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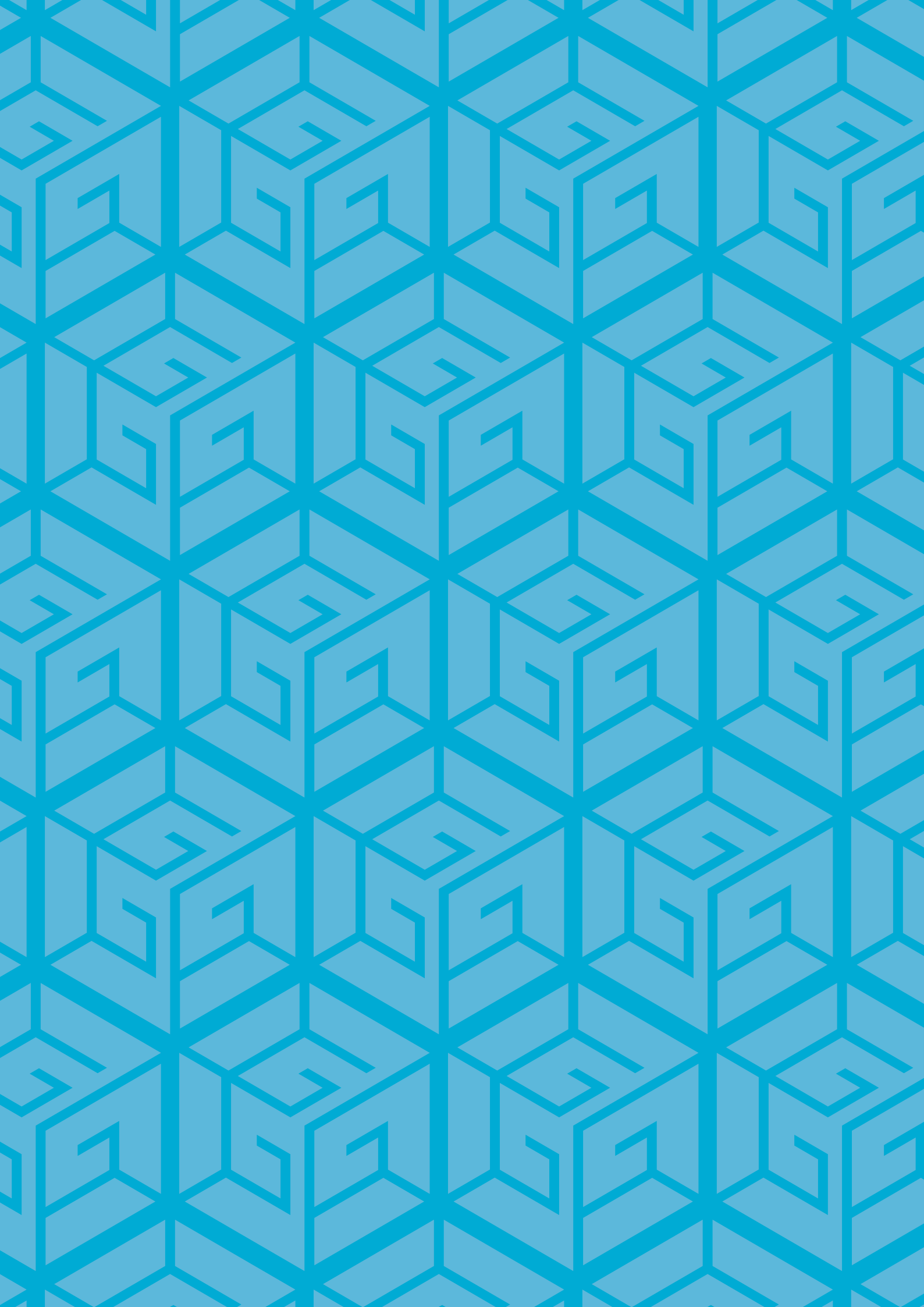
GGGI

Cambodia Country Planning Framework 2016-2020



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Abbreviations and Acronyms

ADB	Asian Development Bank	NCS	National Council for Sustainable Development
AFD	Agence Française de Développement	NESAP	National Environmental Strategy and Action Plan
ASEAN	Association of Southeast Asian Nations	NGO	Non-Governmental Organization
CCCSP	Cambodian Climate Change Strategic Plan	NPGG	National Policy for Green Growth
CPF	Country Planning Framework	NSDP	National Strategic Development Plan
CSO	Civil Society Organization	NSP	National Strategic Plan for Green Growth
EIA	Environmental Impact Assessment	RGC	Royal Government of Cambodia
GCF	Green Climate Fund	SDG	Sustainable Development Goal
GDP	Gross Domestic Product	SEZ	Special Economic Zone
GGGI	Global Green Growth Institute	SME	Small and Medium-Sized Enterprise
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	UNDP	United Nations Development Programme
GNI	Gross National Income	UNEP	United Nations Environment Programme
GUDDP	Green Urban Development Program	UNFCCC	United Nations Framework Convention on Climate Change
IDP	Industrial Development Policy	UNIDO	United Nations Industrial Development Organization
INDC	Intended Nationally Determined Contribution	USAID	United States Agency for International Development
JICA	Japanese International Cooperation Agency		
LDC	Least Developed Country		
MDG	Millennium Development Goal		



Executive Summary

Under the Country Planning Framework for 2016 to 2020, the Royal Government of Cambodia and the Global Green Growth Institute have prioritized cooperation toward the following three outcomes:

Outcome 1: Green growth is integrated into Cambodia's urban development

Green cities development will increase the economic competitiveness of Cambodia's cities. This will be achieved by capitalizing on its urbanization rate, by creating jobs and enabling industrial development, and by improving urban welfare, social inclusion and reducing urban poverty. The green city development model being deployed in the capital and in Cambodia's secondary cities aims to decouple urban economic growth from environmental impacts, including carbon emissions and air pollution, while also increasing urban resilience for all citizens to natural, climatic and other risks.

Outcome 2: Green growth is mainstreamed into Cambodia's national planning documents and domestic financing arrangements

Cambodia's national planning documents—the Rectangular Strategy and National Strategic Development Plan—will be renewed for the period beyond 2018, and Cambodia is seeking to integrate green growth as a cornerstone policy within the revised plans. Furthermore, Cambodia is seeking to increase green investment flows, by expanding its domestic financing vehicles to leverage both public and private investment in green growth.

Outcome 3: Energy consumption and production practices become more sustainable

Cambodia's industrial growth continues to accelerate over the coming decade, alongside its improved access to electricity in both rural and urban areas. As a result, Cambodia is seeking to transition toward cleaner energy sources and improved energy technologies; in particular, through renewable energy investment and energy efficiency savings in both industry and households.

Collaboration under these focus areas will support the Royal Government of Cambodia to achieve its strategic objectives for green growth, as set out in the *National Green Growth Roadmap* (2009), *National Policy on Green Growth* (2013) and *National Strategic Plan on Green Growth* (2013-2030). This collaboration will support Cambodia to achieve its commitments under its Intended Nationally Determined Contribution to the United Nations Framework Convention on Climate Change, on both climate change adaptation and mitigation. Furthermore, it will support the achievement of the Sustainable Development Goals (SDGs), including Cambodia's targets for Affordable and Clean Energy (Goal 7), Decent Work and Economic Growth (Goal 8), Sustainable Cities and Communities (Goal 11), Responsible Consumption and Production (Goal 12), and Climate Action (Goal 13).

The three outcomes will support the achievement of GGGI's objectives, as set out in the *GGGI Strategic Plan 2015 -2020*, in particular:

- Strengthened national, sub-national, local green growth planning, financing and institutional frameworks;
- Increased green investment flows; and
- Improved multi-directional knowledge sharing and learning between South-South and South-North-South countries.



1. Introduction to the Country Planning Framework

The Country Planning Framework (CPF) presents the initiatives that the Global Green Growth Institute (GGGI) aims to pursue in partnership with the Royal Government of Cambodia (RGC) over the period 2016 to 2020. It is underpinned by the following key principles:

- **Ownership** – It is co-owned by the government and endorsed by the lead Ministry with which GGGI has an agreement—the National Council for Sustainable Development (NCSD).
- **Mutual accountability** – It demonstrates commitment in a particular country, given the availability of adequate resources, to achieve agreed objectives. By endorsing the CPF, the government in turn commits to collaborate and provide support in implementing the CPF.
- **Alignment** – It is aligned to national objectives and informed by the GGGI Strategic Plan 2015-2020.
- **Leadership** – It is prepared with strategic oversight and support of the senior representatives in the government lead Ministry and GGGI.

This CPF aims to address the development challenges of Cambodia, and support its national priorities of green growth and climate change resilience, as embodied in the *Rectangular Strategy Phase III* and the *National Strategic Development Plan 2014-2018*. The CPF is also aligned with the organizational priorities of GGGI, specifically its thematic focus areas and value chain delivery model, as outlined in the *GGGI Strategic Plan 2015-2020*. Priority areas for GGGI engagement have been selected, based on extensive consultation and an assessment of Cambodia's needs for growing its economy in an inclusive and sustainable way. It identifies strategic areas where GGGI can add value to the work of the government, civil society and the private sector in Cambodia, and proposes potential collaboration opportunities. All new GGGI programs in Cambodia over this period will be implemented within the scope of this CPF.

Box 1. About GGGI

The Global Green Growth Institute (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 GGGI member 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 Knowledge Solutions—that deliver comprehensive products and services designed to assist in developing, financing and mainstreaming green growth in national economic development plans.

GGGI's interventions emphasize change in four priority areas considered to be essential to transforming countries' economies including energy, water, land use and green cities.

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



2. Country Overview

Cambodia is a country of 15.3 million people with a gross national income (GNI) of USD 15.6 billion, and GNI per capita of USD 1,020.¹ Cambodia has achieved remarkable economic growth and development gains over the past two decades. It is expected to achieve middle-income status in the near future, having averaged economic growth over 7% in the decade to 2013, making it the 15th fastest growing economy in the world.² Economic development has been driven by very strong growth in the rice, garment, construction and tourism sectors.³ Cambodia's *New Industrial Development Policy 2015-2025* provides enhanced opportunities to deepen diversification of the economy, alongside its involvement in strengthening regional integration through the Association of Southeast Asian Nations (ASEAN).

2.1 Green Growth Performance

Cambodia remains amongst the lowest greenhouse gas emitters in the world and is overall a net carbon sink.⁴ Cambodia has introduced comprehensive national policies to address its adaptation needs and the de-carbonization of its key economic sectors, including a national policy and strategic plan for green growth.⁵ Results in building a green economy are being demonstrated, for example, through the large-scale introduction of off-grid renewable energy systems using biodigesters and solar power, and the expansion of rural sanitation (which quadrupled coverage between 1998 and 2011).⁶

Table 1. Cambodia at a glance

Total population (million), 2014	15.3
Population growth (annual %), 2014	1.64
Poverty headcount ratio at national poverty lines (% of population), 2012	17.7
Income share held by lowest 20%, 2012	9.05
Life expectancy at birth, total (years), 2013	71.74
Fertility rate, total (births per woman), 2013	2.861
Mortality rate, under-5 (per 1,000 live births), 2014	30.6
Improved water source (% of population with access), 2014	73.4
Improved sanitation facilities (% of population with access), 2014	40.8
Urban population growth (annual %), 2014	2.59
Energy use (kg of oil equivalent per capita), 2012	369.6
CO ₂ emissions (metric tons per capita), 2011	0.3
Electric power consumption (kWh per capita), 2012	206.5
GNI (current USD), 2014	15,614,266,727
GNI per capita (current USD), 2014	1,020
GDP growth (annual %), 2014	7.0
Inflation, GDP deflator (annual %), 2014	2.78

Source: World Bank, "World Data Bank: World Development Indicators - Cambodia," <http://databank.worldbank.org/data/reports.aspx?source=2&country=KHM&series=&period=>

¹ World Bank, "World Data Bank: World Development Indicators - Cambodia," 2014 data, <http://databank.worldbank.org/data/reports.aspx?source=2&country=KHM&series=&period=>.

² World Bank, "Maintaining High Growth: Cambodia Economic Update," April 2015, http://www.worldbank.org/content/dam/Worldbank/document/EAP/cambodia/Cambodia_Economic_Update_April_2015.pdf.

³ Ibid.

⁴ RGC, "Cambodia's Intended Nationally Determined Contribution," submitted to the UNFCCC on September 30, 2015. The INDC notes that Cambodia's BAU per capita emissions in 2050 are projected to be 2.59 tCO₂eq, which is less than half of current world per capita emission.

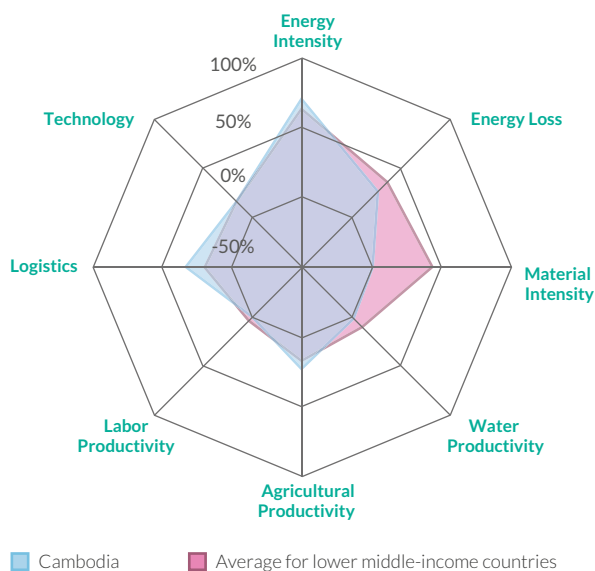
⁵ Ibid.

⁶ RGC, "The Cambodian Government's Achievements and Future Direction in Sustainable Development: National Report for Rio+20 United Nations Conference on Sustainable Development," 2012, <https://sustainabledevelopment.un.org/content/documents/1022cambodia.pdf>.

GGGI has undertaken a rapid indicative assessment of Cambodia's green growth performance and compared them with the average for lower middle-income countries⁷ across three areas: resource efficiency, eco-friendliness and climate resilience (see Figures 1 to 3). The larger the shaded area on the web diagram, the better the performance. Cambodia's performance is shown in blue and those of the lower middle-income countries is shown in pink. A description of the indicators and indexes used is provided in Annex B.

Compared with its peers, Cambodia faces particular stresses to achieving resource-efficient growth in the areas of water productivity, material intensity and energy losses (see Figure 1). On the other hand, Cambodia demonstrates stronger performance for resource-efficient growth in the areas of logistics, agricultural productivity and energy intensity.

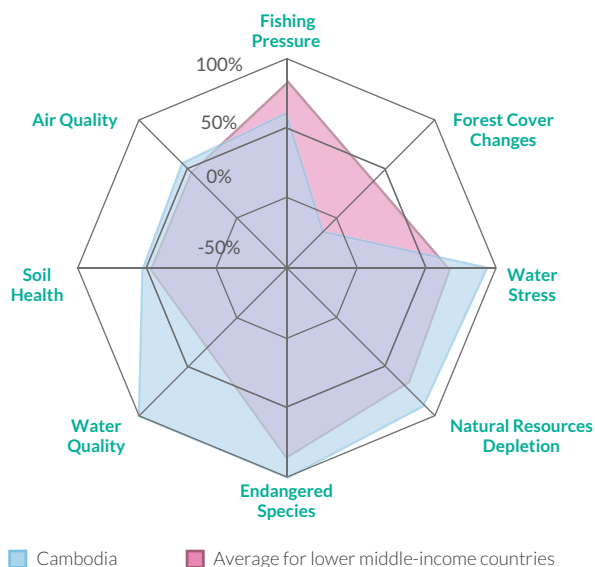
Figure 1. Cambodia's resource-efficient growth in comparison with lower middle-income countries



For indicators on eco-friendly growth, Cambodia is falling behind on forest cover change and fishing pressure, whereas it is achieving higher performance on water quality, the current rate of endangered species loss, and the rate of natural resources depletion as a percentage of income (see Figure 2).

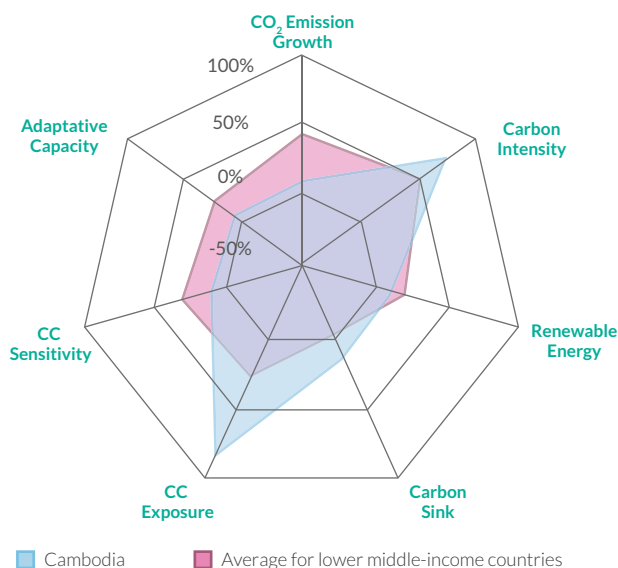
⁷ Given Cambodia's imminent transition to middle-income status, Cambodia has been grouped amongst lower middle income countries for the period 2016-2020, rather than least developed countries.

Figure 2. Cambodia's eco-friendly growth in comparison with lower middle-income countries



Cambodia's overall weakest area for green growth is climate-resilient growth, whereby Cambodia faces particular challenges with its adaptive capacity, and has a higher level of sensitivity to climate change impacts, alongside a higher growth rate in carbon dioxide emissions and lower uptake of renewable energy (see Figure 3). Nevertheless, the carbon intensity of Cambodia's economy is still lower than its peers, and Cambodia is less exposed to climate change from a biophysical perspective than other countries in this same group.

Figure 3. Cambodia's climate-resilient growth in comparison with lower-middle income countries



2.2 Economic Growth and Relative Political Stability Achieved

Cambodia faces many of the challenges common to post-conflict and fragile states. The Khmer Rouge's regime (1975 to 1979) tore apart the social fabric of Cambodian society at the cost of over two million lives and incalculable disruption to the economic functioning of the country. Following the ousting of the Khmer Rouge there was an extended period of civil war involving several factions, which lasted until 1991 with the Paris Peace Settlement and return of the monarchy in 1993. The ravages of those two decades of violence left a significant legacy of damaged infrastructure and a generation with minimal education.

In light of its turbulent history, Cambodia's subsequent economic success and relative political stability has been remarkable. Cambodia has managed to achieve relative political stability over the last two decades, under governments formed by the Cambodian People's Party, led by Prime Minister Samdech Hun Sen, initially in coalition with the Royalist party, led by Prince Norodom Ranariddh.

Cambodia is a constitutional monarchy with a democratically elected government. National elections take place every 5 years, with the next due in 2018. Ministries of the RGC develop policies and draft laws/regulations (royal decrees/sub-decrees) and submit draft legislation to the Council of Ministers (Cambodia's executive body or Cabinet), which assesses and reviews the drafts before they are put to the parliament for consideration and, as appropriate, passage into law.

2.3 Poverty Reduced but Challenges Remain

Substantial progress has been made on poverty reduction and other development indicators over the last two decades. Poverty rates have fallen remarkably from 53% in 2004 to around 17% in 2012.⁸ The majority of

⁸ World Bank, "Poverty has fallen, yet many Cambodians are still at risk of slipping back into poverty, new report finds," February 20, 2014, <http://www.worldbank.org/en/news/press-release/2014/02/20/poverty-has-fallen-yet-many-cambodians-are-still-at-risk-of-slipping-back-into-poverty>; and World Bank, "World Data Bank: World Development Indicators - Cambodia," 2014 data, <http://databank.worldbank.org/data/reports.aspx?source=2&country=KHM&series=&period=>

Cambodia's Millennium Development Goals (MDGs) have been met.⁹ Consumption for the bottom 40% of the consumption distribution curve grew at an average annual rate of 7% during the period 2007 to 2012, compared to 3.6% for the total population.¹⁰ Inequality has improved, with the Gini coefficient declining from 32 in 2008 to 28 in 2012, but the rate of progress in addressing inequality has slowed.¹¹

Despite remarkable progress, a large segment of the Cambodian population remains just above the poverty line, and continues to be highly vulnerable to shocks, such as food price increases and natural disasters.¹² The average Cambodian has only 5.8 years of schooling.¹³

Cambodia remains largely aid dependent and is a crowded space for development cooperation. Aid programs by multilateral and bilateral donors amount to USD 800 million per annum, representing around 25% of the RGC's national budget.¹⁴ Many social services are provided by donors and an active civil society.

2.4 Market Development at Nascent Stage

Since the opening of the market economy in the early 1990s, the private sector has been the main engine of economic growth. The private sector is responsible for around 95% of employment, with small and medium-sized enterprises (SMEs), primarily informal family owned businesses, generating the bulk of employment, albeit at very low remuneration rates.¹⁵ Within the private sector, agriculture is the largest source of employment,

⁹ Ministry of Planning, RGC, "Annual Progress Report 2013: Achieving Cambodia's Millennium Development Goals," April 2014.

¹⁰ World Bank, "Maintaining High Growth: Cambodia Economic Update," April 2015, http://www.worldbank.org/content/dam/Worldbank/document/EAP/cambodia/Cambodia_Economic_Update_April_2015.pdf.

¹¹ Ibid.

¹² World Bank, "Poverty has fallen, yet many Cambodians are still at risk of slipping back into poverty, new report finds," February 20, 2014, <http://www.worldbank.org/en/news/press-release/2014/02/20/poverty-has-fallen-yet-many-cambodians-are-still-at-risk-of-slipping-back-into-poverty>.

¹³ World Bank, "Maintaining High Growth: Cambodia Economic Update," April 2015, http://www.worldbank.org/content/dam/Worldbank/document/EAP/cambodia/Cambodia_Economic_Update_April_2015.pdf.

¹⁴ Organisation for Economic Co-operation and Development, "Aid at a Glance: Cambodia," provides Official Development Assistance estimates for 2011-2013, which average USD 801 million and do not take account of Chinese concessional loans. See <http://www.oecd.org/dac/stats/aid-at-a-glance.htm>.

¹⁵ Japanese International Cooperation Agency, "Private Sector in Cambodia," 2010, http://www.jica.go.jp/cambodia/english/office/topics/pdf/10_chapter6.pdf.

employing 51% of the population in 2013.¹⁶ According to the United Nations Standard Industrial Classification of Economic Activities, in 2010 the main non-agricultural sub-sectors of employment are manufacturing (33.5%), retail and repair of motor vehicles and motor cycles (33%), accommodation and food services (9%), other service activities (7%), and education (7%).¹⁷

Cambodia's economic sectors are still at a relatively early stage of development. Cambodia's economy is characterized by less-efficient technology, a shortage of capital and under-utilization of local inputs. Cambodia has the opportunity to strengthen the textile and garments sector, in particular, as currently only low-end products are exported. Cambodia aims to attract further investment in a broader range of economic activity—including to higher value-added and less vulnerable sectors—which will enhance the economy's resilience to external shocks and achieve a more balanced, sustainable development path. The RGC aims to achieve this through increased education, trade (i.e. the ASEAN Community) and infrastructure investment.

The costs of doing business are high in Cambodia due to weak governance and transparency. Cambodia stands at 127 in the ranking of 189 economies on the “ease of doing business 2016” scale prepared by the World Bank Group. Starting a business requires 7 procedures, takes 87 days, costs 79% of income per capita and requires paid-in minimum capital of 24% of income per capita.¹⁸ Business owners and investors find it difficult to get construction permits, register property and pay taxes. They also have concerns about the lack of sufficient regulatory framework to protect their businesses from potential economic and political risks. Access to credit is regarded as a major barrier. Cambodian banks and microfinance institutions are generally highly conservative in their lending practices, requiring significant fixed assets as collateral to underpin high interest loans, and they have been wary of providing loans for green technology uptake.

¹⁶ UN Data, “World Statistics Pocket Book: Cambodia,” accessed May 10, 2016, <http://data.un.org/CountryProfile.aspx?crName=Cambodia>.

¹⁷ Council for the Development of Cambodia, “Private Sector in Cambodia,” in *Investment Guide Book*, Chapter 7 (2013), <http://www.cambodiainvestment.gov.kh/investment-guide-book.html>.

¹⁸ World Bank, *Doing Business 2016 Cambodia Profile: Measuring Regulatory Quality and Efficiency* (Washington D.C., 2016), http://www.doingbusiness.org/data/exploreeconomies/cambodia/~/_/media/giawb/doing%20business/documents/profiles/country/KHM.pdf.

2.5 Inclusive Growth Initiated

The RGC recognizes that it needs to spread the benefits of development more broadly within Cambodian society. This is particularly the case as Cambodia prepares to graduate from a least developed country to a lower middle-income economy.¹⁹ This graduation will have economic challenges as development assistance will increasingly come as concessional loans rather than grants, and Cambodia will lose the least developed country tariff-free and quota-free access to markets such as the European Union and Australia.

Since 2013, the RGC has pursued several initiatives to advance inclusive economic development. These include:

- Commencing annual wage discussions between management and garment sector labor unions, with substantial pay rises in 2013, 2014 and 2015 (which in part flowed on to other sectors);
- Reducing corruption in high schools to strengthen education outcomes;
- Enforcing more transparent tariff collection to boost government revenues for public programs;
- Reviewing economic land concessions in rural areas where holders have not complied with conditions on land use;
- Increasing access to electricity in some rural areas and reducing urban electricity prices.

Gender inequality persists in Cambodia, resulting in women and girls constituting the majority of the poor and most vulnerable. Women suffer higher rates of illiteracy, access fewer economic opportunities than men and dominate informal work, including the risky entertainment sector in the larger towns. Women also have specific needs and concerns in urban development, including safe public transport and street lighting, disaster resilience, access to safe and decent work, and enterprise development. As the main family members responsible for household water, fuel and waste, women are both disproportionately affected by,

¹⁹ RGC, *National Strategic Development Plan 2014-2018* (2014), 22.

and key stakeholders in, energy and water consumption. Garment factories, which employ mostly women, are very vulnerable to economic downturns—during the global financial crisis many young women lost their jobs, with significant personal and social repercussions.

2.6 Key Socio-Economic Challenges Ahead

Two key socio-economic challenges going forward include: (1) problems arising from rapid urbanization; and (2) continuing high cost and unreliable electricity.

2.6.1 Rapid Urbanization

Rapid urbanization is generating significant social, economic and environmental challenges. Today, Cambodia's urban areas account for around 30% of the total population of 15.3 million—compared to 18% in 1998.²⁰ Phnom Penh's population, driven by a shift from the rural to urban economy, has increased rapidly from 999,804 people in 1998,²¹ to 2,065,382 (estimation) in 2015²²—representing around 41% of the country's urban population. The capital city has already experienced the stress of urban growth, including a lack of power, growth of informal settlements, deficient water supplies, inadequate waste water treatment and solid waste management, urban flooding, and air pollution.

Rapid urbanization in Cambodia is also opening up numerous opportunities. The urban sector now accounts for around half of Cambodia's GNI.²³ The prospect of employment and education in urban centers will continue to attract migrants from rural areas in the future. Projections indicate the urban population will increase by 30% to around 5.6 million people in 2020.²⁴ As the urban sector in Cambodia is considerably more productive than the agricultural sector, the potential for urban migration and development to create jobs and build upon the country's recent successes in reducing poverty represents an important opportunity.

²⁰ Official figures from the 2008 census is 27.1% following the re-classification of urban areas in 2011, and 30% is an estimation for 2014, by ADB, "Urbanisation Study Cambodia 1998-2030: Assessment, Trends, Scenarios," draft report, May 2014.

²¹ Cambodia's National Institute of Statistics, 2008 Survey.

²² JICA, "The project for comprehensive urban transport plan in Phnom Penh Capital City (PPUTMP). Final report – Executive summary," 2014

²³ ADB, *Cambodia: Urban Sector Assessment, Strategy, and Road Map* (Manila, 2012).

²⁴ Ibid.

Pressures on urban areas will be exacerbated by climate change. Mean monthly temperatures are projected to increase between 0.013°C and 0.036°C per year by 2099, depending on the location, with higher rates at low latitudes.²⁵ Furthermore, although there is inconclusive evidence of climate impact on rainfall, projections of the mean annual rainfall indicate an increase in rainfall for Cambodia.²⁶ Climate-related flooding is projected to increase in frequency and intensity, especially in the central plains.²⁷ Cambodia's Intended Nationally Determined Contribution (INDC) highlights the particular vulnerability of urban areas where more assets and population are concentrated, and commits Cambodia to strengthening the resilience of urban infrastructure (through rehabilitation of road and flood protection dikes).²⁸

Reclamation of lands for urban development has been a particularly challenging issue for urban development, creating tenure problems and tensions around resettlement. The urban resettlement processes and the provision of appropriate compensation for relocated communities has been a very contentious issue in Cambodia. The World Bank suspended its lending programs in Cambodia in 2011, as a result of the issues associated with the handling of involuntary resettlement of households. Other major development partners have also faced implementation difficulties where projects involve relocation of households. In May 2010, the RGC adopted Circular No.3 on: "Resolution of temporary settlements on illegally occupied land in the capital, municipal and urban areas." The Circular offers solutions to support the development of urban poor settlements deemed illegal, and sets minimum standards for resettlement sites. Both the Cambodian Constitution and the Land Law have provisions for fair and just compensation in the context of confiscation or deprivation of ownership,²⁹ from which the resettlement legal framework and institutional capacity in Cambodia can be further strengthened.

²⁵ RGC, *Cambodia Climate Change Strategic Plan 2014-2023* (2013), <http://www.moe.gov.kh/userfiles/image/download/1445160472781.pdf>.

²⁶ Ibid.

²⁷ Ibid.

²⁸ RGC, "Cambodia's Intended Nationally Determined Contribution," submitted to the UNFCCC on September 30, 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Cambodia/1/Cambodia's%20INDC%20to%20the%20UNFCCC.pdf>.

²⁹ Constitution of the Kingdom of Cambodia, Article 44; and 2001 Land Law, Article 5.

2.6.2 Energy Poverty

Cambodia's expensive energy sector is undermining its economic growth potential and resulting in energy poverty. Only 51% of households had access to the expanded electricity grid in 2014.³⁰ Cambodia has the highest electricity prices in South-East Asia, primarily because its fragmented grids are mostly supplied by diesel-power generators using imported fuel.³¹ Table 2 shows the 2011 electricity prices, which disadvantages the poor, who primarily reside in rural areas. Prices for Phnom Penh, while low in comparison to the rest of Cambodia, are still high compared to other regional cities including Bangkok (USD 0.05-0.11/kWh)³² and Ho Chi Minh City (USD 0.07 kWh).³³

Table 2. Electricity prices in Cambodia, by location in 2011

Location	Electricity price
Phnom Penh	USD 0.15-0.20/kWh for households, USD 0.18-0.20/kWh for businesses
Other grid-connected towns and urban areas	USD 0.12-0.26/kWh
Rural areas (mostly diesel generators)	USD 0.50-1.00/kWh
Battery (car batteries) charging stations (diesel - to be found in 35% of rural villages)	Up to USD 4.00/kWh

Sources: RGC, National Policy, Strategy and Action Plan on Energy Efficiency in Cambodia (May 2013); and Electricity Authority of Cambodia, Report on Power Sector of the Kingdom of Cambodia, 2015 edition (2014), <http://eac.gov.kh/wp-content/uploads/2015/07/report-2014en.pdf>

³⁰ Toch Sovanna, Director, Renewable Energy Department, Ministry of Mines and Energy's presentation at the Enrich Clean Energy Forum, Phnom Penh, September 17, 2015.

³¹ ADB, "Proposed Administration of Grant: Kingdom of Cambodia – Rural Energy Project. Report and Recommendation of the President to the Board of Directors," 2012.

³² Metropolitan Electricity Authority of Thailand, "About Electricity Bills – Schedule 1: Residential Service," November 2015, <http://www.mea.or.th/profile/index.php?l=en&tid=3&mid=111&pid=109>.

³³ Van Nam and Ngoc Lan, "Electricity tariffs to rise 7.5% next week," *The Saigon Times*, March 6, 2015, <http://english.thesaigontimes.vn/39765/Electricity-tariffs-to-rise-75-next-week.html>.

Cambodia's energy supply is dominated by traditional biomass (firewood and charcoal) and imported oil products. In 2012, traditional biomass accounted for 66% of total energy consumed, primarily for cooking and heating. Oil products (all imported) constituted 29% of energy consumed.³⁴ Cambodia has untapped and mostly unquantified petroleum and natural gas resources, whilst a preliminary estimate of coal deposits is about 7 million tons.³⁵

In 2014, Cambodia's electricity supply consisted of domestic hydropower (38%), imports from Lao PDR, Thailand and Viet Nam (37%), domestic generation using coal (18%), and domestic generation using diesel and heavy fuel oil (7%).³⁶

Energy consumption is projected to grow at an average annual rate of 5.2% for the period 2009 to 2035 due to envisaged strong economic growth.³⁷

2.7 Environmental and Natural Resources Protection Challenges are Pressing

Sustainable use of Cambodia's natural resources is a key factor for Cambodia's sustainable development. Agriculture has grown at an average annual rate of 4.5% during 2008–2013 and contributed about 29% to the national gross domestic product (GDP) during the same period.³⁸ The sector employed about 72% of Cambodia's workforce in 2012, or about 5 million people, mainly organized in small farms, and more than 80% of the population depends on agriculture for their livelihood.³⁹ Tourism, which is based on the country's cultural and natural wonders, also contributes significantly to economic development. Reliance on these industries means that sustainable management of natural resources

³⁴ International Energy Agency, "Statistics – Cambodia: Balances for 2012," <http://www.iea.org/statistics/statisticssearch/report/?year=2012&country=Cambodia&product=Balances>.

³⁵ ADB, "Country Partnership Strategy: Cambodia, 2011-2013. Sector Assessment (Summary): Energy," 2011, <http://www.adb.org/sites/default/files/linked-documents/cps-cam-2011-2013-oth-01.pdf>.

³⁶ Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia*, 2015 edition (2014), <http://eac.gov.kh/wp-content/uploads/2015/07/report-2014en.pdf>. It should be noted that statistics vary by source. For example, Electricité du Cambodge's 2013 report states that imports accounted for 54.98% of electricity supply in 2013.

³⁷ RGC, *National Policy, Strategy and Action Plan on Energy Efficiency in Cambodia* (May 2013).

³⁸ Cambodia's National Institute of Statistics, 2012.

³⁹ Ibid.

and other aspects of the environment are vital for improving rural livelihoods and for economic growth.

Yet, Cambodia's very rich natural resource base continues to be confronted with major environmental issues. Cambodia's forest cover declined from 61% in 2002 to 57% in 2010.⁴⁰ That represents a decline of 4.08%, equivalent to a loss of 740,502 hectares of forestland in the eight-year period or an average annual rate loss of 0.5%.⁴¹ The deforestation rate is among the highest in the world,⁴² and is closely linked to other key environmental issues such as land degradation, soil erosion, extinction of wildlife and general loss of biodiversity and ecosystem services, which results in reduced resilience to disasters and climate change. The continuing loss of forest underscores the need for more sustainable management of Cambodia's natural resources.

Cambodia is highly vulnerable to climate change, due to its low adaptive capacity and high reliance on climate-sensitive sectors such as water resources and agriculture. Cambodia is already experiencing debilitating climate change impacts from more frequent and severe flooding. It was ranked 12th (out of more than 150 countries) in terms of its climate vulnerability over the period 1994 to 2013.⁴³ The floods in 2011 caused USD 451 million in damage and USD 174 million in losses.⁴⁴ The 2013 floods were similarly catastrophic, costing an estimated USD 356 million.⁴⁵ The worsening climate change impacts, including sea level rise, flooding and increasing droughts will have adverse implications for food and water security, and infrastructure stability.⁴⁶

Cambodia's severe vulnerability to climate change is underpinned by its social, political and economic circumstances, in particular: (1) its persistent poverty; (2) the importance of highly seasonal natural hydrology cycles for agriculture and economic development; (3) the underdeveloped capacity of its public institutions; and (4) its high dependency on foreign aid.

2.8 Governance Structure for Green Growth Established

The National Council for Sustainable Development (NCSD), established in May 2015, is the primary government institution responsible for the coordination of green growth. The NCSD involves senior-level representation from all RGC ministries, chaired by the Minister of Environment. NCSD amalgamated the former National Council for Green Growth and National Climate Change Committee, which were both established in 2013. The establishment of the NCSD reflects the RGC's strong and ongoing political commitment to sustainable development, and aims to advance green economy and climate change policies in an efficient and coordinated way across government.

⁴⁰ RGC, *Fifth National Report to the Convention on Biological Diversity* (2014), <https://www.cbd.int/doc/world/kh/kh-nr-05-en.pdf>.

⁴¹ Ibid.

⁴² World Bank, "World Development Indicators – Table 3.4: Deforestation and Biodiversity," <http://wdi.worldbank.org/table/3.4>.

⁴³ Sönke Kreft et al., *Global Climate Risk Index 2015* (Bonn: Germanwatch e.V., 2014), 24, <https://germanwatch.org/en/download/10333.pdf>.

⁴⁴ ADB, "Technical Assistance Report – Kingdom of Cambodia: Mainstreaming Climate Resilience into Development Planning," September 2012, <http://www.adb.org/projects/documents/mainstreaming-climate-resilience-development-planning-tar>.

⁴⁵ RGC, "Cambodia 2013: Post-Flood Early Recovery Need Assessment Report," April 8, 2014, <http://www.undp.org/content/dam/cambodia/docs/PovRed/Cambodia%20post-flood%20recovery%20need%20assessment%20report.pdf>.

⁴⁶ Cambodia's Ministry of Environment and UNDP Cambodia, *Cambodia Human Development Report 2011: Building Resilience – The Future of Rural Livelihoods in the Face of Climate Change* (Phnom Penh, 2011), http://hdr.undp.org/sites/default/files/cambodia_2011_nhdr.pdf.



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3. National Priorities

3.1 National Development Plans Incorporate Green Growth

Cambodia's blueprint for socio-economic development is the *Rectangular Strategy Phase III 2014-2018* (Rectangular Strategy III), which has four high-level objectives:

- Average annual growth of 7% that is “sustainable, inclusive, equitable and resilient to shocks”;
- Creating a more competitive investment environment to drive jobs growth, especially for youth;
- Realizing the MDGs and continuing to reduce poverty by more than one percentage point annually, as well as placing high priority on human resources development and sustainability of environmental and natural resources;⁴⁷
- Improving institutional capacity and governance at both national and sub-national levels.⁴⁸

The *National Strategic Development Plan 2014-2018* (NSDP) supports the implementation of the Rectangular Strategy III. It has detailed plans for all economic sectors with a focus on:

- Governance, including reducing corruption;
- Land reform, improved agricultural productivity and sustainable use of natural resources;
- Infrastructure for transport, energy, water and telecommunications;
- Private sector development and industrial relations;
- Human resource development, including health, education and gender issues.

⁴⁷ RGC met its MDGs early but continues to work to reduce poverty consistent with this high-level Rectangular Strategy objective.

⁴⁸ RGC, *Rectangular Strategy Phase Three (2013-2018)*, 6-7, <http://www.cambodiainvestment.gov.kh/content/uploads/2013/11/2013-Rectangular-Strategy-III-En8.pdf>.

In particular, the NSDP identifies the need for environment issues to “assume centrality” and commits the RGC to develop an economy based on green growth principles.⁴⁹

Both the Rectangular Strategy III and the NDSP recognize the importance of sustainable, gender equitable and inclusive development, and highlight key challenges for Cambodia, including: (1) ongoing uncertainty in the global economy; (2) the integration into the ASEAN economic community (requiring greater investment in skills training and education); and (3) the need to improve electronic communications.

3.2 Sustainable Development Commitments, Policies and Legal Frameworks

The RGC has made ambitious international commitments on sustainable development. Through international fora, Cambodia has committed to: sustainable use of natural resources; green growth principles; and taking action to improve Cambodia's resilience to climate change. The RGC submitted its INDC to the UNFCCC on September 30, 2015 for COP-21 (see Box 2).

⁴⁹ RGC, *National Strategic Development Plan 2014-2018* (2014), 4.

Box 2. Cambodia's Intended Nationally Determined Contribution

Priority adaptation actions center on rural areas and sectors with significant climate impacts. Actions may include:

- Strengthening communities' adaptive capacity;
- Restoring natural ecologies;
- Implementing management measures for protected areas;
- Strengthening early warning systems;
- Rehabilitating flood protection dikes;
- Scaling up programs to combat water-borne and food-borne diseases.

Priority mitigation actions, conditional on international support, may achieve a 27% reduction (3.1MT) on projected 2030 BAU non-land sector emissions (of 11.6 MT). Actions may include:

- Promoting renewable energy uptake and energy efficiency in residential, commercial, industrial and construction sectors;
- Promoting mass transport and electric vehicles;
- Strengthening forest protection programs.

In 2013, Prime Minister Samdech Hun Sen launched the *National Policy on Green Growth 2013-2030 (NPGG)* and *National Strategic Plan on Green Growth 2013-2030 (NSPGG)*. This national policy framework for green growth proposes a comprehensive range of actions that can support greener more inclusive growth, including:

- Promoting ecotourism;
- Increasing renewable energy uptake;
- Strengthening the finance sector to facilitate loans for sustainable development projects;
- Efficiency standards for coal-fired generators;
- A range of projects to enhance sustainable consumption and production.

These documents built on an earlier set of policy options for green growth that Cambodia formulated in 2009, the *National Green Growth Roadmap*, which focused on access to: (1) clean water and sanitation; (2) renewable energy; (3) information and knowledge; (4) means for better mobility; (5) finance and investments; (6) food security (sustainable agriculture); and (7) sustainable land use.

Box 3. Prioritization of green urban development by the Royal Government of Cambodia

H.E. Dr. Say Samal, Minister for Environment and Chair of NCSD has identified seven priorities for his portfolio, which include sustainable/green cities development and climate change resilience.

Cambodia's NPGG and NSPGG outline the following priority actions for urban green growth:

- Creating green transport infrastructure at national and sub-national levels, and developing plans to reduce traffic congestion and traffic accidents;
- Creating green business environments with relevant regulations, and to encourage renewable energy, improving energy efficiency and green industry development;
- Developing and effectively implementing a national strategic plan for waste management;
- Improving land use and the city environment to promote good health;
- Establishing green industry and integrating into national strategic development;
- Strengthening the private sector to implement good green growth governance;
- Integrating gender equality into green growth.

In 2013, the RGC also launched the *Cambodian Climate Change Strategic Plan 2014-2023 (CCCCSP)*. Due to low emissions and high vulnerability to climate change, Cambodia has historically focused on adaptation. However Prime Minister Samdech Hun Sen, at the launch of the CCCSP in 2013, called for "increased attention on using renewable energy ... and further implementation of green growth initiatives to continue underpinning sustainable development."



In 2015, a *Climate Change Financing Framework* was developed in consultation with development partners to support the implementation of each Ministry's climate change action agenda, estimating the total public climate financing response will cost USD 1.1 billion between 2014 and 2018.

The RGC is currently developing an *Environmental Code* and a *National Environmental Strategy and Action Plan (NESAP)*. The development of the national Environmental Code is a priority initiative of the RGC, which will provide a comprehensive legal and regulatory framework for environmental protection and sustainability, and will complement its draft Environmental Impact Assessment (EIA) law. It will include a chapter on sustainable city development and the green economy. Both the Environmental Code and EIA law are scheduled to be completed in 2017.

The NESAP will cover the period 2017 to 2023. It aims to take stock of Cambodia's natural resources, measure the benefits of environmental sustainability, and introduce financial incentives to encourage businesses to operate more sustainably. NESAP will track environmental performance indicators, including those related to air pollution and sustainable water use.⁵⁰

⁵⁰ ADB, "ADB Supports Cambodia's Push to Develop New Environmental Plan," November 2, 2015, <http://www.adb.org/news/adb-supports-cambodia-s-push-develop-new-environmental-plan>.



4. GGGI's Engagement in Cambodia

4.1 Engagement To Date and Key Results

The RGC is a founding member of GGGI and signed a **Memorandum of Understanding with GGGI for cooperation on green growth in 2011**. In 2011 to 2013, GGGI assisted the RGC with establishing its national policy framework and institutional arrangements for green growth.

GGGI assisted the Ministry of Environment in coordinating the development of the NPGG and its companion, the NSPGG, and also contributed to mainstreaming green growth principles into the government's central planning documents (both the Rectangular Strategy III and the NSDP 2013-2018).

GGGI supported the establishment of institutional structures for inter-ministerial coordination on green growth, through supporting the establishment of the National Council for Green Growth (NCGG) and its General Secretariat. The NCGG has subsequently been integrated with the National Committee on Climate Change in the formation of NCSD (outlined above).

To complement RGC's work at the national level, GGGI supported a pilot initiative on renewable energy in 2011-2013. This pilot worked directly with community groups and the private sector. GGGI partnered with the Takeo Appropriate Technology Center and the Asia-Europe Meeting SMEs Eco-Innovation Center, to support the development of eco-solar technologies, including micro-solar home systems, household solar cookers and community-based solar cookers.

The pilot initiative included a training program on assembling the solar cookers and micro-solar home systems, the construction of three community-based solar systems, and an entrepreneurial training program. This was a successful green business promotion project, which strengthened the capacity of SMEs for off-grid renewable energy, helped make the industry more commercially viable, and promoted green entrepreneurship.

In 2014, during a period of institutional reforms within the RGC (including to establish NCSD), GGGI conducted analytical research to underpin potential green growth programs. This included assessments of: (1) Cambodia's potential for green energy uptake; (2) policy and institutional barriers to sustainable city development; and (3) green growth opportunities for the private sector. GGGI and the RGC held a planning workshop in September 2014, which led to the prioritization of green cities development in Cambodia in 2015-2016 (see Box 4).

Box 4. Priorities identified at the 2014 planning workshop for GGGI in Cambodia

- **Green Cities:** Given Cambodia's rapid urbanization, the participants highlighted the following as important areas of concern related to green urban development: waste management, green buildings, green transport and green public parks.
- **Renewable Energy and Energy Efficiency:** Cambodia's high-energy cost highlights the urgency of utilizing its renewable energy potential through technologies such as hydropower, solar energy, biomass/biogas and wind turbines. The challenges identified include the lack of private investment due to high costs and high risks.
- **Eco-labeling:** Cambodia strives to be a leader in this field among developing countries. Cambodia's eco-labeling program will cover not just manufactured and agricultural products but also the services sector, targeting regional and global markets through high-quality exports.

In 2015, GGGI established a country office and commenced the implementation of the Cambodia Green Urban Development Program (GUDP). This is GGGI's first program with the RGC, but the GUDP is built on GGGI's earlier work on diagnosis and impact assessment at the national level under the NSPGG, which identified several green urban priority actions for implementation. In implementing the GUDP, GGGI drew on its green cities development experience in India, Philippines, Rwanda and Viet Nam, and provided South-South exchange opportunities for the RGC.

4.2 GGGI's Comparative Advantage

GGGI has found a strong niche on green urban development in Cambodia. On one hand, there is very strong government demand for this work (given that it is the top of seven ministerial priorities for H.E. Dr. Say Samal, Minister of Environment, and is also strongly endorsed by other key ministries in the RGC). At the same time, most donor investment in Cambodia is in rural areas, and very few development partners are supporting Cambodia to grapple with the rapid rate of urbanization and mounting pressure on the cities and towns.

Through the green cities development agenda, GGGI will partner with the Asian Development Bank (ADB), which is one of the only development partner with an urban focus in Cambodia, under the Inclusive Green Growth Partnership (see Box 5). GGGI will also collaborate with the Japanese International Cooperation Agency (JICA) and Agence Française de Développement (AFD) in green urban development in Phnom Penh in 2016–2018.

GGGI is the only development partner dedicated to supporting the RGC in mainstreaming green growth into its economic planning and strengthening domestic financing vehicles for the implementation of green growth. A strong cohort of donors are complementing GGGI's efforts in this area by supporting the mainstreaming of climate change considerations into development planning and projects. They include the Cambodia Climate Change Alliance,⁵¹ the project on "Mainstreaming Climate Resilience into Development Planning" under the Pilot Program on Climate Resilience,⁵² and the GIZ Program on Climate Finance Readiness.⁵³ GGGI's efforts in mainstreaming green growth build on these climate change mainstreaming initiatives, but also seek to integrate other key elements of green growth. They include resource efficiency, environmental sustainability, economic growth, poverty reduction and social inclusion.

⁵¹ This is a multi-donor initiative funded by the European Union, DANIDA, SIDA and UNDP. See <http://www.camclimate.org.kh/en/activities/cambodian-climate-change-alliance.html>.

⁵² See <http://www.adb.org/projects/45283-001/main>.

⁵³ See GIZ, "MOU Signing Ceremony for Implementing Cambodia's NAPs Process," October 1, 2015, <http://giz-cambodia.com/mou-signing-ceremony-for-implementing-cambodias-naps-process/>.

Box 5. Inclusive Green Growth Partnership

The Inclusive Green Growth Partnership, is a new collaboration with top multilateral development banks and United Nations regional economic and social commissions, launched at COP-21 on December 7, 2015. This partnership will leverage GGGI's technical expertise to assist multilateral development banks and funds in identifying green growth opportunities and investments that promote inclusiveness, shared prosperity and equitable growth.

In addition to GGGI, the founding members are:

Multilateral Development Banks/Funds

- Asia Development Bank;
- African Development Bank;
- Inter-American Development Bank.

United Nations Regional Economic and Social Commissions

- United Nations Economic and Social Commission for Asia and the Pacific;
- United Nations Economic Commission for Africa;
- United Nations Commission for Latin America and the Caribbean;
- United Nations Economic and Social Commission for Western Asia.

Through this partnership, GGGI will work with ADB in Cambodia by building on ADB's work with the RGC in the urban sector to integrate green growth in secondary cities. GGGI's green city planning framework will be closely coordinated with ADB's Greater Mekong Sub-region Southern Economic Corridor Towns Development Project, to ensure that ADB infrastructure investments prioritize green city options.

GGGI can bridge the public and private sectors to deliver financing for implementing green energy projects.

There is a need to scale up energy efficiency projects and expand investment in clean energy projects. This would strengthen the investments made in renewable energy (solar, biomass, improved cookstoves) markets to impoverished rural areas, which are currently being supported by AFD, United Nations Development Programme (UNDP), United Nations Industrial Development Organization (UNIDO) and a range of non-governmental organizations (NGOs), notably SNV and GERES. There has also been significant development partner support for the rapid expansion of the electricity transmission/distribution network from ADB, AFD,



Australian Aid and the Korea International Cooperation Agency, accompanying private sector investment in large-scale generation projects. The European Union, United Nations Environment Programme (UNEP) and UNIDO have supported energy efficiency policy development and some pilot implementation.

Other development partners are complementing GGGI's work, through tackling other priority green growth issues, including deforestation and water resources management. REDD+, natural resource management and biodiversity programs are being supported by the European Union, United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation, United States Agency for International Development (USAID), World Bank, and NGOs like Conservation International and WWF. The sustainable development of Cambodia's river system and its fish stocks, including strengthening water supply and irrigation systems, and increasing resilience to water-related disasters (i.e. increased floods and storm events) is being supported by several development partners in Cambodia, including AFD, Australia Aid, JICA and UNDP.



5. Country Planning Framework Analysis

5.1 Consultation Process

The CPF was developed through comprehensive and inclusive stakeholder consultations. The General Secretariat for NCSD, together with GGGI, led consultations with stakeholders to identify priorities and discuss potential green growth interventions where GGGI could add value to existing development cooperation, consistent with GGGI's corporate directions and expertise. Consultations included: bilateral high-level dialogues with ministers, including the Minister of Environment, bilateral technical meetings with relevant ministries, roundtables with development partners, and a workshop at which initial CPF findings were discussed with around 80 representatives from RGC and local government agencies, donors, NGOs and academia. These consultations also drew on a thorough survey of other domestic and international cooperation efforts in green growth. A summary of the ideas proposed by various stakeholders and consultation outcomes is provided in Annex A.

5.2 Strategic Analysis of Priority Green Growth Challenges

Three priority green growth challenges were identified in Cambodia, whereby GGGI could add value to existing government and development partner efforts throughout the period 2016-2020:

- 1. Green Cities** – Excessively rapid and concentrated urbanization is having negative environmental and developmental impacts.
- 2. Mainstreaming Green Growth** – There is uneven implementation of green growth commitments in national policies and limited domestic financing instruments to support implementation.
- 3. Energy** – Rapid growth in demand for electricity is contributing to brown power sector development as renewable energy resources cannot be harnessed quickly enough and energy consumption levels are rapidly increasing.

5.2.1 Challenge 1: Green Cities

Unstructured urbanization in Cambodia is already beginning to result in the economic, social and environmental costs outweighing the benefits. Essential infrastructure for water supply, sanitation, waste management, transport and energy services have been unable to match the rate of urban growth in Cambodia. In 2008, only 22% of urban areas in Cambodia had access to electricity, while only 76% of urban areas had access to piped water. The proportion of households with access to garbage collection was only 59%, while just 34% of households had toilet facilities with less than half of these connected to a sewerage system.⁵⁴ Traffic congestion is another major issue with registered auto ownership in Phnom Penh increasing from 4,000 in 1990 to 235,000 in 2011, and the number of motorbikes increasing from 43,000 to 828,000 over the same period.⁵⁵ Urbanization in Cambodia has also fostered one of the largest informal settlement populations by proportion in South-East Asia.

Urban areas will be critical spaces for demonstrating the potential of green growth approaches in Cambodia. The development of green infrastructure solutions offers relatively unexplored opportunities for improving urban planning, and encouraging energy efficiency and renewable energy. These solutions can reduce the environmental impact of urban areas and increase resilience, while at the same time address social and economic inequalities, and make the process of urban development more inclusive. The provision of adequate housing for poor women and men, and critical infrastructure, including water supply, sewerage systems, energy and roads, are key issues that need to be addressed systematically through effective green city strategic planning and project implementation. As the largest urban center in Cambodia, Phnom Penh is the ideal location to create a model Green City in Cambodia and lead a transition toward green urban development in Cambodia.

⁵⁴ ADB, *Cambodia: Urban Sector Assessment, Strategy, and Road Map* (Manila, 2012).

⁵⁵ Phnom Penh City Hall, Department of Administration, presentation at the NCSD-GGGI workshop in August 2015.

Effective inter-ministerial coordination is fundamental to green city development, given the broad range of sectors it encompasses. As green urban planning and implementation cuts across the responsibilities of many ministries, and the current legal and policy settings in Cambodia have resulted in some jurisdictional overlaps, there are risks and challenges. For example, the Ministry of Environment, Ministry of Water Resources, and Ministry of Industry and Handicraft have overlapping responsibilities in the management of water quality standards and the discharge of liquid waste.⁵⁶ However, attempts are being made to address these risks and challenges. The RGC is working to resolve these jurisdictional overlaps through the development of the Environmental Code. The NCSD will also help strengthen inter-ministerial cooperation.

Green city development must be backed by sufficient financial and technical support to strengthen municipal and district authorities, where their budgets and capacity are weak. Recognizing that sub-national governments are critical for development, the RGC has progressively been giving greater responsibilities to authorities at sub-national levels. The *Law on Administrative Management of the Capital, Provinces, Municipalities, Districts and Khans* (2008) is supporting the decentralization process. However, the financial structures to support the transfer of responsibilities to sub-national levels were only put in place in the financial year 2013/14, and funding allocations to the provinces still only represent around 5% of total central government expenditure.⁵⁷ Therefore, weak capacity or limited budgets may prevent some municipal or district authorities from realizing the green urban potential of their cities and districts. In August 2015, the Ministry of Environment has begun to address this through establishing an environmental fund to improve waste management. This aims to support the delegation of waste management responsibilities from municipalities to districts and improve their performance.⁵⁸

⁵⁶ Cambodia's Ministry of Environment, Permanent Secretariat Technical Working Group to Create the Environmental Code of Kingdom of Cambodia, "Assisting Document on the Initial Trial in Checking the Possibility for Proposing to Adjust the Jurisdiction of Relevant Institutions in the Sector of Environmental Protection and Natural Resource Management in the Kingdom of Cambodia," Vishnu Law Group, November 27, 2015.

⁵⁷ GGGI, "A Preliminary Assessment of the Policy and Regulatory Reforms Required for Achieving the Development of Sustainable Cities in Cambodia," Consultancy Report, September 2014.

⁵⁸ Taing Meng Eang, Department of Green Economy, RGC, "Environmental Fund to Improve Waste Management in Cambodia" (presented at the Consultative Workshop on the Green Urban Development Program, Kep City, Cambodia, August 6-7, 2015).

Comprehensive urban planning and enforcement of urban regulatory reforms are urgently required in Cambodia, and are a fundamental prerequisite to green city development. Land-use management and urban planning remain contentious and insufficient across the country. Establishing titles for both rural and urban properties was a major undertaking of the peace and reconstruction processes in the 1990s, given the massive displacements of population and the deliberate destruction of title records that had occurred. Cambodia has subsequently established legal and policy frameworks for urban planning, including the *Law on Land* (2001) and *National Policy on Spatial Planning* (2011). Nevertheless, a lack of city-wide master planning, including for the capital city of Phnom Penh, has weakened protection of its overall urban structure, zoning, natural resources, and of its most vulnerable residents.

5.2.2 Challenge 2: Mainstreaming Green Growth

The implementation of the green growth actions prioritized under Cambodia's green growth policy and strategic plan has been uneven. In response, the NCSD was created in May 2015 to advance the coordination of green growth and climate change policy implementation, as well as other key sustainability agendas. Its establishment is helping to create synergies and avoid duplication. The recently released INDC for Cambodia forges positive linkages between its green growth and climate change agendas, by emphasizing the importance of Cambodia's Green Growth Policy and Roadmap for supporting its ambition to de-carbonize key economic sectors and enhance carbon sinks, while stimulating the economy, creating jobs and protecting vulnerable groups.⁵⁹ The challenge now is to stimulate implementation and monitor the various initiatives to ensure that they are synergistic and streamlined toward achieving the international commitments made by Cambodia.

Lack of finance has stifled green growth implementation. Both the NPGG and NSPGG have prioritized a number of green financing reforms and market-based approaches to mobilize finance for implementation, such as green taxes, green budgeting, payments for ecosystem services, etc. But further assistance is required to get these

⁵⁹ RGC, "Cambodia's Intended Nationally Determined Contribution," submitted to the UNFCCC on September 30, 2015, 2-3, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Cambodia/1/Cambodia's%20INDC%20to%20the%20UNFCCC.pdf>.



reforms started, including through technical assistance from development partners. The Department of Green Economy in the General Secretariat for NCS D is now taking the lead to implement these key policy measures and financing reforms.

Domestic financing structures to promote green growth have been strengthened, but there is further work to do.

The environmental fund for waste management is the first of these green financing measures to be implemented, with its revenue stream generated through a special levy on plastic products and electronic devices.⁶⁰ The General Secretariat for NCS D is discussing with the Ministry of Economy and Finance other potential green fiscal reforms, such as national green budgeting, tax benefits for clean technologies (both imports and exports), and payments for ecosystem services in the tourism sector. As noted above, effective municipal financing arrangements will need to be a key component of these green financing reforms to ensure sufficient financing at local levels.

Mainstreaming green growth into domestic financing will require a stronger role for the private sector in building a green economy.

Although there are some positive private sector actions taken, for example by the European Chamber of Commerce's Green Business Forum, which is promoting corporate social responsibility, renewable energy and green buildings,⁶¹ a green economy approach has not been mainstreamed throughout the private sector in Cambodia. This is because of a lack of regulation of the private sector and a lack of voluntary business initiatives.

⁶⁰ Ibid.

⁶¹ European Chamber of Commerce, "Green Business Forum," <http://eurocham-cambodia.org/event/23/Green-Business-Forum>.

Development partners, however, have achieved positive results on green growth working directly with the private sector in Cambodia. UNIDO has demonstrated that technical guidance on energy efficiency for the private sector could unlock significant energy and financial savings.⁶² AFD has strengthened the market for solar energy in rural areas by partnering with microfinance institutions and introducing a certification scheme to ensure quality of solar products.⁶³

5.2.3 Challenge 3: Energy

It will be important to tackle the problem of high energy costs from both a supply and demand perspective. To date, the RGC has emphasized the supply side. Cambodia has relied heavily on importing significant quantities of electricity from Thailand and Viet Nam (and smaller quantities from Lao PDR) to reduce the number of blackouts and improve quality of supply. These imports have continued to grow despite RGC dramatically increasing its domestic capacity from around 200 megawatts (MW) in 2011 to 1100 MW in 2014,⁶⁴ as the RGC aims to become energy independent. Its plans for the development of the power sector involve tripling current domestic generation to reach around 3500 MW in 2020.⁶⁵ This is expected to exceed rapidly growing demand.⁶⁶

Shifting from centralized generation technologies (with major environmental impacts) to more sustainable forms of generation remains a huge challenge. The planned additional generation will be sourced almost entirely from large hydropower dams and coal-fired power stations. Both of these generation technologies have significant environmental impacts. For example, a USAID study of the impacts of the Lower Se San 2 Dam, currently under construction in Stung Treng, would reduce fish biomass for the entire Mekong River basin by 9.3%.⁶⁷ Furthermore, the coal-fired power stations (200MW) constructed in Cambodia are inefficient technology with significant air

pollution impacts.⁶⁸ A shift to greener energy options would support Cambodia's achievement of mitigation targets for the energy sector under its INDC. Cambodia has committed to a target of reducing emissions by up to 27% of non-land sector emissions, of which 16% will be achieved through the energy sector.⁶⁹

There is considerable potential for greater uptake of sustainable generation, particularly through rooftop solar. Cambodia benefits from a significant solar resource, averaging 5kWhrs/m²/day).⁷⁰ To date, businesses and households and business with solar panels are not being compensated for the excess electricity generated and supplied to the power grid. However, the enabling environment to support the uptake of solar energy is beginning to improve. The RGC has announced that it is looking at a trial solar farm (10MW) to supply electricity to the grid.⁷¹ The RGC also recently announced it is currently examining a policy framework that could provide some payment for excess generation supplied to the grid (and therefore available to Electricité du Cambodge for on-selling).⁷²

On the demand side, there is significant scope for improvements in energy efficiency. Energy efficiency actions are relatively low cost and if implemented on a broad scale will result in considerable sustainability and economic benefits, given the makeup of Cambodia's energy sector. A 2013 UNDP study, as part of the Sustainable Energy for All Program, found that efficiency opportunities for Cambodian households included: efficient lighting, appliances, standards and labeling, building codes and behavioral interventions. The study concluded that there was a low level of awareness of energy efficient appliances, and an awareness campaign on television and other media could have a positive impact.⁷³ In relation to industry it found that, due to the lack of mandatory standards or regulations,

⁶⁸ Source Watch, "Sihanoukville CEL Power Station," accessed November 30, 2015, http://www.sourcewatch.org/index.php/Sihanoukville_CEL_power_station.

⁶⁹ RGC, "Cambodia's Intended Nationally Determined Contribution," submitted to the UNFCCC on September 30, 2015, 6, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Cambodia/1/Cambodia's%20INDC%20to%20the%20UNFCCC.pdf>.

⁷⁰ Cambodia's Ministry of Mines and Energy's presentation at the Enrich Clean Energy Forum, Phnom Penh, Cambodia, September 17, 2015.

⁷¹ Say Samal, Minister for the Environment, announced at a briefing for interested parties on Cambodia's INDC, October 2015.

⁷² As announced by Toch Sovanna, Director, Renewable Energy Department, Cambodia's Ministry of Mines and Energy at the Enrich Clean Energy Forum, Phnom Penh, September 17, 2015.

⁷³ Cambodia Sustainable Energy for All Rapid Assessment and Gap Analysis, July 2013, 28.

⁶² UNIDO, "Independent Mid Term Evaluation of the UNIDO Project: Reduce Green House Gas Emission Through Improving Energy Efficiency in Industrial Sector in Cambodia," September 2013, https://www.unido.org/fileadmin/user_media_upgrade/Resources/Evaluation/CMB_GFCMB11001_ReducingGreenhouseGasEmiss_GEF-MTE_2013.pdf.

⁶³ SNV, "Solar Microfinance Programme," <http://www.snv.org/project/solar-microfinance-programme>.

⁶⁴ Electricité du Cambodge's presentation on the power sector, July 2015.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Guy Ziv et al., "Trading-off fish biodiversity, food security, and hydropower in the Mekong River Basin," *Proceedings of the National Academy of Science* 109 (2012): 5609-5614, <http://www.pnas.org/content/109/15/5609.full>.



there was not widespread energy efficiency uptake (despite development partner-supported projects, particularly by UNIDO, demonstrating commercial benefits from energy efficiency actions).⁷⁴ The European Union/UNEP-supported *Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production*⁷⁵ and a Technology Needs Assessment completed by the Ministry of Environment in 2013 both support the introduction of eco/green labeling to improve the energy efficiency of appliances.⁷⁶

A National Policy, Strategy and Action Plan on Energy Efficiency has been developed but not yet adopted. This document advocates setting a national goal of reducing energy consumption against BAU by 20% by 2035. The strategy examined the garment, rubber production, brick kilns, food processing, ice making and rice mill industries, and concluded that energy saving potentials ranged from

20 to 70%⁷⁷ if industry implemented energy efficiency actions. Such actions include adopting various voluntary and compulsory energy standards, such as the ISO50001 standard on energy management systems.⁷⁸ It also recommended establishing an energy efficiency building code for new buildings.⁷⁹ In the building sector, there is an estimated energy saving potentials up to 30% by making use of appropriate building materials and construction principles. The draft strategy further recommended a range of actions to improve the energy efficiency of Cambodian households. They include:

- Compulsory energy efficiency labeling for household appliances;
- Certified laboratory testing of appliance efficiency;
- Regular information campaigns on energy efficiency on television, radio and in newspapers;
- Programs on energy efficient behavior in schools.

⁷⁴ Ibid., 28

⁷⁵ UNEP, "Capacity Building and Policy Needs Assessment for Sustainable Consumption and Production," a technical report to the SWITCH-Asia Regional Policy Support Component, 2012, <http://www.switch-asia.eu/policy-support-components/rpsc/policy-assessment/>.

⁷⁶ Cambodia's Ministry of Environment, "Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation," March 2013, http://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/baea83372fbd4fa2ab1b982a16b72f4a.pdf.

⁷⁷ Cambodia's Ministry of Industry, Mines and Energy, "Draft National Policy, Strategy and Action Plan on Energy Efficiency in Cambodia," 2013, 16.

⁷⁸ Ibid., 33-35.

⁷⁹ Ibid., 50.



6. Strategic Response

GGGI's overarching goal in Cambodia is to support the transition to a green economy through inclusive and sustainable green growth. To achieve this goal, GGGI will strengthen and deepen its strategic relationships in Cambodia, particularly the RGC through the NCSO and its chair, H.E. Dr. Say Samal. By liaising closely with the NCSO, particularly its Department of Green Economy, GGGI can work closely with RGC officials across government to advance specific areas of green growth implementation. In doing so, GGGI also promotes institutional capacity development within the RGC. GGGI will expand its strategic partnerships with the private sector (particularly through the Chambers of Commerce), the network of development partners, NGOs, civil society organizations (CSOs) and academic institutions in Cambodia to promote green growth.

Within this context, GGGI proposes to support green growth planning and implementation in Cambodia in three strategic areas, which are inter-linked and have important synergies:

- Outcome 1 – Green growth is integrated into Cambodia's urban development.
- Outcome 2 – Green growth is mainstreamed into Cambodia's national planning documents and domestic financing arrangements.
- Outcome 3 – Energy consumption and production practices become more sustainable.

In the next sub-sections, the strategy and program for each outcome will be detailed, followed by a look at how each outcome align with the *GGGI Strategic Plan 2015-2020*, the SDGs and the INDC.

6.1 Outcome 1: Green Growth is Integrated into Cambodia's Urban Development

Outcome 1 aims to integrate green growth into urban planning in Phnom Penh, including through identification and mobilization of finance for green bankable projects. It also aims to support the integration of green growth into Cambodia's strategic planning for secondary cities development.

This outcome primarily contributes to achieving SDG11 (Sustainable Cities and Communities), and Cambodia's INDC commitments to its mitigation targets in transport, energy and waste, and adaptation actions in flood protection and urban infrastructure resilience.

In 2016, the General Secretariat for NCSO and GGGI will implement the GUDP, which aims to increase investment in green city projects in Phnom Penh. It will achieve this by supporting the RGC to develop and adopt an inclusive climate-resilient Green City Strategic Plan for Phnom Penh and an Investment Action Plan for priority green city development projects. To develop these plans, financial analysis and economic analysis on green city investment options will be conducted that integrate both climate change adaptation and mitigation considerations, as well as resource efficiency and gender-sensitive inclusive development. Extensive stakeholder consultations, led by the General Secretariat for NCSO, will be held with each of the lead sector ministries, municipal and district authorities, the private sector, development partners, NGOs/CSOs and academia.

The GUDP will be delivered through the following steps:

1. Designing a methodology for green city strategic planning in Cambodia, based on international and regional best practice and tailoring it to the country context;
2. Developing a Green City Strategic Plan for Phnom Penh with linkages to the existing plans for the city including its Master Plan;

3. Identifying a priority list of green city investment projects for Phnom Penh in term of social welfare gain, including for low-income communities;
4. Investigating opportunities to finance the priority green cities investment projects;
5. Developing an Investment Action Plan and its Business Plan to support the implementation of a priority project (e.g. waste management, sustainable transport, green construction/housing, drainage);
6. Monitoring and evaluating the implementation of the Investment Action Plan and its Business Plan.

From 2017, GGGI will work with the RGC to strengthen green urban development in secondary cities through the Inclusive Green Growth Partnership.⁸⁰ This will be achieved through partnering with ADB and other development partners to support the development of a green secondary cities strategy for Cambodia.

The green secondary cities strategy, will build on and integrate the work of ADB and the RGC in developing a Framework for a National Urban Development Strategy.⁸¹ The green secondary cities strategy will be developed through a national-level analysis to compare different urban development scenarios. The analysis will also examine whether Cambodia's sustainable growth strategy could benefit from greater emphasis on rapid green development in secondary cities, such as Siem Reap, Sihanoukville and Battambang, reducing the pressure on Phnom Penh.

GGGI will facilitate South-South cooperation with Rwanda and/or Ethiopia and Cambodia, where GGGI has undertaken similar work on green secondary cities development. Through the Inclusive Green Growth Partnership, GGGI will link this secondary cities' work with the United Nations Economic and Social Commission for Asia and the Pacific and the ASEAN regional policy dialogues on green growth and sustainable cities development.

⁸⁰ GGGI, "New Global Initiative Launches at COP21 to Boost Green Growth Financing," December 7, 2015, <http://gggi.org/new-global-initiative-launches-at-cop21-to-boost-green-growth-financing/>.

⁸¹ ADB's technical assistance project with Cambodia's Ministry of Land Management, Urban Planning and Construction, has three components: (1) improve the capacity of municipal staff in urban management; (2) develop training materials for urban development; and (3) develop the Framework for a National Urban Development Strategy.

GGGI will develop green bankable projects in secondary cities in partnership with ADB and other development partners. This will be achieved through the integration of GGGI's green city strategic planning process within ADB's Greater Mekong Sub-region Corridor Towns Development Project, during its second phase, which is focused on two cities in the Central Cambodian Corridor—Sihanoukville and Kampot. This collaboration will ensure that ADB's work on the design of: (1) local urban economic development strategies; and (2) an infrastructure investment program for these cities, will integrate green growth principles. This will contribute to the achievement of RGC's vision under the Cambodia's *Industrial Development Policy 2015-2025* to establish Sihanoukville as an ASEAN Green Industry and Metropolitan City. The policy aims to transform Sihanoukville into a model multi-purposed Special Economic Zone for environment-friendly industry, trade and tourism.⁸²

To ensure inclusive green city planning, GGGI will partner with UN-Habitat and NGOs/CSOs, to strengthen the capacity of these cities to effectively resolve any land tenure disputes with communities, and ensure the city development plans respond to the priorities of the poorest and most vulnerable. GGGI will also seek to leverage and strengthen the work of effective NGOs/CSOs in implementing community-based actions, such as improving strategies for disaster resilience, climate change adaptation and mitigation, and urban biodiversity.

In 2016 and 2017, GGGI will collaborate with a wide range of NGOs/CSOs, development partners, the private sector and government ministries to integrate the green urban approach into Cambodia's legal and regulatory framework through the design of Cambodia's Environmental Code. GGGI has been selected by the Ministry of Environment as a member of a technical working group tasked to the design a legal and regulatory framework for the design of sustainable cities and the green economy (outlined above in section 3.2).

GGGI will ensure that the green city strategic planning methodology designed under the GUDP is integrated into the Environmental Code to ensure that green growth is mainstreamed into Cambodia's mandatory legal and regulatory processes for urban planning and urban

⁸² RGC, *Cambodia Industrial Development Policy 2015-2025* (2015), Appendix C, 3.

infrastructure investment. Municipal authorities will be required to integrate green growth into their urban land-use planning and zoning decisions, and investment decisions for traffic management and transport systems, urban energy infrastructure and build designs, and management of solid and liquid waste.

6.2 Outcome 2: Green Growth is Mainstreamed into Cambodia's National Planning Documents and Domestic Financing Arrangements

Outcome 2 aims to mainstream green growth in national planning processes especially the next phase of the Rectangular Strategy Phase IV (2019-2023). It also aims to strengthen the integration of green growth into Cambodia's domestic financing arrangements.

This outcome primarily contributes to achieving SDG8 (Decent Work and Economic Growth) and SDG12 (Responsible Consumption and Production), and Cambodia's INDC commitments in both mitigation and adaptation.

GGGI will support the RGC's mainstreaming of green growth into Cambodia's national planning documents, as requested by the Ministry of Economy and Finance and Ministry of Planning. This will include the Rectangular Strategy Phase IV (2019-2023) and the National Strategic Development Plan (2019-2023). This could include the mainstreaming of green growth into the monitoring and evaluation frameworks of these documents.

GGGI will bring relevant experience from other countries, such as from the United Arab Emirates and the Republic of Korea, in developing green growth targets and performance indicators in their economic development plans. GGGI will work with the Cambodian NGO Forum and relevant Chambers of Commerce in Cambodia to coordinate its policy inputs to these strategies, to ensure GGGI's recommendations reflect the green growth priorities of communities (as reflected through NGOs/CSOs) and the private sector. GGGI will seek to ensure the commitments made by Cambodia through its INDC, the SDGs and under other international fora are integrated into these national planning documents, seeking to strengthen the implementation of these commitments and ensure the synergies between these different international policy frameworks are maximized.

GGGI will promote an increase in green financial flows through supporting the implementation of at least one green financing reform outlined in Cambodia's National Policy for Green Growth. In line with GGGI's strategic focus on the "design, financing and implementation" of green investments, GGGI will work to strengthen national financing vehicles for the implementation of green growth in Cambodia. To do this, GGGI will:

- Conduct an analysis of existing financing and management models to identify constraints and opportunities of the system;
- Review and develop potential innovative financing mechanisms that can include the scoping study for establishment of a public-private partnership mechanism for green investment projects, which could mobilize resources from institutional and other investors;
- Mainstream green growth and sustainable development in national policies and plans;
- Strengthen municipal and district authorities' access to climate finance, to enhance local governance capacity and accountability for green growth implementation at local levels. This could strengthen and expand the role of the Ministry of Environment's environmental fund for waste management and pollution control.⁸³ Related to this, GGGI will review the introduction of appropriate user-charges for sanitation and waste management services provided by municipalities and districts, and the air pollution/carbon emission charges, and integrate these into financing reforms.⁸⁴

⁸³ The UNDP expressed an interest in working with GGGI to strengthen municipal financing mechanisms and local governance for green urban development.

⁸⁴ The Minister for Environment, H.E. Dr. Say Samal has stated is a priority for green city development in Cambodia, during his keynote speech at the GGGI-NCSDF CPF workshop.

6.3 Outcome 3: Energy Consumption and Production Practices Become More Sustainable

Outcome 3 aims to strengthen the market for sustainable and inclusive renewable energy investment through the introduction of a procurement program. It also aims to increase energy efficiency in businesses and households through energy efficiency standards for industry and buildings, the introduction of eco/green labeling regulations, and awareness raising.

This outcome primarily contributes to achieving SDG7 (Affordable and Clean Energy) and Cambodia's INDC commitment to mitigation in the energy sector, including to increase energy efficiency and renewable energy.

GGGI will support the RGC to strengthen the market for sustainable and inclusive renewable energy investment. To help achieve the RGC's target of 100% electrification of rural villages by 2020, under the National Policy on Rural Electrification by Renewable Energy, GGGI will support the introduction of a procurement program to promote independent power producer investment in renewable energy. This procurement program could be modeled on the successful program introduced in South Africa to stimulate the renewable energy industry. Through this program, independent power producers would increase the supply of electricity to the grid, as well as in off-grid areas. This could help to harness the potential of a range of renewable energy options in a cost-effective way, and at the same time ensure that social and environmental safeguards are integrated into project designs and implementation, for example, for large-scale hydropower projects. GGGI will partner with the Ministry of Mines and Energy, as well as with private sector associations, to support the establishment of this procurement program.

GGGI will support efforts to increase energy efficiency in businesses and households through the implementation of some of the priority actions identified under the draft *National Policy, Strategy and Action Plan on Energy Efficiency*. This will include supporting the development of energy efficiency standards for industry and buildings, and assistance with the introduction of eco/green labeling regulations for energy efficient appliances.

The eco/green labeling program is led by the Department of Green Economy, General Secretariat of NCSD, and will

be supported by the Ministry of Environment's Laboratory and General Directorate of Environmental Knowledge and Information. GGGI will provide technical support to assist with the design of this regulatory reform and ensure its smooth implementation, including by providing examples of best practice public engagement measures for introducing energy efficiency regulations.

To complement the government's efforts, GGGI can partner with commercial networks and business associations to disseminate the relevant information, including publicity campaigns and advertisements in public media about the advantages of energy efficiency and renewable energy. This will include promotion through the Green Business Forum established by the European Chamber of Commerce. GGGI will also partner with NGOs/CSOs, as well as other international organizations working in this area, such as UNIDO, to educate the community about the new energy efficiency measures and promote best practices.

A pilot bankable project for energy efficiency in either the real estate construction sector or in manufacturing could be introduced, to demonstrate in partnership with the private sector the benefits of increased energy savings.

6.4 Linkages and Synergies Between the Outcomes

The three outcomes proposed under the CPF are not mutually exclusive. For example, the efforts to mainstream green growth into Cambodia's national policy documents under outcome 2, will require a careful analysis of both the energy sector and urban green growth, which can draw on the work completed under outcomes 1 and 3. Similarly, the green growth potential of the energy sector in urban areas will be integrated into GGGI's initiatives on green cities development, linked to both outcomes 1 and 3.

6.5 Alignment with the GGGI Strategic Plan, SDGs and INDC

The CPF outcomes will contribute to GGGI's corporate goal in the "strengthening of national, sub-national, local green growth planning, financing and institutional frameworks" and "increased green investment flows". The program also directly contributes to the SDGs and Cambodia's INDC.



6.5.1 Alignment with the GGGI Strategy Plan

Table 3 reflects how the GGGI Cambodia CPF will align in-country support to the GGGI *Strategic Plan 2015-2020* and national green growth priorities.

Table 3. Alignment with GGGI strategic areas and NSPGG

Strategic Outcomes	National Strategic Plan on Green Growth 2013-2030	GGGI Thematic Priority	GGGI Value Chain
Outcome 1: Green growth is integrated into Cambodia's urban development	Infrastructure development and green transport	<ul style="list-style-type: none"> • Green Cities • Land Use 	Strategic Output 1: Demand driven technical advisory, knowledge development and private sector solutions offered on the ground for pro-poor green growth interventions
Outcome 2: Green growth is mainstreamed in national planning documents and domestic financing arrangements	Mainstreaming principles of green growth, green economy and low-carbon development into key sectors Reducing greenhouse gas emission and climate change adaptation	<ul style="list-style-type: none"> • Green Cities • Energy • Water • Land Use 	Strategic Output 3: Support provided in creating an enabling environment for public and private sector investment in green growth
Outcome 3: Energy consumption and production practices become more sustainable	Effective management of energy and renewable energy	<ul style="list-style-type: none"> • Green Cities • Energy 	Strategic Output 3: Support provided in creating an enabling environment for public and private sector investment in green growth

6.5.2 Alignment with the SDGs

Outcome 1: Green growth is integrated into Cambodia's urban development contributes to achieving the following SDG targets:

- Goal 1 (No Poverty), Target 1.5 – Build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
- Goal 11 (Sustainable Cities and Communities), Target 11.3 – Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
- Goal 11 (Sustainable Cities and Communities), Target 11.5 – Significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global GDP caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.
- Goal 11 (Sustainable Cities and Communities), Target 11.6 – Reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- Goal 13 (Climate Action), Target 13.1 – Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

It is also likely to contribute to the following SDGs through the implementation green city investment projects and priority actions:

- Goal 6 (Clean Water and Sanitation), Target 6.3 – Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- Goal 7 (Affordable and Clean Energy), Target 7.2 – Increase substantially the share of renewable energy in the global energy mix.
- Goal 8 (Decent Work and Economic Growth), Target 8.1 – Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7% GDP growth per annum in the least developed countries.
- Goal 9 (Industry, Innovation and Infrastructure), Target 9.1 – Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- Goal 9 (Industry, Innovation and Infrastructure) Target 9.4 – Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
- Goal 11 (Sustainable Cities and Communities), Target 11.1 – Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
- Goal 11 (sustainable cities), Target 11.2 – Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
- Goal 12 (Responsible Consumption and Production), Target 12.5 – Substantially reduce waste generation through prevention, reduction, recycling and reuse.

Outcome 2: Green growth is mainstreamed in national planning documents and domestic financing arrangements is cross-cutting and it addresses many of the SDGs. Of high relevance, though, are: SDG1 (No Poverty), SDG8 (Decent Work and Economic Growth), SDG5 (Gender Equality), SDG12 (Responsible Consumption and Production), SDG13 (Climate Action), SDG14 (Life Below Water) and SDG15 (Life On Land).

Outcome 3: Energy consumption and production practices become more sustainable is closely linked to SDG7 (Affordable and Clean Energy), and indirectly addresses SDG1 (No Poverty), SDG8 (Decent Work and Economic Growth), SDG12 (Responsible Consumption and Production) and SDG13 (Climate Action). In particular, this outcome will address the following targets:

- Goal 7 (Affordable and Clean Energy), Target 7.1 – Ensure universal access to affordable, reliable and modern energy services.
- Goal 7 (Affordable and Clean Energy), Target 7.2 – Increase substantially the share of renewable energy in the global energy mix.
- Goal 7 (Affordable and Clean Energy), Target 7.3 – Double the global rate of improvement in energy efficiency.

6.5.3 Alignment with Cambodia's INDC

All the three CPF outcomes contribute to Cambodia's INDC, which commits to a maximum reduction of 3,100 Gg CO₂eq (27%) compared to baseline emissions of 11,600 Gg CO₂eq by 2030, conditional on the availability of support from the international community. This will come through a reduction of emission in the following sectors:

- Energy – 16% reduction from connecting the national grid to renewable energy generation and promoting off-grid electricity such as solar home systems, and pico, mini and micro hydropower.
- Manufacturing industries – 7% reduction by promoting the use of renewable energy and adopting energy efficiency for garment factory, rice mills and brick kilns.
- Transport – 3% reduction by promoting mass public transport, improving operation and maintenance of vehicles through motor vehicle inspection and eco-driving, and increasing the use of hybrid cars, electric vehicles and bicycle.

The CPF outcomes also support Cambodia's priority adaptation actions in its INDC, including:

- Strengthening early warning systems and climate information dissemination;
- Developing and rehabilitating the flood protection dikes for agricultural and urban development;
- Repairing and rehabilitating existing road infrastructure, and ensuring effective operation and maintenance, taking into account climate change impacts;
- Strengthening technical and institutional capacity to conduct climate change impact assessments, climate change projections, and mainstreaming of climate change into sector and sub-sector development plans.



Annex A: Consultation Summary

The consultation process for the Cambodia CPF included the following steps:

1. Bilateral technical consultations with ten ministries relevant to green growth over two months, to receive their ideas for policy and program actions;
2. A brainstorming session with the Minister for Environment as Chair of the NCSD to receive his early input;
3. A roundtable discussion and bilateral meetings on potential priorities with ten key development partners, including ADB, United Nations agencies and bilateral donors;
4. A national consultation workshop hosted by the General Secretariat for NCSD and GGGI to receive feedback on the proposed CPF priorities, which included approximately 80 participants from local government, relevant line ministries, NGOs/CSOs, development partners and academia;
5. High-level bilateral consultations with key ministries including the Ministry of Economy and Finance and the Ministry of Planning;
6. Three rounds of internal consultation with the GGGI Technical Working Group.⁸⁵

A.1 Summary of Priority Areas and Ideas Provided by RGC Ministries

National Council for Sustainable Development

- GGGI needs to remain focused and demonstrate results before expanding further;
- Focus on green urban development, particularly to move to implementation of projects;
- A second priority for NCSD is eco-labeling;
- A third priority is increasing renewable energy/energy efficiency uptake.

Ministry of Industry and Handicraft

- Green industry development, including greener production and low-carbon energy production;
- Managing industrial waste water pollution;
- Increasing the uptake of new renewable energy in industry (i.e. biomass heat and co-generation, solar, biogas etc.);
- Increasing energy efficiency in industry (co-generation, more efficient lighting and processes, including boilers);
- Develop guidelines for industrial development to guide green business development under the New Industrial Development Policy.

⁸⁵ The GGGI Technical Working Group comprises of GGGI staff from the Knowledge Solutions Division and Green Growth Planning and Implementation Division, which includes experts from the Green Investment Services team, the thematic focal points for Green Cities, Energy, Land Use and Water, as well as experts in social and environmental safeguards and poverty reduction. The Technical Working Group was established in September 2015 and reviewed the draft CPF for Cambodia three times.

Ministry of Mines and Energy

- Development of a successful financing mechanism for converting waste to energy;
- Improved transportation to reduce fuel consumption;
- Scaling-up efficient lighting in cities, based on the successful pilot in the city of Pursat;
- Introducing payment for excess electricity supplied to grid from rooftop solar generation.

Ministry of Land Management, Urban Planning and Construction

- Integration of green growth into all city plans, focusing first on a pilot city;
- Development of baseline data on housing by income bracket to guide housing policy;
- Policy and guidance on “green design” for housing, including on energy efficiency and solar.

Ministry of Public Works and Transport

- Enhancing traffic management (identified as a priority in the climate change action plan for the transport sector);
- Establishing green belts along major roads for climate change mitigation (also a priority in climate change action plan for the transport sector).

Ministry of Water Resources and Meteorology

- Maintenance and rehabilitation of flood protection dikes;
- Improvement for flood and drought forecasting;
- Supporting the establishment of the National Water Institute through building knowledge networks.

Ministry of Environment (Department of Waste Management)

- National Policy on Solid Waste Management and a strategy and action plan;
- Support for the effective administration of the waste management fund.

Ministry of Economy and Finance

- Assistance to further mainstream green growth into economy-wide planning processes (particularly the next iteration of the Rectangular Strategy);
- On urbanization – looking for energy efficiency standards for new buildings.

Ministry of Planning

- Mainstreaming green growth into the National Strategic Development Plan.

Ministry of Women's Affairs

- Ensure gender equity and women's empowerment is mainstreamed throughout all programs;
- Align with the *Climate Change Strategic Plan for Gender and Climate Change (2013-2023)*.

A.2 Summary of Recommendations Provided by H.E Dr. Say Samal, Chair of the National Council for Sustainable Development and Minister for Environment

- Work with the governors of districts in Phnom Penh who are pro-sustainability to demonstrate the value of improving sustainability in their districts or towns, as others would then want to replicate successful sustainability actions;
- Broader governance reform is needed to ensure effective engagement in green city planning from all municipalities, and the Minister will encourage their active participation;
- GGGI needs to actively engage with the private sector, for example to work with the architects' association of Cambodia to encourage building standards, including for hotels;
- Building sector: Green building codes should apply to the government ministries and the United Nations;
- GGGI has successfully focused on the hardware but also needs to focus on the software, i.e. how to change the mindsets of the Cambodian population to support green growth; public awareness raising and education is particularly important for changing consumer behavior;

- **Public Awareness:** Noted that this is a particular area where more could be done in Cambodia. It has been difficult to convey to Cambodians the value in living more sustainably. Reaching out to encourage “greener” behavior would be important. There may be value in examining internationally successful environment communication campaigns to identify good practices.

A.3 Summary of CPF Workshop Feedback

GGGI presented two potential outcomes for the Cambodia CPF: (1) green urban development, and (2) increasing sustainable consumption and production practices. These two themes would incorporate a number of specific proposals for GGGI support suggested during consultations.

- Most of the participants agreed on the strategic focus areas proposed;
- They also agreed on the process undertaken to develop the CPF, but noting there should be deeper consultations with the private sector, civil society and academia in the design of initiatives under the proposed focus areas;
- They recommended involving local communities during the program implementation and identified the need to give a voice to affected stakeholders;
- They identified the need for improved education/ awareness of green economic development of the general public through communications/media;
- They recommended that the initiatives developed address social inclusion and the needs of vulnerable groups;
- They recognized the need to strengthen financial frameworks for green growth, focusing on resource mobilization for priorities;
- They recommended green urban planning at local levels that are linked to the framework at the national level, but are tailored to the specific needs and circumstances of different cities and towns;
- Some concerns were expressed with the high level of ambition, and whether the proposed ideas (e.g. sustainable transport, waste, rooftop solar energy etc.) would be achievable. Therefore, we need to clarify our expectations;
- Other ministries were recommended for engagement: Fisheries, Education, Interior (National Committee for Sub-national Democratic Development) and the National Committee for Disaster Management;
- They pinpointed the need to focus on capacity development of ministries and municipalities to undertake the green urban strategic planning processes, building their knowledge and skills for ongoing implementation.

Annex B: Indicators for Green Growth Diagnostic

Theme	Sub-theme	Indicator	Unit
Resource Efficient Growth	Energy Efficiency	Energy intensity	MJ/USD
		Distribution losses of electricity	% of total
	Resource Productivity	Material intensity	Kg of domestic consumption per unit GDP (USD)
		Fresh water productivity	Unit GDP (USD) per m ³ of freshwater withdrawal
		Municipal solid waste generation intensity	Kg of waste per unit GDP (USD)
		Recycling rate of solid waste	% of total waste generated
		Agricultural (land) productivity	USD per hectare of arable land
	Other Productivity Factors	Labor productivity	GDP (1,000 USD) per worker
		Logistics performance index	1 - 5 (higher the better)
		Technological readiness	1 - 7 (higher the better)

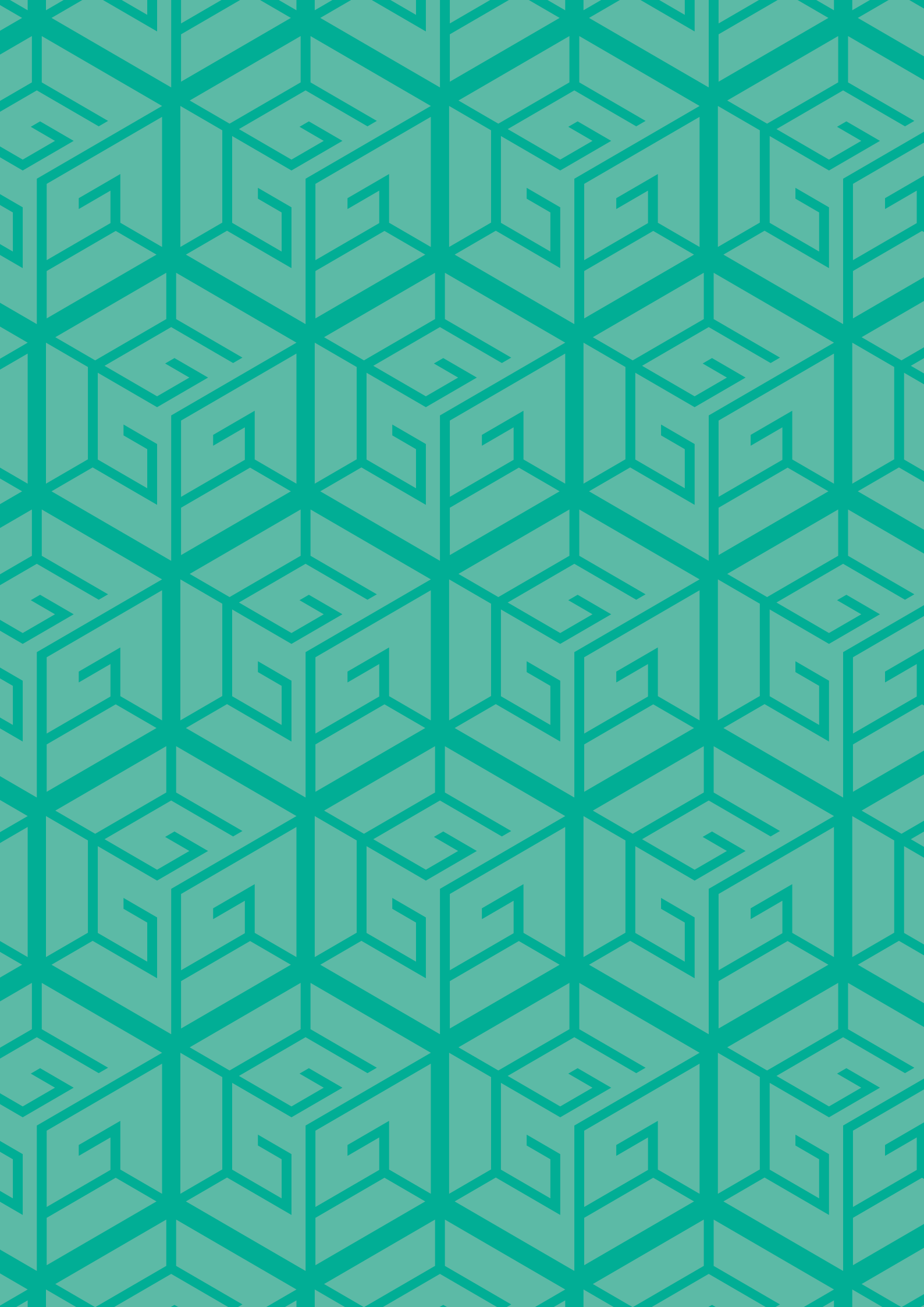
	Definition	Source
	Ratio between energy supply and GDP measured at purchasing power parity http://data.worldbank.org/indicator/EG.EGY.PRIM.PP.KD	WB
	Ratio of total electricity generation and losses in transmission between sources of supply and points of distribution and in the distribution to consumers, including pilferage http://data.worldbank.org/indicator/EG.ELC.LOSS.ZS	
	Ratio between GDP and the total amount of domestic materials (construction/industrial minerals, metal, ores, fossil fuels and biomass) extracted http://www.materialflows.net/data/datadownload (flow type "Extraction" flow sub-type "Used" reference parameter "Per GDP")	SERI
	GDP in constant prices divided by the annual freshwater withdrawal http://data.worldbank.org/indicator/ER.GDP.FWTL.M3.KD	WB
	Ratio between GDP and municipal solid waste generated http://www.atlas.d-waste.com/ http://data.worldbank.org/indicator/NY.GDP.MKTP.CD	Dwaste, WB
	Recycling rate of municipal solid waste generated http://www.atlas.d-waste.com/	Dwaste
	Ratio between agricultural production and total area of arable land under permanent crops, and under permanent pastures http://faostat3.fao.org/download/Q/QV/E (Gross Production Value constant 2004-2006) http://data.worldbank.org/indicator/AG.LND.AGRI.K2	FAO WB
	GDP per worker of labor force http://www.ilo.org/global/statistics-and-databases/research-and-databases/kilm/lang--en/index.htm Indicator: Output per worker (GDP constant 2005 USD)	ILO
	Performance of countries in six areas that capture the most important aspects of the current logistics environment http://data.worldbank.org/indicator/LP.LPI.OVRL.XQ http://siteresources.worldbank.org/INTLAC/Resources/ConnectingtoCompete.pdf	WB
	The Technological Readiness Index aims to measure the agility with which an economy adopts existing technologies to enhance the productivity of its industries. The index covers the areas of: (1) technological adoption (availability of latest technologies, firm-level technology absorption, FDI and technology transfer); and (2) use of information and communication technologies (Internet users, broadband Internet subscriptions, Internet bandwidth, mobile broadband subscriptions, mobile telephone subscriptions, fixed telephone lines) http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf	WEF

Theme	Sub-theme	Indicator	Unit
Eco-Efficient Growth	Quantity of Natural Assets	Coastal shelf fishing pressure	ton/km ²
		Changes in forest cover	% change during 2000-2012
		Water stress index	0 – 5 (higher the greater competition among users)
		Natural resources depletion	% of GNI
	Quality of Natural Assets	Changes in the number of engendered species	% change during 2013-2015
		Water quality index	0 – 100 (higher the better)
		Trends in soil health	0 – 50 (higher the better)
		Average exposure to PM _{2.5} events	micrograms per m ³ (average during 2003-2010)

	Definition	Source
	<p>Intensity of fish catch using gears such as trawlers that operate on the shelf</p> <p>http://www.epi.yale.edu/files/fisheries_0.xls</p>	EPI
	<p>% change in forest cover between 2000 and 2012 (Definition of forest: Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use)</p> <p>http://faostat3.fao.org/download/R/RL/E</p>	FAO
	<p>Total annual water withdrawals (municipal, industrial and agricultural) to total renewable supply</p> <p>http://www.wri.org/sites/default/files/aqueduct_counry_rankings_010914.pdf</p>	WRI
	<p>The sum of net forest depletion, energy depletion and mineral depletion, as a percentage of GNI. Net forest depletion is unit resource rents times the excess of round wood harvest over natural growth. Energy depletion is the ratio of the value of the stock of energy resources to the remaining reserve lifetime (capped at 25 years). It covers coal, crude oil and natural gas. Mineral depletion is the ratio of the value of the stock of mineral resources to the remaining reserve lifetime (capped at 25 years). It covers tin, gold, lead, zinc, iron, copper, nickel, silver, bauxite and phosphate</p> <p>http://data.worldbank.org/indicator/NY.ADJ.DRES.GN.ZS</p>	WB
	<p>Changes in number of endangered species in a country, based on the "IUCN Red List of Threatened Species"</p> <p>http://cmsdocs.s3.amazonaws.com/summarystats/2015-4_Summary_Stats_Page_Documents/2015_4_RL_Stats_Table_5.pdf</p>	IUCN
	<p>The Water Quality Index uses three parameters measuring nutrient levels (Dissolved Oxygen, Total Nitrogen and Total Phosphorus), and two parameters measuring water chemistry (pH and Conductivity) to understand levels of water quality</p> <p>http://www.epi.yale.edu/files/2010epi_data.xls</p>	EPI
	<p>Trends in Soil Health Index measures: (1) The physical part related to loss of soil mass and structure; and (2) the long term chemical well-being of the soil in terms of nutrients and absence of toxicities built up</p> <p>http://www.fao.org/nr/lada/index.php?option=com_docman&task=doc_download&gid=773&lang=en</p>	FAO
	<p>Average exposure to PM_{2.5}, or particles smaller than 2.5 micrometers</p> <p>http://www.epi.yale.edu/files/air_quality_0.xls (Sheet name: PM2.5 Exceedence_Avg)</p>	EPI

Theme	Sub-theme	Indicator	Unit
Climate Resilient Growth	Climate Change Mitigation	CO ₂ emission trends	% change in total emission during the last 5 years
		Carbon intensity	tons of CO ₂ per unit GDP (USD)
		Renewable energy production	% of total electricity production (excludes hydro)
		Carbon stock in living forest biomass	% change in biomass during 2000-2010
	Climate Change Adaptation	Climate change exposure	0 – 1 (lower the less exposed)
		Climate change sensitivity	0 – 1 (lower the less sensitive)
		Adaptive capacity to climate change	0 – 1 (lower the higher adaptive capacity)

	Definition	Source
	<p>% change in national emissions of greenhouse gases including CO₂, CH₄, N₂O, PFC, HFC and SF₆ over the latest five years available http://data.worldbank.org/indicator/EN.ATM.CO2E.KT</p>	
	<p>Amount of carbon dioxide emissions (those stemming from the burning of fossil fuels and the manufacture of cement) per unit of gross domestic production http://data.worldbank.org/indicator/NY.GDP.MKTP.CD http://data.worldbank.org/indicator/EN.ATM.CO2E.KT</p>	WB
	<p>Share of renewable energy in total production (renewable energy follows the definition by the International Energy Agency) http://data.worldbank.org/indicator/EG.ELC.RNWX.ZS</p>	
	<p>% change in carbon stock, which is a quantity of carbon contained in a reservoir or system of living forest biomass that has the capacity to accumulate or release carbon http://www.fao.org/docrep/013/i1757e/i1757e14.pdf</p>	FAO
	<p>The degree to which a system is exposed to significant climate change from a biophysical perspective. It is a component of vulnerability independent of socio economic context. Exposure indicators are projected impacts for the coming decades and are therefore invariant overtime http://index.gain.org/ranking/vulnerability/exposure</p>	
	<p>The extent to which a country is dependent upon a sector negatively affected by climate hazard, or the proportion of the population particularly susceptible to a climate change hazard. A country's sensitivity can vary over time http://index.gain.org/ranking/vulnerability/sensitivity</p>	NDGAIN
	<p>The availability of social resources for sector-specific adaptation. In some cases, these capacities reflect sustainable adaptation solutions. In other cases, they reflect capacities to put newer, more sustainable adaptations into place. Adaptive capacity also varies over time http://index.gain.org/ranking/vulnerability/capacity</p>	





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