



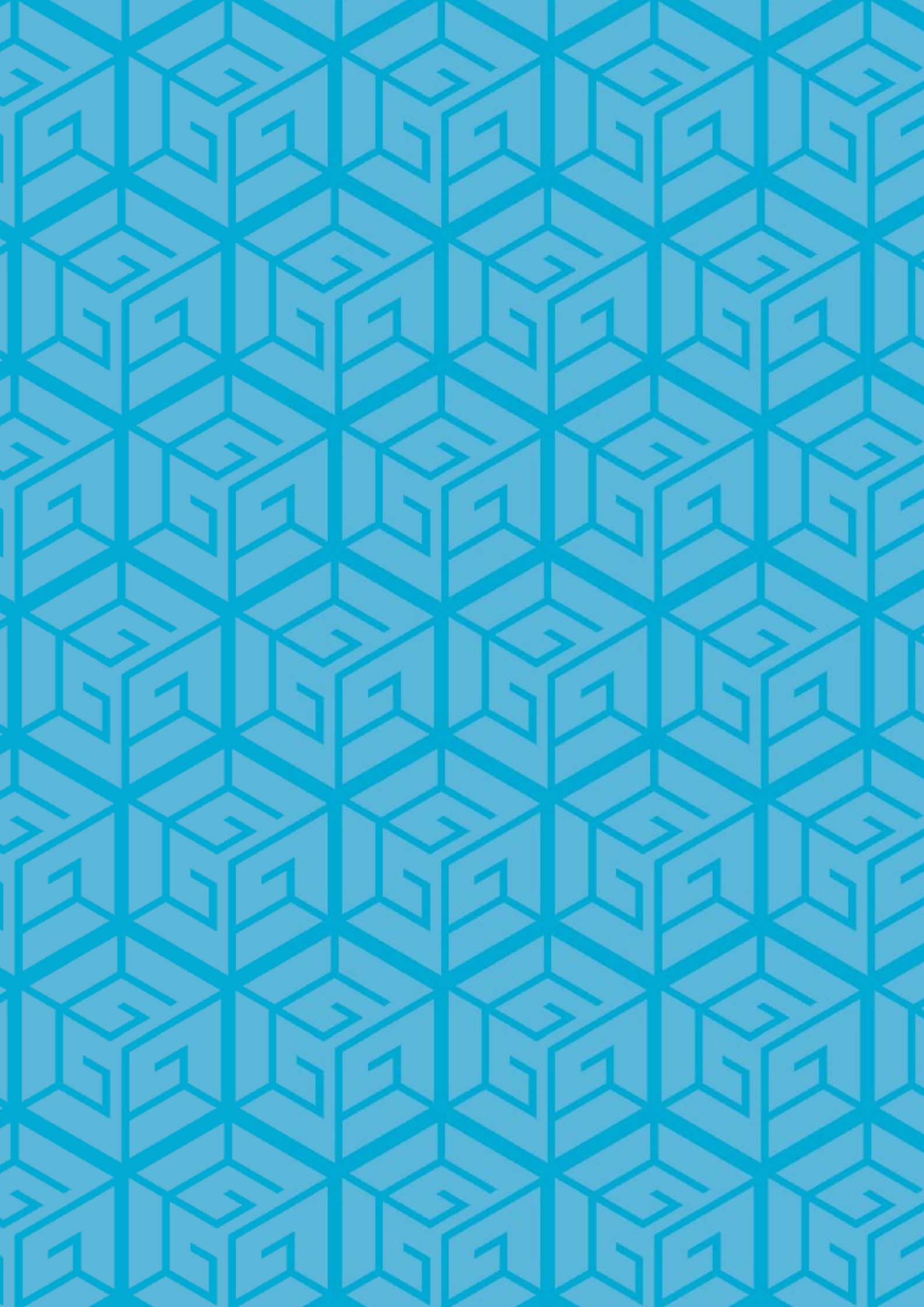
GGGI

United Arab Emirates

Country Planning Framework

2023-2027





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The Global Green Growth Institute
19F Jeongdong Building, 21-15, Jeongdong-gil
Jung-gu, Seoul, Korea 100-784

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Foreword

With the United Arab Emirates as one of its founding Members, the Global Green Growth Institute has maintained a strong in-country presence and received enduring support from the national government since 2011. In its capacity as a neutral trusted advisor to Emirati ministries and other public entities, GGGI has actively supported the development and implementation of national policies and institutional frameworks for inclusive and transformational green growth.

While the UAE remains a leading global hydrocarbon producer and exporter, it has also embraced the green transition and demonstrated its commitment to serving as a first mover in the region for climate action. The UAE has demonstrated leadership through its launch of the Net Zero by 2050 Strategic Initiative, in alignment with the country's vision of creating new knowledge, new industries, new skills and new jobs in the coming decades. The UAE will also play a globally strategic role in the world's climate response, with the hosting of COP28, and is harnessing all resources to make the event respond to the ambitions of the world.

In the next 5-year period, GGGI's work in the UAE will continue to focus on priority areas with strong untapped potential—including sustainable mobility, green buildings and green industries—as well as the pursuit of even greater impact in climate action and sustainable finance. Looking beyond its domestic operations in the UAE, GGGI will also look to support the national government in its commitments to be a regional and global green growth leader through expanded international cooperation and partnerships.

Based on the firm foundation of a shared vision of building a resilient world achieved through strong, inclusive and sustainable green growth, GGGI looks forward to continuing its close collaboration with the government of the UAE for many years to come.



Dr. Frank Rijsberman

Director-General

Global Green Growth Institute

Abbreviations and Acronyms

ADGM	Abu Dhabi Global Market
ADNOC	Abu Dhabi National Oil Company
AQP	Air Quality Pollutant
CBP	Country Business Plan
CPF	Country Planning Framework
EAD	Environment Agency – Abu Dhabi
GCC	Gulf Cooperation Council
GCF	Green Climate Fund
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GW	Gigawatts
HDI	Human Development Index
IRENA	International Renewable Energy Agency
LEED	Leadership in Energy and Environmental Design
Masdar	Abu Dhabi Future Energy Company
MOCCA	Ministry of Climate Change and Environment
MRV	Monitoring, Reporting and Verification
MW	Megawatts
NAIP	National Adaptation Investment Plan (Bahrain)
NAP	National Adaptation Plan
NCCP	National Climate Change Plan
NDC	Nationally Determined Contribution
NDCA	National Dialogue for Climate Ambition

SCE	Supreme Council for Environment (Bahrain)
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
SFF	Sustainable Finance Framework
SOs	Strategic Outcomes
TAQA	Abu Dhabi National Energy Company
UAE	United Arab Emirates
UNDP	United Nations Development Programme
UNFCCC	United National Framework Convention on Climate Change
WGEO	World Green Economy Organization
WPB	Work Program and Budget
WRI	World Resources Institute

Executive Summary

As one of the founding Members of the organization, the United Arab Emirates has been a strong proponent of GGGI since 2011. In its capacity as a neutral trusted advisor to national ministries and other public entities, GGGI will utilize the United Arab Emirates Country Planning Framework (CPF) 2023-2027 to set the strategic direction for its continued support of the UAE for the next 5-year period.

The UAE will play a globally strategic role in the world's climate response in 2023, with the hosting of COP28 and is harnessing all resources to make the event respond to the ambition of the world. In this context the CPF presents an ambitious response to the UAE's request of GGGI to support its transformational green growth transition.

The previous CPF 2018-2022 had outlined four strategic outcomes which guided GGGI's interventions in the UAE over that time period, namely: (1) improved implementation of the UAE Green Agenda 2030, (2) enhanced institutional capacity to address climate change, (3) strengthened public-private partnerships, and (4) enhanced leadership role for the UAE in disseminating the green growth model in the MENA region.

The current CPF 2023-2027 provides GGGI's updated priority strategic directions in the UAE, in alignment with the most current national policies, priorities, and commitments. Through a series of analytical exercises, the UAE Country Team refreshed their views on the country's strategic and green growth orientation; key takeaways were then validated through comprehensive consultations with valued partners and national public entities to identify and prioritize programmatic solutions intended to produce significant environmental, social, and economic impacts.

As an arid desert nation with limited freshwater resources and which has undergone rapid urbanization in the past few decades, the UAE is faced with a number of pressing environmental challenges, including land degradation and desertification; outsized carbon, energy and water footprints; and poor air quality. In preparation for the post-oil era, the UAE government is also focused on economic diversification in transitioning from a hydrocarbon-based economy toward a green, low-carbon economic model. Accordingly, the UAE leadership has set out a number of national priorities related to green growth in areas, including renewable energy, energy efficiency, climate adaptation, sustainable transport and infrastructure and green innovation.

Domestic CPF Priorities

In the next 5-year period (2023-2027), GGGI's support to the Government of the UAE domestically will focus on strengthening the national **green investments** framework, developing policies to create an enabling environment for **climate action**, and preparing projects for direct implementation and financing in the areas of **sustainable mobility**, **green buildings** and **green industries**.

Support in achieving the UAE's national targets of an estimated 445 million tCO₂e of cumulative emissions reduction by 2027 and 100% compliance with national air quality standards by 2040 form part of the attributed impact across the programmatic solutions. The UAE Country Program will also look to contribute to the creation of an estimated 2,000 green jobs and increasing access to sustainable transport services for over 250,000 beneficiaries. GGGI's deep experience in supporting governments in bolstering green investment efforts is expected to result in the development of green investment and climate action pipelines with an estimated worth of US\$ 2.5 billion, out of which the UAE Country Team will lead the efforts of bringing at least US\$ 100 million of green investments to financial close. Pipeline development can be complemented by the issuance of a sovereign green bond or sukuk of a similar size to the UAE's US\$ 4 billion inaugural federal bond in 2021.

To deliver on these impacts, the UAE Country Program will prioritize the strengthening of its collaboration with key public entities, including but not limited to the Ministry of Climate Change and Environment (MOCCAE), the Ministry of Finance, the Ministry of Industry and Advanced Technology, the Office of the Climate Change Special Envoy, Environment Agency – Abu Dhabi (EAD), the Central Bank of the UAE, the Abu Dhabi Department of

Municipalities and Transport and the relevant Roads and Transport Authorities, Masdar, and key National Development Funds.

Regional CPF Priorities – UAE and GGGI in the region

GGGI will support the UAE in its commitments to be a green growth leader in the region. As the nominated regional hub for GGGI in the Middle East, the UAE and its Country Team will serve as the focal point for efforts to expand the membership of GGGI in the region, as well as accelerate regional commitments to the green growth transition. Leveraging on existing regional partnership activities, this will practically be taken forward by a) an expansion strategy for the Middle East developed in collaboration with the UAE, b) the appointment of a Regional Director to sit within the UAE hub during this CPF period, and c) knowledge sharing between countries.

Global CPF Priorities – UAE and GGGI in the world

In light of commitments which the UAE government has made towards investments in areas including clean energy and climate-smart agriculture, GGGI will leverage its 38 embedded country programs to develop radical and transformational ideas in support of building a suitable project pipeline for UAE in the world, as well as crowding in both UAE and global private sector finance.



1. Introduction

Since 2011, GGGI has maintained a robust in-country presence as a neutral trusted advisor and strategic green growth partner embedded in the United Arab Emirates. Over the course of its partnership, GGGI's support to the UAE has thus far focused on policy development and technical advisory in areas, including green agenda, air quality, monitoring, reporting and verification (MRV), circular economy, climate change adaptation, youth-led green entrepreneurship and sustainable finance. Through the development of the National Green Growth Strategy and the National Climate Change Plan, which were both approved by the UAE Cabinet, GGGI has helped establish a solid enabling policy framework for green growth in the UAE.

About GGGI

Founded in 2012, GGGI is a treaty-based international, inter-governmental organization that supports and promotes a model of economic growth known as "green growth", which targets key aspects of economic performance such as poverty reduction, job creation, social inclusion and environmental sustainability.

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

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

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

Headquartered in Seoul, Republic of Korea, GGGI has 45 Members as of January 2023 and maintains country office representation in over 30 Member and partner countries.

1.1 Country Planning Framework (CPF)

The UAE Country Program is directly engaged with the Government of the UAE in setting the strategic direction for national development guided by a Country Planning Framework (CPF). The CPF is a five-year country engagement strategy and program that sets out GGGI's priority strategic interventions to support the UAE in its green growth transformation. The objectives of the CPF are derived from the GGGI Strategy 2030 and the CPF provides the tool for cascading the Strategy to the development and implementation of programs and projects at the country level. The CPF also reflects GGGI's comparative advantage and builds on the organization's previous in-country programmatic experience. The UAE CPF 2023-2027 is a follow-on document to the UAE CPF 2018-2022, revised and updated to reflect the most current national policies, priorities, and commitments.

In alignment with GGGI's strategic vision and theory of change at the time of the development of the document, the UAE CPF 2018-2022 had outlined four strategic outcomes which guided GGGI's interventions in-country over that time period.

UAE CPF 2018-2022 Theory of Change

Strategic Outcome 1: Improved implementation of the UAE Green Agenda 2030 results in achievement of national green growth objectives

Strategic Outcome 2: Enhanced institutional capacity to address climate change, enabling emissions reductions and adaptation

Strategic Outcome 3: Strengthened public-private partnerships, leveraging the private sector's contribution to a viable green industry sector and green jobs

Strategic Outcome 4: Enhanced leadership role for the UAE in disseminating the green growth model in the MENA region

Informed by the strategic direction of the CPF 2018-2022, the UAE Country Team led the launch and government endorsement of the: UAE Green Agenda 2030, UAE National Air Emissions Inventories National Air Quality Strategy, UAE Circular Economy Policy, UAE Sustainable Finance Framework, and UAE Green Business Toolkit 2.0. Additionally, GGGI has provided ongoing policy advisory to the Government of the UAE through the delivery of strategy and policy documents, such as climate risk assessments for four key sectors, which served as the basis for the adaptation component of the UAE's most recent update to its second NDCs in September 2022 and a roadmap for the development of a national MRV system. Knowledge products such as the UAE State of Green Economy Report, Current State and Pathways to a Circular Economy and the UAE Green Bond and Sukuk Program Development - Situation Analysis have also contributed to enhancing the institutional capacity of UAE public and private entities for mainstreaming and prioritizing green growth. Thus far, activities in-country have concentrated primarily on the left-hand side of GGGI's value chain with a focus on policy advisory and knowledge sharing whereas the GGGI service offering in other member countries also extend to the design and mobilization of green investments.

Regionally, the UAE Country Program actively participates in green growth knowledge sharing activities, through funding capacity building within the Middle East and North Africa (MENA) region and leadership in initiatives, such as the Middle East and Africa Regional Policy Dialogue. From 2016 to 2019, as part of the UAE's international cooperation efforts, the Government of the UAE provided funding for activities related to project scoping, origination, and resource mobilization in the Kingdom of Morocco, to facilitate the establishment of the GGGI Morocco Country Program. GGGI has also been providing technical and advisory support to Bahrain's Supreme Council for Environment (SCE) since 2020, in the development of the country's National Adaptation Investment Plan (NAIP). On the back of this partnership, the Kingdom of Bahrain officially became a Member of GGGI on March 18, 2022.

Looking ahead, the updated CPF 2023-2027 was developed based on a series of in-house analytical exercises, comprehensive stakeholder mapping and inclusive, in-depth consultations with valued partners and national public entities. The draft report was circulated for government stakeholder comment through GGGI's focal point in the UAE, the Ministry of Climate Change and Environment (MOCCAEE) and has been endorsed by HE Mariam bint Mohammed Saeed Hareb Almheiri. Central to the CPF is **strong government ownership** of its strategic direction and proposed programmatic interventions.

By establishing a **clear set of objectives** through a well-developed in-country strategy, the CPF enhances GGGI's ability to deliver quality, inclusive, and impactful results that will accelerate the green growth transformation of the UAE. It also allows for the achievement of **measurable strategic outcomes**, in alignment with the GGGI Strategy 2030.

The CPF is of critical strategic relevance to the planning process for the programmatic activities of the UAE Country Team as it will be used to guide the development of subsequent annual and biennial Country Business Plans (CBPs) and Work Program and Budgets (WPBs), GGGI's primary programming and budgeting tools, beginning with the WPB 2023.

1.2 GGGI Strategy 2030

GGGI's Strategy 2030 sets the course for GGGI's service delivery, growth, and expansion from 2021 to 2030, in alignment with the organization's mission to support Members in their transformation towards a low-carbon, green growth economic model. The impact level of Strategy 2030 is articulated around six Strategic Outcomes (SOs) to support GGGI Member countries in achieving their NDCs and UN SDG ambitions.

GGGI's Six Strategic Outcomes

1. GHG emissions reduction
2. Creation of green jobs
3. Increased access to sustainable services such as clean, affordable energy, sustainable public transport, improved sanitation, and sustainable waste management
4. Improved air quality
5. Sustained natural capital for the adequate supply of ecosystem services
6. Enhanced adaptation to climate change

The delivery of these outcomes will be achieved through the design and implementation of country-based programs and projects under eleven programmatic solutions.

Figure 1: GGGI Global Operational Priorities and Programmatic Solutions

GLOBAL OPERATIONAL PRIORITIES	PROGRAMMATIC SOLUTIONS	
GOP 1 Catalyzing and accelerating access to climate finance/ green investments for Members' public and private sectors	PS 1 Green Investments (green bankable projects, investment proposals, NFVs, green and climate instruments, carbon-focused engagements)	PS11 Carbon Pricing (Carbon policy design, carbon trading through institutional strengthening, transaction structuring and knowledge sharing)
GOP 2 Supporting our Members in strengthening policy, planning and regulatory frameworks and institutional capacity to achieve green growth outcomes	PS 2 Climate Action (inclusive green growth plans, LT-LEDS, NDC support, MRV system design, climate diplomacy)	
GOP 3 Achieving a sustainable and circular bioeconomy while securing healthy natural systems	PS 3 Climate Resilient Agriculture (solar irrigation, RE application in agri-value chain, resilient cropping practices, resource conservation)	
	PS 4 Sustainable Forests (REDD+, landscapes financing mechanisms, innovation of natural capital markets)	
	PS 5 Coastal Resilience (mangroves as ecosystem for livelihoods, aquaculture, marine issues fisheries, flood protection and pollution)	
GOP 4 Making cities and communities sustainable liveable and resilient, supported through green jobs, services and green infrastructure capital markets innovations	PS 6 Waste Management (circular economies, urban and agricultural waste, wastewater, FSM, waste to resource)	
	PS 7 Sustainable Mobility (e-mobility, non-motorized transport)	
	PS 8 Green Buildings (green urban infrastructure norms/standards/policies, energy efficiency in residential & commercial buildings)	
	PS 9 Solar PV (energy transition access and productive use solar water pumping, solar PV auctions, rooftop, utility scale plants, storage)	
PS 10 Green Industries (green industrial parks, green supply chains, EE in SMEs, labelling and standards)		
GOP 5 Accelerating progress in our country programs in poverty eradication and gender equality	Cross cutting in all programmatic solutions	

Strategy 2030 will be cascaded down to the country level through the CPF, Country Business Plans and Work Program and Budgets. It is crucial that the CPF is aligned systematically with Strategy 2030 to ensure that country programs and projects identified in the CBPs and developed and implemented under the WPB are in sync with GGGI's GOPs and programmatic solutions.



Ministerial leadership and commitment to green growth remains one of the key pillars underlying the strength of the UAE Country Program

2. Country Overview

2.1 Country Profile

The United Arab Emirates (UAE) is a hydrocarbon-based economy which has achieved rapid economic growth in the past few decades leading to substantial progress in education, health, life expectancy, and quality of life. In December 2021, the UAE celebrated its Golden Jubilee, in commemoration of the 50th year of its establishment. Since its formation, the UAE has developed into the second largest economy in the Gulf Cooperation Council (GCC) and one of the wealthiest countries in the region on a per capita basis, nearly 50% higher than the OECD average. The country's GDP in 2021 was US\$402.9 billion, representing a real GDP growth rate of 3.8 percent.

The UAE currently maintains the 7th largest crude oil reserves in the world and is among the world's leading oil producers, with petroleum exports totaling US\$55.6 billion in 2021. Though petroleum revenues have propelled the UAE's economic growth in previous decades and will continue to underpin the nation's economy in the medium term, it is part of the country's long-term vision to prepare for the post-oil era by transitioning toward a green, low-carbon economy. Successful efforts at economic diversification have thus far reduced the portion of GDP from the oil and gas sector to approximately 30%. Some of the fastest growing sectors in the UAE include human health and social work; education; and accommodation and food.

Table 1: United Arab Emirates at a Glance

Indicator	Data	Year	Source
Population	9,991,083	2021	World Bank
GDP per capita, PPP (current international \$)	36,284.6	2020	World Bank
World Bank income group classification	High Income	2021	World Bank
Human Development Index (Ranking)	26/191	2021	UNDP
Gender Inequality Index (Ranking)	11/170	2021	UNDP
CO ₂ e emissions (metric tons per capita)	19.3	2019	World Bank
Agricultural land (% of land area)	5.5	2020	World Bank
Urban population growth (annual %)	1.3	2021	World Bank

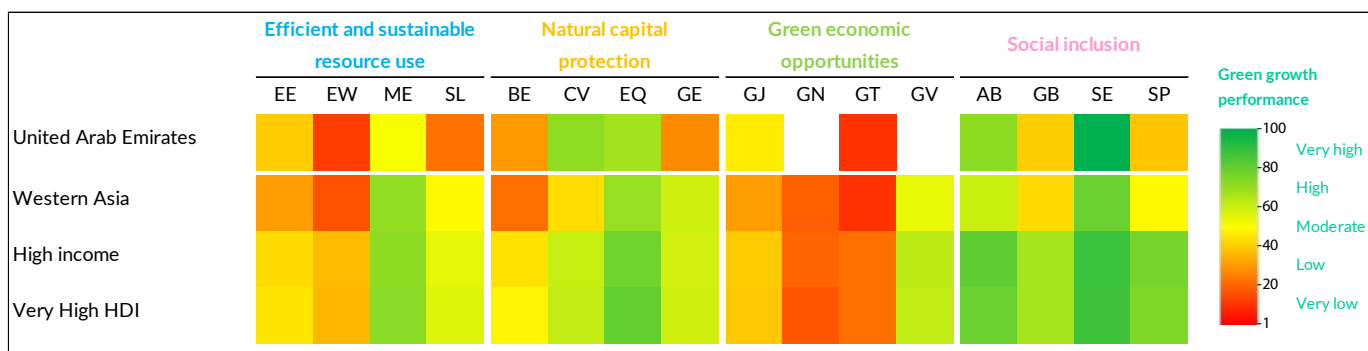
Urban population (% of total)	87	2021	World Bank
Environmental Performance Index (Ranking)	39/180	2022	Yale
Global Competitiveness Index (Ranking)	25/141	2019	World Economic Forum
ND-GAIN Adaptation Index	31/182	2020	ND-GAIN

2.2 Green Growth Context

Launched in 2019, GGGI's Green Growth Index provides policymakers with a metric to measure the green growth performance of their respective countries and to benchmark against their peers. This composite index measures a country's performance in achieving sustainability targets, including Sustainable Development Goals (SDGs), the Paris Climate Agreement, and Aichi Biodiversity Targets across four green growth dimensions: (1) efficient and sustainable resource use, (2) natural capital protection, (3) green economic opportunities, and (4) social inclusion.

The UAE has demonstrated strong performance in dimensions, such as environmental quality; access to basic services and resources; and social equity. It is worth noting that across these dimensions, the UAE's performance is in line with that of other high-income countries and of countries which similarly score very high on the Human Development Index (HDI). Meanwhile, there are opportunities for intervention in strengthening areas, including efficient and sustainable water use; green trade; GHG emissions reduction; sustainable land use; and biodiversity & ecosystem protection. Green trade, in particular, is an area which will require further efforts across most countries within the peer group.

Figure 2: Performance dashboard of the UAE and peer groups for the green growth indicators



Legend:

EE	Efficient and sustainable energy	GJ	Green jobs
EW	Efficient and sustainable water use	GN	Green innovation
ME	Material use efficiency	GT	Green trade
SL	Sustainable land use	GV	Green investment
BE	Biodiversity & ecosystem protection	AB	Access to basic services and resources
CV	Cultural and social value	GB	Gender balance
EQ	Environmental quality	SE	Social equity
GE	GHG emissions reduction	SP	Social protection

*Note: data was not available related to green innovation and green investment.

The rapid growth in the economy and population of the UAE in the past few decades has led to substantial progress in education, health, life expectancy, and quality of life, but also dramatic increases in the demand for resources, such as energy, food and water. As it looks towards further economic diversification from oil and gas production in line with the global transition to a green economy, the UAE is also facing pressing environmental challenges, including land degradation and desertification; oversized carbon, energy and water footprints; and poor air quality.

The UAE currently has one of the world's largest carbon footprints on account of its significant energy and water consumption levels. As an arid desert nation with limited freshwater resources, the UAE spends a significant amount of energy on systems to cool living and work-space environments and on seawater desalination processes to meet its demand for potable water. Despite a big financial commitment towards increasing the share of renewables in the energy mix, electricity generated from renewable sources remains a small percentage of the total energy produced. Meanwhile, pollution stemming from high volumes of industry and transport exacerbate the effects of airborne sand and dust from the surrounding desert on the UAE's air quality. In terms of gender equality, while nearly half of the UAE's adult female population hold university degrees, they also represent the group with the highest unemployment rate.

2.3 National Priorities

In recognition of the country's exposure to environmental challenges, the UAE leadership has taken significant steps to address and mitigate the negative impacts. The country's commitment to climate action is evidenced in **UAE Vision 2021**, which coincides with the country's 50th anniversary and includes 'Sustainable Environment and Infrastructure' as one of its six pillars. The Vision 2021 National Agenda, which has significant overlaps with the SDGs, focuses on improving the quality of air, preserving water resources, increasing the contribution of clean energy and implementing green growth plans. The UAE's long-term strategic plan focuses on economic diversification, promoting the UAE as a global trade and tourism hub, developing industry, and creating more job opportunities for nationals through equal participation, improved education and increased private sector employment. Innovation has also been prioritized in building the competitiveness of the economy.

In collaboration with GGGI, MOCCA developed the **National Climate Change Plan 2017-2050 (NCCP)**, an enabling policy framework that facilitates the transition toward a climate-resilient and inclusive green economy, while managing GHG emissions, minimizing climate risks, and supporting private sector-driven innovative economic diversification. Climate adaptation has been highlighted as one of the three key priorities of the NCCP and accordingly, the National Climate Change Adaptation Program was launched with the aim to make the UAE one of the most climate-resilient countries in the world. At the federal level, the UAE Ministry of Climate Change and Environment and the UAE Ministry of Energy and Infrastructure are two key entities engaged in the implementation of climate and sustainable energy plans.

Climate and energy security considerations have led to the adoption of **UAE's National Energy Strategy 2050**, which targets to increase the share of clean energy, including renewables and nuclear, to 50% of the installed power capacity mix by 2050. At the launch of the strategy, Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister and Ruler of Dubai pledged to invest 600 billion dirhams (US\$ 163 billion) in clean and renewable energy until 2050 in support of this goal. Moreover, the UAE is taking steps to increase the efficiency of energy consumption through regulatory measures, pricing signals as well as technology deployment; accordingly, a federal target has been set to reduce energy consumption by 40% by 2050.

The UAE's **Nationally Determined Contribution (NDC)** was submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, and in December 2020 the UAE submitted its NDC revision, with the inclusion of an economy-wide emission reduction target of 23.5% by 2030. The UAE's commitment to the green energy transition is further underscored by the announcement of its **Net Zero by 2050** strategic initiative in October 2021, becoming the first country in the Gulf region to commit to achieving net-zero emissions. In September 2022, the UAE provided a further update to its NDC, revising upwards its emission reduction target to 31% by 2030.



3. Programmatic Solutions and Intended Results

In consideration of the UAE’s national priorities, green growth challenges and opportunities and in-country comparative advantage of the UAE Country Program, the UAE Country Team formulated a shortlist of proposed programmatic solutions (Refer to Figure 1 for GGGI’s full list of 11 programmatic solutions), which would build on GGGI’s existing in-country experience to deliver on even greater impact in the next 5-year period. To validate and develop these interventions, in-depth consultations were conducted with valued partners and key national stakeholders, including the Ministry of Climate Change and Environment (MOCCA), the Environment Agency – Abu Dhabi (EAD), Abu Dhabi Future Energy Company (Masdar), the World Green Economy Organization (WGeo), The Global Compact Network (GCN-UAE), The United Nations Framework Convention on Climate Change (UNFCCC), and Abu Dhabi National Oil Company (ADNOC). The proposed solutions were also shared for broader government stakeholder comment through GGGI’s focal point in the UAE, the Ministry of Climate Change and Environment (MOCCA).

Driven by these discussions and feedback, **five programmatic solutions have been identified as critical interventions for the 2023-2027 period for the UAE: (1) Green Investments, (2) Climate Action, (3) Sustainable Mobility, (4) Green Buildings and (5) Green Industries.** These proposed interventions have been selected based on current national priorities; as the UAE’s green growth direction evolves, additional programmatic solutions may be considered.

The outcomes expected to be derived from the respective priority intervention areas and the ways in which they contribute to national targets is summarized in the Impact Pathway Table in Annex A. As part of the project scoping and delivery, gender and social inclusion focused safeguards, indicators, outcomes and approaches will be identified and implemented across all programmatic solutions in order to support gender equality objectives in line with the UAE’s national priorities and the global SDGs agenda.

3.1 PS 1: Green Investments

Context

Sustainable finance remains one of the crucial pillars supporting the development of a successful, green and resilient economy. Adopted by more than 70 government and private entities, the Dubai and Abu Dhabi Sustainable Finance Declarations were launched in 2016 and 2019, respectively, and served to commit signatories to increasing the quality and depth of green financial products in the UAE in support of the SDGs. Comprised of UAE ministries and financial services regulatory authorities and exchanges, the UAE Sustainable Finance Working Group was convened in 2019 to address existing gaps and challenges related to institutionalizing sustainable finance practices, with activities focused on three key areas: (1) disclosure, (2) governance and (3) taxonomy.

The UAE Sustainable Finance Framework (SFF) was launched in January 2021 to support the mobilization of private capital towards low-carbon, environmentally sustainable, and climate-resilient investments. Key action items were identified across three main pillars: (1) mainstreaming sustainability in financial decision-making and risk management, (2) enhancing the supply and demand for sustainable finance products and green investment projects and (3) strengthening the enabling environment that promotes sustainable finance practices through collaboration between financial and real sector stakeholders.

The need for mobilizing sustainable finance is more relevant than ever for the UAE. In support of the UAE's National Energy Strategy 2050, 600 billion dirhams (US\$ 163 billion) have been targeted for clean and renewable energy investments until 2050. In June 2022, His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates and Ruler of Abu Dhabi, also pledged to invest an additional \$50 billion in the next 10 years to scale up climate action. Moreover, as part of its ongoing partnership with the U.S., the UAE has pledged to contribute to the Partnership for Accelerating Clean Energy (PACE) program, targeted at mobilizing \$100 billion to develop 100 gigawatts of clean energy by 2035, as well as the Agriculture Innovation Mission for Climate (AIM for Climate), which aims to mobilize \$8 billion for investments in climate-smart agriculture and food systems innovation.

Given the high volume of investments that will be required going forward in order to support the green transition and the UAE's climate ambitions, securing sufficient financing for sustainability-focused projects will be crucial. The scale-up of green bond and sukuk issuances in the UAE could help to fill this funding gap, allowing not only for higher volumes of green investments, but also further establishing the UAE's status as a regional hub for sustainable finance.

GGGI's Response

This PS sets out to enhance the enabling environment for diversified innovative sustainable finance products in the UAE, as well as mobilize private capital towards inclusive, environmentally sustainable and climate-resilient investments.

In 2020, GGGI collaborated with Abu Dhabi Global Market (ADGM) in the formulation and launch of the UAE State of Sustainable Finance Report, which took stock of the progress made by public and private stakeholders in the area of sustainable finance and served as a call to action to accelerate further collective efforts. The UAE Country Team also led the development of the SFF which was launched in January 2021, as well as follow-on knowledge products in support of its three main pillars, including the UAE Green Bond and Sukuk Program Development: Situation Analysis Report and the UAE Green Business Toolkit 2.0. Both documents have been endorsed by MOCCA and were launched at COP 27.

Thus far, activities led by the UAE Country Program have concentrated primarily on the left-hand side of GGGI's value chain with a focus on policy advisory and knowledge sharing whereas the GGGI service offering in other member countries also extend to the design and mobilization of green investments. Accordingly, while GGGI's activities in support of sustainable finance in the UAE have focused on policy development and institutional capacity building, there is tremendous potential for expanding the scope of work through strengthening partnerships with entities, such as the Ministry of Finance, ADGM and locally-based financial institutions. Expansion on external partnerships, including with entities such as the Green Climate Fund (GCF), with which GGGI has a strong partnership through its work as a Readiness Delivery Partner, would also broaden the UAE's access to international climate financing.

GGGI's expertise can be leveraged for the origination and development of an investment pipeline of bankable project concept notes and investment proposals to meet the UAE's climate objectives. In light of the public commitments which the UAE government has made towards investments in areas, including clean energy and climate-smart agriculture, GGGI also looks to collaborate with relevant leading entities on the development of suitable project pipelines with an eye on producing bankable green investment and climate action pipelines with an estimated worth of US\$ 2.5 billion, where the Country Team aims to take the lead on advancing a subset of

projects, with a target of bringing at least US\$ 100 million in in-country green investments to financial close in the next 5-year period. One potential initiative is the design and implementation of a US\$ 1 billion smart agriculture project to be supported by the UAE in scaling up food security globally.

In further demonstration of its climate leadership and strengths in innovation, the UAE can be supported by GGGI in the development of funding mechanisms for mobilizing private sector investments in adaptation, especially for technology-driven approaches, such as cloud seeding and solar irrigation. In collaboration with Ministry of Industry and Advanced Technology, investment plans and vehicles can also be developed for the transfer and large-scale deployment of such technologies abroad in support of building global climate resilience by leveraging GGGI's 38 embedded country programs. Relevant milestones and developments achieved ahead of COP28 will look to be announced at the event, with the intent of spurring other nations to ambitious action.

As there have been no public green bonds or sukuk issuances to date and limited activity amongst private issuers in the UAE, there is a significant opportunity for the development of a domestic green bond and sukuk market by leveraging the country's strong financial capabilities. With the support of the Ministry of Finance, the UAE Country Team can build on its existing work in this area to support on a number of measures which would galvanize the growth of a domestic market, including the development of (1) national guidelines on green bond issuances and green taxonomy, (2) a government-backed green bond grant scheme, (3) benchmark sovereign green bond / sukuk issuances and (4) climate-related reporting and disclosure guidelines. In October 2021, the UAE's inaugural federal bond had been listed on Nasdaq Dubai, a US\$ 4 billion bond package. The issuance of a follow-on sovereign green bond or sukuk of a similar size would send a strong signal to the international capital markets of the UAE's commitment to green growth and climate action, particularly in conjunction with its presidency of COP28. On the back of a US\$ 5 million agreement recently signed between GGGI and the Luxembourg government to create a Global Trust Fund for scaling-up thematic bond markets in developing countries, the UAE can also explore joining this initiative or establishing its own regional or complementary global fund. Other financial innovations, such as debt for climate swaps, can also be considered for the UAE market.

Strategic Outcomes

Over the next 5 years, the Green Investments PS aims to commit to the following government contributed impact outcome:

SO1 GHG emission reduction: contribute to national CO₂ reduction target, estimated to reach 445 million tCO₂e cumulative by 2027

3.2 PS 2: Climate Action

Context

As an arid desert nation with limited fresh water and food production, the UAE is exposed to a complex set of interrelated climate vulnerabilities which underscores the need for leadership on climate adaptation.

Climate adaptation is one of the three key priorities of the NCCP, which sets out a clear path for advancing the UAE's climate change adaptation planning framework, with the following expected outcomes and timeline:

- Climate change risk and vulnerability assessments performed, with immediate measures put in place, by 2020
- Adaptation planning mainstreamed in development policy, by 2025

- Continuous monitoring and evaluation to ensure evidence-based adaptation measures, by 2030 – 2050

Accordingly, the National Climate Change Adaptation Program was launched with the aim to make the UAE one of the most climate-resilient countries in the world.

The UAE government's commitment to climate action is further underscored by the honor of having been selected as the host country for COP28 in November 2023. COP27 had concluded with the announcement of a breakthrough agreement to provide "loss and damage" funding for vulnerable countries hit hard by climate disasters. Governments agreed to establish a 'transitional committee' to make recommendations on how to operationalize both the new funding arrangements and the fund at COP28 next year. As adaptation measures have been historically underfunded relative to mitigation, this significant milestone presents the UAE with an opportunity to drive the direction of the sustainable finance discussion leading up to the next climate conference.

GGGI's Response

This programmatic solution is intended to contribute to the climate adaptation and mitigation agenda of the UAE, as well as enhance the enabling environment to support it. Through the formulation of climate resilient and green growth policies, strengthening national mechanisms, capacities, and institutional governance.

In 2020, GGGI supported MOCCA in conducting climate risk and vulnerability assessments for four key sectors (energy, infrastructure, environment, health), the conclusions of which were used as the basis for the adaptation component of the UAE's most recent update to its second NDCs in September 2022. To take forward this work and further bolster the UAE's climate resilience, GGGI intends to collaborate with MOCCA in the development of a comprehensive national adaptation plan (NAP), inclusive of implementing and governance mechanisms. Given the significant climate threats that the UAE faces, in-depth vulnerability assessments will be performed on both the sectoral and the emirate scale, highlighting specific actions and projects that can be undertaken in target areas.

In 2021, GGGI led the development of a roadmap and action plan for the establishment of a national MRV system. Work is now ongoing for the development and implementation of the system, with national roles and responsibilities, legal instruments, standardized data flows, data collection and calculation tools and protocols clearly defined. Gender inclusive approaches will be adopted where relevant throughout the design and implementation processes through a focus on women's participation and disaggregated data.

The design of a well-functioning MRV system will not only help the country collect and manage consistent data for its GHG emission inventories to track progress on its NDC, but will also allow for monitoring of Air Quality Pollutant (AQP) inventories in support of improving air quality, another national priority. On the back of the successful implementation of the national MRV system, the Environment Agency – Abu Dhabi (EAD) has similarly requested support in the development of an MRV system, with roles and national targets cascaded down to the emirate level. The adoption of a gender-inclusive approach would also contribute to closing gaps in data on gender and marginalized social groups, which are necessary in achieving the UAE's SDG commitments.

As the UAE looks towards COP 28, the country is presented with an opportunity to showcase its leadership on climate action, particularly in terms of adaptation, which has been historically underfunded. In direct support of the Office of the Climate Change Special Envoy, the UAE Country Program can help drive the setting of an ambitious climate agenda, underscored by green investment mobilization. As an extension of the efforts made in the development of the NAP, GGGI intends to provide technical support in the design of dedicated funding mechanisms and structures to mobilize financial flows towards related adaptation activities. This can include follow-up activities related to operationalizing the "loss and damage" fund announced at COP27, in addition to efforts towards project pipeline development and related resource mobilization, particularly in relation to achieving the UAE's NDC targets.

As part of its ongoing support of national authorities in the UAE, the UAE Country Team will also continue to provide knowledge sharing and capacity building support in key areas, to further build on institutional expertise

and skills to adapt to a global economy in transition, and to mobilize the private sector to dedicate resources to contributing to the country's climate targets. One area which has been highlighted for further consideration is capacity building related to carbon pricing, a cost-effective policy tool which can be used by governments as part of their climate action strategies and plans. As market-based mechanisms and carbon pricing instruments are critical to the fight against global climate change, the UAE Country Team will provide technical support to the government of the UAE in enhancing its readiness to develop a local carbon market, and to engage in international carbon markets, such as the one created by Article 6 of the Paris Agreement.

On a regional basis, the UAE Country Program will continue to actively participate in green growth knowledge sharing activities, through providing capacity building within the MENA region, in addition to the nomination of the UAE as the regional hub for GGGI in the Middle East with a dedicated Regional Director based in-country. Going forward, the UAE and its Country Team will serve as the focal point for the design and implementation of a strategy to expand the membership of GGGI in the region, as well as accelerate regional commitments to the green growth transition,

Strategic Outcomes

Over the next 5 years, the Climate Action PS aims to commit to the following government contributed impact outcome:

SO1 GHG emission reduction: contribute to national CO₂ reduction target, estimated to reach 445 million tCO₂e cumulative by 2027

3.3 PS 7: Sustainable Mobility

Context

In the UAE's GHG inventory, the Ministry of Energy and Infrastructure recognized transportation as the second largest contributor to the country's total GHG emissions. As the UAE transitions to a green economy, it becomes imperative to address the challenges of this sector and the opportunities it presents in green alternatives.

As part of its National Energy Strategy 2050, the UAE targets to increase the share of clean energy to 50% of the installed power capacity mix by 2050. The implementation plan put forth in support of this target marks the second phase as finding new energy-efficient solutions for transportation. Additionally, the expansion of efficient public transportation systems has been established as a key priority for UAE authorities to improve mobility, air quality and public health. Under the National Net Zero by 2050 Pathway, which was announced at COP 27, green mobility-orientated development was named as one of the six mitigation measures being prioritized by the government.

As part of its shift to cleaner vehicle technologies, the UAE has taken up wide-scale conversion of conventional gasoline and diesel vehicles to low emissions vehicles, with a particular focus on taxis, buses, government vehicles and commercial vehicles. In addition, regulations and incentive schemes, have been put in place to power a larger share of road transport with electricity. The Dubai Green Mobility Strategy targets a 2% share of electric and hybrid cars in Dubai's road fleet by 2030, and a 30% share in Dubai's government-procured vehicles by the same year. The country has seen a rapid expansion of charging infrastructure, with plans in place to further increase the number of vehicle charging stations across the Emirates.

The UAE's competitive advantages in technology and innovation provide the country with a tremendous economic opportunity through transitioning its transport sector to a sustainable mobility model. Beyond electrification,

there is great potential and capacity for the growth of sustainable technologies, such as green hydrogen. In June 2022, Abu Dhabi National Energy Company (TAQA), Abu Dhabi National Oil Company (ADNOC) and Mubadala Investment Company entered into binding agreements for joint ownership stakes in Abu Dhabi Future Energy Company (Masdar). The partnership builds on the creation in January 2021 of the Abu Dhabi Hydrogen Alliance as the UAE looks to cement its leading global role in green hydrogen. Green hydrogen is quickly becoming a priority for governments in the region as part of their efforts to transition to net zero, particularly for countries with access to low-priced and abundant renewable power which could dedicate that capacity entirely to producing green hydrogen for local consumption and export.

GGGI's Response

Within this PS, the UAE Country Team intends to support relevant stakeholders in accelerating the transition to a more inclusive and less carbon-intensive mobility. Despite efforts being made at the emirate level, there is presently no integrated, national policy approach in mainstreaming sustainable mobility in place across the UAE, though a Smart Mobility Strategy is in the process of being developed by the Ministry of Energy and Infrastructure.

GGGI aims to accelerate private sector participation in advancing energy-efficient transport systems through the development of a robust enabling environment, including the development of national electric mobility strategies and investment plans and the establishment of policy and technical standards to facilitate electric vehicle adoption. In addressing the barriers to large-scale transport electrification in the UAE, as well as the development for a homegrown market for sustainable vehicles, GGGI may look towards the structuring and implementation of financial incentives and supportive infrastructure, such as charging stations, and battery swapping.

Through the tripartite partnership of TAQA, ADNOC and Mubadala, the UAE has demonstrated its commitment to developing the country as a global leader in green hydrogen. The UAE Country Team sees tremendous potential for large-scale deployment of this fossil fuel replacement, including for use in commercial transport. However, commercial affordability, limited storage and transportation capacity, and the lack of demand supply structure are some of the major barriers for the development of enabling ecosystems.

Expertise based in GGGI HQ can be leveraged to support this national push. GGGI's Green Hydrogen Program is a multi-country initiative that works to develop a green hydrogen ecosystem through project development and deployment. It leverages international collaboration with public and private sector stakeholders to create bankable business models and is currently operational in three countries: India, Indonesia and Morocco. Activities in support of the UAE's green hydrogen objectives can be incorporated and bolstered by this program.

Strategic Outcomes

Over the next 5 years, the Sustainable Mobility PS aims to commit to the following government attributed impact outcomes:

SO1 GHG emission reduction: 2.26 million tCO₂e

SO2 1560 green jobs

SO3 257,682 sustainable transport beneficiaries

SO4 PM 2.5 reduction 577 tonnes

3.4 PS 8: Green Buildings

Context

Despite the significant role which fossil fuels play in the UAE economy, construction is the economic sector with the largest carbon footprint in the country; cement production alone accounts for 6-7 percent of the national carbon inventory. The majority of the waste generated in the UAE also relates to construction and demolition waste, representing 58% in 2019.

The local construction and infrastructure market now finds itself at a turning point where it must align itself to national climate ambitions, including the UAE Net Zero by 2050 strategic initiative. Transition towards net zero presents a new model of sustainable economic growth that leverages research, development, innovation, and clean technology and will act as a catalyst for investment and job creation. Beyond the mainstreaming of sustainability-led practices, as the sector contracting the largest number of employees (16.4% for the construction of buildings and a further 4.6% for specialized construction activities, as of 2018), the construction industry presents significant potential for the growth of green jobs in the UAE.

Sustainability is not a new concept for the UAE construction sector. Since 2006, with the first UAE project to receive the Leadership in Energy and Environmental Design (LEED) certification, international green building certifications have been adopted in the UAE to advance sustainability practices and standards for new constructions. Many Emirates have launched their own tailored green building regulations and rating schemes, starting with the introduction of the Estidama Pearl Rating system by Abu Dhabi in 2010, followed by Dubai's Green Building Regulations and Specifications and Al Safat Rating System in 2011, and Ras Al Khaima's Barjeel Green Building Regulations in 2019. In 2019, the UAE was among the first national governments to announce its commitment to the 'Zero Carbon Buildings for All' initiative, led by the World Resources Institute (WRI) and endorsed by the UN Secretary General. These regulations and initiatives have helped to create a local market for green building materials and technologies, while increasing awareness among industry professionals about energy, water, waste, indoor environmental quality, and other green building features.

GGGI's Response

As is the case with many other economic sectors, the construction and infrastructure industries need to formulate their strategies for adapting to the green transition and for mainstreaming sustainability-led practices. Potential measures could include mandating alternatives to carbon-intensive building materials, introducing carbon metrics on projects, and integrating life cycle costing. On account of cost pressures, however, developers, contractors and suppliers may not always feel they have the right incentives and levels of support to adopt sustainable construction practices and as such, it is crucial that sector leaders collaborate with policymakers to devise effective and pragmatic pathways for decarbonization and waste management. As a neutral trusted advisor to national ministries and a strategic green growth partner embedded in the UAE, the UAE Country Team is well placed to serve as a liaison between key public and private sector stakeholders in this dialogue.

Moreover, through its in-house expertise, GGGI can provide integrated support in the UAE's transition to green buildings through interventions, such as assessments of green building readiness and impact; capacity building at national and local levels; and technical assistance in the design, financing and implementation of green building initiatives for industrial, residential and public buildings. GGGI can also explore policy formulation and project development in areas, including improvement of energy and water efficiency, innovations in sustainable cooling, incorporation of green building standards in national building codes and collaboration with local authorities in the rollout of retrofit programs. Moreover, to encourage innovation and investment in the built environment space, the UAE Country Team intends to strengthen partnerships with local organizations, such as the Emirates Green Building Council, in the promotion of green initiatives and knowledge exchange of green technological developments across the entire value chain.

Strategic Outcomes

Over the next 5 years, the Green Buildings PS aims to commit to the following government attributed impact outcomes:

SO1 GHG emission reduction: 0.9 million tCO₂e

SO2 215 green jobs

SO4 PM 2.5 reduction: 25 tonnes

3.5 PS 10: Green Industries

Context

Though petroleum revenues have propelled the UAE's economic growth in previous decades and will continue to underpin the nation's economy in the medium term, a central component of the country's Vision 2021 is to prepare for the post-oil era by transitioning toward a green, low-carbon economy. As the UAE focuses its efforts on economic diversification, the development of green industries and green jobs is a critical topic, with the private sector playing a critical role in strengthening the market for environmental goods and services. To improve the UAE's economic competitiveness, the National Strategy for Advanced Innovation was launched in 2018 as a key enabler for the UAE's Fourth Industrial Revolution, through which the country aspires to become a leading global hub and open laboratory for advanced sciences and technology, innovation, creativity, entrepreneurship and environmental sustainability.

In January 2012, the Green Economy initiative was launched with the aim for the UAE to emerge as a center for the export and re-export of green products and technologies while maintaining a sustainable environment to support long-term economic growth. Objectives of the initiative include the encouragement of investments in green economy; the development and promotion of green technology; and the rationalization of the use of water resources, electricity, natural resources and recyclable waste.

Furthermore, the UAE government is committed to achieving more Sustainable Consumption and Production (SCP) and meeting SDG 12 by moving away from a traditional, linear economy in which natural resources are extracted, consumed in the form of manufactured products, then eventually disposed. Alternatively, adoption of a regenerative circular economic approach will bring about increased climate resilience as well as cost savings. As estimated by the UAE's Circular Economy Council, in the GCC alone, the circular economy is expected to save 138 billion dollars by 2030.

GGGI's Response

GGGI supported the development of the UAE Circular Economy Policy, which was approved by the UAE Cabinet in January 2021. The policy focused on identifying initiatives and programmes that could be undertaken to improve the circularity of four key UAE sectors: (1) Sustainable Consumption and Production of Manufactured Goods; (2) Green Infrastructure; (3) Sustainable Transport; and (4) Sustainable Food production and Consumption. In 2022, GGGI also led the development of a report examining the state of play of the UAE's green industry by analyzing the current data architecture for estimating the scope and size of the environmental goods and services sector, developing an industry-wide classification of green products and services, and proposing policy options to foster the growth of green industry going forward.

To take forward the UAE's circular economy ambitions, this programmatic solution will center on further developing the enabling environment for fostering green businesses and green jobs, with a particular focus on innovation. GGGI will develop and lead the implementation of a capacity building plan to raise awareness and share research-based knowledge on best practices and topics relevant to the circular economy. In alignment with GGGI's focus on gender and social inclusion, equitable distribution of related outputs and outcomes will be incorporated into project scoping and delivery. The UAE Country Team will also engage with key stakeholders from the public and private sectors to develop and implement approaches for spurring sustainability-led innovation to shift industrial processes towards greater circularity, reduce the industrial waste footprint and to grow the overall environmental goods and services sector. Potential interventions in support of an innovation-friendly ecosystem, include the establishment of an enhanced regulatory framework, technology infrastructure, direct investments and financial incentives.

Strategic Outcomes

Over the next 5 years, the Green Industries PS aims to commit to the following government contributed impact outcomes:

SO4 Contribute to 100% compliance with national standards for gaseous pollutants by 2040

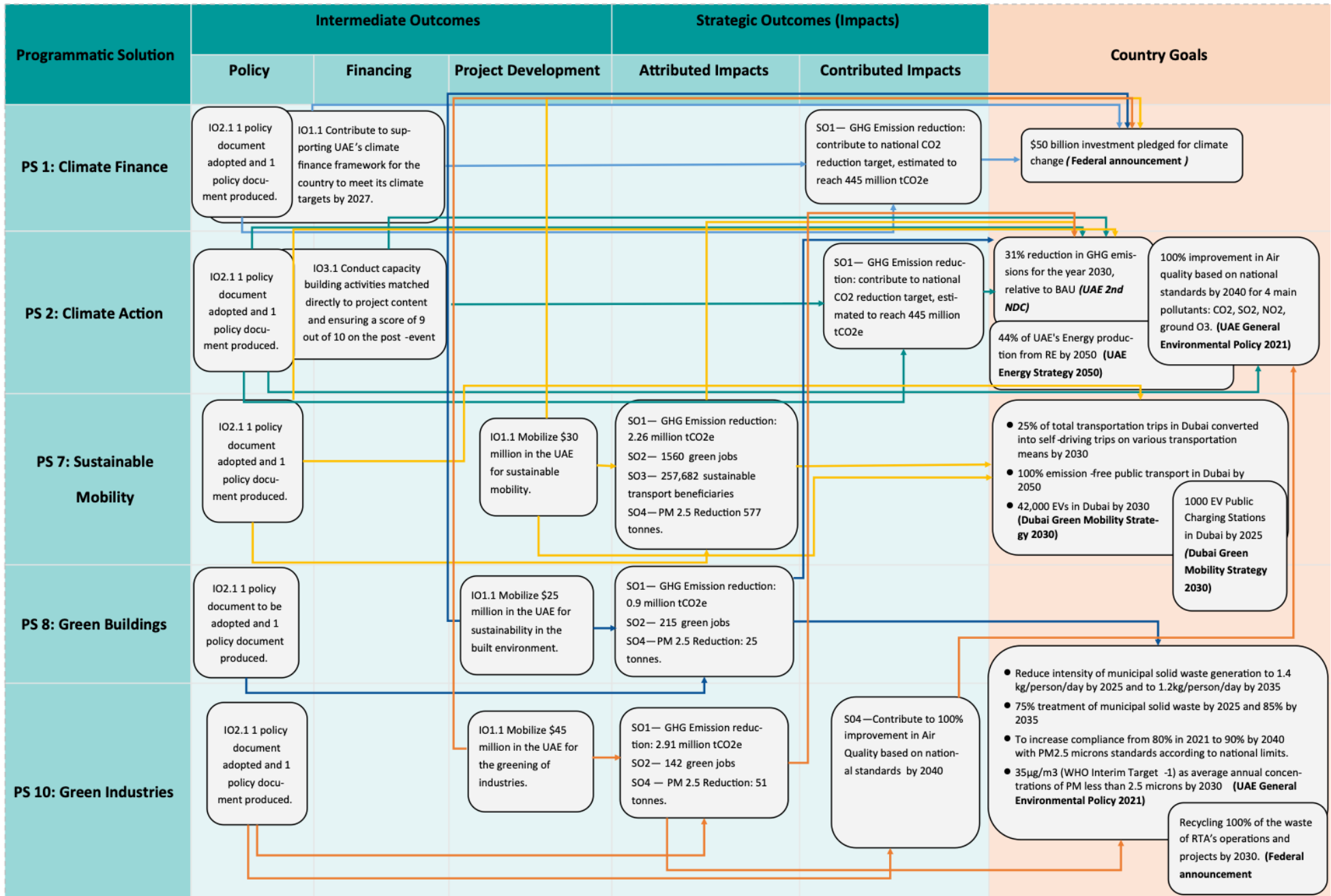
And the following attributed impact outcomes:

SO1 GHG emission reduction: 2.91 million tCO₂e

SO2 142 green jobs

SO4 PM 2.5 reduction: 51 tonnes

Annex A. Impact Pathway





The Global Green Growth Institute

19F Jeongdong Building, 21-15, Jeongdong-gil,
Jung-gu, Seoul, Korea 04518

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