CEO Approval (CEO) entry ? Medium Sized Project ? GEF - 7

Part I: Project Information

GEF ID
10886

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Accelerating low-carbon circular economy through cleantech innovation towards sustainable development in Viet Nam

Countries
Viet Nam

Agency(ies)
UNIDO

Other Executing Partner(s)
Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)

Executing Partner Type
Government

GEF Focal Area
Climate Change

Sector
Technology Transfer/Innovative Low-Carbon Technologies

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Renewable Energy, Financing, Sustainable Urban Systems and Transport, Energy Efficiency, Sustainable Development Goals, Influencing models, Transform policy and regulatory environments, Demonstrate innovative approache, Stakeholders, Communications, Public Campaigns, Strategic Communications, Awareness Raising, Private Sector, SMEs, Individuals/Entrepreneurs, Large corporations, Capital providers, Financial intermediaries and market facilitators, Type of Engagement, Participation, Information Dissemination, Consultation, Partnership, Beneficiaries, Local Communities, Civil Society, Trade Unions and Workers Unions, Academia, Non-Governmental Organization, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Women groups, Sex-disaggregated indicators, Gender results areas, Capacity Development, Knowledge Generation and Exchange, Participation and leadership, Access to benefits and services, Capacity, Knowledge and Research, Knowledge Exchange, South-South, Peer-to-Peer, Conference, Innovation, Targeted Research, Knowledge Generation, Workshop, Training, Seminar

Rio Markers

Climate Change Mitigation

Principal Objective 2

Climate Change Adaptation

No Contribution 0

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

11/17/2022

Expected Implementation Start

2/1/2022

Expected Completion Date

1/31/2026

Duration

48In Months

Agency Fee($)

165,296.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-1-4	Promote innovation and technology transfer for sustainable energy breakthroughs in cleantech Innovation	GET	1,739,954.00	9,350,000.00
		Total Project Cost($)	**1,739,954.00**	**9,350,000.00**

B. Project description summary

Project Objective

To accelerate the application of innovative cleantech solutions for low carbon and circular economy towards realizing sustainable and inclusive development in priority sectors in Viet Nam integrating renewable energy, energy efficiency, and waste management.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Policy, institutional framework and national cleantech innovation and entrepreneurship ecosystem (CIEE) strengthening and connectivity enhanced	Technical Assistance	1.1 Policy framework to promote innovative cleantech solutions for low carbon circular economy in priority sectors strengthened and interconnected	1.1.1 Study and analysis on technology gaps conducted in a gender responsive manner, and best available technologies and cleantech innovation opportunities in priority sectors in Viet Nam identified and recommended	GET	300,000.00	972,913.00
			1.1.2 Evidence based gender-responsive policy instruments related to cleantech innovation and entrepreneurship developed			
			1.1.3 National institutions strengthened for cleantech innovation and entrepreneurship support and linkages, collaboration, and synergies across CIEEs promoted (at least 6 capacity building events conducted with up to 90 participants in total, at least 45% women and 30% youth)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Policy, institutional framework and national cleantech innovation and entrepreneurship ecosystem (CIEE) strengthening and connectivity enhanced	Technical Assistance	1.2. Gender equality and women?s empowerment supported and strengthened by the CIEE in Viet Nam	1.2.1 Women?s cleantech hub/network established to support and accelerate the formation of local innovation ecosystems in a more inclusive manner	GET	50,000.00	120,000.00
			1.2.2 Mentoring programme for women cleantech entrepreneurs and mentors implemented			
			1.2.3 Campaign conducted to raise awareness on women?s role models in the cleantech ecosystem			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Transforming early-stage innovative cleantech solutions into scalable enterprises	Technical Assistance	2.1 Early-stage cleantech innovations accelerated	2.1.1 Methodologies, guidelines, tools and training systems for cleantech innovation and entrepreneurship accelerator adapted for Viet Nam	GET	400,000.00	350,000.00
			2.1.2 Pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges, at least 45% women, 30% youth) trained and certified to support the cleantech innovation and entrepreneurship accelerator			
			2.1.3. Two annual national competition-based cleantech innovation and entrepreneurship accelerators conducted (at least 80 enterprises, at least 45% women led and at least 30% youth led)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Transforming early-stage innovative cleantech solutions into scalable enterprises	Technical Assistance	2.2 Investment, piloting and demonstration of innovative cleantech solutions for low-carbon circular economy	2.2.1 In depth capacity needs assessment of the selected entrepreneurs conducted for systematic promotion and acceleration of cleantech commercialization (for at least 8 entrepreneurs)	GET	300,000.00	1,500,000.00
			2.2.2 Advanced support provided for business model development and refinement of innovative solutions taking into account the progresses and findings through the capacity needs assessment (for at least 8 entrepreneurs)			
			2.2.3 Business model cases of innovative cleantech solutions are validated (at least for 2 cleantech solutions)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Transforming early-stage innovative cleantech solutions into scalable enterprises	Investment	2.2 Investment, piloting and demonstration of innovative cleantech solutions for low-carbon circular economy	2.2.4 Financing mobilized for the implementation of fully functional innovative cleantech solutions (at least for 2 cleantech solutions)	GET	425,000.00	5,409,091.00
Component 3: Knowledge management and coherence	Technical Assistance	3.1 Knowledge and coherence strengthened	3.1.1 The internal guidelines are adapted for Viet Nam`s country context and implemented	GET	41,777.00	78,000.00
			3.1.2 Knowledge management, communication and advocacy strategy is adapted from Global programme for Viet Nam`s country context and implemented			
			3.1.3 The web platform is operated to maintain the cleantech community			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3:Knowledge management and coherence	Technical Assistance	3.2 Impacts and progress of all the activities and indicators are adequately monitored and reported	3.2.1 National impact monitoring established	GET	65,000.00	70,000.00
			3.2.2 Effective monitoring of impact and progresses is conducted including monitoring and reporting on the ESMP and risks			
			3.2.3 Gender mainstreaming action plan operationalized, monitored and impact on GEEW evaluated			
			3.2.4 External mid-term review and independent terminal evaluation conducted			
				Sub Total ($)	**1,581,777.00**	**8,500,004.00**

Project Management Cost (PMC)

GET	158,177.00	849,996.00
Sub Total($)	**158,177.00**	**849,996.00**

Project Management Cost (PMC)		
Total Project Cost($)	**1,739,954.00**	**9,350,000.00**

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNIDO	Grant	Investment mobilized	50,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	100,000.00
Recipient Country Government	Viet Nam Environment Protection Fund	Loans	Investment mobilized	9,050,000.00
Recipient Country Government	Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)	In-kind	Recurrent expenditures	100,000.00
Other	Viet Nam Environment Protection Fund	In-kind	Recurrent expenditures	50,000.00
			Total Co-Financing($)	**9,350,000.00**

Describe how any "Investment Mobilized" was identified

During the PPG phase, extensive consultations were carried out with the envisaged lead executing agency, the Ministry of Natural Resources and Environment (MONRE), VEPF a state-owned financial institution, entrepreneurs, SMEs, and the private sector. The consultation validation identified many synergies between existing national and international programmes and the Viet Nam accelerator project. Co-financing modalities were discussed with interested entities prior to and during the project preparation phase. With regards to ?investment mobilized?, in the framework of these discussions it was agreed as follows (a) VEPF will provide co-financing mobilizing funds as a loan in the amount of USD 9,050,000 to support the businesses in the cleantech sector in alignment with the government policy and (b) UNIDO as the GEF agency involved in the project as the implementing entity will provide USD 50,000 in the form a grant. Due to COVID-19 related restrictions, in-depth stakeholder consultations with the private sector were limited. It is expected that there are certain amount of potential private stakeholders in Viet Nam with the appetite to invest in cleantech innovations, as supported through Output 2.2.4 It is envisaged that the first year of the project implementation will include focused work on aligning GEF support with existing funds for cleantech assistance both national and international in order to establish an early-stage development fund that will leverage additional private sector co-finance able to sustain the project?s vision after the GEF implementation period. The GEF grant is focused on supporting the formative stages of cleantech enterprises, i.e. prototyping, proof of concept, ecosystems building. Co-financing from the public sector (predominantly in-kind) creates the enabling framework conditions that de-risk the key interventions

by the project. As was already confirmed by the endings of the Independent Evaluation of previous GCIP cycles in other countries, co-financing in the form of grants, seed funding, equity from angels, venture capital funds, impact investors, crowdfunding platforms etc. will be mobilized during the implementation of the project from the private sector in the phases of development, growth and scale-up of the start-ups/SMEs. In line with GEF Guidelines on Co-financing (https://www.thegef.org/documents/co-financing), paragraph 9, co-financing that will be mobilized from the private sector during the implementation of the project will be monitored and reported through the regular reporting mechanisms to the GEF. Unlike in the case of demonstration projects for example, the project contributes to market creation for new innovative cleantech products and services. It de-risks, by design, cleantech innovations and businesses through coaching, mentoring and advisory services thereby creating opportunities for follow-on investments into the cleantech companies in terms of angel investors, dedicated cleantech funds (private and public), venture capital funds (corporate and otherwise), impact investors etc. Therefore, the follow-on investments will be realized once the specific cleantech companies have been supported by the project and linked to investors. Under the umbrella project of GCIP, project 10461, a strategic partnership will be established between GCIP and the Private Financing Advisory Network - PFAN (www.pfan.net), under which GCIP alumni companies will be systematically connected to PFAN for specialized project development, business coaching and investment facilitation services and introduction to existing network of global investors, hence mobilize co-financing. Furthermore, in countries where PFAN operates, GCIP activities will be linked to PFAN network of expertise and national investors. This is one example of where investment co-financing will likely be mobilized during project implementation. Apart from the planned investment mobilized at the CEO Approval stage, it is important to underline that project participants may receive substantial investment support at a later stage. There are several examples that confirm this process. Under GEF 5 the GCIP India project from 2013-2017, co-financing planned was 3,000,000 USD at CEO Approval stage, consisting out of 450,000 USD investment mobilized and the remaining amount as in-kind. However, GCIP companies such as Agnisumukh and Atomberg managed to mobilize 2,650,000 USD and 10,000,000 USD respectively in investments within four years of completing the GCIP accelerator, thereby reaching a ratio of 1:13 in GEF funding to investment mobilized . Similarly in the project GCIP Malaysia, investment co-financing at CEO Approval stage encompassed 250,000 USD, while it was subsequently reported in the project?s terminal evaluation that 2,000,000 USD was received by GCIP Alumni in form of investment grants by financial organizations, signaling higher involvement and interest by the latter than initially anticipated . In GCIP Turkey, investment mobilized at CEO Approval stage amounted to 250,000 USD, whereas GCIP finalists, such as Positive Energy and Episome Biotech managed to mobilize 1,620,000 USD and 1,700,000 USD respectively, thereby having successfully raised funding from private sector investment groups. These examples are intended to serve as an excerpt for the successful promotion of GCIP award winning cleantech innovations and their potential to attract follow-on investment from the private sector within the project?s lifetime and beyond. GCIP India supported 89 companies, in Malaysia 79 companies and 95 in Turkey; the co-financing ratio will increase as more GCIP companies commercialize and the current project will provide a greater level of support to companies compared to the previous GCIP country projects under GEF 5&6 including investment facilitation.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Viet Nam	Climate Change	CC STAR Allocation	1,739,954	165,296	1,905,250.00
			Total Grant Resources($)		**1,739,954.00**	**165,296.00**	**1,905,250.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Viet Nam	Climate Change	CC STAR Allocation	50,000	4,750	**54,750.00**
				Total Project Costs($)	**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	144000	144000	0	0
Expected metric tons of CO?e (indirect)	720000	720000	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	144,000	144,000		
Expected metric tons of CO?e (indirect)	720,000	720,000		
Anticipated start year of accounting	2022	2023		
Duration of accounting	10	10		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	468	468		
Male	572	572		
Total	1040	1040	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

describe any changes in alignment with the project design with the original pif

- From the substantive point of view, the project design proposed in this Request for CEO Approval is fully consistent with that presented in the original concept (approved by the GEF CEO in December 2021).

- Slight changes to the project terminology and activity descriptions have been made.

Original project concept (PIF)	CEO approval version	Explanation
2.2.1 In depth capacity needs assessment of the selected **entrepreneurs** conducted for systematic promotion and acceleration of cleantech commercialization (for at least 8 entrepreneurs)	2.2.1 In depth capacity needs assessment of selected **cleantech businesses** conducted for systematic promotion and acceleration of cleantech commercialization (for at least 8 entrepreneurs)	To reflect the comment received through the stakeholder consultations to keep the neutrality of the project intervention
2.2.4 Financing mobilized for implementation of fully functional innovative cleantech solutions (at least for 2 cleantech **solutions**)	2.2.4 Financing mobilized for implementation of fully functional innovative cleantech solutions implemented/commissioned (at least for 2 cleantech **businesses**)	To keep consistency

- Slight changes of USD 25,000 in the GEF Project Financing decreased for the Project Output ?2.2.4 Financing mobilized for implementation of fully functional innovative cleantech solutions (at least for

2 cleantech solutions)? and increased the same amount for ?3.2 Impacts and progress of all the activities and indicators are adequately monitored and reported? to cover the M&E cost.

- The mentioning of ?Project? under Component 3 was deleted to clarify the differentiation between the project component to PMC.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

Country Context and Global Environmental Problem

1. 1. The most recent 2018 IPCC report[1][1] notes that current trends indicate that global warming will pass 1.5? above pre-industrial levels between 2030 and 2052. In Viet Nam, the impact of the climate change has already been seen in the change of its climatic patterns including the change in the level of extreme weather events and natural disasters contributing to increased vulnerability[2][2]. There are exacerbated risks for the country induced by the climate change which include, among others, loss of income opportunities for those dependent on climate dependent sectors such as agriculture, increased exposure to hazards in the coastal and delta areas where most of the large urban municipalities are located, flash floods and landslides in the northern mountain and central areas and increased occurrence of droughts and floods throughout the country.

2. According to the latest Viet Nam`s National inventory report submitted in 2021, Viet Nam?s total GHG emissions in 2016 are estimated to be 316.7 million tons of carbon dioxide equivalent[3][3]. The figures have been growing more than triple since 1994. This rapid growth is attributed to its vibrant economic development. The country is one the most rapidly growing economies within the Southeast Asian region, recording a GDP growth rate of 6.8%[4][4] in 2019. Viet Nam?s GDP per capita has more than doubled in the past ten years, from USD 1,217 in 2010 to USD 2,715 in 2019, lifting some 45 million people out of poverty.

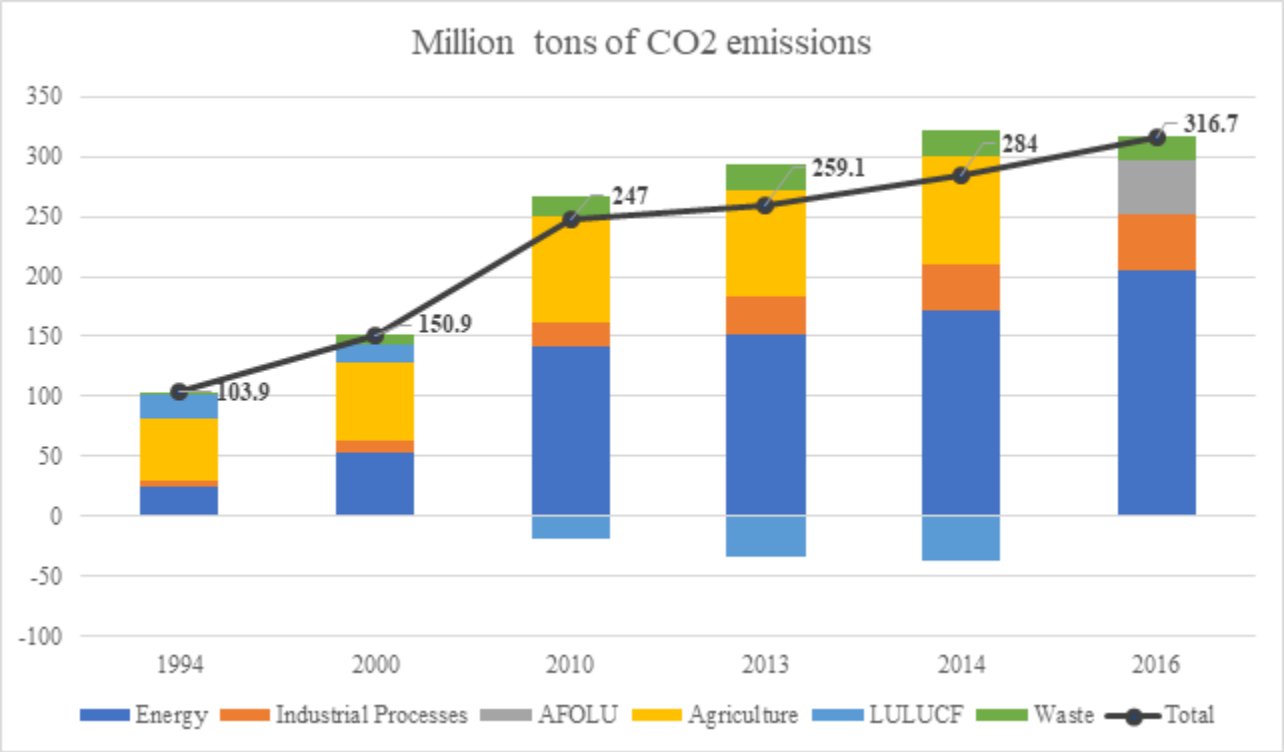

Figure 1: Trajectory of CO2e emissions in Viet Nam by sector

3. Among the sources of GHG emissions, 65 % is contributed from the energy sector. Within the energy sector, the energy industry including power plants, petroleum refining factories and gas processing, etc. has the largest share of emissions at 44.2%. The emissions are mainly derived from combustion of fossil fuels for power generation. Among the fuel use, coal consumption contributes more than 65% of the total energy used for the electricity generation. The electricity access rate sharply increased from 14% of the population in 1993 to 99% in 2016. Despite the efforts and initiatives by the government to prioritize use of renewable energy while promoting energy efficiency measures, the coal consumption is steadily growing to keep up with the growing demands for electricity. The total electricity consumption increased at the rate of 10% annually during 2015 to 2019[5][5]. Coal consumption is rapidly increasing in the country. For example, the share of coal in the country?s total energy mix is more than 50% in 2019 compared to 25% in 2010[5]. It is estimated that Viet Nam is now 10th largest coal consumer in the world[6][6]. The reliance on the use of coal not only contributes to the increase of GHG emissions but also other environmental problems such as air pollution. Aside from energy industries, manufacturing industries and construction as well as transport are large sources of emissions in the sector and they are about 18% each also by consuming various types of fossil fuels.

4. Next to the energy sector, industrial processes and AFOLU[7][7] sectors are the second largest sharing 14.5% and 13.9% of Viet Nam?s GHG emissions, respectively. The emissions from industrial processes mainly come from chemical and physical material transformation such as production of cement, lime, glass, ammonia, nitric acid (N2O), and iron and steel. Among these, cement production mainly associated with production of clinker constitutes about 80% of GHG emissions. Major emissions in AFOLU sector are caused by rice cultivation, specifically, methane emissions from rice paddies that produce about 49.7 million ton of CO2e. The figure is almost offsetting the amount removed by the forest land which sequesters 54.6 million CO2e. Aside from rice cultivation, enteric fermentation from livestock such as cow, buffalo, goats, swine and sheep which also produce methane contributing large portion in the sector at around 12.4 million CO2e emissions.

5. The waste sector contributes about 6.5% of the total GHG emissions of the country. The total emissions from the waste sector is at 20.7 million tons of CO2e derived from solid waste disposal as well as waste water treatment and discharge which share about 50.3% and 43.2% in the sector emissions respectively. While the waste sector has a relatively small share in the national GHG inventory as of 2016, the measures to address emissions from the waste sector is no less important than the others as the amount of waste in the country is expected to grow rapidly due to steady economic and population growth in the country. It is estimated that, according to MONRE, the amount of solid waste in Viet Nam increased from 12.8 million tons in 2004 to 54 million tons in 2020, increasing about 4 times in the past 15 years[8][8]. Municipal solid waste is the majority of the solid waste disposed. The municipal solid waste is characterized as a variety of types of materials such as paper, plastic, metal, leather, glass, textile, grass & wood, kitchen, etc. from sources including households, shops & markets, restaurants, parks, street sweeping, institutions etc.

6. Viet Nam?s population is about 100 million[9][9] as of 2020. Especially urban population is increasing at 3% annual growth rate from 2010 to 2020[10][10]. There is normally a strong correlation among the amount of waste generated and population growth as well as urbanization. It is estimated that the amount of solid waste in 2019 increased to 46% compared to the level in 2010, which is amounted to nearly 65,000 tons waste generation daily[11][11]. Accordingly, the waste sector is expected to significantly contribute to increased GHG emissions in the near future if no effective interventions are provided. Moreover, urbanization is also linked to a chain of environmental problems including urban sprawl, land- use change, and increased demand for transportation, energy and corresponding air

pollution. In conjunction with the country`s vulnerability to climate change impacts which are leading to increase frequency and occurrence of natural disasters, there are increasing threats to health as well as human welfare which leads to poverty and easily jeopardize continuous economic growth and sustainable development in Viet Nam.

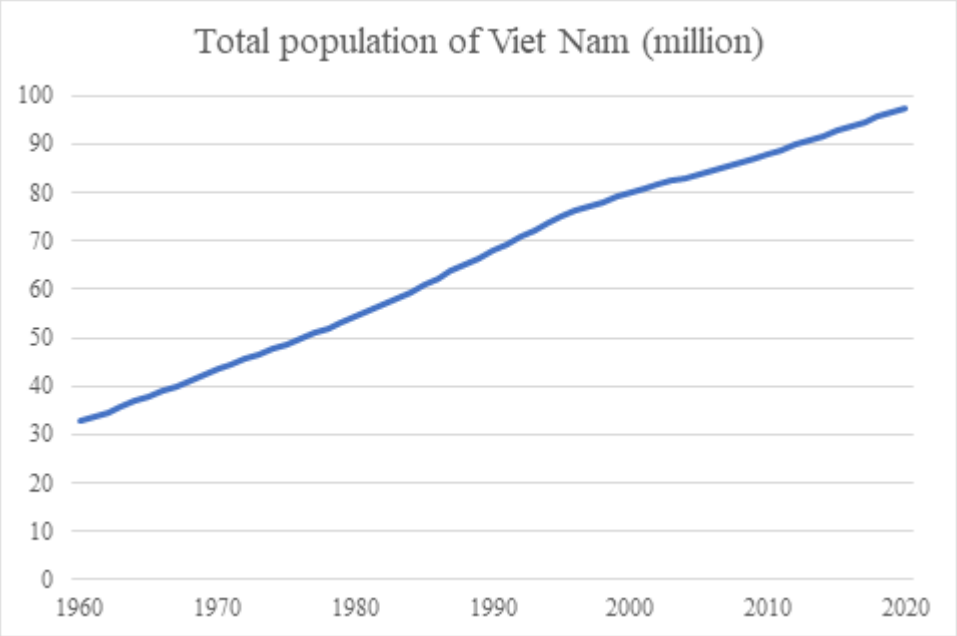

Figure 2: Total population of Viet Nam from 1960 ? 2020

7. Since Viet Nam?s electricity primarily relies on fossil fuels, economic growth without effective interventions will directly result in the increase of GHG emissions. According to the report by McKinsey & Company[12][12], Viet Nam`s power sector capacity is reported to be expanding at the rate of 10% annually of which 38% of that capacity came from hydropower, 34% from coal-fired plants, and 21% from natural gas as of 2016. While it is of utter importance to decouple economic growth from the fossil fuel use in the country, the uptake of renewable resources is yet to be exploited. This is despite the fact that, according to the report, the leveraged cost of electricity (LCOE) for renewables are estimated to be cheaper than traditional thermal generation due to the country`s available solar and wind sources together with the reduction of the capital cost of these technologies.

8. The reasons for this stagnated renewable energy development are systemic including the economic (e.g. no bankable power purchase agreement (PPA) currently given for renewable projects, higher cost or lack of capital compared to the traditional type of thermal power projects), physical (weak grid capacity), perceptional (concerns from system planner for the impact on existing power

system), capacity as well as knowledge (lack of experiences) and regulatory & administrative frameworks (unclear PPA and renewable approval process and tariffs and delay in project implementation due to complex regulatory framework)[13][13]. These systemic problems also cause risks to the energy security of the country.

While facing the issue to address the growing need for energy, Viet Nam, like the other developing countries, is also having challenges in planning the urbanization infrastructural management in the wake of rapid urbanization and industrialization of the country.

9. The increased promotion of entrepreneurship and adoption of clean technology innovations will be able to support addressing challenges of the country spread across the sectors integrating renewable energy, energy efficiencies, and waste management. While small and medium sized enterprises (SMEs) play a major role in Viet Nam?s economy and account for 98% of all enterprises, having generated 47% of the GDP in 2019, SMEs have historically played a minimal role in the country?s industrialization due to multiple constraints such as access to finance, knowledge and technologies. Mobilization of SMEs with clean technology innovations can build and enhance the sustainability of Viet Nam?s economy, while also having positive economic and social benefits through the promotion and support of entrepreneurs and innovation, and through its contribution to energy diversification and security while accruing environmental benefits such as reduced contamination and pollution. The potential beneficiaries are not only the entrepreneurs themselves, but all actors along the value chain, including distributors and retailers who might come from historically disadvantaged communities.

10. The need for Viet Nam to foster innovation and research on economic (as opposed to socio-ecological) grounds alone is highlighted by Viet Nam?s relatively low position in the Global Innovation Index (47 of 131)[14][14], the Knowledge Economy Index (103 of 144)[15][15] and the Global Competitiveness Index (67 of 141)[16][16]. In addition, innovation in cleantech has the potential to help Viet Nam, as the country with the growing carbon emissions profile in South East Asia with expectation of population and economic growth, to achieve its policy commitment to transition away from its legacy of fossil-fuel-powered development that produce harmful environmental, social and economic conditions.

11. A low carbon circular economy and sustainable development can be a driver for cleantech innovation, particularly in contributing to climate change mitigation, as it encompasses such a wide

range of sectors and technologies. The concept of circular economy recognizes that natural resources are finite and aims to use waste materials or keep the materials in products in circulation for as long as possible: reusing, repairing, remanufacturing, sharing and recycling. Within the context of material, energy and resources sustainability and circularity, solutions such as renewable energy, energy efficiency, biogas, water recycling and a reduction in new materials will be integrated and have clear potential to contribute to GHG emission reductions and a low carbon economy. Although switching to greener, more sustainable industrialization pathways present short and medium-term policy challenges, it can also create more resilient opportunities over the short, medium and long-term while simultaneously mitigating serious social-ecological risks.

12. In making the transition to a low carbon circular economy, the country is still facing complex interconnected challenges spread across multiple disciplinary measures including social, environmental and economic changes. Although switching to greener, more sustainable industrialization pathways present short and medium-term policy challenges, it can also create more resilient opportunities over the short, medium and long-term while simultaneously mitigating serious social-ecological risks.

Root causes and barriers that need to be addressed

13. Viet Nam, faces challenges in planning infrastructural management and coming up with new and innovative solutions to towards taking sustainable pathway. For example, solutions to make meaningful strides for sustainable development are still not fully operationalized including utilization of public private partnerships as well as in grass root level development support. Potential synergies are yet to be built between the opportunities and solutions towards greening urbanization. For example, increasing waste generation from municipal and industrial sector has yet to be acknowledged as a potential source of energy while there is much room for deployment of renewable energy and energy efficiency technologies.

14. Nurturing business models, services and products with established local ecosystem for cleantech innovation can be one of the counter measures to address these issues including e.g. maximizing energy generation from renewables, enhancing energy efficiency at the process including recovery of energy as well as minimizing environmental impact considering life cycle of materials. There is increasing awareness on the important role of accelerating the application of innovative cleantech solutions to address the challenges and turn them into opportunities towards low carbon and circular economy in priority sectors in Viet Nam that can attract investment at local and global levels and, in turn, allow them to scale and to deliver transformational economic, social and environmental impacts. The Law on Technology Transfer 2017 defines the term of cleantech in Vietnam as follow: ?Clean technology is a technology which generates environmental pollutants at low levels as stipulated by laws on technical standards and regulations, and uses less non-renewable resources than existing

technologies? and emphasizes that state policies on technology transfer shall ?Prioritize the transfer of high technology, advanced technology, new technology, clean technology, technology serving the development of national, key, key products, technologies serving national defense and security from abroad into Vietnam and transfer within the country? (Article 3). Therefore, technologies suitable for the socio-economic conditions of Vietnam shall be encouraged for transfer into Vietnam from abroad or domestically if they can meet one of the following requirements: (i) Saving natural resources, energy or fuels in comparison with the existing technology of the same type in Vietnam; (ii) Generating or using new or renewable energies; storing energies in highly efficient ways.

15. However, there are still a number of challenges remaining that limit Vietnamese businesses in commercializing cleantech solutions, including lack of clean technology accelerators and strategic coordination amongst key sectoral players, as well as limited access to appropriate finance, national legislation and regulatory framework for the uptake of clean technologies and public awareness of clean technology industry and the benefits[17][17]. The complex challenges and barriers in Viet Nam related to acceleration of SMEs and startups towards for low- carbon circular economy and sustainable development are as follows:

Barriers and challenges to Cleantech Innovation in Viet Nam

Barrier category	Description

Policy and regulatory related barriers	The current policy and regulatory frameworks do not comprehensively support the demand for cleantech entrepreneurship and inclusive innovation[18][18]. Additionally, they do not envisage innovative market mechanisms, particularly these suiting the needs of the SME sector, which would incentivize uptake of cleantech. Laws and regulation including those for taxation, trade and customs duties are not supportive especially for SMEs and rather prohibitive for their entrepreneurship[19][19]. The policies on intellectual property right are inconsistent and overlapping at national, ministerial and institutional levels, which makes ineffective and inefficient operation[20][20].Also, there are no mechanisms to regulate additional cost of external verification, enhanced disclosure (in the case of green bonds) and the participation of institutional investors and the capital market to indirectly stimulate demand.

Awareness, knowledge and capacity related barriers	In general, there exists a lack of awareness, knowledge and capacity for exploiting potential out of innovations and entrepreneurship in accelerating low-carbon and circular economy. At the institutional level, there remain significant weaknesses in the organization and capacity around sustainable and low-carbon development planning and execution in general especially. Government entities have limited national capacity to manage the planned transition and mobilization of finance at the necessary scale. The absence of a platform to efficiently operationalize and leverage the various available green and low-carbon financial instruments hurdle their mainstreaming. The relevant national actors are not fully aligned and coordinated along the green financing cycle. Furthermore, private and public sector lack experience, knowledge and skills in cleantech, including available market mechanisms and financing sources. In addition, start-ups/SMEs lack expertise in identifying and developing bankable innovative cleantech projects. There is lack of workforce who are appropriately equipped with the quality and relevance in the field of entrepreneurship and innovation27&[21][21]. The limited technical capacity makes it difficult for them to source green investments. In particular, this includes a lack of capacity related to business model elaboration and aspects related to passing detailed due-diligence (proof of concept, financial aspects, legal aspects, etc.) of the projects and companies, which enhances the risks of bankruptcy and financial losses or litigation cases at later stages of product development. The barriers also include limited capabilities in moving an idea to product manufacturing and aspects such as prototype development, identification of production sites and partners, establishing supply chains and logistics, etc. Besides, capacity barrier also relates to lack of understanding of climate change aspects and potential climate mitigation and adaptation benefits of the cleantech products and services.

Finance related barriers	Despite the large array of financial mechanisms, there are significant constraints for the uptake of cleantech projects in the country especially for SMEs[22][22]. Access of start-ups/SMEs to green finance remains limited mainly due to a) the high cost of finance associated with high interest rates and the fact that the foreign exchange loans are exposed to currency risk; b) very short finance maturities for cleantech; c) high collateral requirements for borrowers. Therefore, traditional financing sources that are available today are insufficient. In general, there is lack of innovative financing schemes for start-ups/SMEs, that could help leverage existing instruments, as well as limited transparency in the conditions and availability of financial support. Given SMEs share in country?s economy, facilitating their access to green financing schemes and mainstreaming green financing into generic SME financing products becomes a central challenge.
Behaviour related barriers	Associated with the lack of awareness mentioned above, there is consequently a lack of supportive actions including sectoral and cross-sectoral cooperation and partnership among SMEs, academia, finance and policy-making entities27&28. There is no proactive and effective outreach as well as easily accessible information on the initiatives and benefits of cleantech innovation. Lack of administrative transparency is also depicted as an issue in Viet Nam26. The information does not reach the relevant target beneficiaries and may not achieve intended outcome. This consequently leads to continuation of the status quo.

16. In summary, Viet Nam?s cleantech sector is an emerging sector which lacks capacity and coordination. There remains a need for further support in the field of advanced commercialization support, further incubation, access to early-stage financing, national networking within the complex ecosystem, commercialization with market and finance linkages, widening and increasing the geographical reach and support to national partners. These interventions are required to further strengthen the resilience of the Viet Nam`s innovation and entrepreneurial economy to address domestic environmental challenges while also to operate within the global market and to result in economic growth, global environmental benefits and job creation. This will create economic opportunities and support a shift towards a sustainable development of the country. The proposed project is therefore designed to directly address the barriers described.

1) The baseline scenario and any associated baseline projects

a) Policy and legislative baseline

17. In 2020, Viet Nam holds the chairmanship of ASEAN. During his keynote speech, Prime Minister Nguyen Xuan Phuc underlined the strength of the region?s economy, being the third most dynamic economic zone in the world ? generating USD2.95 trillion. He further noted that the ASEAN Community shall foster seamless connectivity and deepen integration within and beyond the region, on the basis of innovation, stability and the growing influence of the 4th Industrial Revolution upon the social and economic life of the entire community. The ASEAN Community shall serve as a model of circular economy, endowed with new vigor. He further underlined that the ASEAN Community shall become more resilient through effective climate change adaptation and response, and better management of natural disasters, pollution and plastic waste.

18. Law on Technology Transfer 2017 and the Strategy on using clean technology for the period to 2020, vision to 2030 (Decision No. 2612/QD-TTg dated December 30, 2013 of the Prime Minister) has prioritized the transfer of clean technologies in the manufacturing sector. The objective of the Strategy is to promote the use of clean, environmentally friendly technologies; increase energy and resource efficiency; with low emissions in industrial production in order to promote green growth and mitigate Climate Change. By 2030, 100% of industrial manufacturing facilities must comply with standards and regulations on clean technology. The strategy sets out four specific tasks, including: (i) Developing and applying technical standards and regulations on clean technology for manufacturing facilities in key energy-intensive industries, capable of causing serious environmental pollution; (ii) Technological innovation towards the use of clean technology, including the integration of such activities into the National Technology Innovation Program up to 2020; (iii) Research, transfer, application and demonstration of clean technology for polluting production stages in key industries; (iv) Perfecting the system of mechanisms, policies and laws on the use of clean technology, eliminating outdated technologies for selected production and processing industries.

19. Viet Nam?s third National Communication and Third Biannual Updated Report (BUR3) entails a comprehensive list of the policies and registrations related to climate change. The government strongly supports measures to address climate change including enhancement of renewable energy capacity and energy efficiency measures. Among others, the cornerstone decisions include Viet Nam's National Green Growth Strategy (VGGS)[23][23] and associated National Green Growth Action Plan, firstly approved in 2012, under which the country takes measures for achieving a low carbon economy

towards 2050. In addition, in response to these national level policies, provincial governments developed action plans to address climate change. The action plans translate the national strategic direction of low carbon and green growth as well as transition to circular economy into actions. By December 2020, 55 out of 63 provinces and cities throughout the country have developed their Implementation Plans for the Paris Agreement, 35 localities had issued their action plans on climate change response for the 2016-2020 period with a vision to 2050, 34 localities have issued their Green Growth Action Plans to implement the National Green Growth Strategy including implementation of GHG inventory activities which creates the basis for develop their mitigation targets as well as researching, developing and implementing their potential mitigation activities. Aligned in 2013, a strategy for application of clean technology by 2020[24][24], with a vision to 2030, was approved, with the overall objective to apply clean and environmentally friendly technologies wherever suitable. The strategy envisioned to improve the efficiency of energy and natural resource expenditures, to lower emissions in the industrial production in order to boost green growth and to mitigate climate change. Recently, the Prime Minister approved the National Strategy on Green Growth for the period of 2021-2030 with a vision to 2050 at the Decision 1658/QD-TTg dated October 1st, 2021, which assigned the Ministry of Science and Technology with the task of developing a national list of clean technologies, advanced technologies, high technologies with low carbon emissions in manufacturing industries to facilitate investment mobilization.

20. According to the policies and regulations, successful outcomes are observed. For example, there were 500 MW capacity of wind power plants, 6,000 MW capacity of solar power plants, 325 MW capacity of biomass and 10MW capacity of solid waste power plants by October 2020. The proportion of renewable energy had reached about 11.2% of the total primary commercial energy with total output having reached 4.4%. The energy conservation was estimated to have reached 5.7% in the 2011-2015 period. 24 out of 59 urban areas have issued guiding documents on the development of green growth urban areas.

21. These strategies and several other relevant policy documents incorporate key building blocks towards realization of circular economy, which include consumption of less raw materials, improvement of energy efficiency, expansion of renewable energy, reduction of fossil fuel use, promotion of 3Rs and sustainable production and consumption etc.[25][25] In addition, the most recently updated Viet Nam NGGS and related Action Plans for 2021-2030, with a vision to 2050 were drafted with careful consideration of the country?s new developments to further accelerate the implementation of the committed GHG emission reduction targets. The updated version took strives to reduce greenhouse gas emissions per GDP by at least 15 percent by 2030 and at least 30 percent by 2050, compared to 2014. In addition, investment in advanced technology, digital transformation, and smart and sustainable infrastructure have been taken into consideration and the government expects to raise

the rate of renewable energy as a primary energy supply source to 15-20 percent over the next decade. Similarly, the recently adopted Law on Environmental Protection No.72/2020/QH14 will enable the country to take further comprehensive actions towards climate change, preventing or minimizing adverse impacts on the environment by introducing application of best available techniques (BAT)[26][26] and proactively targeting sustainable economic development by shifting from a linear economy towards a circular economy. In this connection, MONRE is working on building regulations, roadmaps and mechanisms to encourage transition towards low carbon circular economy[27][27].

22. Moreover, the newly established Viet Nam Circular Economy Hub (CE Hub) aims to raise awareness and build the capacity of all stakeholders, including public authorities, businesses, civil society, academia, in adopting the CE principles, creating synergies, and integrating financial and technical resources to support the transition towards a low-carbon and circular Viet Nam. The CE Hub includes a web portal (available in Vietnamese and English), as well as capacity building activities such as trainings, workshops, and events to enhance dialogue, generate know-how, and mobilize collective action towards CE transition.[28][28]

b) National baseline initiatives and programmes on accelerators

23. In Viet Nam SME sector faces multiple challenges and barriers including lack of resources, expertise, time, awareness etc. There are not coherent and collaborative approaches taken for accelerating innovation and entrepreneurship yet in the country. However, the government has recently just started to adopt cleantech-friendly policies including those related to research, innovation and entrepreneurship set forth in the country. For example, MONRE has proposed 10 groups of solutions to enhance the implementation of the Strategy for the period 2021-2030, including stepping up scientific and technological research and application and digital transformation, promoting innovation in response to climate change; increasing investment from the state budget; promoting international financial mobilization; mobilizing the investment of private sector for climate change response activities[29][29]. Within the Socio-Economic Development Strategy 2011-2020, the Ministry of Science and Technology identified measures to increase the innovation policy and deployment throughout the country by enhancing competitiveness at the company and products level, narrowing of space to support business entities in Viet Nam as well as to advance internalization of international rules and practice related to innovation management and promotion. In 2018 the Vietnamese government issued a Law on supporting Small and Medium Enterprises with a view to support and further integrate domestic SMEs into global value chains as well as to make use of the increasing FDI into the country.

Other relevant regulations and policies of the Government to support and encourage the operation of enterprises includes the Decree 38/2018/ND-CP dated March 11, 2018 regulating details on investment for start-up SMEs. Moreover, Decision 844/QD-TTg dated May 18, 2016 of the project "Ecological innovation for national innovation to 2025" aims to create a favorable environment to promote and support innovative businesses as well as to establish a national innovation Startup Portal. The linked National Innovation Startup Festival "TECHFEST VIET NAM" has established itself as the largest annual event for the innovative startup community in Viet Nam.

24. There are also several accelerator, innovation and incubation support funds and programme operational in the country. The Viet Nam Environment Protection Fund (VEPF)[30][30] provides grants and concessional loans for projects that seek to prevent environmental pollution, droughts, and water shortages as well as for those that respond to climate change and ensure security of water resources. In the period of 2013-2018, the VEPF was assigned a component of a World Bank funded project for piloting investment loan to build centralized waste water treatment plant in the industrial zone with authorized capital operators for concessional loans of USD 20 million. Key stakeholders will include, but are not limited to, MONRE, the Ministry of Planning and Investment (MPI) and the industrial zone developers (the investors of wastewater treatment plant and the beneficiaries of project).

25. Viet Nam Climate Innovation Center (VCIC)[31][31] was launched in 2014 in Hanoi by the support from the World Bank. VCIC has the mandate to promote the National Green Growth Strategy, under the management of the Ministry of Science and Technology (MOST). The VCIC has supported 948 green technologies, thereby avoiding 42,766 CO2 emissions, contributing towards additional clean energy of 104,810 MWh, raising USD 1.6mln through 108 investment funds. The center receives funding from Australia?s and DIFD?s World Bank fund. The project will cooperate with VCIC in terms of provision of mentors, judges, facility, etc. for the execution of the project

26. Green Innovation and Development Center (GreenID)[32][32] is a non-profit organization in Viet Nam which works to promote sustainable development in Viet Nam and the larger Mekong region and is now on its way to become a leading and credible civil society actor promoting sustainable energy sector development. The thematic pillars of programme include sustainable energy, clean air and water and green growth. Many projects have been implemented by the center such as the EU sponsored E-Enhance project that aimed at fostering the development of renewable energy and energy efficiency in Viet Nam through capacity building for civil society organizations and local champions to

improve energy access and living conditions. The project will cooperate with GreenID in terms of provision of mentors, judges, facility, etc. for the execution of the project.

27. Vietnam Silicon Valley (VSV)[33][33] is an accelerator invest in early-stage start-ups. It provides several programs for start-ups including i) AI Accelerator Challenge Programme which is funded by the MOST with support from the Aus4Innovation Program[34][34], ii) VSV Capital Accelerator which invests in Viet Nam-connected startups and operational since 2014. VSV Capital Accelerator is designed to support early-stage entrepreneur to validate and access to finance through various supports including organization of workshops, mentoring and network events. The project will further discuss with VSV and identify possible area of mutual benefits in coordination with the ongoing activities.

28. Vietnam Innovative Startups Accelerator (VIISA)[35][35] is a business acceleration program with provision of a seed-stage investment that invests to build global-ready startups in Viet Nam. The program covers 4 stages of acceleration including pre-acceleration and growth stages. The selected start-ups will participate in integrated program and build knowledge and techniques including vision setting, learning to pitch, legal matters, B2C/B2B sales, user testing and research, strategizing growth plan as well as building brand and fundraising. The project will further discuss with VIISA and identify possible area of mutual benefits in coordination with the ongoing activities.

29. 500 Startups[36][36] is a global venture capital which provide finance, mentorship, and connections to both global and regional startups. 500 Startups Viet Nam is a US 14 million fund to make investments into Viet Nam connected startups, i.e., startups built by Vietnamese talent and/or targeting the Viet Nam market. As of the end of September 2020, 500 Startups Viet Nam has invested in various verticals including E-commerce, FinTech, EdTech, AdTech, Healthcare, etc. The services also include provision of support for early-stage start-ups in Viet Nam as well as training for Vietnamese investors guiding investment opportunities in the country. The project seeks mutual benefits with 500 Startups in terms of sharing mentors, judges, facility, etc. for the execution of the project as well as possible mobilization of finance for cleantech sector.

30. Startup Wheel[37][37] is a 6-month startup competition, run from March to August annually for startups and young entrepreneurs all around the world. There are Vietnamese and international tracks but there is no age and nationality limit and start-ups can participate in the competition as long as they are doing or planning to do business in Viet Nam. The selected startups will be given acceleration support and prize including 2-day exhibition for startups to showcase startups? products/ services to more than 15,000 attendees and pitching sessions at semi-final round (Top 60) of 2-minute pitch in front of more than 100 esteemed judges as well as final round (Top 10) of 5 minute pitch and 5-minute Q&A with a board of esteemed judges consisted by top CEOs from large corporations and top startup investors in Viet Nam. The project will further discuss with VIISA and identify possible area of mutual benefits in coordination with the ongoing activities.

c) Regional and international initiatives and programmes on accelerators

GCIP

31. Since 2011 UNIDO has been supporting cleantech companies in their development via GCIP which uniquely fosters an ecosystem approach that supports cleantech innovations in existing and new SMEs and start-ups through the provision of catered tools and methodologies that enhance their productivity and competitiveness while promoting the establishment of a supportive policy and regulatory framework. By the end of 2017, GCIP accelerated over 865 start-ups/SMEs in 8 countries including Malaysia and Thailand.

32. The success of GCIP was confirmed through the GEF?s evaluation in 2018[38][38]. In its framework it was also recommended that: a) Any future GCIP or similar program should be structured using a more globally coordinated approach with appropriate choice of interventions based on strategic country selection; b) GCIP should actively support national-level coordination to operationalize dynamic CIEE; c) There should be sufficient time allowed to customize and sharpen the focus on policy strengthening and regulatory frameworks to foster cleantech innovation and its adoption; d) The network of private sector partners should be expanded to address GCIP participant needs for business expertise and early stage technology validation; e) Direct and indirect impacts of the GCIP should be measured by establishing adequate monitoring and evaluation systems and ensure that they are implemented using standardized and relevant indicators; f) Country engagement should be deepened during the project period, including a plan and resourcing to sustain activities and expand outcomes after project closure.

33. Based on the above-mentioned recommendations UNIDO designed the GCIP Framework in 2019 (approved by GEF as programme 10408). The GCIP Framework consists of ten country child projects, all of which are connected to the three driving pillars, including a) Pillar 1. Transforming early-stage innovative cleantech solutions into commercial enterprises; b) Pillar 2. Cleantech innovation and entrepreneurship ecosystems strengthening and connectivity; c) Pillar 3. Programme coordination and coherence. The coherence within the GCIP Framework is ensured through the GCIP global coordination child project (GEF ID 10461) (hereinafter referred to as GCIP Global).

34. The GCIP Framework builds upon the achievements and key lessons learned from the implementation of the GCIP projects so far. In particular, it benefits from the collective feedback by various stakeholders including national counterparts, institutions and SMEs successfully participating in GCIP as well as strategic partners at the global level.

The Private Financing Advisory Network (PFAN)

35. The Private Financing Advisory Network (PFAN), is an initiative hosted jointly by UNIDO and the Renewable Energy and Energy Efficiency Partnership (REEEP) and is a global network of climate and clean energy financing experts that offer business coaching and investment facilitation to entrepreneurs developing climate projects in emerging markets. PFAN mobilizes private financing to reduce greenhouse gas emissions and build climate resilience? contributing to the Paris Agreement and SDGs i.e., SDGs 7 (Energy), 9 (Industry), 13 (Climate Action), and 17 (Partnership). A network of 99 in-country private sector experts in 39 countries are supported by network of 45 investment partners globally to provide investment advisory services, investment facilitation and financing. To date, PFAN has supported at least 127 climate and clean energy businesses to mobilize more than USD 1.7 billion of investment. Furthermore, PFAN currently has a pipeline of hundreds of projects across the globe that are being supported. Further results demonstrate that through this investment, 3.3 million tons of CO2 have been mitigated annually and an additional 975MW of clean power installed. This year already, PFAN has facilitated at least 69 investment-ready projects.

The Global Entrepreneurship Network (GEN)[39][39]

36. GEN operates a platform of projects and programs in 170 countries aimed at making it easier for anyone, anywhere to start and scale a business, including Viet Nam. It has several initiatives including Global Entrepreneurship Week (GEW) through which GEN celebrates the successes and impact of entrepreneurs in an effort to help break down cultural barriers and reach new audiences, the Global Entrepreneurship Research Network (GERN) and GEN?s Startup Nations policymaker network through which GEN helps identify and crowdsource best-in-class policies and public programs that help entrepreneurs thrive, the Global Business Angels Network, Global Enterprise Registration, Startup Huddle, GEN Starters Club, Startup Open, and other programs through which GEN offers programs and resources intended to help smooth the path to market for founder teams and provide entrepreneurs at all stages with the support necessary to reach the next level, and other outreaching and networking events including its Global Entrepreneurship Congress (GEC) and GEC+ series, the annual Startup Nations Summit, global annual meetings of its vertical communities and by co-hosting other events across the globe through which GEN helps break down siloes and enhance collaboration among entrepreneurs, investors, policymakers, researchers. The project will learn from the expertise GEN accumulated to create connectivity within the entrepreneurial ecosystem.

Google for Startups Accelerator: Southeast Asia[40][40]

37. Google for Startups Accelerator: Southeast Asia aims to support local startups and entrepreneurs to solve specific, technical challenges with the best of Google resources - people, network, and technologies. As part of the global programme of ?Google for Startups Accelerator?, once the selected founders outline the top challenges facing their startups, they will be paired with relevant experts from Google and the industry to solve those challenges. Participating startups will receive mentorship and specialized expert supports from the global mentor network. Google for Startups Accelerator: Southeast Asia will cover applications from startups headquartered in Indonesia, Malaysia, Pakistan, Philippines, Singapore, Thailand, and Viet Nam. The project will seek for possible area of mutual interest with Google for Startups Accelerator and coordinate its activities.

EU-Viet Nam Sustainable Energy Transition Programme[41][41]

38. There are several relevant components under the programme. The Global Green Growth Institute (GGGI) will support local start-ups in creating marketable innovative energy efficiency solutions. Specifically, it will provide acceleration programme, which include engaging with the start-up community, providing technical guidance and financial support. It would also aim at enhancing and

creating a national network of innovative energy efficiency start-ups. In addition, UNIDO will support promotion, stimulation of market demand and adoption of energy efficiency by industry and SMEs for their greater energy performance, reduced carbon footprint and enhanced productivity & competitiveness. The project will keep communicating with the programme and incorporate knowledge and experiences into the project intervention in particular designing of accelerator program.

Strengthening Climate Change Research and Innovation Capacities in Cambodia, Laos and Viet Nam[42][42]

39. This is a three year capacity building project co-funded by the European Commission. It aimed at supporting Higher Education Institutions (HEIs) in Cambodia, Laos and Viet Nam especially with a focus on 1) building up the human capacities of partner institutions to initiate, develop, manage, assess and exploit research and innovation in climate change, as well as to modernize relevant curricula with the integration of research and innovation in Climate Change towards more competence-based study programs and 2) strengthening institutional capacities by setting up a solid, regional and competitive multi-disciplinary network. The core activities include analytic work such as study visits and conducting empirical study and analysis, provision of modular trainings on climate change and convening of network opportunities such as seminars and conferences. The project will keep communicating with this project and incorporate knowledge and experiences into the project intervention in particular designing of accelerator program.

Aus4Innovation Program[43][43]

40. Aus4Innovation is an AUD $13.5 million development assistance program that aims to strengthen Viet Nam?s innovation system, prepare for and embrace opportunities associated with Industry 4.0, and help shape Viet Nam?s innovation agenda in science and technology. Through the Aus4Innovation program, Australia and Viet Nam will together explore emerging areas of technology and digital transformation, trial new models for partnerships between public and private sector institutions, and strengthen Vietnamese capability in digital foresight, scenario planning, commercialization, and innovation. The programme include i) Digital Foresight where CSIRO?s Data61 and Viet Nam?s MoST prepared a report looking at Viet Nam?s Future Digital Economy, ii) Innovation Partnership Grants where funding is available at certain times throughout the year for Australian and Vietnamese businesses, iii) Science Commercialization Partnerships where a team from CSIRO is working with MoST?s National Agency for Technology Entrepreneurship and

Commercialization Development to pilot activities to improve the uptake of new technology by Vietnamese agribusiness and iv) Policy Exchange where activities will focus on collaboration to address emerging challenges in the implementation of Viet Nam?s innovation agenda. The project will keep communicating with this project and seek possible opportunities for entrepreneurs to access the findings.

2) The proposed alternative scenario with a brief description of expected outcomes and components of the project

41. This project seeks to promote and support the introduction of innovative clean technologies and products, business models and services to contribute towards low carbon, circular economy and sustainable development through the cleantech accelerator approaches aligned with the global framework of Global Cleantech Innovation Program (GCIP). By doing so, the project also will create synergies with the national strategic directions towards further integration of its economy into the global market establishing a new trend in environmental management and sustainable development, in which circular economy, green economy and innovation is mainstreamed.

42. The project, aligned with the global GCIP framework, is designed to respond to the increasing global demand for environmental sustainability, climate action, and to unleash the potential of cleantech innovation and entrepreneurship to help transform priority sectors and systems. To address the highlighted barriers above faced by SMEs in transforming their cleantech innovations into market ready solutions, the programme uses a holistic ecosystem approach which facilitates the growth of cleantech SMEs, improves coordination of national activities and foster synergies between participating countries. The project has a unique approach as it seeks to capacitate the private sector to deliver environmental benefits through transforming early-stage cleantech companies into fast-growing enterprises whilst simultaneously developing the cleantech innovation and entrepreneurship ecosystems in participating countries.

43. By linking the efforts under the global GCIP framework, the project will enhance its impact and connectivity of the ecosystems among partner countries catalyzing a truly global innovation ecosystem. Over the long-term, the project seeks to build robust innovation ecosystems that can identify and systematically support high-impact cleantech technology innovations as well as attract large-scale investments. This mechanism is expected to deliver significant global impact on limiting global temperature rise to well below 2 degrees centigrade as well as generating local environmental benefits.

44. The proposed advanced cleantech innovation project for Viet Nam is aligned with the global GCIP framework of which UNIDO is a project executing entity. The Theory of Change (ToC) for the GCIP shows how the programme will deliver accelerated uptake and investment in SMEs with high-impact cleantech innovation products and services which, in turn, will meaningfully contribute to climate change mitigation targets and to green growth and job creation.

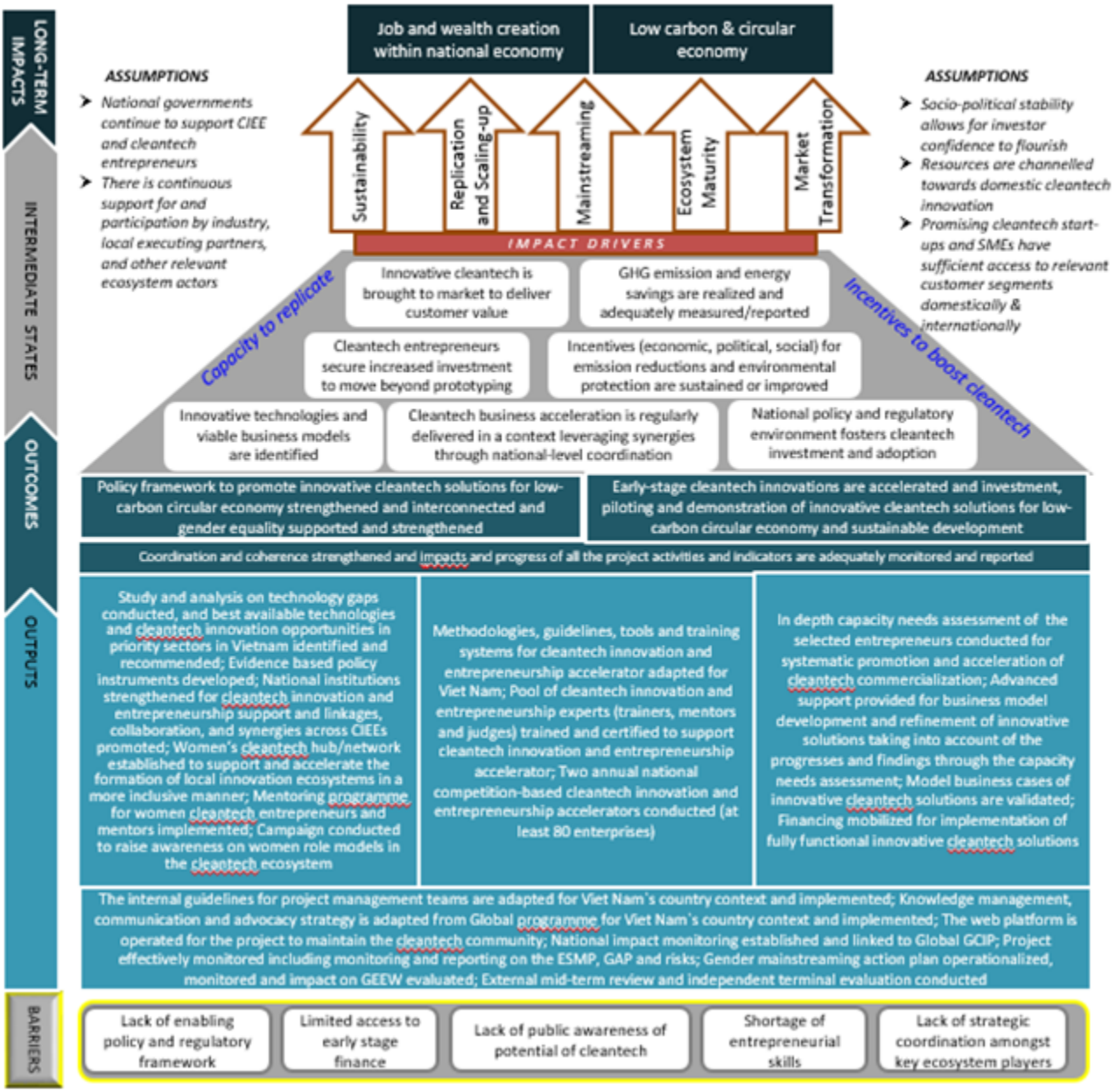

Figure 3: Theory of Change for the Viet Nam cleantech project

Brief Description of the Theory of Change

The project has been designed to address the barriers set out in the previous section. Specifically, the barriers faced by innovators will be addressed by the provision of support from concept through to commercialization while helping them adopt different approaches to entrepreneurship. This will include: provision of ideation and concept validation services, holding annual accelerators, advanced accelerators to provide follow-on support to the alumni as well as targeted support services, investment facilitation, mentorship and partnership support - across the country supporting at least 80 entrepreneurs. To assist piloting projects of innovation and early-stage entrepreneurship with a view to support the deployment and scale-up of cleantech solutions with a focus on low carbon circular economy as well as in the priority sectors in the country integrating renewable energy, energy efficiency, and waste management. To support these outputs, guidebooks will be developed for Viet Nam and at least 40 business innovation and entrepreneurship experts will be trained in and certified to an enhanced approach to business model development.

The fragmented cleantech innovation ecosystem will be addressed with the establishment of a national cleantech innovation hub linking all the project support. Capacity gaps will be addressed with targeted capacity building for policy makers and institutional actors, and the policy and regulatory environment will be strengthened with support to address the gaps in areas such as IP, behavior change in value chains and consumers and promoting a circular economy. Networking, advocacy, knowledge generation and exchange will enhance awareness amongst ecosystem stakeholders and increase impact of the project whilst global cooperation and exchange will increase opportunities for Viet Nam entrepreneurs.

IF these outputs are delivered **THEN** the following outcomes will be realized: promising early stage cleantech innovations are accelerated across the country by being supported from concept through to commercialization; alumni are supported and financed for national, regional and global expansion; and the national ecosystem and institutions are strengthened to promote and support cleantech innovation and entrepreneurship. All the outputs are underpinned by a gender mainstreaming action plan that contributes toward the debunking of gender stereotypes and ensuring that women, men and youth can equally lead, contribute to and benefit from the programme. At the same time there will be greater recognition and improved efficiency and sustainability of the Viet Nam accelerator programme.

BY identifying and supporting innovative technologies and viable business models whilst increasing institutional capacity and ecosystem connectivity, **THEN** the cleantech entrepreneurs are able to secure increased investment from more aware investors, **AND** enables them to commercialize their innovative products. At the same time, **IF** a supportive policy and regulatory environment, including incentives exists, **THEN** cleantech investment and adoption will be fostered. **ALSO** in turn these interventions will bring innovative clean technologies to market and drive uptake, delivering customer value and contributing to the reduction of GHG emissions and other multiple environmental benefits. Continued growth and the mainstreaming of the technologies will result in market transformation and job and wealth creation within Viet Nam, accompanied global environmental benefits including GHG emission reductions.

45. Based on the lessons and experiences gained through the global GCIP framework so far, this project will put focus on cleantech innovations especially with specific focus on those related to low carbon circular economy as well as in the priority sectors in the country integrating renewable energy, energy efficiency, and waste management while ameliorating the preconditions for domestic SMEs to successfully engage with investors. It will include improving resource and energy efficiency as well as renewable energy capacity within the material cycle towards disposal at the end.

46. In addition, the Global Cleantech Innovation Index 2017 enables to identify where clean technology companies are likely to emerge in the next 10 years through innovation inputs (general and cleantech-specific drivers) and innovation outputs (emerging and commercialized cleantech). By referring to these indicators, the interest of the Viet Nam`s cleantech sector will further be elaborated during the PPG phase. The approach of this project would also be aligned with national priorities such as National Green Growth Strategy envisaging green economic development mainstreamed towards 2050 while tasking the country 1) low carbon growth, 2) greening of production, 3) green lifestyles and 4) restored natural capital. In addition, in the wake of Industry 4.0 as well as the National Digital Transformation Programme[44][44], digital transformation within the context of low carbon, circular economy and sustainable development will also be considered.

47. Accordingly, the project will be implemented in close collaboration with national and regional institutions to build an enabling cleantech ecosystem for development, commercialization and integration of innovative and appropriate clean technologies. Ultimately, this project will support the Viet Nam?s Governmental actions towards expanding the opportunities for economic activities; developing human capacity; and developing and expanding access to reliable infrastructure. By doing so, the project will support the pathway towards sustainable growth and socio-economic transformation in Viet Nam.

48. While a large number of start-ups have suffered during the pandemic, COVID-19 has also led to an increase in entrepreneurial activity[45][45]. While these innovative start-ups are undoubtedly essential for the future of innovation and supporting them is critical, the current COVID-19 crisis also shows the importance of small businesses with more incremental approaches to innovation and the need for support through well designed accelerator programme. The nature of innovation is often incremental but, at the same time, essential for survival and adapting to the ?new normal? while turning the crises into growth opportunities.

49. The economic recovery packages provide a possibility for countries to recover better, greener and in a more sustainable manner. Cleantech innovations can not only make economic impacts in Viet Nam by creating jobs and wealth through engagement of SMEs and entrepreneurs into business but also enhance the country?s capability to create new opportunities for green and sustainable development.

50. In order to safeguard the sustainability of the project and to ensure that the upscaling of the success of the project in Viet Nam, the public and private sectors will provide co-financing to support cleantech innovation ecosystems for domestic SMEs. This will ensure ownership and identification of innovations around municipalities and local industries while greening the local value chains.

51. The project builds on the collective feedbacks by various stakeholders including national counterparts, partner institutions and SMEs successfully participating in the project as well as strategic partners at global levels. The project will also work with new partner, at regional levels, to help built the eco-system at the provincial levels as well.

52. In addition, the approach especially in Component 2 in this project, accelerates innovations that have highest GHG emission reduction potential and have highest chances of going to the market through a number of phases and together with its partners like PFAN, continually de-risks the enterprise?s business model in order to increase the likelihood of investor interest. This is important to note since the sources of investment that the start-ups will be able to mobilize will depend on the alignment of the priorities of the institutions that have shown interest to invest.

The project connection to PFAN to support the start-up to scale up journey of cleantech enterprises

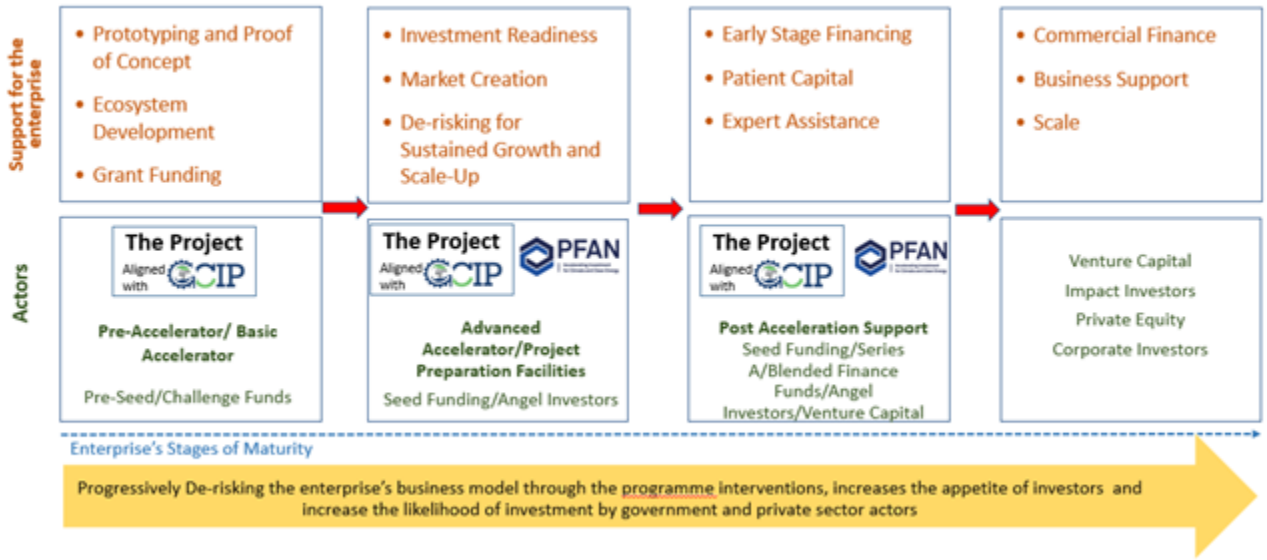

Figure: 4 Start to Scale-up Journey, De-risking for Investment Readiness

53. The objective underpinning the linkages established between the project and PFAN is to offer the ventures supported by the project a continuum of support services as they mature towards commercial viability and scaling up. The project combines a top-down (policy support) with a bottom-up (support for home-grown innovation) approach. The final investment decisions are made between the start-up and the investor, once they find common value. A start-up may have several investors mixing public and private financing. The connection between the Viet Nam accelerator programme with other country projects under the global GCIP framework enables investors at a global level to also access start-ups from each country i.e., through activities like Investor Connect, National Forums and the Global forums.

54. The project will continue to strengthen and promote connectivity within the national cleantech innovation and entrepreneurship ecosystem focusing on innovative technology in low carbon circular economy in Viet Nam by: (i) identifying, fostering and supporting cleantech innovators and entrepreneurs including technology verification and demonstration; (ii) building capacity within national institutions and partner organizations for the successful implementation of the accelerator approach and sustainability of the cleantech ecosystem; and (iii) supporting and working with national policy makers to develop the policy and regulatory innovations to catalyze and support cleantech innovations as business models. Through this approach, the project will actively support cleantech SMEs and start-ups to develop cleantech innovations into commercial businesses, thereby promoting the continued growth of a cleantech industry in Viet Nam.

55. The main components of the project and their description are below:

Project Component 1. Policy, institutional framework and national cleantech innovation and entrepreneurship ecosystem (CIEE) strengthening and connectivity enhanced

56. The policy framework and institutional sustainability are integral parts of the ?Cleantech innovation and entrepreneurship ecosystem (CIEE)?, and also of strategic relevance in ensuring that the outputs and outcomes of the project are contributing to the national priorities and sustained after project closure. This component will aim to strengthen institutional capacity in key national ecosystem players, as well as regional and local institutions and enhance their connectivity, to engage in cleantech acceleration and commercialization in Viet Nam.

Outcome 1.1 Policy framework to promote innovative cleantech solutions for low carbon circular economy in priority sectors strengthened and interconnected

57. The Outcome 1.1 focuses on strengthening policy frameworks and ecosystems to promote innovative cleantech solutions especially focusing on in the priority sectors integrating renewable energy, energy efficiency, and waste management. Sectors will be prioritized taking into account of the national development objectives as well as the needs of both women and men. It includes better awareness on technology gaps and innovation opportunities in the field of low-carbon circular economy and sustainable development in the country, knowledge on benchmarking and evaluating performance and applicability of relevant technologies such including identification of best available technologies.

58. It will also focus on development of policy instruments and recommendations in the field of cleantech acceleration in ensuring that the outputs are contributing to the national priorities and sustained after project closure.

1.1.1 Study and analysis on technology gaps conducted in a gender responsive manner, and best available technologies and cleantech innovation opportunities in priority sectors in Viet Nam identified and recommended

59. This will be an iterative process where study and analysis are conducted to identify technology gaps and innovation opportunities in a gender responsive manner. The study and analysis will be designed to address the gaps and highlight as necessary national policies and processes for the creation and development of startups in Viet Nam based on creativity, innovation, the use of new technologies, the achievement of high added value as well as national and international competitiveness.

60. Moreover, in identification of technology gaps and innovation opportunities, considerations will be given to social dimensions such as the role of women in the innovation ecosystem in Viet Nam. Such social dimensions will be analyzed and recommendations will be made on how gender equality create opportunities for enhancing innovation; and the role of social innovation for low-carbon economy and sustainable development.

61. During the process, indicators to evaluate performance and outputs of innovative cleantech solutions for low-carbon circular economy and sustainable development are defined. This will include the definition of impact indicators, output evaluation criteria, the design of a detailed system, methodology and tools etc. where to be monitored and overseen by UNIDO in close coordination with other relevant stakeholders in Viet Nam. Also, this will be developed and harmonized at the global level and the project will focus on adapting these to the national circumstances. The indicators will consider, among others, its impact on GHG emission reductions as well as potential of other - environmental benefits. It will also take into account of necessary localization and modification to make it adoptable to local requirements.

62. Efforts will be made to incorporate social dimensions into the impact indicators such as women`s involvement, job creation, income, well-being, etc. by innovative cleantech solutions.

63. Accordingly, a BAT[46][46] conforms list of best available technologies and innovation opportunities for low carbon circular economy is identified and recommended. It will consolidate high potential technologies/models in priority sectors integrating renewable energy, energy efficiency, and waste management in Viet Nam. Consideration will also be given to very early-stage innovative cleantech solutions which will need business acceleration support including entrepreneurship and business skills training.

Activities to be implemented:
Activity 1.1.1 a To conduct study & analysis of CIEE in Viet Nam including technology gaps and innovation opportunities as well as localization of global framework to Viet Nam in a gender responsive manner (e.g. assess and adopt global policy exercises to create baselines assumptions for national project, analyze opportunities and risks based upon case studies and observed best practices, identify policies for pro-innovation and those may have conflicts, elaborate KPIs to track progresses, identify lessons learnt from global framework activities).
Activity 1.1.1 b To organize gender responsive multi-stakeholder dialogues and consultations to enhance engagement and develop recommendations for the cleantech innovation and entrepreneurship policy as well as identification and recommendation of best available technologies and cleantech innovation opportunities.
Activity 1.1.1 c To prepare a gender responsive report on technology gaps and innovation opportunities in Viet Nam.

1.1.2 Evidence based gender responsive policy instruments related to cleantech innovation and entrepreneurship developed

64. Priority will be given assisting the national government in developing policies, regulations and incentives required to promote cleantech innovations. The project will assist in reviewing the existing policies and regulations relating to the promotion of clean technologies, innovation and entrepreneurship and prepare a gap analysis report on policy requirements.

65. Recommendations for policies on facilitating innovative technology and enterprises are developed and operationalized including financial incentives and guidelines for non-grant instruments. This will be done to create a conducive environment for commercialization of cleantech solutions. Further aim will be to ensure that national ecosystem players are supported to understand and contribute in their roles as part of the ecosystem, and will have the capacity to continue promoting national cleantech innovations towards commercialization and market creation beyond the project.

66. For the purpose of preparing policy recommendations, multi-stakeholder policy dialogues will be facilitated to prompt discussion and collaboration among policy makers and other cleantech ecosystem actors under consideration of gender equality. The dialogues will be captured and reflected in the policy recommendations as necessary and applicable which will be presented to relevant government ministries and agencies.

67. The related policies and regulations will include those promoting the low carbon technologies of the selected categories in SMEs including small scale technologies, and those governing the protection of intellectual property rights, agreements on sponsorships, roles, responsibilities, and rights of different stakeholders

68. Special efforts will be made to formulate gender-responsive policies that aim at involving women entrepreneurs and mentors in the Cleantech programme. For this purpose, a gender mainstreaming action plan will be operationalized throughout the project implementation.

69. Under the leadership of the MONRE as well as in a process of wide consultations with alumni and relevant national CIEE stakeholders, a roadmap will be prepared to guide a long-term implementation of the policy recommendations, also beyond the project timeline, especially for the effective innovative clean technology ecosystem and its value chain.

Activities to be implemented:
Activity 1.1.2 a To prepare Viet Nam CIEE policy implementation plan for action/road map and recommendation.
Activity 1.1.2 b To conduct consultation and validation meetings with project alumni and relevant national CIEE stakeholders on the action plan/a roadmap and recommendation for guiding a long-term implementation.

1.1.3 National institutions strengthened for cleantech innovation and entrepreneurship support and linkages, collaboration, and synergies across CIEEs promoted (at least 6 capacity building events conducted with up to 90 participants in total, at least 45% women and 30% youth)

70. A National Cleantech Innovation and Entrepreneurship Ecosystem (CIEE) assessment will be conducted to analyze the strengths and weaknesses of Viet Nam?s CIEE and roles and responsibilities of key institutions (i.e. funding agencies and industry associations etc.). It will include an expert study for identification of relevant players to be engaged and coordinated as well as provision of a framework model under the present institutional and regional institutions to strengthen the ecosystem with a view to establish a national hub. This will be instrumental in identifying the capacity building needs and optimal set of interventions nationally. The further aim will be to ensure that national, regional, local ecosystem players are supported to understand and contribute in their roles as part of the ecosystem, and will have the capacity to continue promoting national cleantech innovations and enterprises towards commercialization beyond the project.

71. This output will also serve as a structured stakeholder consultation and engagement process at the start of project implementation including consideration of social and gender dimensions so as to promote gender equality and women?s empowerment (GEEW). The CIEE assessment will be updated at least once during the project period as a means to measure impact achieved through project activities on the CIEE of Viet Nam.

72. Accordingly, capacity of national and regional institutions and key associations of CIEE to host and support the Cleantech programme will be built. Training workshops will be organized for relevant central and regional governmental officials and staff concerning technical and administrative needs and also for other market players like funding agencies, industrial associations, project developers, enterprise executives, startups, government officials, operators, current users, companies, academia etc. on integrated solutions.

73. The pool of experts that can act as mentors and judges for the Viet Nam accelerator will be a valuable asset for the project as well as for building a robust national cleantech innovation ecosystem. Alumni will also participate in ?train the trainers? events to foster a vibrant and sustainable Cleantech ecosystem through partnerships and collaboration. Where possible, these training events will be held in person, but provision has also been made to design vibrant and interactive on-line courses and materials should Covid-19 restrictions still be in place. The training events will make use of the case studies and materials provided by the global GCIP as applicable. Such global training materials will be translated into Vietnamese as necessary and will be tailored to local circumstances by alumni. These training sessions will produce a critical mass of informed actors that will trigger further clustering of the innovative thinkers as well as to create evidence-based decision-making models for the responsible and key post holders in the organizations.

74. Therefore, the project will maintain a community of mentors and judges that can positively influence the cleantech innovation initiatives of Viet Nam beyond the project. It will also seek to establish a robust network with national financial institutions and funds to raise awareness and sensitize various stakeholders on the opportunities and risks associated with cleantech products under the low carbon circular economy. Based on the stakeholders, meetings/feedback, studies could be focused on policy streamlining to enhance impact through policy interventions and scale-up/ replications.

75. An alumni network will be established and actively supported by the Project Executing Entity (PEE) in order to support the community of the accelerator alumni, coaches, judges and mentors through activities to gather, share lessons learned, and realize synergies. Activities under output will be

executed in conjunction with the web-based knowledge management platform under Output 3.1.3 and establish online tools and the maintenance of the platform for the alumni network to gather, share, and correspond. National networking will further be strengthened and expanded by enabling the Vietnamese alumni network to gather with other alumni at national, related regional and international events.

76. Corporate Public Private Partnership (PPP) forums will be held for raising investment and partnership with the private sector organizations. Viet Nam Environment Protection Fund and other accelerators, incubators and angel funds will be approached to hold special sessions to find ways and means to support cleantech innovation activities. PPP Fora will be organized annually, to further facilitate ecosystem connectivity.

77. At the regional and global levels, Viet Nam cleantech SMEs and key ecosystem players will be invited to participate in the events organized under the global GCIP framework, including the global GCIP Forum organized in and for GCIP partner countries around the world. The GCIP Forum will bring selected finalists of the global and national accelerators together for recognition and awards, and for opportunities to be connected with potential partners, customers, technology scouts and investors from around the world. Importantly, the GCIP Forum will also serve as a platform for innovation showcasing, and investment matching, and will be an important annual milestone for networking, advocacy, and knowledge exchange among CIEE players. The GCIP Forum will not be a stand-alone event, but it will be organized on the margins of highly visible global gatherings, such as for example the UNFCCC COP, Cleantech Group forums, etc.

78. In addition, participation at annual events such as the Cleantech Forum Asia, the Asia Clean Energy Summit and the Asia-Pacific Climate Week events will enable the Vietnamese alumni network to enhance dissemination of best practices and enhance their exposure to international investors. Furthermore, regional cooperation will be promoted and formalized between the accelerator programme Viet Nam and other GCIP CIEEs in the region (e.g., with Indonesia and Cambodia). Particular attention will be given to garnering participation of successful women entrepreneurs in the programme to promote gender equality and the empowerment of women through involvement of role models.

79. Furthermore, a specifically focused support on capacity enhancement of ISPONRE, the Viet Nam Environment Protection Fund (VEPF) and local environment funds will be provided to strengthen their appraisal capacity on innovative cleantech solutions. The support will aim to capacitate these funds to promote cleantech innovation and entrepreneurship for accelerating transition towards

the low carbon circular economy and further enhance sustainability of the cleantech ecosystem in Viet Nam while addressing the inclusiveness of the action.

80. The activity includes development of a handbook, based on the experience gained through the project, for guiding the procedures on evaluation and appraisal of innovative cleantech solutions with a view to further flourishing green financing in Viet Nam for both technology investors and developers in a sustainable manner.

Activities to be implemented:
Activity 1.1.3 a To develop relevant tools for CIEE strengthening and connectivity including: stakeholder engagement strategy framework, and cleantech innovation cluster framework; and to support PEE in developing a stakeholder engagement strategy and a cleantech innovation cluster strategy (in consultation with relevant CIEE stakeholders); as well as to conduct two engagement workshops (kick-off and follow-up) to train up to 10 national facilitators.
Activity 1.1.3 b To conduct capacity building activities/training workshops for selected national and regional institutions to strengthen the appraisal capacity of cleantech solutions, innovations and green finance.
Activity 1.1.3 c To organize 3 Corporate Public Private Partnership (PPP) forums for raising investment and partnership with private sector organizations for promoting cooperation (in particular bilateral and regional cooperation).
Activity 1.1.3 d To develop a handbook based on experiences from the project for guiding procedures on evaluation and appraisal of innovative clean-tech solutions in Viet Nam.
Activity 1.1.3 e To promote cooperation (in particular bilateral and regional cooperation) and facilitate its formalization between Viet Nam with other countries` CIEEs in the region.
Complementary activities conducted under GCIP Global which can be linked to this project: ? Tools and guidelines for CIEE strengthening and connectivity. ? Workshops on frameworks for capacity building, stakeholder engagement and cluster development. ? The Global Cleantech Innovation Index which will enable comparisons of Viet Nam?s CIEE with other countries? CIEEs. ? Cleantech innovation capacity building, stakeholder engagement and cluster development frameworks. ? The Global Forum. ? Network for Global Innovation.

Outcome 1.2 Gender equality and women?s empowerment supported and strengthened by the CIEE in Viet Nam

81. The project aims to strengthen gender equality within the Viet Nam`s CIEE with the intention to create more opportunities for women entrepreneurs. Specific efforts to empower women entrepreneurs will be implemented with a view to accelerate cleantech innovation while addressing the important proven linkages between achieving environmental sustainability, gender equality, and the empowerment of women. To fully capitalize on the transformative power of women?s entrepreneurship, targeted measures need to address the specific barriers that women face, such as the lack of access to networks and role models.

1.2.1 Women?s cleantech hub/network established to support and accelerate the formation of local innovation ecosystems in a more inclusive manner

82. In order to reflect the different needs and opportunities for women, research and analysis will be conducted in conjunction with the operationalization of a gender mainstreaming action plan under Output 3.2.4 below. The clean technology and innovation platform will be equally gender responsive by establishing a cleantech hub/network for women with a view to support and accelerate the formation of local innovation ecosystem in an inclusive manner.

83. This women`s hub /network platform will function as part of the cleantech ecosystem in Viet Nam including necessary support for women in cleantech innovation and entrepreneurship. It is a key vehicle for promoting women`s involvement into the project by identifying and facilitating relevant stakeholder groups which are invited to provide their views on implementation of clean technology solutions in low carbon circular economy. Taking into consideration the results of the research and analysis on women`s different needs and opportunities, the vision and mission including roles and responsibilities of this hub/network will be constituted. The initial list of members will include institutions promoting GEEW (e.g. Viet Nam Women Entrepreneurs Council (VWEC)under the Viet Nam Chamber of Commerce and Industry (VCCI), Vietnamese Women?s Union (VVWU), women universities, etc.) and to be evolved by including those mentors, judges, project partners and entrepreneurs who participate in this project.

Activities to be implemented:

Activity 1.2.1 a To conduct needs assessment and opportunities to promote cleantech innovation and entrepreneurship and develop a gender-responsive needs assessment/gap analysis report.
Activity 1.2.1 b To develop constitutions for establishing the women`s hub /network platform including vision and mission as well as roles and responsibilities of the hub/network.
Activity 1.2.1 c To conduct a stakeholder workshops to discuss and validate the constitutions and enhance networks.
Activity 1.2.1 d To operationalize women`s hub /network platform for promoting women`s involvement into the project and in the cleantech ecosystem as a whole.

1.2.2 Mentoring programme for women cleantech entrepreneurs and mentors implemented

84. In conjunction with Output 2.1.2, a mentoring programme specifically targeting women will be conducted. The programme will be elaborated to engage women entrepreneurs, associations and gender focal points to participate as both mentors and mentees. Therefore, the design of the programme will take into account of the output of a gender mainstreaming action plan operationalized under Output 3.2.3. Based on the analysis, specific needs and opportunities of women involvement in the cleantech ecosystem in Viet Nam will be identified and addressed through the programme. Engagement of institutions promoting GEEW (e.g. women chambers, women universities, etc.) will be pursued.

85. A pool of women experts with the knowledge and connections to support cleantech innovations towards commercialization will be developed and supported to actively participate in cleantech ecosystem in Viet Nam with a view to further enhance sustainability by addressing the inclusiveness of the action.

86. In case, if there are not sufficient women mentors in the country, a train-the-trainer programme for mentors could be conducted e.g. training/ mentoring women to become mentors for other women.

Activities to be implemented:
Activity 1.2.2 a To develop and validate mentoring programme specifically targeting women for better engaging women entrepreneurs, associations and gender focal points.
Activity 1.2.2 b To conduct the mentoring programme specifically targeting women.

Activity 1.2.2 c To prepare and operationalize a pool of woman experts to support cleantech innovations.

1.2.3 Campaign conducted to raise awareness on women?s role models in the cleantech ecosystem

87. In order to promote GEEW in cleantech, a campaign will be conducted to enhance awareness on women role models in the cleantech ecosystem. This will be based upon the successful practices of the global programme where several women role models were featured. The campaign will include, among others: the development of targeted promotional material e.g. documentation, print, video and other electronic media; preparation and dissemination of success stories through social media; etc.

Activities to be implemented:
Activity 1.2.3 a To develop targeted promotional material e.g. documentation, print, video and other electronic media; preparation and dissemination of success stories through social media; etc. and conduct outreach activities.
Activity 1.2.3 b To organize a national awareness campaign to promote gender dimension of the project and women role models in the cleantech ecosystem.
Complementary activities conducted under GCIP Global which can be linked to this project: ? Disseminate international best practices concerning policies and CIEE building, document lessons learned from GCIP countries, and develop gender and youth mainstreaming strategies and action plans. ? Information and data under GCIP communication and promotional activities.

Project Component 2. Transforming early-stage innovative cleantech solutions into scalable enterprises

88. Component 2 focuses on identifying innovative cleantech solutions and business model ideas, and providing entrepreneurial skills and business growth support. Providing direct support to early-stage cleantech SMEs to enhance the capacity and competitiveness for business growth, Viet Nam?s private sector?s potential and contribution as cleantech solution providers, and to leverage market opportunities embedded in climate change mitigation enhances. Outcome 2.1 focuses on early-stage innovative cleantech solutions and provides business acceleration support related to entrepreneurship and business skills training. Outcome 2.2 provides targeted technical assistance through advanced and gender-responsive business growth and investment facilitation service.

Furthermore, cleantech SMEs in the expansion stage will receive investment facilitation and mentoring services towards financing, piloting and commercialization.

Outcome 2.1 Early-stage cleantech innovations accelerated

89. Early stage cleantech innovations with high impact potential for climate, environment and social benefits especially under circular economy will receive business acceleration support for increased market and investment readiness. The selection criteria for innovations to receive support will be determined in alignment with the national priorities outlined in the NDC targets, and other key policies and strategic documents in consultation stakeholders with the key stakeholders as well as potential contribution for GHG emission reductions which can be estimated ex-ante and monitored ex-post and will be aligned with GEF 7 programing directions.

90. This project will benefit from the tools, approach and methodologies on how to promote cleantech innovation and entrepreneurship in developing and emerging economy countries as developed under GEF program 10408. This support includes guidebooks and practical tools for operation and management of the accelerator at a national level and complimentary activities, which will provide the reference framework for the accelerator in Viet Nam within this project.

91. The diagram below shows the types of assistance required by cleantech SME, depending on their stage of growth, based on which the project approach is built where outcome 2.1 focusses on early-stage cleantech SMEs while outcome 2.2 will focus on growth and expansion stage cleantech SMEs.

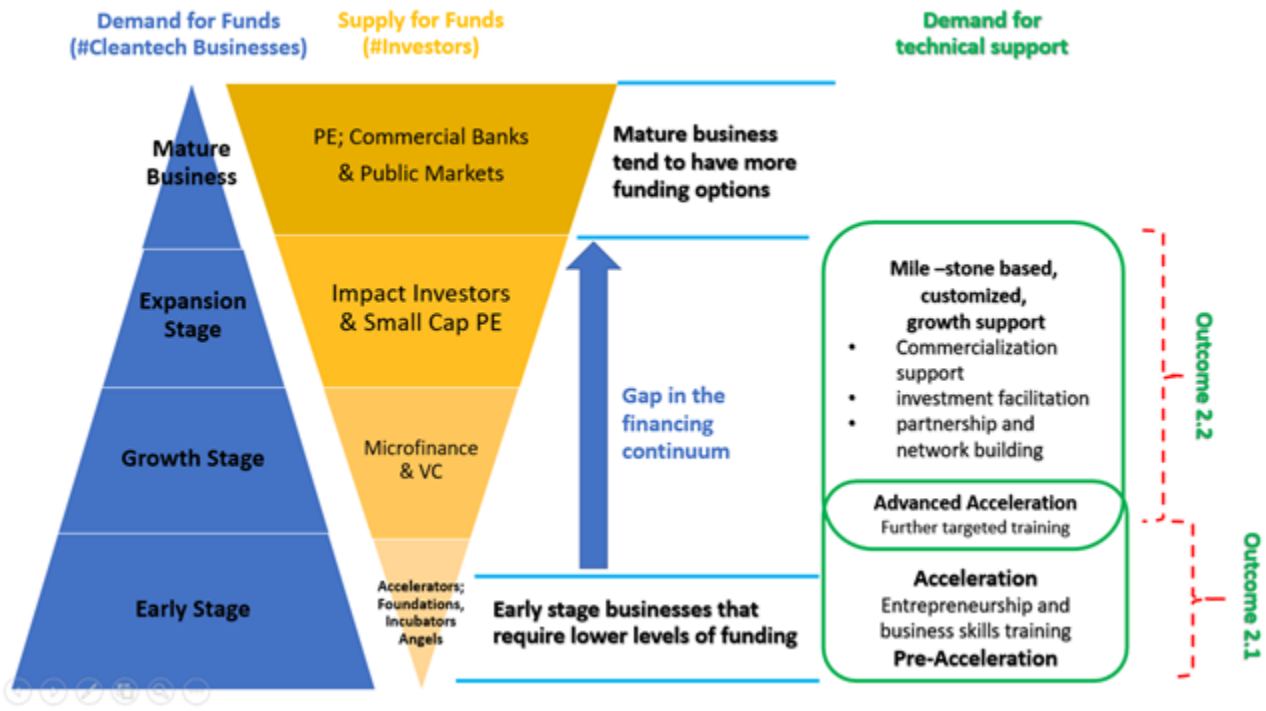

Figure 5: Demand for funds and technical support per development stage

2.1.1 Methodologies, guidelines, tools and training systems for cleantech innovation and entrepreneurship accelerator adapted for Viet Nam

92. Accelerator guidebooks that emphasize on the approach and methodology for promoting cleantech innovation and entrepreneurship in developing and emerging countries, will be made available as practical tools and guidelines for the operation and management of the national accelerator in Viet Nam. These guidebooks will be reviewed and adapted by the national Project Executing Entity (PEE) to reflect the context of Viet Nam?s cleantech ecosystem including market conditions, policy environment, development priorities, technology priorities, local examples, etc. Three accelerator guidebooks will be developed on i) Acceleration, ii) Advanced Acceleration and iii) Post-acceleration support. These guidebooks will define the scope, criteria and awards categories of the accelerator in consultation with Viet Nam?s ecosystem actors, including the government, business and civil organization stakeholders and so be aligned with their priorities and in line with the country?s innovation potential. The level of innovation to be eligible to receive support through the accelerator will also be specified during the review of the guidebooks, as well as the selection criteria of the accelerator. The guidelines will also be the principal input to the web-based knowledge management tool.

Activities to be implemented:
Activity 2.1.1 a To review and adapt the guidebooks to reflect the context of Viet Nam?s CIEE, including market conditions, gender context, policy environment, development priorities, technology focus, local examples, etc.
Activity 2.1.1 b To disseminate the guidebooks to the relevant stakeholders including organization of information and consultation sessions.
Activity 2.1.1 c To Identify criteria for cleantech mentors, judges and coaches, integrating gender-sensitivity within the approach - technical, financial, and gender consultants.
Activity 2.1.1 d To develop methodologies, tools and training materials and certification system, including integration of the gender mainstreaming approach.

2.1.2 Pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges) trained and certified to support the cleantech innovation and entrepreneurship accelerator

93. Developing a pool of cleantech innovation and entrepreneurship experts to act as mentors, coaches and judges is critical to the effectiveness of accelerators in providing the right support to the participating teams as well as their long-term sustainability. This is because the delivery of the accelerator curriculum and the connections facilitated with the right actors will depend on the capacity and networking of these experts. In order to ensure coherence of approach among mentors, coaches and judges, a cleantech innovation and entrepreneurship expert training system developed under UNIDO/GEF project 10408 will be employed by the project. Similar to the accelerator guidebooks, the training system will be reviewed by the Viet Nam PEE and adapted for the national context, ensuring that the training materials accurately reflect market, business, policy, and investment climates.

94. A pool of experts with the knowledge and connections to support cleantech innovations towards commercialization is also crucial to the cleantech ecosystem. The community of experts trained/certified are expected to positively influence the cleantech innovation initiatives at national level, and will contribute to the strengthening of the cleantech innovation and entrepreneurship ecosystem in general.

95. The entrepreneurship training programme will be organized for local universities. The training session on entrepreneurship will be organized, focusing on those aspiring students and individuals who want to be the torchbearer and hand holders, to further spread the message for

innovation to others aspiring to make careers in innovation in clean technologies to themselves become role models.

Activities to be implemented:
Activity 2.1.2 a To provide capacity building/expert training as well as conduct evaluation and certification for Cleantech innovation mentors, judges and coaches, with inputs from Global GCIP, technical, financial and gender consultants.
Activity 2.1.2 b To organize two entrepreneurship training programmes at universities including identification of the teachers/professors, adaptation of the GCIP accelerator course, delivery of training programme and initial delivery of training to students.
Complementary activities provided under GCIP Global which can be linked to this project: ? Global curriculum and training content for the GCIP cleantech innovation and entrepreneurship expert training and certification system for the Viet Nam experts (trainers, mentors, judges), including training curricula/materials, guidance on the training delivery methods, and certification requirements. ? An assessment framework for evaluation of experts (trainers, mentors, judges), as well as to facilitate the expert accreditation at global institutions/initiatives.

2.1.3. Two annual national competition-based cleantech innovation and entrepreneurship accelerators conducted (at least 80 enterprises, at least 45% women-led, at least 30% youth led)

96. Two annual competition-based cleantech innovation and entrepreneurship accelerators will be conducted based on the guidelines and tools developed under output 2.1.1. for acceleration of the identified best available technology and innovative technology solutions for low-carbon circular economy and sustainable development aligned with the outputs and outcomes delivered under Component 1. The accelerator entails a 4 to 6 months curriculum designed specifically to support cleantech innovations stemming from developing and emerging countries, to develop viable business models and grow cleantech enterprises. About 40 enterprises are supported through each accelerator cycle. Through the accelerator, a cohort of cleantech SMEs with high-impact potential are identified and invited to receive intensive business and entrepreneurship mentoring and coaching to accelerate their growth as businesses. Support is provided to improve their business skills and investor pitch and in connecting them to potential business partners, financiers or investors.

97. During the project, the cleantech innovation program will assist PEE, by directing and focusing the startups and innovators to strengthen business models and their solutions. Competition elements will be incorporated into the accelerator as an incentive to participating teams. The call for

applications will be issued in ?impact categories? related to a resource efficient and circular economy, defined to address multiple environmental challenges including the increase in renewable energy, energy efficiency and recycled resources, e-mobility, energy storage, etc.

98. The National accelerator cycle will be guided by a general timeline recommended by UNIDO that aims to leverage the ongoing cycles across the global programme and allows Viet Nam to align with some activities organized under the global GCIP framework where possible (e.g. online webinars, participation at the global forum, etc.)

99. In terms of selection criteria, priority will be given to innovations with significant GHG reduction potential, which will be determined through the reduction potential of the innovation (technology or business model) itself, and the estimated market and business potential which will determine the up-take of the innovation. Accordingly, selection criteria of the accelerator will include a threshold for the projected environmental impact per USD for supported technologies. Women and youth empowerment and entrepreneurship will also be a key consideration in the selection process into the accelerator.

Activities to be implemented:
Activity 2.1.3 a To provide pre-accelerator services for potential accelerator entrants, tailored to the three priority sectors (The Pre-accelerator as a 10-day (7 days virtual/3 day in-person) programme for around 50 participants annually, around 6-8 weeks prior to the accelerator application deadline for customized assistance in developing their pool of potential applications.
Activity 2.1.3 b To deliver two annual cycles of the Viet Nam accelerator.
Activity 2.1.3 c To oversee, through a gender expert, gender-related outcomes and the integration of gender-responsive project implementation throughout the programme.
Complementary activities conducted under GCIP Global which can be linked to this project: ? An assessment framework for evaluation of experts (trainers, mentors, judges), as well as to facilitate the expert accreditation at global institutions/initiatives. ? Recommendations to ensure continuous improvement of the cleantech innovation and entrepreneurship expert training and certification system.

Outcome 2.2 Investment, piloting and demonstration of innovative cleantech solutions for low carbon circular economy

100. Start-ups and SMEs as well as existing enterprises in the cleantech sector will be supported through advanced and gender-responsive business growth services as well as receiving investment facilitation services. Advanced- and Post-accelerator Business growth support and tipping point investment facilitation services will be provided to the cleantech SMEs to commercialization, piloting and demonstration of innovative cleantech solutions for low-carbon circular economy and sustainable development towards commercialization and mobilization of investment to scale up.

101. This outcome focuses on supporting selected businesses to further develop their innovations to reach commercial and sustainable success. Thereby, a cost-effective path will be pursued and allow entrepreneurs to focus on the added value and benefits of the entire process, especially in terms of training, networks and financial facilitation.

2.2.1 In depth capacity needs assessment of selected cleantech businesses conducted for systematic promotion and acceleration of cleantech commercialization (for at least 8 entrepreneurs)

102. This output is to support at least top 8 cleantech businesses including those entrepreneurs of 2 accelerator cycles under output 2.1.3. The scope of assessment may include technology verification, prototyping and product development, piloting, legal and administrative support, IT services, tax registration, customer database, protection of intellectual property, product life cycle assessment, environmental and social risks assessment, additional mentoring/courses on cleantech entrepreneurship etc. As necessary and to the extent possible, the assessment will be conducted in a gender-responsive manner by considering whether there is the gender-nexus in the selected cleantech. This will be instrumental in identifying the capacity building needs and optimal set of interventions for the selected entrepreneurs.

Activities to be implemented:
Activity 2.2.1 a To conduct capacity needs assessment of selected cleantech businesses for systematic promotion and acceleration of cleantech commercialization (at least 8).

2.2.2 Advanced support provided for business model development and refinement of innovative solutions taking into account of the progresses and findings through the capacity needs assessment (for at least 8 entrepreneurs)

103. The guidebooks adapted to Viet Nam?s ecosystem context under output 2.1.1 as well as the capacity needs assessment under output 2.2.1 will be the basis of executing this output. The advanced and Post-acceleration and business growth support will be tailored to the specific needs of the selected Start-ups and SMEs as well as existing enterprises in the cleantech sector for progressing into the next phase of business development and in overcoming product related market barriers.

104. As each innovation and enterprise is different and will require customized support, extensive consultations will take place as part of the selection criteria and process to ensure that the needs and expectations of the alumni is fully understood and agreed on at entry into advanced and post acceleration business growth support for low-carbon circular economy and sustainable development taking into account of the progresses and findings through the capacity needs assessment. A mile-stone based approach will be employed to measure progress of each enterprise.

105. National and/or international consultants will be assigned to provide firsthand technical support particularly for the small-scale project proponents such as startups and small local enterprises, to commercialize their solutions and for the large scale deployment of clean technologies at the local levels.

106. Targeted technical assistance will be provided to the cleantech businesses in line with the findings of the capacity needs assessment. Cleantech businesses in the growth stage will receive investment facilitation and mentoring services towards financing, piloting and commercialization. Furthermore, national cleantech businesses will be supported to expand their businesses to other countries through global project (10461). The global framework will enable national enterprises to be linked to investors (impact, venture, angels, and commercial) at global levels.

Activities to be implemented:
Activity 2.2.2 a To identify cleantech businesses that would benefit from the advanced accelerator support to tackle specific operational, financial, and strategic issues.
Activity 2.2.2 b To provide training and business growth support to selected cleantech businesses through advanced acceleration services, i.e. identification of mentors, bespoke mentoring around actions, weekly calls, workshopping financial models with mentors.

Complementary activities conducted under GCIP Global which can be linked to this project:

? Identification and facilitation of cross-border networking and matchmaking opportunities with internationally

recognized mentors, GCIP alumni enterprises, corporations, investors, and governments.

? High-level national and international events (including GCIP Global Forum and other major international events) for

showcasing cleantech innovations.

2.2.3 Business cases validated for piloting at least two innovative cleantech solutions (at least for 2 cleantech solutions)

107. Additional business model validation may also be necessary to reflect the developments in technology/product readiness, business, market and manufacturing readiness. Market conditions and market demand created by national policies and development priorities of Viet Nam will be an integral part of the business model development and market potential of the innovations so that those supported under this project will be well integrated into the context of sustainable low-carbon circular economy of the country.

108. At least two innovative cleantech businesses will be selected and validated for piloting their businesses with high-impact potential. The businesses are expected to maximize their potential climate benefits and to minimize any negative environmental or social impacts identified, particularly relating to local climate risks.

109. In terms of selection criteria, priority will be given to innovations with significant GHG reduction potential, which will be determined through the reduction potential of the innovation (technology or business model) itself, and the estimated market and business potential which will determine the uptake of the innovation. Women empowerment and entrepreneurship will also be a key consideration in the selection process. Therefore, the selection criteria will involve gender dimensions so that at least one of the two innovative cleantech solutions is women led entrepreneur and/or at least one of the two innovative cleantech solutions has particularly high impact on GEEW.

Activities to be implemented:

Activity 2.2.3 a To validate selected business models, prototypes and technologies (at least 2).
Activity 2.2.3 b To provide technology verification, product development and testing facility support to the enterprises with high impact potential (minimum of 2 enterprises).

2.2.4 Financing mobilized for the implementation of fully functional innovative cleantech solutions (at least for 2 cleantech businesses)

110. Investment facilitation and support for selected cleantech businesses including the entrepreneurs from the two accelerator cycles under output 2.1.3. Selected cleantech businesses will strengthen their capacity to scale up.

111. Raising awareness and sensitizing various stakeholders, such as financial institutions, funds and investors, on the opportunities and risks associated with cleantech products and market trends. In particular, two dimensions of investment facilitation such as i) equipping the enterprises to address the investment decision criteria of the financiers, and ii) identifying the right type of financiers and vehicles most adequate for the innovation and development stage of the enterprise, will be considered for increasing investors? confidence in cleantech innovation.

112. Moreover, to assist companies in making connections to potential investors and partners, investment facilitation events will be held inviting partner corporations and government agencies to highlight opportunities for investment, loans, grants, technology adoption and partnerships. The intention is to assist as many cleantech companies as possible to raise funding (grant and equity), find customers, and build partners. There will be a specific focus on undertaking activities that would involve women entrepreneurs more actively in seminars and investor group meetings.

113. In addition, at least 2 fully functional innovative cleantech solutions will be implemented/commissioned. Financing will be sought through investment funds and impact investment funds to support early stage cleantech businesses. In addition, the project may support the implementation of innovative cleantech solutions through a financial incentive. Under this output, the critical funding gaps within the early stage cleantech business journey will be identified. Based on this, a sustainable funding model will be considered and designed for enhanced resource mobilization.

114. The impact of these fully functional innovative cleantech solutions will be monitored including for the accrued GEB. The monitoring of GHG emission reductions will be aligned with the

GCIP approach taken by the GEF approved program GEF ID 10408 as well as national and technology/innovation specific circumstances. Other environmental and social co-benefits such as marine litter avoided and/or waste with POPs/mercury avoided will also be considered and tracked if any as per the selected technologies and innovations.

Activities to be implemented:
Activity 2.2.4 a To provide needs-based tipping point investment facilitation support by organizing national investment facilitation events (Investor Connect) for the Viet Nam cleantech businesses in accessing additional sources of finance, market entry, identifying networking opportunities, dealing with technical and administrative issues, accessing IT services, and tax registration, etc. in order to encourage the participation of seed funding providers from the national, regional and global stages in the Viet Nam and to leverage on the experience and knowledge of other GCIP countries.
Activity 2.2.4 b To design and operate a financial mechanism (an early-stage development fund providing pre-seed and seed funding; or disbursement of grants from the project budget) that would enable de-risking and leveraging of public and private investment, including the process of application for the pre-seed/seed financing or grants.
Activity 2.2.4 c Implementation of 2 innovative cleantech solutions (through investment funds).
Complementary activities conducted under GCIP Global which can be linked to this project: ? UNIDO`s connectivity and support for applications of the alumni for PFAN support.

Project Component 3. Knowledge management and coherence

115. The activities under Component 3 are aimed at ensuring that the achievements of the Viet Nam accelerator programme are aligned and coherent with other GCIP country projects under the global GCIP Framework. To this purpose, the project executing entity of Viet Nam accelerator programme is expected to collaborate with the GCIP Global through the global GCIP project executing entities (PFAN, NGIN, CTG, UNIDO), as well as to contribute to information gathering, knowledge sharing, and dissemination efforts.

Outcome 3.1 Knowledge and coherence strengthened

116. The Viet Nam accelerator programme will be implemented in coherence with the global GCIP Framework. As such, it will link the CIEE of Viet Nam to the global network of CIEEs in other GCIP partner countries, as well as it will receive support from the GCIP Global programme. In

alignment with the under the global GCIP framework efforts are streamlined and reflected in common impacts (cumulative GHG emission reductions, investment mobilized, and other environmental and socio-economic impacts achieved). Therefore, mutual benefits will be created between the GCIP global framework and individual country`s efforts based on sound coordination and coherence mechanisms among the countries involved.

3.1.1 The internal guidelines are adapted for Viet Nam`s country context and implemented

117. To maintain coherence of the approach across multiple countries, the internal guidelines for project management teams will be developed and disseminated by UNIDO, including 1) operational guidelines for the Project Management Unit (PMU) to be established within PEE, 2) a sustainability and exit strategy framework to be developed in the first year of project implementation, and subsequently shared with the PEE for review and adaptation. The operational guidelines will cover: a general introduction to the Framework, including explanation of organizational roles; description of communication channels between Viet Nam and the GCIP Global; information on risk management and data protection; a list of foreseen activities to be available from the GCIP Global; introduction to the IT management of the web platform; environmental/social management principles, as well as gender mainstreaming and ESSPP principles to be applied by the PMU in the course of project management. In addition, annual meetings for national PEE representatives will be organized to offer a platform for training and exchange of experiences/insights related to the implementation of the internal guidelines.

Activities to be implemented:
Activity 3.1.1 a To develop and implement internal operational guidelines integrating standardized methodologies and other best practices from the global programme.
Activity 3.1.1 b To develop sustainability and exit strategy.
Complementary activities provided under GCIP Global which can be linked to this project: ? UNIDO to develop and disseminate internal guidelines for project management teams, including a) operational guidelines for the PMU to be established within PEE, b) a sustainability and exit strategy framework. ? UNIDO to organize annual meetings for the GCIP global program to provide a platform for training and exchange of experiences/insights. ? UNIDO to provide online trainings to PEE employees and their Project Management Unit (PMU), with focus on the operational and managerial efficiency and effectiveness required to successfully execute the project in Viet Nam.

3.1.2 Programme-level knowledge management, communication and advocacy strategy is adapted from Global programme for Viet Nam`s country context and implemented

118. To facilitate this exchange, a knowledge management, communication, and advocacy strategy framework will be developed by UNIDO with a particular focus on: 1) Promoting visibility of accelerator programme and communicating its impacts achieved at national and global levels aligned with the GCIP global framework; 2) Increasing awareness of the catalytic role of cleantech in addressing climate change and environmental issues; 3) Showcasing cleantech innovations from the alumni and enhancing their visibility and credibility.

119. The knowledge management, communication, and advocacy strategy framework will be shared with the national executing entity for review and adaptation to the needs of the country. As a result, the knowledge management, communication, and advocacy strategy of the Viet Nam accelerator programme will be developed.

120. In line with the knowledge management, communication, and advocacy strategy framework, the national executing entity is expected to provide briefing sessions, press releases, social media presence and advertising, all of which will be targeted at different audience groups, with a special attention to the needs of women and youth. These activities will be supported by partners, including local entrepreneurs, celebrities, alumni, relevant service providers (e.g. patent attorneys, accountants), university departments and societies (e.g. engineering, entrepreneurship and energy clubs), organizations that are in frequent contact with cleantech entrepreneurs (e.g. trade groups, entrepreneur groups), and investors (e.g. venture capital funds, angel networks).

Activities to be implemented:
Activity 3.1.2 a To adapt knowledge management, advocacy and communication strategy adapted for Viet Nam from best practice and lessons learned from Global GCIP.
Activity 3.1.2 b To conduct all communication and promotional activities in line with the guidelines including national and regional cleantech stakeholder meetings, public-private partnership forums, women targeted cleantech events, youth targeted cleantech events, press releases, social media activity, attendance at events and advertising.

Activity 3.1.2 c To capture knowledge gathered by the Viet Nam through policy briefs, impact reports, brochures webinars, and other types of promotional materials, and to disseminate this knowledge through briefing, press releases, social media presence and advertising, etc. (in line with the knowledge management, communication, and advocacy strategy framework).
Complementary activities provided under GCIP Global which can be linked to this project: ? UNIDO to develop a knowledge management, communication, and advocacy strategy framework. ? UNIDO to seek partnerships that would support implementation of the knowledge management, communication, and advocacy strategy (e.g., with local entrepreneurs, celebrities, GCIP alumni, relevant service providers, university departments and societies, organizations that are in frequent contact with cleantech entrepreneurs, investors, etc.)

3.1.3 The web platform is operated to maintain the cleantech community

121. A web based knowledge platform will be established and maintained which will act a one-point solution for all the information as well as progress of different cleantech projects. This platform will act as the cluster information portal on clean technologies, to allow for robust interaction for all actors to share the information on technical resources and financial/investment opportunities for cleantech innovation with the following key functions.

•For internal management and operations. Guidelines, tools and other knowledge products developed will be disseminated through the web platform.

? For execution of annual accelerators to be used from the beginning of the accelerator cycle (e.g. call for application and receipt of applications), and during the accelerator (e.g. webinars, submission of assignments, etc.)

? For connecting national ecosystem players. All alumni enterprises, as well as certified mentors and coaches will be invited to join the online community as a networking tool. Profiles and impact potential of each supported cleantech solution will be showcased through the web platform. Therefore, it will serve as a gateway for potential investors and customers to collect information on alumni enterprises.

122. The web platform will capture policy briefs, impact reports, brochures, webinars, and other types of promotional materials. Information will also be disseminated through events, social media channels, trainings, workshops, etc. as appropriate.

123. In addition, the website will be connected to the global web platform to connect Viet Nam to the broader cleantech community globally. The web platform for the project will be designed and developed in conjunction with the guidelines and templates aligned with the GCIP global framework, to reap benefits of the plug-and-play approach of GCIP and to maximize synergies and efficiencies of linking with other GCIP partner countries.

Activities to be implemented:
Activity 3.1.3 a To establish online tools and maintain web-based knowledge platform to act as one-point solution for all cleantech related information for the alumni network.
Activity 3.1.3 b To link Viet Nam platform with Global GCIP Platform and to create and maintain a section of Viet Nam on the global GCIP web platform.
Complementary activities provided under GCIP Global which can be linked to this project: ? UNIDO to provide international GCIP web platform with country sections, and programmatic level information, related guidelines, templates and online trainings for its maintenance and updating.

Outcome 3.2 Impacts and progress of all the activities and indicators are adequately monitored and reported

124. The monitoring of project impacts and progress is essential for the adequate and timely delivery of results. This project component covers project monitoring and oversight by UNIDO in close coordination with other relevant stakeholders. Initial activities under this component include the definition of progress and impact indicators and the design of a detailed monitoring plan and methodology.

3.2.1 National impact monitoring established

125. The project will incorporate general approaches hired under the global GCIP framework project (10408) where the GCIP methodology for impact assessment will be developed. The methodology will ensure a shared understanding of cleantech associated terminology amongst all involved stakeholders and will allow for extrapolation and comparison. It will also ensure that the project?s impact is clearly understood and can be used for programme and management decision making. As a minimum, tracking will include global environmental benefits (GEBs), energy saved, additional renewable capacity installed, job creation and investment leveraged. Data will be gender-

disaggregated where appropriate and data on youth participation will also be recorded. This common methodology will be used to monitor the project impact in Viet Nam.

126. PEE and its partners will receive online training on the use of the methodology from UNIDO and subsequently they will train all semi-finalists across the programme (as part of the accelerators) to provide GEB estimations of their innovations, using the training module developed. This will further allow the programme to show impact on a global level.

127. Dedicated resources will be assigned to track and monitor the business growth, social and environmental impact of the alumni enterprises in Viet Nam. Alumni will be expected to periodically provide relevant data to the national organization for a period into the future, when the impacts will be primarily felt, and can be quantified and verified. The data will be used to create a Viet Nam Project Impact report and content for promotion and advocacy purposes (news articles, social media posts, brochure and leaflets, videos etc.) that are tailored to diverse types of audiences (investors, national government agencies, donors, students). This will benefit the alumni enterprises by providing increased credibility and visibility. Monitoring data will be shared with the global GCIP framework project (10408), to consider consolidated impact of cleantech accelerator approaches as a global initiative.

Activities to be implemented:
Activity 3.2.1 a To review the methodology for impact assessment (including the accompanying tools) under the Global GCIP program and to participate in the training on its use provided by UNIDO.
Activity 3.2.1 b To validate and consolidate the Viet Nam enterprise impact data, and to develop and publish a project impact report.

3.2.2 Project effectively monitored including monitoring and reporting on the ESMP and risks

128. The monitoring of project progress is essential for the adequate and timely delivery of results. A detailed monitoring plan for tracking and reporting on project time-bound milestones will be prepared by UNIDO in collaboration with PEE and project partners at the beginning of project implementation and then periodically updated. This will include a capacity needs assessment and identification of possible areas of improvement of the PEE for effective and efficient execution of the project. Based on the identified gaps UNIDO will provide capacity building activities (e.g. providing guiding materials as well as on-site and/or remote trainings) to ensure national execution. PEE will prepare progress review reports every six months. Environmental and Social risks will be assessed as per UNIDO ESSPP, global environmental benefits (GEBs), energy saved and increase in installed

renewable energy capacity, job creation, as well as gender dimensions and baselines for gender related targets (to be outlined in and aligned with the Gender Mainstreaming Action Plan), will be captured appropriately in the M&E plan and reported on in the progress review reports and PIRs, and in the collection and assessment of relevant data. Further details of the M&E are provided, along with a budget, in the Section of ?Monitoring and Evaluation? below.

Activities to be implemented:
Activity 3.2.2 a To prepare and operationalize M&E Plan for tracking and reporting on project time-bound milestones.
Activity 3.2.2 b To prepare PIRs including the status of operationalization of the gender mainstreaming action plan.
Activity 3.2.2 c To execute annual financial and technical audits - technical consultants.

3.2.3 Gender mainstreaming action plan operationalized, monitored and impact on GEEW evaluated

129. In order to mainstream the gender dimensions, detailed gender analysis including gap analysis was conducted during the PPG phase and further elaborated during the executing phase by hiring a gender expert based on which a detailed gender action plan will be developed and operationalized throughout the project implementation to support project contribution for enhancing gender equality and women?s empowerment (GEEW). Efforts will be made to ensure that voices of both women and men are considered when discussions are held. As necessary, gender-disaggregated focus group meetings will be organized so that both men and women can lead, shape, participate in, contribute to and benefit from the project through mutual knowledge sharing. The operationalization of the action plan will be monitored and evaluated according to targets and indicators incorporating gender dimensions including sex-disaggregated data collection, performing gender analysis, etc.

Activities to be implemented:
Activity 3.2.3 a To conduct elaboration of detailed gender assessment, including gap analysis and prepare gender mainstreaming action plan.
Activity 3.2.3 b To operationalize gender mainstreaming action plan including evaluation on GEEW through the project intervention.

3.2.4 External mid-term review and independent terminal evaluation conducted

130. An external mid-term review will be conducted halfway through the project implementation period. An independent terminal evaluation will be conducted six months prior to the terminal review meeting. The final evaluation will look at the impact and sustainability of results, including the contribution to the capacity development and the achievement of global environmental benefits. An independent terminal evaluation will also provide recommendations for follow-up activities.

131. The project monitoring will support ISPONRE in evaluating the performance and progress of cleantech accelerator competition itself on the project level and to enhance impact during scale-up/replications activities.

Activities to be implemented:
Activity 3.2.4 a Preparation of external MTR.
Activity 3.2.4 b Preparation of terminal evaluation.
Complementary activities provided under GCIP Global which can be linked to this project: ? UNIDO to develop and provide the GCIP methodologies (and the related online training to all SC) for impact calculation and associated tools for its operationalization. ? UNIDO to provide the GCIP M&E framework.

3) Alignment with GEF focal area and/or Impact Program strategies

132. The project is firmly aligned with the objectives of the GEF-7 Climate Change Focal Area Strategy CCM 1-4, ?Promoting innovation and technology transfer for sustainable energy breakthrough?. This project seeks to foster private sector engagement in accelerating the uptake and investments in innovative cleantech solutions at scale. The project prioritizes cleantech innovations in the domains that are fully aligned with GEF 7 priorities i.e., electric drive technologies and electric mobility, accelerating energy efficiency, decentralized renewable energy power with energy storage, and cleantech innovations related sustainable cities and sustainable food systems. Therefore, the project is a transversal intervention that supports all priorities of GEF 7?s Climate change focal area.

133. The proposed project supports cleantech innovation and entrepreneurship in Viet Nam so that they commercialize and scale-up their operations thereby delivering climate and sustainable solutions that reduce GHG emissions while accruing other benefits. By fostering commercially viable solutions, the project will have lasting positive effects on the global environment, as well as on development of dynamic and vibrant markets for clean technologies creating new industries and green jobs locally and globally. This will be done through provision of much needed and best available catalytic technical assistance to cleantech SMEs. The project will ultimately promote establishment of sustainable innovation ecosystems for small and medium-scale enterprises and startups in the country.

134. By strengthening partnerships with the private sector interested in investing in clean technologies and contributing towards upscaling missed opportunities for green economic growth and green jobs, the project seeks to address existing barriers for entrepreneurs to fully commercialize their innovative products and exploit untapped potential especially in promoting cleantech innovations especially with specific focus on those related to low carbon, circular economy and sustainable development.

4) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

135. The private sector is key to the creation and expansion of the market for cleantech products and services, achieving GEBs, generating jobs, and supporting economic growth. In Viet Nam, a clear government prioritization is given to promote innovations and start-ups/SMEs and to put the necessary policies and strategies in place. However, significant barriers still exist for cleantech enterprises, leading to their very low success rate. In essence, the CIEE in Viet Nam is still weak, and if the GEF funding is not provided, it is very likely that cleantech innovations will not be adequately developed in Viet Nam in the near future. This will result in many unrealized opportunities in reducing GHG emissions, in strengthening partnerships with the private sector keen on investing in cleantech, in commercialization of cleantech enterprises, and ultimately in missed momentum for green economic growth and jobs.

136. This project aims to go beyond the current baseline. As discussed in the baseline section includes SMEs with breakthrough cleantech innovations in developing markets having a very low success rate due to lack of key skills and capacities to transform their innovations into viable, scalable, and fast-growing enterprises. Furthermore, the innovation and entrepreneurship ecosystem Viet Nam can be hostile and initiatives to support these SMEs remain disjointed and uncoordinated. This project has been designed to learn from GCIP supported under GEF 5 & 6, to create opportunities for greater impact through providing greater commercialization support and investment facilitation services to

expand opportunities for market expansion. This project is designed to provide catalytic and effective interventions that galvanize private sector interest and investments in the cleantech innovation and entrepreneurship space and also strengthen the national cleantech innovation and entrepreneurship ecosystem and connect it at a global level. These interventions, create a critical mass of interest in the cleantech sector, drive the transformation cleantech markets and result in more cleantech SMEs contributing to climate change mitigation and low-emission development.

137. Building on the baseline, including GCIP under GEF 5 & 6, the project will:

a) adapt and institutionalize methodologies, guidelines, tools and training systems for the accelerator, advanced accelerator, and post-accelerator support and for mentors, judges, trainers to be trained and certified in Viet Nam. This will ensure that the country will continue to run the accelerators long after the GEF project has ended.

b) provide post acceleration support and investment facilitation services so that cleantech innovators from this will be able to commercialize their innovation and mobilize funding for scaling-up.

c) support the design and establishment of early-stage financing mechanism to ensure that alumni from this project

d) increase focus on developing policy and regulations on cleantech innovations at national level

e) participate in global events around the global competition-based accelerator such as dialogues, investor networks to promote networking and learning

f) create bigger market opportunities for cleantech innovators to expand their businesses and hence increase their success rates and reduction of more GHG emissions.

138. Furthermore, the link to the UNIDO/GEF program 10408, Viet Nam?s cleantech ecosystem will benefit from cross-border connectivity and synergies with ecosystems of other GCIP partner countries, leading to bigger market opportunities for Vietnamese cleantech SMEs to expand their businesses and hence increase their success rates and results in greater GHG emission mitigation efforts. One of the many incremental services that the GCIP project provides (through its linkages to the global framework) is access to global investors. As an estimate, evidence from GCIP under GEF 5& 6 shows that some GCIP alumni were able to mobilize global funding and expand their operations. From Turkey, Episome Biotech (2017 semi-finalist) raised ?1.7million in investment through 3 rounds from Diffusion Capital Partners based in The Netherlands; Seyisco raised USD 100,000 and B-Preg and Solter Vision also raised foreign capital. Actual figures are not yet available as to the level of increased GHG emission reductions achieved as a result of the international funding, but the global funding allowed B-Preg (bio-composite parcel shelves) to expand internationally and they now

estimate annual emission reductions of 4180 tCO2e/year and growing. Similarly, Solter Vision (remote PV plant analysis) now estimates annual emission reductions of 15,300 tCO2/year and Seyisco (efficient pot hole filling) already estimates 826k tCO2e per year saved. Episome (biotech) has the potential to reduce GHG emissions by 40 million tons/year once expanded globally. Therefore, SMEs with innovative cleantech solution can rapidly expand their businesses by accessing international financing opportunities and simultaneously rapidly expand global environmental benefits.

139. The GEF funding of 1.73 million US$ is estimated to catalyze co-financing of 9,35 million US$ from both public and private sectors which are interested in promoting solutions for low carbon, circular economy and sustainable development which contribute to GHG emission reductions. The project activities are regarded as opportunities for growth of SMEs in the country. The GEF resources will be used to bring best practices and international expertise to capacity development efforts. The project will support at least 80 entrepreneurs among which at least 8 solutions will receive investment facilitation services, so that they reach financial closure and market expansion; none of which would be achieved without the project. In addition, through national ecosystem strengthening activities, the project will create basis for enhancing awareness and visibility of business and investment opportunities in the cleantech sector, thereby prompting further interest and financial flows.

140. The PEE is responsible for fostering implementation of country`s climate change mitigation actions. In addition, the project will work with already existing funds, institutions and programme as mentioned in the baseline section and develop targeted capacity building activities to which GEF will bring experiences from cases from other regions. By holding outreaching and capacity building events in regional locations, the project will enhance outreach of its activities throughout the country including women and youth.

141. Viet Nam is requesting GEF funding to help address the barriers to cleantech innovation, which will lead to positive socio-economic (economic growth, green job creation, attraction of foreign and domestic investment, etc.) and environmental (contribution to the reduction of GHG emissions and to global environmental sustainability, etc.) impacts. What is more, these impacts will be amplified through opportunities for coordination and connectivity with other countries under the global GCIP framework, and thus for global cleantech innovation scale-up.

142. The GEF grant will stimulate the formation of local innovation ecosystems and will leverage additional sources of funding by private sector sponsorship, existing institutional resources, and funding mechanisms. The identification of local cleantech solutions through the operation of regional accelerator programs will provide tailored services for local environmental benefits with global GHG emission savings benefits. These locally identified solutions will be scaled across Viet

Nam through the national platform and linked to global markets through the Global Cleantech Platform to leverage allocated funding sources and maximize global environmental and climate mitigation benefits. This project will seek to catalyze systemic transformation in the cleantech sector by providing post-acceleration support services so that more cleantech SMEs commercialize their innovation and scale-up their operations. By employing an ecosystems-based approach, the project will stimulate cleantech ecosystems at provincial levels that will provide support to cleantech SMEs in the long-term. The project will build capacity of regional institutions and train a cadre of cleantech experts who will continue to support cleantech start-ups.

143. If GEF funding is not provided, it is very likely that clean technology innovations for low carbon circular economy and sustainable development innovation will not be adequately developed in Viet Nam (or only at a very low levels). Cleantech enterprises will continue to lack key skills on transforming their innovations into enterprises. Furthermore, investment will not be accrued for the cleantech enterprises for expanding their businesses. This will result in the loss of opportunities for green growth in the country where GHG emissions will continue to increase due to the economic development and increasing population is yet be expected.

5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

144. The long-term lifetime of the cleantech innovations introduced in the market and a strengthened and enlarged low-carbon culture will be reflected in multiple environmental benefits including, primarily, GHG emission reductions. The environmental benefits achieved through the implementation of this project will be measured and quantified on the basis of the innovations marketed and their uptake. Given the nature of the project, the low-carbon products developed and commercialized will achieve environmental benefits beyond the project life and scope.

i) Background on GCIP`s target for avoided GHG emission for the GCIP Framework (GEF ID:10408) to which the proposed project will be linked with

145. In order to ensure that GCIP supports innovative cleantech solutions with high impact potential, and delivery of GEBs at the programme level, a target approach is applied. To achieve cost effectiveness of GEF funding for GEBs, a value of 5 to 10USD/tCO2e avoided is targeted (corresponding to an overall cost per ton at programme level of USD38-76/tCO2e). This means that, with GEF funding of almost USD 18 million, GCIP Framework aims to deliver between 1.8 million and 3.6 million ton CO2e by 2030. As 10 countries will be a part of the overall GCIP Framework, almost 1000 semi-finalists are expected to be supported through the accelerators in all countries across

the programme. Therefore, the target for the minimum projected potential of avoided GHG emissions per enterprise is between 1,800 to 3,600 tCO2e by 2030.

146. To put this minimum target approach in context, a review of previous GCIP alumni GHG reductions was carried out. The review, looking at three sources of information, shows that the proposed avoided emission target is plausible and quite conservative. It also demonstrates the huge likely variety of emission reductions due to the different country contexts and technology innovations. The review also shows that where an innovation has real market potential, the avoided GHG emissions are very significant and that the GCIP approach has experience in successfully identifying and accelerating such companies.

a. Firstly, a survey carried out by UNIDO of 14 of its GCIP alumni showed that these companies had already generated 600,000 tCO2e savings by 2017 and projected to generate over 4.8 million tons of GHG emission savings by 2020 (or 340,000 tCO2e/year per company).

b. Secondly, the Independent Evaluation Office (IEO) report of eight GCIP projects included a sample of alumni in its annex with projected avoided emissions between zero (either they had not been estimated yet or the cleantech was not related to CCM) and 5 million tCO2e per year. A median for emission reductions that were reported (which occurred only fora small proportion of the total alumni, namely 60 out of 900) is 88 tCO2 per year. If alumni with estimated reduction are included (34) in the calculations, then the median increases to 12,200 tCO2/year with the interquartile range from 350 tCO2 to 81,000 tCO2/year.

c. Thirdly, the Mission Innovation Framework for Assessing Avoided Emissions, in which a number of GCIP alumni (selected as part of Mission Innovation?s 100 innovative clean energy solutions in 2019) were included, shows for example that Atomberg Technologies (which manufactures an energy efficient fan) is estimated to avoid 5 million tCO2e/year by2030. In turn, BEAD, an energy management AI optimization enterprise, is estimated to avoid 319 million tCO2e/year by 2030. These two companies were also covered by the IEO report mentioned above, but Atomberg had not provided an estimate (so was assumed zero) and BEAD`s estimate was 5 milliontCO2e/year

147. A ten-year horizon was selected for estimating the GHG emission savings. However, assessing a priori the GHG reduction potential of cleantech solutions (products, services) to be identified through GCIP has proven to be difficult, as by definition GCIP encourages open innovation, and the types and categories of cleantech products and services that will be supported can only be determined after the selection of semi-finalists as part of the GCIP Accelerators. Also, expected difficulties include attribution of the incremental GEBs of the cleantech solutions to the GCIP support. However, the design of past GCIP assumed abatement costs (for GEF funding) of between 0.68 USD/ton CO2e in Turkey to 29.77 USD/ton CO2e in Armenia. As the targets were exceeded in those

countries, and as the proposed benchmarks are within the same range, they are considered realistic and conservative.

148. The target of between 5 to 10 USD/tCO2e avoided, that is set for the GCIP Framework, translates into avoided GHG emissions per enterprise of between 1,800 to 3,600 tCO2e. The provided target range will enable the GCIP country child projects to support a mix of technologies with different CO2 emission reduction potentials, and in particular allow innovations into the GCIP Accelerators that a) have a relatively low CO2 reduction potential, but a considerable demand and market growth potential (that can lead to amplification of GEBs), as well as b) that create multiple benefits (including socio-economic, such as job creation, gender mainstreaming, etc.). In addition, indirect GEBs facilitated through the CIEE strengthening are also expected. In particular, indirect GHG emission reductions could result from: strengthened capacity of institutions and human resources to support commercialization and uptake of cleantech solutions at large; investments mobilized for cleantech solutions at large due to reduced risk perceptions; as well as longer-term emission reductions from behavioural change. An estimated factor of 5 is chosen to provide a projection for indirect GEBs. Where possible, efforts will be made to verify the indirect GHG emission reductions achieved at national and global levels through terminal evaluations.

149. This target-based approach for the estimation of GHG emission reductions will be applied across all 10 child projects under the GCIP Framework (GEF ID: 10408). The approach is also hared among the other independent stand-alone projects which will be linked to the global flamework to keep consistency. A GCIP methodology for the calculation and monitoring of GHG reduction potential will be developed by the GCIP Global (GEF ID: 10461) in the first year of the project implementation, as well as it will be shared with all GCIP partner countries to enable coherent approach. In order to ensure that the desired GEBs are cumulatively delivered by the GCIP Framework, appropriate measures will be applied across the programme. They will entail placing a benchmark for the estimated GEB to be delivered by the cleantech innovations at the GCIP Accelerator application stage, so that only solutions with sufficient impact potential are supported. If the projected GHG emission reduction does not meet the minimum requirement set, the innovation will not be accepted into the GCIP Accelerators.

ii) Estimation of Global Environmental Benefits of Viet Nam Accelerator project (GEF ID: 10886)

150. The two cycles of the Viet Nam multi-track accelerators are expected to support at least 80 enterprises (semi-finalists). Using the above benchmark avoided direct GHG emissions over a ten-year horizon are estimated at between 144,000 to 288,000 tCO2e and between 720,000 tCO2e to 1,440,000 tCO2e of indirect GHG emission savings are estimated (based on an estimated factor of 5). The lower range has been used as input to the GEF corporate core GHG indicator target (indicator 6) as a conservative estimation.

151. To facilitate the achievement of GEBs, there will be awareness raising and promotional activities during the call for applications to the Viet Nam Accelerators, and the applicants will also be supported in calculating the GHG emission reduction potential of their innovations. Additional training on GHG monitoring and calculation will be provided to all semi-finalists. In addition to the substantial CO2 emissions mitigation, it is expected that other environmental co-benefits will result from this project, in particular because of its focus on a circular economy. These are likely to include reduction in waste in the environment and reductions in material use. In addition environmental co-benefits will include a reduction in air pollutants (e.g., NOx, SOx, PM and CO) and improved water quality. Examples from previous GCIP alumni include: waste-to-energy technology which diverts waste from landfill; a hot water (geyser) sleeve that helps households to conserve, reuse and improve water heating; a solar veranda that not only provides solar heat but also collects rain water so reducing need for water; a recyclable roof tile; biodegradable sanitary pads; and an artificial wetland providing a natural, sustainable way to improve water quality in poor communities. The environmental co-benefits from this GCIP SA will be monitored and reported (e.g. ton of waste diverted from landfill, liters of water saved) along with renewable energy capacity installed and energy savings.

6) Innovation, sustainability and potential for scaling up

Innovation

-

152. The project is unique in its approach of fostering the expansion of SMEs and start-ups into cleantech products and markets. From the assessment of the current policy framework and the identification of innovative technologies to their development and commercialization, the project supports entrepreneurs across the whole innovation value chain to develop demand-driven and investment-ready climate solutions integrating renewable energy, energy efficiencies, and waste management within the context of for low carbon and circular economy that will have a real impact in Viet Nam and for global markets. In contrast to other accelerators and incubator programme, the project not only promotes innovation, but also uses an innovative approach that is cross-sectoral and multi-tiered to strengthen the national innovation and entrepreneurship ecosystem by building capacity in national institutions, creating strong linkages between the most relevant ecosystem players and by raising awareness among them.

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Sustainability

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153. The impact pathways of the project are carefully selected to address key barriers and galvanize continued actions by ecosystem players so as to achieve transformation impact in terms of

GHG emissions reductions and job and wealth creation in Viet Nam. The mainstreaming of cleantech innovations that will continue beyond this project will ultimately result in the decoupling of economic growth from GHG emission increase.

154. The sustainability of this project is ensured by involving public and private sector institutions and by building their capacity to make sure that the activities under the different components can be carried out by them after project closure.

155. Besides, the comprehensive trainings conducted for participants, judges and mentors will create a critical mass of technicians with sound business skills in different regions of the country. This knowledge can be easily transferred to create a virtuous cycle of enhancing the cleantech ecosystem to identify and support innovations through business growth and towards commercialization.

156. Knowledge management is seen as a key enabler for ensuring sustainability of the project. Among others, the project will create opportunities for strengthening the knowledge sharing through organization of series of trainings, workshops, roundtables, expert group meetings, printing materials and through the Cleantech platform. These activities are conducted in conjunction with a set of outreach activities to enhance their impact within the country and beyond. Moreover, the project will develop a knowledge management, advocacy and communication strategy. The strategy is to support the creation of strong networks and effective communication channels among the cleantech ecosystems actors, and their sustained interactions and networking post project closure.

157. The project will closely work with the proposed executing partner and associated agencies to strengthen its institutional capacity in order to effectively absorb the knowledge and technical capacity created by the project activities.

158. Strengthening the capacity within the project executing entity (PEE) to conduct the national accelerator with public and private funding post project closure will ensure sustainability of the project?s impacts, as shown through previous GCIP partner countries. Sustainability and exit strategies will be developed and adapted for Viet Nam, learning from previous and existing relevant activities. The sustainability of the project is reinforced by the following:

? During and post accelerator the cleantech SMEs will be guided through the development process of the concepts to ensure that their innovative concepts are sustainable and will have a real impact on

the Vietnamese market. To ensure that this intensive mentoring approach is sustained beyond the project implementation period, the project will conduct capacity building activities for the national counterpart institutions, mentors and judges in the country;

- Through investment facilitation, cleantech SMEs will be able to mobilize funding and investments from angels, impact investors and other sources of fund;
- By generating and using methodologies, guidelines, tools and training materials for competition-based accelerators, the project will ensure that institutions and industry associations engaged in running the accelerators will have adequate resource materials to use in running such accelerators beyond the life of the programme;
- By linking cleantech innovation ecosystems across countries, the project will create a business environment and incentives for cleantech SMEs, policy makers, and industry associations to work across countries. This will be sustained through these stakeholders investing their own resources in these activities beyond the life of the programme;
- Through the establishment of a web platform, where cleantech SMEs alumni and stakeholders will continue to update and use as a market place where global technology innovation ecosystem players will continue to post innovations, investors will continue to scout for new innovations, policy makers and regulators will continue to use to learn about policy and regulatory innovations. In fact, the web platform, will catalyze continued connectivity of innovation ecosystems from different countries;
- The management of knowledge generated from the project in terms of fact sheets, guidebooks, tools and reports on accelerating cleantech innovation. This will ensure that stakeholders will be provided with a continuous access to these tools and apply them to sustain the project?s approach;
- Strengthening national institutional capacity to ensure that the skills and experience are there to sustain the cleantech innovation platforms and run the accelerators beyond the GEF funding;
- Supporting the maintenance of standards in terms of accelerator processes and practices so as to ensure adherence to the highest quality of norms. Such norms will guarantee that the project will transform to a recognized brand, securing long-term sustainability;
- Development of long-term partnerships with the private sector which will form part of national exit strategy and guarantee continued funding of the programme.

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Scaling up

159. While the Viet Nam cleantech project is not a GCIP child project per se, it is implemented in alignment with the GCIP child projects under the global GCIP Framework (GEF ID: 10408). This will enable the country project to bear a considerable potential for local and regional expansion in terms of cooperation and networking, as well as sectoral expansion through close relationship with the GCIP child project countries in the region and across the globe. The stakeholders involved in the Viet Nam accelerator programme are enabled to form international partnerships and to enter foreign markets. Through continuous expansion of countries connected, these opportunities are continuously augmenting.

160. The project will enhance the traditional cleantech accelerator approach according to identified limitations by including post-competition services like investment facilitation and commercialization services as well as by expanding to challenge based competitions, focusing on the field of low-carbon circular economy, sustainable development and there like responses and building up of resilience against emerging challenges such as COVID-19.

161. The commercialization element aims at complementing the training provided during the acceleration process to maximize the ability of each supported alumni to reach the commercialization stage. By providing support to alumni and other eligible cleantech innovators, the project is expected to effectively increase job creation, competitiveness, wealth generation and GHG emission reductions. It is also expected that the project will serve as a catalytic force to advance the cleantech innovation and entrepreneurship ecosystem in Viet Nam as well as to coordinate and maximize the synergies with national and international relevant players.

162. The private sector, in their attempts to address existing energy challenges, will play an instrumental role in driving and sustaining technical innovation in agro-industry, industrial waste, renewable energy, energy efficiency and recycling sector. The project approach is premised on mobilizing economic interest by stakeholders who will sustain the interventions of the project beyond the life of the project.

163. In addition, the Viet Nam cleantech project is expected to set building blocks for the country to advance its actions under the following GEF replenishment cycle especially in terms of integrating circularity concept into the policies, planning and actions which can deliver multiple environmental benefits across climate, biodiversity and chemicals and waste[47][47].

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1b. Project Map and Coordinates

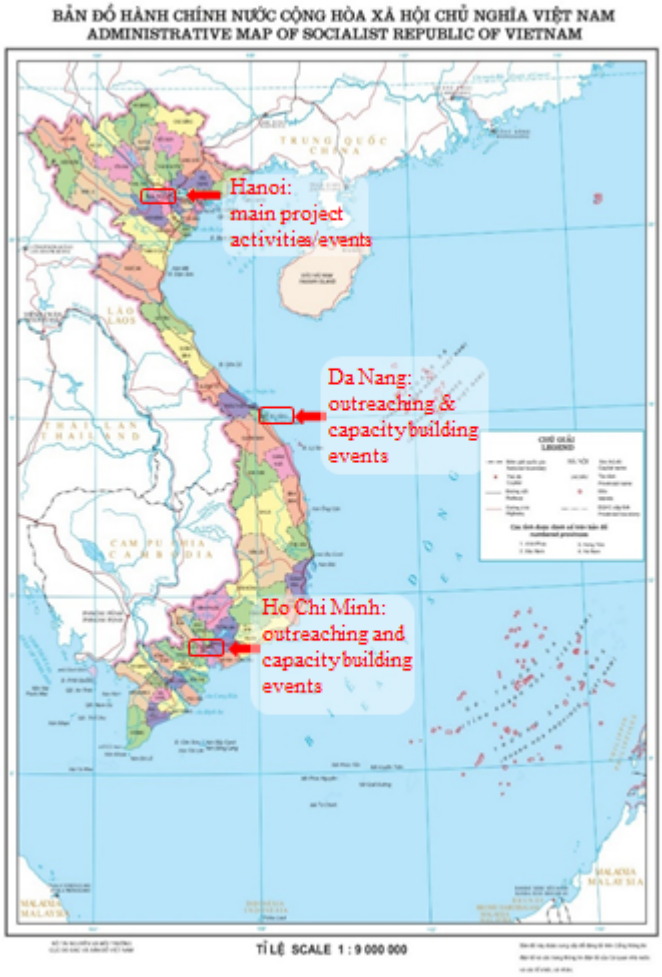
Please provide geo-referenced information and map where the project interventions will take place.

164. While the project is targeted at beneficiaries (entrepreneurs and all relevant CIEE stakeholders, such as universities, policy makers, financiers, and R&D institutions) from all over the country, the main project events will be conducted in the capital city of Hanoi, as well as some outreaching and capacity building events in Da Nang and Ho Chi Minh cities in Viet Nam. This is due to the benefits resulting from a relatively dense concentration of relevant stakeholders there, and well-developed infrastructure. The project boundary will not overlap any other country?s territory. The geo-coordinates and location for these cities are as following:

1) Hanoi: 21.02722? S, 105.83508? E

2) Da Nang: 16.05492? S, 108.20293? E

3) Ho Chi Minh: 10.82095? S, 106.62851? E



1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N.A.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

165. Inclusive on-site stakeholder consultations, that took place during the project design period, paved the way for strong involvement and commitment from all relevant actors. This will continue throughout the project, as the facilitation of coordination between all CIEE stakeholders is a key objective of the project. A Stakeholder Engagement Plan (SEP) was developed (Annex J) to outline the strategy for engaging with stakeholders, including a range of activities and approaches, from information sharing and consultation, to participation, negotiation, and partnerships. The SEP also sets out resources and responsibilities as well as any related monitoring and reporting requirements.

166. The ongoing impacts of the COVID-19 pandemic (as of May 2022) poses a certain barrier to stakeholder engagement including possible re-instatement of COVID-19 containment measures which may limit travel and/or group meetings and reduce available capacity or effectiveness of project execution/ implementation. In order to mitigate these risks, the project will focus on strengthening the capacity of stakeholders, and especially the beneficiaries, for remote work and online interactions by securing access to commercially available conferencing systems.

167. An overview of all the crucial and relevant stakeholders as well as their foreseen roles and engagement modalities in the project is included in the table below.

Main Partner	Description and Mandate	Envisaged role in the project

Ministry of Natural Resources and Environment (MONRE)	MONRE performs the state management functions regarding land, water and mineral resources, environment protection as well as climate change. MONRE is the designated state agency working for environmental protection and oversees the implementation of multi-lateral environmental agreements and as such acts as the Focal point for CBD, UNFCCC and GEF. MONRE is also the lead government agency to promote activities related to circular economy.	MONRE is the leading ministry of the project and will guide the overall strategic direction of the project execution. MONRE will assume the chairmanship of the PSC. Other affiliated units under MONRE with project relevance may include: - Viet Nam Environment Protection Fund (VEPF) - Department of Climate Change and Department of Environmental Pollution Control
Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)	ISPONRE is a national institution established under MONRE and it has functions and authorities to conduct researches, provide advises and implement projects in the areas of MONRE?s mandate under the guidance of the ministry.	ISPONRE will be the project executing entity and act as Secretariat of the PSC by convening regular meetings to report and review project execution progress and report to the PSC Chair. ISPONRE will provide co-financing in the forms of in-kind for the execution of the project in cooperation with MONRE and VEPF.

Ministry of Science and Technology (MOST)	MOST performs state management functions related to science and technology, including scientific research, technology development and innovation activities. With regards to SMEs, MOST is responsible for the creation of incubators technical establishments and common working areas as well as to support small- and medium-sized enterprises in raising their technological capabilities.	The project will cooperate with MOST for determining the policies, the regulatory framework and direction in the area of science and technology for Viet Nam, in order to create a nurturing innovation ecosystem in higher education and research institutions. MOST will also provide linkages between the project and activities on entrepreneurship and technology innovation in institutions of higher education and research institutions. In particular, the researchers and students from these institutes will be systematically invited to submit their cleantech venture ideas under this project. In the long-term, it is envisaged that MOST will help with the development and adoption of a new curriculum on entrepreneurship, innovation and energy, thus supporting the sustainability of the Cleantech ecosystem in Viet Nam. MOST will be a member of the PSC to ensure synchronization and efficiency among related programs and projects. Affiliated units (within MOST) with project relevance may include: - State Agency for Technology Innovation

Ministry of Industry and Trade (MOIT)	MOIT performs the state management functions related to industry and commerce and works for the advancement, promotion, governance, regulation, management and growth of Viet Nam's industry and trade sectors. One of MOIT's responsibilities with regards to SMEs, is to guide their participation in product distribution chains. MOIT also acts as the governments focal point on energy savings and energy efficiency programs.	The project will cooperate with MOIT on support for establishing clean technology innovation networks with experts including mentors and judges. MOIT will be a member of the PSC and will provide the linkages between clean technology innovation to industries and SMEs. In particular, MOIT will link the cleantech project to issues of trade and investment, especially supporting the transition of startups into manufacturing industries and trade, and promoting investments in the selected startups. Affiliated units (within MOIT) with project relevance may include: - Renewable Energy Authority (EREA)

Ministry of Planning and Investment (MPI)	MPI performs the state management functions on planning (master plans, socio-economic development) and investment (domestic and foreign). Concerning SMEs, MPI has the prime responsibility in formulating, implementing and monitoring the national plans, programs and projects to support small- and medium-sized enterprises. With reference to climate change/environmental policy formulation, MPI is equally assigned for defining the scope of policy covered as well as the associated budget allocation and expenditures.	The project will cooperate with MPI for coordination and synchronization of the national policies on SMEs and environment that create a nurturing innovation ecosystem in the priority sectors of the project. MPI will be a member of the PSC and will provide the linkages between clean technology innovation and the government?s strategic priorities. Affiliated units (within MPI) with project relevance may include: - Department of Enterprise Development; - SME Development Fund; - Green Climate Fund.

Ministry of Labor, War Invalids and Social Affair (MOLISA)	MOLISA performs state management functions related to labour, employment, occupational safety, social protection, vocational training, child related issues and gender equality.	The project will cooperate with the Department of Gender Equality under MOLISA to facilitate engagement of women into the project activities. Representatives may be potential members of the PWG to enhance positive project impacts on promoting GEEW in the cleantech ecosystem in Viet Nam. Affiliated units (within MOLISA) with project relevance may include: - Department of Gender Equality
Vietnam Climate Innovation Center (VCIC)	VCIC is implementing the National Green Growth Strategy under the management of MOST and has an important role to play in coordinating Viet Nam?s response to climate change by connecting technology, markets, finance solutions and business activities in line with this strategy. VCIC's Project Management Unit (PMU) will support climate innovation entrepreneurs from the stage of incubation to commercialization, international market approach, to turn climate challenges into green growth and sustainable development opportunities.	VCIC will be engaged in the project especially for the provision of trainings, business incubations, mentor trainings and knowledge dissemination to promote the low carbon circular economy. The project is envisaged to create mutual benefits with VCIC by sharing and channeling networks of entrepreneurs and investors identified through the project activities. In addition, it will play a practical role in capacity building during project implementation, being responsible for executing trainings. A representative of VCIC may be a potential members of the PWG.

EU-Viet Nam Energy Facility	Co-financed by the EU and the German Federal Ministry for Economic Co-operation and Development-BMZ and in close cooperation with MOIT, it is aimed to enhance access to sustainable energy in Viet Nam?s rural areas and to contribute to a more sustainable energy sector.	The project will seek for partnering with the EU-Viet Nam Energy Facility and its engagement especially for mentoring and judging including the investment support for high potential low carbon circular economy solutions. Representatives may be potential members of the PWG.
Viet Nam Environment Protection Fund (VEPF)	VEPF is the national fund for environmental protection and operates as a state financial institution under MONRE.	VEPF will be a member of the PSC and is expected to assist the present project with directions in sustaining and expanding the Cleantech Competition and accelerator programme after completion. VEPF will provide co-financing in the forms of investment mobilized for the execution of the project in cooperation with MONRE and ISPONRE.

Hanoi University of Science and Technology (HUST)	HUST is the largest technical university in Viet Nam, providing high-quality university and post-graduate training and research as well as technology transfer in key industrial and scientific areas, to meet the increasing demand of the domestic and international labor market.	The project will closely cooperate with HUST and INEST as well as other leading universities and research institutions[1] to encourage participation and increase awareness among students and entrepreneurs. Affiliated units (within HUST) with project relevance may include: - Institute of Environmental Science and Technology (INEST) 1) INEST Clean Production Center (CPC) 2) INEST Circular Economy Knowledge Center Thus, HUST/INEST and other universities and research institutions representatives may be potential members of the PWG and will be engaged as potential sources of new clean technologies, emerging entrepreneurs, knowledge networks, applied research collaboration and additional team members.

Innovators/ Entrepreneurs	Innovators/entrepreneurs will be the most important stakeholders and will be the main beneficiaries from the project's activities.	It is expected that the project will reach out and engage with innovators and entrepreneurs in Viet Nam by utilizing existing channels and ongoing activities in Viet Nam to support their initiatives while creating alumni. The network of alumni is envisaged to keep actively collaborating with innovators and entrepreneurs engaged in the project and thereafter.
GCIP Global Executing Entities (PEEs) NGIN, Cleantech Group, PFAN	Execution of the GCIP Global Child Project	Under the global GCIP framework there will be significant two-way interaction with the PEEs of the GCIP Global Child Project. This will cover the development of methodologies and guidelines for local adaptation, training material and capacity building, global advocacy, tools for coordination and coherence, international forums, support for the Viet Nam project alumni, knowledge products and advice. Impact monitoring will be done in coherence among national and global projects while taking into account the specific country context.

Organizations which promote GEEW and gender focal points	UN Women holds office in Viet Nam and is a part of the UN ?Delivering as One? initiative in Viet Nam and it leads UN?s advocacy to further promote gender equality by enhancing women?s economic empowerment, ending violence against women and girls and improving women?s access to justice, and making gender equality a key part of the national legal framework, policies and plans.	Relevant women entrepreneurs/ innovators, CSOs and NGOs focusing on gender equality issues and advocating women?s empowerment, and gender experts/focal points will be invited to participate in and contribute to all activities of the project.
	The Viet Nam Women Entrepreneurs Council (VWEC) was established under the Viet Nam Chamber of Commerce and Industry (VCCI) and is the largest agency representative of female entrepreneurs and women-owned businesses in Viet Nam. It supports women entrepreneurs? and women-owned business? rights; capacity building, trade, investments, as well as technology development.	The project will deliberately mobilize interest from women entrepreneurs by targeting the involvement of their associations in the project process (for instance by reaching out to both qualified women and men equally but also as potential members of the PWG). This will be done by taking into consideration the cultural context that exists in Viet Nam. That way, the project would adequately address the gender imbalances in SMEs and provide a solid basis to empower women in clean technology innovations.
	The Viet Nam Association of Female Entrepreneurs (VAWE) aims to promote the capacity and role of businesswomen for the country?s sustainable development, offering a venue for them to share experience and improve their professional knowledge. It also protects the legitimate interests of women entrepreneurs and workers in businesses.	
	The Institute for Family and Gender Studies (IFGS) affiliated with the Vietnamese Academy of Social Sciences conducts in-depth researches around family, women empowerment and gender equality issues. IFGS researches provide the scientific basis/facts for government bodies in legislation and policy making, influencing policies to support women advancement and gender parity. IFGS equally disseminates scientific knowledge about women and gender issues by targeted advocacy activities, by delivering lectures at universities and by consulting for organization?s thematically interested.	
	The Viet Nam Organization for Gender Equality (VOGE) established and operational since in 2016 by a team of young, competent and enthusiastic students who always showed concern and initiatives in social problems solving.	

Other International Agencies may include UNDP, WBG, IFC, GiZ	Development cooperation	Relevant International agencies will be invited to participate and consulted, where relevant, during project implementation. They will be recipients of the project outreach and advocacy activities.

[1] Research and technology transfer support institutions will be identified during project implementation. Proposed consideration may include Can Tho University; University of Danang; Nong Lam University, Ho Chi Minh City University of Technology, Vietnam National University of Agriculture.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Please find the Annex J Stakeholder Engagement Plan (SEP)

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Please find the Annex N Evidence of stakeholder interaction

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

N.A.

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

168. Gender equality is a fundamental human right. While some progress has been achieved towards gender equality and women?s empowerment globally, women continue to suffer from discrimination and violence in some parts of the world. Gender issues need to be addressed by creating equal employment and capacity building opportunities, as well as social infrastructure and safe working conditions responding to the specific needs of women. The importance of gender equality and women?s empowerment, particularly women?s economic empowerment, is at the core of UNIDO?s mandate. Commitment of UNIDO towards gender equality and women?s empowerment is demonstrated in its policy on Gender Equality and the Empowerment of Women (2019), and the UNIDO Strategy for Gender Equality and the Empowerment of Women (2020-2023). UNIDO has also developed an operational energy-gender guide to support gender mainstreaming within its sustainable energy initiatives.

169. Gender equality enhances economic growth, reduces household poverty, and enables human development. Women?s entrepreneurship, that can directly contribute to the economic empowerment of women, is often seen as crucial for increasing the quality of life of women in the developing world, as well as a trigger for changes of the status-quo of women and for re-addressing the balance of power within the family.

170. In this regard, the Government of Viet Nam has been considered as a role model and recognized internationally for its significant achievements in promoting gender equality and the advancement of women during the past 20 years. Viet Nam also achieved the Millennium Development Goals of empowering women and promoting gender equality.[1] Accordingly, in Viet Nam, 26.7 percent of parliamentary seats are held by women, and 66.4 percent of adult women have reached at least a secondary level of education compared to 78.2 percent of their male counterparts. The Human Development Report from 2020 confirmed Viet Nam?s relatively high labor force participation rates among women of an average of 73.2 percent (in comparison to Thailand with 59.2 per cent and Philippines with 46.1 per cent), emphasizing the importance of labor participation by women.[2]

171. However, when looking at the actual distribution of jobs, persisting gender gaps become evident. Accordingly, the challenge with regards to gender disparities in Viet Nam?s labor markets are not the employment participation as such but rather the quality of that employment. A WBG study highlighted that even though women achieve high education levels, the female labor force tends to be clustered in lower-paid manufacturing and domestic jobs.[3] With the onset of the Covid-19 economic crisis, an even bigger pay gap is expected to exacerbate these challenges[4].

172. Female entrepreneurship is considered a key tool in enabling women?s empowerment. However, several sources indicate that in Viet Nam, merely 26.5% of formal enterprises (including micro, SMEs and large enterprises) are owned by women. While weaker business metrics are often attributed to women-owned enterprises, their performance is with similar average annual revenues. However, most banks have yet to consider adopting strategies that cater to women-owned SMEs since the current practices are directly impacting women?s ability to access formal financing. Even when women entrepreneurs do qualify for a bank loan, they tend to receive less than what they asked for, and lower amounts than men which contributes to a financing gap for women-owned SMEs.[5]

173. Based on these findings, the project aims to address these gaps and as a guiding principle aims to ensure that both women and men are provided with equal opportunities to access, participate and benefit from the project (UNIDO Gender Policy 2019). Particularly, in the Viet Nam Pre-accelerator, accelerator, Advanced accelerator, and Post-accelerator, gender-responsive activities will be streamlined to ensure the achievement of this goal. Special efforts will be made to promote equal participation of women and men, both at managerial and technical levels, as consultants, participants, entrepreneurs, mentors, etc. in all stages of project implementation. Previous GCIP projects have already shown higher levels of women?s participation than other acceleration and incubation programmes, with 25% of the 900 alumni supported to date being women-led enterprises. The Viet Nam project aims at continuation of this trend and even at an increase of the proportion of women beneficiaries (with a target of at least 45% women beneficiaries).

174. UNIDO?s Guide on Gender Mainstreaming Energy and Climate Change Projects will be used as a framework and guided the gender analysis of the project in order to ensure that the project is in line with both UNIDO and GEF requirements. Based on the guidelines, attention will be paid to:

? Gender-sensitive recruitment at all levels where possible, especially in selection of project staff.

? Gender responsive TORs will be used to mainstream gender in the activities of consultants and experts.

? In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged.

? Furthermore, whenever possible existing staff will be trained and their awareness enhanced regarding gender issues.

? Gender dimensions will be considered in all decision-making processes (this will consider but will not be limited to efforts to achieve gender balance/ representation in such processes).

? Collect sex-disaggregated data whenever possible.

? Relevant women associations and gender focal points will be involved and consulted with in all project activities.

? The differentiated needs and roles of women and men are identified with respect to the capacity building interventions of the project. For these purposes, women?s groups and associations, gender experts and/or other stakeholder concerned with gender and energy will be consulted. In that connection, the tools and guides developed will be gender responsive.

? Raise awareness on gender and disseminate information about gender dimensions and gender mainstreaming in the sector.

175. The gender mainstreaming analysis and action plan developed in the framework of this project (Annex K) during the preparatory phase (PPG) has identified gender specific targets to be monitored and evaluated throughout the project implementation period. Upon the start of project implementation, ISPONRE will review and validate the Gender Mainstreaming Action Plan included therein and incorporate it into its annual work plans. A summary of those integrated approaches to gender mainstreaming is shown in the table below:

Project phase/Activity	**Gender equality measure**
Targeted outreach (While the target groups would be both men and women engineers and business persons, The project incorporated a specific outcome of ?1.2 Gender equality is supported and strengthened by the CIEE in Viet Nam)	? Establishment of a hub/chapter/network platform for women to engage in CIEE in Viet Nam; ? Implementation of a special mentoring programme for women cleantech entrepreneurs; ? The project design will acknowledge the differences between women and men considering distribution of economic activities and social roles in the cleantech innovation space, in line with GEF 7 Programming Strategy.

Project Execution	? Conduct ?Gender sensitization workshops? for all stakeholders involved in the project; ? A gender training package (material for national capacity building on gender awareness) will be adapted for Viet Nam from the training package developed by the GCIP Global; ? Gender focal point will be nominated within ISPONRE; ? Gender mainstreaming targets will be included in the ToR for the national PEE and international contractors.
Training of Viet Nam consultants and experts	? Consultants/experts will be required to complete the ?I know gender? UN course; ? Mentors and judges will be provided with training on awareness raising on women`s role and engagement in cleantech ecosystem and gender-bias; ? Consultants will be expected to provide evidence on how gender equality is addressed in the materials they develop.
Development of Viet Nam guidebooks	? Guidebooks will highlight the need to make special effort to encourage women to apply for the acceleration support, including targeted outreach and gender specific communications material (e.g., videos, success stories) and explicit statements that the project encourages applications from women; ? Training materials for entrepreneurs will include topics on gender awareness; ? Gender equality will be addressed in the curricula and content of all training materials developed for experts.
Application state for Viet Nam accelerator (Challenge and Competitions)	? Collection of gender disaggregated data in application forms; ? Setting a target on the % of women-led enterprise applications and % of women in the applying team as one of the indicators to track the progress of gender equality in cleantech innovation.

Selection of project Finalists and recruitment of experts	? Stringent selection criteria will be defined that provide equal opportunities for both women and men; ? Involve women in the mentoring process so that more role models can be created (thus mitigating the impact of inequality in the future); ? Targeted additional training could be made available to train women mentors and judges; ? Setting a target: % of women-led enterprise semi-finalists, # of women mentors and judges; ? Special support will be provided to women to prepare for the competition (e.g. women could receive the possibility to select their slot, so it does not overlap with their household responsibilities or could be offered safe transport to the competition venue); ? Evaluation methodology for selection of semi-finalists will consider the gender balance within entrepreneur?s management teams and beneficiaries, as well as gender-responsive policies.
Special awards	? Special consideration will be given to the creation of a gender related prize (e.g. a prize for the women?s entrepreneur of the year and/or a special award for the team with the product/service with the highest gender equality impact potential). Such a prize was offered in a number of previous GCIPs, which led to an increase in the number of women-led innovators applying for support (e.g., in South Africa, Pakistan, and Morocco the number of applications from women entrepreneurs was between 35% and 40%).
Provision of support to entrepreneurs participating in the Viet Nam accelerator, Advanced accelerator and Post accelerator	? Where considered necessary, the project will seek to remove barriers to ensure inclusion of women (e.g., segregated financial training might be offered); ? Specific training module foreseen as part of the accelerator curriculum to address gender-related challenges and barriers; ? The training material will be gender-responsive (e.g., stereotypes will be avoided); ? Trainings will be organized at times suitable for both women and men, and recordings will be provided.

Forums/events	? Women participants will be encouraged to attend the forums/events through focused outreach activities; ? It will be ensured that topics of interest to women entrepreneurs are included in the forum/event agendas; ? There will be a targeted event or panel to discuss women?s entrepreneurships; ? Participant data will be disaggregated.
Investment facilitation	? Gender lens investing principles will be applied in all of investment decision making processes; ? Specific training materials and guidelines on gender lens investment will be developed for financiers and other stakeholders.
Capacity building	? Capacity building on gender equality will be mainstreamed throughout the project implementation and with regard to all stakeholders; ? Support will be provided to Viet Nam?s national machinery for the advancement of women and gender equality including the National Committee for the Advancement of Women (NCFAW), the Committees for the Advancement of Women (CFAWs), the Viet Nam Women?s Union (VWU) and through the Viet Nam Women Entrepreneurs Council (VWEC). ? A gender sensitization training for relevant stakeholders will be organized.
Policy support	? Gender and youth empowerment policy framework will be developed.

Supporting Youth

176. In addition to gender dimensions, the experience of countries under the previous GCIP shows that it was also able to support youth entrepreneurship and employment as an added benefit in the countries involved. The project?s main goal is to strengthen the cleantech innovation ecosystem of our partner countries, it supports cleantech startups by providing business and entrepreneurship training and mentoring. As cleantech is a relatively new industry sector worldwide, and at nascent stages in the country, the entry barrier for youths is low compared to other more established markets where lack of experience in that sector may prove to be a (both actual and perceived) disadvantage. Defining the product market, sales tactics, financing options for commercialization etc. for cleantech businesses are not transferable from other industries and therefore experience in other sectors may not necessarily be

an advantage. This means youth entrepreneurs are on a level playing field with older/more experienced entrepreneurs. Through the training and mentoring curriculum offered by the project, youth entrepreneurs develop necessary business skills specific to the cleantech sector, and are placed on an equal footing with older generations in the cleantech space.

177. Youths are more likely to be interested in mission/impact driven business models, as opposed to profit driven business models. This means the goals of the project are more attractive to youths that seek to establish businesses that offer environmental solutions. Therefore, interest from youths to participate in project is higher.

178. It is important to engage youths in the cleantech sector, as youths experience environmental problems differently due to behavioral and lifestyle differences compared to other generations. Many cleantech solutions are developed based on personal experiences, and therefore fully engaging the youth will be important in addressing environmental challenges comprehensively. To promote application from early-stage R&D cleantech solutions, the previous GCIP focused on engaging universities and students. This has the added benefit that youths are naturally the target group of the project communications and advocacy efforts. The project is also indirectly impacting the entrepreneurial culture of the country, through its communications efforts. The main message is that solutions to environmental and social challenges can be profitable business models. Also, in promotion efforts for the supported SMEs, many youth entrepreneurs are showcased, and the public is exposed to success stories of young entrepreneurs. Seeing peers as entrepreneurs may indirectly influence other youths to also consider entrepreneurship as an option.

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[1] UNDP (2018) Human Development Indices and Indicators: 2018 Statistical Update Vietnam, available at https://www.mppn.org/wp-content/uploads/2018/11/Vietnam-Human-Development-Indices-and-Indicators-Viet-Nam27s-statistical-updates-Final-2018.pdf

[2] UNDP (2020) Briefing note for countries on the 2020 Human Development Report Viet Nam, available at http://hdr.undp.org/sites/default/files/Country-Profiles/VNM.pdf

[3] WBG (2020) Perceptions of gender disparities in vietnam?s labor market, available at https://openknowledge.worldbank.org/handle/10986/34895

[4] ILO (2020) COVID-19 and the labour market in Viet Nam, available at https://www.ilo.org/hanoi/Whatwedo/Publications/WCMS_742134/lang--en/index.htm

[5] IFC (2017) Women-owned enterprises in Vietnam: Perceptions and Potential. Executive Summary, available at https://www.ifc.org/wps/wcm/connect/1163db7a-e432-4a9e-9b56-18fd57bde2bb/Women-

owned+enterprises+in+Vietnam-Perceptions+and+Potential+-
+Executive+Summary.pdf?MOD=AJPERES&CVID=lXbziNo

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes
Closing gender gaps in access to and control over natural resources; No

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes
4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

179. This project focuses on early-stage innovative businesses aiming at transforming them into commercial stages pursuing innovative cleantech solutions for low-carbon circular economy and sustainable development, and provides support for partnerships with the private sectors such as financial providers interested in investing in. It is expected that at least 3 business cases validated for piloting and at least 2 financial mechanisms mobilized for fully functional implementation, so the private sector engagement will be crucial part of and success factor for the project.

180. The private sector engagement is key for the success of this project as confirmed during the PPG phase. The project foresees several areas of interaction with the private sector:

a. There will be direct interactions with and support for entrepreneurs (SMEs and start-ups) offering innovative cleantech solutions. The entrepreneurs are considered as agents of change that bear the potential of instigating a market transformation. The SMEs and start-ups will be supported in the framework of Viet Nam cleantech ecosystem including accelerator, advanced accelerator, and post-accelerator supports. It is expected that at least 80 entrepreneurs will take part in this project, so the private sector engagement will be crucial part of the project. In addition, there will be active involvement of private investors, banks and other institutions that will be led by the Chamber of

Commerce and Industry to ensure promotion and stimulation of clean energy technology innovations in targeted industrial sectors.

b. The private sector companies? intention to provide, and support access to, private equity investment to selected enterprises supported by the project is in general expected. The project will continuously engage with the private sector including financial institutions for identifying and nurturing potential synergies, partnerships and financing opportunities to maximize its impact.

c. Corporate partnerships will be formed to connect the project participants with various companies with the aim to create joint venture opportunities across borders, to facilitate market expansion and product co-development. This has already been successfully piloted with the Korean Financing Technology Corporation (KOTEC) with collaborations established between Korean SMEs and GCIP alumni from Morocco, Pakistan, Thailand and Turkey. Similar partnerships are expected under this project.

d. The project will also partner with corporations that seek to identify and invest in innovative cleantech.

e. Moreover, the project will target financing institutions, venture capitalists, and angel investors in its communications and outreach activities that seek to raise awareness and strengthen the knowledge of opportunities and risks associated with investments in cleantech. In addition, Investor Connect events will be organized to connect potential financiers with entrepreneurs and to facilitate investments.

f. The project will also cooperate with industry and business associations to leverage their know-how, capital and interest in cleantech innovations, as well as to build their capacity.

g. In addition, industry experts will be engaged as mentors, trainers, judges, and Executive in Residence (EIR) to support the accelerator, Advanced accelerator, and Post-accelerator.

h. In line with GEF strategy on private sector engagement, the project capitalizes on the growing interest by national and international private actors in the sustainability agenda and creates the conditions for SME driven creation and transformation of cleantech markets. This ultimately harnesses

the ingenuity and creativity of SMEs and ?crowds-in? private sector investments to deliver environmental benefits beyond business as usual.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

General risk analysis

Risk	Rating	Mitigation
Institutional Risk ? Lack of absorptive capacity by the national counterpart	Low	Capacity building of the national counterpart will be an ongoing process throughout the project implementation period to ensure that staff are comprehensively trained, and sustainability of the programme is ensured.
Institutional Risk ? Insufficient administrative and organizational capacity of the project executing entity (PEE) for successful execution of the project	Low	An organizational assessment (a micro assessment under the Harmonized Approach to Cash Transfers framework) was conducted by another UN agency in February 2020 and evaluated potential execution risks. The results showed the risks to be low in all areas under consideration.
Institutional Risk ? Insufficient technical capacity of PEE for successful execution of the project	Low	PEE will be nominated by the GEF OFP in consultation with key stakeholders as the most appropriate national agency to execute the project, and as a technology incubator agency with a strong track record in cleantech therefore it is assumed that it has the pertinent mandate and technical capacity for successful achievement of the project objective and associated outputs and activities.
Institutional Risk ? Lack of effective coordination between various project partners	Low	Proper coordination will be ensured through the establishment of the Project Steering Committee (PSC) and ad-hoc working groups will be formed if necessary.

Operational Risk ? On-going global restrictions due to global shocks (e.g. COVID-19)	Medium/High	In case of travel and/or group meeting restrictions, the trainings and meetings/events will be organized on-line.
Sustainability Risk ? Lack of ownership of project results and inability to source funding to continue the activities in the medium and long term	Low	A sustainability and exit strategy will be developed based on a framework delivered by the GCIP Global, and it will among other include specific considerations related to a formal project handover process and the point in time when UNIDO?s exit takes place (based on targets achieved by the project).
Political Risk ? Lack of political support to mainstream innovative cleantech	Low	The project is supported by the Government of Viet Nam, and different ministries will be involved in the design of the project.
Market Risk ? Failure of businesses supported by the project in Viet Nam	Medium	The guidebooks (for accelerator, Advanced accelerator, and Post-accelerator) will be comprehensive documents that articulate the project?s approach to promoting cleantech innovation and entrepreneurship aligned with the GCIP Global. As such, they will help ensure that the businesses supported have real market potential. In particular, the methodologies, guidelines, tools will define eligibility requirements and selection criteria for the participants.
Finance risk - Incentive and financial support system are insufficient	Low	The outreach and communications activities will be targeted at, among others, financing institutions, venture capitalists, and angel investors. Moreover, the project will be aligned with the strong GCIP brand, and the ongoing activities, knowledge and lessons under the GCIP global, which are expected to build confidence of national and international financiers. The PSC will include at least one representative of a financing institution or an investor.
Coordination Risk: Lack of effective coordination between various project partners/stakeholders	Low	A proper coordination will be sought through the PSC and the established working groups.

Climate Change Risk	Medium	According to the Third National Communication[1], estimated temperature rise in the country ranges from 0.6-0.8?C (low GHG scenario) or 0.8-1.1?C (high GHG scenario) by middle of the century and 1.9-2.4 in the North/1.7-1.9?C in the South (low GHG scenario) or 3.3-4.0?C in the North and 3.0-3.5?C in the South (high GHG scenario). The projected temperature rise is significant in both scenarios. As a consequence, several climatic changes are expected including increase of annual rainfall from 5% to 20% all over the country. Extreme events are also expected especially in the storm season. Frequency of huge storms and typhoon may increase. There may be increase of the number of extreme cold days may increase in the Northern mountainous provinces and decrease of the Red River Delta and North Central coast. Drought may become more severe. In addition, the country?s coast line faces the risk of sea level rise. The estimated sea level rise ranges from 14-32cm (low GHG scenario) or 17-35cm (high GHG scenario) by middle of the century and 17-35cm (low GHG scenario) or 49-103cm (high GHG scenario). This will induce the risk of inundation in several coastal provinces and cities including HCMC. For example, 17.8% of the HCMC will face the risk of inundation. Depending on the conditions of each region and impacts of different factors, subjects and levels of vulnerability vary, with the most vulnerable sectors being agriculture and food security, natural ecosystems, biodiversity, water resources, public health, shelters and technical infrastructure. In relevance to the project intervention, intensified risks of flood in conjunction with sea level rise are observed especially at the urban municipalities in coastal cities as they have the high population density and urban/spatial planning that do not integrate natural disaster risk mitigation and climate change adaptation to cover areas where most assets, infrastructure and vulnerable groups are located. The cities where project activities and events will take place, namely Hanoi, Da Nang and HCMC, also experienced major floods in the past decade[2]. It is observed that the extreme events, especially floods, may have impacts on the project physical settings including buildings and places where the project activities and events will take place. Solid waste collection and treatment systems in many coastal zones will be affected by flooding as dumping sites and landfills may be inundated causing landfill leaks and spills waste to surrounding areas, polluting the environment and adversely affecting public health, increasing vulnerability of coastal communities. On the other hand, in terms of cleantech innovation, the climate change it is not likely to have severe impacts on this project, with an exception for cleantech innovation dependent on biomass or

Environmental Risks	Low	It is recognized that some technologies that could potentially be supported by the project, such as ICT could lead to GHG emissions, unless powered entirely by renewable energy. Similarly, technologies related to energy storage can have harmful environmental impacts if not managed effectively. Therefore, any cleantech innovation supported by the project will need to meet strict environmental screening criteria. In addition, an Environmental and Social Management Plan (ESMP) was prepared (Annex L) to mitigate the environmental (and social) risks.
Social/Gender Risk:	Low	To ensure gender inclusiveness of all project activities, UNIDO methodology for gender assessment and gender responsive communication showing the benefits of gender equality for both women and men will be applied. To mainstream women and youth entrepreneurship, an adequate gender responsive communication strategy will be implemented, and sensitization workshops will be organized. A full gender analysis was carried out and its recommendations were incorporated into the project design.

COVID-19 risk analysis

Technical expertise is not readily available due to the pandemic	Low	Necessary efforts will be made to identify alternative technical experts in case it is required. Whenever possible and as appropriate, use of remote communication tools are considered to compensate possible travel or movement restrictions. Planning will be flexible enough to reschedule activities onsite that require specific expertise.

Possible re-instatement of COVID-19 containment measures limits available capacity or effectiveness of project execution/ implementation	Medium	The capacity of stakeholders, and especially the beneficiaries, for remote-work and online interactions will be strengthened by securing access to commercially available conferencing systems. The current design of the curriculum for entrepreneurs is based on online interactions and deliverables, using webinars and web platforms, and therefore COVID-19 is not expected to pose a significant risk to the conduct of the acceleration cycles. . The project team will regularly monitor possible development of possible pandemic by COVID-19 or alike and prepare business continuity plan in case of possible occurrence of containment measures.
Some project supporters, co-financiers or beneficiaries may not be able to continue with project execution/implementation	Low	The situation will be closely monitored in order to find alternate supporters or co-financiers, or to readjust the list of beneficiaries if needed. The project team will prepare business continuity plan in case of possible occurrence of containment measures in close consultation with GEF Operational Focal Point in Viet Nam.
Price increases for procurement of goods/services	Medium	The project team will undertake efforts needed to find alternative providers and make sure that competitive pricing is obtained. Partnership and cooperation will be pursued as necessary and as appropriate to substitute certain portion of work which can lead to reduce the needs for good/services.
Technical expertise is not readily available due to the pandemic	Low	Necessary efforts will be made to identify alternative technical experts in case it is required. Whenever possible and as appropriate, use of remote communication tools are considered to compensate possible travel or movement restrictions. Planning will be flexible enough to reschedule activities onsite that require specific expertise.

COVID-19 opportunity analysis

Opportunity	Opportunity level	Opportunity optimization measures

New business opportunities created in response to COVID-19 related restrictions and measures	High	Response to COVID-19 restrictions, such as remote working arrangements and no-contact business modalities will require solutions that can be turned into new business models. These opportunities will be analyzed at the national level and shared with the entrepreneurs. Examples of former GCIP alumni responding to new business opportunities by providing innovative solutions during the pandemic are summarized here: https://www.unido.org/stories/cleantech-innovators-take-covid-19.
New business opportunities to build back better for business continuity and economic recovery post-COVID-19	High	By design, the project engages private sector to promote and scale up cleantech products and services, and business models with resilience to climate change (e.g. circular business models). Information on relevant new business opportunities as well as policy/regulations will be added to the project curriculum so that the entrepreneurs are fully informed of the market and policy trends.

[1] UNFCCC (2019) Viet Nam?s Third National Communication on Climate Change, available at https://unfccc.int/sites/default/files/resource/Viet%20Nam%20-%20NC3%20resubmission%2020%2004%202019_0.pdf

[2] Nguyen Tu Minh et at. (2021) Understanding and assessing flood risk in Vietnam: Current status, persisting gaps, and future directions, available at https://onlinelibrary.wiley.com/doi/full/10.1111/jfr3.12689

[3] Nguyen Tu Minh et at. (2021) Understanding and assessing flood risk in Vietnam: Current status, persisting gaps, and future directions.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Implementation

181. UNIDO as the GEF Agency will be responsible for the implementation of the project, which entails oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and requirements. UNIDO as the GEF Agency will also be accountable to the GEF Council for the GEF-financed activities, as well as it will be responsible for project cycle management services and corporate activities

Execution

182. ISPONRE was nominated by the GEF OFP in Viet Nam to be the national PEE. ISPONRE was assessed by another UN agency in 2019 using the HACT methodology. The outcome of the assessment provided UNIDO an understanding how ISPONRE operates and an appropriate agreement shall be established. ISPONRE will designate internally or recruit externally project management personnel to form the project management unit (PMU).

183. As a minimum, the PMU will consist of the National Project Coordinator (NPC) and a Project Assistant (PA). The PMU will be responsible for the day-to-day management of the project execution, monitoring and evaluation of project activities as in the agreed project work plan. The PMU will coordinate all project activities being carried out by project national experts and partners. Through the procurement processes in the execution entity, the project will sub-contract qualified service providers for the execution of certain activities as they are needed.

Project Steering Committee (PSC)

184. In addition, a Project Steering Committee (PSC) will be established under the Chairmanship of MONRE. Representatives from relevant government ministries such as MOST, MOIT, MPI and VEPF, together with UNIDO, will be members of the PSC. PMU will be the secretariat of the PSC and will report to the PSC Chair. The PSC will provide strategic guidance according to national imperatives and market needs.

185. Moreover, a Project Working Group (PWG), will be established by the PSC and may include representatives from the line ministry MONRE departments of Climate Change, and environmental protection control; representatives from the department of Gender Equality under MOLISA; representatives of the Viet Nam Center for Innovation and Response to Climate Change (VCIC); representatives of HUST/INEST and other research and university stakeholders; GEEW representatives from the Viet Nam Women Entrepreneurs Council (VWEC) and UN Women; representatives from the EU-Viet Nam Energy Facility; selected representatives of the private sector and other relevant critical stakeholders related to the different project components. The PWG will provide inputs on effective execution of the project including technical advises and recommendations as requested by the PSC.

186. A schematic representation of the project implementation arrangement is shown in Figure 6 below.

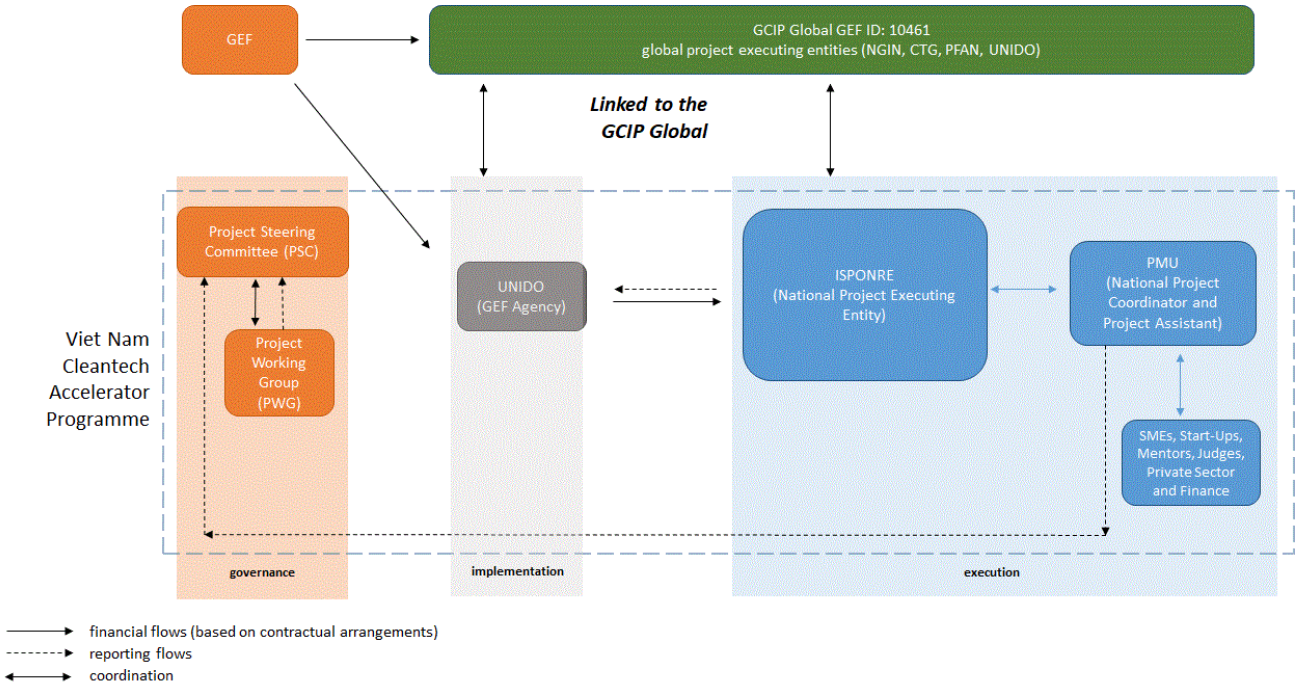

Figure 6: The project implementation arrangement

Coordination with other relevant GEF-financed projects and other initiatives

187. The project is in line with, UNDAF, SDGs and One UN Framework in Viet Nam. Regarding the latter, the project actively contributes to the objectives of the One-UN Programme within the thematic areas of environmental sustainability and poverty reduction through productive uses.

188. UNIDO has already a concluding GEF 4 project entitled ?Introduction of BAT and BEP methodology to demonstrate reduction or elimination of unintentionally produced POPs releases from the industry in Viet Nam? and implementing GEF 5 project entitled ?Implementation of Eco-industrial Park Initiative for Sustainable Industrial Zones in Viet Nam? and ?Minamata Convention Initial Assessment in Viet Nam?.

189. The project will be linked to the UNIDO/GEF program 10408 to which UNIDO is a project executing entity. Coherence in the approaches including methodologies, guidelines, tools and training systems will be pursued between the project and the GCIP child projects through the global framework program. Knowledge will correctively be managed and shared among the countries involved. This will enhance cross-border connectivity and synergies. In addition, Pakistani cleantech SMEs accelerated under the project will be provided wider opportunities to expand their businesses and hence increase their success rates and results in greater GHG emission mitigation efforts.

190. The project will also seek to collaborate with the UNFCCC Climate Technology Centres Network (CTCN) and the Private Financing and Advisory Network (PFAN), which are UNIDO hosted initiatives with expertise in supporting the technology innovation value chain. PFAN will play integral role to bridges the gap faced by entrepreneurs and investors by helping entrepreneurs build their businesses and present them in a language which investors will understand and be interested in. It will also help investors find and recognize the potential of these businesses. By sharing the common vision of accelerating clean technology dissemination and effort for tackling climate change, the project will seek for cooperation with PFAN e.g. offering workshops, introducing PFAN and its systematic interventions at the series of events held under the project, exchange of advisors and experts in order to facilitate cross-fertilization between the project and PFAN. Since PFAN will collaborate with GCIP also under the GCIP Global framework this will help increase conformity among the countries involved and create synergies among them.

Legal Context

191. The Government of the Socialist Republic of Viet Nam agrees to apply to the present project, mutatis mutandis, the provisions of the UNDP Standard Basic Assistance Agreement signed and put into effect on 21 March 1978.

Transfer of assets

192. Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with the UNIDO Project Manager.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

193. The low carbon and circular economy as well as the acceleration of SMEs is aligned with national priorities stipulated in the major national strategies and development plans. Viet Nam submitted their updated Nationally Determined Contribution (NDC) in 2020, which pledges that the country will reduce its total GHG emissions by about 9% compared to the BAU scenario by 2030, equivalent to 83.9 million tons of CO2eq. The target can be increased to 27% by 2030 which is equivalent to 250.8 million tons of CO2eq with international supports received through bilateral, multilateral cooperation as well as through the implementation of market and non-market mechanisms under Article 6 of the Paris Agreement, and in line with the socio-economic conditions and international conventions to which Viet Nam is signatory. In 2016, by Decision No. 2053/QD-TTg, Viet Nam adopted the Action Plan for Implementation of the Paris Agreement on climate change for the period of 2016-2020 which aims to: 1) review existing regulations and develop a Decree on the roadmap and modality for GHG emission mitigation; (2) develop a carbon market within the country; piloting the system, policies and market tools for mitigation of GHG emissions in potential sectors; and (3) develop and implement GHG mitigation and green growth proposals in accordance with national conditions for implementation of NDC. The law on Environmental Protection, No.72/2020/QH14, adopted in 2020 and entering into force in 2022, supports environmental protection including climate change actions and the provisions also include submission of the updated NDC. In addition, apart from introducing the concept of circular economy, it also brought in application of best available techniques (BAT) as an additional tool to ensure that the technologies selected are of practical relevance, economically efficient and best for preventing or minimizing adverse impacts on the environment. Accordingly, MONRE is working on building regulations, roadmaps and mechanisms to encourage the pathway towards low carbon circular economy.

194. Viet Nam submitted its Third Biennial Updated Report (BUR3) in 2021. In addition, the country?s Third National Communication (NC3) was submitted to UNDCCC in 2019. Considering population growth and urbanization together with the economic growth, the GHG emissions from waste sector is estimated to be increased towards the future and thus BUR3 and NC3 regard appropriate and controlled waste management as one of the key development agenda of the country towards future.

195. Viet Nam adopted National Climate Change Strategy (NCCS) as in Decision 2139/Q?-TTg in 2011[1] setting a comprehensive target to harmonize its economic growth decoupled with GHG increased emissions while ensuring people?s prosperity. The country also adopted National Green Growth Strategy (NGGS) as in Decision No. 1393/QD-TTg in 2012. With a vision towards 2050, both national strategies (NCCS and NGGS) have been recently updated, taking into account Viet Nam's progress already made and setting new strategic objectives to achieve a low carbon economy, reduction in emissions and increase the possibility to absorb GHG by setting mandatory and important targets in socioeconomic development. The nationally embedded concept of green growth is envisaged to ensure fast, efficient and sustainable growth

while making a significant contribution to the implementation of the national climate change strategy. It sets out the targets of reducing carbon intensity in energy sector, promote GDP growth by promoting share of green production as well as greening lifestyles including through sustainable production and consumption, and waste management. Accordingly, Viet Nam aims to promote development and utilization of science and modern technologies which are suitable to Viet Nam?s circumstances.

196. The concept of green growth and low carbon economy is also shared among other development strategies such as Sustainable Development Strategy for 2011-2020 as in Decision No. 432/QD-TTg in 2021[2]and Industrial Development Strategy through 2025, vision toward 2035 as in Decision No. 879/QD-TTg in 2014. This is also reflected in the country?s 5-year socio-economic development plans. Accordingly, relevant ministries are taking actions including promotion of innovations. For example, MOST identified measures to increase the innovation policy and deployment throughout the country by enhancing competitiveness at the company and products level, narrowing of space to support business entities in Viet Nam as well as to advance internalization of international rules and practice related to innovation management and promotion. SME Law established in 2018 was to support and integrate domestic SMEs into global value chains as well as to make use of the increasing FDI into the country where SMEs play a major role in country but still not efficiently played in the country?s industrialization due to multiple constraints.

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[1] GoVN (2011) National strategy on climate change, available at http://www.chinhphu.vn/portal/page/portal/English/strategies/strategiesdetails?categoryId=30&articleId=10051283

[2] GoVN (2012) Viet Nam Sustainable Development Strategy for 2011-2020, available at

http://chinhphu.vn/portal/page/portal/English/strategies/strategiesdetails?categoryId=30&articleId=10050825

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

197. A knowledge base will be developed in terms of information management, sharing best practices and lessons learned, as well as engagement in effective information exchange among the countries involved under the global GCIP framework. The proposed project will share the results and knowledge, to be disseminated through participation in regional meetings, conferences and Cleantech

platform. As the project progresses and implementation results become tangible and demonstrable, the knowledge management system will be used to develop benchmarks for cleantech innovations in Viet Nam and to develop case-studies for promotional activities. Therefore, the knowledge management postulates the main framework of this programme and facilitates to capture findings, institutionalizing learning and knowledge sharing across participant countries by making the structure of the programme accessible and replicable, as well as bringing selected finalists from around the world to showcase their innovations at the Global Cleantech Forum. This facilitates the transfer, innovation and dissemination of low carbon technologies, a key challenge under the Framework Convention on Climate Change.

198. A key aspect in knowledge management will be the creation of a national pool of mentors and judges, by the ?training the mentors? approach, to enhance the sharing of best practices and business skills among participants and stakeholders in a structured manner. The national pool of mentors/judges will be created and trained to provide entrepreneurs required skills to enable their participation in this programme, and ultimately to bring their innovations to be commercialized at the market. Mentors and judges will broaden the impact of the programme by providing one-on-one training for entrepreneurs and alumni of the programme. The PMU will be established and be responsible for including various stakeholders to ensure that the selection process for entrepreneurs is inclusive and impactful in identifying the right candidates for the programme.

199. The project will further build upon the experiences and lessons learned under the global GCIP framework. This will contribute to creating a vibrant platform and network members. It can represent a key partner for the implementation and delivery of this programme and also facilitates the transfer, innovation and dissemination of green technologies, a key challenge under the Framework Convention on Climate Change. The new trends in innovation cleantech areas and integration of lessons learned, based on completed and ongoing GCIP projects, will be incorporated. Through organization of trainings, workshops, roundtable, expert group meetings, and printing materials as well as through the Cleantech platform, the knowledge sharing will be strengthened as the programme expands into new countries and cleantech areas. These combined set of outreach activities will ensure recognition of and support for the programme beyond the competition cycle. In order to ensure sustainability of this project beyond project duration and to attract more interest, the national coordinators will be tasked to ensure the visibility of the programme and accessibility of key findings through the Cleantech Platform. This will provide the opportunity to reach out to future entrepreneurs and investors, while raising public awareness on clean energy technologies and ultimately contribute to the climate change mitigation. A number of regional and international events to bring project teams and semi-finalists together will be organized, as stated in the outputs. The project will strive to create a vibrant and sustainable Cleantech ecosystem through partnerships with various stakeholders, holding expert meetings with partners and SME associations to review successes in the various competition cycles and establish commitments to moving forward.

200. For its sustainability and fostering further innovation in the region, the inclusive and sustainable methods will be also discussed, in order to identify and apply tangible solutions to existing challenges in the country. These results will be made accessible to the public through the Cleantech platform and accelerator programme.

201. All project reports will be shared with the relevant counterparts and disseminated through their institutional websites and UNIDO?s open data platform. All knowledge management material will be gender mainstreamed. For instance, gender responsive training and advocacy material will not perpetuate gender stereotypes through presenting women only in their traditional roles.

202. A knowledge management, communication, and advocacy strategy framework will be developed by UNIDO with a particular focus on a) Promoting visibility of the project and communicating its impacts achieved at national and global levels; b) Increasing awareness of the catalytic role of cleantech in addressing climate change and environmental issues; c) Showcasing cleantech innovations from the alumni and enhancing their visibility and credibility.

203. The project?s knowledge management, communication, and advocacy strategy will specify the exact knowledge products to be delivered along with relevant timelines and milestones. The budget allocated for these activities include 1) Capturing knowledge gathered by the Viet Nam through policy briefs, impact reports, brochures webinars, and other types of promotional materials, and disseminating this knowledge through briefing, press releases, social media presence and advertising, etc. (Activity 3.1.2 c) at USD 8,000, and 2) Establishing online tools and maintain web-based knowledge platform to act as one-point solution for all cleantech related information for the alumni network as well as linking Viet Nam platform with Global GCIP Platform and to create and maintain a section of Viet Nam on the global GCIP web platform (Activity 3.1.3 a & 3.1.3.b) at USD 15,000. In addition, series of events are included in under the Component 2 budget which amount to USD 83,640. Others are vested in the budget of hiring consultants which is estimated to be USD 32,140. The table below provides a general overview of deliverables relevant for knowledge management.

Deliverable	Timeline
A pool of experts (trainers, mentors, judges) created	By the 6th month of project implementation/execution with regular updates after every half a year

The knowledge management, communication, and advocacy strategy framework reviewed and adapted to Viet Nam (Output 3.1.2)	By the 6th month of project implementation/execution with regular updates each year
Policy briefs, impact reports, brochures, webinars and other types of promotional materials distributed through briefing sessions, press releases, social media presence, advertising, etc. ? in line with the project?s knowledge management, communication, and advocacy strategy	From the 6th month of project implementation/execution and according to the timeline as to be specified from the project?s knowledge management, communication, and advocacy strategy
Project web platform created and operationalized (Output 3.1.3), including a special section for the project?s alumni network	By the 6th month of project implementation/execution
Viet Nam National Forum and GCIP Global Forum, as well as Investor Connect and regional technology brokerage events organized	Annually/bi-annually

9. Monitoring and Evaluation

Describe the budgeted M and E plan

204. The monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures. The overall objective of the M&E is to ensure successful and quality implementation of the project by: i) tracking and reviewing project activities execution and actual accomplishments; ii) providing visibility into progress as the project proceeds so that the implementation team can take early corrective action if performance deviates significantly from original plans; and iii) adjusting and updating project strategy and implementation plans to reject possible changes on the ground, results achieved and corrective actions taken.

205. According to the M&E policy of the GEF and UNIDO, follow-up studies like Country Portfolio Evaluations and Thematic Evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make available studies, reports and other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

206. The Project Result Framework (Annex A) provides performance and impact indicators for project implementation/execution along with their corresponding means of verification. The actual progress will be reported against the workplan approved by the PSC. In case there are significant deviations between the forecasted workplan and actual implementation, corrective measures will need to be taken.

207. There will be a M&E framework provided by the GCIP Global, based on which ISPONRE will prepare the project?s M&E plan, including time-bound milestones and deliverables. ISPONRE will also draft progress review reports every six months. There will be an external mid-term review of the project conducted halfway through project implementation. The ESSPP considerations, as well as gender dimensions and baseline for gender related targets will be appropriately captured in the project?s M&E plan, in the progress review reports, as well as in the collection and assessment of relevant data. The M&E plan will encompass monitoring of the Environmental and Social Management Plan, the Stakeholder Engagement Plan, the Gender Analysis Report, and a risk analysis.

208. The methodology for impact assessment will be developed by the GCIP Global and shared with the project for review and application. This will ensure a common understanding of estimation, tracking, and reporting approaches amongst all involved stakeholders, and will allow for data aggregation, comparisons, and extrapolation, not only on the national, but also on the global programme level. The methodology will enable assessment of social, economic, and environmental impacts, and at a minimum, it will account for global environmental benefits (GEBs), job creation, gender mainstreaming, and investment leveraged. The data will be sex-disaggregated and gender-sensitive, and youth participation will also be recorded.

209. The core M&E activities under the project is preparation of M&E plan reflecting country contexts as well as periodical reporting and review including progress report, mid-term review and terminal evaluation. During the execution phase, the PEE under the supervision by UNIDO will ensure the timely and quality preparation of M&E plan and associated reporting. These are also based on day to day monitoring of project activities as well as progress and deliverables from them, according to Viet Nam M&E plan. As mentioned above, the project will benefit from M&E tools provided by the GCIP Global framework which will ensure coherence of the project to the global program while enabling effective aggregation of data and impact at the program level. Based on the M&E tools developed under the GCIP Global framework, the detailed Pakistan M&E plan will be developed in conjunction with the Project Execution Agreement to be signed with the PEEs. An overview of indicative costs of M&E activities is provided in the table below.

M&E activities	Timeframe	GEF Budget (USD)	In-kind co-financing (USD)	Responsible Parties
M&E plan	First 3 months after implementation start	2,000	15,000	PEE
Periodic progress reports	6-monthly	8,000	15,000	PEE
External mid-term review	At 1.5 years	20,000	20,000	External evaluator, submission to UNIDO
Independent terminal evaluation	Started six months prior to the expected completion date of the project	35,000	20,000	External evaluator, submission to UNIDO
Total		**65,000**	**70,000**	

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

210. The project will act as a catalyst for increased innovations in clean energy technologies, as well as more Cleantech enterprises being established, in particular the SMEs, thus creating more jobs and generating more income at local and national levels. The clean technologies deployed will contribute to Viet Nam?s newly envisioned low carbon and circular economy to the improvement of resource efficiency, resulting in environmental improvements, and the reduction of health-related risks (in particular for women and children). In line with Viet Nam?s local Green Growth implementation plans, the project may improve energy access for people living in remote areas, by focusing the annual competitions on the promotion of clean innovation technologies in rural regions, including renewable technologies such as solar energy, biomass-based energy, and micro and mini hydropower.

211. The project is expected to result in more cleantech start-ups and SMEs being identified and supported, thus acting as a catalyst for entrepreneurship development and cleantech investment in Viet Nam. The project, as a dedicated national platform for promoting and supporting cleantech innovation, will result in an enhancement of human capital, thereby leading to job creation and poverty reduction as well as to an increased women participation in the entire value chain of technology development. New job opportunities in the country will equally contribute to further increasing the current brain drain of Viet Nam, which according to the brain drain index, in 2021 ranks 98 out of 173 countries[1]. Local development and production of cleantech will very likely result in lower costs benefitting both the

technology developers and end-users. Finally, the increased use of cleantech innovations supported by the project will also result in GHG emission reductions.

212. The project will further assist the strong support from the national level for cleantech innovations and start-ups/SMEs. In particular, it will provide added value by bridging the gap between cleantech innovators and investors, thereby paving the way for the creation of new businesses opportunities resulting in a value added for the domestic economy. At the same time, through engaging all relevant stakeholders in the national CIEE, and encouraging their cooperation, as well as through linking different CIEEs across countries, the project will provide opportunities for international business scale-up and exchange of knowledge.

213. It is expected that special attention will be given to address gender issues as described above; therefore, the project will contribute to the promotion of women entrepreneurial development and job creation for women in Viet Nam.

214. In summary, the project yields the following socioeconomic benefits as a result of supporting and introducing new cleaner technologies into the market, strengthening national institutional capabilities, enhancing the availability of financial instruments, and encouraging inclusivity in the entrepreneurial and job markets. Specifically, these interventions lead to:

1) Enhancement of human capital

Entrepreneurial, environmental and technological skills development and awareness raising have the effect of a larger number of cleantech products being commercialized and entering the market. Better decisions are made by entrepreneurs regarding the sustainability and life cycle approach to the products and businesses.

2) Local product development and production with job creation, generating more income

Fostering new local technologies lowers costs benefiting both the technology developer and end-user and encourages consumers to buy more efficient products and have a great benefits from this technological change.

3) An enriched innovation ecosystem

The high-quality institutions attract the build confidence in local and foreign investors as well as the small business community in an economy due to low volume of transactions costs that result in the advancement of environment friendly technologies.

4) Improved energy access for people living in rural areas

Investing in energy access, electrification and renewables are well known to contribute to the decarbonization of the economy. Also, the move away from traditional cooking and heating methods reduces health risks.

5) Promotion of women and youth entrepreneurial development and job creation

The promotion of gender and youth inclusion and mainstreaming in a country tends to be productive, innovative and creative for problem solution so it is an advantage to obtain environmental targets. Mainstreaming diversity will encourage the cooperation and cohesion of people in advocating for environmentally beneficial practices and products.

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[1] The Global Economy (2021) Human flight and brain drain index ? Country Rankings 2021, available at https://www.theglobaleconomy.com/rankings/human_flight_brain_drain_index/

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

The project has been categorized as Category B as per the UNIDO ESSPP (Environmental and Social Safeguards Policies and Procedures) based on an analysis of the environmental and social risks, i.e. there are few likely adverse impacts which will be site-specific, and few if any will be irreversible. In most cases the negative impacts can be readily avoided or mitigated with appropriate mitigation measures or through incorporating internationally recognized design criteria and standards.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ES screening_GCIP Viet Nam	**Project PIF ESS**	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Project Strategy	KPIs	Base - line	Target (for the entire project duration)	Means of Verification	Assumptions
Objective **To accelerate the application of innovative cleantech solutions for low carbon and circular economy towards realizing sustainable development in priority sectors in Viet Nam**	ENV.1: Cumulative reduction of CO2eq emissions (directly and indirectly) in tons	0	at least 144,000 (directly) and at least 720,000 (indirectly)	Project progress reports	Monitoring and Evaluation Plan full designed and implemented
	ECO.1: Number of new firms/enterprises with economic gains (cumulative)	0	80 (at least 45 % woman led, 30% youth led)	Project evaluation reports	Continuous support from the Government of Viet Nam and national partner institutions
	SOC.1: Number of additional jobs created or retained	0	240 (at least 45 % woman, 30% youth)	Project impact reports	Commitment by CIEE stakeholders
	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	0	1,040 (at least 45% woman, 30% youth)	GEF Tracking tools	Interest by cleantech entrepreneurs and investors
	Investment leveraged (million USD)	0	8	Database and records maintained during and after project completion	
Project Component 1 ? Policy, institutional framework and national cleantech innovation and entrepreneurship ecosystem (CIEE) strengthening and connectivity enhanced					

Outcome 1.1 Policy framework to promote innovative cleantech solutions for low carbon circular economy in priority sectors strengthened and interconnected	POL.3: Number of guidelines adopted by relevant actors (new or revised policies, guidelines by Government bodies)	0	1	Project progress reports	
	REA.1: Number of actors (people) reached[1] in national, regional and international forums (GCIP forum, UNFCCC COP, Cleantech forum, Asia Pacific Week)	0	680 (at least 45% women, 30% youth)	Project evaluation reports Project impact reports	
	KASA1.: Number of actors (people) gaining awareness and knowledge on UNIDO knowledge areas (Public and private investments gaps and opportunities, innovative financial instruments) in cleantech sector	0	680 (at least 45% women, 30% youth)	Meeting attendance records	
	REA.2: Number of actors (people) engaged[2]	0	20 (at least 45% women, 30% youth)	Meeting Minutes	
	KASA2.: Number of actors (people) gaining skills on UNIDO knowledge areas (Public and private investments gaps and opportunities, innovative financial instruments) in cleantech sector	0	20 (at least 45% women, 30% youth)	Training attendance records	
Output 1.1.1 Study and analysis on technology gaps conducted in a gender responsive manner, and best available technologies and cleantech innovation opportunities in	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (gender responsive report on technology gaps and innovation opportunities in Viet Nam?s three priority sectors)	0	1	Project progress reports Project evaluation reports	

priority sectors in Viet Nam identified and recommended	CPO.1: Number of global fora, workshops/EGM/side events organized (multi-stakeholder policy dialogues and consultations on best available technologies and cleantech innovation)	0	1	Project impact reports Meeting attendance records Meeting Minutes	
Output 1.1.2 Evidence based gender-responsive policy instruments related to cleantech innovation and entrepreneurship developed	PAO.1: Number industrial strategies and policy documents produced (gender-responsive CIEE assessment and roadmap of long-term implementation and annual updates)	0	1	Project progress reports Meeting attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	CPO.1: Number of global fora, workshops/EGM/side events organized (multi-stakeholder policy dialogues with alumni and relevant national CIEE stakeholders on CIEE assessment, action plan/roadmap)	0	3	Meeting Notes	
Output 1.1.3 National institutions strengthened for cleantech innovation and entrepreneurship support and linkages, collaboration, and synergies across CIEEs promoted (at least 6 capacity building events conducted with up to 90 participants in	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (gender responsive stakeholder engagement strategies and cleantech innovation cluster strategies)	0	2 (1 for stakeholder engagement and 1 for innovation cluster)	Project progress reports Project evaluation reports	
	Number of national facilitators trained	0	10 (at least 45% women, 30% youth)		
	Share of national facilitators completing the ?I know gender? training (or similar if not available)	0	100%	Project impact	

total, at least 45% women and 30% youth)	TCO.1: Number of capacity building activities provided (for selected stakeholders to support cleantech programmes) (gender responsive)	0	6	reports Meeting attendance records	
	CPO.1: Number of global fora, workshops/EGM/side events organized (Annual PPP forum)	0	3	Meeting Notes	
	Number of analytical publication (Handbook based on experiences from evaluation and appraisal of innovative cleantech solutions)	0	1	Training attendance records	
Outcome 1.2 Gender equality and women?s empowerment supported and strengthened by the CIEE in Viet Nam				Project progress reports Project impact reports Meeting attendance records Meeting Minutes Training attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	REA.1: Number of actors (people) reached (in national, regional and international forums (GCIP forum, UNFCCC COP, Cleantech forum, Asia Pacific Week)	0	200 (at least 45% women, 30% youth)		
	KASA1.: Number of actors (people) gaining awareness and knowledge on UNIDO knowledge areas (in public and private investments gaps and opportunities, innovative financial instruments in cleantech sector)	0	200 (at least 45% women, 30% youth)		
	REA.2: Number of actors (people) engaged	0	18 (at least 30% youth)		
	KASA2.: Number of actors (people) gaining skills on UNIDO knowledge areas (Gender equality and the empowerment of women in the ISID context)	0	18 (at least 30% youth)		

	GOV.2: Number of actors participating in in enhanced collaboration settings (women`s hub/chapter/network platform for promoting women`s involvement into the project)	0	18 (at least 30% youth)		
Output 1.2.1 Women?s cleantech hub/network established to support and accelerate the formation of local innovation ecosystems in a more inclusive manner	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (gender responsive needs assessment to promote cleantech innovation and entrepreneurship)	0	1	Project progress reports Project evaluation reports	Continuous support from the Government of Viet Nam and national partner institutions
	Number of analytical publications produced (constitutions for establishing the women`s hub /network platform)	0	1	Project impact reports	
	CPO.1: Number of global fora, workshops/EGM/side events organized (multi-stakeholder policy dialogues and consultations validating the constitutions and to enhance networks)	0	1	Meeting attendance records Meeting Minutes	
Output 1.2.2 Mentoring programme for women cleantech entrepreneurs and mentors implemented	TCO.1: Number of capacity building activities provided (Mentoring programme specifically targeting women entrepreneurs, associations and gender focal points, pool of women experts)	0	4	Project progress reports Training attendance records	Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	Number of women cleantech experts trained	0	18 (at least 30% youth)		
Output 1.2.3 Campaign conducted to raise awareness on women?s role models in the	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (campaign/awareness materials)	0	1	Project progress reports	

cleantech ecosystem	CPO.1: Number of global fora, workshops/EGM/side events organized (awareness raising campaigns to promote gender dimension of the project and women role models in the cleantech ecosystem)	0	1	Project evaluation reports Project impact reports Meeting attendance records Meeting Minutes	
Component 2: Transforming early-stage innovative cleantech solutions into scalable enterprises					
Outcome 2.1 Early-stage cleantech innovations accelerated	TEC.1: Number of new technologies developed or adapted (firms towards commercialization)	0	80 (at least 45 % woman led, 30% youth led)	Project progress reports Project evaluation reports Project impact reports Meeting Notes Training attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	REA.2: Number of actors (people) engaged (in fora/workshops/EGM/side events/investment facilitations/investor forums organized at partner cooperation?s and government agencies)	0	360 (at least 45 % woman, 30% youth)		
	KASA.2: Number of actors (people) gaining skills on UNIDO knowledge areas (Public and private investments gaps and opportunities, innovative financial instruments in cleantech sector)	0	360 (at least 45 % woman, 30% youth)		

Output 2.1.1 Methodologies, guidelines, tools and training systems for cleantech innovation and entrepreneurship accelerator adapted for Viet Nam	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (guidebooks reflecting Viet Nam?s ecosystem context)	0	3 versions of guidebooks (1 on acceleration; 1 on advanced acceleration; 1 on post- acceleration support)	Project progress reports Project evaluation reports Project impact reports Meeting attendance records Meeting minutes	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	Number of consultation sessions held with relevant CIEE stakeholders on the Viet Nam Guidebooks	0	2		
	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (cleantech innovation accelerator training kits e.g. methodologies, tools and training materials and certification system, including integration of the gender mainstreaming approach)	0	1		
Output 2.1.2 Pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges) trained and certified to support the cleantech innovation and entrepreneurship accelerator	TCO.1: Number of capacity building activities provided (for experts)	0	5 (3 on Expert Trainings for Cleantech innovation mentors, judges and coaches, 2 on Entrepreneurship training programmes for universities/institutions)	Project progress reports Training attendance records	
	Number of experts evaluated and certified (sex-disaggregated)	0	40 (at least 45% women, 30% youth)		
	Share of experts completing the ?I know gender? training (or similar if not available)	0	100%		
Output 2.1.3 Two annual national competition-based cleantech innovation and entrepreneurship accelerators conducted (at least	TCO.1: Number of the Viet Nam accelerator cycle	0	2	Project progress reports	
	Number of participants receiving support through the Viet Nam Pre-Acceleration phase (sex-disaggregated by team leader)	0	50 participants (45% women, 30% youth)	Meeting attendance records	

80 enterprises, at least 45% women led and at least 30% youth led))	Number of applicants to the Viet Nam Accelerator (sex-disaggregated per team leader)	0	250 (at least 45 % woman led, 30% youth)	Meeting minutes Training attendance records	
Outcome 2.2 Investment, piloting and demonstration of innovative cleantech solutions for low-carbon circular economy	INV.1: Number of investment-ready proposals elaborated (enhanced business plans and investment proposals from firms)	0	8 (at least 45% woman led, 30% youth led)	Project progress reports Project impact reports	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	INV.2: Number of projects/businesses financed	0	2 (at least 45% woman led, 30% youth led)	Meeting attendance records	
	INV.3: Value of new investment leveraged (USD)	0	8 million		
	REA.2: Number of actors (firms) engaged (in fora/workshops/EGM/side events/investment facilitation/investor forums organized at partner cooperation?s and government agencies)	0	8 (at least 45% woman led, 30% youth led)	Meeting minutes Training attendance records	
	KASA2.: Number of actors (firms) gaining skills on UNIDO knowledge areas (Public and private investments gaps and opportunities, innovative financial instruments in cleantech sector)	0	8 (at least 45% woman led, 30% youth led)		

Output 2.2.1 In depth capacity needs assessment of the selected cleantech businesses conducted for systematic promotion and acceleration of cleantech commercialization	Number of analytical publications produced (Capacity Needs Assessment) (gender responsive)	0	1	Project progress reports Project evaluation reports Project impact reports	
Output 2.2.2 Advanced support provided for business model development and refinement of innovative solutions taking into account of the progresses and findings through the capacity needs assessment	Number of cleantech businesses provided with Advanced Accelerator support (sex-disaggregated per team leader)	0	8 (at least 45% woman led, 30% youth led)	Project progress reports Project evaluation reports	
	TCO.1: Number of capacity building activities provided (needs based specific training sessions associated with business growth support delivered to the selected businesses)	0	6	Meeting attendance records Meeting minutes Training attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE

Output 2.2.3 Business cases validated for piloting at least two innovative cleantech solutions (at least for 2 cleantech solutions)	Number of business cases validated, including technology verification, product development and testing facility support to the enterprises	0	2	Project progress reports Project evaluation reports Project impact reports	stakeholders Interest by cleantech entrepreneurs
Output 2.2.4 Financing mobilized for the implementation of fully functional innovative cleantech solutions (at least for 2 cleantech businesses)	Number of cleantech businesses provided with Post Accelerator support (sex-disaggregated per team leader)	0	8 (at least 45% woman led, 30% youth led)	Project progress reports Project evaluation reports Training attendance records	
	CPO.1: Number of global fora, workshops/EGM/side events organized (Investor connect)	0	2		
	TCO.4: Number of business plans developed (innovative cleantech solutions supported by the financial mechanism)	0	2 (at least 45% woman led, 30% youth led)		
Component 3. Knowledge management and coherence					

Outcome 3.1 Knowledge and coherence strengthened	GOV.2: Number of actors participating in enhanced collaboration settings (key government stakeholders interacting/partnering with GCIP Global and gaining skills on GCIP approaches)	0	2	Project progress reports Project evaluation reports Training attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
Output 3.1.1 The internal guidelines are adapted for Viet Nam`s country context and implemented	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (operational guidelines for PMU)	0	2	Project progress reports	
	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (sustainability and exit strategy)	0	1	Project evaluation reports	
	CPO.1: Number of global fora, workshops/EGM/side events organized (for national PEE representatives related to internal guidelines implementation)	0	3	Meeting attendance records Meeting minutes	
Output 3.1.2 Programme-level knowledge management, communication and advocacy strategy is	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (gender responsive knowledge management strategy)	0	1	Project progress reports	Continuous support from the Government of Viet Nam and national partner

adapted from Global programme for Viet Nam`s country context and implemented	Number of briefing sessions, press releases, social media posts and adverts (with special attention on needs of women & youth)	0	15 (at least 45% targeting woman and, 30% targeting youth)	Project evaluation reports Project impact reports	institutions Commitment by CIEE stakeholders
Output 3.1.3 The web platform is operated to maintain the cleantech community	TCO.3: Number of toolkits, technical guidelines, best practices produced and disseminated (Viet Nam web platform/chapter established)	0	1	Project progress reports Project evaluation reports Project impact reports	Interest by cleantech entrepreneurs
Outcome 3.2 Impacts and progress of all the activities and indicators are adequately monitored and reported	POL.3: Number of guidelines adopted by relevant actors (impact monitoring methodology adopted by government bodies)	0	1	Project progress reports Project impact reports Training attendance records	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders Interest by cleantech entrepreneurs
	REA.1: Number of actors reached (in impact tracking of cleantech acceleration)	0	5 (at least 45% women, 30% youth)		
	KASA.1: Number of actors gaining awareness/knowledge on UNIDO knowledge areas (in impact tracking of cleantech acceleration)	0	5 (at least 45% women, 30% youth)		

Output 3.2.1 National impact monitoring established	TCO.1: Number of capacity buildings activities provided (workshops for PEE and partners on the use and methodology of UNIDO impact monitoring) (organized by UNIDO)	0	1	Project progress reports Project evaluation reports	
	PAO.2: Number of analytical and statistical publication produced (Viet Nam enterprise impact data & and project impact report) produced (gender responsive)	0	1	Project impact reports Training attendance records	
Output 3.2.2 Effective monitoring of impact and progresses is conducted including monitoring and reporting on the ESMP and risks	Number of analytical and statistical publications (PIRs) produced (gender responsive)	0	8	Project progress reports Project evaluation reports Project impact reports	Continuous support from the Government of Viet Nam and national partner institutions Commitment by CIEE stakeholders
Output 3.2.3 Gender mainstreaming action plan operationalized, monitored and impact on GEEW evaluated	Number of Gender Mainstreaming action plan developed, approved by the PSC, implemented and monitored	0	1	Project progress reports Project evaluation reports Project impact reports	Interest by cleantech entrepreneurs

Output 3.2.4 External mid-term review and independent terminal evaluation conducted	Number of external mid-terminal review conducted (gender responsive)	0	1	Project progress reports	
	Number of independent terminal evaluation conducted (gender responsive)	0	1	Project evaluation reports Project impact reports	

[1] **Reach** refers to interactions that have a unidirectional type of communication (e.g. event or panel session, publication, press conference, exhibition, etc.), typically aiming to improve awareness or knowledge.

[2] **Engage** refers to more in-depth, bidirectional interactions (e.g. training sessions), which could aim to improve awareness or knowledge but also skills and capacities.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

N.A.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

The committed funds will be spent in the project start-up phase, i.e. and will be used 1) predominantly to strengthen the capacity of and provide training to the national PEE (ISPONRE) on the project execution arrangements with due consideration of the updated GEF guidelines on the project and programme cycle policy (the training of the national PEE is directly related to project/country preparation and as such its cost is eligible to be financed from the PPG), 2) as well as to fund additional relevant start-up phase activities, such as for example translation of documents in local language, etc.

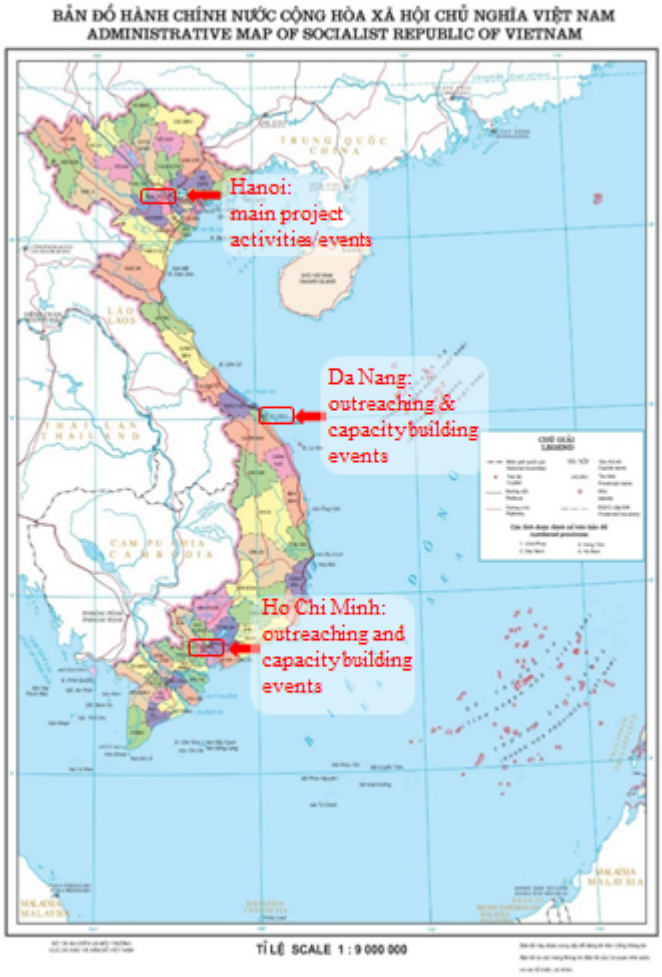
Project Preparation Activities Implemented	*GETF Amount ($)*		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Stakeholder engagement activities during PPG (consultations, workshops, steering committee)	5,000.00	1,500.00	3,500.00
Analysis of baseline and ongoing/planned initiatives Collection of baseline data on relevant sectors/technologies	5,000.00	3,000.00	2,000.00
Selection of project executing entity/ies through UNIDO procurement process - HACT assessment of the project execution agency/ies - TOR for contractual arrangements with executing entity/ies	10,000.00	1,000.00	9,000.00
CEO endorsement request submitted to GEF Sec, with full document package including - environmental and social management plan (ESMP) - gender assessment - GHG reduction potential calculations - co-financing letters	30,000.00	3,974.25	26,025.75
Total	50,000.00	9,474.25	40,525.75

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

While the project is targeted at beneficiaries (entrepreneurs and all relevant CIEE stakeholders, such as universities, policy makers, financiers, and R&D institutions) from all over the country, the main project events will be conducted in the capital city of Hanoi, as well as some outreaching and capacity building events in Da Nang and Ho Chi Minh cities in Viet Nam. This is due to the benefits resulting from a relatively dense concentration of relevant stakeholders there, and well-developed infrastructure. The project boundary will not overlap any other country?s territory. The geo-coordinates and location for these cities are as following:

1) Hanoi: 21.02722? S, 105.83508? E
2) Da Nang: 16.05492? S, 108.20293? E
3) Ho Chi Minh: 10.82095? S, 106.62851? E



ANNEX E: Project Budget Table

Please attach a project budget table.

Indicative Project Budget

Accelerating low-carbon circular economy through cleantech innovation towards sustainable development in Viet Nam (GEF ID 10886)

2022-11-08

Sum of Budget (USD) / Row Labels	Component 1	Component 2	Component 3	M&E	
Selected PEE	350,000	1,125,000	41,777	10,000	
Contractual Services – Company	55,428	393,000	23,000	-	
Activity 1.1.1 a To conduct study & analysis of CIEE in Viet Nam including technology gaps and innovation opportunities as well as localization of global framework to Viet Nam (e.g. assess and adopt global policy exercises to create baselines assumptions for national project, analyze opportunities and risks based upon case studies and observed best practices, identify policies for pro-innovation and those may have conflicts, elaborate KPIs to track progresses, identify lessons learnt from global framework activities) (gender responsive)	10,428	-	-	-	
Activity 1.1.2 a To prepare Viet Nam CIEE policy implementation plan for action/road map and recommendation	15,000	-	-	-	
Activity 1.1.3 a (1) To develop relevant tools for CIEE strengthening and connectivity including: stakeholder engagement strategy framework, and cleantech innovation cluster framework; and to support PEE in developing a stakeholder engagement strategy and a cleantech innovation cluster strategy (in consultation with relevant CIEE	15,000	-	-	-	
Activity 1.1.3 d To develop a handbook based on experiences from the project for guiding procedures on evaluation and appraisal of innovative clean-tech solutions in Viet Nam	15,000	-	-	-	
Activity 2.1.1 a To review and adapt the GCIP guidebooks to reflect the context of Viet Nam's CIEE, including market conditions, gender context, policy environment, development priorities, technology focus, local examples, etc.	-	15,000	-	-	
Activity 2.1.1 c To Identify criteria for cleantech mentors, judges and coaches, integrating gender-sensitivity within the approach - technical, financial, and gender consultants	-	5,000	-	-	
Activity 2.1.1 d To develop methodologies, tools and training materials and certification system, including integration of the gender mainstreaming approach	-	8,000	-	-	
Activity 2.1.2 a To provide capacity building/expert training as well as conduct evaluation and certification for Cleantech innovation mentors, judges and coaches, with inputs from Global GCIP, technical, financial and gender	-	30,000	-	-	
Activity 2.1.2 b To organize two entrepreneurship training programmes at universities including identification of the teachers/professors, adaptation of the GCIP accelerator course, delivery of training programme and initial delivery of training to students	-	15,000	-	-	
Activity 2.1.3 a To provide pre-accelerator services for potential accelerator entrants, tailored to the three priority sectors (The Pre-Accelerator as a 10-day (7 days virtual/3 day in-person) programme for around 50 participants annually, around 6-8 weeks prior to the Accelerator application deadline for customized assistance in developing their pool of potential applications	-	40,000	-	-	
Activity 2.1.3 b To deliver two annual cycles of the Viet Nam Accelerator	-	50,000	-	-	
Activity 2.2.1 a To conduct capacity needs assessment of selected entrepreneurs for systematic promotion and acceleration of cleantech commercialization (at least 8)	-	40,000	-	-	
Activity 2.2.2 a To identify Accelerator participants that would benefit from the Advanced Accelerator support to tackle specific operational, financial, and strategic issues	-	40,000	-	-	
Activity 2.2.2 b To provide training and business growth support to selected cleantech entrepreneurs and SMEs through advanced acceleration services, i.e. identification of mentors, bespoke mentoring around actions, weekly calls, financial models	-	10,000	-	-	
Activity 2.2.3 a To validate selected business models, prototypes and technologies (at least 2)	-	40,000	-	-	
Activity 2.2.3 b To provide technology verification, product development and testing facility support to the enterprises with high impact potential (minimum of 2 enterprises)	-	40,000	-	-	
Activity 2.2.4 a To provide needs-based tipping point needs-based investment facilitation support by organizing national investment facilitation events (Investor Connect) for the Viet Nam Post-Accelerator enterprises in accessing additional sources of finance, market entry, identifying networking opportunities, dealing with technical and administrative issues, accessing IT services, and tax registration, etc. in order to encourage the participation of seed funding providers from the national, regional and global stages in the Viet Nam and to leverage on the experience and knowledge of other GCIP countries	-	60,000	-	-	
Activity 3.1.2 c To capture knowledge gathered by the Viet Nam through policy briefs, impact reports, brochures webinars, and other types of promotional materials, and to disseminate this knowledge through briefing, press releases, social media presence and advertising, etc. (in line with the knowledge management, communication, and advocacy strategy framework)	-	-	8,000	-	
Activity 3.1.3 a & 3.1.3.b To establish online tools and maintain web-based knowledge platform to act as one-point solution for all cleantech related information for the alumni network & b To link Viet Nam platform with Global GCIP Platform and to create and maintain a section of Viet Nam on the global GCIP web platform	-	-	15,000	-	
Activity 3.2.2 c To execute annual financial and technical audits - technical consultants	-	-	-	-	
International consultants	-	110,000	-	-	
Financial consultants (2.1.3 a & b; 2.2.2 b; 2.2.4 a)	-	90,000	-	-	
Technical/Business consultants (2.2.1 a; 2.2.3 a & b)	-	20,000	-	-	
Local consultants	204,572	123,360	18,777	10,000	
Gender Expert (1.1.1c, 1.2.1 b & c ; 1.2.2 a & b &c; 1.2.3 a & b; 2.1.1 a; 2.1.3 b & c)	43,525	20,000	-	-	
Knowledge Management and Communication Expert (2.2.1a, 3.1.2 a&b&c)	-	23,690	8,450	-	
Policy Expert (1.1.1 a; 1.1.2 a; 1.1.1 b, 2.2.1a)	40,000	20,000	-	-	
Environment & Social Experts (1.1.1.c; 1.1.3 d)	30,000	-	-	-	
Energy and Technology Experts (1.1.1 c; 1.1.3 d)	30,000	-	-	-	
Cleantech Technical Experts	61,047	59,670	10,327	10,000	
National Project Coordinator	-	-	-	-	
Project Assistant	-	-	-	-	
Office supplies	-	-	-	-	
Office supplies, rent, equipment, etc.	-	-	-	-	
Training/workshop/meeting	75,000	83,640	-	-	
Activity 1.1.1 b To organize gender responsive multi-stakeholder dialogues and consultations to enhance engagement and develop recommendations for the cleantech innovation and entrepreneurship policy as well as identification and recommendation of best available technologies and cleantech innovation opportunities	10,000	-	-	-	
Activity 1.1.2 b To conduct consultation and validation meetings with alumni and relevant national CIEE stakeholders on the action plan/a roadmap and recommendation for guiding a long-term implementation	10,000	-	-	-	
Activity 1.1.3 a (2) to conduct two engagement workshops (kick-off and follow-up) to train up to 10 national facilitators	10,000	-	-	-	
Activity 1.1.3 b To conduct capacity building activities/training workshops of national and regional institutions to support Cleantech programmes	10,000	-	-	-	
Activity 1.1.3 c To organize 3 Corporate Public Private Partnership (PPP) forums for raising investment and partnership with private sector organizations for promoting cooperation (in particular bilateral and regional cooperation)	25,000	-	-	-	
Activity 1.2.1 c To conduct a stakeholder workshops to discuss and validate the constitutions and enhance networks (Gender)	2,500	-	-	-	
Activity 1.2.2 b To conduct the mentoring programme specifically targeting women (Gender Expert)	5,000	-	-	-	
Activity 1.2.3 b To organize a national awareness campaign to promote gender dimension of the project and women role models in the cleantech ecosystem (Gender)	2,500				
Activity 2.1.2 a To provide capacity building/expert training as well as conduct evaluation and certification for Cleantech innovation mentors, judges and coaches, with inputs from Global GCIP, technical, financial and gender	-	3,640	-	-	
Activity 2.1.2 b To organize two entrepreneurship training programmes at universities including identification of the teachers/professors, adaptation of the GCIP accelerator course, delivery of training programme and initial delivery of training to students	-	5,000	-	-	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N.A.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N.A.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N.A.