



## Global Cleantech Innovation Programme (GCIP) to accelerate the uptake and investments in innovative cleantech solutions

### Part I: Program Information

**GEF ID**

10408

**Program Type**

PFD

**Type of Trust Fund**

GET

**CBIT/NGI**☐ CBIT☐ NGI**Program Title**

Global Cleantech Innovation Programme (GCIP) to accelerate the uptake and investments in innovative cleantech solutions

**Countries**

Global, Cambodia, Indonesia, Kazakhstan, Moldova, Morocco, Nigeria, South Africa, Turkey, Uruguay, Ukraine

**Agency(ies)**

UNIDO

**Other Executing Partner(s)****Executing Partner Type**

Under discussion. An expression of interest (Eoi) will be issued to select the  
 Executing Partner through an open and competitive procurement process by Others  
 February 2020.

## GEF Focal Area

Climate Change

### Taxonomy

Focal Areas, Capacity Development, Capacity, Knowledge and Research, Influencing models, Stakeholders, Gender Equality, Sustainable Development Goals, Climate Change, United Nations Framework Convention on Climate Change, Paris Agreement, Nationally Determined Contribution, Climate Change Mitigation, Energy Efficiency, Renewable Energy, Technology Transfer, Sustainable Urban Systems and Transport, Financing, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Civil Society, Academia, Type of Engagement, Participation, Information Dissemination, Partnership, Communications, Education, Awareness Raising, Behavior change, Public Campaigns, Beneficiaries, Private Sector, Large corporations, Capital providers, SMEs, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, Gender results areas, Knowledge Generation and Exchange, Participation and leadership, Access to benefits and services, Gender Mainstreaming, Sex-disaggregated indicators, Knowledge Generation, Professional Development, Training, Workshop, Course, Learning, Indicators to measure change, Innovation, Knowledge Exchange, South-South, North-South, Peer-to-Peer

### Rio Markers

#### Climate Change Mitigation

Climate Change Mitigation 2

#### Climate Change Adaptation

Climate Change Adaptation 0

### Duration

60 In Months

### Agency Fee(\$)

1,617,537

### Program Commitment DeadlineSubmission Date

4/1/2021

10/10/2019

### Impact Program

IP-Food-Land-Restoration **No**

IP-Sustainable Cities **No**

IP-Sustainable Forest Management Amazon **No**

IP-Sustainable Forest Management Congo **No**

IP-Sustainable Forest Management Drylands **No**

Other Program **Yes**

## A. Indicative Focal/Non-Focal Area Elements

| Programming Directions  | Expected Outcomes  | Trust Fund | GEF Amount(\$) | Co-Fin Amount(\$) |
|-------------------------|--|------------|----------------|-------------------|
| CCM-1-4                 | Promote innovation and technology transfer for sustainable energy breakthroughs for cleantech innovation | GET        | 17,972,633     | 137,960,110       |
| Total Program Cost (\$) |  |            | 17,972,633     | 137,960,110       |



## B. Indicative Project description summary

## Program Objective

To foster private sector initiative, entrepreneurship and engagement to accelerate the uptake of and investment in innovative cleantech solutions at scale

| Program Component   | Financing Type       | Program Outcomes   | Trust Fund | GEF Amount(\$) | Co-Fin Amount(\$) |
|---|----------------------|--|------------|----------------|-------------------|
| Pillar 1. Transforming early-stage innovative cleantech solutions into commercial enterprises | Technical Assistance | <p><b>1.1 Acceleration of early-stage cleantech innovations into enterprises</b></p> <p>1.1.1 Methodologies, guidelines, tools and training systems for cleantech innovation and entrepreneurship accelerators developed at global level and adapted and applied in child projects</p> <p>1.1.2 Pool of business innovation and entrepreneurship experts (coaches, mentors and judges) trained and certified to support cleantech innovation and entrepreneurship accelerators in child projects</p> <p>1.1.3 Competition-based cleantech innovations and entrepreneurship accelerators conducted annually in child projects and at global level</p> | GET        | 5,563,764      | 26,321,745        |

|   |                      |  |     |           |            |
|---|----------------------|--|-----|-----------|------------|
| Pillar 1. Transforming early-stage innovative cleantech solutions into commercial enterprises | Technical Assistance | <b>1.2 Targeted business growth support and tipping point investment facilitation services provided to growth-stage cleantech SMEs to commercialize</b><br><br>1.2.1 Targeted advanced business growth support services provided to selected cleantech enterprises towards commercialization including investment in pilot projects in child projects<br>1.2.2 Tipping-point investment facilitation support provided to high impact cleantech enterprises and link them to investment and financing opportunities at global levels<br><br>1.2.3 Mentoring and partnership support provided to cleantech enterprises for cross-border market expansion at global level | GET | 2,496,000 | 23,832,340 |
| Pillar 1. Transforming early-stage innovative cleantech solutions into commercial enterprises | Investment           | 1.2.4 Innovative early-stage financing mechanisms designed and established to support the deployment and scale-up of cleantech solutions in child projects<br>1.2.5 Investment projects implemented to deploy innovative cleantech solutions across various sectors in child projects  | GET | 4,263,918 | 57,470,000 |

|   |                      |   |     |           |            |
|---|----------------------|---|-----|-----------|------------|
| Pillar 2. Cleantech innovation and entrepreneurship ecosystems strengthening and connectivity | Technical Assistance | <p><b>2.1 Cleantech innovation and entrepreneurship ecosystems strengthened at national levels and connected at the global level</b></p> <p>2.1.1 Capacity building for national technology cleantech innovation and entrepreneurship support institutions, industry associations and business platforms in child projects</p> <p>2.1.2 Development of cleantech innovation and entrepreneurship related policies, regulations and recommendations in child projects</p> <p>2.1.3 Documenting policy best practices and dissemination across countries at global level</p> <p>2.1.4 Knowledge generation, exchange and dissemination at national and global levels to promote linkages, collaboration and synergies across cleantech ecosystems of GCIP countries</p> | GET | 2,583,823 | 17,751,740 |
|---|----------------------|---|-----|-----------|------------|

|  |                      |  |     |            |             |
|--|----------------------|--|-----|------------|-------------|
| Pillar 3. Programme coordination and coherence | Technical Assistance | <b>3.1 Standards and programmatic coherence to improve efficiency and sustainability of GCIP interventions.</b><br><br>3.1.1 Programme level internal guidelines developed at global level, and adapted and implemented in child projects for programmatic coherence across countries<br>3.1.2 Programme level knowledge management, communication and advocacy strategy developed at global level and implemented in child projects<br>3.1.3 Web platform established at global level and adapted and operated to coordinate and consolidate GCIP operations in child projects<br><br><b>3.2 Impact of GCIP tracked and reported at national and global levels</b><br>3.2.1 Methodologies of estimating environmental impact of GCIP (including GHG emissions) established at global level and applied in all child projects<br>3.2.2 Program monitoring and evaluation framework developed at global level and applied in child projects | GET | 1,702,685  | 7,294,266   |
| Sub Total (\$)                                 |                      |  |     | 16,610,190 | 132,670,091 |
| Program Management Cost (PMC)                  |                      |  |     |            |             |
| GET  |                      |  |     | 1,362,443  | 5,290,019   |
| Sub Total(\$)                                  |                      |  |     | 1,362,443  | 5,290,019   |
| Total Program Cost(\$)                         |                      |  |     | 17,972,633 | 137,960,110 |

Please provide justification

The cumulative amount of PMC requested by each child project is 1,362,443 USD. Please note that the individual child projects are mostly MSPs and hence they are requesting a PMC of between 5 to 10%. This in turn leads to a higher than the normal 5% PMC allowed for a programme above USD 2,000,000 i.e. the overall GCIP programme.

## C. Co-Financing for the Program by Source, 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   | 490,000    |
| GEF Agency              | UNIDO                        | In-kind              | Recurrent expenditures | 1,465,000  |
| Private Sector          | Private sector - Global      | In-kind              | Recurrent expenditures | 2,240,000  |
| Private Sector          | Private sector - Global      | Equity               | Investment mobilized   | 19,000,000 |
| Government              | Cambodia Government          | In-kind              | Recurrent expenditures | 1,000,000  |
| Beneficiaries           | Cambodia Beneficiaries       | Equity               | Investment mobilized   | 1,250,000  |
| Private Sector          | Cambodia Private Sector      | Equity               | Investment mobilized   | 3,216,560  |
| Government              | Indonesia Government         | Grant                | Investment mobilized   | 6,500,000  |
| Government              | Indonesia Government         | In-kind              | Recurrent expenditures | 7,300,000  |
| Others                  | Indonesia Other (University) | Grant                | Investment mobilized   | 500,000    |
| Others                  | Indonesia Other (University) | In-kind              | Recurrent expenditures | 500,000    |
| Private Sector          | Indonesia Private Sector     | Grant                | Investment mobilized   | 1,500,000  |
| Government              | Kazakhstan Government        | Grant                | Investment mobilized   | 4,700,000  |
| Government              | Kazakhstan Government        | In-kind              | Recurrent expenditures | 3,000,000  |
| Private Sector          | Kazakhstan Private Sector    | Grant                | Investment mobilized   | 1,000,000  |

|                |                             |         |                        |           |
|----------------|-----------------------------|---------|------------------------|-----------|
| Government     | Moldova Government          | Grant   | Investment mobilized   | 4,750,000 |
| Government     | Moldova Government          | In-kind | Recurrent expenditures | 800,000   |
| Donor Agency   | Moldova Donor Agency        | Grant   | Investment mobilized   | 620,000   |
| Private Sector | Moldova Private Sector      | Equity  | Investment mobilized   | 2,000,000 |
| Private Sector | Moldova Private Sector      | Grant   | Investment mobilized   | 25,000    |
| Government     | Morocco Government          | Grant   | Investment mobilized   | 1,000,000 |
| Government     | Morocco Government          | In-kind | Recurrent expenditures | 2,500,000 |
| Private Sector | Morocco Private sector      | Equity  | Investment mobilized   | 2,679,050 |
| Government     | Nigeria Government          | Grant   | Investment mobilized   | 5,500,000 |
| Government     | Nigeria Government          | In-kind | Recurrent expenditures | 4,500,000 |
| Private Sector | Nigeria Private sector      | Loans   | Investment mobilized   | 1,824,500 |
| Government     | South Africa Government     | Grant   | Investment mobilized   | 500,000   |
| Government     | South Africa Government     | In-kind | Recurrent expenditures | 6,000,000 |
| Private Sector | South Africa Private sector | Equity  | Investment mobilized   | 6,000,000 |
| Private Sector | South Africa Private sector | Grant   | Investment mobilized   | 7,250,000 |
| Government     | Turkey Government           | Grant   | Investment mobilized   | 1,000,000 |
| Government     | Turkey Government           | In-kind | Recurrent expenditures | 5,000,000 |
| Private Sector | Turkey Private sector       | In-kind | Recurrent expenditures | 830,000   |

|                               |                              |         |                        |                    |
|-------------------------------|------------------------------|---------|------------------------|--------------------|
| Private Sector                | Turkey Private sector        | Grant   | Investment mobilized   | 30,000             |
| Private Sector                | Turkey Private sector        | Equity  | Investment mobilized   | 1,000,000          |
| CSO                           | Turkey CSO                   | In-kind | Recurrent expenditures | 1,000,000          |
| Others                        | Turkey Other                 | In-kind | Recurrent expenditures | 1,690,000          |
| Government                    | Ukraine                      | In-kind | Recurrent expenditures | 2,500,000          |
| CSO                           | Ukraine                      | In-kind | Recurrent expenditures | 250,000            |
| Others                        | Ukraine                      | Loans   | Investment mobilized   | 10,000,000         |
| Government                    | Uruguay Government           | In-kind | Recurrent expenditures | 150,000            |
| Government                    | Uruguay Government           | Grant   | Investment mobilized   | 400,000            |
| Donor Agency                  | Uruguay Donor Agency         | Loans   | Investment mobilized   | 3,000,000          |
| Private Sector                | Uruguay Industry             | In-kind | Recurrent expenditures | 1,500,000          |
| Others                        | Uruguay Public Utility       | In-kind | Recurrent expenditures | 5,000,000          |
| Others                        | Uruguay National Oil Company | Grant   | Investment mobilized   | 5,000,000          |
| <b>Total Program Cost(\$)</b> |                              |         |                        | <b>137,960,110</b> |

#### Describe how any "Investment Mobilized" was identified

Investment mobilized was identified through discussions with stakeholders on their interest in the project and willingness to support it. The co-financing estimates have been adequately assessed and are consistent with the requirements of the GEF co-financing policy and guidelines. From GCIP-1, experience has shown that the very nature of cleantech is such that it is a cross-cutting issue that galvanizes interest and co-financing from multiple government ministries/departments concerned with cleantech (e.g. energy, environment, industry, innovation, education, agriculture, urban development) as well as sub-national entities such as cities, etc. Hence the estimates of co-financing as indicated in the PFD and child project concepts are considered realistic and reasonable and will be further corroborated and substantiated at the CEO endorsement stage. Additional details on the co-financing by source and amount are available in Annex E.





**D. Indicative 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        | Global       | Climate Change | CC Global/Regional Set-Aside | 1,784,862         | 160,638          | 1,945,500         |
| UNIDO                          | GET        | Cambodia     | Climate Change | CC STAR Allocation           | 1,417,890         | 127,610          | 1,545,500         |
| UNIDO                          | GET        | Indonesia    | Climate Change | CC STAR Allocation           | 1,776,484         | 159,883          | 1,936,367         |
| UNIDO                          | GET        | Kazakhstan   | Climate Change | CC STAR Allocation           | 1,775,000         | 159,750          | 1,934,750         |
| UNIDO                          | GET        | Moldova      | Climate Change | CC STAR Allocation           | 855,000           | 76,950           | 931,950           |
| UNIDO                          | GET        | Morocco      | Climate Change | CC STAR Allocation           | 913,242           | 82,192           | 995,434           |
| UNIDO                          | GET        | Nigeria      | Climate Change | CC STAR Allocation           | 1,826,484         | 164,384          | 1,990,868         |
| UNIDO                          | GET        | South Africa | Climate Change | CC STAR Allocation           | 3,236,525         | 291,287          | 3,527,812         |
| UNIDO                          | GET        | Turkey       | Climate Change | CC STAR Allocation           | 1,776,484         | 159,884          | 1,936,368         |
| UNIDO                          | GET        | Ukraine      | Climate Change | CC STAR Allocation           | 1,307,500         | 117,675          | 1,425,175         |
| UNIDO                          | GET        | Uruguay      | Climate Change | CC STAR Allocation           | 1,303,162         | 117,284          | 1,420,446         |
| <b>Total GEF Resources(\$)</b> |            |              |                |                              | <b>17,972,633</b> | <b>1,617,537</b> | <b>19,590,170</b> |

## Core Indicators

### Indicator 3 Area of land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| 0.00                 | 0.00                             | 0.00                 | 0.00                |

### Indicator 3.1 Area of degraded agricultural land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|                      |                                  |                      |                     |

### Indicator 3.2 Area of Forest and Forest Land restored

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|                      |                                  |                      |                     |

**Indicator 3.3 Area of natural grass and shrublands restored**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|                      |                                  |                      |                     |

**Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|                      |                                  |                      |                     |

**Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
| 0.00                 | 0.00                             | 0.00                 | 0.00                |

**Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|----------------------|----------------------------------|----------------------|---------------------|

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**Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|----------------------|----------------------------------|----------------------|---------------------|

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**Type/Name of Third Party Certification**

**Indicator 4.3 Area of landscapes under sustainable land management in production systems**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|----------------------|----------------------------------|----------------------|---------------------|

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|--|--|--|--|

## Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|----------------------|----------------------------------|----------------------|---------------------|
|                      |                                  |                      |                     |

## Documents (Please upload document(s) that justifies the HCVF)

| Title | Submitted |
|-------|-----------|
|-------|-----------|

## 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 <sub>2</sub> e (direct)   | 1719000  | 0                    | 0                 | 0                |
| Expected metric tons of CO <sub>2</sub> e (indirect) | 8595000  | 0                    | 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 <sub>2</sub> e (direct) |          |                      |                   |                  |

|  |
|--|
| Expected metric tons of CO <sub>2</sub> 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 <sub>2</sub> e (direct)   | 1,719,000 |                      |                   |                  |
| Expected metric tons of CO <sub>2</sub> e (indirect) | 8,595,000 |                      |                   |                  |
| Anticipated start year of accounting                 | 2020      |                      |                   |                  |
| Duration of accounting                               | 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 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|-------------------------------|---|-------------------------------|------------------------------|
|-------------------------------|---|-------------------------------|------------------------------|

|      |      |      |      |
|------|------|------|------|
| 0.00 | 0.00 | 0.00 | 0.00 |
|------|------|------|------|

**Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)**

| POPs type | Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|-----------|-------------------------------|---|-------------------------------|------------------------------|
|-----------|-------------------------------|---|-------------------------------|------------------------------|

**Indicator 9.2 Quantity of mercury reduced (metric tons)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|-------------------------------|---|-------------------------------|------------------------------|
|-------------------------------|---|-------------------------------|------------------------------|



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**Indicator 9.3 Hydrochlorofluorocarbons (HCFC) Reduced/Phased out (metric tons)**

**Metric Tons (Expected at PIF)**

**Metric Tons (Expected at CEO Endorsement)**

**Metric Tons (Achieved at MTR)**

**Metric Tons (Achieved at TE)**

|  |
|--|
|  |
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**Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

**Number (Expected at PIF)**

**Number (Expected at CEO Endorsement)**

**Number (Achieved at MTR)**

**Number (Achieved at TE)**

|  |
|--|
|  |
|--|

**Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

**Number (Expected at PIF)**

**Number (Expected at CEO Endorsement)**

**Number (Achieved at MTR)**

**Number (Achieved at TE)**

|  |
|--|
|  |
|--|

**Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|-------------------------------|---|-------------------------------|------------------------------|
|                               |   |                               |                              |

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

| Grams of toxic equivalent gTEQ (Expected at PIF) | Grams of toxic equivalent gTEQ (Expected at CEO Endorsement) | Grams of toxic equivalent gTEQ (Achieved at MTR) | Grams of toxic equivalent gTEQ (Achieved at TE) |
|--|--|--|---|
|  |  |  |   |

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|--------------------------|--------------------------------------|--------------------------|-------------------------|
|                          |                                      |                          |                         |

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|--------------------------|--------------------------------------|--------------------------|-------------------------|
|                          |                                      |                          |                         |

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

|               | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---------------|--------------------------|--------------------------------------|--------------------------|-------------------------|
| <b>Female</b> | 4,279                    |                                      |                          |                         |
| <b>Male</b>   | 7,946                    |                                      |                          |                         |
| <b>Total</b>  | 12225                    | 0                                    | 0                        | 0                       |

## Part II. Programmatic Justification

### 1a. Program Description

#### 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed

It is now globally accepted that climate change presents an urgent and existential threat to humanity. As such, government, business and civil society need to systematically and rapidly embrace climate action to avoid detrimental impacts to people and planet. According to the most recent IPCC report, GHG emissions have continued to increase and the world is on track to surpass 1.5°C of global warming as early as 2040 unless drastic solutions are immediately implemented[1]. Business can play a key and central role in driving down carbon emissions by accelerating the development, adoption and scale-up of innovative cleantech[2] solutions. In fact, the transition towards a low-carbon economy presents an economic opportunity for business, especially MSMEs (Micro and Small and Medium scaled Enterprises), start-ups and entrepreneurs (herein collectively referred to as SMEs) who by developing and adopting innovative cleantech solutions can increase the productivity and competitiveness of themselves, other industries and sectors and create jobs.

Large-scale adoption of innovative cleantech solutions can ultimately transform entire economies, industries and secure a sustainable and inclusive future. However, despite numerous innovative, and increasingly cost-competitive, cleantech solutions being developed, their adoption within many carbon intensive sectors (e.g. energy, industry, buildings, transport, agriculture and service sectors) is falling far short of the scale and speed needed. This is due to a variety of reasons that include technology lock-in, lack of awareness, lack of availability of the technologies and adequate support mechanisms. In developing countries, innovative cleantech solutions can also help to address existing infrastructure and service gaps such as access to sustainable energy through the deployment of renewables, promotion of energy use efficiency and adoption of e-mobility solutions. This gap between the development of innovative cleantech solutions and their rapid deployment needs to be systematically addressed to reduce emissions of GHG whilst creating green industries and jobs.

#### Role of cleantech innovation SMEs in addressing global environmental problems

SMEs have the potential to drive the transformational change towards resource efficient and low carbon economies by actively developing and adopting innovative cleantech solutions. SMEs are the mainstay of the economies in developing countries and economies in transition. In these countries, SMEs employ between 60-90% of the total workforce and they provide goods and services across various sectors. Given the reach and operations of SMEs across various economic sectors, they can identify opportunities and develop appropriate and scalable innovative cleantech solutions, which reduce GHG emission and create jobs and new clean industries. Furthermore, SMEs operate at very local levels and hence they significantly influence decisions and choices by society.

SMEs play an important role in developing key technologies to tackle climate change as highlighted in the Briefing Document #12 of the Technology Executive Committee of the UNFCCC[3] and the GEF has long recognized that the protection of the global commons requires full engagement and mobilizing of the private sector to leverage, technological know-how, innovation, investments and market access. The range of technological and market or business model innovations that SMEs can develop can range from breakthrough, architectural, disruptive to incremental innovations depending on the existing market opportunities, circumstances and technological needs. The combination of artificial intelligence, big data and connectivity is expanding the opportunities and horizons for cleantech innovation even further.

#### Barriers to development and large-scale adoption and deployment of innovative cleantech solutions

In most developing and emerging economies, cleantech SMEs face serious barriers in transforming promising innovative cleantech ideas into viable businesses since the “valley of death” they face is deeper and wider compared to those in developed countries. These barriers can be classified into three inter-linked categories relating to 1) barriers faced by SME; 2) barriers related to cleantech innovation and entrepreneurship ecosystems in which the SMEs

operate, and 3) global systemic barriers.

Cleantech SMEs often lack the skills and organizational capacity to transform innovative cleantech solutions into marketable products. This is compounded by the existing gaps between demand and supply of funding available for SMEs. Typically small and early stage cleantech SMEs require lower levels of funding and the provision of patient capital, whereas commercial banks, public markets as well as venture capital funds tend to invest in low-risk and tested technologies. Limited understanding of opportunities and capacity to assess risks in investing in innovative cleantech solutions as well as limited exposure and interaction between SMEs and potential investors are indications of weak innovation and entrepreneurship ecosystems.

The quality and complementarity of support services available to SMEs is determined by the maturity of cleantech innovation ecosystem. The existence and enforcement of the supportive policy frameworks as well as interconnectivity of relevant ecosystem players from academia, industry and state organizations with complementary skills and competences are key. The status of the policy and regulatory framework varies enormously across economies but in many cases it is characterized by weak incentives to sufficiently foster and mainstream innovative cleantech solutions across priority sectors. Accordingly, key policy makers have limited exposure to best practice examples and cross border policy dialogues and miss opportunities to learn. At the global level, the cleantech innovation and entrepreneurship ecosystem is characterized by disconnected and disparate sub-ecosystems and missing coordination supra-structure. This results in highly fragmented efforts and discrepancy in quality and availability of support services, misinformed investors and a lack of efficiency in global efforts. This means that opportunities to develop and grow cleantech businesses providing global environmental benefits are largely untapped and unexplored.

Ultimately, the global and national innovation and entrepreneurship ecosystems are weak and SMEs are not given the opportunity to transform their cleantech innovations into viable enterprises that can attract investment at local and global levels, which in turn would allow them to scale and to deliver transformational economic, social and environmental impacts.

A summary of the barriers that SMEs face in developing and scaling innovative cleantech solutions are presented below.

[1] <https://www.ipcc.ch/sr15/chapter/spm/>

[2] GCIP defines cleantech as a broad range of solutions (technologies, processes, services, business models, and their combinations) that that improve operational performance, productivity, or efficiency while reducing costs, inputs, energy consumption, waste, or environmental pollution. Cleantech lead to an increase in positive impact or a decrease in negative impact on climate change mitigation and adaptation, transition to a low-emission economy, sustainable energy systems, and other dimensions of environmental sustainability. Climate technology, clean energy technology, agtech etc. are subsets of cleantech.

[3] <https://unfccc.int/sites/default/files/resource/docs/2017/cop23/eng/11a01.pdf>

A summary of the barriers that SMEs face in developing and scaling innovative cleantech solutions are presented below.

| <i><b>Barriers</b></i>   | <i><b>Description</b></i>   |
|--|---|
| 1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions | <ul style="list-style-type: none"> <li>· Limited access to finance has been identified as a challenge on global scale and confirmed by national counterparts involved in the formulation of child projects. This is largely due to the absence of venture capital funds and angel investors as well as state supported grant funding for innovation and technologies targeted at cleantech innovations due to a number of the following reasons:               <ul style="list-style-type: none"> <li>a) a mismatch of start-up needs and offerings of financing institutions;</li> <li>b) lack of interaction between SMEs and potential investors;</li> <li>c) difficulty to access capital for innovation projects that normally comport sp</li> </ul> </li> </ul> |

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|---|--|
|   | <p>ecific risks;</p> <p>d) lack of patient capital and advanced business growth support tailored to the needs and conditions for early-stage businesses;</p> <p>e) limited understanding of opportunities and specific risk of investing in (local) cleantech markets;</p> <p>f) limited awareness of financial schemes and respective requirements and procedures available to cleantech businesses as well as limited government financial incentives to support private sector in advancing and adopting innovation in the cleantech space;</p> <p>g) limited knowledge of cleantech innovation and investment amongst local investors and subsequently a very low risk appetite</p> <p>h) loan/grant officers lack the skills to properly evaluate the value and potential of innovative technologies; and</p> <p>i) entrepreneurs lack the ability to prepare and present adequate business plans and financial statements (i.e. poor financial literacy).</p> <ul style="list-style-type: none"> <li>· Lack of capacity by SMEs to develop solid and validated business plans and marketing strategies to reduce risk of failure;</li> <li>· Lack of awareness in businesses and private sector of new developments and trends on innovations related to their operations, manufacturing and distribution, locally or globally which limits their development;</li> <li>· Limited access to international expertise and limited knowledge of markets and potential partners outside their country which could expand their businesses;</li> <li>· Limited knowledge of local and international standardization procedures and access to testing facilities stalling some ideas.</li> </ul> |
| 2. Barriers related to cleantech innovation and entrepreneurship ecosystems | <ul style="list-style-type: none"> <li>· Absence or weak enabling policy and regulatory environment that would create the market-pull for cleantech innovations in SMEs; fostering of innovation and entrepreneurial spirit requires supportive policies and a business environment that encourages investment;</li> <li>· Weak and non-functioning innovation ecosystems where resources invested in the knowledge economy are not linked to changes in the commercial economy</li> </ul>   |

|                             |  |
|-----------------------------|--|
|                             | <ul style="list-style-type: none"> <li>· Institutions mandated to promote technological innovation lack capacity and policy guidance on accelerating cleantech innovations;</li> <li>· Lack of trained experts and information about technology – A potential barrier to provision of support to SMEs is the lack of trained experts for mentoring start-ups and entrepreneurs involved in cleantech innovations and also a lack of information about technology options, best practices, and benchmarks within SMEs</li> <li>· Lack of coordination amongst sectoral players on market intelligence research (undermining decision-making regarding market opportunities and penetration strategies) and meaning they do not collaborate to support and foster cleantech SMEs to develop new innovations and commercialize their products and services;</li> <li>· No policy best practice sharing nor dialogue between countries so lessons are not learned, knowledge is lost and opportunities to improve and be more effective and efficient are missed.</li> </ul>   |
| 3. Systemic global barriers | <ul style="list-style-type: none"> <li>· Lack of public awareness regarding market potential of cleantech and low-emission innovation technologies;</li> <li>· No standard performance scheme such as label or badge which defines cleantech innovation quality; there are a number of different labels which are applied to aspects of the cleantech market but not something that is all encompassing which the financial markets will recognize;</li> <li>· Limited sharing of knowledge between ecosystems and limited tracking or reporting of cleantech experience in different countries which undermines successful cleantech innovation and limits growth;</li> <li>· There is limited standardization and differing methodologies between different country support and between existing international support programs so it is difficult to set specific baselines or targets which could support up-scaling and uptake of innovation and lead to really understanding the impact.</li> <li>· Limited global support available which is open to developing and transition economies and which allows entrepreneurs to look beyond their boundaries, particularly when their own in-country support is not targeted at their sector. Technologies with potential are not able to progress to become viable businesses.</li> </ul> |

**Table 1: Barriers experienced by SMEs in commercializing innovative cleantech solutions**

The specific situation and associated drivers and barriers that need to be addressed in each child project are provided in Annex K, as well as in the Child Project documents.

## 2) the baseline scenario and any associated baseline projects

### a) Baseline Scenario

#### i) *Global trends in cleantech innovation*

The cleantech market opportunity in developing countries is expected to exceed \$6.4 trillion over the coming decade, with \$1.6 trillion of that investment accessible to SMEs[1]. While around 50 per cent of the entire value stream of these technologies originates from major equipment, the rest is generated by balance of system components, smaller replacement parts, assembly, installation, operation and maintenance services as well as civil works. The latter are the areas where there is room to develop local content and where local SMEs can play a key role as ancillary industries in addition to going further and creating new technological and business model innovations which solve local problems and have global environmental benefits. In particular, the convergence of the need for climate action and addressing energy access and security challenges in developing and emerging economies presents huge opportunities for SMEs to develop innovative cleantech solutions that can be a basis for inclusive and sustainable industrialization.

In the energy sector, mega trends including decarbonisation, decentralization, electrification and digitization are creating major technological and market disruptions and breakthroughs. Some of the key technological enablers of this rapid innovations include utility scale batteries, behind-the-meter batteries, e-vehicles smart charging etc. This, along with big data, block chain, artificial intelligence and the Internet of Things (IoT), is creating innovations in hardware and software solutions such as sensors, communication and optimization technologies, which can increase energy efficiency, give customers more control as well as facilitating easier and more distributed generation, e.g. peer-to-peer off-grid energy trading. Distributed energy generation is an area of focus as is energy access with emphasis on low-cost intelligent off-grid systems. Innovations continue in the renewable energy space with new technologies that are efficient as well as technologies that optimise generation, grid connection and maintenance.

The role of the private sector in accelerating the innovation, development and wide-scale adoption of innovative cleantech solutions is central to the growth of the cleantech industry in developing countries. To be able to fully participate in this newly emerging economic space, developing countries need to design appropriate strategies and targeted support measures to foster home-grown cleantech innovations to capture a growing share of this expanding future market and the related employment and industrialization opportunities.

#### ii) *Growing demand of global investors for innovative cleantech solutions*

The impact investment industry is rapidly growing. In 2016, 205 investors committed more than USD 22 billion to impact investment and anticipated committing 17% more in 2017[2]. International impact investors are increasingly considering the opportunities that innovative cleantech solutions offer. These investors tend to be particularly interested in potential innovations that are scalable at global level, rather than those that tend to be constrained to national level. Although impact investors do show interest in investing across many countries, they are simply not aware of the opportunities in many emerging and developing economies, resulting in missed opportunities for scaling cleantech innovation in these countries and achieve huge global environment benefits. Global platforms allow impact investors to be introduced to enterprises in countries they may not previously have considered. With a



critical mass of cleantech innovators on one platform, impact investors have a trusted place to identify and engage innovative cleantech solutions from different countries. International investors are looking for truly global innovative cleantech solution that can have impact at scale, whereas national investors may have global aspirations but will settle for solutions potential to scale at national or regional levels.

PFAN (the Private Financing Advisory Network)[3] provides investment facilitation services for scaling-up of climate and sustainable energy technologies at large-scale for positive environmental impact. It supports developing and emerging economy country cleantech projects until they reach financial closure. Its figures show that more than half of the sources of investment to reach financial closure are international in nature. Of the 24 projects from PFAN's pipeline, that are in the cleantech category, 13 have managed to mobilize investments from international sources<sup>[4]</sup>. PFAN investments are already saving 3.3 million tCO<sub>2</sub>e/year. Thus, there is evidence that international investors have an appetite to invest in cleantech SMEs in developing countries, if they have a valid technology, a strong team, validated business model and customer traction.

### iii) ***Growing sustainability commitments by business as opportunities for innovative cleantech solutions***

Many large corporations are adopting sustainability commitments and standards in their supply chains, internal processes and market linkages. These sustainability commitments include reducing resource consumption, closing the materials loop, embracing circular economy principles and adopting renewable energy and energy efficiency technologies and services. Furthermore, some private companies have started promoting partnerships with local companies and SMEs, to ensure compliance with sustainability standards and a more diversified pool of suppliers. Some commodity based corporations have gone a step further by linking their operations to efforts to promote entrepreneurship, innovations and achieving SDGs. This creates shared value, whereby actions to create shareholder value also creates value for society and tackles many of the global challenges that the SDGs are designed to address. At the same time large corporates are teaming up with accelerators and incubators to engage with thematic problem orientated entrepreneurs/solutions and are co-investing. This creates huge market opportunities for SMEs to develop cleantech innovations and partnerships with large corporations in support of sustainability efforts.

### b) **Baseline Projects**

Since 2011, interest in cleantech innovation has grown steadily, and the number of cleantech incubators and accelerators is now estimated at approximately 70[5]. Most of these are located in North America and Europe with very few working in developing or emerging economies. In addition, many focus on software solutions rather than hardware. While there is no definitive figure, best estimates put climate-focused incubators/accelerators at less than 2% of all incubators/accelerators[6]. There are a number of global initiatives helping cleantech start-ups but few focus on developing countries and are truly global, i.e. they are multiple country initiatives, and none provide holistic support across the ecosystems. Some of the key international initiatives/projects working in these economies are outlined below.

#### i) ***Global Cleantech Innovation Programme (GCIP-1) under GEF 5 and GEF 6 and achievements***

In 2011, UNIDO, in partnership with GEF, piloted the first Cleantech Innovation Competition for green entrepreneurs and SMEs in South Africa with innovative ideas and concepts in the areas of green buildings, energy efficiency, and renewable energy[7]. Building on the resounding success of this pilot, UNIDO and the GEF developed the Global Cleantech Innovation Programme (GCIP-1), which uniquely fosters an ecosystem approach that supports cleantech innovations in existing and new SMEs. Since the pilot in South Africa, under GEF 5 and GEF 6 cycles, GCIP has been implemented in a total of nine countries, namely Armenia, India, Malaysia, Morocco, Pakistan, Thailand, Turkey, Ukraine and South Africa[8].

GCIP's main objective was to strengthen innovation and entrepreneurship ecosystems that would catalyze the transformation of cleantech innovations by SMEs into viable investment businesses, and link them to financing opportunities. An integral part of GCIP is the development of an enabling environment for cleantech innovation and entrepreneurship. Each GCIP project has had the four following interventions: a) entrepreneurship and business acceleration of cleantech innovation SMEs and start-ups; b) policy and regulatory strengthening; c) linking cleantech SMEs to private sector financing; and d) building capacity of national institutions.

By 2019 over 1200 cleantech SMEs had been trained, mentored, and linked to funding opportunities[9]. On average, about 25% of the innovators and companies are women-owned and operated, a significantly higher percentage than most cleantech accelerators and incubators worldwide. In many cases, the supported GCIP companies are already up and running, attracting investment, making innovative cleantech products and services, and delivering huge global environmental benefits. A small sample of just fourteen (14 out of 1000) GCIP alumni indicated that they have raised USD 22 million in investment and created over 300 jobs while delivering 600,000 tCO<sub>2</sub>e benefits between 2011 and 2017[10]. The leveraging effect of the GCIP is demonstrated by the fact that these 14 companies have such high growth prospects that they project that by 2020, they would have generated revenues of over US\$ 263 million, created over 1200 new jobs and generated over 4.8 million tons of GHG emissions savings. This was achieved from a total budget of US\$ 12 million invested across 9 countries. This gives GCIP leverage effect of at least 21 times. With many more GCIP alumni start-ups commercializing and mobilizing more investments, this implies that GCIP leverage effect will continue to increase. GCIP has also successfully delivered outcomes beyond the level of individual businesses by nurturing the innovation ecosystems in each country and building up capacity in national organizations.

The independent evaluation of GCIP has unequivocally concluded that GCIP was very successful. The evaluation further concluded that there is potential to increase impact and that effectiveness of the approach could have been improved through programmatic delivery. More still needs to be done to link ecosystems across countries to identify more investment and market opportunities, and to engage with the private sector, to really create global transformational impacts and environmental benefits. Further details regarding findings of GEF IEO thematic evaluation of GCIP are provided in Annex J.

Feedback from participants in the GCIP-1 countries has also been used to design activities under GCIP-2 for countries that will participate, in particular, Morocco, South Africa, and Turkey. In all three countries there was an identified need for support SMEs beyond the accelerator including business, technical and finance and a wish to link to other GCIP countries. Although work was done on strengthening the ecosystems still more needs to be done and further policy improvements are required.

## *ii) Other initiatives*

### World Bank's InfoDev

This program includes a number of Climate Innovation Centres and includes some match-making in the Caribbean, Ethiopia, Ghana, Kenya, Morocco, South Africa and Vietnam. CIC activities vary significantly by country, including the focus on physical space (incubation) versus acceleration services. There is some knowledge sharing but it is not a global platform.

### Cleantech Open (CTO)

Cleantech Open is a US based international accelerator and was a partner in the first phase of GCIP. CTO provided the initial platform for the GCIP national accelerators. CTO provides support to entrepreneurs, investors, governments and stakeholders from across the ecosystem and links entrepreneurs to markets and investors and runs global events. Since its involvement in GCIP it is now no longer providing services in the developing and transition economies as it is looking to mainly focus on activities just within the North American market.

### Clean Technology Climate and Network (CTCN)

CTCN promotes the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries. They provide technology solutions, capacity building and advice on policy, legal and regulatory frameworks tailored to the needs of individual countries. Each project supported is very small and support is provided at the national level rather than for cleantech entrepreneurs/start-ups.

#### Network for Global Innovation (NGIN)

NGIN is dedicated to building a global commercialization ecosystem focused on helping clean technology entrepreneurs collaborate and prosper. It is a global membership organization that includes incubators, technology parks, research institutes, universities and corporations. It is a matchmaker between customer and company, between investor and opportunity. It assists members in locating, incubating, growing and expanding portfolio company solutions. It acquires mentors, advisors, coaches, and interim executives to assist entrepreneurial creativity. NGIN will be a technology and knowledge partner in running the GCIP IP accelerator programmes in some countries and will be a partner in connecting innovation ecosystems across GCIP countries.

#### Private Financing Advisory Network (PFAN)

PFAN is a global network of climate and clean energy financing experts that aims to bridge the gap between entrepreneurs developing climate and clean energy projects and private sector investors. PFAN achieves this by providing free business coaching to projects, increasing the chances of attracting investment; and growing its investor outreach. PFAN organises Investment Forums to showcase selected investment-ready projects to groups of investors and provides one-on-one Investment Facilitation services to investment-ready projects, shortening the path to further growth. PFAN will be partner in GCIP providing investment facilitation services for GCIP alumni that show traction across various countries so that they are able to mobilize investment and scale up. This builds on a pilot collaboration initiated under GCIP-1 and will be systematically scaled up in GCIP-2. Alumni companies from GCIP-1 will also be linked to PFAN services.

#### Global Innovation (GI)

GI is a non-profit innovation fund that invests in the development, rigorous testing, and scaling of innovations targeted at improving the lives of the world's poorest people. Through grants and risk capital, it helps innovative solutions to global development challenges from for-profit firms, non-profit organisations, researchers, and government agencies to maximise their impact and affect meaningful change. Support is provided at all stages of their life cycle through grants, loans (including convertible debt), and equity investments ranging from \$50,000 to \$15 million. Support is not limited to cleantech but is limited to innovations that have clear social impact at a large scale, i.e. they improve the lives of those living on less than \$5 a day.

#### Mission Innovation (MI)

MI is supporting 8 international innovation Challenges[11]. The challenges support R&DD working with a mixture of prizes and facilitating of exchange between member country researchers. Support is focused more at early stage R&D. As part of GCIP-II, it is proposed that GCIP could work with MI, potentially supporting SMEs from national child projects that are part of MI like Indonesia to enable them to participate in MI challenges. Morocco recently joined Mission Innovation and GCIP-2 in Morocco will, in part, support innovations aligned to Mission Innovation Challenges.

#### Ideas to Impact

This program is designing, implementing and testing five innovation prizes inducing innovative solutions to development challenges in Climate Change Adaptation, Energy Access and WASH. Some are international and some national. Prize winners receive cash but do not get the sort of mentoring, coaching and support to SMEs that GCIP provides. Besides just the prizes, there is no work on policy and regulatory frameworks, and institutional capacity building that GCIP provides.

## Africa Energy Challenge Fund (AECF)

AECF runs a business plan competition for RE and climate change projects and provides investment capital. They do not support early stage technological innovations nor provide coaching, mentoring and training services. They also do not work on policy and regulatory innovations. (<https://www.aecfafrica.org>)

## The Solar Impulse Foundation

The Foundation awards technologies with a label, which provides the applicant with international recognition and showcasing opportunities. Importantly, they do not provide the mentoring or training support that GCIP provides. UNIDO has recently signed a Memorandum of Understanding with Solar Impulse Foundation to ensure that some of the GCIP alumni will be able to get the label from Solar Impulse Foundation, thereby increasing their visibility and confidence in their innovations. (<https://solarimpulse.com>)

Further details on the baseline scenarios of the national child projects are provided in Annex K, as well as in the Child Project documents.

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[1] <http://www.infodev.org/innovations-scaling-green-sectors>

[2] Annual Impact Investor Survey, 2017, Global Impact Investment Network (GIIN)

[3] [www.pfan.net](http://www.pfan.net)

[4] [https://open.unido.org/api/documents/10995645/download/PFAN%20Presentation\\_July%202018.pdf](https://open.unido.org/api/documents/10995645/download/PFAN%20Presentation_July%202018.pdf)

[5] [unfccc.int/ttclear/misc/\\_StaticFiles/gnwoerk\\_static/incubators\\_index/ee343309e8854ab783e0dcae3ec2cfa6/c172d2f388234bdbbe3dd9ae60e4d7e9.pdf](http://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/incubators_index/ee343309e8854ab783e0dcae3ec2cfa6/c172d2f388234bdbbe3dd9ae60e4d7e9.pdf)

[6] Climate Technology Incubators and Accelerators: United Nations Framework Convention on Climate Change Technology Executive Committee, Green Climate Fund, Climate Technology Centre and Network. July 2018

[7] This was implemented as part of the Greening the COP 17 project - <https://www.thegef.org/project/greening-cop17-durban>

[8] More information on GCIP is available on - <https://www.unido.org/our-focus/safeguarding-environment/clean-energy-access-productive-use/climate-policies-and-networks/global-cleantech-innovation-programme>

[9] More information available on : <https://www.unido.org/sites/default/files/files/2017-12/GCIP-Brochure.pdf>

[10] <https://www.unido.org/sites/default/files/files/2017-12/GCIP-Brochure.pdf>.

[11] Smart Grids Innovation Challenge ; Off-Grid Access to Electricity Innovation Challenge ; Carbon Capture Innovation Challenge ; Sustainable Biofuels Innovation Challenge –; Converting Sunlight Innovation Challenge –; Clean Energy Materials Innovation Challenge –; Affordable Heating and Cooling of Buildings Innovation Challenge –; Renewable and Clean Hydrogen Innovation Challenge.

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[3] OECD, <http://www.oecd.org/globalrelations/regionalapproaches/ASEAN%20SME%20Book%20to%20Bali%20Final.pdf>

[4] OECD, <http://www.oecd.org/globalrelations/regionalapproaches/ASEAN%20SME%20Book%20to%20Bali%20Final.pdf>

[5] National Bureau of Statistics 2017

[6] DEAT, 2009

[7] <http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa>

[8] German-Turkish Perspectives on IT and Innovation Management, Springer Fachmedien Wiesbaden GmbH 2018

[1] <http://wri-indonesia.org/en/publication/how-can-indonesia-achieve-its-climate-change-mitigation-goal>

[2] <https://www.iea.org/countries/Indonesia/>

### 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project

GCIP, at the programmatic level, 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 barriers faced by SMEs in transforming their cleantech innovations into market ready solutions, the programme will use a holistic ecosystem approach, which will facilitate the growth of cleantech SMEs, improve coordination of national activities and foster synergies between participating countries. GCIP has a unique approach as it seeks to capacitate the private sector to deliver environmental benefits through transforming early-stage clean tech companies into fast-growing enterprises whilst simultaneously developing the cleantech innovation and entrepreneurship ecosystems in partner countries.

The scaling-up of GCIP calls for systematic coordination at the global level, leveraging of opportunities for synergies and improved cost efficiency of allocated resources. GEF funding will be utilized for the establishment of a global coordination platform to ensure a systematic approach, programme coherence and quality across the participating countries. By establishing an enabling environment, it will ensure that the catalytic grant investments from the GEF will leverage more investments from national stakeholders and the private sector and deliver greater impact at scale. In particular, GCIP will de-risk investments in cleantech SMEs by transforming their early-stage cleantech solutions into viable, scalable and investable enterprises.

The platform for GCIP will aggregate and enhance efforts to strengthen and connect the ecosystems of partner countries, and at the same time connect them to 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.

The acceleration of fast-growing cleantech innovation SMEs also creates new green jobs, therefore contributing to national and global poverty alleviation efforts. It supports the formation of new sectors supporting low-carbon and low-emission economic development and further catalyzes greater private sector cleantech investment.

The global programme derives from achievement, key lessons learned from the implementation of GCIP-1 projects. In particular, it builds on the collective feedback by various stakeholders including national counterparts, partner institutions and SMEs successfully participating in GCIP-1 as well as strategic partners at global levels. The table below outlines how the programme addresses the particular findings and recommendations of the GEF IEO independent thematic evaluation of GCIP-1 and feedback from various GCIP stakeholders. The following table (table 2) outlines how planned activities build on and learn from GCIP-1.

**Table 2: GEF IEO recommendations and how they are addressed by this project**

| GEF IEO Recommendations and GCIP-1 Feedback   | How the recommendations will be addressed in GCIP-2   |
|---|---|
| a) More focus on Investor outreach and connecting with investor networks /<br><br>Outreach and marketing of the program and showcasing of GCIP supported innovation | Pillar 1 will specifically address this by organizing investor connect platforms and events as well as connecting GCIP alumni directly with potential investors, financiers and networks. Further, each child project is expected to have activities dedicated at implementing investor outreach and marketing strategies at local scale and connect to global platforms. Pillar 3 includes global communications, advocacy and outreach activities which will also market the program and advocate innovators at regional and global level |

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| s at global events   | nts.  |
| b) Improved cross-country coordination and system to ensure coherence and quality                                | Pillar 3 will include GCIP-2 programmatic coherence and coordination activities in order to provide support to national child project PMUs, share guidelines and internal standards as well as promote interaction between PMUs.  |
| c) Quality of Support  | Pillar 1 will develop and provide a GCIP Accelerator Guidebook which will equip Child P projects with standard GCIP approach and methodology to promote cleantech innovation and entrepreneurship in the countries. The guidebook will also include practical tools and guidelines for operations and management of the accelerator. Specific effort will be focused on ensuring that the training and mentorship support provided under the Cleantech Accelerator will be adapted to the local context of the applicant countries. |
| d) Advanced business-support for SMEs post GCIP acceleration needed  | Pillar 1 will provide standards approach for advanced investment and commercialization support to GCIP alumni's. This will include further mentoring for advanced business growth support, match-making services with interested corporations, investors, governments, and also offering opportunities for start-ups to be showcased at high-level international events.  |
| e) An increased focus on policy strengthening and regulatory frameworks to foster cleantech innovation is needed | Pillar 2 will provide policy and regulatory aspect for developing a mature innovation ecosystem. The global programme will assist in child projects in strengthen the policy framework through the sharing best practices, policy dialogue and cross-country learning of success stories from different countries and contexts.   |
| f) Global peer networking among entrepreneurs  | Pillar 1 of the global child project will create and maintain a global community of GCIP stakeholders which will allow cross-border connectivity among GCIP partner countries, facilitate peer to peer networking among entrepreneurs as well as investor matching, sharing of best practices between countries, identifying suitable in-country partners and promoting export opportunities.   |
| g) Knowledge exchange between national executing agencies and government counterparts                            | Pillar 2 includes a focus on knowledge management and exchange and is designed to maximize the impact of GCIP by identifying synergies between national ecosystems and ensuring that the successes and achievements of GCIP are captured in knowledge products. Networking will be facilitated between national executing agencies and government counterparts.   |
| h) Improved monitoring and evaluation of impact  | Pillar 3 has a specific activity dedicated to impact tracking, which will develop a common methodology for measuring outcomes and impacts to allow for extrapolation and comparison. Each child project will use the same methodology and feed their results into the global figures.   |
| i) Widening the reach of GCI   | Global accelerators will be organized under Pillar 2 of the global child project and will   |

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| P | build on the selection of high impact technology innovation with market potential beyond domestic markets. This will ensure that cleantech innovations with potential global impact receive the specific mentoring and business support for entering global markets. |
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The following table shows how GCIP II will build upon the achievements of GCIP-1 in the four countries where GCIP has already successfully run.

**Table 3: How GCIP-2 will build on GCIP-1**

| Morocco   |  |  |   |
|---|--|--|---|
| Barriers  | Description  | Achievements/Lessons/Recommendations from GCIP-1   | Enhanced Project Component/Activity for GCIP-2  |
| <b>1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions</b> | Limited access to finance  | -So far six start-ups have raised funding for the prototype development phase or the commercial manufacturing<br>-Bank financing is the main source of capital for SMEs and start-ups, they still require assistance in the establishment of credit guarantees schemes | Innovative early-stage financing mechanisms designed and established  |
|   | Poorly validated business plans and marketing strategies to reduce risk of failure | -There is still need for trained experts for mentoring start-ups and entrepreneurs involved in cleantech innovations   | Start-ups and SMEs supported through advanced business support services and investment facilitation for growth post-Accelerator               |
| <b>2. Barriers related to cleantech innovation and entrepreneurship ecosystems</b>        | Absence or weak enabling policy and regulatory environment                         | -A policy and regulatory framework assessment was conducted<br>-Project contributing to solving challenges and generating opportunities that enhance environmental protection, economic competitiveness, and job creation  | Recommendations on the best practice policies, regulations and incentives required for the promotion of clean technology innovations          |
|   | Weak and non-functioning innovation ecosystems                                     | -The GCIP accelerator programme is fully operational, and is hosted by the State Secretariat of Sustainable Development of Morocco.  | Regional hubs established and strengthened under national platform to identify and support promising cleantech innovations across the country |

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|   |   | <ul style="list-style-type: none"> <li>-The strengthening of regional economies is needed, and requires leveraging of the existing national GCIP platform</li> <li>-There is a significant lack of coordination, and collaboration amongst ecosystem actors, which limits their effectiveness in achieving their respective and mutual objectives</li> </ul> | he regions  |
| South Africa  |   |  |   |
| <b>Barriers</b>   | <b>Description</b>  | <b>Achievements/Lessons/Recommendations from GCIP-1</b>  | <b>Enhanced Project Component/Activity for GCIP-2</b>   |
| <b>1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions</b> | Limited access to finance   | Majority of GCIP-1 alumni are facing challenges with access to seed and early-stage funding to grow and scale their enterprises  | GCIP alumni linked to investors and, establishment and support provided to operate innovative funding mechanisms for cleantech innovation |
|   | Ability to prepare and present adequate business plans and financial statements                       | <ul style="list-style-type: none"> <li>-Thirty trained mentors (many of them also alumni), judges, host institution personnel</li> <li>-Alumni raised the pressing need for more qualified technical advisors to serve on judging panels and as mentors.</li> </ul>  | Expanded and formally capacitated national pool of mentors and judges created and trained   |
|   | SMEs to develop solid and validated business plans and marketing strategies to reduce risk of failure | Commercialization is the biggest hurdle facing entrepreneurs   | Advanced accelerator support as well as post acceleration support   |
|   | Lack of awareness in businesses and private sector  | Need to increase private sector support.   | National (Industry-based) Challenges established  |
| <b>2. Barriers related to cleantech innovation and entrepreneurship ecosystems</b>        | Absence or weak enabling policy and regulatory environment  | <ul style="list-style-type: none"> <li>-Supported development of cleantech ideas/solutions/services with GHG emission-reducing potential</li> <li>-Enhanced economic performance through boosting the functioning of startups, promoting SME entrepreneurship, stimulating job creation</li> </ul>   | Policy support provided relating to intellectual property rights, green procurement and strengthening ecosystem                           |



|   |   |  |  |
|---|---|--|--|
|   |   | <ul style="list-style-type: none"> <li>-A draft policy scoping study was available and a follow-survey was launched</li> <li>-Too broadly-scoped policy strengthening ambitions before, specify local policy strengthening need based on scoping study.</li> </ul>   |  |
|   | Weak and non-functioning innovation ecosystems                | <ul style="list-style-type: none"> <li>-National level coordination has been strengthened by the first phase with the host institution</li> <li>-Lack of coherence from stakeholders especially at the provincial levels and thus the need to strengthen provincial ecosystems</li> </ul>  | National and provincial ecosystem strengthened to promote and support cleantech innovation and entrepreneurship  |
| <b>3. Systemic global barriers</b>  | Lack of public awareness                                      | <ul style="list-style-type: none"> <li>-Some alumni were provided with local and international opportunities to showcase their ideas</li> <li>-Build up common understanding of cleantech innovation and business acceleration on the part of many key national and international ecosystem actors</li> </ul>  | Mentorship and partnership support provided  |
| <b>Turkey</b>   |   |  |  |
| <b>Barriers</b>   | <b>Description</b>  | <b>Achievements/Lessons/Recommendations from GCIP-1</b>  | <b>Enhanced Project Component/Activity for GCIP-2</b>  |
| <b>1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions</b> | Limited access to finance                                     | <ul style="list-style-type: none"> <li>-At least 3 GCIP Turkey cleantech teams (1 from 2015 cycle; 2 from 2017 cycle) have successfully raised funding from private sector investment groups</li> <li>-ÜBITAK-TEYDEB launched a Clean Future Fund (CFF) , which is a directly attributable outcome of the GCIP</li> <li>-GCIP was expected to contribute to CFF's capitalization and complement it with continued and expanded business acceleration and commercialisation services</li> </ul> | Support for investment facilitation is provided<br>financing mechanisms designed and established to support the deployment and scale-up of cleantech solutions |
|   | Poor business models/plans and marketing strategies to reduce | -Succeeded in establishing a national-level mechanism/platform, which is now functioning   | Advanced national post-accelerator support services delivered (Technology verification, product devel  |

|  |   |  |   |
|--|---|--|---|
|  | e risk of failure;  | -Thematic expertise for mentorship and consultancy, post-Competition/Accelerator support for alumni, and developing links for funding and investment   | opment and market entry support provided)   |
| 2. Barriers related to cleantech innovation and entrepreneurship ecosystems        | Absence or weak enabling policy and regulatory environment            | -Contributed to solving challenges and generating opportunities that enhance environmental protection, economic competitiveness, and job creation<br>- Policy related activities were carried out on an ad-hoc basis for some specific innovations                                   | Policy support provided and road maps developed   |
|  | Weak and non-functioning innovation ecosystems                        | -The implementation of the GCIP concept has inspired the Turkish government institutions on how to organise sector-specific and/or thematic SME support programme calls<br>-Ecosystem connectivity and capacitation needed   | Capacity of national incubation service providers enhanced  |
| 3. Systemic global barriers  | Lack of public awareness  | -Winning teams could showcase their achievements in the annual Vienna Energy Forum and during COP sessions<br>-Strong wish for broader contact and exchange with mentors and startups of other GCIP countries - there was very limited exchange on a regional or international basis | Joint activities across GCIP countries that promote linkages among ecosystems, learning and collaboration carried out |
| Ukraine  |   |  |   |
| Barriers   | Description   | Achievements/Lessons/Recommendations from GCIP-1   | Enhanced Project Component/Activity for GCIP-2  |
| 1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions | Limited access to finance and instruments                             | Feedback from ecosystem player highlighted that access to early-stage financing is not available   | Innovative cleantech finance mechanisms established   |
|  | Ability to prepare and present adequate business plans and financials | Thematic expertise for mentorship and consultancy, post-Competition/Accelerator support for alumni, and developing links for funding and investment  | Innovative cleantech solutions and projects receive post-acceleration support and investment facilitation             |

|  |  |  |   |
|--|--|--|---|
|  | ncial statements (i.e. poor financial literacy).           | nding and investment is non-existent   | tion services   |
| <b>2. Barriers related to cleantech innovation and entrepreneurship ecosystems</b> | Absence or weak enabling policy and regulatory environment | Supportive policies and a business environment that encourages investment will be required | Roadmap to accelerate investments for cleantech solutions developed for inclusion in the National Energy and 2030 Climate Plan (NECP) |
|  | Weak and non-functioning innovation ecosystems             | Lack of coordination, and collaboration amongst ecosystem actors                           | Capacity of national institutions strengthened to coordinate, streamline, and accelerate investments in to cleantech solutions        |

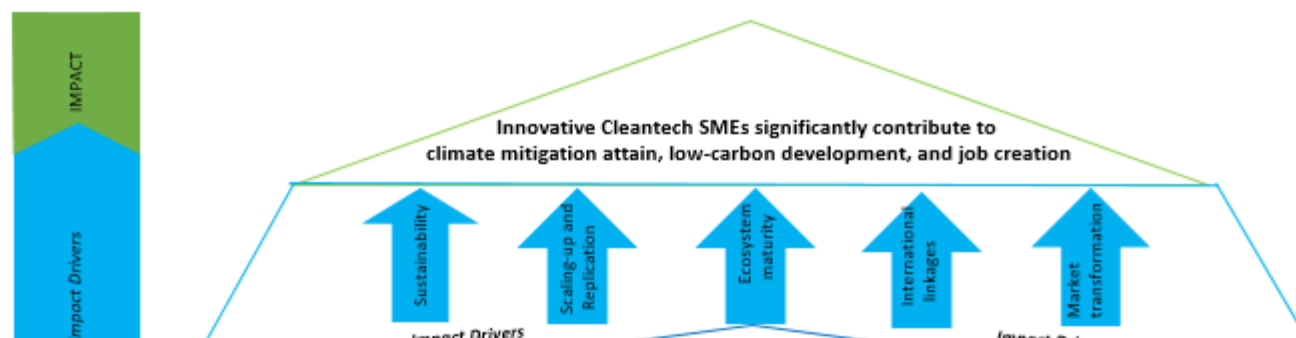
Global coordination will enhance the performance of the individual child projects as well as reducing duplication of efforts and costs. A significant part of the work of the global programme will be dedicated to supporting countries to implement their child projects through the platform, knowledge products, advocacy, outreach and programme coherence and coordination as well as direct technical support to SMEs, GCIP alumni, mentors, judges, national institutions and governments.

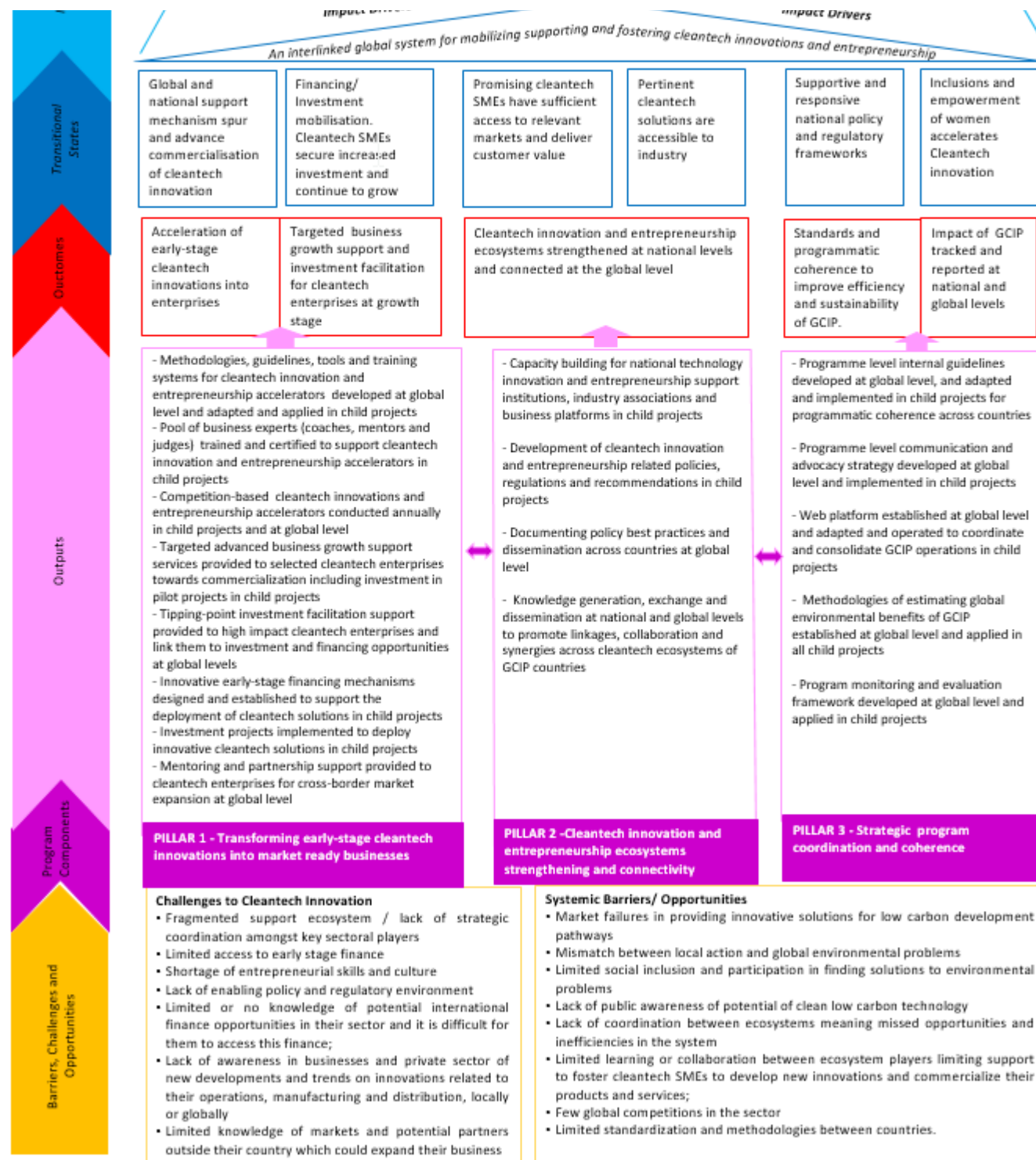
GCIP-2 is structured into three Pillars, as shown in the centre of the Theory of Change in Figure 1(in purple), namely:

- 1) Transforming early-stage cleantech innovations into commercial enterprises;
- 2) Cleantech innovation and entrepreneurship ecosystems strengthening and connectivity; and
- 3) Strategic program coordination and programmatic coherence.

The Theory of Change for GCIP-2 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 1: Theory of Change for the Global Cleantech Innovation Programme**





**Problem Identification**

- Cleantech innovation entrepreneurs and businesses are not identified, do not develop or grow
- Missed opportunities to reduce GHG emissions, for economic growth and job creation

**Pillar 1: Transforming early-stage innovative cleantech solutions into commercial enterprises**

Pillar 1 will enhance the capacity and competitiveness of cleantech SMEs to leverage market opportunities embedded in climate change mitigation. Figure 2 below shows the demand for funds by cleantech business, depending on their stage of growth as well as the associated technical assistance required. Outcome 1.1 will focus on very early-stage innovative cleantech solutions and provide acceleration support related to entrepreneurship and business skills training. Outcome 1.2 provides targeted technical assistance to the SMEs that were accelerated and have traction and sales evidence, but which still need specialized enterprise growth support. Furthermore, SMEs in the expansion stage will receive tipping-point investment facilitation services to raise investment.

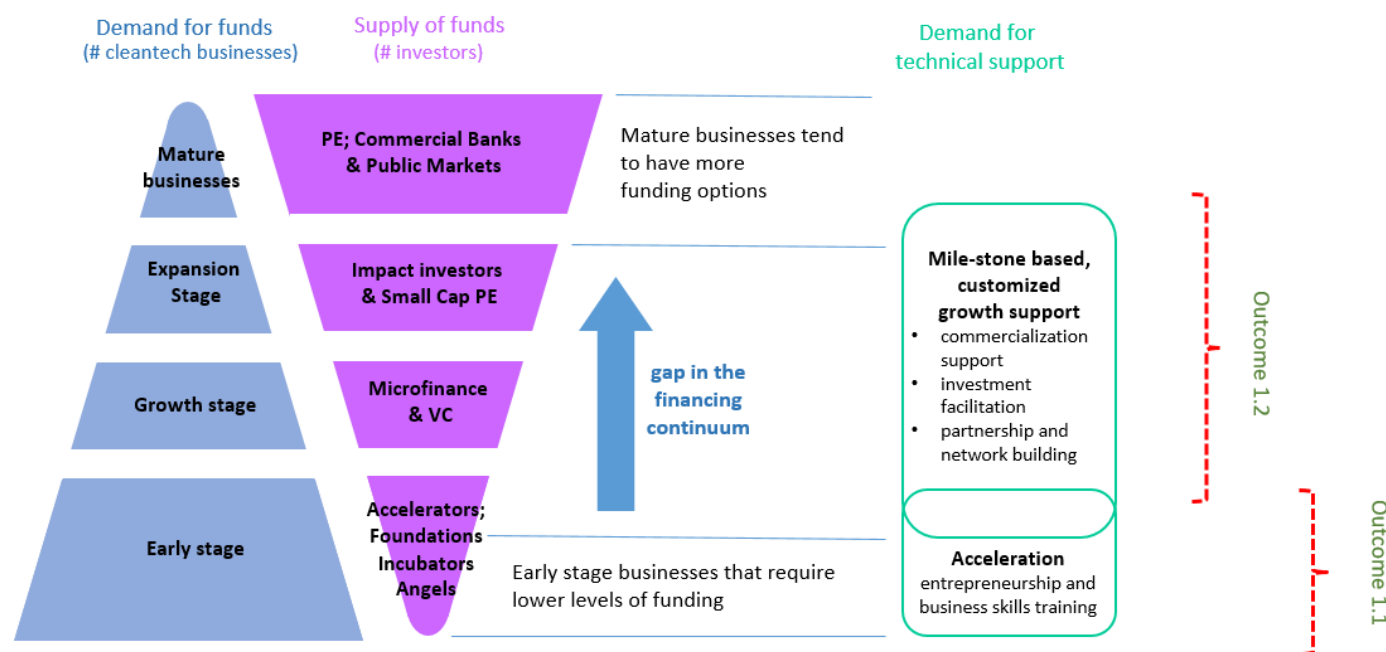


Figure 2: Demand for funds and technical support per development stage

**Outcome 1.1 : Acceleration of early-stage cleantech innovations into enterprises**

Early-stage cleantech innovations with high impact potential will be supported in transforming to become growth-stage enterprises through competition-based cleantech innovation and entrepreneurship accelerators, conducted annually at national and global levels.

Expected outputs include:

### *1.1.1 Methodologies, guidelines, tools and training systems developed for cleantech innovation and entrepreneurship accelerators developed at global level and adapted and applied in child projects*

A GCIP Accelerator Guidebook will be developed under the global child project, as a comprehensive document that articulates the GCIP approach and methodology for promoting cleantech innovation and entrepreneurship in developing countries. The guidebook will also include practical tools and guidelines for operations and management of the accelerator. Selection criteria for inclusion in the accelerators will also be outlined and will include as a minimum: sector eligibility (GEF 7 CCM 4 priorities plus sustainable cities and food systems), business growth potential (market size/scalability) and environmental impact potential (minimum threshold for GHG emission mitigation). For a draft outline of the guidebook, please see pg. 15 of Annex D.

Under the national child project, the GCIP Accelerator Guidebook will be reviewed, and adapted to best suit the context of the respective national cleantech ecosystem including market conditions, policy environment, development priorities, technology priorities, local examples etc. so that it becomes a National GCIP accelerators. The national GCIP Accelerator guidebook will then be used as an operations and management plan to conduct the annual Accelerator in the respective countries. Improvements and suggestions from national guidebooks may be incorporated into the global guidebook for application to the next Accelerator cycle.

### *1.1.2 Pool of cleantech innovation and entrepreneurship experts (coaches, mentors and judges) trained and certified to support cleantech innovation and entrepreneurship accelerators in child projects*

Developing a pool of cleantech innovation and entrepreneurship experts to act as mentors, coaches and judges<sup>[1]</sup> is critical to the effectiveness of accelerators in providing the right support to the participating teams. 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 GCIP cleantech innovation and entrepreneurship expert training system will be developed at the global level. Similar to the GCIP Accelerator Guidebook, the training system will be reviewed by each GCIP partner country and adapted as per their national contexts, ensuring that the training materials accurately reflect market, business, policy and investment climates. A pool of experts with the knowledge and connections to support cleantech innovations towards commercialization are also crucial to the cleantech ecosystem, beyond scope of GCIP accelerators. The community of experts trained/certified by GCIP are expected to positively influence the cleantech innovation initiatives at national and global levels, and will contribute to the strengthening of the cleantech innovation and entrepreneurship ecosystem in general. This will contribute towards the sustainability of the GCIP-2 and is part of the exit strategy

### *1.1.3 Competition-based cleantech innovations and entrepreneurship accelerators conducted annually in child projects and at global level*

Child projects will be assisted through the global programme to establish and operate annual GCIP accelerators. This is a 4 to 6 month curriculum designed specifically to support cleantech innovations stemming from developing and emerging countries, to develop viable business models, and grow cleantech enterprises. Through the accelerator, cleantech innovations with high-impact potential are identified and invited to receive intensive business and entrepreneurship mentoring and coaching to accelerate their growth as businesses. The national accelerators will be based on the developed guidebooks (see above section) and follow the process shown below. The cycles across each country will be aligned so they all feed into global level activities (online webinars, participation at the global forum, etc.).

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<sup>[1]</sup> Mentors are advisors assigned to the participating teams of the Accelerator to provide guidance as required on a rolling basis for the duration of the accelerator cycle. Coaches are experts delivering parts of the accelerator curriculum as per their expertise, to the cohort of participating teams. Judges are specialists in the fields of technology, business, investment, sustainability etc. invited to participate in the selection panel of the accelerator as required. No

monetary remuneration is offered for mentors and judges, other than travel cost support as required. Coaches (national and international) may be contracted or recruited to deliver the accelerator curriculum.

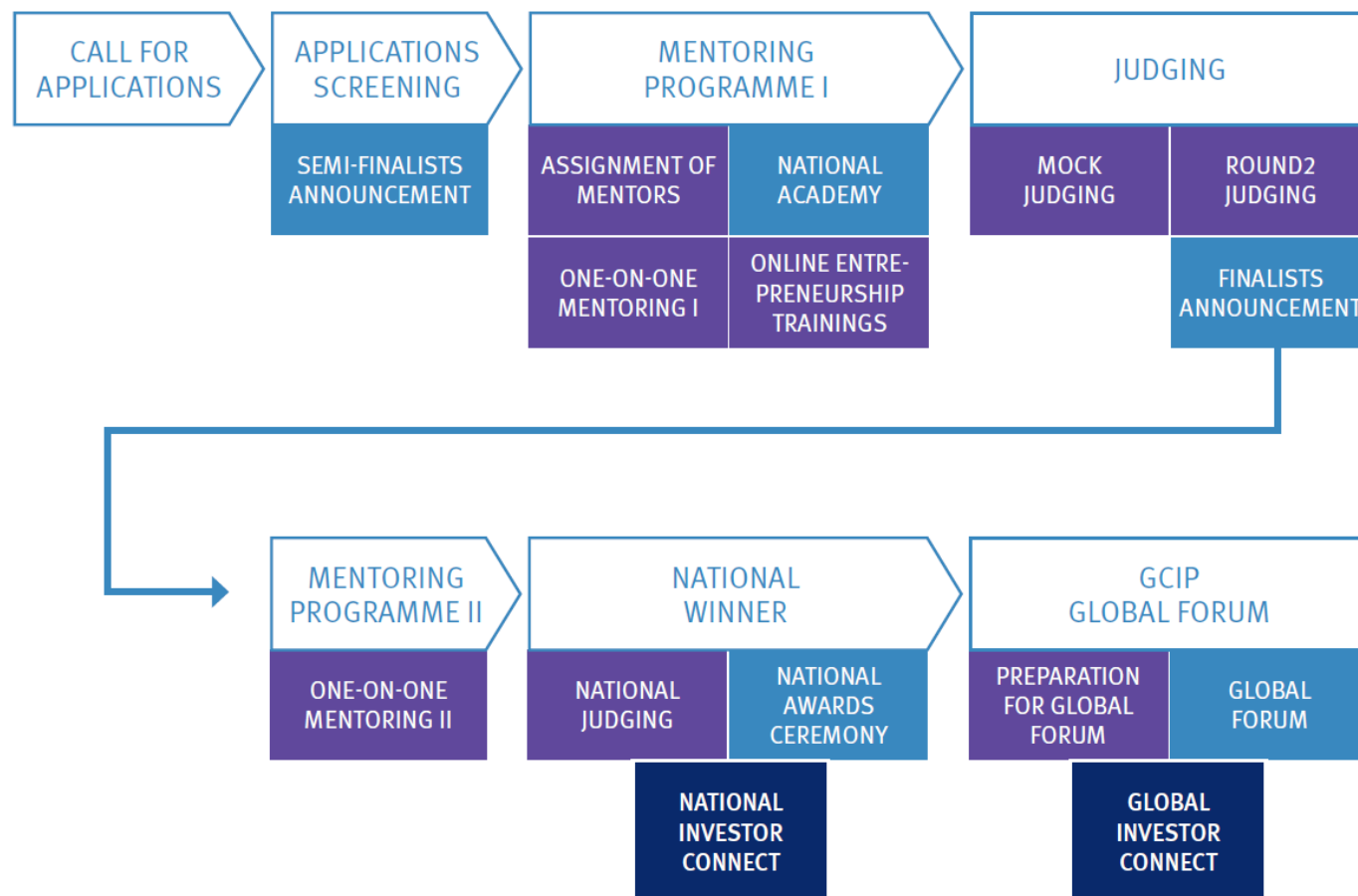


Figure 3: The GCIP Accelerator process

At national level, it is expected that each national accelerator will attract between 100 to 200 applications per year, with higher number of applications in the later cycles. Applications will be invited for cleantech innovations that are in line with GEF 7 priorities that include electric drive technologies and electric mobility, accelerating energy efficiency, decentralized renewable energy power with energy storage, and cleantech innovations related to sustainable cities and sustainable food systems. From these applications, around 30 semi-finalists will be selected to receive support from the accelerator. Categories for the accelerator[1] will be determined at the global level in consideration of the GEF 7 priorities, and adapted at the national levels to reflect each country's circumstances. Selection criteria will be further refined for each accelerator taking into account the national situation. Through round 2 judging, 10 to 15

finalists will be selected per country to receive further support under the accelerator, and from these finalists, 3 to 5 winners (national winners and category winners) will be selected to participate in the annual GCIP Global Forum. A national investor connect event will then be organized to link finalists to local angels, venture capital funds and other potential investors.

Under the global child project, a Global Accelerator will be conducted to allow game-changing cleantech innovations aligned with GEF 7 priorities from all developing and emerging countries to participate in the global drive for cleantech innovation and entrepreneurship. The Global Accelerator will innovations that have high scale-up and replication potential in GCIP-2 child project countries. This approach will attract high-impact cleantech solutions that can deliver GEBs at the global level and can grow into GCIP-2 countries. Alumni companies from GCIP-2 countries and those from GCIP-1 will be welcome to participate in the global accelerators. Four Global Accelerator cycles will be conducted, and its management and operations will be based on the guidebook developed under 1.1.1.

### **Outcome 1.2 : Targeted business growth support and tipping point investment facilitation services provided to growth-stage cleantech SMEs to commercialize**

Upon completing the GCIP accelerator, supported SMEs are expected to continue growing their business and move into the growth and expansion stages. However, they will continue to face very weak and generally hostile innovation and entrepreneurship ecosystems where there is limited or no access to systematic support services. Experience from GCIP-1 showed that after successful completion of the GCIP Accelerator, SMEs required further targeted and specialized support in areas that include intellectual property, access to finance to sufficiently mature and penetrate the market.

Therefore a select number of cleantech enterprises who have successfully completed the GCIP Accelerator (GCIP alumni) and have shown significant traction will receive targeted and specialized advanced commercialization support and tipping point investment facilitation services, please see figure 3 above. The support required towards full commercialization can be categorized into four related, but not necessarily linear dimensions: business and management readiness, investment readiness, market readiness, and technology readiness. The selection criteria will include evidence of growth during and after participation in the GCIP accelerator, further growth potential, environmental and social impact potential, among others. A detailed selection criteria and process will be developed at the global level, and disseminated to GCIP partner countries for adaptation to national contexts.[2]

#### Expected outputs include:

##### *1.2.1 Targeted advanced business growth support services provided to selected cleantech enterprises towards commercialization including investment in pilot projects in child projects*

Post-acceleration support will be tailored to the specific GCIP alumni's needs for progressing into the next phase of business growth and in overcoming product related market barriers. This may include technology verification, prototyping and product development, piloting, legal and administrative support, IT services, tax registration, protection of intellectual property (IP), product life cycle assessment, environmental and social risks assessment, additional mentoring/courses on cleantech entrepreneurship, etc. Additional business model validation may also be necessary to reflect the developments in technology/product readiness, business, market and manufacturing readiness. As each GCIP alumni is different, an extensive consultation will take place as part of the selection criteria and process to ensure that the needs and expectations of the GCIP alumni is fully understood and agreed on at entry into post-acceleration support. A mile-stone based approach will be employed to measure progress of each enterprise. At the global level, a GCIP approach and methodology for post-acceleration support will be developed and disseminated for national review and adaptation.



### *1.2.2 Tipping-point investment facilitation support provided to high impact cleantech enterprises and link them to investment and financing opportunities at global levels*

Mobilising investment for cleantech products and services is a lengthy and iterative process. Therefore, GCIP alumni enterprises with high replication and scaling up potential will benefit from tipping-point investment facilitation support. Through the national child project levels, each country will support the establishment of robust network of financial institutions, funds and investors to raise awareness and sensitize various stakeholders on the opportunities and risks associated with cleantech products and market trends. Efforts will be made to actively engage financing institutions and investors to increase investor confidence in cleantech innovations by creating dialogues and providing training sessions as well as short, interactive webinars. Examples of GCIP alumni may be presented to demonstrate possible returns on investments.

At the global child project level, GCIP-2 will partner with PFAN to provide investment facilitation services to alumni coming from both national and global accelerators. In GCIP-1, PFAN issued a pilot call for applications specific to GCIP alumni enterprises. This pilot initiative was used to assess the appetite of investors to invest in new technology innovations and early stage businesses. One of the GCIP alumni that participated in this pilot initiative, Atomberg technologies, recently raised 10 million US\$<sup>[3]</sup>. By working with PFAN, GCIP alumni will be supported to scale-up their operations and reduce more GHG emissions.

Beyond PFAN, GCIP will also explore targeted investment/financing vehicles at global levels, and select and connect GCIP alumni as appropriate. UNIDO will target partnerships with impact investors such as the Global Innovation Fund<sup>[4]</sup> and other global cleantech innovation funds that are operational or are being designed. As an example, UNIDO was invited to contribute inputs to the discussions on the Global Sustainable Energy Innovation Fund<sup>[5]</sup> under development by the World Economic Forum.

### *1.2.3 Mentoring and partnership support provided for cross-border market expansion at global level*

Many GCIP supported cleantech innovations have potential for replication in other developing countries. Based on requests received from GCIP alumni enterprises, international mentors will be assigned in the target country of expansion to facilitate building of connections and networks for expansion into a new market. This service will be offered through the global child project, with support from the national child project in identifying a suitable mentor with the appropriate expertise. In addition, enterprises will be given curated peer networking opportunities with other GCIP enterprises, as well as cleantech enterprises within UNIDO's partner network. Through peer networking, the enterprises will explore opportunities for technology collaboration, product co-development, joint venture for market expansion, etc. in a business-to-business to context.

On an ad-hoc basis, as opportunities arise, matchmaking services for GCIP alumni enterprises will be provided with interested corporations, investors, governments. Further, opportunities to showcase cleantech innovations and solutions at high-level national and international events, such as the UN Climate Summit, UNFCCC Conference of Parties, Vienna Energy Forum, etc., will be provided to GCIP alumni. Such high-profile events are instrumental for GCIP alumni companies to build their global presence and extend their partnerships and networks. To maximize the visibility of GCIP as a programme, and to increase the visibility and credibility of GCIP alumni, partnerships will be established and leveraged on a continuous basis. This will allow GCIP to be fully connected to other technology innovation related initiatives, and to contribute to the wider discourse on how cleantech innovation ecosystems can best be leveraged to offer transformative environmental solutions in the market.

### *1.2.4 Innovative early-stage financing mechanisms designed and established to support the deployment and scale-up of cleantech solutions in child projects*

In some GCIP countries, for example South Africa, technical assistance (TA) will be provided to design early-stage investment funds and impact investment funds that could help to support early stage start-ups post-acceleration. The aim will be to help raise national financing to support a sustainable fund. This technical assistance will leverage best-available technical expertise from the network of experts engaged in the global child project. However, this activity will be country specific. In some country child projects, and depending on the needs, GEF resources will be used to establish early-stage seed funds. In such cases, GEF support will only provide gap financing and such funds will have most of the funding, expected to exceed 70%, coming from the public and private sector. In such cases, funding will not be provided to the start-ups, but invested in their projects and will be disbursed upon attainment of specific and commensurate milestones.

### *1.2.5 Investment projects implemented to deploy innovative cleantech solutions across various sectors in child projects*

A good number of GCIP alumni will have innovative cleantech solutions that will be ready for deployment, which can realize GHG emissions mitigation immediately and which may need demonstrating to reach the next phase in their business development. As such, the project will facilitate the implementation of innovative cleantech pilot projects related to the key GEF priorities, including renewable energy based mini-grids with storage, e-mobility, and energy efficiency etc. as well as cleantech solutions focusing on food systems and sustainable cities. The support from GCIP will focus on catalytic activities like identifying customer sites, developing contracting modalities as well as in some cases the provision of some seed and gap funding. Where seed or gap finance is provided the funds will be used to facilitate the pilot project (i.e. the use of the cleantech innovation in the real world) rather than funds going directly to the SME. A condition of the seed funding will be the mobilization of co-financing from other investors such as angels, ventures, banks, cities, municipalities.

## **Pillar 2: Cleantech innovation and entrepreneurship ecosystems strengthening and connectivity**

### **Outcome 2.1: Cleantech innovation and entrepreneurship ecosystems strengthened at national levels and connected at the global level**

This Pillar is key to the overall GCIP programme with cross-cutting activities designed to maximize the impact of GCIP by strengthening national cleantech ecosystems of GCIP partner countries, identifying synergies across national ecosystems, and connecting ecosystems for knowledge exchange and partnership building. At the national child project level, development of policies and regulations to promote cleantech innovation will be prioritised.

#### *Expected outputs include:*

### *2.1.1 Capacity building for national cleantech innovation and entrepreneurship support institutions, industry associations and business platforms in child projects*

At the global child project level, a cleantech innovation and entrepreneurship ecosystem (CIEE) assessment framework will be developed and disseminated to national child projects as a tool to analyse the strengths and weaknesses of each country's cleantech ecosystem. This will be instrumental in identifying the capacity building needs and optimal set of interventions for each country. The 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 and enterprises towards commercialization beyond GCIP-2. At national child project levels, awareness raising and training programmes for national institutions, industry associations and business platforms on how to support cleantech innovations will be carried out. In each country, a gender baseline study and a gender and youth mainstreaming strategy and action plan will be developed during the inception phase. Based on the national strategy and action plan, targeted interventions to promote gender equality and to enhance participation of women and youth in the cleantech sector will be designed and implemented.

### *2.1.2 Development of cleantech innovation and entrepreneurship related policies, regulations and recommendations in child projects*

Policy remains a key determinant that influences cleantech market and investment behaviour. In the child country projects, multi-stakeholder policy dialogues will be facilitated to prompt thinking and collaboration among cleantech ecosystem actors, and to influence the policy decisions that can create a conducive environment for commercialization of cleantech solutions. The dialogues will be captured as policy briefs and presented to relevant government ministries and agencies. Priority will be given to assisting national governments in developing policies, regulations and incentives required to promote cleantech innovations. The work will be tailored to the country situation. For instance, the project might 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. Stakeholder consultation will be carried on any recommendations and support provided to the government to implement it.

### *2.1.3 Documenting policy best practices and dissemination across countries at global level*

At the global level, GCIP will develop, document and disseminate policy best practices, roadmaps and recommendations across the GCIP countries. These will document success stories on how policy and regulatory measures are used to stimulate and sustain cleantech innovations and support their commercialization.

### *2.1.4 Knowledge generation, exchange and dissemination at national and global levels to promote linkages, collaboration and synergies across cleantech ecosystems of GCIP countries*

Emergence of a cleantech sector requires convergence of technical knowledge, understanding of policy, market and financial environments, as well as business savvy and entrepreneurial skills. As it is an emerging sector, knowledge and capacities of individuals or single institutions are often not sufficient to translate into market success. Therefore knowledge creation, exchange and dissemination are especially important in strengthening the cleantech ecosystems of developing countries. The global programme will serve as a coordination platform to capture the knowledge created from all GCIP activities, and produce promotional materials for effective communication tailored for each segment of the ecosystem, to influence thinking and decision making processes around cleantech at national and global levels. In addition, this will allow GCIP to play a key role in connecting innovation ecosystems of different developing and emerging countries to the global innovation ecosystem, and to facilitate and contribute to community of practice in this space. The global programme will identify synergies between national innovation ecosystems and facilitate exchange and learning among the countries. Networking among national ecosystems of GCIP partner countries will allow national ecosystems to become part of a larger global innovation ecosystem. The wealth of information and insights collected through GCIP activities will be translated into knowledge products<sup>[6]</sup> that reflect the technology and investment trends, and inform and influence the international discourse on policy and investment decisions for cleantech innovation. At national levels, knowledge will be captured through policy briefs, impact reports, brochures, webinars, and other types of promotional materials, and disseminated through events, social media channels, etc. as appropriate.

Under the global child project, organising an annual GCIP Forum will also be an integral part of ecosystem connectivity. 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. This provides GCIP alumni enterprises with exposure to the global community, and the opportunity to forge new partnerships for co-innovations and joint ventures. The GCIP Forum is further a culmination of innovation showcasing, investment matching, and networking among national GCIP counterpart institutions, and will continue to be an important annual milestone for networking, advocacy, and knowledge exchange among cleantech innovation ecosystem players. The Global forum will not be a stand-alone event, but will be organized on the margins of highly visible global events such as the UNFCCC COP, cleantech forums organized by partners such as Cleantech Group, Cleantech Scandinavia etc.

### Pillar 3. Programme coordination and coherence

#### Outcome 3.1 : Standards and programmatic coherence to improve efficiency and sustainability of GCIP interventions

##### Expected outputs include:

##### *3.1.1 Programme level internal guidelines developed at global level, and adapted and implemented in child projects for programmatic coherence across countries*

In order to maintain coherence and standards of GCIP execution across multiple countries, GCIP guidelines will be developed under the global child project and disseminated as a tool for national child projects. This will also include the establishment of national GCIP Project Management Units (PMUs). International training for PMUs will be an important channel for programmatic coherence across partner countries, and therefore PMUs will be brought together at least once a year to discuss the GCIP approach and methodologies, and share experiences and insights. In addition, sustainability and exit strategy of GCIP will be developed at the global level in first year of implementation for review and adaptation by each GCIP partner country by beginning of year 2 at national levels.

##### *3.1.2 Programme level knowledge management, communication and advocacy strategy developed at global level and implemented in child projects*

Past experience has shown that exchange of learnings and experiences among GCIP national PMUs are key, especially in conducting the annual national accelerators, supporting SMEs at various stages of development with diverse range of technologies, and strengthening national cleantech ecosystem. Therefore this will be formalized as part of the GCIP global child project, and programme management and operation related knowledge created and accumulated at national levels will be collected and disseminated systematically among GCIP partner countries. To this end, each national PMU will be requested to coordinate closely with Global child project management unit. In addition, a communication and advocacy strategy for GCIP at the global level will be developed and executed under the global child project. In addition, guidelines for national level communication and advocacy strategy will be developed for review and adaptation by each national PMU. The communication and advocacy efforts will have three aims: 1. Promoting visibility of GCIP as a programme and communication of impacts achieved at national and global levels, 2. Increasing awareness of the catalytic role of clean technologies as a business model in addressing climate change and environmental issues and their profitability, 3. Showcasing cleantech innovations from GCIP alumni enterprises and enhancing their visibility and credibility.

##### *3.1.3 Web platform established at global level and adapted and operated to coordinate and consolidate GCIP operations in child projects*

The web platform will be developed as a tool for four key functions. First as an internal management and operations tool for use by PMUs at national and global levels by PMUs. Guidelines and tools developed at the global levels will be disseminated through the web platform. Second as a tool for execution of annual accelerators at national and global levels, to be used from the beginning of the accelerator cycle (call of applications and receipt of applications), and during the accelerator (webinars, submission of assignments etc.). Third is for maintenance of a GCIP community at national and global levels. All GCIP alumni enterprises, as well as certified GCIP mentors and coaches will be invited to join the online community as a networking tool. Profiles and impact potential of each GCIP 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 GCIP alumni enterprises. Fourthly it will act as a knowledge depository for the general public. The web platform will make available all knowledge and communication products developed at national and global levels for public consumption.

#### Outcome 3.2 Impact of GCIP tracked and reported at national and global levels

*Expected outputs include:**3.2.1 Methodologies of estimating environmental impact of GCIP (including GHG emissions) established at global level and applied in all child projects*

A common methodology for gathering information on outcomes and higher-level impacts/ results will be established at under the global child project and provided to national child project for application. This will ensure that GCIP'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 including GHG emissions), job creation and investment leveraged. Data will be gender disaggregated where appropriate. In particular, the methodology for calculation of global environmental benefits (GEB) such as the GHG reduction potential of innovations will be refined, in order to track the expected environmental impact of the GCIP innovations and enterprises. All semi-finalists will receive training (as part of the Accelerator) to provide GEB estimations of their innovations. The methodology will be standardized across all GCIP partner countries to ensure uniformity and accuracy of the calculations. This will further allow the programme to show impact on global level.

Dedicated resources will be assigned to track and monitor the business growth, social and environmental impact of the GCIP alumni enterprises. The data will be used to create 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). The data collected will also be analysed and published as a knowledge product to inform the larger international discourse on cleantech innovation and its impact. This will benefit the GCIP alumni enterprises by providing increased credibility and visibility. The impact monitoring and capturing efforts in each country will be coordinated with efforts at the global level, to consolidate the impact of GCIP as a global initiative.

*3.2.2 Programme monitoring and evaluation framework developed at global level and applied in each child project*

Programme monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures. This is in addition to the impact methodologies and tracking detailed above (which will focus on the impact and outcomes of the programme at national and global levels, and will feed into the overall results framework). The overall objective of the monitoring and evaluation process is to ensure successful and quality implementation of each project and the overall programme 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 plan to reflect possible changes on the ground, results achieved and corrective actions taken.

A detailed Result Framework (Log Frame) will be prepared for the global child project and adapted for each child project, which will provide performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis on which the project's M&E Plan will be built. The evaluation team reports and verifies the actual progress against the work plan approved by the National PSC.

The M&E procedures will consist of project inception, progress reporting, and a project final report. A detailed monitoring plan for tracking and reporting on project time-bound milestones and accomplishments will be prepared by the implementing agency of each child project in collaboration with the National PMUs and respective project partners at the beginning of project implementation and then periodically updated. (See section 6 on coordination for further details).

#### 4) Alignment with GEF focal area and/or Impact Program strategies;

GCIP is fully aligned with objectives of GEF-7 Climate Change Focal Area Strategy CCM 1-4, “Promoting innovation and technology transfer for sustainable energy breakthrough. The program seeks to foster private sector engagement in accelerating the uptake and investments in innovative cleantech solutions at scale. For climate change focal area, the program will prioritize 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. In particular, the program supports cleantech innovation and entrepreneurship by providing catalytic support to early-stage cleantech innovation SMEs so that they commercialize and scale-up their operations thereby delivering climate and sustainable energy solutions that reduce GHG emissions.

Therefore, GCIP is a transversal intervention that supports all priorities of GEF 7’s Climate change focal area. The programme provides much needed and best available catalytic technical assistance to cleantech SMEs so that they commercialize and scale-up globally and in the process create new industries and green jobs. In line with GEF strategy on private sector engagement, GCIP capitalizes on the growing interest by private actors in the sustainability agenda and create the conditions for SMEs driven creation and transformation of cleantech markets. This ultimately harnessed the ingenuity and creativity of SMEs and “crowd-in” private sector investments to deliver environmental benefits beyond business as usual. GCIP will promote synergies with other GEF Programs to leverage more impacts. In particular, GCIP will look to establish operational, investment and/or knowledge management links with other GEF flagship initiatives such as the prospective Africa Minigrids Program, Sustainable Cities IP and FOLUR. Furthermore GCIP will also exchange knowledge and lessons on opportunities for technology and business model innovations in across these programs.

[1] As part of the accelerator categories, “Innovation Challenges” will be established to facilitate identification and development of demand-driven solutions that can address the most pressing climate change mitigation and sustainability challenges, as defined by key industrial sectors. This approach allows the market to “pull” innovative solutions to very specific challenges, thereby increasing opportunities for direct market access. Examples of potential challenges could include energy-efficient refrigeration for the food processing sector or new energy storage technologies for the garment manufacturing sector. At national levels, GCIP child projects will engage with national partners such as industry associations, and at the global level large corporations and industry associations such as the World Business Council for Sustainable Development will be approached.

[2] Support will not be limited to winners of the Accelerator, but will also be provided to qualifying GCIP alumni as per the selection criteria. It will also be a cost-effective way to directly support and monitor growth of GCIP alumni enterprises. It will have the added advantage of removing the overemphasis on the competition aspect of the Accelerator, and allow all semi-finalists to focus on the added value and benefits of the entire GCIP accelerator process.

[3] <https://www.thenewsminute.com/article/smart-fans-maker-atomborg-raises-10-million-series-round-led-a91-partners-108447>.

[4] <https://globalinnovation.fund/>)

[5] <https://www.weforum.org/press/2018/05/we-need-a-global-fund-to-ensure-a-clean-energy-revolution/>

[6] In 2017, UNIDO contributed to the Global Cleantech Innovation Index (GCII) with the GCIP Country Profiles report as a policy tool for GCIP partner country governments[6]. GCIP global project will support the regular updating and publication of GCII-GCIP Country Profiles for which data will be continuously collected and analyzed. This will provide value addition and help contribute to creating an enabling environment for cleantech innovation. Index report available on : [https://www.unido.org/sites/default/files/files/2017-11/GCII\\_GCIP\\_report\\_2017.pdf](https://www.unido.org/sites/default/files/files/2017-11/GCII_GCIP_report_2017.pdf)

#### 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

a) Baseline: The private sector is key to the creation and expansion the market of cleantech products and services, achieving GEBs, generating jobs and supporting economic growth. However, in developing markets SMEs with breakthrough cleantech innovations have 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 ecosystems in these countries is very harsh and hostile so that most cleantech SMEs fail and those that make it, do not reach their full potential. Furthermore, initiatives to support these SMEs will remain disjointed and uncoordinated. Under GCIP-1, 8 countries implemented various initiatives to support the acceleration of cleantech innovators and build ecosystems. This programme was quite successful as established by the GEF IEO thematic evaluation of the programme (<http://www.gefio.org/evaluations/evaluation-gef-unido-global-cleantech-innovation-programme-2018>). This evaluation established that a lot of opportunities for greater impact were missed since GCIP-1 was operated as a series of projects that were not coordinated and consolidated. As such, opportunities for synergies, learning and mutually beneficial **complementarity** were missed. Furthermore, without a **programmatic** approach and reinforcement of some of the initial achievements such as training porgrammes, development of tools and decision support tools, policy interventions and entrenching **the** acceleration process, there is significant risk that these gains and the momentum will dissipate. In addition, breakthrough cleantech innovators that were supported under GCIP-1 will not receive commercialization support and investment facilitation services so that they can grow and scale-up their business in their respective **countries** but also expand to other countries.

b)The current project – This project is designed to provide catalytic and effective interventions that will on one hand, galvanise private sector interest and investments in the cleantech innovation and entrepreneurship space and on the other hand, strengthen national cleantech innovation and entrepreneurship ecosystems and connect them at global level. These interventions, will 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. Building on the baseline, including GCIP-1, the project will:

- establish methodologies, guidelines, tools and training systems for mentors, judges, coaches to be trained and certified in each country. This will ensure that countries will continue to run the accelerators long after the GEF project has ended, which is not currently the case with GCIP-1.
- provide post acceleration support and investment facilitation services so that cleantech innovators from GCIP-1 and other will be able to commercialize their innovation and mobilize funding for scaling-up.
- support the design and establishment of early-stage financing mechanisms to ensure that GCIP alumni from this project and GCIP-1 will be able to access funding to grow and expand their businesses.
- increase focus on developing policy and regulations on cleantech innovations at child project level and document and disseminated policy best practices across countries to promote peer-to-peer learning and exchange.
- organize global events around the global competition based accelerator such as dialogues, investors networks to promote networking and learning across countries by policy makers, co-innovation and joint ventures among innovators ,and meeting high-impact investment opportunities by impact investors, funds and other financiers.
- promote coordination, communication and impact tracking across the program.
- promote knowledge gathering, exchange and dissemination to systematically entrench behavior change and hence transformational change in how cleantech innovators are supported.



By building and strengthening innovations and entrepreneurship ecosystems in each country and connecting the ecosystems through the global child project, the project will create bigger market opportunities for cleantech innovators to expand their businesses and hence increase their success rates and reduction of more GHG emissions.

c) Differential – One of the incremental services that GCIP-2 will provide is access to global investors. As an estimate, evidence from GCIP-1 shows that some GCIP alumni were able to mobilize global funding and expand their operations. From Turkey, Episome Biotech (2017 semi-finalist) raised €1.7 million 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 tCO<sub>2</sub>e/year and growing. Similarly Solter Vision (remote PV plant analysis) now estimates annual emission reductions of 15,300 tCO<sub>2</sub>/yr and Seyisco (efficient pot hole filling) already estimates 826k tCO<sub>2</sub>e per year saved. Episome (biotech) has the potential to reduce GHG emissions by 40 million tonnes/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.

This is just one of the services that GCIP-2 will bring to the innovators i.e. access to international investors. The differential, to be fully estimated at PPG stage, will be further enhanced by the various services that the project will bring that include more opportunities for networking and investments, support to expand cleantech business in other countries, development of policies and regulation to support cleantech innovators, and building and strengthening ecosystem. These interventions will ensure sustainability of the project and hence result in more GHG emission reductions.

## **6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)**

The long-term lifetime of innovative cleantech solutions introduced in the market with support from GCIP-2 will be reflected in multiple environmental benefits primarily as GHG emission reductions. The environmental benefits achieved through the programme will be measured and quantified on the basis of the innovations marketed and their uptake. Given the nature of the programme, the innovative cleantech solutions and products developed and commercialized will achieve environmental benefits beyond the project life and scope. By definition GCIP encourages open innovation, therefore estimating a priori the emission reduction potential of innovations supported through the GCIP has proven to be difficult since the types and categories of innovative cleantech solutions that will be supported will be determined during the selection of semi-finalists as part of the annual accelerators.

A standard GCIP methodology for calculating, tracking and monitoring environmental impact will be developed and regularly assessed and updated under Pillar 3 under the global child project. This will help to achieve coordination and coherence in the calculation, tracking and monitoring of the impact achieved through GCIP-2 at national and global levels. As such, all child projects will be provided with GCIP impact tracking methodology through the global platform.

The standard GCIP Methodology will build on existing tools. A review of current methodologies for estimating GHG emission avoidance from products and services has been carried out with the aim of identifying methodologies GCIP can build upon. Until recently most methodologies for measuring GHG emissions mitigation related to company-based, location-based or project-based emissions rather than to the avoided emissions resulting from a new product or service which could have significant potential to contribute to reduce greenhouse gas (GHG) emissions in society.

There are now a few examples of approaches to net-positive initiatives, i.e. approaches for assessing avoided emissions, in particular relating to ICT. For example, GeSI's 'Methodology for evaluating the carbon-reducing impacts of ICT'[1], UN Global Compact: Low-emission leaders: transformative calculations[2] and the Climate-KIC's Climate Forecast Impact Assessment Tool. One of the key challenges of current approaches is providing a consistent method for reliably quantifying avoided emissions. The process has a higher uncertainty compared to measurement of project or company emissions and it relies heavily on estimates and assumptions, and must consider hypothetical cases when comparing to the base case.



Other initiatives include: Mission Innovation's (MI) Framework for Assessing Avoided Emissions[3], which aims to address some of these challenges to be able to classify and rank companies/solutions through their supply of low carbon products and services; and WWF's Climate Solver Tool[4], which is an online platform which estimates the avoided GHG emissions and energy use from an innovative product. These two are the closest tools applicable for potential GCIP innovations. They include the following steps and assumptions: definition of system boundary and timeframe, identification of any rebound effects, estimates of unit efficiency/improvement and emission factors, estimate of unit baseline emissions, stage of development/deployment and certainty of data, estimate of market size and attribution.

Based on this, the standard GCIP methodology for calculating GHG reduction potential will build on MI and WWF tools, and learn from PFAN, which is also developing a methodology. Some further details are included in Annex I.

### ***GCIP's target for avoided GHG emissions***

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 will be applied. To achieve cost effectiveness of GEF funding for GEBs, a value of 5 to 10USD/tCO<sub>2</sub>e avoided is targeted (corresponding to an overall cost per ton at programme level of USD38-76/tCO<sub>2</sub>e, considering the co-financing). This would mean, with GEF funding of more than USD 18 million, GCIP aims to deliver between 1.8 million and 3.6 million tons CO<sub>2</sub>e by 2030. As 10 countries will be a part of GCIP at the time of this proposal, almost 1000 semi-finalists are expected to be supported through the accelerators in all countries across the programme. Therefore the target minimum projected potential of avoided GHG emissions per enterprise would be between 1,800 to 3,600 tCO<sub>2</sub>e by 2030. (More details on the methodology for GHG emission reduction potential is provided in Annex I).

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 and that where an innovation has real market potential, the avoided GHG emissions can be very significant and that the GCIP approach has experience in successfully identifying and accelerating such companies.

- Firstly, a survey carried out by UNIDO of 14 of its GCIP alumni showed that these companies had already generated 600,000 tCO<sub>2</sub>e savings by 2017 and projected to generate over 4.8 million tonnes of GHG emission savings by 2020 (or 340,000 tCO<sub>2</sub>e/year per company).

- Secondly the IEO Evaluation report of eight GCIP projects included a sample of alumni in its annex with projected avoided emissions between zero (either it had not been estimated yet or the cleantech was not related to CCM) and 5 million tCO<sub>2</sub>e per year. Therefore an average figure per enterprise does not make sense. A median figure would be 88 tCO<sub>2</sub> per year, but this is only based on those reported, which make up a small proportion (#60 of 900) of the total alumni. If only those with an estimated reduction are counted (#34) then the median figure increases to 12,200 tCO<sub>2</sub>/year with the interquartile range from 350 tCO<sub>2</sub> to 81,000 tCO<sub>2</sub>/year.

- Thirdly a number of alumni were selected as part of Mission Innovation's 100 innovative clean energy solutions in 2019. For example, Atomberg Technologies (<https://atomberg.com/>), which manufactures an energy efficient fan, is estimated to avoid 5 million tCO<sub>2</sub>e/year by 2030 as per the MI Framework for Assessing Avoided Emissions. BEAD, an energy management AI optimization solution, is estimated to avoid 319 million tCO<sub>2</sub>e/year by 2030. These two companies were both included in the 60 alumni above but Atomberg had not provided an estimate (so was assumed zero) and BEAD's estimate was 5 million tCO<sub>2</sub>e/year.

It is still too early to calculate the delivered unit abatement cost of GCIP 1 as the GHG reductions of all alumni are not known and not enough time has passed. However the design of GCIP 1 included for unit abatement costs (for GEF funding) of between 0.68 USD/tonne CO<sub>2</sub>e in Turkey to 29.77 USD/tonne CO<sub>2</sub>e in Armenia. Just with the enterprises mentioned above, the targets were exceeded in those countries. The proposed benchmarks are within the same range so realistic and conservative.

As a key focus of GCIP is to identify and support cleantech innovations with high impact potential, this benchmark will guide the accelerators at national and global levels to take into account the GEB potential as a key criterion in accepting applications into the accelerator. The provided range of 5 to 10 USD/tCO<sub>2</sub>e in reduction potential, will allow the child projects to support a mix of technologies with different CO<sub>2</sub> emission reduction potentials as long as this minimum average across the programme is achieved. This will allow innovations into the accelerators with lower CO<sub>2</sub> reduction potential but which explore new market applications, as well as innovations creating multiple benefits (including social indicators such as job creation, innovations contributing to gender dimensions).

In addition, indirect GEBs facilitated through the cleantech ecosystem strengthening at national and global levels are also expected. Broader adoption of GCIP impact can take place through several processes including sustaining, mainstreaming, replication, scaling-up and market 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.

[1] [http://gesi.org/files/Reports/Evaluating%20the%20carbonreducing%20impacts%20of%20ICT\\_September2010.pdf](http://gesi.org/files/Reports/Evaluating%20the%20carbonreducing%20impacts%20of%20ICT_September2010.pdf)

[2] [http://caringforclimate.org/forum/wpcontent/uploads/LCLP\\_Calculations.pdf](http://caringforclimate.org/forum/wpcontent/uploads/LCLP_Calculations.pdf)

[3] [https://www.misolutionframework.net/downloads/MI\\_Solutions\\_Framework\\_pt2\\_Draft\\_methodology\\_for\\_calculating\\_avoided\\_emissions\\_v2018-1.pdf](https://www.misolutionframework.net/downloads/MI_Solutions_Framework_pt2_Draft_methodology_for_calculating_avoided_emissions_v2018-1.pdf)

[4] <http://www.climatesolver.org/blog/climate-solver-tool-everyone-over-you-explore-high-impact-innovation>

### *Estimation of Global Environmental Benefits*

The following table shows the contributions from each country and the total expected global environmental benefits.

**Table 4: Estimation of global environmental benefit targets through child projects**

| Child Project | No. of semi-finalists to be supported through the accelerator | Target range* for GHG emissions avoided<br>(10 year horizon, tCO <sub>2</sub> e) |                  |                  |                   |
|---------------|---|--|------------------|------------------|-------------------|
|               |   | Direct Min   | Direct Max       | Indirect Min     | Indirect Max      |
| Cambodia      | 70  | 126,000  | 252,000          | 630,000          | 1,260,000         |
| Indonesia     | 80  | 144,000  | 288,000          | 720,000          | 1,440,000         |
| Kazakhstan    | 75  | 135,000  | 270,000          | 675,000          | 1,350,000         |
| Moldova       | 35  | 63,000   | 126,000          | 315,000          | 630,000           |
| Morocco       | 75  | 135,000  | 270,000          | 675,000          | 1,350,000         |
| Nigeria       | 75  | 135,000  | 270,000          | 675,000          | 1,350,000         |
| South Africa  | 200   | 360,000  | 720,000          | 1,800,000        | 3,600,000         |
| Turkey        | 100   | 180,000  | 360,000          | 900,000          | 1,800,000         |
| Ukraine       | 70  | 126,000  | 252,000          | 630,000          | 1,260,000         |
| Uruguay       | 75  | 135,000  | 270,000          | 675,000          | 1,350,000         |
| Global        | 100   | 180,000  | 360,000          | 900,000          | 1,800,000         |
| <b>TOTAL</b>  | <b>955</b>  | <b>1,719,000</b>   | <b>3,438,000</b> | <b>8,595,000</b> | <b>17,190,000</b> |

\* As described above, the target range for each supported enterprise would be between 1,800 to 3,600 tCO<sub>2</sub>e by 2030. Indirect emissions are calculated with a chosen factor of 5, as described above.

During the accelerator, further training will be provided as part of the curriculum regarding estimating GEBs of cleantech solutions, and how to monitor and capture actual impact versus estimates. In order to report on the GEBs achieved, annual monitoring exercise of alumni will be conducted by the Global GCIP platform.

For some technology categories, specific GEBs beyond GHG emissions reduction potential will be monitored and captured. For example, innovations/solutions under renewable energy and energy efficiency categories, quantity of energy saved and/or capacity or renewable energy installed will be calculated, monitored and reported on. Other GEBs may include POPs reduction, reduction in air pollutants (e.g. NO<sub>x</sub>, SO<sub>x</sub>, PM and CO), improved water quality and reductions in material use. To ensure coherence in the calculation methodologies, the type of GEB and the corresponding calculation methodology will be identified and determined/developed under the global child project, and disseminated to the country PMUs for application and data collection.

In cases where GCIP alumni received support for cross border expansion through the global child project and solutions were sold outside of their country of origin, these GEBs will be disaggregated and reported as GEBs achieved under the global child project to showcase the value addition of global coordination activities and ecosystem connectivity.

### ***Incremental contribution of a global program to overall GCIP emission mitigation***

The largest contribution to the program's emission reductions will result from the child projects as listed in the table above, whilst the global coordination and facilitation provided at the programmatic level will enhance emission reduction through supported GCIP alumni's identified at national level and connected to the global platform. GCIP alumni receiving global support will be selected on the basis that their innovations have potential for significant scaling up and global impact. On that basis the global platform has the potential to considerably affect their international prospects facilitating market opportunities, partnerships and investment. The global enhancement contributions will be achieved through the following activities:

- - linking ecosystems across countries will ensure that GCIP alumni can leverage on cross boarder market opportunities for deployment of their innovation and hence be able to create more GEBs;
- - providing follow-up support to GCIP alumni will increase commercialization rate. Therefore GCIP alumni will scale the dissemination of their innovative products and services, therefore increasing GEB;
- - investor outreach and connect on a global scale will ensure that GCIP alumni are able to secure investments to commercialize and transition into large-scale deployment; and
- - coordinating the activities of country level projects ensure that synergies are identified and adequately leveraged to create a groundswell of support and investments into GCIP activities and alumni.

## **7) innovation, sustainability and potential for scaling up**

### **Innovation**

GCIP is a lean, effective and results-oriented solutions towards catalysing cleantech innovation and entrepreneurship in frontier markets where the cleantech innovation ecosystems are weak and presents a suffocating environment to cleantech innovations that have the potential to have transformational impacts. GCIP's innovative design is premised on having a dual pronged approach that on one hand creates a critical mass of early-stage cleantech innovation SMEs that will transformed into market ready enterprises and on the other hand strengthens national cleantech innovation ecosystems and linking them at global level to create market opportunities for the SMEs to truly grow their businesses beyond their national boundaries. At a national level, GCIP is unique in its approach of transforming early-stage cleantech SMEs into market ready enterprises that deliver cleantech products and services in response to national priorities. GCIP supports entrepreneurs across the whole innovation value chain to develop demand-driven and investment-ready climate solutions that can become global enterprises. In comparison with other incubators or accelerator programmes, GCIP not support cleantech SMEs, but also strengthen cleantech innovation and entrepreneurial ecosystems by building capacity in national institutions, developing policy roadmaps and creating strong linkages between the most relevant ecosystem players and by raising awareness among them. GCIP's innovation is demonstrated by connecting innovation ecosystems across the countries as so to create market opportunities for GCIP SMEs, promote the sharing of experiences and policy best practices to promote learning. Beyond this, the organization of the global accelerators helps GCIP SMEs to link into global markets but also attracts cleantech SMEs from other developing counties into GCIP countries. GCIP will hand-hold start-up entrepreneurs through the development process of the concepts and help enterprises to ensure that their innovative concepts are sustainable and will have a real impact on the market. Furthermore the GCIP programme will provide additional advanced post-accelerator support, which is an innovative concept based on the stated needs of alumni.

### **Sustainability**

The program is predicated on creating a critical mass of cleantech innovations that commercialize thereby establishing cleantech markets that are linked across GCIP-2 countries. It promotes the active engagement of private sector in the cleantech innovation and entrepreneurship space thereby ensuring that there is a strong and systematic link between the GCIP alumni enterprises (solution providers), investors, policy makers, and the market. As shown in South

Africa post GCIP-1, there is interest from both public and private sector to jointly run cleantech accelerators. This approach will be promoted across all GCIP-2 countries. Sustainability and exit strategies will be developed at the global level in year 2 of implementation which will then be reviewed and adapted by each GCIP partner country by the beginning of year 3. The sustainability of GCIP is reinforced by the following:

- Through investment facilitation, GCIP SMEs will be able to mobilize funding and investments from angels, impact investors and other sources of finance there by bringing their businesses into full sustainability;
- By generating and using methodologies, guidelines, tools and training materials for competition-based accelerators, GCIP 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 program;
- Strengthening innovation and entrepreneurship ecosystems at national levels galvanizes various ecosystem players to pool resources, know-how and investments towards supporting the acceleration and commercialization cleantech innovations. Once ecosystem players start appreciating, the benefits of supporting cleantech innovations, they will continue do so in the long-term;
- By linking cleantech innovation ecosystems across countries, GCIP will create a business motive 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 program;
- Through the establishment of a web platform, where GCIP alumni enterprises 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 of 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 GCIP in terms of fact sheets, guidebooks, tools and reports on accelerating cleantech innovation. This will ensure that stakeholders, countries and the private sector will have on-going access to these tools and apply them to sustain the GCIP approach;
- Strengthening national institutional capacity within the child projects 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 GCIP processes and practices so as to ensure adherence to the highest quality of norms. Such norms will ensure that the GCIP will develop as a recognized brand and hence ensure long-term sustainability.
- Development of long-term partnerships with the private sector, which will be important in securing sources of funding as part of the exit strategy for GCIP at national and global levels.

The project will support the development of common exit and sustainability strategies for the national child projects based on the experiences under GCIP-1. Based on these experiences a global strategy will be designed under the global child project and then be adapted to the national child project. The strategy is likely to include interventions such:

- o identify and work with institutions that will retain the knowledge and skills developed under the project;

- o pursue country ownership through engagement of relevant public and private sector actors;
- o build local capacities (trainers, mentors, judges) to sustain the ongoing organization of the accelerator;
- o ensure access to training materials and infrastructure to manage applications (whether local, international, or centrally-shared);
- o provide clarity about the point at which exit will take place, based on targets and outcomes; and
- o engage in a handover process and transition where GCIP-2 support is phased out.

These measures will collectively create a basis for sustainability and exit strategy in GCIP-2 by galvanizing partnerships and resources to expand and sustain the programme approach in the long-term. Furthermore, some public institutions like Technology Innovation Agency South Africa have showed interest in financing part of the activities of GCIP. In GCIP-2, this issue will aggressively promoted so that GCIP becomes sustainable. In some countries, some private sector entities have shown interest to partners with GCIP and co-finance part of the activities. A model for such partnerships will be developed and promoted in GCIP-2.

### *Scaling up*

Replication and scaling up is systematically included in the program design. At country level, GCIP activities and accelerators will be operated in partnership with public and private entities. Partnership with private entities ensures that the private sector will mobilise their resources and network to scale-up the activities of GCIP. In the particular case of accelerators at national level, partnerships will be established with the private sector in establishing challenge focused accelerators where successful innovations will be immediately linked to private sector for incubation, investments and scaling up. Partnership will be established at national levels with national agencies responsible for innovation. This will ensure that they will ultimately access national funding to continue and scale-up GCIP activities. GCIP will act as a hub of innovation at national levels and connect other ecosystems players such as incubators, networks of investors, policy makers, regulators etc. By acting as national hubs of innovation, GCIP will be able to influence cleantech innovation and entrepreneurship at country level and hence expand and scale-up the influence of GCIP.

At global level, GCIP will establish partnership with corporations, industry associations with a view to leverage networks, resources and support to scale-up the program. In particular, GCIP-2 will establish partnerships with global platforms like Mission Innovation and Clean Energy Ministerial with a view to link innovations from GCIP countries to the global level, but also to establish programmatic collaboration that will support the scaling-up of GCIP-2 and increase the number of SMEs supported, investments and linkages with global corporations.

GCIP will provide targeted support to GCIP alumni that have potential for global expansion to expand and scale up into new markets, thereby rapidly scaling up the innovations into various markets. Furthermore, the projects will support linking and connecting of ecosystems in different countries to promote exchange of experiences and know-how. In fact, ecosystems connectivity helps in connecting cleantech innovators to connect with partners and investors from different countries thereby creating opportunities for scaling their innovations. By supporting outreach, communication and advocacy activities, this project will increase the visibility of GCIP and confidence around it. This will in turn attract more partners to GCIP like investors, private sector and foundations who will be agents to support the scaling up of GCIP. At the global level, the knowledge products and tools will be made available for participating and interested countries and stakeholders.

GCIP will also bring global visibility to GCIP alumni start-ups and SMEs. Such visibility at the global level will be key in creating awareness about GCIP and will open up investment and partnership opportunities at global levels that will lead to the scaling up of innovations and their businesses in global markets.

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[1] <https://www.ipcc.ch/sr15/chapter/spm/>

[2] GCIP defines cleantech as a broad range of solutions (technologies, processes, services, business models, and their combinations) that that improve operational performance, productivity, or efficiency while reducing costs, inputs, energy consumption, waste, or environmental pollution. Cleantech lead to an increase in positive impact or a decrease in negative impact on climate change mitigation and adaptation, transition to a low-emission economy, sustainable energy systems, and other dimensions of environmental sustainability. Climate technology, clean energy technology, agtech etc. are subsets of cleantech.

[3] <https://unfccc.int/sites/default/files/resource/docs/2017/cop23/eng/11a01.pdf>

[4] Global Chemicals Outlook II – From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development, UN Environment, 2019

[5] limited knowledge of the cleantech sector among investors in emerging/developing markets leads to a low risk appetite when investing in such ventures. GCIP has a proven ability in providing effective investor trainings to inform on market opportunities and barriers to enable informed decisions making.

[6] <http://www.infodev.org/innovations-scaling-green-sectors>

[7] Annual Impact Investor Survey, 2017, Global Impact Investment Network (GIIN)

[8] [www.pfan.net](http://www.pfan.net)

[9] [https://open.unido.org/api/documents/10995645/download/PFAN%20Presentation\\_July%202018.pdf](https://open.unido.org/api/documents/10995645/download/PFAN%20Presentation_July%202018.pdf)

[10] [unfccc.int/ttclear/misc\\_/StaticFiles/gnwoerk\\_static/incubators\\_index/ee343309e8854ab783e0dcae3ec2cfa6/c172d2f388234bdbbe3dd9ae60e4d7e9.pdf](https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/incubators_index/ee343309e8854ab783e0dcae3ec2cfa6/c172d2f388234bdbbe3dd9ae60e4d7e9.pdf)

[11] Climate Technology Incubators and Accelerators: United Nations Framework Convention on Climate Change Technology Executive Committee, Green Climate Fund, Climate Technology Centre and Network. July 2018

[12] This was implemented as part of the Greening the COP 17 project - <https://www.thegef.org/project/greening-cop17-durban>

[13] More information on GCIP is available on - <https://www.unido.org/our-focus/safeguarding-environment/clean-energy-access-productive-use/climate-policies-and-networks/global-cleantech-innovation-programme>

[14] More information available on : <https://www.unido.org/sites/default/files/files/2017-12/GCIP-Brochure.pdf>

[15] <https://www.unido.org/sites/default/files/files/2017-12/GCIP-Brochure.pdf>.

[16] <https://www.innovationbridge.info/ibportal/?q=content/thevia-roof-tiles>

[17] <https://www.malaymail.com/s/1300037/malaysian-companys-biodegradable-products-makes-it-to-europe>

[18] <https://saathipads.com/>

[19] [Smart Grids Innovation Challenge](#) ; [Off-Grid Access to Electricity Innovation Challenge](#); [Carbon Capture Innovation Challenge](#) ; [Sustainable Biofuels Innovation Challenge](#); [Converting Sunlight Innovation Challenge](#); [Clean Energy Materials Innovation Challenge](#); [Affordable Heating and Cooling of Buildings Innovation Challenge](#); [Renewable and Clean Hydrogen Innovation Challenge](#).

[20] Mentors are advisors assigned to the participating teams of the Accelerator to provide guidance as required on a rolling basis for the duration of the accelerator cycle. Coaches are experts delivering parts of the accelerator curriculum as per their expertise, to the cohort of participating teams. Judges are specialists in the fields of technology, business, investment, sustainability etc. invited to participate in the selection panel of the accelerator as required. No monetary remuneration is offered for mentors and judges, other than travel cost support as required. Coaches (national and international) may be contracted or recruited to deliver the accelerator curriculum.

[21] As part of the accelerator categories, "Innovation Challenges" will be established to facilitate identification and development of demand-driven solutions that can address the most pressing climate change mitigation and sustainability challenges, as defined by key industrial sectors. This approach allows the market to "pull" innovative solutions to very specific challenges, thereby increasing opportunities for direct market access. Examples of potential challenges could include energy-efficient refrigeration for the food processing sector or new energy storage technologies for the garment manufacturing sector. At national levels, GCIP child projects will engage with national partners such as industry associations, and at the global level large corporations and industry associations such as the World Business Council for Sustainable Development will be approached.

[22] Support will not be limited to winners of the Accelerator, but will also be provided to qualifying GCIP alumni as per the selection criteria. It will also be a cost-effective way to directly support and monitor growth of GCIP alumni enterprises. It will have the added advantage of removing the overemphasis on the competition aspect of the Accelerator, and allow all semifinalists to focus on the added value and benefits of the entire GCIP accelerator process.

[23] In 2018, PFAN issued a pilot call for applications specific to GCIP alumni enterprises. While PFAN traditionally facilitates investment in mature technologies, GCIP passed on to PFAN selected alumni on a pilot basis. During the Vienna Energy Forum of 2018, GCIP alumni that had been coached by PFAN showcased their innovations to PFAN investors. This pilot initiative was used to assess the appetite by investors to invest in new technology innovations and early stage businesses. Agnisumukh is one example of former GCIP alumni from India that has received support from PFAN and has mobilized debt and equity investments exceeding 1,2 million US\$ ([https://pfan.net/projects\\_and\\_stories/agnisumukh-energy-solutions-pvt-ltd/](https://pfan.net/projects_and_stories/agnisumukh-energy-solutions-pvt-ltd/)) and has GHG mitigation potential of 1800 tons CO2/year.

[24] <https://globalinnovation.fund/>

[25] <https://www.weforum.org/press/2018/05/we-need-a-global-fund-to-ensure-a-clean-energy-revolution/>

[26] In 2017, UNIDO contributed to the Global Cleantech Innovation Index (GCII) with the GCIP Country Profiles report as a policy tool for GCIP partner country governments[26]. GCIP global project will support the regular updating and publication of GCII-GCIP Country Profiles for which data will be continuously collected and analyzed. This will provide value addition and help contribute to creating an enabling environment for cleantech innovation. Index report available on : [https://www.unido.org/sites/default/files/files/2017-11/GCII\\_GCIP\\_report\\_2017.pdf](https://www.unido.org/sites/default/files/files/2017-11/GCII_GCIP_report_2017.pdf)

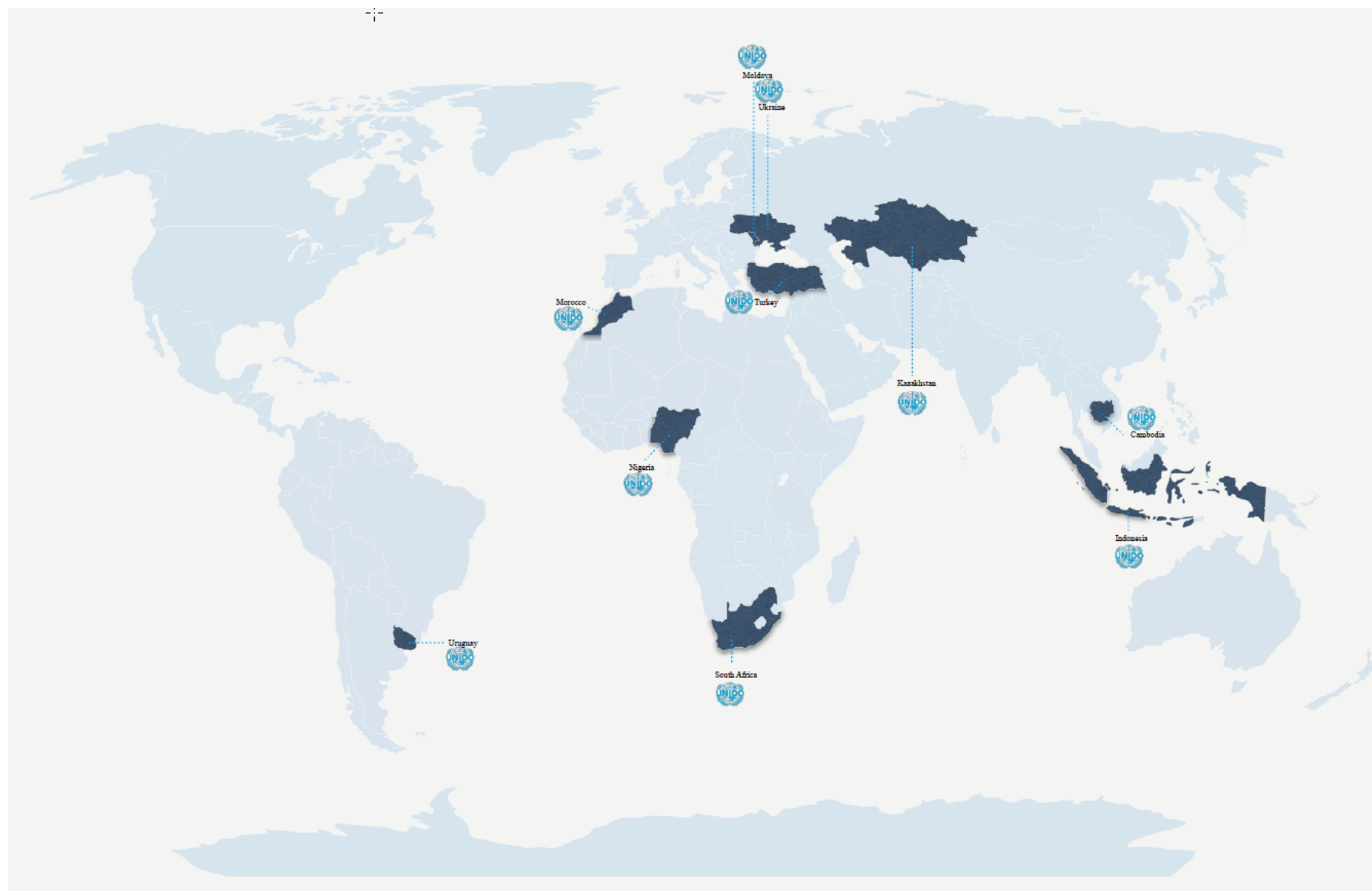
[27] Defined as “a state whereby the amount and quality of land resources necessary to support ecosystem function and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems”

[28] <https://data.worldbank.org/indicator/AG.LND.ARBL.HA>



## 1b. Program Map and Coordinates

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



## 2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the program preparation, and their respective roles and means of engagement.

UNIDO will provide execution support for specific activities of the Global Child Project. For the national child projects UNIDO will be the implementation agency. In each national child project, a country specific entity(ies) or national governments will be executing agency as indicated in the child projects. In the design of the child projects, stakeholder consultations have reached out to government agencies, multilateral organizations, development agencies, academia, private sector, financial institutions, especially impact investors, and civil society organizations. Indigenous people will not be impacted nor specifically involved in this program, however, innovations from such communities or that benefits these communities will be supported. International stakeholders identified so far which may be involved in the global child project and national child project are shown in the table below. The table also includes stakeholders that were mobilised under GCIP-1 project that will continue to be engaged in GCIP-2 national child projects.

| Potential Partners           | Role   |
|------------------------------|--|
| UNIDO                        | Lead implementing agency.  |
| UNIDO and other GEF Agencies | <ol style="list-style-type: none"> <li>1. Global child project implementation and provisions of execution support</li> <li>2. National child project implementation</li> </ol>   |
| Green Climate Fund           | <p>GCIP will collaborate with various innovation initiatives being developed by GCF. Areas of potential collaboration include connecting to regional level platform, linking GCIP alumni to the various actors engaged in the GCF climate innovation initiatives*, policy and knowledge management on climate technology innovation, in particular:</p> <ol style="list-style-type: none"> <li>1. Explore options to connect national and regional cleantech platforms for the identification of cleantech enterprises to be supported by accelerators/incubators, including the possibility of potential co-funding climate innovation initiatives</li> <li>2. Systematically support GEF-GCIP supported enterprises (alumni) as a pipeline portfolio for the GCF-supported climate innovation initiatives</li> </ol> |

|  |   |
|--|---|
|  | <p>3. Link policy/regulatory work conducted in GEF-GCIP countries to the GCF climate innovation initiatives</p> <p>4. Establish a consultative platform/dialogue on methodological issues related to ex-ante estimation/calculation of global environmental benefits of cleantech solutions and cleantech enterprises (such as GHG emission reduction or impact on climate adaptation impact)</p> <p>5. Facilitate knowledge exchange and management on lessons learned and best practices in incubation/acceleration of cleantech businesses in low/middle income countries</p> <p>*The GCF climate innovation initiative, including the support for incubators and accelerators is currently under development.</p> |
| Climate KIC  | Will be a technology and knowledge partner in running the acceleration programme in some countries and at the global levels and will be a partner in connecting innovation ecosystems across GCIP countries   |
| NGIN – Network for Global Innovation                       | NGIN will be a technology and knowledge partner in running the acceleration programme in some countries and will be a partner in connecting innovation ecosystems across GCIP countries   |
| Cleantech Group  | Potential to be a knowledge partner in developing the cleantech innovation index (GCII). Furthermore GCIP alumni will be showcased at global events organized by Cleantech Group  |
| Cleantech Scandinavia                                      | Potential to be a technology and knowledge partner in running the acceleration programme in some countries and will be a partner in connecting innovation ecosystems across GCIP countries and also linkages with Scandinavian ecosystems. Furthermore GCIP alumni will be showcased at global events organized by Cleantech Group  |
| Climate Technology Centre and Network (CTCN)               | Will be consulted with to ensure that the technology solutions, capacity building and advice on policy, legal and regulatory frameworks are specifically tailored to the needs of individual countries and synergies and complementarities are identified   |
| Global Innovation Fund                                     | Potential partner for investment for high impact innovations  |
| Private Finance Advisory Network (PFAN)                    | Will be a partner in supporting successful innovators in scaling up their ventures by providing business coaching to GCIP alumni and helping them to link to investors until they reach financial closure.  |
| Academia -universities and institutions of higher learning | Will be the main source of early-stage innovations that will apply to GCIP for acceleration support.  |

|   |  |
|---|--|
| Industry and business associations              | Will be partners at national and global levels to provide incubations support to GCIP SMEs, provide access to networks, investments and incubation support. They will also provide trainers, mentors and judges to the accelerators  |
| Networks of angel, venture and impact investors | Will be engaged at national and global levels to link with GCIP supported SMEs so that they can access investments and grow their businesses   |
| Corporations                                    | Will partners with GCIP accelerators to provide know-how, investments and market access.   |
| Morocco- GCIP-1                                 | <p>Ministry of Energy, Mines and Environment, Department of Sustainable Development – has been the key department providing leadership and strategic guidance to the project</p> <p>Ministry of Industry, Trade, Investment and the Digital Economy; Ministry of Higher Education, Scientific Research and Training – were key ministries linking the GCIP project to their mandate, connecting alumni companies to industries, other initiatives and provided mentors, judges and experts to support the programme</p> <p>CGME and associations of small enterprises – provided expertise to the project, linked alumni to industry for support and scaling up</p>  |
| South Africa – GCIP-1                           | <p>Technology Innovation Agency (TIA) – has been the anchor of GCIP-1 in South Africa and will be the execution agency for GCIP-2</p> <p>National Cleaner Production Centre – was a partner in linking GCIP-1 alumni with the private sector and promoting the cleantech solutions to industry</p> <p>Department of Environmental Affairs – provided strategic guidance to the programme and promoted cleantech innovation in the country</p> <p>Department of Trade and Industry – provided key support to the programme and linked alumni to industry</p> <p>Department of Science and Technology – played a key role in leading the project and connecting it to the technology innovation ecosystem in the country</p> |
| Turkey – GCIP 1                                 | <p>Ministry of Science, Industry and Technology (MoSIT), - key partner to the project, provided expertise, access to network of industries and linked GCIP alumni with industry leaders and ventures</p> <p>TUBITAK – key partner in the implementation of GCIP and will be central partner in GCIP-2</p> <p>Ministry of Environment and Urbanization, Ministry of Energy and Natural Resources – key ministries that promoted the project and linked the project activities to their mandate</p>  |

|                  |  |
|------------------|--|
|                  | <p>ey ministries that promoted the project and linked the project activities to their mandates</p> <p>Industry Associations – provided expertise and linkages between GCIP alumni and industry</p>   |
| Ukraine – GCIP 1 | <p>Ministry of Ecology and Natural Resources – key and central partner in the project providing strategic guidance and leadership to the PSC</p> <p>Ministry of Economic Development and Trade – key partner to the project providing experts, judges and mentors and linking GCIP to other initiative</p> <p>State Finance Institution for Innovations – key financial institution on innovation, providing expertise to the project on financing, linking alumni companies to various financing opportunities</p> <p>Industry Associations – providing expertise to the project, networks of industry experts and linking alumni companies to industry and financing opportunities</p> |

*Table 5: Stakeholders*

### 3. Gender Equality and Women's Empowerment

Are gender dimensions relevant to the success of program. Yes

If yes, please provide indicative information on these dimensions and how these will be addressed in the program. If no, please explain why

UNIDO recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive industrial development, which are key drivers for poverty alleviation and social progress. Commitment of UNIDO towards gender equality and women's empowerment is demonstrated in its policy on Gender Equality and the Empowerment of Women (2015), which provides overall guidelines for establishing a gender mainstreaming strategy. UNIDO has also developed an operational energy-gender guide to support gender mainstreaming within its sustainable energy initiatives.

Female entrepreneurship is considered a key tool in enabling women's empowerment. It is often seen as crucial for increasing the quality of life of women in the developing world, a way of triggering changes of the status-quo of women and re-addressing the balance of power within the family<sup>[1]</sup>. A guiding principle of the programme will be to ensure that both women and men are provided equal opportunities to access, participate in and benefit from the project, particularly in the global challenges and competition as well as the post-accelerator support. 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. GCIP-1 has already shown higher levels of women's participation than other accelerator and incubator programmes with 25% of the 795 alumni supported to date being women led enterprises. Through targeted efforts that including reaching out to institutions that support women, NGOs, universities and widely disseminating the support that the programme provides to women, including the best female entrepreneur, this project hopes to continue this trend and even to increase this proportion; with a target of 35% of beneficiaries being women.

Female entrepreneurs are expected to contribute to and benefit from all the project Pillars and activities, participate and facilitate in post accelerator support, as well as in successful competition and acceleration programmes, thus fostering the empowerment of women.

UNIDO's *Guide on Gender Mainstreaming Energy and Climate Change Projects* will be used as a framework and guide for the gender studies of the programme 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 raised regarding gender issues.

- Considering gender dimensions in all decision-making processes (this will consider but will not be limited to efforts to achieve gender balance/ representation in such processes), including Project Steering Committee meetings.
- Collection of sex-disaggregated data.
- Consultations with and involvement of stakeholders focusing on gender equality and women's empowerment issues, such as gender experts and organizations, CSOs and NGOs promoting GEEW (providing them with equal voice), e.g. for outreach purposes.

Gender Action Plans will be developed as part of the child projects. The gender analysis during the child project design will identify the specific circumstances of women and youth, and will provide a basis on how the priorities and needs of these groups will be integrated in the implementation of the project. Child project log-frames will be developed to reflect key gender dimensions of the respective outputs, activities, indicators and targets. This analysis will also incorporate the experience of countries under the previous GCIP for SMEs for a better understanding of the barriers faced by female entrepreneurs and so design effective mitigation tools. Analysis of the project has identified the following gender specific targets to be monitored and evaluated throughout the project implementation period. The project will take the following suggested approach to gender mainstreaming:

| Stage  | Gender equality measure   |
|--|---|
| Application stage for Accelerator                                      | <p><i>Collection of gender disaggregated data through application forms:</i> Number of women-led enterprises, % of women in the applying team;</p> <p><i>Targeted outreach:</i> The main target groups would be both men and women engineers and business persons, but importantly also ways in which to bring the two groups together. From the second year of implementation, the project will consider organizing events specifically targeted at connecting women technicians/engineers with business women;</p> <p><i>Setting a target on the % of women-led enterprise applications.</i></p>  |
| Selection of both men and women semi-finalists, and mentors and judges | <p><i>Stringent selection criteria</i> will be defined that provide equal opportunities for both women and men. The objective would also be to involve women in the mentoring process so that more role models could be created, thus mitigating the impact of this inequality in the future.</p>   |
| Special Awards   | <p>Special consideration will be given to the creation of a gender related prize; either a prize for the women's entrepreneur of the year or a special award for the team with the product/service with the most potential positive impact on gender equality, which would be part of the national and global cleantech competitions involving all Cleantech countries concerned. A similar prize was awarded in a number of the ongoing GCIP-1 project cycles and has led to increase in the number of female-led innovators applying to the GCIP. In countries like South Africa, Pakistan and Morocco where such a prize was included the number of female-led applications increased to between 25% and 40%. In sum, 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.</p> |

Table 6: Measures promoting Gender equality

### ***Supporting youth cleantech entrepreneurs***

In addition to gender dimensions, GCIP has also been able to support youth entrepreneurship and employment as an added benefit in GCIP partner countries. GCIP's main goal is to strengthen the cleantech innovation ecosystem of our partner countries, and GCIP supports cleantech SMEs by providing business and entrepreneurship training and mentoring. As cleantech is a relatively new industry sector worldwide, and at nascent stages in many of GCIP partner countries, 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 transferrable 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 GCIP, 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.



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 GCIP are more attractive to youths that seek to establish businesses that offer environmental solutions. Therefore interest from youths to participate in GCIP is higher. For example in Pakistan the average age of GCIP innovators was between 25 and 35 years and in South Africa 33% of the GCIP semi-finalists over five years have been younger than 35 years old. It is important to engage youths in the cleantech sector, as youths experience environmental problems differently due to behavioural 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, GCIP has focused on engaging universities and students. This has the added benefit that youths are naturally the target group of GCIP communications and advocacy efforts. GCIP is also indirectly impacting the entrepreneurial culture of partner countries, 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 GCIP 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] Anwar/ Rashid, Female Entrepreneurs – A review of the literature and proposed conceptual framework, 2011

**In addition, please also indicate whether the program will include gender sensitive indicators in its result framework**

Yes

#### 4. Private sector engagement

##### Will there be private sector engagement in the program?

Yes

##### Please briefly explain the rationale behind your answer.

Private sector engagement is key to the success of overall GCIP programme. The private sector is the main target group for the overall programme, and key interactions envisioned are summarized below:

- Direct interaction and support for SMEs, start-ups and entrepreneurs with climate and clean energy technology and business model innovations. Innovative technology SMEs are agents of change and by supporting them to strengthen their businesses and commercialize results in market transformation. In this project, support will be provided to SMEs identified in the national and global accelerators as well as post-accelerator advanced support being provided to SMEs identified under the national accelerator programmes. Support will be provided to, inter alia, help companies commercialize, to establish and connect to overseas markets and to find investment and partners. Investment facilitation support will be provided by linking GCIP alumni enterprises with potential investors and by “de-risking” them for financial institutions.
- At national and global levels, GCIP will engage with industry associations to leverage their knowhow, capital and interest in cleantech innovations. In particular, GCIP will also build capacity of national industry associations in acceleration of cleantech innovations. Furthermore, GCIP will engage captains of industry as mentors, trainers and judges in the acceleration processes.
- Cleantech SMEs will have direct engagement with PFAN (Private Financing Advisory Network [www.pfan.net](http://www.pfan.net)) to mobilize private investments (debt/equity) from international impact investors and other investors, who are mainly from the private sector such as venture capital funds and angel investors. The effort to mobilize investments for the GCIP alumni will be closely linked to PFAN operations.
- GCIP will partner with large corporations with commitment to identify and invest in specific technology innovations. GCIP will develop targeted cleantech accelerators in partnerships with global/local corporations to find demand driven solutions with direct market access, as successfully demonstrated in Morocco. The scope of the specific challenges will be discussed with the specific corporations.
- Furthermore, partnerships with corporations will be formed to connect GCIP alumni with other cleantech companies with the aim to create joint venture and co-innovation 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. This pilot will be expanded under this program.
- GCIP will bring financiers together with the SME innovator start-ups and will engage with financiers to transform investment decisions to consider socio/economic benefits in addition to profit. Financing institutions, venture capitalists and angel investors will be a key target group for the communications and outreach activities of GCIP at global, regional and national levels. GCIP aims to bring together a robust network of national and international investors to raise awareness and sensitize various stakeholders on the opportunities and risks associated with cleantech products and market trends. This will result in greater appetite for investment in cleantech start-up and so crowd in private sector investments. Investor Connect events will be organized for GCIP alumni with targeted impact investment funds and venture capital funds and targeted investment / financing vehicles will be connected with selected GCIP alumni.

A description of the specific private sector involvement is provided in each child project and will be elaborated further in the full CEO Endorsement documents, as appropriate.

## 5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Program objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Program design (table format acceptable)

| Risk   | Level of Risk | Mitigation Actions  |
|--|---------------|---|
| <b>Institutional risk</b><br>Lack of capable and relevant institutional partners for project execution and sustainability                                      | Medium        | Since the introduction of the GCIP in 2011 the programme has been operated without dedicated funding and resources for global coordination activities and knowledge management. Recognizing the value of these efforts and the need to build on the experience, the proposed global coordination mechanism is designed in part as a mitigation measure against the institutional risk to ensure that the Global programme can continue be operated in a systematic and continuous manner. To ensure vertical and horizontal integration, UNIDO has built a strong network of partners at international and regional levels that can be leveraged for project implementation and execution. UNIDO will work with national partners to identify the most appropriate institutional partners and where necessary will build up their capacity. |
| <b>Sustainability risk</b><br>Lack of ownership to run activities and inability to source funding to continue the program's activities in the medium/long term | Medium        | Sustainability is mainstreamed through the global programme through the following means: national institutional capacity building will ensure development of adequate skill and expertise to run the programmes; Strategic government and corporate partnerships at global and national levels will be built to secure programme funding on long term basis. Exit strategies will be developed for each project and it is envisaged that the management and financing of the PMU will be handed over to a national entity.  |
| <b>Political risk</b><br>Lack of political support to mainstream innovative clean technologies   | Low           | Currently, cleantech innovation and entrepreneurship are high priority areas in international climate action dialogue and governmental agendas. To keep the momentum and the political support, advocacy and awareness raising activities will be an integral part of the global programme to ensure that innovations with a high potential of generating global environmental benefit identified and promoted through the GCIP are adequately promoted and mainstreamed as solutions to the international development agenda, the Project Steering Committee will ensure strategic directions and guidance.  |
| <b>Financing risk</b><br>Default in mobilizing co-financing from key partners  | Low           | The co-financing commitments are obtained at the time of project design and a proper follow up will be made with the co-financing partners to ensure timely availability of co-financing options. During project implementation, the co-finance received (cash or in-kind) will be closely monitored and documented.  |

|  |        |   |
|--|--------|---|
| <b>Financing risk</b><br>Incentive and financial support system are insufficient             | Medium | <p>Financing institutions, venture capitalists and angel investors will be a key target group for forming strategic partnerships and outreach activities of GCIP at global and regional levels. Investment facilitation support will be provided by linking high-impact GCIP enterprises with potential investors and by “derisking” them for financial institutions. GCIP is highly recognized by investors and through programmatic coherence seeks to build confidence in national and international investors to invest in GCIP cleantech innovations.</p> <p>In addition, strategic partnerships with recognized and respected public and private institutions will be strengthened to increase the visibility and confidence in the GCIP methodology, thereby increasing the confidence in GCIP enterprises and the understanding of market opportunities and barriers in the cleantech space.</p>              |
| <b>Market risk</b><br>Lack of interest from entrepreneurs and potential start-ups            | Low    | <p>There is robust demand from GCIP alumni's for further post-accelerator support including enhancing linkages with investors and the private sector. Coherent communications campaigns and outreach activities on global and national level will provide evidence of the benefits of GCIP as well as advertising the competitions as widely as possible. UNIDO will leverage on its own network as well as strategic alliances and their respective networks and partners to advertise the GCIP accelerators in global, regional and national forums ensuring the coverage is as wide as possible.</p>   |
| <b>Market risk</b><br>Failure of businesses  | Medium | <p>The programme will provide GCIP methodology to provide innovators and entrepreneurs with the skills required to develop and commercialize their innovations. The Accelerator provides intensive training, mentoring as well as technology and business model validation to ensure adequate understanding of customer segment and the market to increase commercial success rates. High-impact innovations are selected, validated and provided with advanced business growth support to access funding as well as grow organisational capacity for scaling-up.</p>   |
| <b>Market risk.</b><br>Lack of interest of the industries for shifting to clean technologies | Medium | <p>Global and national stakeholder consultation has taken place to assess commitment and prioritization in cleantech innovation programme resulting in confirmed interest in mainstreaming green technologies as important contributions for low carbon development pathway. Global methodology will be adopted to national priorities and innovation environment to respond to the actual local needs of the industrial sector thus providing adequate innovative clean technology solutions to an existing environmental problem and potential industrial production constrain. This approach seeks to create a win-win situation for the innovators and the industries as industries will be able to identify a solution without extensive resource allocation for R&amp;D and the innovators will be able to validate their technology and find customers. This will include innovative business modeling for</p> |

|                                       |     |   |
|---------------------------------------|-----|---|
|                                       |     | ology and land customers. This will include innovative business modeling for delivery of clean technology solutions to industry partners such as appropriate ESCO models, etc.  |
| <b>Social and Gender Risk</b>         | Low | To ensure gender inclusiveness of all programme activities, UNIDO methodology for gender assessment and gender responsive communication showing the benefits of gender equality for both women and men, and ensure stakeholder involvement at all levels will be promoted throughout the programme on global level and down streamed to national levels, incorporating local aspects of cultural and gender sensitivity. To mainstream female entrepreneurship, adequate and gender responsive communication strategy as well as further sensitization workshop will be employed. |
| <b>Climate change risks</b>           | Low | Although, climate change risk are not for seen for the achievement of the programme's objectives, they will be considered through the programme activities are not expected to be subject to climate change risks.  |
| <b>Environmental and Social Risks</b> | Low | To mitigate potential environmental risks of the cleantech innovations, the program will engage renowned and expert mentors, trainers and judges that will have expertise in environmental and social risks of new technologies.  |

## 6. Coordination

Outline the institutional structure of the program including monitoring and evaluation coordination at the program level. Describe possible coordination with other relevant GEF-financed programs and other initiatives.

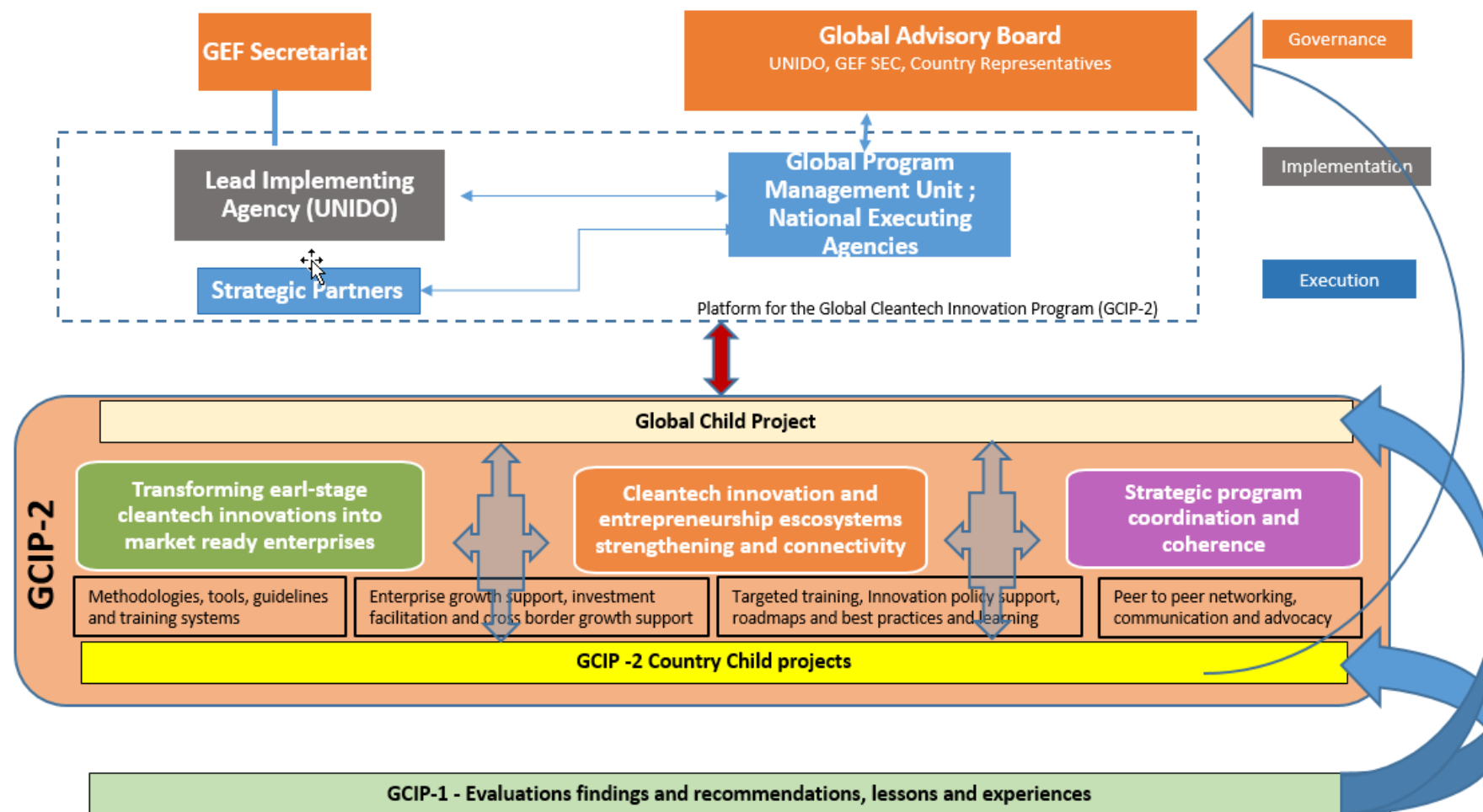


Figure 4: New coordination structure of GCIP

#### UNIDO – Lead Implementing Agency

Figure above depicts the structure of the institutional arrangement and coordination of GCIP-2 from governance, implementation and execution perspectives. As clearly shown, GCIP-2 design derives from the lessons and experiences from GCIP-1, in particular the findings and recommendations of the independent evaluation of GCIP-1. UNIDO, the Lead Implementing Agency will lead the global coordination efforts through the Platform for the Global Cleantech Innovation

Programme (GCIP-2), established as part of the global child project. As the lead GEF Implementing Agency for GCIP, UNIDO holds the ultimate responsibility for the implementation of the programme, the delivery of the planned outputs and the achievement of the expected outcomes. In particular, UNIDO will be responsible for monitoring of the programme, and reporting on the programme performance to the GEF.

Through pillar 3, programmatic coherence and standards will be maintained to ensure efficiency, effectiveness and sustainability of GCIP. Each child project will earmark between 6% and 10% of its respective GEF grant (minimum of 90,000 USD) across the project components to benefit from the global level interactions. Please see Annex H for the indicative budget breakdown. UNIDO will be responsible for coordinating monitoring and evaluation of child projects and sharing the lessons across GCIP.

### **Global Program Management Unit**

The day-to-day execution of the programme will be conducted by the Global Programme Coordination Unit (PMU) that will be funded through the global child project. In order to identify an executing entity as the Global PCU with the adequate competency and capacity, an Expression of Interest (EoI) will be published as per UNIDO procurement rules and guidelines, to survey potential service providers internationally. Several service providers with experience in cleantech acceleration will be invited to participate in the EoI. It is expected that the service provider will be in place by February 2020. The PMU will compose of a GCIP Coordinator, two technical experts on cleantech innovation and acceleration that will also be responsible communications and partnerships as well as impact monitoring and reporting, and one administration assistant. Main added-value of the Global PMU will be to maintain the programmatic approach to ensure the efficient use of funds across all child projects that benefit from the constant development and updating of the materials provided from the Global PCU to the national child projects. This will require robust communication channels between the Global PCU and the national child project executing entities as well as the national counterparts and executing entities.

### **GCIP Advisory Board**

The Advisory Board will comprise of the GEF SEC, UNIDO and all GEF agencies implementing a national child project, plus government representatives each GCIP partner country. Other key partners and stakeholders active in the cleantech space may be invited to join the Advisory Board if deemed adequate by the Board. The Advisory Board will provide strategic guidance to the program, and will be the decision making body for items of major impact on the programme. It will meet once a year to monitor progress against the objectives of the overall GCIP programme, address potential problems and address strategic and policy issues affecting the programme. It will review impact tracking and will be responsible for defining strategy and advocacy messages. While each county child project will have its own project steering committee, the Global Advisory Board will also actively discuss emerging issues across child projects and suggest solutions that contribute to the overall objectives of GCIP.

### **Child project implementation**

UNIDO will be the implementing agency for all national child project. In each country, national executing entities will be selected in consultations with national stakeholders and taking into consideration existing and relevant institutions and their capacities. In some countries, the counterpart ministry and a national institution will jointly execute the national child projects.

### **Monitoring and evaluation**



UNIDO will develop a measurement, reporting and verification (MRV) framework based on the SMART indicators used to assess project implementation and progress for the GEF. The MRV indicators will be developed by the Global PCU with guidance from the Global Advisory Board, and in consultation with the National PMUs. The National PMUs will be responsible for reporting annually and at the end of the project against these indicators, and the Global PCU will consolidate these reports, in conjunction with the Implementing Agencies.

Monitoring and evaluation (M&E) is covered under Activity 3.2.2.

A terminal evaluation by independent experts will be carried out for each national child project, and also at the programmatic level under the global child project. The terminal evaluation of the GCIP at the programmatic level will be managed by the UNIDO ODG/EVA in compliance with all GEF requirements. Terminal evaluation reports will be sent to the GEF Evaluation Office at the latest 6 months after the completion of the evaluation.

## 7. Consistency with National Priorities

Yes

**Is the Program consistent with the National strategies and plans or reports and assessments under relevant conventions**

- National Bio Strategy Action Plan (NBSAP)
- CBD National Report
- Cartagena Protocol National Report
- Nagoya Protocol National Report
- UNFCCC National Communications (NC)
- UNFCCC Biennial Update Report (BUR)
- UNFCCC National Determined Contribution
- UNFCCC Technology Needs Assessment
- UNCCD Reporting
- ASGM National Action Plan (ASGM NAP)
- Minamata Initial Assessment (MIA)
- Stockholm National Implementation Plan (NIP)
- Stockholm National Implementation Plan Update
- National Adaptation Programme of Action Update

The GCIP programme includes the GCIP Global Child Project as a global project enhancing and supporting national child GCIP projects as well as holding global accelerator and innovation challenges. As such the overall programme is consistent with the international climate change and sustainable development strategies and agenda and will also be fully in line with associated National strategies, plans and assessments. The consistency of the programme to each of the child country national priorities is included in each child project and will be elaborated further in the MSP and CEO Endorsement request documents.

Technological innovation is a critical accelerator and enhancer of the efforts to implement national climate actions and achieve the above-mentioned global objectives. The Paris Agreement explicitly refers to innovation in its Article 10, paragraph 5. In the 2030 Agenda for Sustainable Development, technological innovation is referred to in connection with various sustainable development goals, particularly goals 7 (affordable clean energy), 8 (decent work and economic growth), 9 (industry, innovation and infrastructure) and 17 (partnerships for the goals). Acknowledging the key role technological innovation can play in combating climate change, the UNFCCC Technology Executive Committee (TEC) conducted a study on the role of technology innovation for the Paris Agreement[1]. In this TEC report, the ten key messages are:

1. Technological innovation is central to climate action - Tech innovation plays a key role in supporting countries to implement their NDCs and mid-century strategies
2. Acceleration of climate technology innovation needed - Climate techs are being deployed on unprecedented levels, but innovation needs to be scaled up and sped up to meet Paris Agreement objectives
3. Countries have unique innovation needs - Every country is different. This makes it difficult to identify quick fixes for enhancing innovation efforts
4. Effective innovation is based on actors, institutions and networks - Successful innovation interventions depend on a sound national system of innovation
5. The right "push" is important - Efforts to enhance RD&D are crucial. The national government can play a key role in stimulating private sector participation in these activities

6. Demand “pull” is equally important - The national government can play a role in incentivizing widespread deployment of climate technology innovations
7. Innovation is more than technology - Innovation in financing, business models and policy mechanisms is key for leveraging the full potential of climate technologies
8. Innovation benefits from involvement of many stakeholders - To have impact, technological innovation should be inclusive
9. International collaboration is efficient - Enhancing collaborative efforts can play an important role in facilitating large-scale deployment of low-emission and climate-resilient technologies
10. UNFCCC bodies: building coherence and synergies - The wealth of technological and financial knowledge that the UNFCCC bodies hold creates huge potential for collaboration that can affect transformational climate action.

In addition, understanding climate technology needs is the starting point for effective action on climate change. To understand these needs, and to determine a country's climate and clean technology priorities, the UNFCCC technology needs assessments (TNAs) will be consulted to ensure that GCIP supported technology innovations are fully in line with national sustainable development priorities. In recent years, many countries have also identified climate technology innovation needs in their nationally determined contributions (NDCs), which will further inform the GCIP's interventions in the GCIP partner countries.

Close cooperation and coordination with the Climate Technology Centre and Network (CTCN) will also be sought. CTCN is the operational arm of the UNFCCC Technology Mechanism co-hosted by UNIDO. CTCN aims to promote the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries. This is fully in line with and complementary to the GCIP objectives, and GCIP will also maintain an open channel with the CTCN through the GCIP Global Child Project to ensure that the technology solutions, capacity building and advice on policy, legal and regulatory frameworks are specifically tailored to the needs of individual countries.

GCIP was also invited to contribute to a UNFCCC Thematic Dialogue on Incubators and Accelerators in Bonn in March 2018<sup>[2]</sup> to explore how to boost climate tech incubators and accelerators in developing countries. The dialogue discussed the missing link that can be addressed by cleantech incubators and accelerators in providing life-support to small cleantech based firms and entrepreneurs. As such, the GCIP is acutely aware of and closely engaged in the discussions and policy dialogues at the international level in informing and shaping the discourse surrounding national priorities for innovation of climate and clean technologies, and will continue to provide thought leadership and guidance to GCIP child countries to ensure that their national priorities are achieved in tandem with the international recommendations and best practices. Through the GCIP Global Child Project, design and implementation of GCIP at national levels will be further refined in light of the international discussions led by governments, and the experiences and expertise accumulated at national levels in GCIP partner countries will be valuable knowledge that can facilitate evidence-based discussion on cleantech innovation at the international level.

At country levels, the child projects are in alignment with the national priorities as set out below.

### **Cambodia**

Cambodia's child project is in line with Cambodia's main national priorities which are included in the National Strategic Development Plan (NSDP) for 2014-2018, is to reduce poverty while fostering economic growth at a steady rate of 7-8% per year. Cambodia aims to progress from least-developed country (LDC) status towards a low and high middle-income developing country by 2018 and 2030 respectively. The project is also in line with the Government of Cambodia's comprehensive strategic framework including Rectangular Strategy, National Strategic Development Plan, Sectorial Development Strategies, Industrial Development Policy, and the Climate Change Strategic Plan 2014 – 2023 (CCCSP), the Green Growth Policy and Roadmap and associated action plans .

### **Indonesia**

This child project will be implemented in alignment with the key national priorities of Indonesia to set the trajectory for Indonesia's low emissions development targets. In particular the project is in line with Indonesia's NDC which includes mitigation activities in the areas of energy, waste, IPPU/ Industry and Agriculture,

and Forestry. The energy sector shall contribute with a mitigation target of 314 tons of CO<sub>2</sub> by 2030. It is also in line with Indonesia's **National Action Plan for Greenhouse Gas Reduction (RAN-GRK)** which includes a wide range of mitigation activities and emission-reduction targets across major sectors[3], as well as a new report [4] from the Indonesian government's Low Carbon Development Initiative. The government is feeding findings from this new report directly into its next five-year development plan, which will cover 2020-2024.

The project's focus on innovative clean technologies and supporting entrepreneurial SMEs and start-ups is also in line with many other of the country's policy initiatives and strategies such as the National Medium Development Plan (RPJMN 2015-2019); the Second National Communication (2010) of Indonesia highlighted the energy sector as a Priority Sector of their Climate Change Roadmap, and Research and Technology as a Cross-Cutting issue; Energy Law No. 30/2007; the National Energy Policy; and Indonesia's Technology Needs Assessment of Climate Change Mitigation (2010).

### Kazakhstan

The child project is fully in line and supportive of the strategy "Kazakhstan 2050" adopted in 2012 in which the transition towards "green" development was set as a strategic goal for the national economy; and with the Strategic Development Plan of the Republic of Kazakhstan until 2025 where IGTC is created to secure a smooth transition to the concepts of green economy and reach aims of Paris agreement. It is also aligned with the President's decree of 2013 about "The Concept of transition of Kazakhstan towards green economy" which includes the development of Kazakhstan's renewable energy potential; energy saving and energy efficiency; sustainable usage of water resources; development of sustainable and high productive agriculture solutions, development of power energy, waste management systems, air pollution mitigation, saving and effective usage of ecosystems.

The project is also fully in line and supportive of the law on «Energy saving and energy efficiency» that was adopted in 2012. The project is in line and supports the "National Plan on quota allocation for greenhouse gas emissions for 2018-2020", enacted in 2017. This plan was developed taking into account commitments and obligations of the Republic of Kazakhstan to international climate change agreements and its Nationally Determined Contribution (NDC) which contains an unconditional target to reduce GHG emissions by 15% below 1990 levels by 2030, and a conditional target of reducing emissions by 25% below 1990 levels by 2030.

### Moldova

The project's focus on developing cleantech and reducing emissions the project is in line with the government's national priorities set out in the Low Emission Development Strategy (LEDS) of the Republic of Moldova 2030. The overall goal of the Strategy is consistent with the one set forth in the 4th National Communication and in the Moldova Intended Nationally Determined Contribution (INDC) paper submitted to UNFCCC for the Paris Agreement.

Effectively, the LEDS strengthens the objectives related to GHG emission reductions, stipulated in other national legal acts, including: the National Development Strategy Moldova 2030 and the Energy Strategy of the Republic of Moldova 2030, the Law on Energy Efficiency, the Law on Renewable Energy, the Law on Thermal Energy and Cogeneration Promotion, the National Strategy of Agricultural and Rural Development for 2014-2020 and the National Waste Management Strategy 2013-2027. The project is also in line with the programmes and plans developed to implement these policies, including the National Energy Efficiency Programme for 2011-2020 and the National Action Plan on Renewable Energy for 2013-2020 which both set out specific targets for sectors and energy use.

Also the project's focus on innovative clean technologies and supporting entrepreneurial SMEs and startups is also aligned to national priorities relating to innovation and the development of SMEs outlined in the country's Innovation Strategy 2019-2022 and the Small and Medium Enterprise Sector Development Strategy for 2012-2020.

### Morocco

The government has stepped up its role in international action on climate change, ratifying the Paris Agreement, setting a new national climate policy and hosting the United Nations Conference of Parties (COP22) summit in Marrakesh in 2016.

Morocco has various policies that seek reduce emissions and increase energy efficiency and renewable energy as well as those to support innovation that include the National Energy Strategy of 2009 envisaged an expansion of renewable electricity to a share of 42% of installed capacity by 2020 and the Moroccan Innovation Strategy was launched at the country's first National Innovation Summit in June 2009. The recent speech of the King of Morocco highlighted that innovation and entrepreneurship should be prioritized so that the youth should be trained to innovate and become entrepreneurs rather than look for jobs.

### **Nigeria**

The project objectives are in line with and complement the national priorities of Nigeria. The project is in line with Nigeria's 2nd National Communication to the UNFCCC and will also complement the already existing national programmes and objectives such as: Vision 20:2020 of Nigeria, the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN); specifically the strategies for energy and industry and commerce, the Energy Management Training and Manpower Development Department (EM-TMD) and the National Center for Energy Efficiency and Conservation. The project is in alignment with the recently launched Nigerian Industrial Revolution Plan (NIRP), National Enterprises Development Programme (NEDEP) and the Economic Recovery and Growth Plan ((ERGP) (2017-2020)). The NIRP clearly identifies innovation as one of the industrial enablers for Nigeria.

### **South Africa**

The project's focus on innovative clean technologies and supporting entrepreneurial SMEs and start-ups is in line with, and supports, a number of the country's policy initiatives and strategies and its adoption of the Paris Agreement in December 2015; making a commitment to reduce GHG emissions by 30% by the year 2030. The project supports the priorities of South Africa's 2nd National Communication (2011) and its Technology Needs Assessment (2007). It is clearly in line with each of the six overarching national development strategies/plans which include: The National Framework for Sustainable Development (2008); The New Growth Path (2010), The Green Economy Accord (2011); The National Climate Change Response Strategy (2011); National Development Plan (2012); and the Industrial Policy Action Plan (2017). In addition, the project will contribute towards The Innovation Towards a Knowledge-Based Economy; Ten-Year Plan for South Africa (2008-2018) of the Department of Science and Technology (DST), which focuses on the need to create a National System of Innovation (NSI) in order to become a knowledge-based economy.

### **Turkey**

The project is consistent with the Paris Agreement and the Intended Nationally Determined Contribution (INDC), which sets targets for the year 2030 of up to 21% reduction in GHG emissions compared to the business-as usual (BAU) scenario of the government. The project will support the National Climate Change Action Plan (NCCAP) and the National Climate Change Strategy Document (NCCSD, 2010-2020) that addresses policies related to emissions reductions, adaptation, finance and technology. The Seventh National Communication of Turkey showcases the importance in reducing the GHG emissions from the GCIP relevant sectors. Additionally, the NC mentions the GCIP Phase I as the one of the flagship project in the domain of the industry development by shifting it from energy intensive to clean and sustainable.[5]

The proposed project's outputs are also in line with the National Energy Efficiency Strategy for Turkey (2004) that aims to define measures and a roadmap for the improvement of energy efficiency in the industrial, residential, transport and municipal sectors, the NEEAP (National Energy Efficiency Action Plan) and Turkey's REAP (Renewable Energy Action Plan). It is also in line with The Tenth Development Plan which aims at advancing the society to high prosperity levels and Turkish Industrial Strategy Document (2015-2018). The Strategy indicates transformation to a greener and more competitive industry structure as one of the 3 strategic goals within the context of the Strategy.

### **Ukraine**

In supporting cleantech and promoting the adoption of energy efficiency, renewable energy, and reduce GHG emissions in the country the project is in line with national priorities as set out in the 7th National Determined Contribution (NDC), the Energy Strategy of Ukraine 2035, Ukraine 2050 Low Emission Development

Strategy (LEDS), Action Plan on the Implementation of State Climate Change Policy until 2030, Law "On Environmental Impact Assessment". In supporting SMEs, the project is also aligned with the Strategy for SME Development in Ukraine.

### Uruguay

The child project is in aligned with The National Climate Change Policy (PNCC), which provides a long-term strategic framework to guide Uruguay's transformations to face the challenges of climate change and variability, and the National Environmental Plan for Sustainable Development. One particular emphasis within the plan's framework, inspired by the 2030 Sustainable Development Agenda, is the promotion of an inclusive and sustainable economy for climate change mitigation. The project is also in line with Uruguay's NDC which has energy and transport among its main priorities, and with the National Energy Policy. In addition the project is in line with the National System of Productive Transformation and Competitiveness: "Transforma Uruguay" which includes innovative development as a principal objective and also includes for a Circular Economy.

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[1] "Technological Innovation for the Paris Agreement: Implementing nationally determined contributions, national adaptation plans and mid-century strategies"

Download link:

[http://unfccc.int/ttclear/misc\\_/StaticFiles/gnwoerk\\_static/brief10/8c3ce94c20144fd5a8b0c06fefff6633/57440a5fa1244fd8b8cd13eb4413b4f6.pdf](http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/brief10/8c3ce94c20144fd5a8b0c06fefff6633/57440a5fa1244fd8b8cd13eb4413b4f6.pdf)

[2] [http://unfccc.int/ttclear/events/2018\\_event2](http://unfccc.int/ttclear/events/2018_event2)

[3] <https://www.iea.org/policiesandmeasures/pams/indonesia/name-42667-en.php>

[4] <https://www.bappenas.go.id/id/berita-dan-siaran-pers/pembangunan-rendah-karbon-pergeseranparadigma-menuju-ekonomi-hijau-di-indonesia/>

[5] [https://unfccc.int/sites/default/files/resource/496715\\_Turkey-NC7-1-7th%20National%20Communication%20of%20Turkey.pdf](https://unfccc.int/sites/default/files/resource/496715_Turkey-NC7-1-7th%20National%20Communication%20of%20Turkey.pdf)

## 8. Knowledge Management

**Outline the Knowledge management approach for the Program, including, if any, plans for the Program to learn from other relevant Programs and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.**

Knowledge management is one of the key objectives of GCIP. One of the key outputs under Pillar 2 is knowledge management which seeks to generate, capture and disseminate knowledge generated by the GCIP at national and global levels in a symbiotic and mutually reinforcing manner. Under this Pillar, knowledge management will be addressed as follows:

- Under the global child project, a web platform will be established and will have various functionalities that are central to knowledge management efforts in GCIP. To begin with the web platform will be used to manage the accelerator processes in all GCIP countries. It will also act as a repository of the reports, updates on the works on policy and regulatory innovations in each of the GCIP countries. All methodologies, tools and guidebooks will be available through the web platform. In addition, it will act as a platform for a Community of Practice in cleantech innovation in various countries and across countries. Furthermore, the platform will be used for showcasing GCIP assisted companies by creating sub- webpages to profile their innovation and businesses.
- The Cleantech Innovation index will be developed as a regular publication of the GCIP programme to share knowledge on the innovation ecosystems in GCIP countries. Each Child project will be tasked with collecting data and developing indicators for the index in each country. The global child project will be responsible for collecting, synthesis of all the indicators and developing the index, the publication and dissemination of the report.
- As part of knowledge management, enhanced GCIP impact tracking will be implemented. To this end, indicators and methodology of assessing impact of GCIP will be developed under the global child project. Once developed and validated, these tools will be applied to all child projects for consistently and regular tracking of the impact of GCIP. The global child project will then extract knowledge from these reports and develop knowledge tools that include stories, brochures, thematic reports and widely disseminate to policy makers, innovators, investors etc. Feature articles will also be generated that will be included in other report, magazines that are widely read in GCIP countries and by GCIP partners at country level and globally.
- At country child projects, GCIP will support the development of policies and regulation to promote cleantech innovation and entrepreneurship. The global child project will then synthesise the various aspects of these policies, regulations to develop, document and disseminate policy best practices, roadmaps and recommendations. The policy best-practices will document success stories on how policy and regulatory measures are used to stimulate and sustain cleantech innovation.
- The global child project will develop guidebooks and methodologies that will be adapted and applied in other child projects and for wider dissemination and replication. Standards will be developed and used across the GCIP countries to ensure the quality of the programme. These guidebooks and standards will strengthen knowledge management across the programme. Further details are provided in the description of Pillar 3.
- In terms of dissemination of knowledge products, GCIP will apply different modalities depending on the target audience. To reach out to innovators, GCIP will enhance its presence on social media platform. So far GCIP has been present on twitter under the handle - @GCIPsmes at global level and country specific accounts like @GcipMaroc – which is the handle for Morocco. Information related to calls for innovations, news and opportunities for support will be disseminated through various social media platform. Report, tools, index etc. will be disseminated through print and circulated at high level events including COP etc. These reports will be posted on the web platform and news items widely disseminated through social media.

## 9. Child Program Selection Criteria

### Outline the criteria used or to be used for child program selection and the contribution of each child program to program impact.

GCIP child project countries will cover a wide selection of country sizes, status of economies, status of innovation ecosystem and a balanced representation of countries from Africa, Asia, Latin America & Caribbean and Eastern Europe and Middle East to ensure that the project results are as replicable as possible. The initial countries already cover Africa, Latin America, Eastern Europe and Asia, large and small economies and countries with nascent innovation ecosystems and those with established ecosystem. It is expected that as the success of the initial countries is demonstrated there will be other countries interested in improving their own innovation ecosystems and in running their own cleantech accelerators. Therefore a number of strategic criteria will be developed for their inclusion, including:

- current status and readiness of the country to support cleantech innovation.
- GCIP will support national targets on emission reductions (in line with NDC or other national policy documents).
- country ranking in the GCII.
- the country is interested to continue to run a national platform to support cleantech innovation to generate more impact from the project.
- the country has a co-financing base on which to build the project.
- the project will attain direct or indirect emissions reduction impacts.

Each country will also provide a rationale for use of its STAR allocation for cleantech innovation. Each country project will pool resources (estimated at 6-10% of grant with minimum of US\$ 90,000) to co-finance global activities that will also include adaptation of tools, methodologies, outreach and knowledge management (see Annex H). Countries will be expected to cover their costs to participate in regional and global events from their own country projects.



### Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).**

| Name                       | Position   | Ministry   | Date       |
|----------------------------|--|--|------------|
| Ponlok Tin                 | Secretary General of National Council of Sustainable Development | MINISTRY OF ENVIRONMENT, KINGDOM OF CAMBODIA   | 11/6/2019  |
| Ibu Laksmi DHEWANTI        | Ministry of Environment and Forestry                             | REPUBLIC OF INDONESIA  | 9/30/2019  |
| Sabit Nurlybay             | Vice Minister, GEF Operational Focal Point                       | REPUBLIC OF KAZAKHSTAN MINISTRY OF ENERGY  | 4/29/2019  |
| Ion Lica                   | Head of Environmental Services, GEF Operational Focal Pont       | MINISTRY AGRICULTURE, REGIONAL DEVELOPMENT AND ENVIRONMENT, REPUBLIC OF MOLDOVA  | 8/24/2018  |
| Rachid Firadi              | Director of Partnership, Communication and Cooperation           | SECRETARIAT OF STATE IN CHARGE OF SUSTAINABLE DEVELOPMENT, MINISTRY OF ENERGY, MINES AND SUSTAINABLE DEVELOPMENT, KINGDOM OF MOROCCO | 4/10/2019  |
| Princess Bolatito Obisesan | GEF Operational Focal Point                                      | FEDERAL MINISTRY OF ENVIRONMENT, FEDERAL REPUBLIC OF NIGERIA   | 11/6/2019  |
| Zaheer Fakir               | GEF Operational Focal Point                                      | DEPARTMENT OF ENVIRONMENTAL AFFAIRS, REPUBLIC OF SOUTH AFRICA  | 4/5/2019   |
| Akif Ozkaldi               | Deputy Minister, GEF Operational Focal Point                     | MINISTRY OF AGRICULTURE AND FORESTRY, REPUBLIC OF TURKEY   | 10/31/2018 |
| Vladyslav Marushevsky i    | Head of International Cooperation Office                         | MINISTRY OF ECOLOGY AND NATURAL RESOURCES OF UKRAINE   | 11/21/2018 |

Alejandro  
Nario  
Carvalho

National Director of Environment

MINISTRY OF HOUSING, LAND PLANNING AND ENVIRONMENT, URUGUAY

10/28/2019

## ANNEX A: LIST OF CHILD PROJECTS UNDER THE PROGRAM

|   | GEF Agency | Country      | Project Title  | (in \$)            |                |             |
|---|------------|--------------|--|--------------------|----------------|-------------|
|   |            |              |  | Program Amount (a) | Agency Fee (b) | Total c=a+b |
| 1 | UNIDO      | Global       | Global Cleantech Innovation Programme (GCIP) to accelerate the uptake and investments in innovative cleantech solutions                        | 1,784,862          | 160,638        | 1,945,500   |
| 2 | UNIDO      | Cambodia     | Global Cleantech Innovation Programme: Accelerating cleantech innovation and entrepreneurship in start-ups and SMEs in Cambodia                | 1,417,890          | 127,610        | 1,545,500   |
| 3 | UNIDO      | Indonesia    | Accelerating cleantech innovation and entrepreneurship in start-ups and SMEs in Indonesia  | 1,776,484          | 162,637        | 1,939,121   |
| 4 | UNIDO      | Kazakhstan   | Global Cleantech Innovation Programme in Kazakhstan - Promoting cleantech innovation and entrepreneurship in SMEs for green jobs in Kazakhstan | 1,775,000          | 159,750        | 1,934,750   |
| 5 | UNIDO      | Moldova      | Clean Technology Innovation Programme for SMEs and Start-ups in the Republic of Moldova  | 855,000            | 76,950         | 931,950     |
| 6 | UNIDO      | Morocco      | Programme for cleantech innovation and green jobs in Morocco - Phase 2   | 913,242            | 82,192         | 995,434     |
| 7 | UNIDO      | Nigeria      | Promoting clean energy technologies for sustainable start-ups and small medium enterprises development in Nigeria                              | 1,826,484          | 164,384        | 1,990,868   |
| 8 | UNIDO      | South Africa | Accelerating cleantech innovation and entrepreneurship in SMEs to support the transition towards circular economy and create green jobs        | 3,236,525          | 291,287        | 3,527,812   |

|                            |       |         | green jobs  |                   |                  |                   |
|----------------------------|-------|---------|---|-------------------|------------------|-------------------|
| 9                          | UNIDO | Turkey  | Innovative Clean Technology Enterprise Development – Institutionalisation and Expansion of the Global Cleantech Innovation Programme for SMEs in Turkey                       | 1,776,484         | 159,884          | 1,936,368         |
| 10                         | UNIDO | Ukraine | Low-carbon economy of Ukraine for climate change prevention: Facilitating investment for scale-up of innovative cleantech solutions for low-carbon economy and climate action | 1,307,500         | 119,353          | 1,426,853         |
| 11                         | UNIDO | Uruguay | Promoting the transition to a circular economy in Uruguay through cleantech innovations   | 1,303,162         | 117,284          | 1,420,446         |
| <b>Total GEF Resources</b> |       |         |   | <b>17,972,633</b> | <b>1,617,537</b> | <b>19,590,170</b> |

#### ANNEX A1: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

