholders. The CPF serves as a basis for GGGI's earmarked resource mobilization in-country. At the same time, GGGI's core resources will be allocated under the CPF through its Work Planning and Budget process, in line with the resource allocation targets in the *GGGI Strategic Plan 2015-2020*. Indicative criteria for the allocation of core resources include the IDA criteria and the country's income group (low, middle or high income), development status (e.g., Least Developed Country), government's commitment to green growth, government's absorption capacity, human development, economic vulnerability, vulnerability to climate change, being landlocked or sea-locked, status as a Small Island Development State, and other special conditions impacting on the needs and green growth potential of a country.

### Box 1. About GGGI

GGGI was founded to support and promote a model of economic growth known as “green growth”, which targets key aspects of economic performance such as poverty reduction, job creation, social inclusion and environmental sustainability.

GGGI envisions a resilient world achieved through strong, inclusive and sustainable green growth, and is dedicated to supporting the transition of partner countries toward a green growth model. In pursuit of these goals, GGGI works with developing and emerging countries to design and deliver programs and services that demonstrate new pathways to pro-poor economic growth.

GGGI supports stakeholders through two complementary and integrated work streams—Green Growth Planning & Implementation and Investment & Policy Solutions—that deliver comprehensive products and services designed to assist in developing, financing and mainstreaming green growth into national economic development plans.

GGGI's interventions emphasize change in four priority areas considered to be essential to transforming countries' economies including energy, water, sustainable landscapes and green cities. GGGI measures its success against six global Strategic Outcome targets related to GHG emission reduction, creation of green jobs, increased access to sustainable services, improved air quality, adequate supply of ecosystem services and enhanced adaptation to climate change.

Headquartered in Seoul, Republic of Korea, GGGI also has representation in a number of partner countries.





## 2. Peru's Green Growth Context

### 2.1 Country Overview

22. Peru is divided into three natural geographic regions, distinguished by their climate and biodiversity: the coast or coastal desert, the jungle or Amazon region, and the highlands or Andean region. Thanks to its geographic location and physiography, Peru possesses an abundance of microclimates, ecosystems, species and genetic resources, making it one of the four most megadiverse countries in the world.<sup>13</sup>

23. While these factors contribute to its immense biodiversity, they also render Peru highly exposed and vulnerable to natural phenomena that can lead to major disasters.

In addition to frequent seismic activity, the Peruvian maritime area is often affected by the "El Niño" phenomenon, a climatic event with significant repercussions on livelihoods and security throughout the country.<sup>14</sup>

24. This significant diversity and vulnerability form a challenging operational environment for the institutional planning framework, and highlight the importance of sustainable landscapes and water, and the potential for renewable energy in Peru's green growth trajectory.

25. Two major factors place stress on natural resources in Peru. The first is a high rate of population growth combined with internal migration. Peru's population was 31 million in 2015,<sup>15</sup> and is projected to reach 33 million by 2021, and 40 million by 2050.<sup>16</sup> Seventy six percent of the population is urban while 24% is rural<sup>17</sup> and, despite

<sup>13</sup> National Biodiversity Strategy 2021 and Action Plan 2014-2018.

<sup>14</sup> The last two extreme events associated with "El Niño" took place in the periods 1982-1983 and 1997-1998, causing losses equivalent to 11.6% and 6.2% of GDP in 1983 and 1998, respectively. Ministerio del Ambiente, *El fenómeno EL NIÑO en el Perú* (Lima, 2014), [http://www.minam.gob.pe/wp-content/uploads/2014/07/Dossier-El-Ni%C3%B1o-Final\\_web.pdf](http://www.minam.gob.pe/wp-content/uploads/2014/07/Dossier-El-Ni%C3%B1o-Final_web.pdf).

<sup>15</sup> Instituto Nacional de Estadística e Informática, "Estado de la Población Peruana," 2015, [https://www.inei.gob.pe/media/MenuRecursivo/publicaciones\\_digitales/Est/Lib1251/Libro.pdf](https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1251/Libro.pdf).

<sup>16</sup> Ibid.

<sup>17</sup> Instituto Nacional de Estadística e Informática, "Estado de la Población Peruana," 2014, [https://www.inei.gob.pe/media/MenuRecursivo/publicaciones\\_digitales/Est/Lib1157/Libro.pdf](https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1157/Libro.pdf).

occupying merely 12% of the territory, the coast is the most densely populated region, with 56% of Peru's population.<sup>18</sup> We can see the importance of population location as it relates to high indices of water stress.

26. Additionally, in rural areas, many residents migrate annually between the highlands and the jungle in response to agricultural crop cycles. Rural migration and the response to market incentives and public programs often result in deforestation through the expansion of the agricultural frontier.

27. The second factor exerting pressures on natural resources is informality. The informal sector comprises 70% of the available jobs.<sup>19</sup> Despite its disproportionate share, the informal sector has very low productivity, representing less than a fifth (19%) of the gross domestic product (GDP).<sup>20</sup> This informality places pressure on natural resources by devaluing timber and non-timber forest products, promoting illegal land occupation for agriculture, and encouraging illegal water use through clandestine wells and homemade infrastructure for crop irrigation and household use.

**Table 1. Peru at a glance**

General Data	
Population, 2016	31,488,625
Land area (sq. km)	1,285,215
GDP, 2014 (current USD)	202.59 billion
GDP per capita, purchasing power parity, 2014 (USD)	12,500.00
Poverty headcount ratio at national poverty line, 2015 (% of population) (2015)	21.80
CO <sub>2</sub> emissions, 2013 (metrics tons per capita)	1.9
Energy Data	
Percentage of population with electricity access, 2012	91.2%
Percentage of non-conventional renewable electricity generation (solar and wind), 2013	1.07%
Water Data	
Percentage of households with potable water coverage, 2014	85%
Land Use Data	
Forested area, 2016 (hectares)	72,083,263
Forest areas, 2015 (% of land area)	56.09%
Average annual deforestation rate, 2013 (hectares)	150,000
GHG emissions, total and by sector, 2012 (thousand metric tons CO <sub>2</sub> e)	17,130,957 (total)
	Energy: 44,638 Industrial process: 6,064 Agriculture: 26,044 LULUCF: 86,742 Waste: 7,823

Sources: Banco Mundial, "Acceso a la electricidad (% de población)," 2012, <http://datos.bancomundial.org/indicador/EG.ELC.ACDS.ZS?end=2012&start=2012>; Instituto Nacional de Estadística e Informática, *Perú: Anuario de Estadísticas Ambientales 2015* (Lima, 2015), [https://www.inei.gov.pe/media/MenuRecursivo/publicaciones\\_digitales/Est/Lib1342/libro.pdf](https://www.inei.gov.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1342/libro.pdf); Osinergmin, "Generación Eléctrica con Recursos Energéticos Renovables No Convencionales en el Perú," October 2014, [http://www.osinergmin.gob.pe/newweb/pages/Publico/cop20/uploads/Oct\\_2014\\_Generacion\\_Electrica\\_RER\\_No\\_Convencionales\\_Peru.pdf](http://www.osinergmin.gob.pe/newweb/pages/Publico/cop20/uploads/Oct_2014_Generacion_Electrica_RER_No_Convencionales_Peru.pdf); World Bank, 2013; and World Bank, 2014.  
Note: LULUCF = land use, land-use change and forestry

<sup>18</sup> Ibid.

<sup>19</sup> OECD, *Multi-dimensional Review of Peru: Volume 2. In-depth Analysis and Recommendations* (Paris, 2016), <http://www.oecd.org/development/mdcr/countries/peru/>.

<sup>20</sup> Perú21, "INEI: Informalidad afecta al 75% de la PEA," February 6, 2015, <http://peru21.pe/economia/inei-informalidad-afecta-al-75-pea-2211258>.

## 2.2 Peru's Green Growth Challenges and Priority Impact Areas

28. Against the backdrop of extreme geography and fragile ecosystems, the CPF process identified Peru's green growth challenges through in-depth interviews with policy-makers and the Green Growth Potential Assessment (GGPA).

29. The GGPA analyzes Peru's performance in the four green growth dimensions of: (1) resource-efficient growth; (2) eco-friendly growth; (3) climate-resilient growth; and (4) socially-inclusive growth. These dimensions of green growth are derived from the Organisation for Economic Co-operation and Development (OECD) green growth model,<sup>21</sup> which shows the link between activities of production and consumption with the natural resource base.

30. In the spider diagrams that follow, the GGPA identifies a series of gaps between Peru and other upper middle-income and upper-income OECD countries in key areas. It highlights the importance of three areas that have potential to make significant impact in Peru's green growth vision: sustainable landscapes, water and energy. The GGPA also brings to attention important issues related to gender, income inequality and corruption that constitute formidable challenges to deepening green growth.

### Box 2. Climate Change Vulnerability

Peru is highly vulnerable to climate change and lacks adaptive capacity to respond to climate threats. In tandem is the significant rate of change in carbon stock and the rise of carbon dioxide emissions, largely through deforestation. These threats disproportionately impact poor and marginalized populations whose livelihoods are derived from natural resource-based activities.

31. **Sustainable Landscapes:** While 25%<sup>22</sup> of the workforce participates in agriculture and forest activities, poor soil health and limited use of on-farm technology result in low agricultural productivity. This low productivity in conjunction with various incentives leads to high rates of forest cover change, loss of fragile ecosystems and depletion of natural resources. Land-use change comprises 50% of Peru's total greenhouse gas (GHG) emissions.<sup>23</sup>

32. **Water:** Peru suffers high levels of water stress,<sup>24</sup> which is exacerbated by high demand for agricultural and domestic water use in basins located on a coastal desert. Inefficiency in agricultural technology and water infrastructure also yields low water productivity.

33. **Energy:** Peru's energy matrix is dominated by 49% hydropower and 31% natural gas.<sup>25</sup> Due to high levels of water stress, long-term energy demand highlights the need for the expansion of non-conventional renewable energy sources (e.g., solar and wind). This will not only create new jobs and areas for investment, but also

<sup>21</sup> OECD, "Green Growth Indicators," <http://www.oecd.org/greengrowth/greengrowthindicators.htm>.

<sup>22</sup> This refers primarily to agricultural and forest activities. Ministerio de Trabajo y Promoción del Empleo, "Perú: Distribución de la peía ocupada, según sexo y rama de actividad económica, 2001-2004," [http://www.mintra.gob.pe/archivos/file/estadisticas/peel/estadisticas/oferta\\_laboral/sexo/2014/peru\\_total\\_sexo\\_005\\_2001-2014.pdf](http://www.mintra.gob.pe/archivos/file/estadisticas/peel/estadisticas/oferta_laboral/sexo/2014/peru_total_sexo_005_2001-2014.pdf).

<sup>23</sup> Ministerio del Ambiente, *El Perú y el Cambio Climático: Tercera Comunicación Nacional del Perú* (Lima, 2016), <http://www.minam.gob.pe/wp-content/uploads/2016/05/Tercera-Comunicaci%C3%B3n.pdf>.

<sup>24</sup> GGGI, Peru Green Growth Potential Assessment (Seoul, 2016).

<sup>25</sup> Ministerio de Energía y Minas, *Anuario 2015* (Lima, 2016), [http://www.minem.gob.pe/\\_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350](http://www.minem.gob.pe/_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350); and Climatoscope, "Peru," 2016, <http://global-climatescope.org/en/country/peru/#/details>.

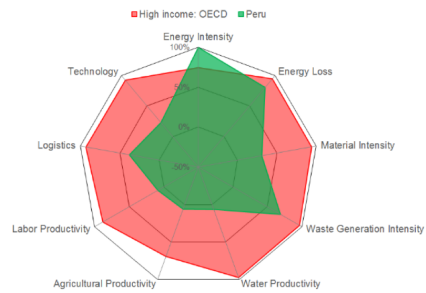
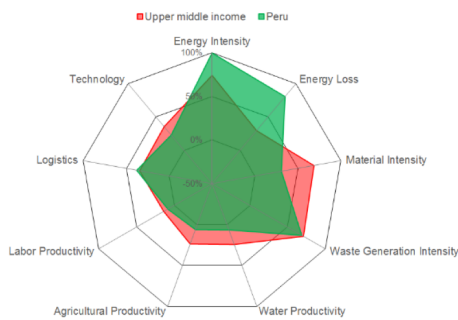
harness the currently unrealized potential of solar and wind energy.

countries (in red). Areas where red prevails are those where Peru is lagging in terms of performance, and areas where the green overlaps the red are those in which Peru excels.

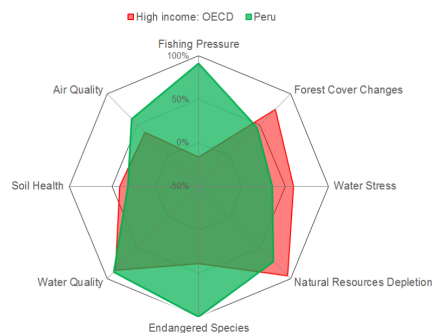
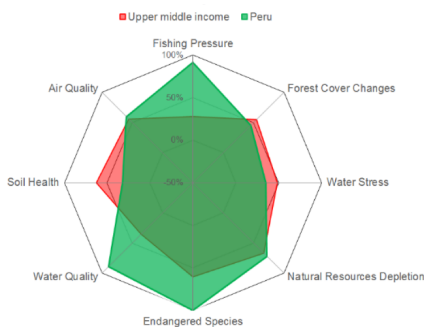
34. The spider diagrams below summarize the comparative analysis of Peru's performance (in green) and that of peer

**Figure 1. GGPA spider diagrams comparing Peru's green growth performance with peer countries**

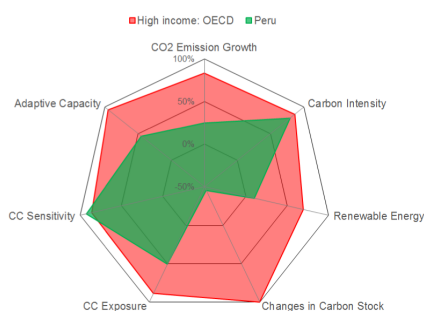
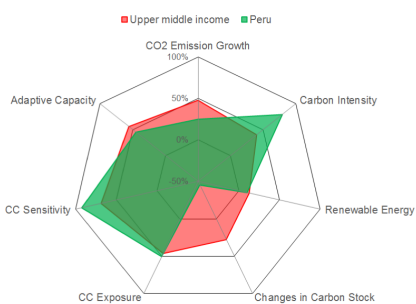
*Resource Efficient Growth*



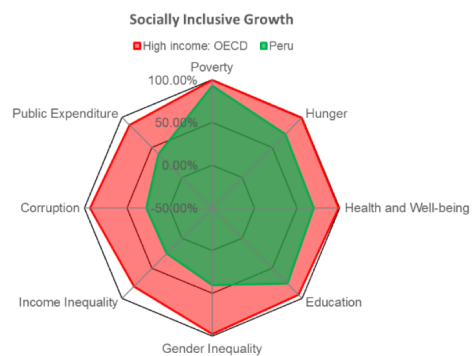
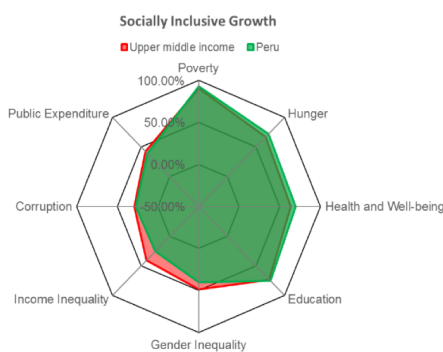
*Eco-Friendly Growth*



*Climate-Resilient Growth (Climate Change Mitigation and Adaptation)*



*Socially-Inclusive Growth*





### 3. National Priorities

35. Peru's green growth vision is framed by international commitments and national priorities that place special emphasis on improved livelihoods for marginal populations, smallholders and businesses, as well as formalization with regard to sustainable natural resource use in productive processes. Achieving this vision is paramount in the context of Peru's OECD membership process, and in its commitment to the SDGs and the NDC to reduce emissions and increase resilience in the face of climate change.

36. The OECD membership process provides Peru with an opportunity to address its foremost challenges, "to boost productivity growth and to reduce inequalities and informality," as identified by the OECD multi-dimensional country review.<sup>26</sup> The two major requisites identified by the OECD for confronting the challenges are, "stronger

governance and greater state capacity to prioritize and implement policies and investments." A vital part of fulfilling these requisites is ensuring that the policies governing Peru's rich natural base promote resource sustainability and efficiency in productive processes. To this end, the OECD environmental performance reviews<sup>27</sup> highlight the need to incentivize the sustainable use of the country's rich natural heritage, and generate opportunities for eco-innovation and development of new economic sectors.

37. In February 2015, Peru formalized its intention to join the OECD by ratifying its participation in the OECD Country Program. The Country Program develops a pathway for compliance with OECD instruments, the effective implementation of OECD standards and best practices, as well as agenda reforms in a number of policy areas. These encompass: (1) aligning sustainable economic growth with social inclusion; (2) strengthening competitiveness and the diversification of the national economy; (3)

<sup>26</sup> OECD, *Multi-dimensional Review of Peru: Volume I. Initial Assessment* (Paris, 2015), 22, [http://www.keepeek.com/Digital-Asset-Management/oecd/development/multi-dimensional-review-of-peru\\_9789264243279-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/development/multi-dimensional-review-of-peru_9789264243279-en#page1).

<sup>27</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1).

improving the effectiveness of public institutions; and (4) achieving better environmental outcomes.

38. In October 2015, as part of its commitments to the Country Program, Peru signed the Adhesion Letter to the Declaration on Green Growth in order to achieve economic growth that is environmentally and socially sustainable. With this, Peru moves toward the transition to a sustainable, low-carbon economy. This includes the consolidation of its policies aimed at green growth, the design of new policies and the identification of best practices that promote green growth.

39. In September 2015, following a public consulting process, Peru submitted its Intended NDC to the United Nations Framework Convention on Climate Change Secretariat. Now approved, Peru's NDC contemplates progressive implementation of necessary measures to achieve a 30% reduction of GHG emissions by 2030 compared to the business-as-usual scenario. At the same time, the NDC focuses on strengthening Peru's capacity for adaptation to the impacts of climate change. Twenty percent of the reduction target is unconditional and will be financed with public funds while the remaining 10% is conditional upon funding from international cooperation.



## 4. GGGI's Engagement in Peru

### 4.1 GGGI's Achievements to Date

40. GGGI has worked jointly with the GoP since 2013 to align green growth to national priorities and international commitments. Between 2014 and 2016, GGGI signed inter-institutional cooperation agreements with the National Forest and Wildlife Service (SERFOR), the National Water Authority, the Ministry of Environment, and the Ministry of Economy and Finance. These agreements provide a framework for GGGI's support of each entity's strategic plans and deliver impact on key areas for green growth. Peru became the 27th member country of GGGI in August 2016.

41. **Sustainable Landscapes.** GGGI has assisted the GoP to reduce GHG emissions through enabling conditions to abate

deforestation. GGGI initiated its activities in Peru with German-funded support to SERFOR for the design and implementation of the *National Forest and Wildlife Plan* (NFWP), whose overall objective is achieving an economically viable, socially inclusive and sustainable management of the forest that reduces deforestation and environmental degradation. From 2013 through 2015, GGGI provided: (1) knowledge products to support the development of the structure and process of the NFWP; (2) technical analyses on salient aspects of the forest economy to inform NFWP content; and (3) training and knowledge exchange events to enrich the dialogue on forest economy among top decision-makers. GGGI will continue to work with SERFOR to ensure that knowledge products are incorporated into the NFWP.

42. **Water.** GGGI has contributed to reducing the water access gap by providing the GoP with an investment prioritization tool and a list of priority bankable projects in the water sector. Within the framework of its agreement with the Swiss Agency for Development and Cooperation, GGGI has been supporting the National Water Authority in the implementation of the

*National Water Resources Plan*, with the goal of increasing the level of public and private investments in water resources. For this project, GGGI partnered with the 2030 Water Resources Group to jointly provide technical analyses for decision-making purposes. These analyses include: (1) financial mechanisms analysis – matching funding mechanisms to the needs of various types of water projects, and identifying risks and risk mitigation measures; and (2) bankable projects proposal – using a prioritization methodology to map a priority list of 50 investments (among 2,300 initial interventions) along with the steps, associated costs and timeline required to conclude their development.

**43. Competitiveness.** GGGI has enabled the GoP to increase competitiveness by supporting the development of policy instruments to bolster efficiency in the use of key natural resources. Together with the National Competitiveness and Formalization Council in the Ministry of Economy and Finance, GGGI has been supporting the *Competitiveness Agenda 2014-2018* in its Natural Resources and Energy chapter. This support has been provided in two phases from 2014 to the present: (1) the diagnostic phase, in which GGGI supported the National Competitiveness and Formalization Council to develop indicators in water and natural resources; and (2) the implementation phase, in which GGGI developed in-depth analyses in eco-efficiency and irrigation for the formulation of the draft *National Eco-efficiency Strategy* and *National Irrigation Plan*.

**44. National Green Growth Strategy.** Upon request from the Ministry of Environment in October 2015, GGGI is currently supporting the development of Peru's *National Green Growth Strategy* (NGGS). The NGGS responds to Peru's interest in joining the OECD, as well as in achieving its NDC, the SDGs and national economic growth targets. In addition to systematizing and articulating government initiatives, the NGGS proposes new targets for priority sectors in order to strengthen Peru's actions to achieve its green growth vision of economic

development, sustainability and social inclusion.

45. To support the development of the NGGS, GGGI conducted its GGPA participatory diagnostic with multiple sectors to identify green growth barriers, and drafted the vision, objectives and policy intervention areas for the NGGS. GGGI is currently supporting the GoP in the design of the NGGS.

## 4.2 GGGI's Comparative Advantage in Peru

46. Since 2013, GGGI has developed a niche on two fronts: (1) strategic planning, inter-sectoral coordination and partnership development; and (2) identification of investment mechanisms for national plans to deliver impact. GGGI distinguishes itself by its long-term accompaniment of the GoP in the development and use of planning frameworks and technical knowledge products.

**47. Trusted advisor for strategic planning on green growth policy.** GGGI leverages in-depth understanding of Peruvian public sector processes and access to international green growth experiences to support the GoP in the policy development process. GGGI is peerless in providing assistance in strategic planning for the conceptualization of the problems, challenges and priorities of agenda setting and policy design. The government's trust is evident in the selection of GGGI as the key partner for the development of several national-level plans and strategies.

**48. Experience on the development of bankable project pipelines serves as blueprint for unlocking large-scale finance and delivering high impact.** The National Water Authority commissioned GGGI to develop a methodology for prioritizing high-impact investment opportunities contained in the National Public Investment System and key water sector management plans. Not only can GGGI apply the methodology to other sectors, but it is also uniquely



placed to develop a pathway to increased funding to bolster green growth and deliver impact through its experience with identifying alternative mechanisms for project finance.

**49. Capacity to create unique spaces for coordination and knowledge exchange between different government levels and various sectors.** GGGI has experience in helping to bridge gaps between different sectors of the government in sustainable landscapes policy and NGGS formulation. GGGI leverages this experience and extensive public sector knowledge to foster links between key agencies and strengthen conditions for long-lasting impact. To this work, GGGI also brings a knowledge-sharing

component to enrich dialogue and maximize impact through South-South cooperation in the region and with countries facing similar challenges in other parts of the world.

**50. Success in leveraging partnerships with other cooperation agencies and catalyzing their previous work on sectors related to green growth.** GGGI has played an active coordination role to catalyze its own interventions and those of other actors in order to generate a greater combined impact on public policy. During the CPF period, GGGI will seek to strengthen this role in order to form synergies with other international cooperation entities, private sector players and civil society.



## 5. Theory of Change

51. Based on inputs from the GGPA and the CPF processes, as well as the analysis of the OECD multi-dimensional review<sup>28</sup> and the environmental performance reviews,<sup>29</sup> GGGI identified two structural green growth implementation challenges that have important impacts on Peru's development:

**52. The establishment of a green growth focus and inter-institutional coordination challenges result in policies that do not realize their maximum potential in service delivery to citizenry.** Currently, Peru has several national-level strategic plans for the development agenda of the country, but they are neither linked nor binding across ministries. As such, sector-level policies are not necessarily aligned with them, and inter-ministerial coordination requires

reinforcement. In this context, policies often do not attain synergies, economies of scale or a coordinated impact for service delivery to citizenry. In addition to structural governance and coordination measures, the OECD environmental performance reviews specifically recommend the development of the NGGS. The NGGS can be a catalyst for driving an institutionalized green growth vision and enhancing coordination between ministries to implement specific, measurable actions for low-carbon green growth.

**53. Peru lacks systematic prioritization and execution of investments with evidence-based prioritization methodologies. This results in a cycle of short-term planning and possible unintended negative consequences.** Another dimension of the governance challenge for policy effectiveness is the lack of evidence-based prioritization of policy implementation.<sup>30</sup> At present, policy prioritization does not always consider long-term effects or interaction

<sup>28</sup> OECD, *Multi-dimensional Review of Peru: Volume I. Initial Assessment* (Paris, 2015), [http://www.keepeek.com/Digital-Asset-Management/oecd/development/multi-dimensional-review-of-peru\\_9789264243279-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/development/multi-dimensional-review-of-peru_9789264243279-en#page1). This is the high-level country diagnostic that provides the foundation for the Peru OECD Country Program.

<sup>29</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1).

<sup>30</sup> OECD, *Public Governance Reviews: Peru - Integrated Governance for Inclusive Growth* (Paris, 2016), [http://www.keepeek.com/Digital-Asset-Management/oecd/governance/oecd-public-governance-reviews-peru\\_9789264265172-en#.WGFeyfnhDIU#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/governance/oecd-public-governance-reviews-peru_9789264265172-en#.WGFeyfnhDIU#page1).

with other sectors. The result is short-term planning that responds to political priorities, and policy implementation that can have unintended negative consequences, such as increased pressure on natural resources or deepened informality. Currently, Peru has a new Multi-Annual Planning and Investment Management System for public finance, as well as a Works for Tax<sup>31</sup> System with abundant high-impact projects. However, ministries lack capacity to design and implement evidence-based prioritization systems, as well as coordinate internal and intra-agency communication to ensure implementation synergies with other institutions.

54. The result of these challenges is that Peru possesses a significant number of high-level plans in sustainable landscapes, water and energy that lack project portfolios with prioritized investment in the short, medium and long term. These governance and coordination issues constitute fundamental development challenges. In sustainable landscapes, policies often work at odds and can inadvertently increase deforestation through expansion of the agricultural frontier. In tandem with this is the lack of policies that place value on standing forest goods and services for domestic and export markets. With regard to water, lack of evidenced-based prioritization yields investment gaps in irrigation and hampers investment for increased potable water access. Finally, in the energy efficiency and renewable energy sector, normative gaps and lack of strategic approach to bolster private sector participation outside of state auctions prevent the GoP from capitalizing on the high potential for energy efficiency and renewable energy, and the innovation that would accompany it.

55. Overall, policy fragmentation and lack of evidence-based prioritization have the effect of increasing pressure on natural resources, minimizing development impacts on

citizenry, and stifling the investment and innovation that spur competitiveness. The sections below will explore how GGGI will support the GoP to address these challenges in the sustainable landscapes, water and energy sectors.

56. GGGI will respond to the development challenges in sustainable landscapes, water and energy in order to support the GoP in the achievement of its development goals and national policy priorities.

### 5.1 Strategic Outcome 1 (Sustainable Landscapes): Contribution to the NDC target of 30% GHG emission reduction through abating deforestation

Over the five-year period, GGGI's activities will contribute to the GoP's goal of:

- Reducing 30 million tons of CO<sub>2</sub>e<sup>32</sup> through enabling conditions for forest management and implementing sustainable landscapes action plans that abate annual deforestation below the current 150,000-hectare average.

**57. National Policy Goals.** Sustainable landscapes are of paramount importance to the Peruvian economy. As noted, 25% of the workforce derives its livelihood from agriculture and forest activities, and contributes to 50% of the country's GHG emissions through land-use change. Those causing this change are often smallholder producers who are both the most directly affected by climate change and most likely to

<sup>31</sup> The Work for Tax Law seeks to accelerate the execution of priority public infrastructure projects. Through it, private companies can finance and execute public projects chosen by regional and local governments and public universities, and subsequently use the full value of the investment as an income tax credit. Local and regional governments and universities receive financing for critical projects at 0% interest rate and pay it back with royalty disbursements.

<sup>32</sup> This is an estimation of the GoP and is subject to change.

respond to market incentives.<sup>33</sup> As such, Peru's international commitment to reduce GHG emission by 30% is largely dependent on the success of reducing deforestation from land-use change and ensuring the sustainable use of natural capital for productive processes.

**58. Challenges.** Among other factors, sustainable landscapes policy is often developed in the absence of a coordinated green growth focus among agencies. This can create an environment that reinforces incentives for agricultural frontier expansion and reduces value of the goods and services provided by standing forests. The GGPA provides further depth to this context by highlighting the impact of Peru's low agricultural productivity, limited adoption of technology, poor soil health and a high degree of water stress due in large part to inefficient agricultural practices.

**59. GGGI's Response.** To address these challenges, GGGI will assist the GoP in developing concrete action plans on sustainable landscapes for the NGGS and follow through to identify opportunities to promote public and private investments via bankable projects. This entails supporting institutional coordination to identify inter-agency synergies, and maximizing effects of new and existing policies. It would also involve the design and deployment of financial incentives to abate deforestation through increasing the value of standing forests goods and services. Finally, it would involve the promotion of land tenure security and climate-resilient agriculture measures to maximize on-farm production, increase economic opportunities—particularly for smallholder producers—and support measures that protect livelihoods, such as crop insurance.

**60.** A major action area for Peru in sustainable landscapes is the Joint Declaration of Intent (JDI) with Norway and Germany that establishes payment for performance in implementation of measures that reduce deforestation. Norway is a GGGI

member country and seeks to align the JDI activities with the NGGS. To this end, GGGI will seek to identify areas to support the governance structure of the JDI, as well as the implementation of activities jointly with the GoP.

**61.** GGGI will utilize its evidence-based sustainable landscapes analyses on innovative aspects of the forest economy as inputs to forest and agricultural policy. This includes articulating several national-level plans that drive NDC implementation. They include the NFWP, the *National Strategy for Family Agriculture*, the *National Strategy for Forests and Climate Change*, the Nationally Appropriate Mitigation Actions in agriculture and forest, and other priority sustainable landscapes policy to implement climate mitigation and adaptation measures. The measures include the following:

- a) Strengthen formalization of smallholder and indigenous lands through employment of intermediate tenure schemes to support titling (assignment of use rights);
- b) Restore ecosystems in smallholder lands and other priority vulnerable areas;
- c) Support the design and deployment of financial incentives to abate deforestation through increasing the value of standing forests goods and services, such as biotrade and certification for timber and non-timber forest products;
- d) Support the development and implementation of payment for environmental services schemes for sustainable landscapes conservation and recuperation.

**62. Impact.** By assisting the GoP with increasing inter-institutional coordination, and supporting the design and implementation of green growth sustainable landscapes policies and investments through evidence-based tools, GGGI will contribute to Peru's NDC goal of reducing GHG emissions by 30%. The GGGI support areas

<sup>33</sup> Valentina Robiglio, Martín Reyes Acevedo y Elena Castro Simauchi, *Diagnóstico de los productores familiares en la Amazonía Peruana* (Lima: ICRAF Oficina Regional para América Latina, 2015).

previously mentioned are prioritized by the GoP to directly focus on improving livelihoods of smallholders and marginalized forest populations, as well as increasing climate resiliency of those most affected by flooding and droughts associated with El Niño. Additionally, these interventions will contribute to SDG 2 (Target 4) that promotes the implementation of resilient agricultural practices to increase productivity and production, and help maintain ecosystems, while strengthening capacity for adaptation to climate change. It will also contribute to SDG 15 in multiple targets including those related to restoration and sustainable use of forest ecosystems, reducing deforestation and degradation, and integrating ecosystem and biodiversity value into national and local planning while increasing financing for these efforts.

## 5.2 Strategic Outcome 2 (Water): Contribution to Peru's goal of reducing water stress in priority basins through increased investment in green infrastructure

Over the five-year period, GGGI's activities will contribute to the GoP's goal of:

- Reducing water stress in the Rimac Basin through pricing corrections and the development of bankable projects for the USD 8 million green infrastructure investment fund;
- Developing price structures for sustainable use of water resources;
- Developing a bankable project for water reuse.

**63. National Policy Goals.** Sustainable water management is inextricably tied to sustainable landscapes demands and is a critical driver for Peru's development. Peru's key challenge relates to stark inequalities in regional distribution, as 50% of the population is located on a coastal desert where the majority of agricultural production occurs, but only 2% of the water is present. Urban demands combined with low technology in agriculture result in placing Peru among those countries with the highest water stress in the world. These issues have led the current administration to prioritize water services as one of its flagship initiatives. This includes addressing pricing issues to regulate use, and increasing investment in conventional and green infrastructure. To this end, Peru has a Works for Tax Program to engage the private sector in water investments, as well as a new and innovative green infrastructure fund for watershed management in the Rimac Basin, a priority basin that is home to more than 10 million people.

**64. Challenges.** The GGPA identifies water stress and water productivity as challenges for Peru. Agricultural practices that emphasize flooding rather than irrigation, wells dug illegally and poor existing infrastructure exacerbate this issue. In addition, water pricing schemes do not adequately value water scarcity, and provide few incentives for water rationing and sustainable use. Despite overall abundance of water at the national level, Peru's main challenge lies in the distribution of adequate water resources to locations with large populations. The President has made sustainable water use a key agenda item for the CPF period. Priorities include seeking sustainability in agricultural use, developing strategies for water reuse and providing incentives through pricing to improve water security. Since water reuse and green infrastructure are new and innovative, the development of parameters and prioritization criteria for investment, as well as bankable projects are major challenges in Peru.

65. **GGGI's Response.** GGGI will build upon its experience of identifying financial mechanisms for water resources investments, as well as an evidence-based methodology for prioritizing interventions. As with sustainable landscapes issues, addressing water issues entails the coordinated implementation of the *National Water Resources Plan* and sectoral initiatives in agriculture (including the Sierra Azul Watershed Supply Program, the National Irrigation Plan and the Rimac Basin Green Infrastructure Fund). An effective platform to articulate these initiatives is the NGGS. To this end, GGGI will support the GoP in the design of an action plan for the NGGS that could include:

- a) Design of a green infrastructure investment plan for the new Rimac Basin Green Infrastructure Fund;
- b) Development of a bankable project for water reuse.

66. **Impact.** By assisting the GoP with the development of investment portfolios for green infrastructure and water reuse, as well as a foundation for water pricing policy, GGGI's support will seek to decrease water stress in key basins. GGGI will contribute to the implementation of innovative instruments for sustainable water use, and help broaden actor engagement in a sector characterized by institutions whose coordination is limited, but improving. It is important to highlight the synergies for impact between the sustainable landscapes and water interventions, since both directly target smallholders and end users. Additionally, GGGI's interventions will contribute to SDG 6 (Clean Water and Sanitation) in multiple target areas, including universal and equitable access to clean water, and protecting and restoring water-related ecosystems.

## 5.3 Strategic Outcome 3 (Energy): Contribution to increased climate resilience and long-term sustainable growth through energy efficiency and diversification of the energy mix

Over the five-year period, GGGI's activities will contribute to:

- Reducing energy intensity below 0.17 tons of oil equivalent per thousand dollars<sup>34</sup> through increased investments in the implementation of energy efficiency in key sectors;
- Exploring the potential to unlock USD 403 million for domestic renewable sources to improve the sustainability of Peru's energy mix.<sup>35</sup>

67. **Context.** Peru is one of the most vulnerable countries to climate change. In the context of high potential for water stress in key regions and increasing water demand from population and agricultural growth, the dominance of hydropower in Peru's energy matrix<sup>36</sup> poses significant challenges to its development capacity while addressing the effects of climate change. Natural gas is the second largest energy source in the matrix.<sup>37</sup> It has benefited from artificially low prices for over a decade, undermining both the urgency for climate-smart energy planning and substantial opportunities for energy efficiency and competitiveness gains in the manufacturing, transportation and mining sectors.<sup>38</sup> As Peru readies for OECD

membership, the environmental performance reviews recommend bolstering private sector investment in the development of non-conventional renewable resources and energy efficiency due to Peru's unique climate exposure.

**68. National Policy Goals.** In tandem with OECD recommendations, Peru's NDC includes commitments to integrate non-conventional renewables into the energy matrix and promote investments in energy efficiency in the industrial sectors. To this end, Objective 1 of the *National Energy Policy 2010-2040* calls for the, "diversification of the [energy] matrix, with emphasis in the promotion of renewable energy sources and energy efficiency." *Legislative Decree 1002* declares electricity generation from renewable energy a national priority. With regard to energy efficiency, the *Reference Plan for the Efficient Use of Energy* establishes a 15% energy saving target for the period 2009-2018 through 125 actions in key areas, including the public sector.

**69. Challenges.** The Peruvian government faces significant challenges to boosting investments in both energy efficiency and renewable energy. For energy efficiency, a wealth of investment opportunities exist for small, medium and large businesses in industrial clusters. Energy saving in production would not only contribute to increase competitiveness, but also increase climate resiliency. However, the private sector lacks a full understanding of the urgency for climate-smart energy management in terms of opportunity costs, risk management and competitive advantage.

Additionally, the price of credit for current financing opportunities is not competitive given the level of perceived risk and return on investment for energy efficiency investments.

70. For non-conventional renewables, government efforts have focused on sponsoring renewable energy auctions and priority dispatch to the grid. Until now, private sector investment has been limited to the opportunities generated by these state-control instruments. Initial findings from a GGGI energy scoping study indicate that key barriers for broader participation in the renewable energy sector include: (1) overreliance on an auction instrument, which remains unpredictable in its magnitude, timetable and long-term political support; and (2) the uncertainty regarding the regulatory framework and support outside of auctions, which increases investment risk, discourages the development of bankable projects and hampers systemic innovation.

71. In light of these factors, Peru will require substantial public and private capital participation outside of the current structure of state-sponsored auctions. At present, the GoP lacks the appropriate institutional arrangement and tools to leverage public funds to attract private capital and international climate financing, articulate the participation of a more diverse group of financial stakeholders to accelerate investment, and streamline processes to develop and link bankable projects to financing sources.

<sup>34</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1).

<sup>35</sup> This estimate is based on projected market size in the period 2009-2020. COFIDE, "Role of National Development Bank for Catalyzing Carbon Investment," Latin American Carbon Forum, 2010, [http://latincarbon.com/previous/2010/docs/presentations/Day3/Carlos\\_Paredes.pdf](http://latincarbon.com/previous/2010/docs/presentations/Day3/Carlos_Paredes.pdf).

<sup>36</sup> Ministerio de Energía y Minas, *Anuario 2015* (Lima, 2016), [http://www.minem.gob.pe/\\_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350](http://www.minem.gob.pe/_detalle.php?idSector=6&idTitular=638&idMenu=sub115&idCateg=350).

<sup>37</sup> Climatoscope, "Peru," 2016, <http://global-climatescope.org/en/country/peru/#/details>.

<sup>38</sup> United Nations and OECD, *Environmental Performance Reviews: Peru 2016 - Highlights and Recommendations* (Santiago, 2016), [http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312\\_en.pdf?sequence=1](http://repositorio.cepal.org/bitstream/handle/11362/40172/S1600312_en.pdf?sequence=1); and Ministerio de Energía y Minas, *Reference Plan for the Efficient Use of Energy* (Lima, 2009).

**72. GGGI's Response.** First, the Ministry of Economy and Finance, as the national designated authority of the Green Climate Fund, is a key stakeholder for intra-government coordination of climate change interventions financing. It is also the key stakeholder for addressing the institutional arrangement barrier in the development of the energy efficiency and renewable energy sector. As part of the Green Climate Fund readiness activities, GGGI will work with the national designated authority of the Green Climate Fund to strengthen its capacity in developing a pipeline program of climate-resilient projects focused on energy efficiency. This support will seek to align the Green Climate Fund project identification to the NDC objectives, and ensure the creation of institutional arrangement for implementation. Second, GGGI will assist the GoP in developing a strategy to scale up investments and expand knowledge of energy efficiency and renewable energy. Our intervention will develop risk-reducing facilities and innovative financing mechanisms aimed at increasing access to domestic and international funding for energy efficiency and renewable energy.

**73.** For non-conventional renewables, GGGI will conduct a market assessment for investment options. This will help determine the most effective way to assist the GoP in expanding access via off-grid options for marginalized communities, who are often most vulnerable to climate change phenomena.

**74. Impact.** The impact of our intervention will be threefold. First, it will unlock energy efficiency investments, thereby contributing to the 15% national energy savings goal, as well as SDG 7 (Target 3) to double the global rate of improvement in energy efficiency, which is currently measured with the indicator, "energy intensity measured in terms of primary energy and GDP". Second, it will increase investments in non-conventional renewables for domestic consumption, which is in itself a national priority.

But it will also contribute to the achievement of the NDC and SDG 7 (Target 2) to substantially increase the share of renewable energy in the global mix, which is currently measured with the indicator, "renewable share in the total final energy consumption". Third, decreasing the commitment to natural gas expansion and boosting energy efficiency will reduce GHG emissions, contributing to Peru's 30% NDC target. Reducing the dependence on hydropower and promoting climate-smart energy management will lower the climate vulnerability of the energy supply and enable the country to develop while protecting its natural capital.

## 5.4 Cross-Cutting Capacity Development

**75.** In order to successfully meet the CPF outcomes, enhancing the capacity of key institutions in the sustainable landscapes, water and energy sectors will be key. GGGI will build on its work to date in the country, including support for training and knowledge products on the NFWP, as well as GGPA workshops and consultations for the NGGS, which resulted in cross-sectoral collaboration and development of new initiatives.

**76.** To this end, GGGI will build the capacity of institutions such as the Ministry of Environment and the National Superintendence for Sanitation Services in sustainable landscapes and payment for ecosystem service issues, the Ministry of Energy and Mines in energy efficiency, and the Ministry of Agriculture and SERFOR in sustainable landscapes management for deforestation reduction.

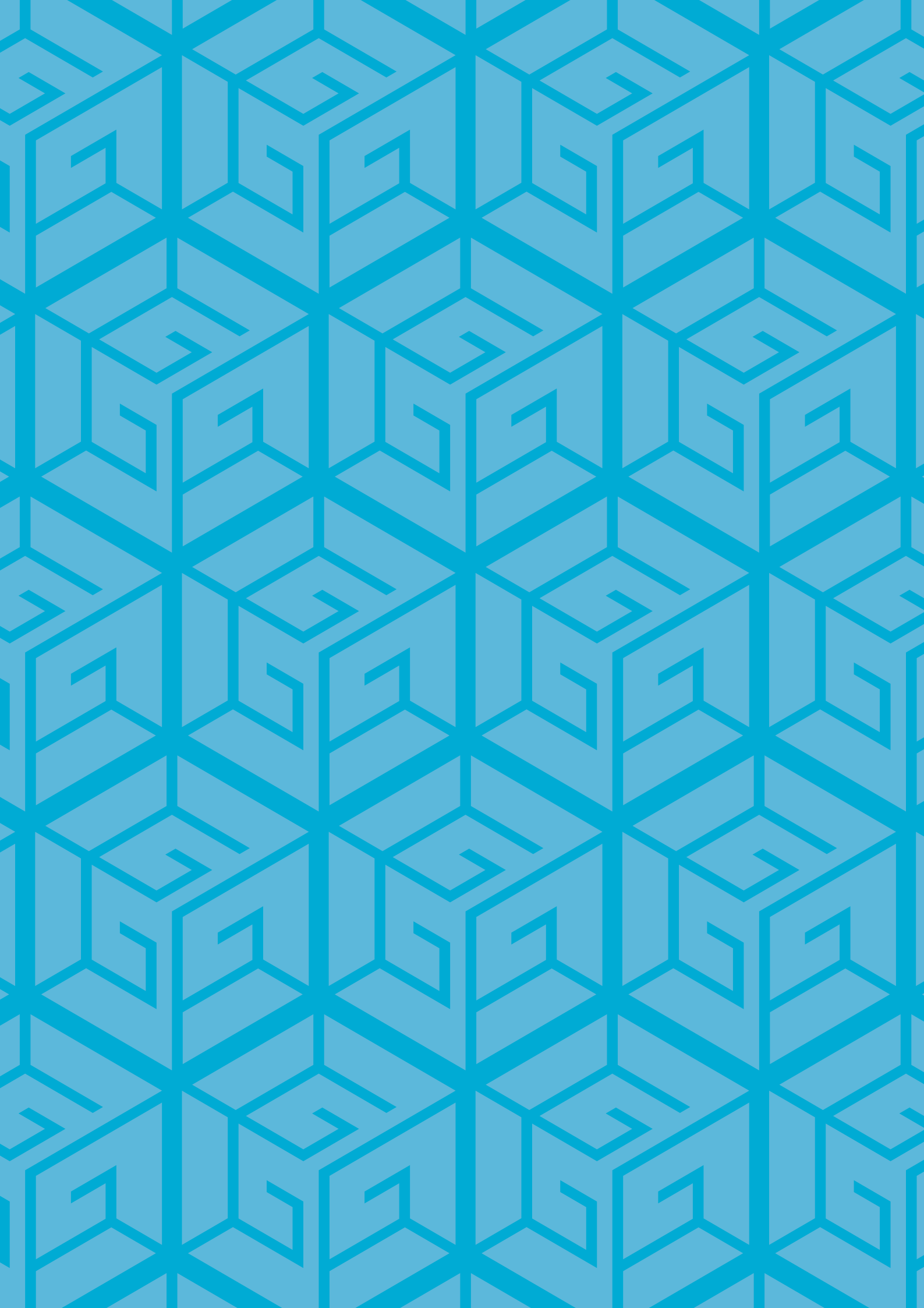
**77.** Through on-the-job training and knowledge sharing events, GGGI will increase the capacity of these entities to both deepen their understanding of key issues and incorporate evidence-based criteria into the development and implementation of public policy.



Table 2. Key development partners in Peru

Development Partner	Program	Type of Support
<b>Sustainable landscapes</b>		
GIZ	Proambiente	Technical Assistance
USAID	Forest Governance	Technical Assistance
<b>Water and sanitation</b>		
USAID	Green Infrastructure for Water Security	Technical Assistance
Canadian Embassy	Green Infrastructure for Water Security	Technical Assistance
KOICA	Climate Change Resilience	Technical Assistance
Swiss Agency for Development and Cooperation	Ecosystem Service Initiative	Technical Assistance
<b>Energy</b>		
Canadian Embassy	PROSEMER	Technical Assistance
JICA	Energy Efficiency Credit Line	Loan
SECO	Energy Efficiency Guarantee Fund	Grant









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