Accelerating cleantech innovation and entrepreneurship in SMEs to support the transition towards circular economy and create green jobs

Part I: Project Information

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

GEF ID
10456

Project Type
FSP

Type of Trust Fund
GET

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

Project Title
Accelerating cleantech innovation and entrepreneurship in SMEs to support the transition towards circular economy and create green jobs

Countries
South Africa

Agency(ies)
UNIDO

Other Executing Partner(s)
Technology Innovation Agency (TIA), Industrial Development Corporation (IDC)

Executing Partner Type
Government

GEF Focal Area
Climate Change

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

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 2

Climate Change Adaptation
Climate Change Adaptation 0

Submission Date
6/18/2021

Expected Implementation Start
1/1/2022

Expected Completion Date
12/31/2026

Duration
60In Months

Agency Fee($)
291,287.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-1-4	Promote innovation and technology transfer for sustainable energy breakthroughs for cleantech innovation	GET	3,236,525.00	18,086,000.00
		Total Project Cost($)	**3,236,525.00**	**18,086,000.00**

B. Project description summary

Project Objective

Support sustainable and inclusive economic growth by promoting clean technology innovations and entrepreneurship in start-ups and SMEs

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

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Identifying, fostering and developing cleantech innovations and businesses	Technical Assistance	1.1 Promising cleantech innovators are identified and supported by accelerators and challenges	1.1.1 GCIP methodologies and guidelines for accelerator, advanced accelerator and post acceleration adapted for South Africa	GET	958,520.00	4,900,000.00
			1.1.2 120 business innovation and entrepreneurship experts (both women and men trainers, mentors and judges) trained and certified to support cleantech innovation			
			1.1.3 Ideation and concept validation support provided to at least 100 entrepreneurs			
			1.1.4 Four cycles of the annual GCIP South Africa competition-based multi-track accelerators supported through provincial hubs (4 accelerators, 4 advanced accelerators and 3 national industrial innovation challenges) conducted, in			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Identifying, fostering and developing cleantech innovations and businesses	Technical Assistance	1.2 Cleantech innovation and businesses are supported through advanced and gender responsive business growth and investment facilitation services	1.2.1. Targeted support services delivered (technology verification, product development, advanced business support, connecting to markets etc.) to at least 80 selected cleantech enterprises towards commercialization	GET	500,000.00	4,000,000.00
			1.2.2 Investment facilitation and market expansion support is provided for 30 selected GCIP alumni enterprises (gender responsive)			
			1.2.3 Mentorship and partnership support provided to 40 GCIP alumni with innovations that can grow into other countries, regions and globally			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Identifying, fostering and developing cleantech innovations and businesses	Investment	1.2 Cleantech innovation and businesses are supported through advanced and gender responsive business growth and investment facilitation services	1.2.4 Innovative early-stage financing mechanism established and operationalised to support the deployment and scale-up of cleantech solutions in 40 companies	GET	1,000,000.00	6,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2 Ecosystem connectivity, policy and institutional framework strengthening	Technical Assistance	2.1 National ecosystem strengthened to promote and support cleantech innovation and entrepreneurship whilst promoting gender equality and the empowerment of women	2.1.1 National level platform and coordinating mechanisms for ecosystem stakeholders established 2.1.2 Capacity built for national cleantech innovation and entrepreneurship support institutions, industry associations and business platforms based on the results of the GCIP cleantech innovation and entrepreneurship ecosystem (CIEE) assessment 2.1.3 Policy support provided to strengthen cleantech innovation entrepreneurship ecosystem and promote a circular economy in a gender-responsive manner 2.1.4 Networking, knowledge generation, exchange and dissemination at national and global levels to	GET	450,000.00	1,486,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. Programme coordination and coherence	Technical Assistance	3.1 Standards and programmatic coherence to improve efficiency and sustainability of GCIP interventions	3.1.1 Programme level internal GCIP guidelines and methodologies adapted and applied for South African coherence with all GCIP child projects	GET	87,613.00	400,000.00
			3.1 2. Programme level knowledge management, communication and advocacy strategy adapted and implemented for GCIP South Africa			
			3.1.3 GCIP webpage, community and network maintained at national and global levels, including extensive communication and outreach activities			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. Programme coordination and coherence	Technical Assistance	3.2 Effective impact tracking and project implementation	3.2.1 National projects impact monitoring system established and linked to Global GCIP	GET	102,500.00	400,000.00
			3.2.2 Project effectively monitored - Regular monitoring exercises conducted including monitoring and reporting on the ESMP, gender action plan and risks; PIRs prepared according to UNIDO and GEF requirements			
			3.2.3 External mid-term review and independent terminal evaluation conducted			
			Sub Total ($)		**3,098,633.00**	**17,186,000.00**
Project Management Cost (PMC)						
				GET	137,892.00	900,000.00

Project Management Cost (PMC)		
Sub Total($)	**137,892.00**	**900,000.00**
Total Project Cost($)	**3,236,525.00**	**18,086,000.00**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNIDO	Grant	Investment mobilized	50,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	Technology Innovation Agency	In-kind	Recurrent expenditures	2,000,000.00
Recipient Country Government	Technology Innovation Agency	Grant	Investment mobilized	8,000,000.00
Private Sector	GreenCape	In-kind	Recurrent expenditures	1,000,000.00
Other	Tshimologong Digital Innovation Precinct	In-kind	Recurrent expenditures	136,000.00
Recipient Country Government	Industrial Development Corporation	Loans	Investment mobilized	5,000,000.00
Recipient Country Government	Industrial Development Corporation	In-kind	Recurrent expenditures	700,000.00
Recipient Country Government	Industrial Development Corporation	Grant	Investment mobilized	1,000,000.00
			Total Co-Financing($)	**18,086,000.00**

Describe how any "Investment Mobilized" was identified

The co-financing modalities were discussed with executing entities and key stakeholders, i.e., Technology Innovation Agency (TIA), Industrial Development Corporation of South Africa (IDC), Department of Science and Innovation (DSI) and Department of Trade, Industry and Competition (the dtic) prior to and during the PPG phase. TIA agreed to allocate up to USD 8,000,000 as grants from its associated seed finance facilities, in addition its annual budget allocated to the GCIP accelerator. In discussions during the design of the financing mechanism, IDC agreed to use the GEF funds as leverage for additional finance to

be mobilised as grants for seed investment equaling USD 1,000,000 for target support services and loans to the sum of USD 5,000,000. UNIDO will provide a grant in the amount of USD 50,000. The GEF grant is focused on supporting the formative stages of cleantech enterprises i.e., prototyping, proof of concept, ecosystems building. Co-financing from the public sector (predominantly in-kind) creates the enabling framework conditions that de-risks the key interventions by the GCIP project. As was already confirmed by the findings of the Independent Evaluation of the previous GCIP cycles, co-financing in the form of grants, seed funding, equity from angels, venture capital funds, impact investors, crowd funding platforms etc. will be mobilized during the implementation of the project from the private sector in the development, growth and scale-up of the start-ups. In line with GEF Guidelines on Co-financing (https://www.thegef.org/documents/co-financing), paragraph 9, co-financing that will be mobilized from the private sector during the implementation of the project will be monitored and reported through the regular reporting mechanisms to the GEF. Under the umbrella project of GCIP, project 10461, a strategic partnership will be established between GCIP and the Private Financing Advisory Network - PFAN (www.pfan.net), under which GCIP alumni companies will be systematically connected to PFAN for specialized project development, business coaching and investment facilitation services and introduction to investors, hence mobilize co-financing. Furthermore, in countries where PFAN operates, GCIP activities will be linked to PFAN network of expertise and investors.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
UNIDO	GET	South Africa	Climate Change	CC STAR Allocation	3,236,525	291,287
				Total Grant Resources($)	**3,236,525.00**	**291,287.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **false**

PPG Amount ($)

90,000

PPG Agency Fee ($)

8,100

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
UNIDO	GET	South Africa	Climate Change	CC STAR Allocation	90,000	8,100
				Total Project Costs($)	**90,000.00**	**8,100.00**

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	0	360000	0	0
Expected metric tons of CO?e (indirect)	0	1800000	0	0

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

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

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

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)		360,000		
Expected metric tons of CO?e (indirect)		1,800,000		
Anticipated start year of accounting		2022		
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 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)
Female		812		
Male		1,508		
Total	0	2320	0	0

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

Part II. Project Justification

1a. Project Description

Changes in alignment with the project design with the original child concept note

There are NO substantive changes between the original child concept note and this Request for CEO Endorsement (RCE). However, where appropriate and based on additional consultations with relevant stakeholders during the PPG phase, terminologies and wording used in the Project Description Summary (Table B) and accordingly in the Project Description have been amended in order to better align this child project to the GEF-UNIDO Global Cleantech Innovation Programme (GCIP) Framework (GEF ID 10408) (hereinafter referred to as GCIP Framework), to include some targets and to be more gender responsive. Some outputs were merged, split or the order changed to improve the logical structure of the intervention and provide clarity. The budget allocation was moderately adjusted once the activities were finalised, the amount of co-financing was increased, and the attribution of co-financing was revised. In addition, the number of cleantech experts to be trained and certified was increased from 50 to 120 (Table F) to be more in line with the project?s ambition. An overview of the main changes is further detailed in the two tables below.

Table 1: Changes to Project Description Summary (Table B) from the original child concept note (Table F)

Original child concept note	**RCE version**	**Comment / Justification**
1.1.1 National level platform and coordinating mechanisms for ecosystem stakeholders established	Moved to Component 2	This is an ecosystem issue so fits better within Component 2
1.1.5 Methodologies and guidelines for the competition and accelerator adapted	1.1.2 GCIP methodologies and guidelines for accelerator, advanced accelerator and post acceleration adapted for SA	Wording changed to better reflect PFD and to be specific for SA
1.1.6 National pool of mentors and judges created and trained	1.1.3 120 business innovation and entrepreneurship experts (trainers, mentors and judges) trained and certified to support cleantech innovation	Wording changed to better reflect PFD and to include targets
1.1.2 Feedback, ideation and concept validation support provided	1.1.4 Ideation and concept validation support provided to at least 100 entrepreneurs.	Wording changed to better reflect the activities and the inclusion of a target

1.1.4 National Industrial Innovation Challenges held	1.1.5 Four cycles of the annual GCIP South Africa competition-based multi-track accelerators supported through provincial hubs (4 accelerators, 4 advanced accelerators and 3 national industrial innovation challenges) conducted, in alignment with international GCIP Accelerator cycle.	Wording changed to better reflect all the activities included
1.2 Advanced investment and commercialization support for cleantech innovation and businesses	1.2 Cleantech innovation and businesses are supported through advanced and gender responsive business growth and investment facilitation services	Wording changed to reflect better the wording in the PFD, to be more gender responsive and to reflect that the outcome relates to business growth support in addition to investment facilitation and access to finance
1.2.1 GCIP alumni support services delivered (technology verification, product development, advanced business support, connecting to markets etc.)	1.2.1. Targeted support services delivered (technology verification, product development, advanced business support, connecting to markets etc.) to at least 80 selected cleantech enterprises towards commercialization	Wording revised to better reflect the activities and the inclusion of a target
1.2.2 GCIP alumni linked to impact investors and support provided to establish and operate impact investment/seed fund	1.2.2 Investment facilitation and market expansion support is provided for 30 selected GCIP alumni enterprises (gender responsive)	Wording revised to better reflect the activities and the inclusion of a target
1.2.3 Mentorship and partnership support provided to GCIP alumni with innovations that can grow into other countries, regions and globally	1.2.3 Mentorship and partnership support provided to 40 GCIP alumni with innovations that can grow into other countries, regions and globally	A target figure has been added
1.2.4 Innovative early-stage financing mechanism designed and established to support the deployment and scale-up of cleantech solutions	1.2.4 Innovative early-stage financing mechanism established and operationalised to support the deployment and scale-up of cleantech solutions in 40 companies (gender responsive)	Wording revised to reflect the operationalisation of the financing mechanism.
2.1 National ecosystem strengthened to promote and support cleantech innovation and entrepreneurship	2.1 National ecosystem strengthened to promote and support cleantech innovation and entrepreneurship whilst promoting gender equality and the empowerment of women	Wording revised to be more gender responsive
	2.1.1 National level platform and coordinating mechanisms for ecosystem stakeholders established	Moved from Component 1 (fits better with the ecosystem strengthening)

2.1.1 Capacity built in national institutions and industrial associations	2.1.2 Capacity built for national cleantech innovation and entrepreneurship support institutions, industry associations and business platforms based on the results of the GCIP cleantech innovation and entrepreneurship ecosystem (CIEE) assessment	Wording changed to better reflect the wording in the PFD.
2.1.4 Policy support provided relating to intellectual property rights, green procurement and strengthening ecosystem	2.1.3 Policy support provided to strengthen cleantech innovation entrepreneurship ecosystem and promote a circular economy in a gender-responsive manner	Wording changed to be more inclusive of likely policy support required, for the promotion of a circular economy and to be more gender responsive
2.1.2 Communication, advocacy and outreach activities including GCIP alumni participation in selected global events implemented 2.1.3 GCIP community and network facilitated 2.1.5 Knowledge products developed and disseminated	2.1.4 Networking, knowledge generation, exchange and dissemination at national and global levels to promote linkages, collaboration and synergies across cleantech ecosystems of GCIP countries	The three outputs were combined into one and advocacy was moved to Component 3, in line with the PFD.
3.1 Effective project implementation	3.1 Standards and programmatic coherence to improve efficiency and sustainability of GCIP interventions	Component 3 was split into two outcomes for better clarity and to include GCIP coherence. Outcome 3.1 relates to the GCIP coherence, standards and advocacy whilst Outcome 3.2 focuses on the effective project implementation and its monitoring plus impact monitoring
	3.1.1 Programme level internal GCIP guidelines and methodologies adapted and applied for South African coherence with all GCIP child projects 3.1 2. Programme level knowledge management, communication and advocacy strategy adapted and implemented for GCIP South Africa 3.1.3 GCIP website, community and network maintained at national and global levels, including extensive communication and outreach activities	
3.1 Effective project implementation	3.2 Effective impact tracking and project implementation	Wording revised to incorporate impact tracking in line with GCIP PFD
3.1.1 Impact performance monitored	3.2.1 National project impact monitoring system established and linked to Global GCIP	Words revised to recognize the need to set up the impact monitoring as well as carrying it out.

3.1.2 Project effectively monitored	3.2.2 Project effectively monitored - Regular monitoring exercises conducted including monitoring and reporting on the ESMP, gender action plan and risks; PIRs prepared; and tracking tools prepared according to UNIDO and GEF requirements	Additional details added.
3.1.3 Project Midterm and Terminal evaluations carried out	3.2.3 External mid-term review and independent terminal evaluation conducted	Wording revised to reflect the independence of the evaluations

Table 2: Changes to the project budget allocation

	Original child concept note		**RCE version**		**Comment/Justification**
	GEF budget	**Co-finance**	**GEF budget**	**Co-finance**	
Component 1.1	No change	5,000,000	No change	4,900,000	Budget re-allocated after more detailed definition and costing of the activities
Component 1.2.1 -1.2.3	No change	1,000,000	No change	4,000,000	Budget re-allocated after more detailed definition and costing of the activities
Component 1.2.4	No change	9,000,000	No change	6,000,000	Budget re-allocated after more detailed definition and costing of the activities
Component 2	513,473	3,650,000	450,000	1,486,000	Budget re-allocated after more detailed definition and costing of the activities
Component 3	126,640	600,000	190,133	800,000	Budget re-allocated after more detailed definition and costing of the activities
Project management	No change	750,000	No change	900,000	Co-finance for management increased in line with envisaged workload

Introduction

1. In 2011, the United Nations Industrial Development Organization (UNIDO), with the support of the Global Environment Facility (GEF) and the Government of South Africa, successfully implemented the ?Greening the COP17? project. One of the four components of the project focused on the design and implementation of the first South Africa Clean Technology Competition (2011 SA Cleantech) for green entrepreneurs (mainly small and medium-size enterprises, further referred to as SMEs) with innovative ideas and concepts in the areas of energy efficiency, renewable energy and green building practices. All participants were given an opportunity to present their solutions and get feedback, while the best ones were offered additional training, mentoring and access to cleantech networking events.

2. This success of the 2011 SA Cleantech encouraged the project expansion into the Global Cleantech Innovation Programme (GCIP) for SMEs, simultaneously implemented in Armenia, India, Malaysia, Pakistan, Turkey and South Africa in 2014. The GCIP takes a competition-based approach to identify a pool of promising entrepreneurs and support them through ongoing mentoring, webinars and networking events to grow their innovative ideas and concepts into fully-fledged products and services ready for entering the national and global markets. Under the 2014 competition cycle, a total of 555 applications were received across the six countries, from which 159 innovative cleantech entrepreneurs were selected to take part in an accelerator programme. The entrepreneurs were chosen across four cleantech categories; 58 in renewable energy, 41 in energy efficiency, 32 in waste to energy, and 28 in water efficiency.

3. Having progressed through the GCIP, these entrepreneurs were connected with potential customers, investors, partners and policy-makers at national and international levels through Investor Connect events and National Academies. In addition, the very best entrepreneurs from the GCIP were given the opportunity to attend the Cleantech Open Global Forum, held in November 2014 in Silicon Valley, USA, involving more than 100 cleantech exhibitions and networking events, giving the GCIP winners a high level of exposure to broaden their networks, and to benefit from the global linkages.

4. In 2015, Thailand joined GCIP and about 10 countries, including Vietnam, Brazil, Ukraine, Nigeria, Indonesia and Kazakhstan had expressed interest in becoming part of it thereafter. In the period from 2014 to 2016, GCIP received almost 3000 applications in the 8 countries in which it was operating, from which 580 entrepreneurs were selected for further acceleration and mentoring, as well as receiving access to investors and media. The growth rate of applications GCIP has received between 2014 to 2015 and 2015 to 2016 was 62.5% and 33% respectively, indicating strong and constant increase in interest towards the acceleration programme.

5. Building on the success and the lessons learned within GCIP in the first 5 years, and in particular, in South Africa, as well as taking into account the increased need to accelerate the pace of cleantech innovation, UNIDO together with its counterparts has developed this project. The project is in line with the GEF?s Climate Change Mitigation Focal Area Strategy under the GEF-7 Programming Directions and the GEF Private Sector Strategy. It is also fully aligned with key national priorities of the Republic of South Africa as well as UNIDO?s mandate to promote inclusive and sustainable industrial development (ISID).

The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

a) Global environmental problem / South Africa context

6. The most recent 2018 IPCC report notes that current trends indicate that global warming will pass 1.5? above pre-industrial levels between 2030 and 2052. The global impact of this is enormous and South Africa has already seen an increase in temperature and has experienced an increased number of extreme weather events, such as droughts and floods; the impact of which is exacerbated by historical legacies of inequality. The socio-economic costs of climate change related to natural disasters are significant, and both their intensity and frequency are expected to increase further. The impacts of climate change in South Africa will primarily affect water resources and extend to health, food security, access to basic infrastructure and threats to biodiversity due to climate variability and change. While both rural and urban areas will be impacted by climate change, there are particular consequences in rural areas, because of the dependence on agriculture for jobs, income and food security, as well as links to water insecurity.

7. South Africa?s economy is dependent on a coal-dominated power sector, with a significant proportion of employment generated within coal value chains, as well as heavy industry that relies on fossil-fuel-based power together with liquid fuel value chains and transport sectors. As a result, energy supply and consumption contributes to the vast majority of South Africa?s GHG emissions and in 2016 South Africa ranked 15th of the highest emitting countries . The ?Draft 7th National Greenhouse Gas (GHG) Inventory Report for the Republic of South Africa? was released for public comment in September 2020 . The draft reports a 0.3% increase in emissions (excluding forestry and other land use ? FOLU), due to an increase in emissions from the energy (0.6%), waste (4.4%) and industrial processes and product use (IPPU) (3.2%) sectors. Contribution to South Africa's GHG emissions by sector (excluding FOLU) are as follows: energy supply and consumption, 79.11%; agriculture, 9.29%; industrial processes, 7.78%; and waste, 3.82%. Figure 1 below shows the CO2 emissions contribution of the different sectors. These reported figures show the clear dominance of the energy sector and consequently also the opportunity for innovation and efficiency in the sector. In addition, the other sectors provide opportunities for mitigation through technological and behavioural interventions.

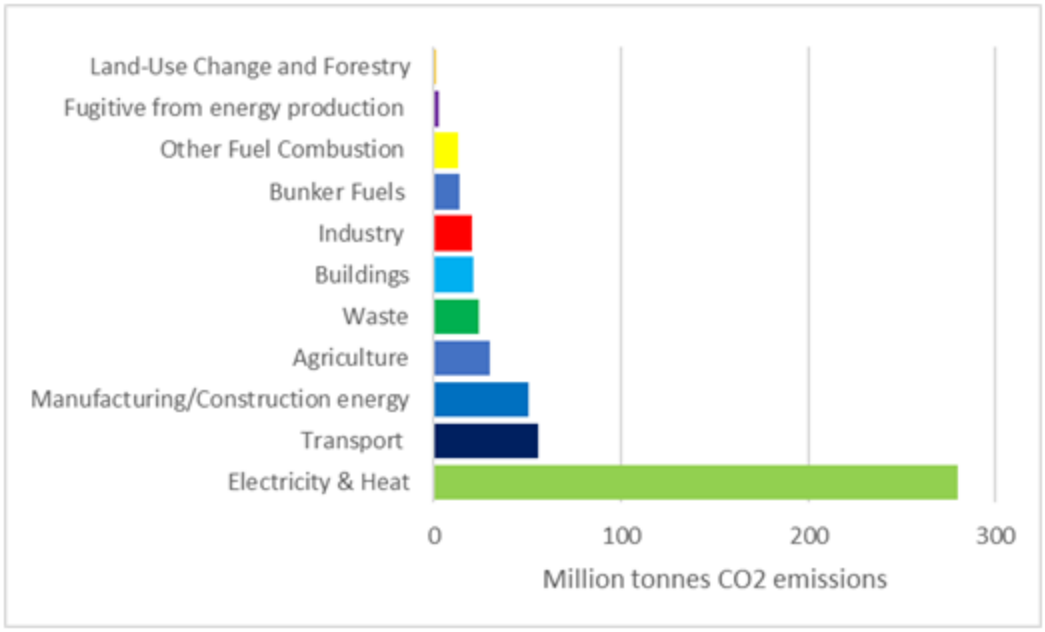

Figure 1: CO_2 emissions in South Africa by sector in 2016[4][1]

8. With an increasing population, currently at almost 60 million with about 30 percent under 15 years, there is a strong likelihood of rising carbon footprints and increase in emissions. This also implies that the demand for services such as energy, transport, water, health, etc. will increase and consequently exert pressure on the economy. At the same time there is increased pressure on urban infrastructure and services as there is net urban migration which also negatively affects the socio-economic development of the rural areas. In 2019, over 66 percent of South Africa's total population lived in urban areas and cities, an increase of 8% over the previous decade.[5][2] Of those living in urban areas it is estimated that 26% live in informal settlements where housing and equal access to basic urban services are critical issues[6][3]. Figure 2 shows the upward trend in CO_2 emissions in South Africa.

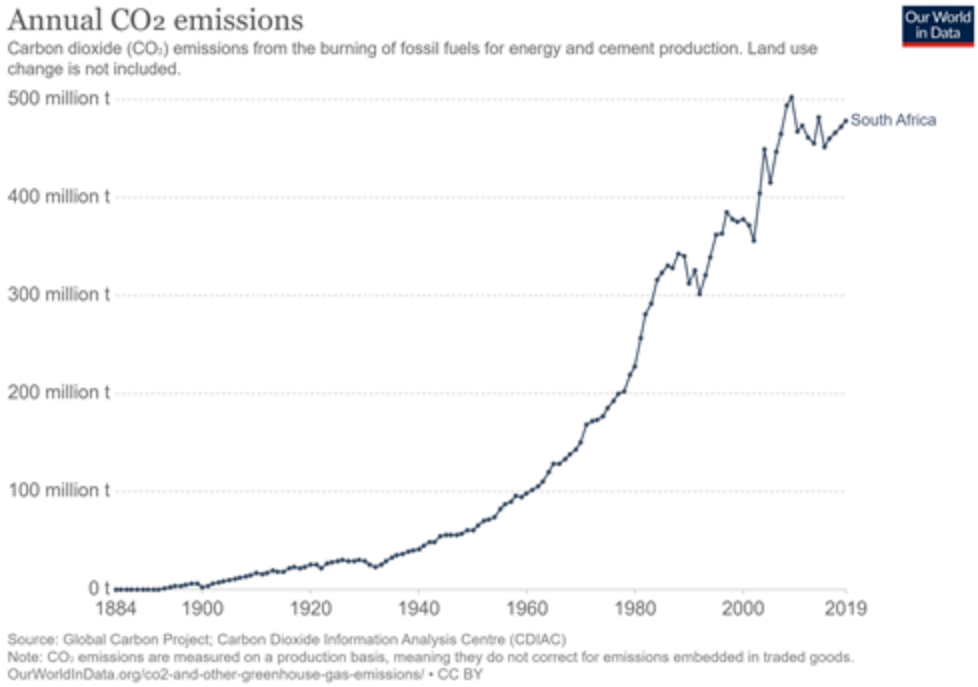

Figure 2: Annual Co2 emissions in South Africa[7][4]

Economy and employment

9. According to the World Bank, South Africa is classified as an upper middle-income country[8][5] and has a stagnant economy which actually shrunk in the last four quarters, most recently due to Covid-19. GDP decreased by 7.0% in 2020 following an annual real GDP increase of only 0.2% in 2019 and an increase of 0.8% in 2018[9][6].The 2019 annual real GDP growth rate was primarily led by increased economic activity in finance, real estate and business services, followed by general government services and personal services. A steep reduction in prices for key mineral exports affected the economy. From the end of 2019 the mining and quarrying industries and manufacturing both declined, including chemical products, rubber and plastic products; basic iron and steel, non-ferrous metal products, metal products and machinery; and motor vehicles, parts and accessories and other transport equipment industries. There has been decline across all sectors (except agriculture) since Covid-19. The following figure shows the makeup of the South African economy in 2019.

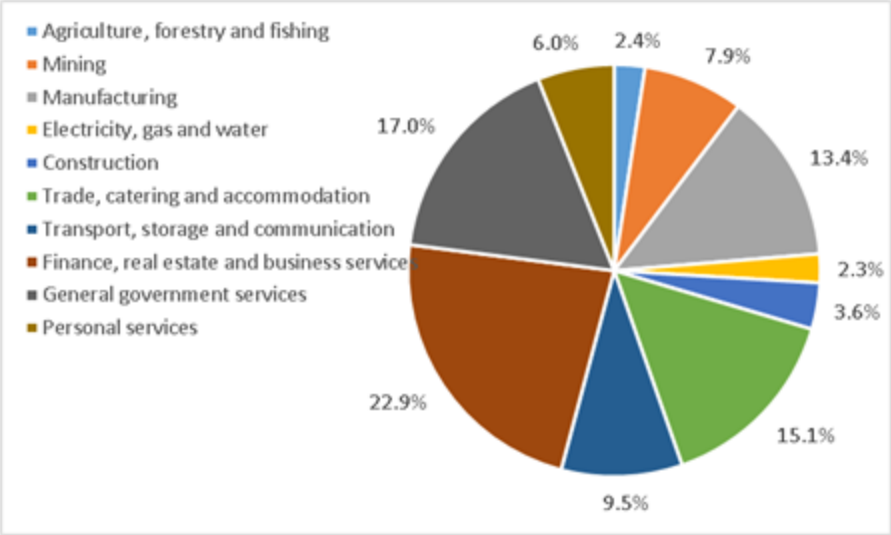

Figure 3: South African GDP Contribution in 2019 (Statistics South Africa 2020)

10. Small medium and microenterprises (SMMEs) are key to the South African economy yet they operate in a business climate that can be difficult and in a policy environment that is not adequately adapted to their specific needs. In South Africa, SMMEs account for about 34% of gross domestic product (GDP) and 60% of all employment[10][7]. Research published by the Small Enterprise Development Agency (SEDA) and the Bureau for Economic Research in 2016 aimed to set a benchmark for data relevant to the development of small businesses in South Africa. It estimated a total of 2,251,821 SMMEs across the formal and informal sector[11][8]. The vast majority of these are in the informal sector (1,497,860). Research by the Global Entrepreneurship Monitor (GEM) also shows that small businesses are significant contributors to job creation, creating more than 50% of all employment opportunities in South Africa and with even higher estimates for their contribution to GDP (at more than 45% of GDP). SMMEs have the potential to create and expand employment opportunities, develop entrepreneurial skills and enhance market opportunities. GEM has also collated expert views on systemic barriers to success for SMMEs[12][9].

11. However, according to the Ministry of Small Business Development, small businesses in South Africa have an exceedingly high failure rate, and the majority of the casualties are black and women-owned businesses. Research shows small businesses have only a 37% chance of surviving for four years and only a 9% chance of surviving ten years. 70% to 80% of small businesses fail in their first year, and only about half of those who survive, remain in business for the next five years.

12. Unemployment rates are very high. Unemployment in South Africa is shaped by race, gender, geographical and age demographics and currently the country has an unemployment crisis, in particular

relating to youth unemployment. The following table shows unemployment for the 2nd quarter of 2020[13][10]. Restrictions related to Covid-19 have compounded the problem.

	Unemployment rate	Unemployment change (Q2-Q1 2020)
Total	23.3%	6.3%
Youth (15-24)	52.33% *(NEET) Not in employment or education and training	-6.7%
Urban	15% (Q4 2019)	
Rural	35% (Q4 2019)	

*Unemployment, Retrenchments and COVID-19.

13. In this challenging context, significant pressure is building on government to create employment. The South African economy holds significant potential in terms of economic growth and technology innovation, and within the country?s developing just transition discourse and policy, the creation of new low-carbon industries with business and employment opportunities is critical to addressing the legacy human and environmental costs of the country?s fossil fuel-based industries. For example, communities in coal mining regions are faced with health impacts related to poor water and air quality. Green technologies have been positioned among the key strategic pathways to create new jobs and stimulate industrial development[14][11]. With job creation as a top priority of government and featuring prominently in the National Development Plan, the sector presents considerable opportunities in employment. For example, the findings of a 2011 report demonstrated that jobs associated with natural resource management are expected to provide around 43,000 direct jobs in the short term to over 230,000 direct jobs in the long term[15][12]. The facilitation of growth of green industries is also intended to mitigate the loss of employment in fossil-fuel based industries as jobs disappear due to economic and technological pressures.

Electricity sector

14. Energy utilisation in South Africa is characterised by a high dependence on cheap and abundantly available coal. South Africa also imports a large amount of crude oil and has a limited quantity of natural gas available. The country mines uranium which is exported. Enriched uranium is imported for South Africa?s one nuclear power plant, Koeberg. Eskom, a state-owned utility, is the dominant electricity generator in the country with a total nominal capacity of just over 37 GW. It generates approximately 95% of the electricity used in South Africa (with coal accounting for 90% of its fuel

mix), supplemented by the Koeberg nuclear station, hydroelectric and pumped storage schemes and wind.

15. The planned expansion of the Renewable Energy Independent Power Procurement Programme (RE4IP), as articulated in the Integrated Resource Plan 2019 (IRP), has set out significant increases in the proposed proportion of renewable energy in the total generation capacity. The IRP for Electricity sets out the government?s long-term aim at diversifying the power mix by introducing natural gas and renewables, including wind and concentrating solar power (CSP). For wind generation, a prospective 14.4 GW is to be commissioned by 2030 at an average annual rate of 1.6GW of wind capacity per year. Currently 2.5 GW of wind power is installed. While the options to diversify the country's electricity mix appear diverse, the affordability of electricity remains a key concern and, potentially, a constraint on the diversification agenda.

16. Since 2008, as demand rapidly started to exceed supply Eskom has introduced frequent ?load shedding?, defined as rolling blackouts based on a rotating schedule. Major contributors to load shedding include: lack of significant investments in the energy sector over the past 20 years, backlogs in infrastructure maintenance developments and metropolitan and municipality accounts which are in arrears by significant amounts. The result is unmet demand and thousands of polluting back-up diesel generators.

17. At the same time there are still millions without electricity access with an estimated 91.23 % of the country with electricity access. Electricity is also the favourite option for cooking in South Africa in urban and rural areas but 9% of the population still rely on solid biomass for their cooking needs and 4% rely on coal or kerosene, all with the inherent health risks associated with indoor air pollution.

Water and waste

18. South Africa is a water-constrained country, with or without climate change. The growing population and the prevalence of drought in South Africa put pressure on the demand for clean water resources which in turn puts pressure on wastewater treatment infrastructure and sanitation systems[16][13]. Climate change is likely to reduce water availability, though these effects will be unevenly distributed across the country. In general, climate change is likely to lead to weather events that are more intense and variable compared to past patterns, for example, sudden high volumes of rainfall leading to flooding, in addition to severe droughts in other areas.

19. With the significant drop in dam levels, urban areas are experiencing chronic water shortages. The pressure on water and wastewater treatment is amplified due to weaknesses identified in the South African water sector[17][14] which include a lack of attention to maintenance and sustainability; relative neglect of sanitation issues; government?s inability to sustain funding levels in the water sector; a lack

of capacity and skills; and a lack of forward planning. An example was in 2018 when Cape Town was on the verge of running out of water due to years of drought and inefficient water management.

20. South Africa is seen as leading the waste management sector in Southern Africa, when considering the life cycle of waste management. However, it is still behind other developed countries according to waste practitioners[18][15]. The country is moving up the waste management hierarchy (waste avoidance, reuse, recycle, conversion to energy, treatment before disposal) and exploring more environmentally friendly technologies, such as biomass use. To put the waste challenge in context, in 2017 South Africa generated an estimated 55.6 million tonnes of general waste and 52 million tonnes of hazardous waste. Of this, only 34.5% of general waste and 6.6% of hazardous waste was recycled or recovered. The remaining 93.4% of hazardous waste and 65.5% of general waste was disposed of in landfill sites. In 2017, municipal solid waste (MSW) contributed 23.1 million tonnes of general waste[19][16]. This equates to 1.12 kg per day per capita on average. Municipal waste collection services are the responsibility of local government. According to Statistics SA, the percentage of households whose solid waste was removed weekly or less was 61.5% in 2019. The remaining 34.1% (5.5 million) households had to make use of their own or communal rubbish dumps, or had no facilities for waste disposal at all. During 2017, this equated to about 7.8 million tonnes of municipal solid waste not disposed of in sanitary landfill sites. The same household survey found that although household recycling is extremely important, more than 80% of metropolitan households did not separate waste for recycling, and that only 6.1% actively recycled household waste[20][17].

Food systems

21. South Africa is food secure at a national scale, meaning that it currently either produces sufficient food or can import sufficient food to meet the food needs of its residents. However, 14% of South Africa?s population is vulnerable to food insecurity[21][18]. The food system has become increasingly consolidated in the last two decades with many agro-food value chains being dominated by large commercial organisations with sophisticated operations. At the same time, smallholder farmers face production and market related constraints relating to processing and cold chains, as well as entry barriers due to quality and quantity[22][19]. Agriculture is still an important part of the economy in terms of food security and jobs, and the National Development Plan estimates that the sector could potentially create 1 million jobs by 2030.

22. Climate change threatens food security through changes in rainfall affecting crop yields and livestock. Historically, unsustainable farming practices have also caused land degradation. The unreliable electricity supply also affects storage and processing activities with many sites needing large back-up diesel generators. To meet the new jobs target and address climate change, there will be an

expansion of irrigated agriculture, better use of underutilised land and support to commercial agricultural sectors. There are options to reduce the environmental impact of the food systems from improvements in irrigation, changes to mechanised inputs, food processing, storage and cold chain as well as in transport.

Role of cleantech

23. The increased promotion and adoption of clean technology innovations will not only support the energy sector but also strengthen the water, waste and food sectors and build resilience of the South African economy to climate change, while also having positive economic and social benefits through the promotion and support of entrepreneurs and innovation, and through its contribution to energy diversification and security. The potential beneficiaries are not only the entrepreneurs themselves, but all actors along the value chain, including distributors and retailers who might come from historically disadvantaged communities.

24. The need for South Africa to foster innovation and research on economic (as opposed to socio-ecological) grounds alone is highlighted by South Africa?s relatively low position in the Global Innovation Index (60 of 131), the Knowledge Economy Index (67 of 144) and the Global Competitiveness Index (60 of 141). In addition, innovation in cleantech has the potential to help South Africa, as the country with the largest carbon emissions profile in Africa, to achieve its policy commitment to transition away from its legacy of fossil-fuel-powered development that produce harmful environmental, social and economic conditions.

25. The circular economy can be a driver for cleantech innovation, particularly in contributing to climate change mitigation, as it encompasses such a wide range of sectors and technologies. The circular economy recognizes that natural resources are finite and aims to use waste materials or keep the materials in products in circulation for as long as possible: reusing, repairing, remanufacturing, sharing and recycling. While the concept of the circular economy is largely focused on developing new technologies and businesses, it also includes the notions of ?designing out? waste and restoring natural systems. Solutions related to biogas, water recycling and a reduction in new materials all have clear potential to contribute to GHG emission reductions and a low carbon economy.

26. In making the transition to a low carbon economy, the country is faced with complex interconnected challenges of structural unemployment, socio-economic inequality, lacklustre economic growth and resource-intensive economic activity and development. Although switching to greener, more sustainable industrialisation pathways present short and medium-term policy challenges, it can also create more resilient opportunities over the short, medium and long-term while simultaneously mitigating serious social-ecological risks.

27. This imperative has been made more urgent by COVID-19. Prominent analysts have positioned green innovation, particularly but not exclusively in the energy sector, as an important area of opportunity for post-COVID recovery. Due to this urgency, the Department of Mineral Resources and

Energy has brought forward the fifth round of bidding for Independent Power Producers for a projected 12 GW of generation capacity, the majority of which is to be sourced from renewable energy sources.

b) Root causes and barriers that need to be addressed

28. Certain fundamental features of the economy provide a challenging context for green industries to thrive. As outlined, first, South Africa?s economy remains reliant on fossil fuel-based electricity generation, which supports a historical network of mining and manufacturing entities. Secondly, slowing economic growth has been exacerbated by the impact of response measures to the COVID-19 pandemic.

29. Despite a number of initiatives, and the general recognition of the positive impacts of fostering innovation and commercializing innovative cleantech solutions, a number of challenges remain that limit cleantech innovation from having a transformative impact in South Africa. These have been identified by stakeholders consulted as well as during the terminal evaluation of GCIP supported under GEF5, and include: a fragmented cleantech ecosystem with limited connection between the support available; limited knowledge and awareness of the clean technologies market and its specific needs, particularly in the case of financing for innovative projects and end-users; limited and slow finance at particular points of the entrepreneur?s journey; a lack of business acumen amongst innovators in terms of business model development, market research, management, and legal requirements; a lack of clear links between innovators and the markets for their products; limited commercialization support and support to scale through linkages to markets and finance; the fact that support is focused in a few centres and previously disadvantaged groups have not been adequately supported or represented; and finally, complex business and innovation regulations, i.e. patent registration which hampers development. The barriers to change are described further in the table below[23][20][24][21].

Table 3: Barriers to Cleantech Innovation in South Africa

Barrier category	Description

Barrier category	Description
Lack of coherence in the cleantech policy and regulatory framework	South Africa has a number of good cleantech supporting policies and regulations; however, there is lack of coherence between them all. This is partly due to differing priorities and directives relating to green technology development of a wide array of departments (Economic Development, Science and Innovation, Water and Sanitation, Fisheries, Forestry and the Environment, National Treasury, Tourism and Trade, Industry and Competition). As an example, South Africa?s green economy objectives and the country?s other policies and priorities are misaligned, with substantial support still directed at energy- and carbon-intensive sectors. One government review of the country?s green economy policy concluded that ?the mix of measures appear to lack coherence and certainty? and ?the absence of long-term clarity on the instruments to be used and their interface creates policy uncertainty in the country and hampers industrial development? [25][22]. The publication of the National Policy Development Framework in 2020 seeks to address some of these concerns and entrench good public policy- making practices in South Africa by setting out clear principles for effective policy development and implementation. Entrepreneurs have also found that extensive government bureaucracy requiring lengthy and complex processes of engagement can be a deterrent or a risk to SMMEs whose capacity to navigate the system may be limited. In the renewables space, uncertainty around carbon pricing and REIPPP (renewable energy allocations) poses a risk to SMMEs that do not have the capital to wait for undefined periods before the next possible project.
Limited capacity to translate policy into action	As described, policy and regulation in South Africa is well articulated but, according to stakeholders interviewed, there are gaps when it comes to putting policy into practice and developing actionable implementation plans. For example, without clear action plans one review found that there was a lack of clarity on the role, scope and impact of the proposed mix of measures, including the funding available in green policy[26][23]. Another review of the landscape found that challenges to a green just transition included poor implementation capacity and poor planning[27][24]. Part of the reason behind this is a lack of resources, capital and technical skills, impeding planning and implementation. [28][25] South Africa has a Department for Planning, Monitoring and Evaluation (DPME) with the responsibility to monitor and evaluate the government?s service delivery and performance. However, a number of challenges to effective M&E remain, particularly at department level, including a lack of resources, inadequate information management systems; lack of a culture of coordination; a public sector focus on activities rather than outcomes; and existing legal frameworks that favour the silo approach[29][26].

Barrier category	Description
Poor institutional coordination	*Complex innovation ecosystem and confusing cleantech start-up assistance sector* The South African national innovation ecosystem is primarily state-led, with support from non-profit and non-governmental organisations, universities, technical colleges for vocational training, innovation hubs and accelerators, professional associations, industry players and finance capital. There is fragmented dialogue between universities/research institutes and the industrial sector with little project collaboration. It is not always clear what support is most appropriate to an entrepreneur and those within the ecosystem have limited knowledge about all the other stakeholders.
Limited access to markets and finance	*Limited access to suitable credit for cleantech start-ups* Limited access to suitable early stage and bridging finance for SMEs, particularly for cleantech, which require high initial investments, resources for research and development and support through to commercialisation and scale. There is a lack of pre-seed and seed funds to match the demand facing cleantech initiatives, limiting the ability of many SMEs to get to scale. For renewables, unpredictable periods between bid windows of the REIPPP renewable energy generation allocations make it difficult for small players to manage their cashflow between projects, particularly in construction and along the value chain. The combination of relatively high levels of risk and high levels of initial capital investment makes it difficult for initiatives to secure investments.
	Poor market access and promotion to support cleantech business growth opportunities There is an underdeveloped demand in South Africa due to lack of awareness and lack of market information around green technologies, emphasising the need to support increasing the public?s awareness of the capabilities and benefits of cleantech innovations.

Barrier category	Description
Limited Awareness/Skills shortage	Clean innovation technologies form part of a new sector in South Africa. As a result, the existing familiarity and skills available to develop, and make use of, new technologies is limited. Key sectors such as mining, transport, agriculture and construction, which are the most labour-intensive sectors in the economy, are locked into systems that use a workforce which has limited access to education and is operating on a low knowledge base for new and emerging technologies. Awareness building and communications is needed in South Africa to create awareness around what is available and to assess its performance levels in South Africa?s environmentally diverse conditions. Public officials often lack the capacity and skills to support green enterprises, limiting the possibilities for collaboration at a local level. There is a lack of understanding as to the impact that the cleantech sector could have in meeting national priorities and growth.
Capacity barriers	Accelerators and national support are present but it is insufficient, given how little capacity exists for cleantech innovation outside major metropolitan areas. Much of the support is fragmented and does not support the entrepreneur from concept all the way through to commercialisation. Entrepreneurs have highlighted continued capacity issues, including the lack of business acumen to develop their business models, to carry out market research, to navigate the legal requirements, to register IP and, importantly, to access finance. Furthermore, people living in rural areas tend to be locked out of opportunities since they are located far from universities, innovation hubs and other associated types of organisations. In addition, targeted capacity building is needed in key economic sectors (agriculture, tourism, manufacturing and transportation) in order to meet the objectives of the National Development Plan.
Intellectual Property Law Barriers/Technology transfer	Intellectual property rights restrictions limit the ability of economies like South Africa to perform technology transfers over time, locking enterprises into client dependency relationships with multinational corporations. South Africa has battled to identify, prioritise and support the transfer of key green technologies alongside increasingly large-scale investments in green and sustainable infrastructure. Clean technology innovations by their nature tend to be at the early stage of their technological development which requires more capital and support for testing, prototyping and validation.
Informational and awareness barriers	There is limited knowledge and awareness of the cleantech market and its opportunities. There is a lack of visibility of the available options, requirements and procedures to access technical assistance, finance and seed funding for cleantech innovators at national and international level. Furthermore, there is a weak link between innovators and other relevant stakeholders at the global level. In short, the cleantech sector is nascent in South Africa and early-stage engagement in identifying opportunities and linking potential entrepreneurs to available resources is essential.

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

2) the baseline scenario and any associated baseline projects

a) Policy baseline

31. Clean technology innovation in South Africa is on the rise and South Africa?s favourable policy environment provides the context for South Africa to commit itself to reduce GHG emissions and drive the growth and dissemination of clean technologies. South Africa has introduced policies that would transition the country to a low-carbon economy and mitigate climate change. There are definite policy instruments that promote clean technology innovation, offer funding support and reduce the myriad of challenges that inhibit the implementation of clean technologies. Green growth forms part of a number of overarching national development strategies.

32. In 2011, the government issued a white paper forming the **National Climate Change Response Policy**. The objective of the policy is to effectively manage inevitable climate change impacts through interventions that build and sustain South Africa?s social, economic and environmental resilience and emergency response capacity, while contributing fairly to the reduction of harmful emissions. The recent draft of the **National Climate Change Adaptation Strategy** seeks to identify key priority areas for interventions. South Africa is also in the process of formalising a **Climate Change Bill**, in alignment with the aims of the Paris accord and the National Development Plan, to ensure that ?every organ of state must coordinate and harmonise the policies, plans, programmes and decisions of the national, provincial and local spheres of government that exercise functions that effect or are affected by climate change or are entrusted with powers and duties aimed at the achievement, promotion, and protection of a sustainable environment?[30][27] .

33. Aligned with its climate change response, the South African Government recognizes the value of adopting a greener, more sustainable development path. Green technologies have the potential to not only stimulate economic growth, create new job opportunities, and mitigate ecological risks, but can also be implemented to improve living conditions and speed up service delivery, thereby fulfilling national social justice commitments. To adopt this green development path successfully, various efforts have been made by the state to support the green economy. The Government has committed to dual

policy priorities of industrialisation and greening (predominantly low-carbon strategies) of the national economy. Concretely, this has translated into several rounds of policy development to align these priorities, cascading across national and subnational levels.

34. In September 2020, the Cabinet approved the establishment of a Presidential Climate Change Coordination Commission (PCCCC), along with ?**South Africa?s Low-Emission Development Strategy 2050**?, and ?**National Waste Management Strategy 2020**?[31][28][32][29][33][30]. The Commission will be the primary driving vehicle for the country?s just transition policy and planning, which, while framed by job losses and supply constraints in the power sector, has a multi-sector (energy, water, land use) focus, as determined through rounds of broad stakeholder engagement. The Commission will build on other just transition groundwork carried out by the National Planning Commission (NPC), academia and other diverse civil society organisations.

35. The greening of the economy and its potential to enhance employment opportunities are both acknowledged in the country?s **National Development Plan** (NDP), which is the overarching long-term vision for the country?s sustainable and inclusive growth and development. More concrete measures to support this vision have been included in the country?s successive **Industrial Policy Action Plans** (IPAPs). South Africa's Department of Transport (DoT) has also published a **Green Transport Strategy** (GTS), in which it has committed to contribute to a 5% emissions reduction in the transport sector by 2050. However, despite the conducive policy frameworks, the country has not realised a broad greening of industry, nor have green entrepreneurial opportunities for small, medium and micro-enterprises (SMMEs) been mainstreamed[34][31]. The development of a series of sector-specific masterplans aim to provide concrete plans for collaboration across the public and private sectors to facilitate the implementation of IPAPs[35][32].

36. South Africa also has eight important cleantech-supporting policies in place as per the Global Cleantech Innovation Index (GCII), highlighting its strong policy approach to promoting cleantech[36][33]. These are summarised in the table below.

Table 4: Cleantech-supportive instruments (highlighted in the GCII)

No.	Policy Instrument	No.	Policy Instrument
1	**Carbon tax** / Carbon market ●Carbon tax introduced in 2019	5	Transport obligation; Transportation efficiency or emissions standards ●Green Transport Strategy includes efficiency and EVs

2	Clean energy tax incentives; **Tax incentives specifically for clean technology companies** ●12l Tax incentive policy, incentives for Energy Efficiency	6	Renewable energy standard and/or **feed-in tariffs;** Electric utility quota ●Renewable Energy Independent Power Producer Procurement Programme (REI4P)
3	**Green bonds**; government-backed or -owned green investment banks; green investment funds. ●SA Green bond launched in 2017, with an amount of USD$389 million investment will be used to fund the green industry and energy efficiency sectors	7	Government tendering/ green procurement ●Preferential Procurement Policy Framework Act (PPPFA)
4	Government investment/loans/grants for climate-friendly and eco-friendly technology ●See support described below plus **National Treasury Green Fund** of USD$172 million provides support across the Cleantech R&D value Chain especially at the high-risk early stage of clean technology development ●e.g., Department of Forestry, Fisheries and the Environment?s Green Fund and regional funds, e.g., Cape Capital Funds	8	Research institutes or government support university programs for clean technologies ●See organisations detailed below

37. A review of South Africa?s Industrial Policy Framework undertaken by Trade and Industrial Policy and Strategy (TIPS), pointed to some important policy measures that need to be in place to ensure that the green economy is supported and grown as carbon-intensive economic activities recede. Selected relevant recommendations were[37][34]:

? Data on firm-level dynamics must underpin policy development.
? A public platform sharing information on sustainability and industrialisation should communicate available technologies per sector, available finance, incentives and support programmes, and current and upcoming laws, regulations and standards.
? Industry roadmaps should include measures by the Government to reduce risk and unlock demand for green innovations.
? Sector resilience plans should focus on the needs of workers, SMMEs and vulnerable communities.

38. In 2014, the **Academy of Science of South Africa** report on The State of Green Technologies in South Africa also sought to identify the barriers that impede the development and diffusion of green technologies. Opportunities to address these barriers were identified as:

? Encouraging investment in green technology innovation across the various stages of development, from R&D to commercialization.
? Promoting green technologies amongst consumers and encouraging a shift in behavior patterns.
? Streamlining bureaucratic processes to fast-track green innovation and project implementation.
? Facilitating public-private partnerships to pool resources.
? Supporting localization.
? Providing adequate financial instruments.
? Providing greater business support to emerging and established green enterprises.
? Building skills and capacity to foster innovation and facilitate a greater uptake of green technologies.

39. In parallel to green growth, South Africa is committed to innovation as a key pillar for advancing its national priorities. This is evidenced in the President?s plans to strengthen the country?s capacity to take full advantage of rapid technological change. The president voiced the urgent need for the government of South Africa to increase support to foster science, technology and innovation[38][35]. In November 2018, the President announced the establishment of the Digital Industrial Revolution Commission, and emphasized that ?rapid technological advances of the Fourth Industrial Revolution are fundamentally changing the nature, profile and location of work?. The Commission will develop a comprehensive national plan to enable South Africa to take advantage of the Fourth Industrial Revolution.[39][36]

40. Recent reviews show that the South African national system of innovation (NSI) made significant progress between 1996 and 2016. For instance, the STI institutional landscape has expanded, and the number of publications has grown threefold. The participation of black people and women in the research and development (R&D) workforce has increased considerably, and doctoral graduation rates have risen. The latest **White Paper on Science and Technology** was approved in 2019.

41. South Africa is currently 48th in the Global Innovation Index, 3rd in lower middle-income countries and 2nd in sub-Saharan Africa[40][37]. With supportive policy, an innovation ecosystem has emerged in South Africa including government agencies, accelerators, incubators, research institutes, universities, private sector and social enterprises delivering services plus regular events, co-working and mentoring. *However, it is disjointed and lacks coordination*. An overview of this infrastructure is provided below and within the baseline projects description.

42. In October 2020, President Cyril Ramaphosa announced the country?s post-COVID-19 Economic Reconstruction and Recovery Plan to address the devastating impact of the pandemic on the country. The plan is linked to the vision set out in the National Development Plan, and includes a focus on reindustrialising the economy, focusing on growing small businesses. The plan also includes a green economy component, of which the circular economy is a key component.

b) Cleantech Innovation Ecosystem baseline

43. In comparison to the region, South Africa has a considerable network of public and private of actors investing in initiatives aligned to a green development path. The latter is growing. A review of the South Africa?s Entrepreneur ecosystem in 2017 identified 340 organisations (a 58% increase since 2015) providing support to the entrepreneurial ecosystem. Institutional support is available in terms of enabling legislation, policies, and capacity-building services, with the latter experiencing explosive growth over the previous two years, primarily fuelled by domestic sources including government and non-profit organisations specifically established to grow South African entrepreneurs. This is demonstrated in that 142 capacity development providers (82% of whom were South African) were identified offering their services to SMEs and a 36.6% increase from 2015 to 97 direct finance providers (80% of whom were South African), offering debt, equity, and grants to small businesses (see **Figure 4** and **Figure 5**)[41][38].

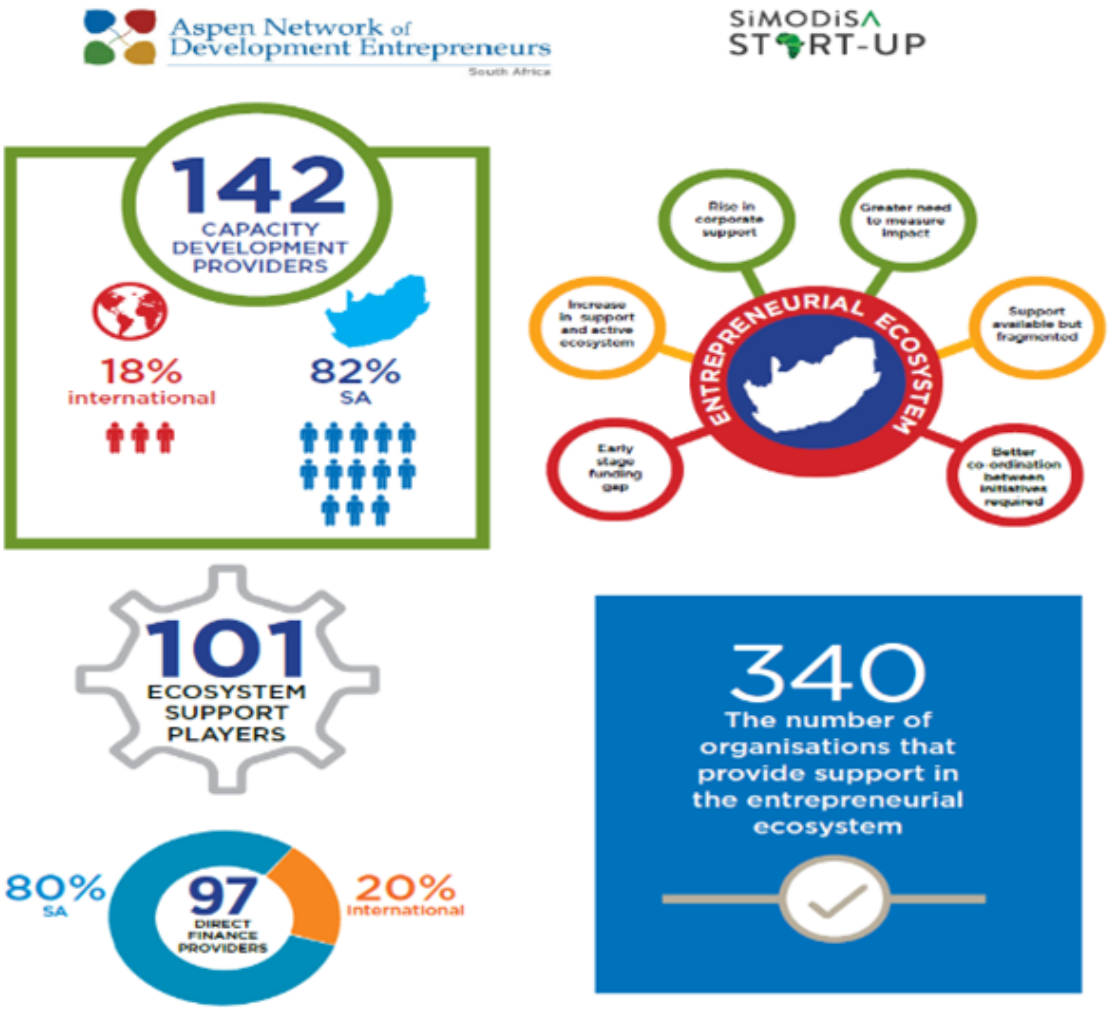

Figure 4 Increase in Support available for South African Entrepreneurs and Start-ups (2017)

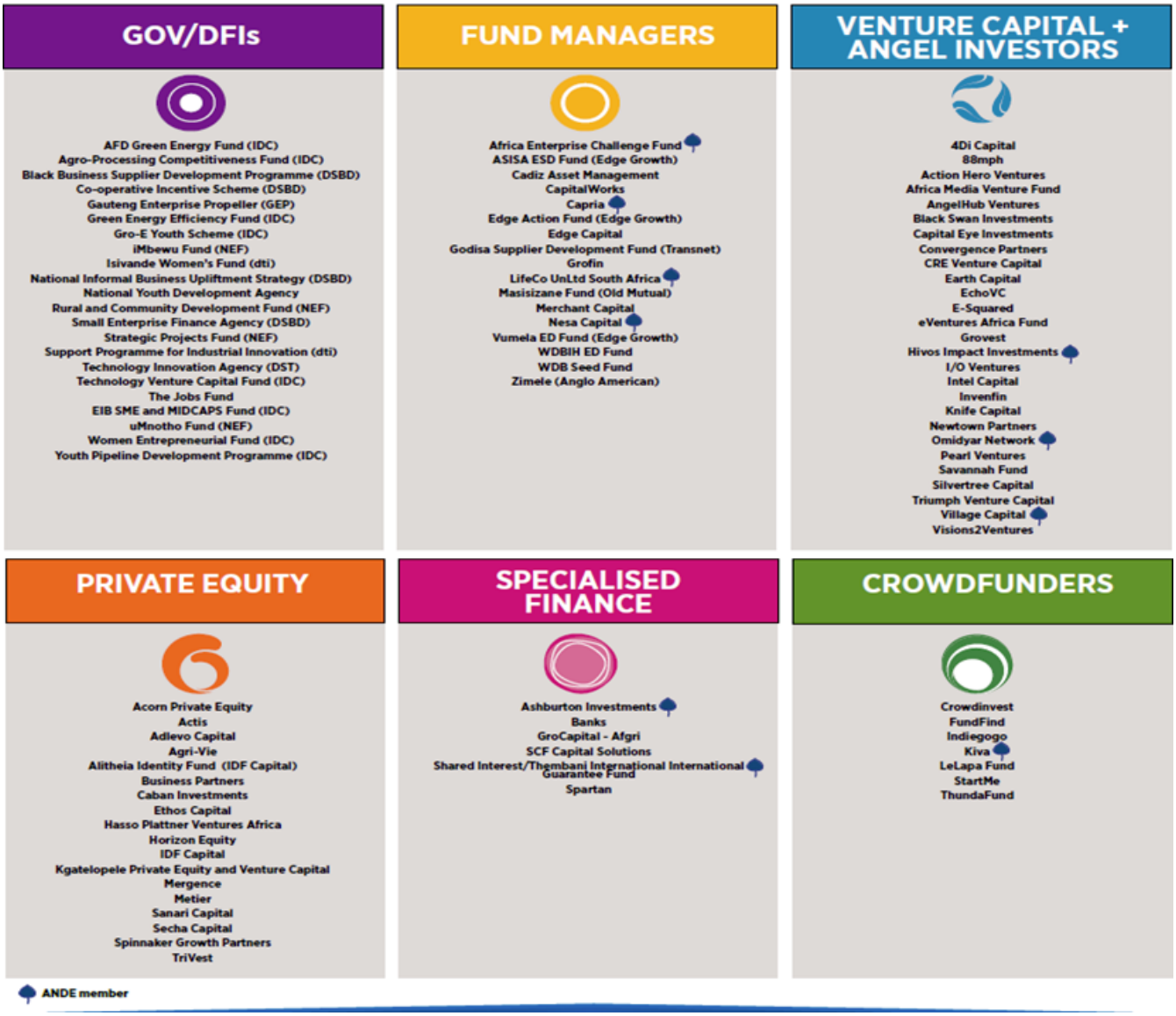

Figure 5 Summarising the results of the 2015 Aspen Network of Development Entrepreneurs (ANDE) South Africa chapter survey

44. Legislation and policy support is provided by a number of government departments and agencies. These include the **Department of Science and Innovation (DSI)** [42][39] which is responsible for policy related to realizing the potential of science and technology in the development of South Africa. The **Department of Trade, Industry and Competition (dtic)** is responsible for commercial and industrial policy and the **Department of Forestry, Fisheries and the Environment directives relating to green**

technology development or use the Environment (DFFE), formerly known as Department of Environmental Affairs (DEA), is responsible for environmental and climate change policy.

45. Established under the DSI, the **Technology Innovation Agency (TIA)** is a national public entity that serves as the key institutional intervention to bridge the innovation chasm between research and development from higher education institutions, science councils, public entities, and private sector, and commercialisation. The mandate of TIA is derived from the provisions of the Technology Innovation Act (Act 26 of 2008), which establishes TIA to promote the development and exploitation, in the public interest, of discoveries, inventions, innovations and improvements. The object of TIA is to support the State in stimulating and intensifying technological innovation in order to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations.

46. Along with TIA, South Africa?s **Higher Education Institutions (HEIs)** form an integral part of the National Innovation System and the Cleantech ecosystem with a particular strong focus on Energy Efficiency, Renewables, Water Efficiencies and Waste Beneficiation in close partnership and collaboration with the relevant Science Councils.

47. South Africa has a strong history of innovation supported by a numerous institutions including the **Council for Scientific and Industrial Research (CSIR),** an entity of the DSI which is one of the leading scientific and technology research, development and implementation organizations in Africa. It covers a range of sectors under cleantech and carries out research, development and innovation of transformative technologies and aims to accelerate their development as well as taking ideas forward towards market. It also offers industry innovation support as well as support on a CSIR-wide basis for intellectual property (IP) management and technology transfer activities. In addition, the **Water Research Commission (WRC)** focuses on R&D in priority water and sanitation areas.

48. The Innovation Enabling and Support Unit of TIA established the **Technology Stations** Programme to enable South Africa?s Universities of Technology to provide technology development services to small and medium enterprises and technology entrepreneurs. Through specialised knowledge and technology application, the programme aims to enhance competitive capability. Clean Technology entrepreneurs are key users of the Technology Stations.

49. Established under dtic the **Small Enterprise Development Agency (SEDA)** provides business development and support services to small enterprises through its national network in partnership with other role players in the realm of small enterprise support. SEDA also implements programmes targeted at business development in areas prioritized by the Government. SEDA has 76 incubators, some of which are stand-alone, some based at universities and at universities of technology. The **Small Enterprise Finance Agency (SEFA)** provides funding for SMMEs.

50. The South African Renewable Energy Technology Centre is based at the Cape Peninsula University of Technology (**SARETEC)** and offers specialized industry-related and accredited training for the entire renewable energy (RE) industry along with tailored short courses and workshops. Although it is primarily a training centre it is now developing its capacity to assist in the transfer and

commercialisation of technology from academia into renewable private sector for the benefit of the South African economy.

51. South Africa has also pursued the development of **Special Economic Zones (SEZs)** to support industrialisation. The **Atlantis Special Economic Zone** is particularly focused on creating a supportive business environment for green businesses, offering special incentives and other modes of support[43][40][44][41]. The Atlantis SEZ is a collaboration between the dtic, the Western Cape Provincial Government, the City of Cape Town and Wesgro.

52. In addition to the institutions making up the cleantech innovation ecosystem, several competitions and support incubators have sprung up over the last five to eight years. At least 18 cross-sectoral entrepreneurship platforms and incubation platforms have been identified (see Annex M). More generally, there are estimated to be 105 business incubators across South Africa, although there is a strong focus in three provinces ? Gauteng (33% of the incubators), Kwazulu-Natal (15%) and Western Cape with 14% of business incubators[45][42]. *However, in the area of Cleantech, there remains limited activity in both competitions and incubators.* The Climate Innovation Centre in Gauteng Province, the South African Renewable Energy Business Incubator in Western Cape, and Invotech in KwaZulu Natal are forerunners in the Cleantech Incubation space of South Africa.

53. Cleantech enterprises are increasingly understood as being an integral part of urgent efforts to stimulate a slowing South African economy. In July 2020, the Solar Impulse Foundation, in partnership with GreenCape and the International Cleantech Network (ICN) launched an initiative to support the development of 1000 clean and profitable initiatives to protect the environment. In the civil society domain, the Institute for Economic Justice (IEJ) in partnership with 350 Africa.org and the Climate Justice coalition drafted a key report arguing for a "Just Recovery" plan for the post-COVID-19 South African economy which includes among its recommendations to pivot to an expanded green economy[46][43].

c) Baseline projects to support small businesses and innovation in the green economy

Government Support and Programmes

54. The South African Government has committed to unlocking the potential of SMMEs through various mechanisms[47][44]. It has made grants available to SMMEs in different sectors. The Department of Trade, Industry and Competition (dtic)[48][45], for example, has a number of programmes and grants in place to encourage new SMMEs and create employment in South Africa, along with

SEDA, TIA and the Industrial Development Corporation (IDC). Annex M includes details of programmes and grants under TIA, dtic and IDC to encourage SMME and employment creation and development.

55. TIA has been supporting start-ups and SMEs through its **SME Seed Fund** and Seed Fund for Higher Education Institutions (HEIs) for which TIA has signed several Memorandums of Understanding (MoUs) with various Regional Agencies, universities and incubators around the country. These MoUs aim to provide a framework for collaboration and discussions between parties in various areas, which include:

a. Strengthening the collaboration amongst research and development (R&D) undertaking institutions in various provinces, as well as industry.

b. Leading and driving the regional Innovation System with more emphasis on Regional Innovation Strategies and regional Innovation Forums.

c. Strengthening entrepreneurial activities with particular emphasis on ensuring vibrant incubation programs that provide a conduit for R&D from universities and state-owned enterprises and industry.

d. Ensuring appropriate innovation enabling skills mainly at Regional Development Agencies for Innovation Management, innovation skills for targeted industries, green economy and biotechnology, to ensure that innovation contributes to the socio-economic development of the respective provinces.

56. TIA's programmes aim to reduce the barriers experienced by other funds and support mechanisms, especially in high risk, early-stage opportunities with commercialisation potential. Thus co-investment, or syndication, with these is strongly preferred. Funds do not compete with other existing funds such as **IDC?s Technology Venture Capital Fund or Khoebo Innovation Programme**, or any other available start-up funds, but strives to act in a synergistic fashion to facilitate early-stage commercial uptake. It is, therefore, a 'fund of last resort' for SMMEs and entrepreneurs with a view to ensuring that strong opportunities are not lost to South Africa because they are too early and high risk for other early-stage funds. To this extent, TIA continues to build relationships and make co-investments with such entities to facilitate early-stage commercialisation.

57. In addition, TIA?s funding programme does not replace, nor duplicate, the activities of existing privately and publicly funded incubators and technology transfer centres; the intention is to complement such initiatives. TIA is unable to provide funding through any of its instruments, directly or indirectly, for state/other funded commercialisation initiatives such as incubators. The intention of the Seed Fund programmes is to fund projects or companies that are otherwise associated with incubators, should proposals for funding meet the relevant criteria and be approved after the normal screening and approval processes. TIA?s work and funds are the key baseline from which GCIP has been designed. GCIP aims to fill support gaps that TIA does not currently provide.

58. Under TIA, the **uYilo eMobility Technology Innovation Cluster Programme** has been active since 2013 on enabling, facilitating and mobilising electric-mobility in South Africa. The multi-stakeholder collaborative programme is aligned to global technology advancements across transport,

energy and ICT that e-mobility impacts on. uYilo has created a footprint in local industry while also leveraging on international exposure through government lobbying, industry engagement, enterprise development, thought leadership and skills development, with the aim of exploiting the opportunities of an emerging industry for economic, social impact and industrial knowledge gain. uYilo facilities are co-located at Nelson Mandela University and it is in a prime position to also increase engagement within the higher education sector on various matters of skills development and transfer.

59. Since 2014, uYilo has been facilitating and coordinating the **Kick Start Fund**, an agile mechanism to fund applied research and development that leads to the creation of products and services within the areas of cleantech related to energy storage, electric vehicle systems, charging infrastructure within smart grids and connected cars[49][46] for local manufacturing of a product or, delivery of a service. GCIP will widen the potential applicants to uYilo?s services and will support appropriate entrepreneurs in their engagement with uYilo.

60. The **National Cleaner Production Centre of South Africa (NCPC-SA)** is a national programme of government that promotes the implementation of resource efficiency and cleaner production (RECP) methodologies to assist industry to lower costs through reduced energy, water and materials usage, and waste management. It is hosted by the CSIR on behalf of the Department of Trade, Industry and Competition (the dtic). Initially a co-operation programme between South Africa and UNIDO with financial assistance from the dtic, CSIR and the Governments of Austria and Switzerland, the NCPC-SA is now a member of UNIDO and UNEP?s global resource efficiency and cleaner production network (RECPnet) and plays a leading role in the African Roundtable on Sustainable Production and Consumption (ARSCP). As part of its work, the NCPC-SA is in a position to identify potential cleantech innovations and to work with the GCIP to help the entrepreneurs to develop these further.

61. Run by the WRC, the **Water Technologies Demonstration Programme (WADER)** focuses on innovation and impact in water and sanitation. It provides technical support taking solutions from TRL 4 to TRL 6 (up to lab testing) before testing on site. The WRC then play a brokerage role and connect technologies to TIA to move towards market. The GCIP will work with WRC on helping entrepreneurs to take their innovations to commercialization once they have exited the WADER programme.

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

investment, 3.3 million tonnes of CO2 have been mitigated annually and an additional 975 MW of clean power installed. This year already, PFAN has facilitated at least 69 investment-ready projects. PFAN has a chapter in South Africa and has already interacted with alumni from the GEF 5 GCIP.

International Agency Initiatives that provide a baseline for GCIP

63. Listed below are a few selected initiatives implemented by International agencies that create a further enabling environment for the iimplementation of GCIP under GEF 7. These projects have created both an improved policy environment for climate action, innovation and an enhanced capacity in the workforce as well as youth appetite for innovation and entrepreneurship amonst others.

The Deutsche Gesellschaft f?r Internationale Zusammenarbeit (GIZ)

64. Energy Efficiency in Public Buildings and Infrastructure Programme (EEPBIP): Through the various workstreams of each partner, the EEPBIP prioritises both the public sector and the private sector by:

a. Increasing energy savings potential within municipal, provincial and national buildings and infrastructure such as public buildings, streetlights and waste water treatment plants
b. Mitigating climate change through energy efficiency interventions within the public sector
c. Energy efficiency projects and policy development
d. Capacity building and awareness raising within the municipal, provincial and national spheres of government
e. Enabling private sector investment to implement public sector energy efficiency projects through the establishment of a partial credit guarantee and energy performance contracting
f. Enhancing the Energy Service Companies (ESCO?s) market by supporting the development of small and emerging ESCO?s.
g. Supporting job creation and enterprise development

65. Addressing climate change in South Africa: This enables South Africa to create a legislative framework on which to effectively implement appropriate national climate action measures, in both adaptation and mitigation. The Climate Support Programme (CSP) supports the DEA in achieving ambitious climate action objectives, strengthening DEAs catalytic role in engaging sub-national and other national government departments such as Department of Energy, Department of Transport (DoT), Department of Public Works, and the Department of Agriculture, Forestry and Fisheries to implement the so-called ?Flagship Projects?.

66. TVET and the promotion of innovation for green employment: The aim is to improve coordination of ministries, TVET colleges, technology transfer institutions and companies. This is carried out in experiential learning projects: in a way that is practical, visible and replicable that use hands-on training and applied technology transfer, for example for:

a. the installation and maintenance of solar water heaters and photovoltaic systems,
b. water/wastewater and waste disposal management,
c. increasing energy and resource efficiency in production processes,

d. increasing local content in technological components for equipment that is used for renewable energies.

US Agency for International Development ? USAID

67. USAID South Africa Low Emissions Development Program: The program worked with municipalities to provide targeted technical assistance to develop LED projects, building capacity and creating an enabling environment for LED at the subnational level to produce sustainable results including: providing technical assistance to 31 LED projects; mobilizing or leveraging more than $200 million to support LED initiatives; reducing 858,000 metric tons of carbon dioxide equivalent (CO2e) by 2030 through program interventions; developing 12.95 megawatts of clean energy generation capacity; providing 28 institutions with improved capacity to address LED issues; and assisting in proposing, adopting, or implementing 12 laws, policies, regulations, or standards to address LED.

68. Youth Labor Market Solutions to Promote Inclusive Economic Growth Activity: The three-year project in South Africa with Harambee and a mission to provide unemployed, poor and disadvantaged youth who have talent and potential, but are at risk of long-term unemployment, the opportunity and enablers to match themselves to work opportunities, and to bridge their work-readiness gaps.

Competitions and Entrepreneur Programmes

69. The competition-based approach to promoting environmental sustainability has been growing in popularity in South Africa. At last count, at least 11 competitions exist in the entrepreneurship and innovation arenas, which conducted by government and private institutions alike (see Annex M). In each case, the GCIP will be building on these initiatives by working with the host organisations and by offering further commercialization services to those exiting these programmes.

? The Greening the Future Awards recognises and celebrates individuals and organisations that have contributed greatly to environmental sustainability on an annual basis. These awards are presented across a variety of categories, including water care & water management; energy efficiency and carbon management; innovation in renewables; and biodiversity/natural resource management.

? Similarly, the Gauteng Innovation Competition, an initiative of the Innovation Hub, Gauteng Growth and Development Agency, and Gauteng Department of Economic Development, seeks innovations that address key service delivery challenges in the province in the fields of Green Service Delivery and Mobile Service Delivery.

? Focusing more on innovation rather than energy issues, the SAB Foundation Social Innovation Awards seeks product and process innovations that improve the livelihoods of women, youth, rural populations and people living with disabilities.

? With a focus on the development of entrepreneurial skillsets, initiatives such as Seedstar and Innovation Summit focus on developing pitching skills and supporting entrepreneurs to reach national, regional and international investors.

? The Imvelisi Enviropreneur Programme from the DSI in partnership with GreenMatter, Young Water Professionals and DFFE, is designed to assist entrepreneurs at the ideation phase in the biodiversity and water sectors.

? Future Females Business School, in partnership with UK-South Africa Tech Hub has a new programme focusing on supporting South African women entrepreneurs through the Future Females Business School GreenTech programme.
GCIP in South Africa

70. The original SA Cleantech competition was the precursor to GCIP in South Africa, as outlined in the introduction. It was coordinated by the Department of Trade and Industry (now dtic) through the National Cleaner Production Centre of South Africa (NCPC-SA), in cooperation with the Department of Environmental Affairs (DEA ? now DFFE), the Department of Science and Technology (DST ? now DSI) through the Council for Scientific and Industrial Research (CSIR) and the Technology Innovation Agency (TIA). The success of the 2011 SA Cleantech attracted a wide range of private-sector interest, identified 24 semi-finalist companies and three winners across three categories, and which allowed it to go into a second phase in 2013.

71. During 2014-2017, the GCIP South Africa competition-based Accelerator successfully underwent four cycles with the originally allocated resources from GEF5. During the four years, applications were received from 274 entrepreneurs and 102 were selected as semi-finalists and received GCIP support . Beyond this successful reproduction, five South Africans were exposed to the training methodology, and three of them have been involved in delivering parts of the 2017 (4th cycle) National Academy and Business Clinics, together with Cleantech Open's international experts.. During the transition to full national ownership, TIA launched the 5th cycle in 2018, exceeding the highest level of registrations reached in earlier cycles (231 versus 221 in 2016). A 6th cycle was completed in 2021. This confirms TIA?s ability to promote and implement the competition-based Accelerator and provides evidence that this aspect has moved beyond a pilot activity, to an operational mode.

72. Scaling up, in the sense of extending the initiative and results to a larger geographical area, was observed through reaching applicants and finalists outside of the principal urban centres where the main promotional activities and training were carried out. Such outreach has confirmed that the aspiration to go beyond areas with the highest concentration of cleantech start-ups (e.g., Gauteng, KwaZulu-Natal, Eastern Cape, Western Cape) was partly realised, with notably low volumes of participation.

73. Despite the long list of potential support for South African entrepreneurs, there are still clear gaps in support services for cleantech innovators. In particular in providing services from concept through to commercialization and in providing support outside the principal urban centres. GCIP will work with the existing programmes by partnering with them and incorporating them into a national platform, by directing GCIP alumni to them and by building on the existing work to ensure there is no duplication.

3) the proposed alternative scenario with a description of outcomes and components of the project;

74. The proposed alternative scenario will be the implementation of a new Global Cleantech Innovation Programme in South Africa ? Accelerating cleantech innovation and entrepreneurship in

start-ups and SMEs towards circular economy and creating green jobs (further referred to as GCIP South Africa) which forms a part of the GCIP Framework that aims to nurture cleantech entrepreneurs around the world.

75. GCIP South Africa aims to build on existing initiatives and the success of the initial GCIP whilst also addressing the continued gaps and barriers identified in South Africa?s cleantech innovation ecosystem. Specifically, the project will provide the necessary linkages to strengthen and promote connectivity across the fragmented ecosystem, it will provide the missing seamless support to entrepreneurs from concept phases through to commercialization, it will expand support geographically from the main cleantech ?centres? to cover at least five provinces, and it will establish a new much-needed financing mechanism for early-stage finance.

76. The premise of the project is built upon stakeholder consultations and the conclusions and recommendations from the Terminal Evaluation of the GEF5 GCIP South Africa project. Therefore, the project focuses on providing services that were not covered by GCIP under GEF 5, nor by other existing initiatives. GCIP South Africa will support entrepreneurs and SMEs at the concept phase (pre-Accelerator) and help them to be ready for an accelerator; it will increase outreach in the provinces for a national accelerator; it will run national cleantech innovation challenges to increase private sector support; it will provide advanced acceleration support to qualifying GCIP alumni on exiting the accelerator; and it will support South African innovators and entrepreneurs on the next step (post-accelerator) to link to markets and financiers to commercialize their products and services. This new, gender responsive, support will, in turn, transform the nascent cleantech market into a dynamic and vibrant one which will have a long-lasting positive effect on the national economy and the global environment. The aim is to ensure that entrepreneurs with economically viable and transformative cleantech innovations are able to follow a continuum of support to commercialization and scale-up whilst being part of a cleantech community.

77. In parallel to the entrepreneur support, the project will be building capacity within national institutions and partner organizations for the successful implementation of the accelerator approach and sustainability of the cleantech ecosystem; and supporting and working with national policy makers to develop the policy and regulatory instruments to catalyze and support cleantech innovations.

78. The following table shows how the project will address barriers and build upon the lessons learned from GCIP South Africa supported under GEF5.

Table 5: How this GCIP project will build on GCIP supported under GEF5

Barriers	**Description**	**Achievements/Lessons/Recom-mendations from GEF 5 GCIP**	**Enhanced Project Component/ Activity for GCIP**

1. Barriers faced by SMEs in developing and scaling innovative cleantech solutions	Limited access to finance	Majority of GCIP alumni are facing challenges with access to seed and early-stage funding to grow and scale their enterprises	Post acceleration support - 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	-49 trained experts (many of them also alumni) as mentors, trainers and judges, host institution personnel -Alumni raised the pressing need for more qualified technical advisors to serve on judging panels and as mentors.	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 to be provided to support business plans and marketing strategies
	Lack of awareness in businesses and private sector	Need to increase private sector support.	National (industry-based) Challenges established and new advocacy and communication strategies
2. Barriers related to cleantech innovation and entrepreneurship ecosystems	Absence or weak enabling policy and regulatory environment	-Supported development of cleantech ideas/solutions/ services with GHG emission-reducing potential -Enhanced economic performance through boosting the functioning of start-ups, promoting SME entrepreneurism, stimulating job creation -A draft policy scoping study was available and a follow-up survey was launched -Too broadly-scoped policy strengthening ambitions before, specify local policy strengthening need based on scoping study.	Policy support provided relating to identified needs including circular economy action plan, intellectual property rights, green procurement and strengthening ecosystem

	Weak and non-functioning innovation ecosystems	-National level coordination has been strengthened by the first phase with the host institution -Lack of coherence from stakeholders, especially at the provincial levels, and thus the need to strengthen provincial ecosystems	Development of a platform, and national and provincial ecosystem strengthened to promote and support cleantech innovation and entrepreneurship locally
3. Systemic global barriers	Lack of public awareness	-Some alumni were provided with local and international opportunities to showcase their ideas -Build up common understanding of cleantech innovation and business acceleration on the part of many key national and international ecosystem actors	Post accelerator support to include mentorship and partnership support, including global opportunities

79. The project will adopt an inter-disciplinary and multi-stakeholder ?ecosystem approach? involving start-ups and SMEs, national ministries and institutions, academia and research centres, industrial associations, financing institutions, foundations, large corporates, venture capitalists and utilities within South Africa and abroad. The project will closely coordinate with other similar national and international efforts as well as other GCIP partner countries to maximize synergies, knowledge and information exchange, as well as to facilitate international market access and expand financing options.

80. The GEF5 GCIP project had put in place a sustainability model that leaned on the role and capabilities of the Technology Innovation Agency (TIA) to carry forward the work of the original project. As a key institution established to promote technology innovation, TIA is in the mandated position to act as the vehicle for national co-ordination for the cleantech innovation ecosystem. GCIP will again work with TIA and other ecosystem counterparts to de-risk and support cleantech innovators and continue to play a proactive coordination role as a hub for all innovation and entrepreneurship initiatives in South Africa. A list of key stakeholders that comprise South Africa?s cleantech innovation ecosystem is provided in Annex M.

81. The project aims to strengthen innovation and entrepreneurship for environmental protection in the area of climate change mitigation. In line with GEF 7 programming directions, innovations that will be supported will be focused on e-mobility, energy efficiency, mini-grids with storage, sustainable cities and food systems. Given the context in the country and in close consultation with national stakeholders, the following areas will be prioritized:

Industry 4.0 which results in GHG emissions reduction

? Digital production and manufacturing: digital and interconnected manufacturing processes leading to resource efficiency and waste minimization

? Big data: Advanced collection, processing and analysis of data for evidence-based decision making for environmental sustainability

? Internet of things (IoT): Network of interconnected sensors for machine-to-machine communication to enable preemptive and real-time maintenance and operation of infrastructure (e.g., energy, water, transport etc.) leading to cost savings, GHG emissions savings and improved safety and quality control

Circular economy which results in GHG emissions reduction

? Material engineering: promoting the use of recycled content and alternative sources of feedstock for plastics and redesigning products to foster reuse, recycling, shared use, and extended life resulting in GHG emissions reductions

? Consumer use: changing individual and business behaviours to catalyze demand for sustainable products and processes and resulting in proven GHG emission reductions

? Recovery and recycling: improving efficient waste collection, tracking, management and trade markets to prevent improper incineration and discharge into waterways and to promote recycling of material back to the first intervention point

Sustainable energy and green transport:

? Sustainable energy breakthroughs with systemic impacts, and decentralized renewable power with energy storage, and energy efficiency gains

? Low-carbon transport services: especially improved energy efficiency in motor vehicles and public transport systems to reduce fossil-fuel related GHG emissions (in line with the Green Transport Strategy)

? Electric vehicles and non-motorized transport: no-emission transport systems and alternative fuels

Water efficiency and management resulting in GHG emission reductions:

? Smart irrigation, remote water monitoring and control, leak detection, water management control and agricultural solutions

? Water treatment and delivery, decentralized infrastructure and digital solutions

? Wastewater treatment

Sustainable land management / food systems

? Sustainable management of production landscapes addressing nexus issues such as food security, local livelihoods, and environmental security

? Diversified agro-ecological food systems for improved resource efficiency in agriculture and food production

? Integrated landscape management and restoration ? with a focus on sectors with significant socio-economic impact such as farmer-managed natural regeneration, sustainable supply of wood and biomass energy, and agro-forestry

82. The project has three substantive components, in line with the global GCIP framework pillars. These have been designed based on the current needs of South Africa, also taking into account recommendations from the GEF 5 GCIP terminal project evaluation and feedback from GCIP participants. An overview of the pillars is shown below, including how this project is expanding the support that was provided under GEF 5.

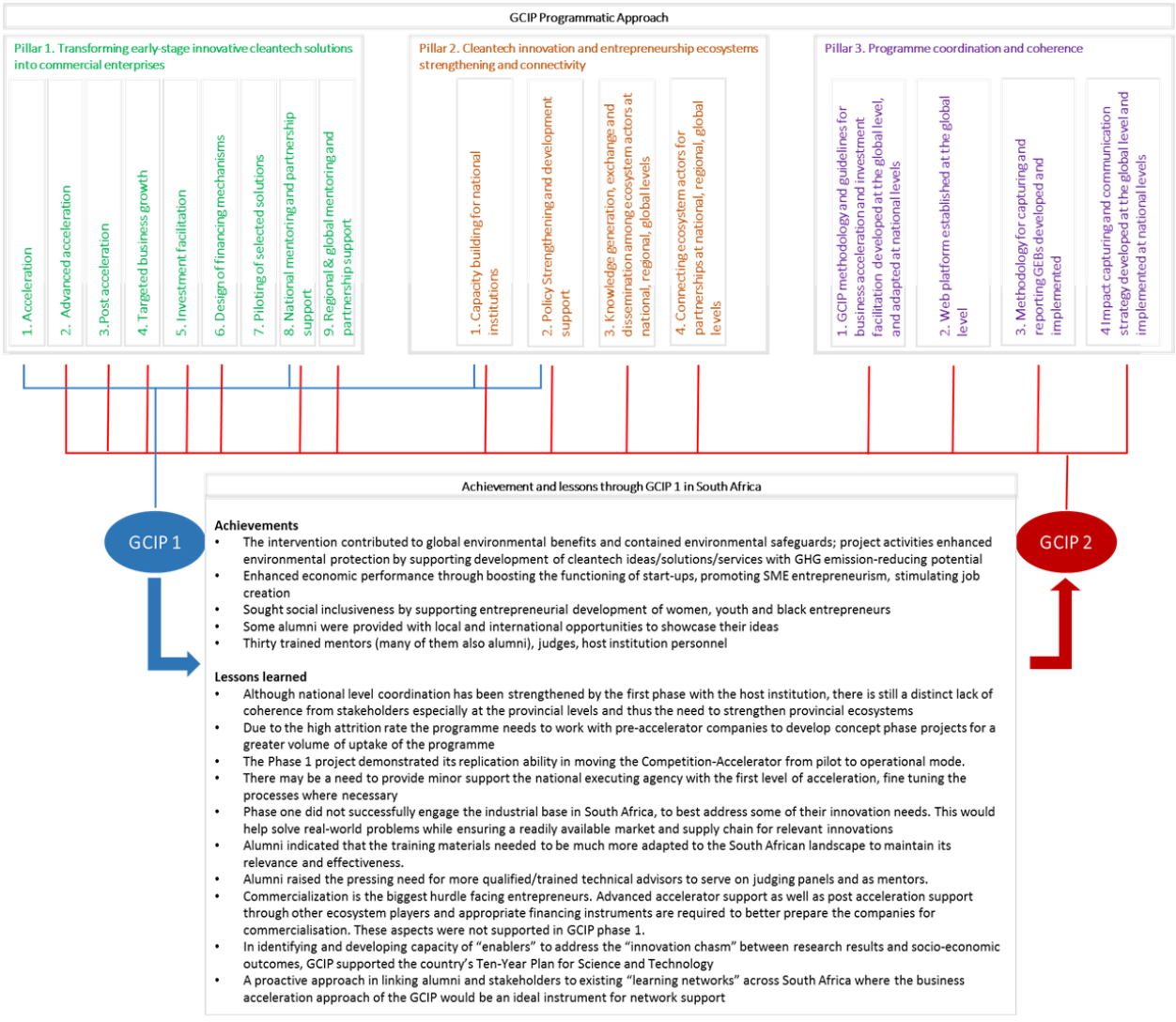

Figure 6: GCIP programmatic pillars and additional support provided by this project over GCIP supported by GEF5

76. The following figure shows the theory of change for the project.

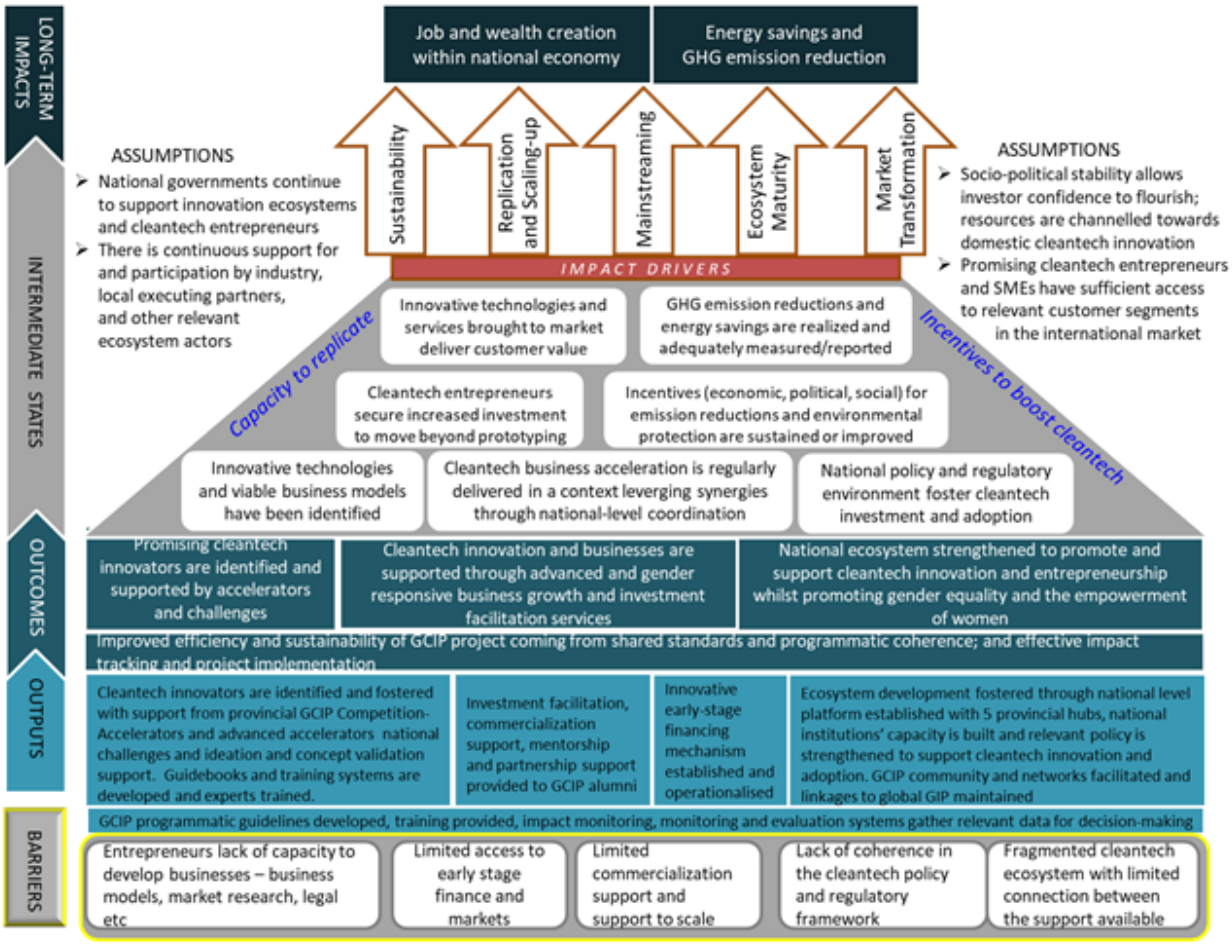

Figure 7: Theory of Change for GCIP South Africa

Brief Description of the Theory of Change

The project has been designed to address the barriers set out in the previous section. Specifically, the barriers faced by innovators will be addressed by the provision of support from concept through to commercialization while helping them adopt different approaches to entrepreneurship. This will include: provision of ideation and concept validation services, holding annual accelerators, advanced accelerators to provide follow-on support to the GCIP alumni as well as targeted support services, investment facilitation, mentorship and partnership support - across the country supporting at least 200 entrepreneurs. To assist in early-stage financing, a new South African financial mechanism will be established to support the deployment and scale-up of cleantech solutions. To support these outputs, GCIP guidebooks will be developed for South Africa and at least 120 business innovation and entrepreneurship experts will be trained in and certified to an enhanced approach to business model development.

The fragmented cleantech innovation ecosystem will be addressed with the establishment of a national cleantech innovation platform linking all South African support and the development of at least five provincial GCIP hubs to provide support to entrepreneurs. Capacity gaps will be addressed with targeted capacity building for policy makers and institutional actors, and the policy and regulatory environment will be strengthened with support to address the gaps in areas such as IP, behaviour change in value chains and consumers and promoting a circular economy. Networking, advocacy, knowledge generation and exchange will enhance awareness amongst ecosystem stakeholders and increase their impact of GCIP whilst global GCIP cooperation and exchange will increase opportunities for South African entrepreneurs.

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

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

84. The GCIP approach in Component 1 especially, accelerates innovations that have highest GHG emission reduction potential and have highest chances of going to the market through a number of phases and together with its partners like PFAN, continually de-risks the enterprise?s business model in order to increase the likelihood of investor interest. This is important to note since the sources of investment that the GCIP start-ups will be able to mobilize will depend on the alignment of the priorities of the institutions that have shown interest to invest.

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

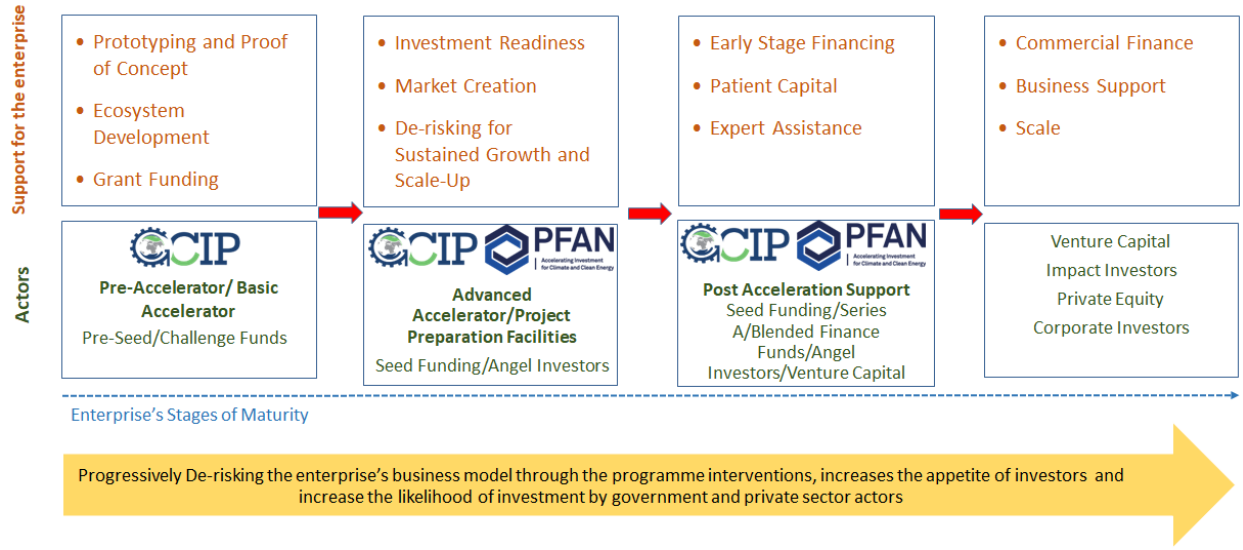

Figure 8: Start to Scale-up Journey, De-risking for Investment Readiness

85. The objective underpinning the linkages established between GCIP and PFAN is to offer the ventures supported by the project a continuum of support services as they mature towards commercial viability and scaling up. GCIP combines a top-down (policy support) with a bottom-up (support for home-grown innovation) approach. It is technology-neutral and its theory of change is grounded in sustainability (incl. energy) transition theories and as such, the type of the innovations that are supported are not pre-determined.

86. The final investment decisions are made between the start-up and the investor, once they find common value. A start-up may have several investors mixing public and private financing. The connection between the country child project and the Global project enables investors at a global level to also access start-ups from each country i.e., through activities like Investor Connect, National Forums and the Global forums.

Component 1: Identifying, fostering and developing cleantech innovations and businesses

87. The implementation of the next phase of GCIP in South Africa will be holistic, providing seamless support for the cleantech innovator from early development through to the point of commercialization. Support will be both financial and technical and will integrate existing services provided by GCIP, TIA and other partners with new support developed under this project.

88. The project intends to strengthen the existing national GCIP accelerator by enhancing the current support services provided. New services will be integrated with a focus on ideation, business model development and validation, product commercialization support and financing facilitation support. In addition, GCIP will target more regions of South Africa through the introduction of a ?hub and spoke? model with support services available in at least five provinces. See Output 2.1.1 for the establishment of the GCIP cleantech innovation platform and its hubs. ?Challenge categories? will also be introduced in consultation with partners with a willingness to invest in the identified solutions to promote demand-driven innovations with high commercialization potential.

89. Outcome 1.1 focuses on very early-stage innovative cleantech solutions and provides business acceleration support related to entrepreneurship and business skills training. Outcome 1.2 provides targeted technical assistance to the enterprises and SMEs at growth stages that demonstrate traction and sales evidence, and can benefit from specialized enterprise growth support. Furthermore, enterprises and SMEs in the expansion stage will receive investment facilitation and mentoring services towards financing, piloting and commercialization.

The diagram below shows the types of assistance required by cleantech enterprises, depending on their stage of growth.

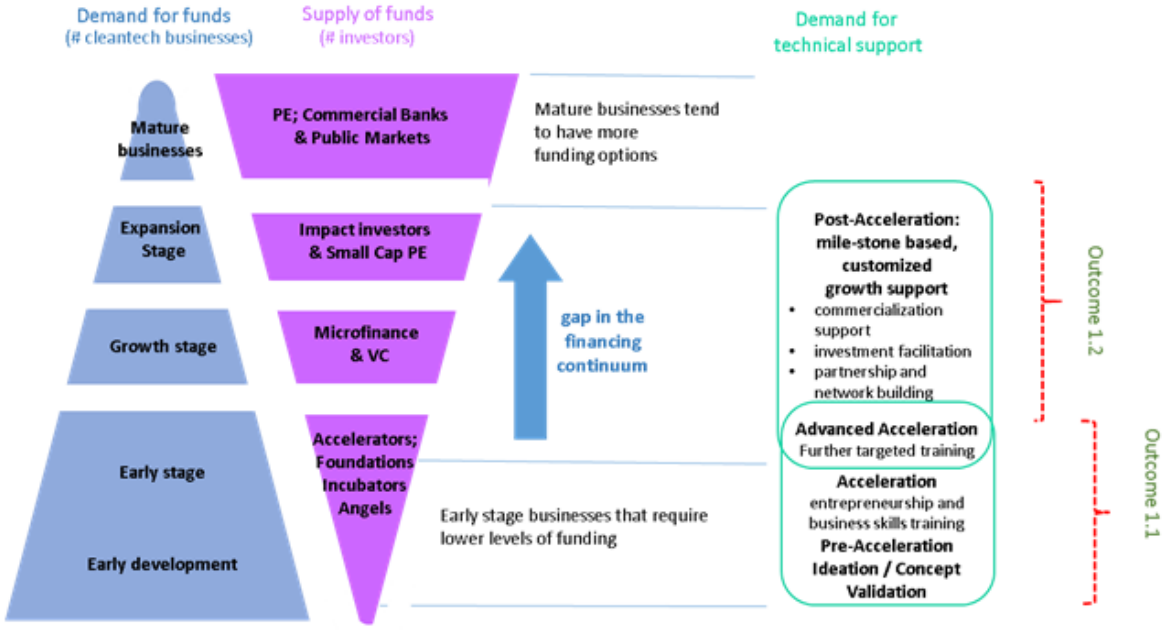

Figure 9: Demand for funds and technical support per development stage

Outcome 1.1 Promising cleantech innovators are identified and supported by Accelerators and Challenges

Output 1.1.1 GCIP methodologies and guidelines for accelerator, advanced accelerator and post acceleration adapted for SA

90. The GCIP Accelerator Guidebooks (for the Accelerator, and Advanced & Post-Accelerator) to be developed under the global child project are comprehensive documents that articulate the GCIP approach and methodology for promoting cleantech innovation and entrepreneurship in developing countries and emerging economies. The guidebooks will include practical tools and guidelines for the operation and management of the accelerators. It will include a schedule, eligibility requirements,

selection, and identification criteria for the participants, competition rules, how to use the web-based tools, training curricula and material and handbooks for applicants, mentors, experts in residence (EIRs) and judges. The Guidebooks will be disseminated to all national project executing entities (PEEs) including TIA, and associated training provided to TIA and the primary hub partners . The guidebooks will be gender responsive, avoid gender-stereotypes, provide recommendations to enhance gender equality in the accelerator programme and highlight the need to launch gender inclusive calls for the accelerators.

91. The GCIP Accelerator Guidebooks will be reviewed and the existing methodologies of the GCIP South Africa will be updated by adapting the new global GCIP guidebooks to reflect the context of South Africa?s cleantech ecosystem including market conditions, policy environment, development priorities and technology priorities. Two GCIP South African Accelerator Guidebooks will be produced ? an Accelerator Guidebook (updated from existing methodologies) and an Advanced and Post-Accelerator Guidebook. In particular, the global curriculum, training content, materials and delivery format will be customized to meet national needs and priorities. The Guidebooks for the GCIP South African Accelerators will then be used as operations and management plans to conduct each of the annual cleantech innovation accelerators. Improvements and suggestions from the national guidebooks may be incorporated into the global guidebook for application to the next Accelerator cycle.

92. The scope, criteria and awards categories for each national accelerator will be developed by TIA, with significant input from each primary hub partner to ensure that these are relevant for their provinces. Criteria for selection will include elements to address national policies around previously disadvantaged individuals. With the provincial focus in mind, and using GCIP tools developed by the global child project, an analysis of the strengths and weaknesses in each provincial innovation and entrepreneurship ecosystem will be carried out. This will focus on the potential accelerator applicants and participants (startup ventures / SMEs), potential mentors, trainers and judges, and alumni from other accelerators, and will include an assessment of the progress and key acceleration events for current entrepreneurs. This is not intended to be an in-depth review of the whole ecosystem (which is included in the frameworks under Output 2.1.2) but a focused look at the areas where support is needed to identify the specific type of interventions that will target these gaps/weaknesses, which in turn will inform the design of the first year?s accelerator (and advanced accelerator) relevant to each region. The uYilo programme will also assist with guiding thematic innovation topics where necessary to ensure alignment with industry needs. Again, using tools developed by the global child project, specific interventions to target the weaknesses identified within the i) potential accelerator participants (startup ventures and SMEs) and ii) potential mentors, trainers and judges will be designed and implemented. These would include targeted communication and outreach strategies, connections to global and national GCIP alumni and mentor communities, building a national GCIP community and network, and addressing key gaps in the community and national innovation landscape (also see Component 2).

93. The level of innovation to be eligible for the annual Accelerator will be specified during the development of the specific selection criteria and will be guided by the milestones/criteria developed by the global child project for each window of GCIP support. Selection will be based, first and foremost, on innovations with significant GHG reduction potential which have both market and

business potential, and on contribution to the circular economy. Criteria will include a threshold for the projected environmental impact per USD for supported technologies (see Section 6). Clean energy technology categories will be in line with GEF7 priorities e.g. de-centralized renewable power with energy storage; electric drive technologies and electric mobility; accelerating energy efficiency adoption; and cleantech innovation.

94. From Year 2, a National Cleantech Innovation Challenge will be introduced as a category by partnering with national public and private sector corporations to design targeted solution challenges, with commitment to invest in and/or pilot the identified solutions. The challenge awards create strong linkages between innovations and industry or societal needs and promote demand-driven solutions that can be adopted immediately supporting the technology validation and commercialization efforts. To do so, TIA will work with Government departments and industry which have identified current problems that could use innovative cleantech solutions. TIA has started conversations with Eskom, Sasol and Growthpoint to initiate new challenges, or to build on or link to challenges already carried out. For example, building on Sasol?s solar car challenge and linking accelerator support to Growthpoint?s student green building ideas, the Greenovate Awards. Challenges are likely to be in the energy and building sector and it is expected that the number of potential partners will grow, for example, TIA will also engage with local government. uYilo?s knowledge and engagements with stakeholders within the e-mobility ecosystem will also be leveraged to contribute towards the identification of current problems within industry that could use innovative cleantech solutions. TIA will sign agreements with each of the parties to take the challenges forward.

Output 1.1.2 120 business innovation and entrepreneurship experts (women and men trainers, mentors and judges) trained and certified to support cleantech innovation

95. Developing a pool of cleantech innovation and entrepreneurship experts to act as mentors, trainers and judges is critical to the effectiveness of accelerators, and in providing the right support to the participating teams. The experts are also crucial to the cleantech ecosystem, beyond the scope of GCIP accelerators. The community of experts trained/certified by GCIP are expected to positively influence the cleantech innovation initiatives at a national and global level, and will contribute to the strengthening of the cleantech innovation and entrepreneurship ecosystem in general as well as contributing to the sustainability of GCIP South Africa. This forms a part of the exit strategy.

96. The GCIP cleantech innovation and entrepreneurship expert training and certification system will be developed through the global child project (by NGIN) . The training and certification system will be reviewed by TIA and the training system will be adapted for South Africa with the production of localized guidebooks and training materials. In practice this means that the GCIP training approach and methodology developed under GEF5 funding will be further refined, updated and expanded. TIA?s Enterprise Development Unit will be the custodian for the GCIP training material and will be responsible for ensuring peer acceptance for the GCIP trainer and mentor training courses. TIA?s Enterprise Development Unit will work with relevant parties; in particular the unit will: i) work with SEDA to ensure the trainer material is recognized within the small business training ecosystem; and ii) subcontract the development of a tailor made training programme with the relevant Sector Education and Training Authorities (SETAs).This will include subcontracting the development of a

mentor course to an accredited institution which would incorporate the GCIP-specific material into their existing mentor courses, so ensuring the acceptance of the qualification/certification.

97. During the GEF 5-supported GCIP, 49 experts (trainers, mentors and judges) received training on the specific requirements of GCIP, as well the opportunities it presents. Despite these numbers, TIA recognizes the gap in the mentorship capacity and networks and as part of the GCIP under GEF 7, further resources will be invested in building up the pool of experts. Using the GCIP training system a train-the-trainer mentor programme will be rolled out. Along with all national PEEs, TIA and its primary hub partners will receive support from the global child project in the operationalization of the training and certification system through global webinars and in training the national cleantech experts during the first cycle of the accelerator, with some follow-up support in the second year. The global PEE responsible, NGIN, has been involved in GCIP South Africa since its start. The trainees will include experts from the five provinces included in GCIP. Through the execution of the Accelerators, there will also be knowledge transfer which will strengthen the capacity of the national cleantech experts.

98. Potential experts will be sourced from various sectors of the economy including academia, industry and business, as well as from GCIP alumni and non-GCIP mentors currently working at incubators and accelerators. For example, uYilo will be able to provide experts for judging panels and for technical advisory, mentorship and coaching roles, in particular related to energy storage, electric vehicle systems, charging infrastructure within smart grids, and related projects that lead to local manufacturing of a product or delivery of a service. Small business mentorship has become a new area of individual opportunity for consultancies. In addition, it has become clear through GEF5 GCIP that mentorship is a key element for progression and success of the innovation business. GCIP will contribute to the recognition of the competencies of such mentors by working with the national qualification system to recognize qualified mentors officially and by integrating the GCIP certification with South African needs and existing approval processes, as mentioned above. A total of 120 South African experts (trainers, mentors and judges) will be trained and certified, with at least 35% being women. Based on feedback from the first phase of GCIP, experts will be paid a stipend to deliver their expertise.

99. TIA will build an online national mentorship platform, in partnership with successful national mentorship movements and local mentors within the National Innovation Ecosystem with a record of successful collaborations with broad corporate South Africa and leading businesses, executives and business development experts. In practice, this means a one-stop website where potential mentees can find appropriate and suitably qualified mentors.

100. All international expertise transferred to South Africa under the GCIP framework will become knowledge products owned at the national level. Knowledge exchange and transfer among the mentor/judge community of other GCIP partner countries will be encouraged and facilitated through TIA, the on-line platform and the global child project.

Output 1.1.3. Ideation and Concept Validation Support provided to at least 100 entrepreneurs

101. The attrition rate that arises as a result of the Accelerator?s selection process remains a source of opportunity to nurture and guide ideas with high-impact potential at an early stage. The obligatory narrowing down of participants reaching the Accelerator represents lost potential which, if channeled to other relevant parts of the ecosystem or other sources of internal support will be encouraged, fostering the development of entrepreneurial mindsets and skillsets that have been identified as key to culture change and economic growth in South Africa, and beyond. Another largely untapped group is the undergraduate university student group who will be engaged through outreach initiatives to universities for promising concepts to be developed.

102. National Innovation Competitions (NIC) will be run by TIA to reach out across grass-roots innovators / communities and Community Colleges / HEIs including TVETs and other stakeholder programmes. Stimulation of cleantech innovations will be through bootcamps and workshops through the hub and spoke partners. Ideation and concept validation will be supported by TIA Tech Stations, uYilo and Incubators and the provincial stakeholders.

103. Northern Cape and Mpumalanga, where there is less experience, will both benefit from customized assistance in developing their pool of potential applications prior to the launch of the accelerator. The NIC will serve as ideation building phase and pre-accelerator phase support that will result in the development of an effective pipeline of suitable accelerator applicants and will assist those entrepreneurs that would normally be too early for the accelerator and so would not meet the accelerator criteria. Support will be provided by the global child project to assist in the delivery of an in-country/virtual pre-accelerator; this will be a 10-day (7 days virtual/3 day in-person, COVID-19 permitting) pre-accelerator programme held each year 6-8 weeks prior to the accelerator deadline.

Output 1.1.4 Four cycles of the GCIP South Africa annual competition-based multi-track accelerators supported through provincial hubs (4 accelerators, 4 advanced accelerators and 3 national industrial innovation challenges) conducted, in alignment with international GCIP Accelerator cycle

104. Four cycles of the GCIP South Africa multi-track accelerator will be conducted, based on the GCIP South Africa guidebooks and tools developed under output 1.1.1. The timing of the accelerators will be guided by a general timeline which will be developed by the global child project which aims to ensure that the cycles across the global accelerator and each GCIP partner country will be aligned and can all feed into global level activities (online webinars, participation at the global forum, etc.). In line with the national platform detailed in 2.1.1, TIA will coordinate the overall national accelerator programme and will act as a key knowledge hub ensuring capacity building, consistency and coherence across the national GCIP programme. Each GCIP primary hub partner will work in close coordination with TIA to deliver some of the accelerator services and to ensure shared resources across the country.

105. The scope and award categories of each annual accelerator will include the input from each province and so be in line with the local and national priorities and expertise (see 1.1.1). Therefore, each year there will be some categories, which are more relevant to specific provinces. The outreach and communications for the accelerators will be guided by the analysis carried out (detailed above). The GCIP hub partners and universities will be key to this outreach. uYilo will also promote the GCIP

across its existing stakeholder network and on its social media platforms and website to assist in finding potential competition and accelerator participants and also through promoting awareness of clean technologies, climate change and the role of entrepreneurs. Entrepreneurs can apply to the accelerator category most appropriate to their innovation. Once applications are received, they will be reviewed and selected for inclusion in the accelerator. Selection will be at a national level but with input from the provincial partners and with TIA ensuring consistency in quality and application of criteria.

106. The South African GCIP cohorts will receive training and support from local and national trainers and mentors. The most appropriate mentor for the innovation and business will be selected nationally so ensuring that if that expertise is not available locally, it is provided. Support will be provided to the new hubs by the global child project and TIA in establishing and conducting the accelerators by providing intensive assistance in the first cycle of the accelerator followed by phasing out of support in the second cycle with a view to fully capacitated national and provincial institutions by the third cycle/accelerator. This would include two national academies to cover all initial five provinces? participants (one hosted by TIA and one hosted by a Southern hub partner) with associated training of national staff, mentors and trainers.

107. GCIP alumni will be eligible for advanced?Accelerator support if they meet the criteria/milestones as set out by the GCIP guidelines (output 1.1.1). The Advanced Accelerator is time-bound and outcome-focused, i.e., there are concrete milestones that need to be achieved within a specific timeframe. The selected alumni (a minimum of 25/year) will receive a common set of support services delivered through webinars after the first cycle the South African GCIP Accelerator. This will include training modules (3-4 virtual training modules of 1-2 hours each) on advanced acceleration topics such as corporate partnerships, government relationships etc. These webinars will be organised and facilitated by TIA and presented by NGIN. After cycle 2 of the South African GCIP Accelerator, the advanced Accelerator services will be conducted by TIA and the hub partners based on the materials provided by NGIN in the previous year, with a minimum of 25 enterprises participating.

108. Country specific virtual training and support for alumni innovators and entrepreneurs, based on stage of maturity and size of the alumni community, will also be available from the global child project for advanced acceleration. This training content will leverage global best practices but focus on the specific needs and interests of the South African alumni community. Each training will be 1-hour long and key parameters will be tracked (such as attendance, attentiveness, questions, gender and age). To increase and continue engagement from alumni, alumni training modules and/or ?office hours? with global EIRs (entrepreneurs-in-residence) will be customized by the global child project for South Africa.

109. From Year 2, the GCIP accelerator cycle will include national cleantech innovation challenges in addition to competition-based accelerators. The national cleantech innovation challenges will be run in parallel to the accelerator and advanced accelerators and will be run by TIA in collaboration with the selected industry or government partners. As with the accelerators, after conducting a call for proposals, selected teams will participate in the national academy and later

business clinics to receive technical and business support from experts in the sector. The winners will receive a financial prize from TIA and the industry partner to develop their innovations further.

110. It is expected that each Accelerator cycle will receive around 50-200 applications across the five provinces, with higher numbers of entrants expected in the later cycles. From these entrants, around 40-50 semi-finalists will be selected to receive support through the accelerator programme; 10-15 finalists will then be selected to receive further support as part of the accelerator programme and from these finalists, winners and runners-up will be selected in each province and nationally. The selection of winners, runners-up, and finalists will be made by various judge panels based on their evaluation of the progress on business model validation and pitches submitted by entrepreneur teams with the support from their mentors. The numbers of entrants, semi-finalists, finalists, winners and runners-up will vary from year to year, depending on the number of technology categories to be covered, maturity of the organization team, prize categories, etc. TIA will build on its successful experience with the National GCIP Gala Event to hold an annual event.

111. TIA and its primary hub partners will be able to access a ?help-line? established by the global child project for queries from cleantech experts on accelerator operations and troubleshooting. The help line would respond to queries through a combination of online tools (wiki, forums etc.) and easy escalation to a live call or chat with a global PEE team member experienced with GCIP accelerator operations and methodologies. A knowledge base (FAQ) based on the key questions and answers will be developed to support TIA and its hub partners.

112. Activities under Outcome 1.1 are critical for supporting an inclusive cleantech future in South Africa, in which both women and men can equally take the lead, participate and benefit from. Special attention will be given to address gender issues through gender mainstreaming activities throughout the Outcome activities, as outlined in the draft gender action plan. These include: (i) recruitment of women trainers, mentors, judges and involvement of women and men in the design; (ii) efforts to ensure that women and men are given equal opportunity to access, participate in and benefit from the project; and (iii) raising awareness of GEEW, for instance in training content and project documents. The project will also seek to ensure women empowerment through (i) specific training and mentoring to promote women innovators, entrepreneurs, startups; and (ii) the design of specific prizes and follow-up support programmes for innovative startups that will have a significant impact on women?s entrepreneurial development and job creation, etc.

113. The following table provides an overview of the different tasks expected under Outcome 1.1 along with the responsibilities, budget allocation between TIA?s existing GCIP, the GCIP global child project budget and this project?s budget. TIA is responsible for the execution and delivery of all of Outcome 1.1.

Table 6: Overview of tasks and roles for Outcome 1.1

Output	Key tasks and activities	Global Child Project contribution	TIA?s role	Hub (and spoke partners) role	GCIP SA budget (USD)

1.1.1	Develop GCIP guidebooks for Accelerator, Advanced Accelerator and Post Accelerator for SA considering gender dimensions and highlight the need to make special effort to encourage women to apply to the accelerators.	Develop*	Adapt and revise		
1.1.1	Provide training to TIA and hub partners on use of guidebooks	Trainer*	Trainees	Trainees	14,542
1.1.1	On-going training to hubs		Trainers	Trainees	
1.1.1	Analysis of the strengths and weaknesses in provincial innovation and entrepreneurship ecosystem and identification of specific interventions to target weaknesses identified	Develop tools*	Coordinate and analyse	Analysis	
1.1.1	Definition of scope, criteria and awards categories for Accelerators, including gender sensitive design of the application process,collection of gender-disaggregated data and targeted and gender responsive outreach		Coordinate and develop	Develop provincial relevant categories	
1.1.1	Define National Cleantech Innovation Challenges in discussion with partners		Define		
1.1.2	Develop the GCIP cleantech innovation and entrepreneurship expert training and certification system	Develop*	Adapt for SA		
1.1.2	Work with SETAs and SEDA to ensure expert training is recognized in South Africa		Work with SEDA and SETAs		
1.1.2	Subcontract the development of a mentor course to an accredited institution to incorporate GCIP material		Subcontract		89,373
1.1.2	Provide training to TIA and hub partners via global webinars on the operationalisation of the training system	Trainer*	Trainees	Trainees	
1.1.2	On-going training provided to hubs		Train	Trainees	
1.1.2	Training of 120 experts (mentors, judges, trainers)		Train	Train	
1.1.2	Develop an online national mentorship platform		Develop and run		
1.1.3	Ideation and concept validation		Coordinate and provide	Provide services	

1.1.3	National innovation competitions (NICs)		Conduct	Outreach	179,634
1.1.3	Pre-accelerator course	Run for 2 years		Conduct from year 2	
1.1.4	Annual GCIP accelerator, providing specific mentoring for women through women mentors as well as mentors that address women?s issues, e.g. work-life balance, self-esteem.	Support for 2 years	Delivery** and coordination	Outreach and deliver support	674,971
1.1.4	Annual advanced accelerator ? webinars including: corporate partnerships and government relationships	Conduct in year 1 and provide materials*	Conduct	Conduct and deliver support	
1.1.4	Country specific virtual training	Provide*	Facilitate	Facilitate	
1.1.4	Annual national cleantech innovation challenge		TIA	Provide support	
1.1.4	National GCIP Gala	Guidance	Execute		
1.1.4	Help-line	Provide	Use	Use	

***Provided by TIA?s own budget*Provided by the GCIP* global *child project budget*

Outcome 1.2 Cleantech innovation and businesses are supported through advanced and gender responsive business growth and investment facilitation services

114. Experience from GCIP in 2014 to 2017 has shown that after successful completion of the GCIP Accelerator, start-ups and SMEs required further support in accessing additional sources of support and finance and to break into the market. GCIP South Africa will provide systematic milestone-based post-Accelerator services in order to shorten the valley of death for promising start-ups and SMEs. The post-Accelerator support will be open to all enterprises that completed the Accelerator (including those from previous GCIP accelerators), and may also be applicable to non-GCIP alumni enterprises in exceptional cases if high-impact potential can be demonstrated. In this regard, the project will continue to actively engage with cleantech innovators and entrepreneurs keeping the GCIP momentum and strengthening the innovation and entrepreneurship ecosystem. It is a cost-effective way to directly support and monitor growth of GCIP alumni enterprises and has the added advantage of removing the overemphasis on the competition aspect of the Accelerator, and allows all semifinalists to focus on the added value and benefits of the entire GCIP process, especially in terms of trainings, networks, financial facilitation, etc.

115. The advanced investment and commercialization support will be provided, in the first instance, via the provincial primary hub partners and backed up by spoke industry, business and academic partners and TIA. Linked to the technical assistance available, an investment facility will also be available to GCIP alumni. This facility will be managed by the IDC (see output 1.2.4).

Output 1.2.1 Targeted support services delivered (technology verification, product development, advanced business support, connecting to markets, etc.) to at least 80 selected cleantech enterprises towards commercialization

116. The aim is to move GCIP alumni towards being investment ready. GCIP alumni will be eligible for post?Accelerator support if they meet the criteria/milestones as set out by the GCIP guidelines (output 1.1.1). Post-acceleration support will be tailored to the specific GCIP alumni?s needs (also considering gender dimensions) for progressing into the next phase of business growth and in overcoming product related market barriers. The enterprises will be supported in four related, but not necessarily linear dimensions: advanced business and commercialisation support, investment readiness, market readiness, and technology readiness ? allowing each enterprise to progress closer to the commercialization stage. This will include receiving needs-based support for access to finance and market entry in addition to provision of networking opportunities, technical and administrative support, IT services, tax registration and additional mentoring/courses on clean technologies, entrepreneurship, and innovation. Focused TA will be available to help alumni to successfully apply for finance from the IDC financing facility. National mentors will be allocated where necessary from the national mentorship platform. For selected GCIP alumni enterprises, technology verification, product development and testing facility support will be provided. The project will leverage on the facilities and expertise of TIA?s services, former GCIP alumni and the hub and spoke partners in South Africa (including TIA?s technology business incubators, research institutions, universities and industry) in the form of incubation facilities and testing, legal and financial consultations. For example, through its supporting established facilities, uYilo will be able to provide accredited battery testing and materials characterization where innovators can have their energy storage related prototypes tested and validated depending on the stage of product development for market readiness. The vehicle systems and smart grid ecosystem facility additionally provides a live testing environment where innovators can similarly test their prototypes to ascertain their interoperability within the smart grid ecosystem. Partnerships will be explored with national agencies responsible for standardization and appraisal of product quality. In addition, GCIP will provide support in overcoming product related market entry barriers, including protection of intellectual property (IP) and product life cycle assessments.

117. Additional training support will be provided by the global child project for post-acceleration and for priority technology and industry sectors. This virtual training support will include training modules (3-4 virtual training modules of 1-2 hours each) focused on alumni (post ?acceleration support) including international market entry, exits and acquisitions etc. In addition, training modules (3-4 virtual training modules of 1-2 hours each) on priority areas for specific challenges or industry sectors will be developed (e.g., mobility, clean air, etc.). Where necessary additional best practices on advanced acceleration, venture incubation and specific technology/industry sectors from leading international incubators, technology parks and venture investors (through South Africa?s membership of the Network for Global Innovation - see 1.2.3) will be used.

Output 1.2.2 Investment facilitation and market expansion support is provided for 30 selected GCIP alumni enterprises (gender responsive)

118. Mobilising investment for cleantech products and services is a lengthy and iterative process. In many instances, high-impact and high-market potential cleantech innovations/businesses fail due to lack of access to financial resources. Recognizing this need, output 1.2.2 will support early-stage enterprises by addressing the financing gap, whilst they receive the advanced support under output 1.2.1 for enhanced business, technology, market and manufacturing readiness. The intention of this

Output (with output 1.2.4) is to assist as many GCIP South Africa alumni as possible to move from reliance on solely grant funding and to raise finance (grant, debt and equity), find customers, and build partners within 12 months of completing the Accelerator, to ensure sustainability of the project?s efforts.

119. Advantage will be taken of various investment and promotion opportunities in South Africa, particularly those hosted by TIA as well as those hosted by SEFA and IDC. For example TIA?s Seed Fund and Technology Development Fund and for services provided through TIA;s biotechnology platforms and technology stations. Support will be provided to the alumni to put together successful applications to these funds. TIA through its existing instuments (financial/ non financial) has commited USD 8 million towards the support of cleantech innovators. TIA will actively engage the public and private sector to further match TIA?s contribution to this intiative, for example discussions are underway within internally, wtih uYilo and South African National Energy Development Institute (SANEDI).

120. Direct support for GCIP alumni enterprises will be provided to connect with potential investors, financiers, and tech scouts of large corporations, for example, half-day investor connect events will be co-organized regularly with partners including corporations and government agencies to highlight opportunities for investment, loans, grants, technology adoption and partnerships. GCIP will assist alumni to successfully apply for finance from the IDC-GCIP financing facility (output 1.2.4). The project will also explore targeted investment/financing vehicles, and connect select GCIP alumni enterprsies as appropriate.

121. In addition to support services designed to benefit enterprises, specific activities to engage the investment community (e.g. venture capital funds, angel investor networks, impact investors, etc.) and initiatives that bring the two together will also be organized. TIA will establish a robust network with national financial institutions and funds to raise awareness, train and sensitize financiers on the opportunities and risks associated with cleantech products and market trends. For example, communication efforts tailored for investors will be made to promote the profitability and impact potential of the cleantech businesses thereby influencing the investment landscape for the cleantech sector. The intention will be to broaden the number of impact investors in the country. Training will be facilitated by TIA?s Enterprise Development Unit and provided by specialist financiers with in-depth experience in the sector. From the global budget, workshops will be conducted for local financial experts, including brief presentations on PFAN (REEEP), its project development journey and coaching process. Selected experts may become future PFAN (REEEP) advisors, and will be sensitized on project sourcing and investment facilitation skills and tools.

122. Under the global child project PFAN is also collaborating with GCIP to open calls for GCIP alumni in all partner countries. PFAN is a UNIDO hosted initiative that brings institutional financing for scaling up of clean technologies at large scale for positive environmental impact. Where South African GCIP alumni meet the criteria they would be eligible to apply to PFAN for support, and TIA will facilitate the application process.

123. In addition, in order to encourage the participation of more seed-stage investors from the national, regional and global stages and leverage on the experience and knowledge of other GCIP

countries, a number of regional and international events will be organized and/or attended by the Project Management Unit and GCIP alumni enterprises.

Output 1.2.3 Mentorship and partnership support provided to 40 GCIP alumni with innovations that can grow into other countries, regions and globally

124. 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 GCIP alumni enterprises from other countries, 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.

125. GCIP alumni will be supported to apply through open calls to other relevant TIA programmes. These include Leaders in Innovation (LIF), SWISS and GAP Programmes which provide international business acceleration, networking and coaching from global business coaches with the opportunity to connect to potential international partners, funding, market access or soft landing in these countries. From participation in the LIF Programme, there is then potential for GCIP alumni to progress to Advanced UK business acceleration programme and possible connection to innovation partners with similar or related solutions through the UK Scale out for impact programme.

126. On an ad-hoc basis, as opportunities arise, matchmaking services for GCIP alumni enterprises will be provided with interested corporations, investors, governments. uYilo will provide connections for relevant GCIP alumni with potential industry partners.

127. Further, opportunities to showcase cleantech innovations and solutions at high-level national and international events, such as the 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.

128. Opportunities arising from trading under the African Continental Free Trade Area (AfCTA) will also be explored, particularly relating to the export capacity for women and youth entrepreneurs. 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.

129. The unique added value of being part of global GCIP framework is its ability to facilitate collaboration among country cohorts. Opportunities for cross-border virtual collaboration between GCIP alumni enterprises will be facilitated through the web platform for peer learning and

identification of business opportunities among GCIP partner countries. This will be done through the creation of affinity/interest groups to spur interaction and collaboration, support for self-directed introductions and the development of self-guided tools and directories to enable participating entrepreneurs to find potential collaborators within the GCIP community.

130. As part of the global GCIP framework, South Africa will receive membership of the Network for Global Innovation for the duration of the project. This will provide TIA and GCIP participants with access to international best practices on advanced acceleration, venture incubation and specific technology/industry sectors from leading international incubators, technology parks and venture investors and will provide opportunities for GCIP participants to build cross-border virtual connections with partners in additional countries.

131. In addition, TIA will facilitate the application process of GCIP South African alumni to the GCIP Global Accelerator to be conducted under the global child project.

Output 1.2.4 Innovative early-stage financing mechanisms established and operationalised to support the deployment and scale-up of cleantech solutions in 40 companies

132. A new cleantech commercialization support financing facility will be established, hosted by the IDC, which will provide catalytic development capital for high-impact cleantech enterprises (including GCIP alumni) to address the identified early-stage financing gap between pure grants and venture capital. The fund has been designed based on feedback with entrepreneurs, discussions with South African financiers and in-depth dialogue with the IDC. The facility will use a blended finance model and will typically include technical assistance, a grant component, a repayable grant component, concessional finance, subordinated debt and quasi-equity.

133. The proposed package of support is significant in the South African context. The source of finance will be:

a. A grant component of USD 1 million from GEF/UNIDO to be spread over five years.

b. A matching grant component of USD 1 million (ZAR 15 million) from the IDC

c. A targeted investment of USD 5 million (ZAR 75 million) from other funding instruments of the IDC

The following figure provides an overview of the process.

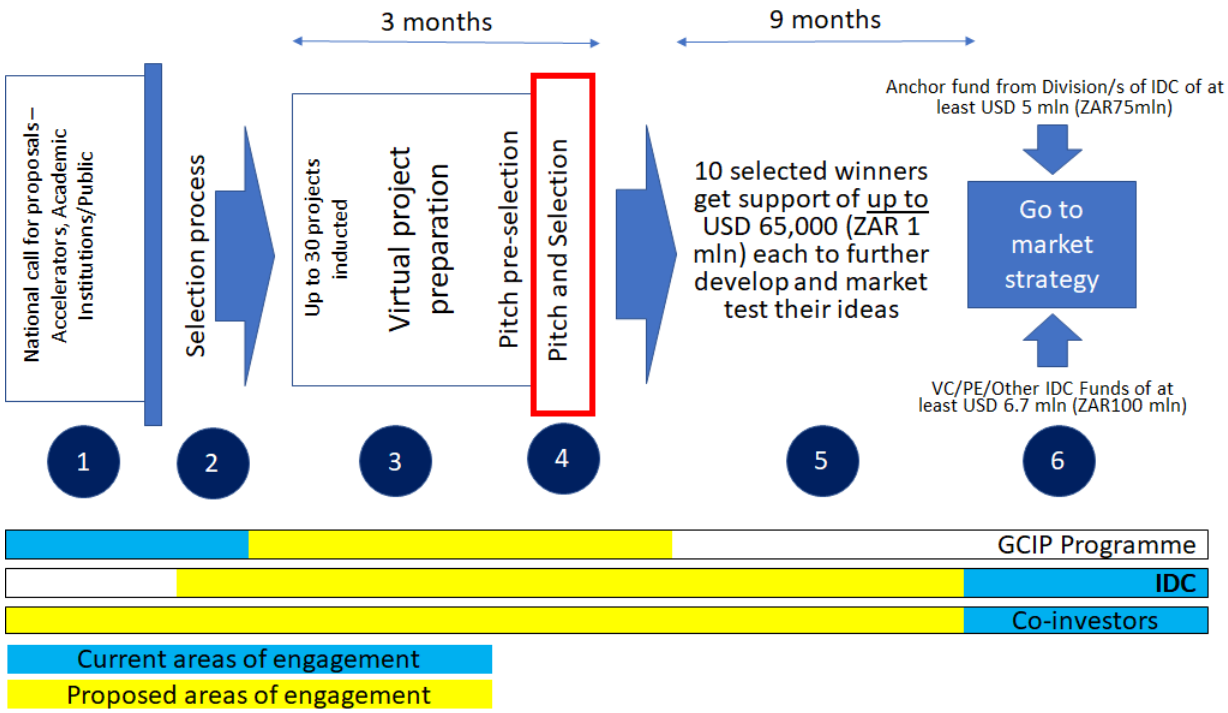

Figure 10: Proposed IDC/UNIDO ring-fenced early-stage financing mechanism

134. As many of the entrepreneurs and SMMEs will still be of a small scale, the transaction effort remains high and therefore to reduce the transaction costs this fund will manage these SMMEs as a cohort in the intake, assessment and managing the provision of business development support, even though it is recognised that the SMMEs will still need to be assessed and managed individually. To enable this, there will be a regular call for proposals (1) followed by a time-limited support and (2) Selection process (supported within Output 1.2.1 and 1.2.2) (3). In the first year the call would be open to GCIP alumni only and in following years it would be mainstreamed and be open to all South African cleantech innovators to ensure inclusivity. The call for proposals could help propel the sector forward by giving it higher visibility, making potential co-investors aware of the projects and cementing the association of the IDC with these sectors as central to its own mandate.

135. The selection panel will include IDC fund managers interested in cleantech as well as other partners and potential investors to ensure that there is the highest potential for attracting future commercial finance. Each round (likely to be annual) will accept approximately 30 SMMEs for support with approximately ten advancing through the progressive assessment (4) and filtering process for financial support after three months (5).

136. Thresholds for support for the grant supported seed fund, based on both the alumni interviews and IDC experience, have been established as follows :

a. between USD 33,000-66,000 /project;

b. 50%pure grant 50% repayable;

c. USD 10,000 for legal costs;

d. USD 10,000 for IP protection (initial costs);

e. USD 16,500 Towards prototyping (more in special cases);

f. USD 33,000 market validation, business model testing;

g. USD 20,000 opex;

h. USD 13,000 management consulting fees to external service provider.

137. Eligible SMMEs would then be funded at both concessional and commercial rates. The exact make-up of finance would depend on the business. The proportion made up from the DIS resources of USD 5 million would provide concessional debt to qualifying SMMEs on the following terms:

a. SMMEs with 26-50% women/youth shareholding get DIS portion of finance at prime -2%

b. SMMEs with 51%+ women/youth shareholding get DIS portion of finance at prime -3%

138. Incorporated to this output and through the post acceleration support described in Outputs 1.2.1-1.2.3, gender lens investing principles will be applied to all investment decisions with appropriate GCIP investing guidelines developed and specific training material developed and executed for investors on gender lens investment.

139. In total, at least 40 companies will receive financial support through the financing mechanism. These will include GCIP alumni as well other eligible South African cleantech innovation companies. The companies will be at different stages of development with associated differing financial needs and capacity to absorb finance. On average each company would be financed at around USD 175,000 with the ability to further leverage more finance. The IDC has a number of funds which the cleantech innovators could be eligible for and this facility will develop a pipeline for them. Each of these funds offers concessional debt at rates that depend on the enterprise make-up, location, focus etc. The IDC uses a scorecard which includes criteria on youth, women, black, rural, township, province, jobs etc. In addition to the identified DIS finance, options are available with the Khoebo Innovation Programme (KIP) supporting grass roots innovation, the Black Industrialist Scheme (BIS) supporting black-owned businesses, UIF II, supporting sustainable job creation, and Gro-E Youth Scheme encouraging youth entrepreneurship and employment creation.

140. The facility will be managed by the IDC?s Regional Partnerships team, which is part of the Partnerships Programme. The facility is in line with IDC?s mandate, which is being directed at supporting the growth of the green economy in South Africa in sectors with potential to stimulate gender inclusivity, youth employment and SMMEs.

141. The following table provides an overview of the different tasks expected under Outcome 1.2 along with the responsibilities, budget allocation between the GCIP global child project budget and this project?s budget. TIA is responsible for the execution and delivery of Outputs 1.2.1, 1.2.2 and 1.2.3 and IDC is responsible for the execution and delivery of Output 1.2.4.

Table 7: Overview of tasks and roles for Outcome 1.2

Output	Key tasks and activities	Global Child Project contribution	TIA?s role	Hubs? (and spoke partners?) role	GCIP SA budget (USD)
1.2.1	Targeted support services delivered (technology verification, product development, advanced business support, connecting to markets, IP protection and product life cycle assessments		Facilitation of support from partners + delivery	Provision of support	189,000
1.2.1	Developing partnerships with agencies on standardisation		Develop partnerships		
1.2.1	Post-accelerator virtual training support ? webinars including: international market entry, exits and acquisitions and on priority areas and best practices.	NGIN develops*	Facilitate delivery	Facilitate delivery	
1.2.2	Matchmaking services between alumni and financiers		Provide and coordinate	Provide	170,000
1.2.2	Supported provided to alumni to apply for financing		Provide		
1.2.2	Half-day investor-connect events		Organise	Organise	
1.2.2	Establish a network of financial institutions		Establish the network	Support	
1.2.2	Sensitize and train financiers on gender-lens investment and opportunities and risks associated with cleantech innovation		Facilitate the training	Support	
1.2.2	Workshops for local financial experts	PFAN provides*	Facilitate Attend	Attend	
1.2.2	Support SA alumni to apply to PFAN support		Provide support		
1.2.2	Attendance at regional and global events		Attend	Attend	
1.2.3	Curated peer networking		Networking	Networking	
1.2.3	International mentors assigned	Assign	Facilitate	Highlight need from alumni	
1.2.3	Support provided to apply for other TIA programmes		Support provided		

1.2.3	Matchmaking for alumni for partnerships		Matchmaking and coordination	Matchmaking	141,000
1.2.3	Creation of affinity/interest groups to spur interaction and collaboration between alumni	NGIN to create*	Notify alumni	Notify alumni	
1.2.3	Membership of the Network for Global Innovation	NGIN provide*	Use	Use	
1.2.3	Facilitate application process for GCIP SA alumni to the Global Accelerator		Facilitate application		
1.2.4	Establishment and operation of financing facility by IDC		Facilitate applications and associated TA	Facilitate applications	1,000,000

**Provided by the GCIP* global c*hild project budget*

Component 2: Ecosystem connectivity, policy and institutional framework strengthening

142. To promote connectivity and boost the current innovation cleantech ecosystem, GCIP will establish a national level cleantech innovation platform and the associated coordinating mechanisms. The national platform will bring together all the cleantech innovation ecosystem stakeholders in one place to provide seamless support to cleantech entrepreneurs. The idea behind the establishment of a national platform is that for a cleantech innovator there is a clearly signposted support structure, which shows where support is available for an innovator at a certain stage of development and in a given sector. A hub and spoke model is proposed for the delivery of GCIP Support with primary hub partners in at least five provinces.

143. The policy framework and institutional sustainability are also integral parts of GCIP?s ?ecosystems approach?, and of strategic relevance in ensuring that the outputs and outcomes of the project are contributing to the national priorities and are sustained after project closure. This component will aim to build capacity in TIA and its primary hub partners as well as in other national stakeholders and to institutionalise GCIP for its sustainability. Further, the project will assist South Africa in building on and developing suitable national policies and regulations that create an enabling business environment for cleantech innovation and commercialization. This will be an iterative process where analysis is conducted and recommendations made.

144. At a programmatic level the global child project will provide frameworks, guidelines and tools for strengthening national cleantech ecosystems, which will be reviewed and adapted by South Africa, where relevant. These will include recommendations for enhancing capacity of national institutions to support cleantech innovation and entrepreneurship, and a set of tools such as a framework for cleantech ecosystem mapping and analysis, strategies for facilitating meaningful interaction and collaboration among ecosystem players, and training material.

145. In addition the global child project will document and disseminate policy best practices, roadmaps and recommendations for cleantech promotion. Policy frameworks (including translatable

policy recommendations and strategies) will be built from research and analysis into policy frameworks that have facilitated success globally, including primary research and interviews with policymakers in countries with comparable conditions to those in the GCIP national participant countries.

Outcome 2.1 National ecosystem strengthened to promote and support cleantech innovation and entrepreneurship whilst promoting gender equality and the empowerment of women

Output 2.1.1 National level platform and coordinating mechanisms for ecosystem stakeholders established

146. The national cleantech innovation platform will be coordinated by TIA as the national PEE. The platform will be underpinned by a clear on-line platform, which provides the signposting, links and information on the South African cleantech innovation ecosystem. The platform will be a central and neutral platform that seeks to connect all the existing support services as well as the new GCIP activities in South Africa. The platform will list all the ongoing accelerators and incubators, not just the GCIP, and will profile the services provided by these players. The aim is that any entrepreneur going to the platform will be assured of getting all possible information on who is providing what kind of services and what kind of financing.

147. GCIP support will be provided through this national platform. A hub and spoke model is proposed where the same support services are available in each of the initial five regions supported in this phase of GCIP. It is the intention to extend to Limpopo province during the project. During the PPG an in-depth stakeholder assessment was carried out (see Annex N) to identify potential partners to support the offering to innovators and entrepreneurs in South Africa. The assessment focused on the reach of innovators including broader rural communities; capacity to train and provide incubation at various stages through higher education institutes? technology transfer offices (HEI TTOs) and TIA incubation partners; possible funders for the various stages of business development and potential industry experts and partners for support and/or co-funding. Based on current expertise and capacity, the partners shown in the figure below were selected as GCIP delivery partners. In each province there will be a primary hub partner and affiliated industry, business and academic spoke partners. The following figure shows the primary hub partners, spoke partners, and the services that they will provide. The likely hub partner in Limpopo will be the University of Venda or Limpopo Economic Development Agency (LEDA). A summary of activities is also provided in Tables 4 and 5.

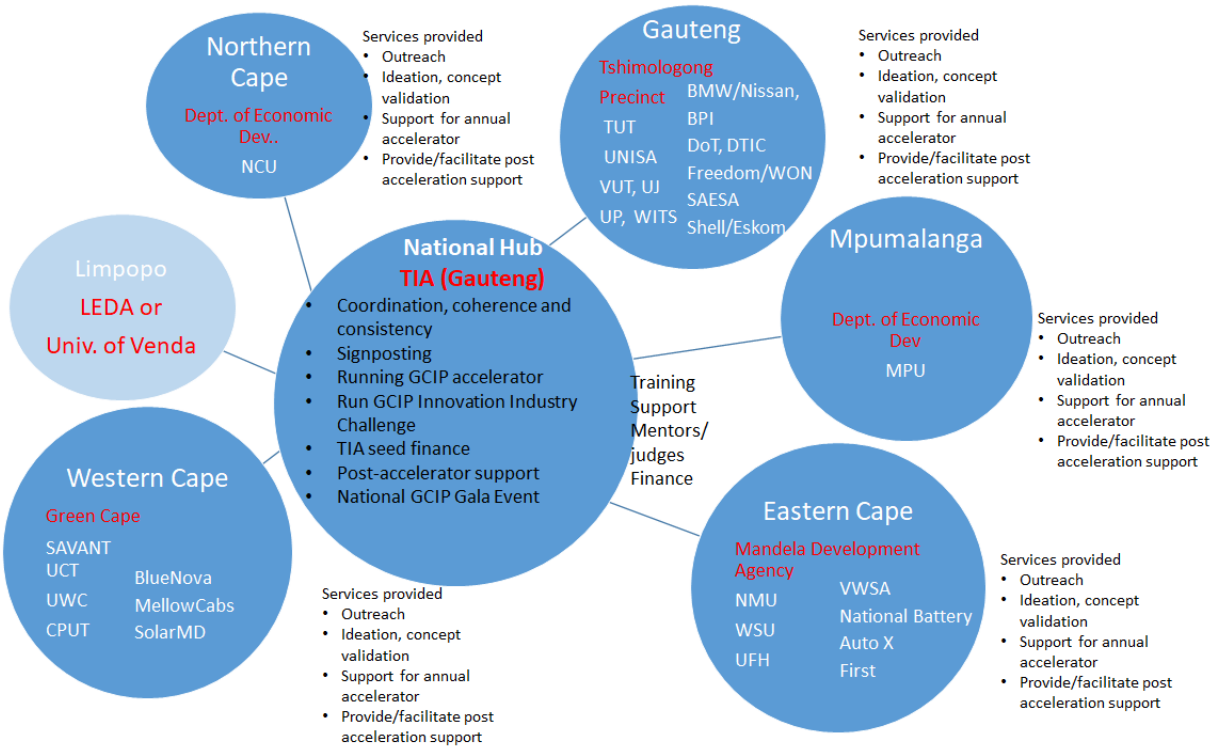

Figure 11: Hub and Spoke partners for GCIP South Africa (Hub in Red)

148. TIA will coordinate all the provincial GCIP acceleration, advanced acceleration and post-acceleration support. TIA will contract the lead hub partner in each province to provide the provincial level support itself or through its local spoke partners (including: ideation, concept validation, pre-accelerator support, supporting an annual GCIP accelerator, advanced accelerator and provision/facilitation of post-acceleration support). TIA will also provide training and support to the hub partners to carry out their role, facilitate the training, sharing and allocation of mentors and judges and provide the linkages to other ecosystem support from within TIA and from other stakeholders.

149. TIA will develop clear internal GCIP coordination and communication mechanisms for the interaction between TIA and its hub and spoke partners. This will be included in the hub partner contracts and a manual will be developed which will also link to the GCIP guidebooks. Some of the GCIP support will come from existing programmes and initiatives already housed by TIA and its partners and, as mentioned above, new support services will be developed to deliver the seamless support needed. Where that support does not currently exist capacity will be built to provide it (see Output 2.1.1).

150. GCIP will be delivered in parallel with the proposed TIA Academy and will validate its ?start-up to commercialization? support model. Not only will the integration of GCIP within a future TIA Academy ensure sustainability beyond GEF funding, the delivery of GCIP will also provide lessons and experience that can be replicated by the TIA Academy across all technology sectors, not just cleantech. The current aims and objectives of the proposed TIA Academy Model are aligned with GCIP and are to strengthen Innovation Skills from Phase 1- Phase 4 (i.e., from TRL 1 to

commercialisation) making an impact through the development of entrepreneurial capacity, and in so doing create new start-ups and support the development, scaling up and commercialization of new technologies in South Africa.

Output 2.1.2: Capacity built for national cleantech innovation and entrepreneurship support institutions, industry associations and business platforms based on the results of the GCIP cleantech innovation and entrepreneurship ecosystem (CIEE) assessment

151. During the PPG an assessment of South Africa?s national cleantech ecosystem using the draft Cleantech Innovation & Entrepreneurship Ecosystem (CIEE) assessment framework was carried out, in addition to a stakeholder map defining roles and gaps (see Annexes M and N). One of the main aims of this project output is to close the gaps identified in these two studies. This means ensuring 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 the project. Capacity is expected to be built within TIA, its primary hub and spoke partners, with industry associations and business platforms, in the investment community and in government.

152. A revised GCIP cleantech innovation and entrepreneurship ecosystem (CIEE) assessment framework will be developed by the global child project (by the global PEE Cleantech Group - CTG) as a tool to analyse the strengths and weaknesses of each country?s cleantech ecosystem. In South Africa, this will be reviewed by TIA and used to update any identification of capacity building needs already carried out and it will be used to help design an optimal set of interventions for the country. A GCIP capacity building strategy and action plan will be developed for South Africa?s cleantech innovation ecosystem.

153. Based on the capacity building framework, awareness raising and training programmes for national institutions, industry associations and business platforms on how to support cleantech innovations will be developed and carried out. A number of these organisations have already been identified and are included in Section H on Stakeholder engagement. During the project TIA, uYilo and partners will bring in further associations and industry partners. The capacity building initiatives will include, among others, on-the-job training from international experts and local specialists, knowledge management and coordination mechanisms. 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. Special attention will be given to address gender and youth issues in the training needs assessment. Furthermore, efforts will be made to secure gender balance of the training participants, as well as trainers and technical consultants when possible, and to include gender aspects in the training content/ curriculum.

154. Capacity building will include the strengthening of the Project Management Unit (PMU) within TIA, and of the primary hub partners. Training will include international training events provided by the global child project where all country project teams are brought together to discuss the Cleantech approach, but also share experiences and insights. Workshops are planned by CTG on stakeholder engagement, cleantech innovation clusters, cleantech innovation policy strategy and a

specific workshop on training how to use the frameworks produced by the global child project (20 staff from hub and spoke institutions, (at least 35% women)).

155. The additional experience gained by TIA and its hub partners will enable the continued implementation of the national and provincial programme beyond the project period. It is envisaged that the management and financing of the PMU?s operations will be handed over to TIA post-GEF funding, as happened after the first phase of GCIP. Additional funding to finance the PMU and its hub partners and their activities could be mobilized from corporate social responsibility activities carried out by the private sector. The final decision on the preferred and feasible approach will be decided during the implementation of the project (a sustainability and exit strategy is foreseen under Output 3.1.1).

156. In addition to attending the workshops outlined above, government capacity building will focus on two areas: development of action plans and monitoring and evaluation for cleantech; and training on cleantech. The first area will increase the ability of government (specifically DSI and the dtic) to develop action plans and roadmaps to implement and monitor existing and new cleantech policy. This will be delivered in tandem with the policy support and some of the capacity building will be based on experiential learning. For example, support will be provided to develop the action plan for the framework on the circular economy and associated M&E framework working with government officials to increase their own capacity (see Output 2.1.3) i.e. enhanced skills in policy implementation (at least 10 government officials, (at least 35% women)).

157. Capacity building is often a problem in government due to the high turnover of staff. There have been numerous initiatives to get government to understand the value of green technologies/cleantech entrepreneurs but the staff move on. Therefore, GCIP will develop a short electronic course that can be built into the system for new appointees. It will provide an overview of the cleantech innovation space, its value and how it contributes to various priorities within the National Development Plan (economic development, climate change, jobs etc.) ? at least 40 government staff (at least 35% women). TIA will subcontract out the development of the course and its endorsement to the NCPC-SA or another qualified entity. The NCPC-SA has experience in developing training courses and is the endorsing entity for RECP (resource efficient and cleaner production) training courses in the country.

Output 2.1.3 Policy support provided to strengthen cleantech innovation entrepreneurship ecosystem and promote a circular economy in a gender-responsive manner

158. GCIP will support policy strengthening and implementation in a number of areas. As described in the baseline, the cleantech policy landscape in South Africa is fairly well elaborated and provides an enabling environment for cleantech, however there is a lack of policy coherence and a clear gap in the policy implementation; in turning policies into action.

159. With support from the global child project (CTG) a cleantech policy implementation framework will be developed including national actions which are translated from global findings and best practices of disparate government departments working together in the cleantech innovation space. Building on the review from GCIP supported under GEF 5, a review of the existing policies and

regulations relating to the promotion of clean technologies, innovation and entrepreneurship will be carried out, and a gap analysis report on policy requirements prepared. The aim of the framework is to highlight opportunities for improvement, supported by examples from international case studies and observed best practice. The juxtaposition of various policies will be reviewed with the aim of the framework recommending ways to improve policy coherence. One possible option is to ensure the responsibility for the cleantech innovation ecosystem is housed within an existing committee, for example the Parliamentary Portfolio Committee on Higher Education, Science and Technology. This would ensure coordination and cooperation between ministerial government departments that offer policy support across an entrepreneur?s journey from idea to commercialization; will result in more prudent funding; and the prioritisation of relevant research areas that are aligned to government?s national innovation imperatives and key performance indicators. The framework will be presented to the main stakeholders during a dedicated cleantech innovation policy workshop for feedback and policy suggestions, facilitated by CTG.

160. Also, with support from the global child project (CTG) a gender and youth empowerment framework will be developed for cleantech innovation in South Africa, based on international research and best practice, and build on current policy initiatives in this area.

161. Initial analysis of the policy landscape shows that there are a number of policies and strategies, which need, or will need, action or implementation masterplans. Of particular significance for cleantech innovation is the DSI?s Science, technology and innovation (STI) framework for the transition to a circular economy (10-year plan). It is intended that GCIP will be part of the ecosystem for the plan. At the same time, GCIP will provide support in developing the action plan and the M&E framework and plan. The first draft of the STI circular economy transition framework was due by March 2021. Definition of the implementation plan will start later in 2021. International and national consultants and M&E experts will be contracted to assist in the development of the action plan and of the M&E framework, at the same time as building up capacity within the government, industry and civil society stakeholders involved in implementation (see output 2.1.2).

162. As part of the CIEE analysis, a number of options for policy improvement will be highlighted. The IP environment for cleantech innovation will be reviewed, including the IPR Act and other IP policies under dtic , and the linkages between the public and private sector and identify where there are barriers to innovation and potential for delay. Contracted consultants will review best practice elsewhere and in consultation with stakeholders, provide objective comprehensive IP Policy development recommendations. GCIP will also aim to facilitate behaviour change which supports cleantech innovation through support for green procurement and tax incentives and, through awareness raising and dissemination of these measures. Under green procurement, it is possible to add regulations to the Preferential Procurement Policy Framework Act (PPPFA) which applies to all levels of government. The intention under GCIP is recommend regulatory action that can support South African cleantech innovation whilst still retaining the need for government suppliers to have a strong balance sheet. At least one regulatory recommendation/policy brief will be proposed for inclusion in the Act.

163. Finally, GCIP will address current regulatory barriers experienced by entrepreneurs/businesses by mapping the regulatory system which will help companies to navigate the regulatory requirements in their sector. The sectors to be mapped will be determined by the final

categories decided for the South African accelerators but could include energy storage technologies, e-vehicles or waste-to-energy. Two regulatory maps will be developed and will also provide a template for more to be developed subsequently.

Output 2.1.4 Networking, knowledge generation, exchange and dissemination at national and global levels to promote linkages, collaboration and synergies across cleantech ecosystems of GCIP countries

164. Knowledge creation, exchange and dissemination are especially important in strengthening the cleantech ecosystems of emerging economies and developing countries. The global child project 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.

165. The global child project 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 that reflect the technology and investment trends, and inform and influence the international discourse on policy and investment decisions for cleantech innovation. In South Africa, TIA will be responsible for capturing knowledge through policy briefs, impact reports, brochures, webinars, and other types of promotional materials, and disseminated through events, social media channels, etc. as appropriate.

166. Experience accumulated in GCIP partner countries has shown the value of peer networking among startups within and outside of the country, across sectors and technologies. Facilitating continued networking among entrepreneurs during and after the annual Accelerator cycle will be a core component and strength of the national cleantech platform. An alumni network will be set up to facilitate this post-competition support. It will also aid other participants not selected as winners to procure support from other sources and successfully implement potentially ground-breaking ideas in South Africa and beyond. Particular attention will be given to garnering participation from successful women entrepreneurs in the programme to promote gender equality and the empowerment of women through involvement of role models. Moreover, this approach will not only support the ongoing development of the enterprises but will also ensure their continued engagement with the GCIP in South Africa. The network will be based primarily on the GCIP web platform which will be an interactive online community for GCIP (see outputs 3.1.3 and 2.1.1).

167. The pool of experts that will act as mentors and judges for the GCIP Accelerator will also be a valuable asset for GCIP as well as for building a robust national cleantech innovation ecosystem. Therefore GCIP will maintain a community of mentors and judges that can positively influence the cleantech innovation initiatives beyond the GCIP. The national mentorship platform as part of the

website will be the main means of interaction. GCIP, through TIA and IDC, will also seek to establish a robust network with national financial institutions and funds to raise awareness and sensitize various stakeholders on the opportunities and risks associated with cleantech products and market trends.

168. In addition to networking among stakeholders of the cleantech innovation ecosystem within South Africa, TIA will support and facilitate networking and community building at the global level in collaboration with UNIDO HQ and PEEs of other GCIP partner countries. This will include participating at international forums and events such as the UN annual Climate Conference, the Vienna Energy Forum, and GCIP Global Forum. These efforts will be conducted in close coordination with the GCIP global project and the global GCIP Website (see 3.1.3).

169. 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.

170. In addition, the winners, runners-up and other finalists will be invited to participate in other regional and global events to showcase their concepts and access the regional and international markets and investors. The national winners will be given the opportunity to attend Cleantech Week in Vienna, which includes the GCIP Global Forum, to meet with the national winners of the other Global programme country winners.

171. The following table provides an overview of the different tasks expected under Outcome 2.1 along with the responsibilities, budget allocation between the GCIP global child project budget and this project?s budget. TIA is responsible for the execution and delivery of Outcome 2.

Table 8: Key tasks and roles for Outcome 2

Output	Key tasks and activities	Global Child Project contribution	TIA?s role	Hub (and spoke partners) role	GCIP SA budget (USD)
2.1.1	Establish national cleantech innovation platform (on-line platform delivered under Component 3)		Contract hub partners	Contractors and contract spoke partners	39,000
2.1.1	List and profile all SA support services		Profile all services	Support	

2.1.1	Develop GCIP South Africa platform coordinating mechanisms		Develop	Follow	
2.1.2	Revise CIEE assessment framework	CTG develop tool*	Review and use to update needs		
2.1.2	Develop GCIP capacity building strategy and action plan		Develop		
2.1.2	Train selected stakeholders including national institutions, industry associations, and business platforms on supporting cleantech innovation		Conduct training	Support	181,000
2.1.2	Provide targeted interventions to promote gender equality and enhance participation of women and youth		Develop and deliver	Support	
2.1.2.	Training workshops on stakeholder engagement, cleantech innovation clusters, policy strategy and on using the frameworks	CTG delivers*	Attend	Attend	
2.1.2	Support/training on developing action plans and M&E frameworks for policy (circular economy)		Sub-contract		
2.1.2	Develop an on-line course for government officials		Sub-contract		
2.1.3	Cleantech policy implementation framework	CTG develops framework* and supports TIA	Review and apply to SA		
2.1.3	Cleantech innovation policy workshop	CTG facilitate	Attend and facilitate participation	Attend	
2.1.3	Gender and youth empowerment framework	CTG develops framework*	TIA reviews and applies to SA		170,000
2.1.3	Assist the DSI in the action plan and development of M&E framework of the 10-year circular economy plan		Sub-contract consultants		
2.1.3	Comprehensive IP policy development recommendations		Sub-contract consultants		
2.1.3	Regulatory recommendation/policy brief for inclusion in PPPFA		Sub-contract		
2.1.3	Awareness raising, launch, showcasing GCIP alumni for investment		Carry out		
2.1.3	Map regulatory barriers in two sectors and provide a template for other maps		Develop		

2.1.4	Development of knowledge products, communication and dissemination ? policy briefs, impact reports, brochures, webinars, social media etc.		Develop and disseminate	Support	60,000
2.1.4	Establishment of an alumni network		Establish	Support	
2.1.4	Establish community of mentors and judges (see also mentorship platform in 1.1.2)		Establish	Support	
2.1.4	Support and facilitate networking and community building at the global level		Facilitate	Support	
2.1.4	Participate in international fora including GCIP global forum		Participate / coordinate partners	Support	
2.1.4	Facilitate the participation of GCIP alumni at forum		Facilitate	Facilitate	

**Provided by the GCIP* global c*hild project budget*

Component 3 Project Coordination, Monitoring and Coherence

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

Output 3.1.1 Programme level internal GCIP guidelines and methodologies adapted and applied for South African coherence with all GCIP child projects

172. To maintain coherence and standards of GCIP execution across multiple countries, GCIP internal guidelines will be disseminated by UNIDO as a tool to TIA and all national PEEs. This will include operational guidelines for the Project Management Unit (PMU). 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. TIA will then provide training to their hub partners on pertinent issues and if necessary, update their internal coordination mechanisms manual.

173. Sustainability and exit strategies for GCIP will be developed at the global level in the first year of implementation for review and adaptation by each GCIP partner country by the beginning of year 2. TIA will develop a GCIP SA sustainability strategy adapting the global strategies and based on inputs from consultation with GCIP SA stakeholders and partners and the identification and leverage of engagements post GEF funding.

Output 3.1 2. Programme level knowledge management, communication and advocacy strategy adapted and implemented for GCIP South Africa

174. Past experience has shown that exchange of learnings and experiences among GCIP national PEEs and PMUs is key, especially in conducting the annual national accelerators, supporting alumni enterprises at various stages of development with diverse range of technologies, and strengthening national cleantech ecosystems. To facilitate this, UNIDO will develop an international GCIP knowledge management, communication and advocacy strategy, which will focus on

systematically coordinating the knowledge exchange and communications mechanisms to be used and for whom. The communication and advocacy efforts will have three aims:

? Promoting visibility of GCIP as a programme and communication of impacts achieved at national and global levels;

? Increasing awareness of the catalytic role of clean technologies as a business model in addressing climate change and environmental issues and their profitability;

? Showcasing cleantech innovations from GCIP alumni enterprises and enhancing their visibility and credibility.

175. The global GCIP knowledge management, communication and advocacy strategy will be disseminated to all national PEEs, and TIA will review and adapt the strategy for operationalization in GCIP South Africa. The communication strategy will include the development of awareness raising and marketing material, for public and awareness raising and for marketing material for entrepreneurs and officials. This will include briefing sessions, press releases, social media activity, attendance at events etc.

176. In line with the strategy, TIA will undertake continuous outreach activities to raise the profile of GCIP South Africa, as well as its alumni enterprises, to ensure that they receive a high level of recognition and support during and once the project has come to an end. Activities will include briefing sessions, press releases, social media activity and advertising; the mix of these activities will vary in line with the target audience. Outreach activities will be supported by the local entrepreneurs and/or earlier participants involved in similar programmes or acceleration services. Outreach partners will include GCIP hub and spoke partners, service providers (e.g., patent attorneys, accountants etc.), HEIs, including engineering, entrepreneurship and energy clubs, and organizations that are in frequent contact with entrepreneurs across numerous clean technology sectors (e.g., trade groups, entrepreneurship groups, inventors? clubs, etc.).

177. Investors (e.g., venture capital funds, angel networks, etc.) are an additional source of potential applicants due to their large networks and aligned interests. Outreach activities will also include dedicated initiatives to target women and youth. Importantly, outreach provides not only an opportunity to find potential candidates for the Accelerator, but also a means to increase awareness of clean technologies, climate change and the role of entrepreneurs.

178. Communication efforts tailored for investors (e.g., venture capital funds, angel investor networks, impact investors, etc.) will also be made to promote the profitability and impact potential of the cleantech businesses, thereby influencing the investment landscape for the cleantech sector.

3.1.3 GCIP website, community and network maintained at national and global levels, including extensive communication and outreach activities

179. The global GCIP web platform will be the main instrument for internal communication and external messaging at the programmatic level, and will be a tool provided to GCIP South Africa by UNIDO to serve four key functions.

a. Firstly, as an internal management and operations tool for use by TIA and for UNIDO for coordination purposes. Guidelines and tools developed at the global level will be disseminated through the web platform.

b. Secondly, as a tool for execution of annual accelerators, 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.).

c. Thirdly, for maintenance of a GCIP community at national and global levels. All GCIP alumni enterprises, as well as certified GCIP mentors and trainers 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.

d. Fourthly, to 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. To this end, each national PEE will coordinate closely with UNIDO.

180. GCIP South Africa will be assigned a section of the global GCIP web platform, and this country section will be the responsibiltiy of TIA to edit, maintain and operate. TIA will make sure that the GCIP website is seamlessly connected to the TIA website to ensure that it is clear what support is provided through GCIP and where it sits within the whole cleantech innovation ecosystem of South Africa and, specifically, how the support relates to other support available to entrepreneurs. Within the web platform there will be the mentoring platform and alumni network.

181. The country webpages will also form the national platform providing signposting to the most appropriate support for any cleantech entrepreneur. The country webpages will be used for the Accelerator cycle as detailed above, as well as after the Accelerator cycle for alumni companies and potentially investors (impact tracking post-Accelerator, investor matching etc.). The web platform will be a modern, user friendly, online system that empowers TIA with local ownership of data and GCIP alumni with a sound networking tool.

182. Networking among national PMUs and national PEEs as well as government agencies and counterparts has also proven to be a value added of GCIP as a global initiative. In conjunction with events and efforts to connect GCIP alumni enterprises, the national PEEs will be invited to participate in international GCIP events hosted online and offline for systematic and continuous dialogue and best practice and knowledge exchange among GCIP partner countries, including the GCIP Forum.

Outcome 3.2 Effective impact tracking and project implementation

Output 3.2.1: National impact monitoring established and linked to Global GCIP

183. The GCIP methodology for impact assessment will be developed by the global child project and will ensure a shared understanding of GCIP associated terminology amongst all involved stakeholders and will allow for extrapolation and comparison. It 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), energy saved, additional renewable capacity installed, job creation and investment leveraged. Data will be gender- disaggregated where appropriate and data on youth participation will also be recorded. This common methodology will be used to monitor GCIP impact in South Africa.

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

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

Output 3.2.2: Project effectively monitored - Regular monitoring exercises conducted including monitoring and reporting on the ESMP, GAP and risks; PIRs prepared according to UNIDO and GEF requirements

186. The monitoring of project progress is essential for the adequate and timely delivery of results. A detailed monitoring plan for tracking and reporting on project time-bound milestones will be prepared by UNIDO in collaboration with TIA and project partners at the beginning of project implementation and then periodically updated. TIA will prepare progress review reports every six months. Environmental and Social Safeguards Policy and Procedures, global environmental benefits (GEBs), energy saved and increase in installed renewable energy capacity, job creation, as well as gender dimensions and baselines for gender related targets (as outlined in the Gender Mainstreaming Action Plan), will be captured appropriately in the M&E plan and reported on in the progress review reports and PIRs, and in the collection and assessment of relevant data. Further details of the M&E are provided, along with a budget, in Section 9.

Output 3.2.3: External mid-term review and independent terminal evaluation conducted

187. An external mid-term review will take place in Year 3. An independent terminal evaluation will be conducted six months prior to the terminal review meeting. The final evaluation will look at the impact and sustainability of results, including the contribution to the capacity development and the achievement of global environmental benefits. An independent terminal evaluation will also provide recommendations for follow-up activities.

188. The following table provides an overview of the different tasks expected under Outcome 3.1 and 3.2 along with the responsibilities, budget allocation between the GCIP global child project budget and this project?s budget. TIA is responsible for the execution and delivery of Outcome 3.1 and 3.2.

Table 9: Key tasks and roles for Outcomes 3.1 and 3.2

Output	Key tasks and activities	Global Child Project contribution	TIA?s role	Hub (and spoke partners) role	GCIP SA budget (USD)
3.1.1	GCIP internal guidelines for project management teams	Develop GCIP internal guidelines*	Review and adapt		21,000
3.1.1	Annual meetings and training for national PEEs	Organise*	Attend and deliver key messages to partners	Attend TIA training	
3.1.1	Sustainability and exit strategy	Develop framework*	Develop SA strategy	Contribute	
3.1.2	Knowledge management, communication and advocacy strategy	Develop framework*	Review and adapt		17,000
3.1.2	Outreach activities		Undertake	Undertake	
3.1.3	Develop GCIP national on-line platform	Launch global GCIP platform*	Develop and maintain	Support	46,549
3.2.1	GCIP methodology for impact assessment and tools	Develop and provide training*	Review methodology and attend training	Attend training	25,000
3.2.1	Provide training to accelerator semi-finalists on impact assessment		Train	Train	
3.2.1	Validate and consolidate GCIP SA impact data, develop and publish impact reports		Validate, collect and publish	Provide data	
3.2.2	Prepare M&E plan and progress reports		Prepare	Provide data	12,500
3.2.3	Mid-term review	Conduct			65,000
3.2.3	Independent terminal evaluation	Conduct	Provide data	Provide data	

**Provided by the GCIP* global *child project budget*

4) alignment with GEF focal area and/or impact programme strategies;

189. GCIP generally, and this project specifically, is firmly aligned with the objectives of the GEF-7 Climate Change Focal Area Strategy CCM 1-4, ?Promoting innovation and technology transfer for sustainable energy breakthrough?. This project seeks to foster private sector engagement in accelerating the uptake and investments in innovative cleantech solutions at scale. The project prioritizes cleantech innovations in the domains that are fully aligned with GEF 7 priorities i.e., electric drive technologies and electric mobility, accelerating energy efficiency, decentralized renewable energy power with energy storage, and cleantech innovations related sustainable cities and sustainable food systems. In particular, the project supports cleantech innovation and entrepreneurship by providing catalytic support to early-stage South African cleantech innovation SMEs so that they commercialize and scale-up their operations thereby delivering climate and sustainable energy solutions that reduce GHG emissions.

190. Therefore, GCIP is a transversal intervention that supports all priorities of GEF 7?s Climate change focal area. The project 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 South Africa capitalizes on the growing interest by national and international private actors in the sustainability agenda and creates the conditions for SME driven creation and transformation of cleantech markets. This ultimately harnesses the ingenuity and creativity of SMEs and ?crowds-in? private sector investments to deliver environmental benefits beyond business as usual. On behalf of the GCIP framework (10408), GCIP South Africa promotes synergies with other GEF Programmes to leverage more impacts. In particular, it looks to establish operational, investment and/or knowledge management links with other GEF flagship initiatives such as the prospective Africa Minigrids Programme, Sustainable Cities Impact Programme, GreenChem and FOLUR. Furthermore, the project will exchange knowledge and lessons on opportunities for technology and business model innovations across these programmes.

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

191. This project aims to go beyond the current baseline. As discussed in section 1a): as a result of GCIP and other related initiatives there has been good progress in the business environment for cleantech SMEs and start-ups in South Africa; however long-term and effective impact is still hindered by the limited connectivity between the support available and that required for a conducive environment for cleantech innovation and entrepreneurship. Without GEF?s support, it is very likely that promising clean technology innovations will remain off the market as innovators and entrepreneurs lack the business and technical skills as well as financial means to fully develop and commercialize their products. This will result in many unrealized opportunities in reducing GHG emissions, in strengthening partnerships with the private sector, in commercialisation of cleantech start-ups and entrepreneurs and ultimately in missed opportunties for green economic growth and jobs. GCIP under GEF 5 had supported, promoted and ?de-risked? the participating SMEs and startups and connected them to potential investors, customers, and partners. The success achieved so far provides a running setup and sound knowledge base, pool of innovators, lessons learned and established partnerships as valuable inputs to be capitalized. However, entrepreneurs still face challenges in post competition

support, in access to seed and early-stage funding, in reaching commercialization and those entrepreneurs in more remote areas face few support options. To deliver the potential of South African cleantech innovation (and its associated green growth, jobs and environmental benefits) still more needs to be done to foster the expansion of SMEs and startups into environmentally responsible products, practices and services.

192. This project has been designed to learn from GCIP supported under GEF 5, to create opportunities for greater impact through providing greater commercialisation support and investment facilitation services to expand opportunities for market expansion. This project is designed to provide catalytic and effective interventions that galvanise private sector interest and investments in the cleantech innovation and entrepreneurship space and also strengthen the national cleantech innovation and entrepreneurship ecosystem and connect it at a global level. These interventions, create a critical mass of interest in the cleantech sector, drive the transformation cleantech markets and result in more cleantech SMEs contributing to climate change mitigation and low-emission development.

193. Building on the baseline, including GCIP under GEF 5, the project will:

a. Update, adapt and institutionalise methodologies, guidelines, tools and training systems for accelerator, advanced acceleration and post-accelerator support and for mentors, judges, trainers to be trained and certified in South Africa. This will ensure that the country will continue to run the GCIP accelerators long after the GEF project has ended.

b. Provide post acceleration support and investment facilitation services so that cleantech innovators from this will be able to commercialise their innovation and mobilise funding for scaling-up.

c. support the establishment and operationalisation of an early-stage financing mechanism

d. support the establishment of a national platform and at least five regional GCIP hubs

e. increase focus on developing policy and regulations on cleantech innovations at national level

f. participate in global events around the global competition-based accelerator such as dialogues, investors networks to promote networking and learning

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

194. One of the many incremental services that GCIP South Africa provides (through its programmatic linkages) is access to global investors. As an estimate, evidence from GCIP under GEF 5 & 6 shows that some GCIP alumni were able to mobilise global funding and expand their operations. From Turkey, Episome Biotech (2017 semi-finalist) raised ?1.7million in investment through 3 rounds from Diffusion Capital Partners based in The Netherlands; Seyisco raised USD 100,000 and B-Preg and Solter Vision also raised foreign capital. Actual figures are not yet available as to the level of increased GHG emission reductions achieved as a result of the international funding but the global funding allowed B-Preg (bio-composite parcel shelves) to expand internationally and they now estimate annual emission reductions of 4 180 tCO2e/year and growing. Similarly, Solter Vision

(remote PV plant analysis) now estimates annual emission reductions of 15,300 tCO2/yr and Seyisco (efficient pot hole filling) already estimates 826k tCO2e per year saved. Episome (biotech) has the potential to reduce GHG emissions by 40 million 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.

195. The differential is further enhanced through the inclusion of 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. For example:

a. The project ensures that GCIP Alumni are able to truly mature and be able to harness local and global market opportunities brought about by dedicated support and ecosystems connectivity provided by this project.

b. GCIP alumni will have higher chances of commercializing their innovations and of getting connected to investors and the private sector through GCIP South Africa and global innovations challenges, international mentoring for global expansions and linkages to other sources of financing that include impact investors and crowdfunding platforms.

c. Since these interventions ensure sustainability of the project, they result in more GHG emission reductions beyond the baseline. Without GEF funds there will be lost opportunities to nurture entrepreneurs to scale, to further reduce emissions and to strengthen private sector partnerships. With approximately 200 new cleantech enterprises supported and each saving between 1,800 and 3,600 tCO2e by 2030, the cost effectiveness of the GEF funds is between 4.5 USD/tCO2e and 9 USD.

196. This GEF assistance is essential to encourage and ensure the required stable co-financing, particularly in attracting foreign and domestic investment in cleantech in the country. As such, GEF resources will be instrumental in catalysing cleantech innovations and sustaining an entrepreneurship culture beyond the lifetime of the project. Maximising support to the GCIP alumni will result in a bigger impact in a very cost-effective way.

197. Regarding co-financing, the project will receive in-kind and cash support from different public institutions highlighting the high level of ownership and interest from national stakeholders. In particular funds have been committed from TIA, IDC, DSI, dtic, and incubators including the hub partners. Notably, TIA has allocated up to USD 8,000,000 as grants from its associated seed and Technology Development and Commercialisation finance facilities, in addition to its annual budget allocated to the GCIP accelerator, and IDC is to match GEF funds (1M USD) as leverage for additional loans and grants to be mobilized to the sum of USD 6,000,000. Even though, the GEF contribution will act as the trigger for the practical realization of innovative clean technology innovation and entrepreneurship in South Africa, the additional co-finance is essential to successfully reach the project objectives.

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

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

i) Background on GCIP?s target for avoided GHG emission for the GCIP Framework (GEF ID: 10408)

199. In order to ensure that GCIP supports innovative cleantech solutions with high impact potential, and delivery of GEBs at the programme level, a target approach is applied. To achieve cost effectiveness of GEF funding for GEBs, a value of 5 to 10USD/tCO2e avoided is targeted (corresponding to an overall cost per tonne at programme level of USD38-76/tCO2e). This means that, with GEF funding of almost USD 18 million, GCIP Framework aims to deliver between 1.8 million and 3.6 million tonnes CO2e by 2030. As 10 countries will be a part of the overall GCIP Framework, almost 1000 semi-finalists are expected to be supported through the accelerators in all countries across the programme. Therefore, the target for the minimum projected potential of avoided GHG emissions per enterprise is between 1,800 to 3,600 tCO2e by 2030.

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

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

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

c. Thirdly, the Mission Innovation Framework for Assessing Avoided Emissions, in which a number of GCIP alumni (selected as part of Mission Innovation?s 100 innovative clean energy solutions in 2019) were included, shows for example that Atomberg Technologies (which manufactures an energy efficient fan) is estimated to avoid 5 million tCO2e/year by2030. In turn, BEAD, an energy management AI optimization enterprise, is estimated to avoid 319 million tCO2e/year by 2030. These

two companies were also covered by the IEO report mentioned above, but Atomberg had not provided an estimate (so was assumed zero) and BEAD?s estimate was 5 milliontCO2e/year.

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

202. The target of between 5 to 10 USD/tCO2e avoided, that is set for the GCIP Framework, translates into avoided GHG emissions per enterprise of between 1,800 to 3,600 tCO2e. The provided target range will enable the GCIP country child projects to support a mix of technologies with different CO2 emission reduction potentials, and in particular allow innovations into the GCIP Accelerators that a) have a relatively low CO2 reduction potential, but a considerable demand and market growth potential (that can lead to amplification of GEBs), as well as b) that create multiple benefits (including socio-economic, such as job creation, gender mainstreaming, etc.).

203. In addition, indirect GEBs facilitated through the CIEE strengthening are also expected. In particular, indirect GHG emission reductions could result from: strengthened capacity of institutions and human resources to support commercialization and uptake of cleantech solutions at large; investments mobilized for cleantech solutions at large due to reduced risk perceptions; as well as longer-term emission reductions from behavioural change. An estimated factor of 5 is chosen to provide a projection for indirect GEBs. Where possible, efforts will be made to verify the indirect GHG emission reductions achieved at national and global levels through terminal evaluations.

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

ii) Estimation of Global Environmental Benefits of GCIP South Africa (GEF ID: 10456)

205. The four cycles of the South African multi-track accelerators are expected to support at least 200 enterprises (semi-finalists). Using the above benchmark avoided direct GHG emissions over

a ten-year horizon are estimated at between 360,000 and 720,000 tCO2e and between 1.8 million and 3.6 million tCO2e of indirect GHG emission savings are estimated (based on an estimated factor of 5). The lower range has been used as input to the GEF corporate core GHG indicator target (indicator 6) as a conservative estimation.

206. To facilitate the achievement of GEBs, there will be awareness raising and promotional activities during the call for applications to the GCIP South Africa Accelerators, and the applicants will also be supported in calculating the GHG emission reduction potential of their innovations. Additional training on GHG monitoring and calculation will be provided to all semi-finalists.

207. In addition to the substantial CO2 emissions mitigation, it is expected that other environmental co-benefits will result from this project, in particular because of its focus on a circular economy. These are likely to include reduction in waste in the environment and reductions in material use. In addition environmental co-benefits will include a reduction in air pollutants (e.g., NOx, SOx, PM and CO) and improved water quality. Examples from previous South African GCIP alumni include: waste-to-energy technology which diverts waste from landfill; a hot water (geyser) sleeve that helps households to conserve, reuse and improve water heating; a solar veranda that not only provides solar heat but also collects rain water so reducing need for water; a recycleable roof tile; biodgradeable sanitary pads; and an artificial wetland providing a natural, sustainable way to improve water quality in poor communities. The environmental co-benefits from this GCIP SA will be monitored and reported (eg. tonnes of waste diverted from landfill, litres of water saved) along with renewable energy capacity installed and energy savings.

7) innovativeness, sustainability and potential for scaling up. ?

Innovation:

208. In the last years, innovation and entrepreneurship as well as low-carbon development have become a high priority for the government of South Africa as today?s clean technology innovations will shape tomorrow?s economy and job market. Several accelerators and incubators ? financed through public and private sources? have been created in silos, as have national flagship programmes. The GCIP is unique in its approach of fostering the expansion of SMEs and start-ups into cleantech products and markets. From the assessment of the current policy framework and the identification of innovative technologies to their development and commercialization, the GCIP supports entrepreneurs across the whole innovation value chain to develop demand-driven and investment-ready climate solutions that will have a real impact in South Africa and global markets. In contrast to other accelerators and incubator programmes, GCIP not only promotes innovation per se but also uses an innovative approach that is cross-sectoral and multi-tiered to strengthen the national innovation and entrepreneurship ecosystem by building capacity in national institutions, creating strong linkages between the most relevant ecosystem players and by raising awareness among them.

209. The project is also innovative in adopting an inter-disciplinary approach and working through a national platform, which brings together different organisations within the cleantech ecosystem. This will include working with DSI, dtic, SEDA, HEIs, technology stations, incubators,

research centres, industrial associations and other relevant organizations and initiatives, and associations promoting gender equality and women?s empowerment.

Sustainability:

210. GCIP South Africa has been designed with a view to self-sufficiency and long-term sustainability. Creating the capacity to run the GCIP accelerators with public and private funding post GCIP will ensure sustainability, as shown with TIA in GCIP supported under GEF5. Sustainability and exit strategies will be developed as part of the global child project in the first year of implementation, which will then be reviewed and adapted for South Africa by the beginning of year two (output 3.1.1). Knowledge management underpins GCIP?s sustainability through building capacity, through publishing and sharing standards, methodologies, practices and resources and providing the platform for on-going communication. The sustainability of the project is reinforced by the following:

a. Strengthening TIA and its hub and spoke partners to ensure that the skills and experience are there to sustain the cleantech innovation platforms and run the accelerators beyond the GEF funding. Specifically, TIA and partners will be strongly supported in several activities by the global PEEs in the first year, the assistance is gradually phased out in the subsequent years, so TIA and partner s are expected to run all activities and coordinate with relevant stakeholders fully autonomously by the end of the project;

b. Through an impactful communication and awareness creation strategy, and its implementation over the five-year duration of the GCIP, to ensure enhanced awareness of the value of cleantech and the achievements of participating entrepreneurs

c. By generating and using methodologies, guidelines, tools and training materials for competition-based accelerators, GCIP will ensure TIA and its partners engaged in running the accelerators will have adequate resource materials to use in running such accelerators beyond the life of the project;

d. 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 guarantee that the GCIP will transform to a recognized brand, securing long-term sustainability.

e. Through the establishment of a new financing facility within IDC that will be open to GCIP alumni and other cleantech entrepreneurs and is committed for ten years;

f. Building capacity of local experts (trainers, mentors, judges), so that they are able to offer their services on market terms (independently from GCIP South Africa) to entrepreneurs not supported by the project;

g. By linking cleantech innovation ecosystems across countries, GCIP will create a business environment and incentives for cleantech SMEs, policy makers, and industry associations to work across countries. This will be sustained through these stakeholders investing their own resources in these activities beyond the life of the programme;

h. 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 about policy and regulatory innovations. In fact, the web platform, will catalyze continued connectivity of innovation ecosystems from different countries;

i. 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 will be provided with a continuous access to these tools and apply them to sustain the GCIP approach;

j. Development of long-term partnerships with the private sector which will form part of national exit strategy and guarantee continued funding of the programme.

k. During and post the GCIP South Africa Accelerator the start-up entrepreneurs will be guided through the development process of the concepts to ensure that their innovative concepts are sustainable and will have a real impact on the South African market. To ensure that this intensive mentoring approach is sustained beyond the project implementation period, the project will conduct capacity building activities for the hub and spoke delivery partners, mentors and judges in the country;

l. Through investment facilitation, SMEs will be able to mobilize funding and investments from angels, impact investors and other sources of finance thereby bringing their businesses into full sustainability;

211. An exit and scale- up strategy will be tailored for South Africa based on a global strategy that will be developed as part of the global child project. It is likely to include interventions outlined below such as:

a. identify and work with institutions (TIA and its partners) that will retain the knowledge and skills developed under the project;

b. pursue country ownership through engagement of relevant public and private sector actors;

c. build local capacities (trainers, mentors, judges) to sustain the ongoing organization of the accelerator;

d. ensure access to training materials and infrastructure to manage applications (whether local, international, or centrally-shared);

e. provide clarity about the point at which exit will take place, based on targets and outcomes; and

f. engage in a handover process and transition where UNIDO support is phased out.

Scaling Up:

212. Scaling up of the project is foreseen within the project period; the first year of GCIP South Africa Accelerator will focus on sustainable energy (with potential applications in industry, residential,

agriculture and agro-processing sectors, e-mobility and IT), with expansion into more sectors in subsequent years. Within the project GCIP will focus on at least five provinces but it is expected that the GCIP model will be replicated across all South African provinces in the future. It is the intention to add Limpopo province within the project timescale. Knowledge management integral to GCIP will assist in the scaling up by providing the models and resources to easily replicate in different sectors and regions. In addition, the global nature of the GCIP will offer an ample opportunity for GCIP South Africa to continuously expand, especially with the potential support of global markets, sponsors, partners and investors within and beyond the project implementation period.

213. The project also provides considerable potential for additional scale-up because it will enhance the traditional GCIP approach by including post-accelerator services like investment facilitation and commercialization services as well as by expanding to challenge based competitions, focusing on categories with higher environmental impact including sustainable cities, smart agriculture and food systems, low-carbon energy systems, etc. The commercialization services aim at complementing the training provided during the acceleration process to maximize the ability of each supported alumni to reach the commercialization stage, and to scale. It is intended that the new financing facility will be open to both alumni and other eligible cleantech innovators, and so GCIP is expected to effectively increase job creation, competitiveness, wealth generation and GHG emission reductions.

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Energy generation ? 130 000

Energy and Resource Efficiency ? 68 000

Emissions and Pollution mitigation ? 32 000

Natural Resource Management ? 233 000.

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[34] Montmasson-Clair G, Chigumira G. Green Economy Policy Review of South Africa?s Industrial Policy Framework. 2020;80.

[35] ??Going forward, industrial policy will be structured around the development of Master Plans for key industrial value chains, as coordinated by the Presidency?s Re-imagining our Industrial Strategy for Inclusive Growth framework. The Presidency?s approach has not, however, overtly embraced a green economy lens and focusses on traditional sectors and activities? (4).

[36] UNIDO, GEF, WWF CT. The Global Cleantech Innovation Index 2017 [Internet]. 2017. Available from: https://www.unido.org/sites/default/files/files/2017-11/GCII_GCIP_report_2017.pdf

[37] Montmasson-Clair G, Chigumira G. Green Economy Policy Review of South Africa?s Industrial Policy Framework. 2020;80.

[38] https://www.forbes.com/sites/tobyshapshak/2018/02/19/new-president-cyril-ramaphosa-promises-to-revitalize-south-africas-digital-economy/#11e6e0a258d9

[39] http://www.sabinetlaw.co.za/communications/articles/digital-industrial-revolution-commission-pipeline

[40] GII 2020

[41] Bridget Furyor L van E. South African Entrepreneurial Ecosystem Map [Internet]. 2015. Available from: https://assets.aspeninstitute.org/content/uploads/files/content/upload/ANDE ENTREPRENEUR ECOSYSTEM MAP 2015.pdf
[42] Formerly the Department of Science and Technology (DST).

[43] Montmasson-Clair G, Chigumira G. Green Economy Policy Review of South Africa?s Industrial Policy Framework. 2020;80

[44] GreenCape. Waste Economy 2017 Market Intelligence Report. Cape Town; 2017.

[45] National Advisory Council on Innovation. South African Science, Technology and Innovation Indicators. 2019;(1):1?84.

[46] Institution for Economic Justice, 350Africa.org CJC. Imagining a Just Recovery in South Africa [Internet]. Johannesburg; 2020. Available from: https://7lo0w1yurlr3bozjw1hac3st-wpengine.netdna-ssl.com/files/2020/07/Just-Recovery-Report-ForWeb.pdf
[47] ?These measures include, amongst others, (i) making funding available through all of the department?s centres, with commitments to significantly improving funding turnaround times; (ii) introducing common templates for funding applications across all South African development finance institutions; (iii) introducing the Small Business Innovation Fund, which will use a blended finance model to lower financial costs for entrepreneurs through means of loans and grants; and (iv) making provision to fund partner organisations (incubators) under certain conditions? (17).

[48] Formerly the Department of Trade and Industry (dti).

[49] A connected car is a car that can communicate bidirectionally with other systems outside of the car.

[50] The number of registrations was far higher at 607 but, according to the terminal evaluation, a maladapted application process proved a high barrier to entry with an average 55% attrition rate.

[51] See output 2.1.1 for the list of hub partners in five provinces.

[52] 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. Trainers / 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. A stipend may be offered for mentors and judges, to cover travel and incidental cost support as required. Trainers (national and international) may be contracted or recruited to deliver the accelerator curriculum.

[53] The system will be an updated version from the first phase of GCIP and will be broadened to include post and advanced acceleration support. The system includes the GCIP methodology, the training steps, methods of delivery and assessment appropriate to each type of national expert (trainers, mentors and judges). This will include specific steps to foster the increased participation of GCIP alumni as experts. For each group of experts, methodologies and training material including a

curriculum and content will be developed plus certification requirements and designs set out which will be recognized/adapted to all the GCIP partner countries.

[54] The NICs are different from the GCIP National Cleantech Innovation Challenge which will be in partnership with private or public sector organisations and aim to address a particular challenge.

[55] Alumni from the GEF 5 GCIP will also be eligible to receive support

[56] The Development Impact Support (DIS) department is a unit within the IDC that is responsible for the establishment and facilitation of funds and support for public local economic development agencies. The agencies have been designed to bridge the gap between the public and private sectors and other development organisations at a local level. In supporting IDC?s overarching strategic direction it invests inline with IDC outcomes including: Sustainable employment; Regional equity; Environmentally sustainable growth; Growing sectoral diversity; Growing the SME sector; Broad-based black economic empowerment; and Ensure new entrepreneurs enter the economy.
[57] To be finalised with IDC in the first 3 months of implementation

[58]Suggested by IDC, with IDC covering the concessional rate

[59] Suggested by IDC

[60] Intellectual Property Rights from Publicly Financed Research and Development Act 51 of 2008. The act is concerned with publically funded IP and was only really implemented in 2012-13 with the establishment of NIPMO at dsi.

[61] Including the 2008 Intellectual Property Policy of the Republic of South Africa Phase 1, which focuses on IP and public health

[62] 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[62]. 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

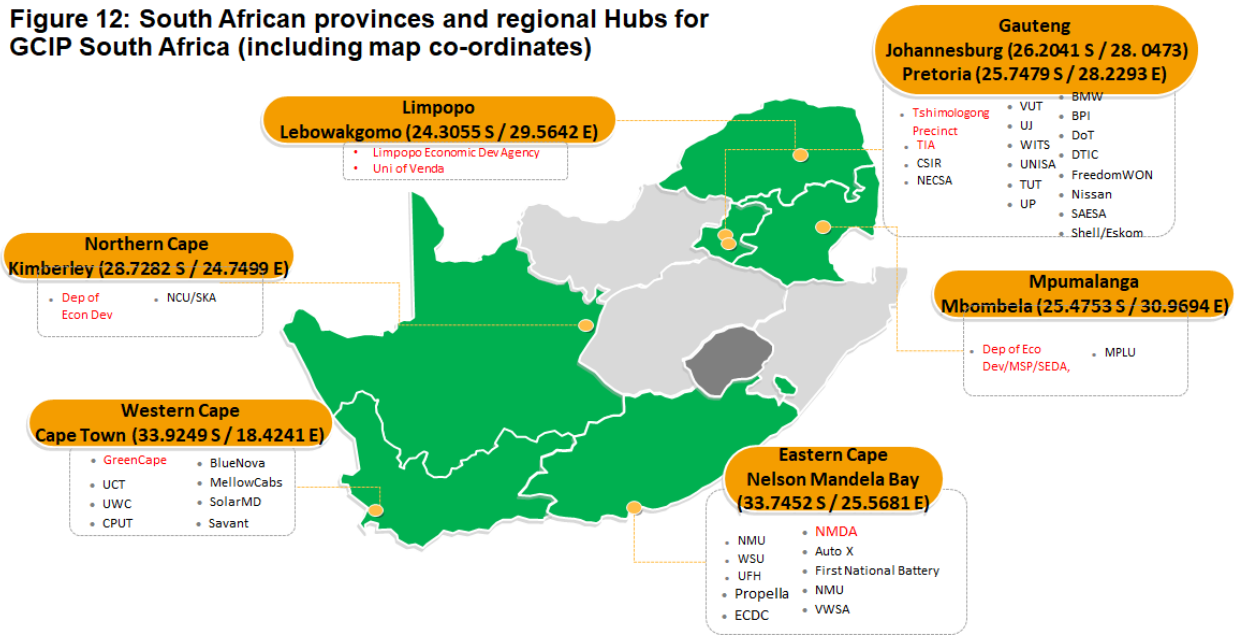
1b. Project Map and Coordinates

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

214. The project will cover all of South Africa but with a focus on at least five provinces, each with a GCIP hub, as shown on the figure below. The project management unit and coordination will be based in Pretoria. While the project is targeted at beneficiaries (entrepreneurs and all relevant CIEE stakeholders, such as universities, policy makers, financiers, and R&D institutions) from all over the country, the main project events and activities will be conducted in Pretoria and the hubs. The

coordinates of each hub and the PMU are also shown on the map. The project boundary will not overlap any other country?s territory.

Figure 12: South African provinces and regional Hubs for GCIP South Africa (including map co-ordinates)



1c. Child Project?

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

215. The GCIP South Africa project is a child project under the GCIP Global Framework. The outputs and outcomes from the project will contribute to the overall programme impact through the number of cleantech innovations, entrepreneurs and SMEs supported, finance mobilized and the resulting green growth, jobs created and GHG emission reductions. Furthermore, the project will engage with the global framework to ensure synergies, knowledge sharing, learning, consistence and efficiency as well as additional support to enable national SMEs to scale globally. The following figure shows how the Global framework programme, through the global child project, will support the South Africa child project and how the South Africa project will feed into the global programme.

216. The project will also collaborate with NGIN, and CTG, which are both official partners within the Global Programme. Engagement with the global framework is integrated into all components of the project and will include all stakeholders. It includes the following main activities:

a. Methodologies, guidelines, tools for acceleration, and training systems: These will be developed and harmonized at the global level and the national project will focus on adapting these to the national circumstances. Experiences in applying the tools and systems across child project will be used to

improve the tools. The global accelerators and global forums will help national enterprises to bring their innovations to the global stage and link with entrepreneurs and from other countries to explore opportunities for joint co-innovation, joint ventures and mobilizing investments.

b. Enterprise?s growth support, investment facilitation and cross border growth support: Through the global project, national cleantech SMEs will be supported to expand their businesses to other countries. In addition, the global framework will provide investment facilitation services to national enterprises so that they can be linked to investors (impact, venture, angels, and commercial) at regional and global levels. Furthermore, the global framework will provide support to the national child project in establishing market enabling frameworks to promote investments in cleantech.

c. Targeted training, innovation policy support, knowledge management, and peer-to-peer networking and learning: The global framework will provide methodologies for training national institutions, development of policies on cleantech innovation and entrepreneurship, and document best-practices. By linking policy makers, institutions, financiers and entrepreneurs across countries, the global framework will facilitate knowledge exchange and documentation of best-practices and peer-to-peer networking and learning.

d. Program standards, communication and advocacy, and monitoring and evaluation: to promote coherence and coordination across all GCIP countries, the global framework will develop program guidelines that will be applied by the countries. Through the global web platform that will be developed by the global framework, communications and advocacy will be promoted across countries. In addition, the global framework will develop methodologies for impact tracking and monitoring and evaluation that will then be applied across countries.

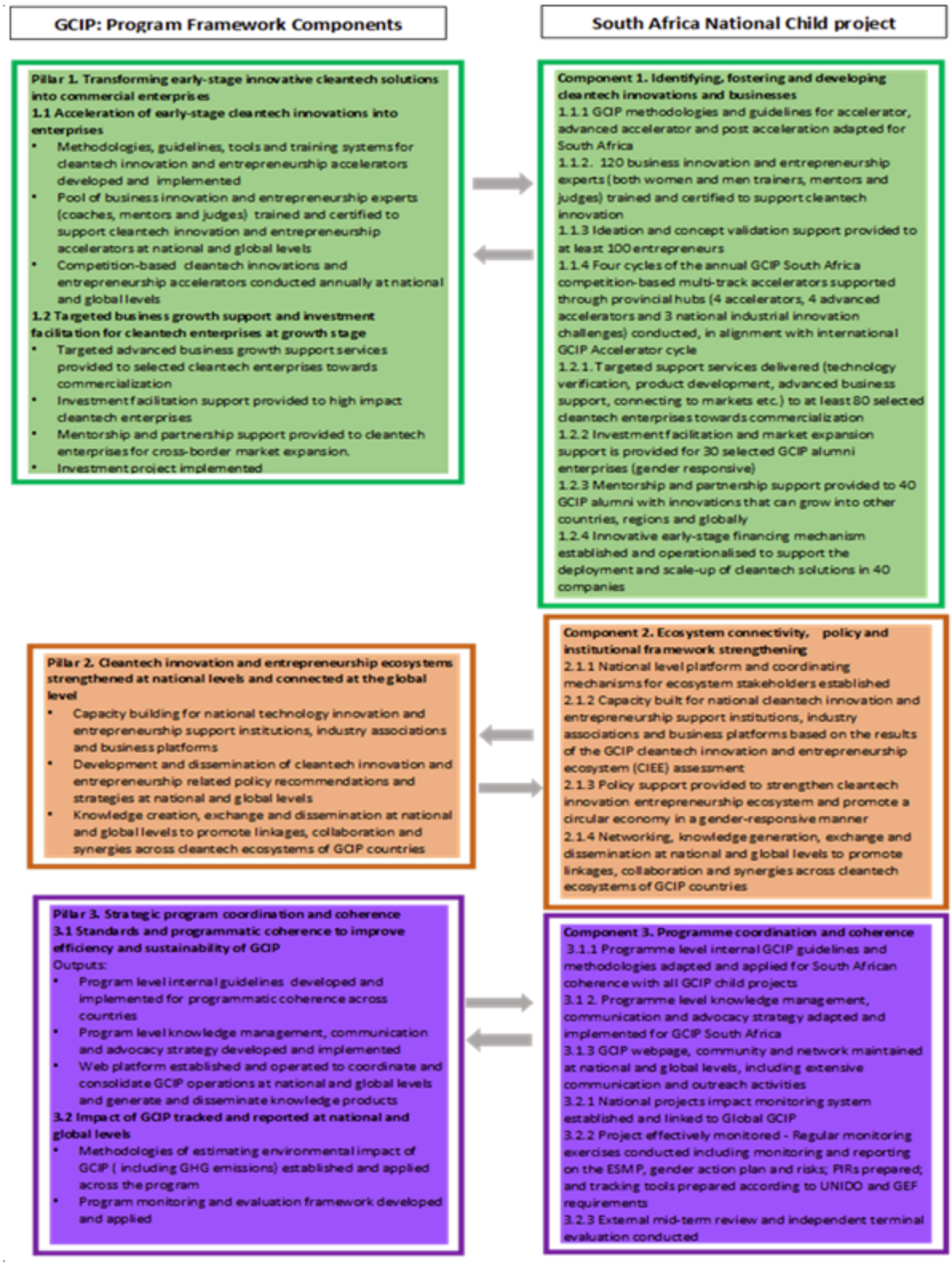


Figure 13: Alignment of GCIP South Africa with the global programme

2. Stakeholders

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

Civil Society Organizations

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

217. UNIDO is the implementing agency of the project, and is accountable to GEF and other funding resources to be provided by the Government and private sector. Stakeholder consultations - designed to be as inclusive as possible - have taken place during the design period, paving the way for concrete involvement and commitment from all relevant actors . This will continue through the project as the coordination of the ecosystem stakeholders is a key objective of the project. A Stakeholder Engagement Plan (SEP) has been developed which outlines the strategy and programme for engaging with stakeholders including a range of activities and approaches, from information sharing and consultation, to participation, negotiation, and partnerships. The SEP also sets out resources and responsibilities as well as any related monitoring and reporting (see Annex J).

An overview of the stakeholders and their roles and engagement in the project is included below with the stakeholders identified to date and their proposed form of engagement in the project.

Table 10: Roles and engagement of stakeholders

Stakeholder	Role / Extent of influence	Envisaged role in the project / engagement
Technology Innovation Agency (TIA)	TIA is a government agency under DSI with a core business objective of supporting the development and commercialization of competitive technology-based services and products.	TIA will be the national project executing entity, with responsibility for the execution of the project and for its sustainability beyond GEF funding. TIA will link to the hub and spoke partners to deliver the project and sub-contract to experts where necessary. TIA will also provide linkages to other government departments.
Industrial Development Corporation (IDC)	IDC is a national development finance institution providing grants and finance supporting SA?s economic growth.	IDC will host the financing facility as an executing entity, providing patient capital and will be a co-financier.

Department of Trade and Industry and Competition (the dtic)	The dtic?s vision is of a South Africa that has a vibrant economy, characterized by growth, employment and equity, built on the full potential of all citizens.	The dtic will be the Co-Chair of the PSC and will participate in the capacity building and policy activities of the project.
Department of Science and Innovation (DSI)	The aim of the DSI is to realize the full potential of science and technology in the social and economic development of human resources, research and innovation.	The DSI will be the Co-Chair of the PSC and participate in the capacity building and policy activities of the project.
Department of Forestry, Fisheries and Environment (DFFE)	DFFE fulfils its mandate through formulating, coordinating and monitoring the implementation of national environmental policies, programmes and legislation.	The DFFE will be a member of the PSC and participate in the capacity building activities of the project. The GEF Focal Point for South Africa is situated within DFFE, who will also be a member of the PSC and will monitor the implementation of this project.
Department of Mineral Resources and Energy (DMRE)	DMRE is responsible for national energy policy; ensuring national energy (and electricity) security and supply.	The DMRE will possibly be a member of the PSC and advise the project on technology issues related to its mandate.
Department of Water and Sanitation (DWS)	The DWS is the custodian of South Africa?s water resources. It is primarily responsible for the formulation and implementation of policy governing this sector. It also has an overriding responsibility for water services provided by local government.	The DWS will possibly be a member of the PSC and advise the project on technology issues related to the water efficiency category of the Cleantech Competition and Accelerator Programme.
Small Enterprise Development Agency (SEDA)	SEDA is an agency under the dtic supporting SMMEs and runs incubators across the country.	SEDA will be a recipient of capacity building and its incubators across the country will support the delivery of business support. SEDA will also be involved in ensuring peer acceptance of GCIP training material.
Sector Education and Training Authorities (SETAs)	There are 21 SETAs are concerned with learnerships, internships, unit-based skills programmes, and apprenticeships with each covering a different sector. The most relevant to GCIP are the Energy, Water and Manufacturing SETAs	The relevant SETAs will be engaged by TIA to ensure that the GCIP training material is embedded in the SA system and accepted by peers.

Nelson Mandela Bay Development Agency	Responsible for economic development. On innovation and research, they are involved in work on e-mobility and have a science and technology centre.	Selected during the PPG stage to work as hub and spoke partner with TIA, in the Eastern Cape, to deliver and support the provincial GCIP accelerators. They will provide services and will also be recipient of capacity building.
Department of Economic Development ? Northern Cape & Mpumalanga	Departments tasked with the responsibility to drive all economic development and planning initiatives in the provinces. Their mandates include business creation and sustainable development.	The departments will be key hub partners in the Northern Cape and Mpumalanga, supporting the GCIP accelerator and support services and delivering ideation and concept support plus post accelerator support. They will be also a recipient of capacity building
Department of Transport	Responsible for the Green Transport Strategy	To be consulted on elements relating to e-mobility.
The Council for Scientific and Industrial Research (CSIR)	The CSIR in South Africa is one of the leading scientific and technology research, development and implementation organizations in Africa.	The CSIR will be requested assist in the implementation of the project, also providing facilities, venues and expertise if required particularly in the delivery of Component 1.2 and technology validation/IP work. Possible collaboration with entrepreneur-focused initiatives of the CSIR Energy Centre.
National Cleaner Production Centre of South Africa (NCPC-SA)	The NCPC-SA is a national programme of government that promotes the implementation of resource efficiency and cleaner production (RECP) methodologies to assist industry to lower costs through reduced energy, water and materials usage, and waste management. It is hosted by the CSIR on behalf of the Department of Trade, Industry and Competition (the dtic).	The NCPC-SA, based on its experience from the Cleantech competition of COP17, will support and advise the project where necessary. The existing network of NCPC-SA globally and regionally (particularly in the SADC region) will also be leveraged. The NCPC-SA could assist in developing and endorsing training material for government officials

Civil Society Organizations (CSOs), Sector Associations (Automobile Association of South Africa, Battery Industries, eWaste Association of South Africa, Green Building Council of South Africa, National Association of Automobile Manufacturers of South Africa, Nedlac Community Trust, Nelson Mandela Bay Business Chamber, South Africa Energy Storage Association, South African Bureau of Standards, National Business Initiative, Black Business Council, Female Founders, Minerals Council of SA, SAREC, The Southern African Venture Capital and Private Equity Association (SAVCA))		Relevant CSOs, Sector Associations and Industrial/Commercial Partners will be invited to participate, where relevant, during project implementation. They will be recipients of the project outreach and advocacy activities. Possible PSC member SAVCA.
Industrial/Commercial Partners: (Eskom, Sasol, Growthpoint)	Eskom ? state owned electricity utility Sasol ? Oil and gas company Growthpoint ? real estate developer	Discussions are underway with these commercial partners to design challenges in parallel with the accelerators. The partners will identify specific challenges, may provide a market for the future product and provide co-finance to the process.
Universities & Incubators (NCU, TUT/UNISA, VUT, MPU, UWC, NMU) (SAVANT, GreenCape, Propella, TIH, Tshimologong Precinct, Female Founders, Innovation Hub)	Provision of support services to entrepreneurs	These universities and incubators have been selected during the PPG stage to work as hub and spoke partners with TIA to deliver and support the provincial GCIP accelerators. They will provide services and will also be recipients of capacity building. GreenCape and Tshimologong Precinct are also providing co-finance of the project.
Finance Institutions: DBSA, SEFA, Standard Bank		Engagement throughout the project as part of a network of financial institutions interested in cleantech, participants in training on investment in cleantech and investing with gender-lens principles, invitees to investor connect events and potential partners in matchmaking activities.

Cleantech SMEs and entrepreneurs		Potential project beneficiaries as applicants and participants in the pre-accelerators, accelerators, advanced accelerator and post accelerators and as mentors and judges.
Global Child Project Executing Entities (PEEs) ? NGIN, Cleantech Group, PFAN	Execution of the Global Child Project	As part of the global GCIP framework there will be significant two-way interaction with the PEEs of the Global Child Project. This will cover the development of methodologies and guidelines for local adaptation, training material and capacity building, global advocacy, tools for coordination and coherence, international forums, support for South Africa GCIP alumni, knowledge products and advice. Impact monitoring will be measured nationally and globally.
Gender Focal points and associations that promote GEEW, gender experts e.g. The Black Business Women?s Association (BBWA) Future Females Young Women in Business Network (YWBN) The Association of South African Women in Science and Engineering (SA WISE)		Relevant women entreprenurs, gender experts, associations that promote GEEW and gender focal points will be involved in all activities of the project. The project will deliberately mobilize interest from women entrepreneurs by targeting the involvement of their associations in the project process. This will be done by taking into account the cultural contaxt that exists in South Africa. That way, the project would adequately address the gender impalances in SMEs and provide a solid basis for gender mainstreaming in clean technology innovations
Other International Agencies e.g., GIZ, USAID, SECO		Relevant International agencies will be invited to participate and consulted, where relevant, during project implementation. They will be recipients of the project outreach and advocacy activities.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

218. The Stakeholder Engagement Plan (SEP) is designed to enable effective engagement of various stakeholders and to maintain dialogue with them throughout the lifecycle of the GCIP South Africa

project, including information sharing and consultation, participation, negotiation, and partnerships. The SEP also seeks to ensure that the views of women and other underrepresented stakeholder groups (e.g. youth) are captured. To achieve the above-mentioned objectives, the SEP also sets resources and responsibilities, as well as monitoring and reporting procedures. In summary, the SEP:

? Identifies stakeholders directly or indirectly involved in the project, and the nature and scope of their interests;

? Outlines how and when stakeholders should be consulted;

? Guides how relevant information should be disseminated;

? Captures responsibilities and resource needs to ensure that the stakeholder engagement is meaningful;

? Sets monitoring and reporting procedures.

Table 11: Stakeholder Engagement Action Plan

Stakeholder group		Purpose of engagement	Means of engagement*	Responsibility	Frequency
Stakeholders to be affected directly by the results of project implementation	Entrepreneurs: GCIP South Africa current and potential participants	To be encouraged to participate in the GCIP South Africa, to provide feedback, to promote GCIP South Africa. To become GCIP experts.	Project website, training, webinars, workshops, whatsapp groups, acceleration, advanced acceleration and post-acceleration support, contact with mentors/trainers, investment facilitation, networking, project reports and flyers, e-newsletter	TIA	Continuous

	Government: DSI, DFFE, DTIC, SEDA, DoT, DMRE	Increase capacity and support for cleantech innovation policy initiatives	Project website, training, webinars, capacity building and policy workshops, policy support, links with other GCIP country projects, project reports and flyers, e-newsletter	TIA	Continuous
	Potential investors: DBSA, SEFA, Standard Bank, venture capitalists and angel investors,	To consider investing in start-ups and SMEs supported by the GCIP South Africa	Project website, training, webinars, Investor Connect, events, curated introductions, project reports	TIA	Continuous
	Hub & Spoke partners ? GCIP platform ? uYilo; GP ? TIH, TUT/UNISA, VUT, Tshimologong Precinct; MP ?Ec Dev, MPU; EC ? NMU, Propella, Mandela Bay Dev Agency; WC ? Greencape, SAVANT, UWC; NC ? Dept. Of Ec. Development, NCU.	To increase capacity to run and support provincial GCIP services including, inter alia: ideation, concept validation, pre-accelerator support, running annual GCIP accelerator, advanced accelerator and provision/facilitation of post-acceleration support. To supply GCIP Experts.	GCIP training, webinars and workshops, national academies, pre-accelerator and advanced accelerators	TIA	Continuous
	Industry / business association members / SEDA	Capacity building to become GCIP experts, member of mentor platform	Training and certification, webinars, project website, mentor platform, workshops, networking, project reports and flyers, e-newsletter	TIA	Continuous

Stakeholders to be affected indirectly by the results of project implementation	Business/sector associations: Automobile Association of South Africa, Battery Industries, eWaste Association of South Africa, Green Building Council of South Africa, National Association of Automobile Manufacturers of South Africa, Nelson Mandela Bay Business Chamber, South Africa Energy Storage Association, National Business Initiative, Black Business Council, Female Founders, Minerals Council of SA, SAREC	To provide feedback and advice, to promote GCIP South Africa among their members, to support GCIP South Africa outreach activities	Project website, stakeholder consultation workshops, e-newsletters, meetings, reporting	TIA	Continuous
	Civil society	To provide feedback on the design and results of GCIP South Africa, including its environmental and socio-economic impacts and effectiveness of mitigation measures		TIA	Twice a year

Stakeholders that participate in the project management, TIA, IDC, UNIDO; Members of the Project Steering Committee (PSC): DTIC, DSI, IDC, DFFE, Plus Global PEEs: CTG, NGIN, PFAN		To provide feedback on project implementation (including suggestions for improvement) To effectively and efficiently perform their role as GCIP South Africa PSC members	Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, project website; Two-way interaction between GCIP Global and GCIP South Africa on development of guidebooks and guidelines, training material and capacity building, global advocacy, coordination and coherence, international forums, knowledge products, etc.	TIA	Continuous
Stakeholders involved in the project implementation as contractors, mentors, judges, policy makers, financiers, and knowledge partners	Government departments/agencies : DFFE, DSI, DTIC, SEDA	To be Informed and to inform, to be offered capacity building activities, to develop conducive policy and regulations, to communicate impacts of GCIP South Africa, to establish challenge categories	Meetings, training, workshops, official letters, policy development, email, website, reporting, e-newsletter	TIA	Continuous

	Hub & Spoke partners ? GCIP platform ? uYilo; GP ? TIH, TUT/UNISA, VUT, Tshimologong Precinct; MP ? SEDA, MPU; EC ? NMU, Propella, Mandela Bay Dev Agency; WC ? Greencape, SAVANT, UWC; NC ? Dept. Of Ec. Development, NCU.	To run provincial GCIP hubs to provide, inter alia: ideation, concept validation, pre-accelerator support, running annual GCIP accelerator, advanced accelerator and , provision/facilitation of post-acceleration support; To support the identification of and outreach to potential entrepreneurs and forum & workshop participants and to supply / train GCIP experts .	Regular GCIP platform communication, training, webinars, meetings, workshops, email, website, e-newsletter	TIA	Continuous
	NCPC-SA, CISR, SETAs	To provide training and expert support to GCIP South Africa, to support the outreach to GCIP South Africa applicants	Meetings, workshops, email, website, e-newsletter, trainings	TIA	Continuous
	Industrial / commercial partners: incl. Eskom, Sasol, Growthpoint	To support national challenge competitions / co-financing	Meetings, official letters, email, website, reporting, e-newsletter, fora, identification of challenges, co-financing, investment facilitation, outreach and advocacy	TIA	Continuous
	European Union (EU), UNEP/UNDP, USAID, FCDO, GIZ	To provide feedback on project implementation, to identify synergies and investment opportunities	Meetings, official letters, email, website, reporting, e-newsletter, fora, workshops, identification of challenges, co-financing, investment facilitation, outreach and advocacy	TIA	Twice a year

Note that if Covid-19 restrictions continue then, where necessary, the stakeholder engagement will be conducted remotely. Meetings, events and training will be organized on-line with the aim to provide an experience as close as possible to physical events. Planning will also be flexible to ensure that activities can be rescheduled where possible to allow for face-to-face interaction.

Note that further details appear in Annex J and Appendices

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

Table 12: Methods of Communication with Stakeholders

Stakeholder group		**Means of engagement**
Stakeholders to be affected directly by the outcomes of the Project implementation	SMEs and entrepreneurs ? GCIP participants and potential GCIP participants	Project website, training, webinars, workshops, accelerator support, contact with mentors/coaches, whatsapp groups, investment facilitation, business support, networking, project reports and flyers, e-newsletter, award ceremony
	Policy makers	Project website, training, webinars, capacity building and policy workshops, policy support, links with other GCIP countries, project reports and flyers, e-newsletter
	Finance institutions	Project website, training, webinars, investor-connect events, curated introductions, project reports
Stakeholders to be affected indirectly, by the outcomes of the Project implementation	Civil Society	Project website, stakeholder consultation workshops, e-newsletters, direct meetings, reporting
Internal stakeholders who are involved in project implementation (project management)		Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, website.
External stakeholders who participate in the Project implementation	Government departments and agencies	Meetings, training, workshops, official letters, policy development, email, website, reporting, e-newsletter

	Private sector (SMEs, associations, social enterprises, judges, mentors)	Direct meetings, training to become experts, supervision, official letters, email, website, reporting, e-newsletter, fora, workshops, networking
	Civil Society	Direct meetings, training as experts, identification and outreach of potential entrepreneurs and forum/workshop participants
	Incubators/Accelerators/support organisations	Supporting accelerators, running pre-accelerators, providing post-acceleration support, providing training and experts, outreach for GCIP applicants through direct meetings, training, workshops, email, website, e-newsletter, workshops.
	Finance institutions, angel investors, venture capitalists	Training, investor connect fora, direct meetings, co-finance and mail regarding investment, website, ecosystem network
	Global Child Project Executing Entities (PEEs) ? NGIN, Cleantech Group, PFAN, UNIDO	As part of the global GCIP programme there will be significant two-way interaction with the PEEs of the Global Child Project. This will cover the development of methodologies and guidelines for local adaptation, training material and capacity building, global advocacy, tools for coordination and coherence, international forums, support for SA GCIP alumni, knowledge products and advice. Impact monitoring will be measured nationally and globally.
	International /Multi and bi-lateral agencies	Direct meetings, Official letters, email, website, reporting, e-newsletter, fora, workshops, identification of challenges, co-finance, investment facilitation, outreach and advocacy

Note that further details are in Annex J and Appendices

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

219. Gender equality is a fundamental human right. While the world has achieved progress towards gender equality and women?s empowerment, women continue to suffer discrimination and violence in every part of the world. Gender issues need to be addressed by creating equal employment and capacity building opportunities, as well as social infrastructure and safe working conditions responding to the specific needs of women. The importance of gender equality and women?s empowerment, particularly women?s economic empowerment, is at the core of UNIDO?s mandate. Commitment of UNIDO towards gender equality and women?s empowerment is demonstrated in its policy on Gender Equality and the Empowerment of Women (2019), 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.

220. Gender equality enhances economic growth, reduces household poverty reduction and enhances human development whilst women entrepreneurship can directly contribute to women?s economic 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 . Engaging a nation?s entire population to support growth is an important development strategy for a country and the benefits of supporting women in the economy (and in entrepreneurship) has particular appeal in countries where women inclusion in the economy is unequal.

221. The dialogue on gender and cleantech is shifting from women being identified as part of the vulnerable groups, to also becoming key agents of change as consumers, entrepreneurs, distributors and decision makers across the value chain. Women and their organization have the potential to play a critical role in contributing to the SDGs. A large number of women are engaged in small and medium sized enterprises, with a women ownership representing 30-70% of all SMEs in emerging markets (IFC and McKinsey, 2011), nevertheless the enterprises undertaken by women tend to be concentrated in a relatively narrow range of activities. They are often very energy intensive, rely on biomass fuels and

have disproportionately low rates of return compared to the activities undertaken by men. Nonetheless, networks of women entrepreneurs could be leveraged to promote new and clean technologies and could provide a springboard off which to sell new energy services and cleantech products.

222. Since 1994, the South African government has developed policies that speak specifically to the inclusion of women in industry. In research commissioned by the Department of Trade, Industry and Competition (dtic), Trade and Industrial Policy and Strategy (TIPS) conducted a review of progress made on this agenda in 2019, with clear indications of increased employment and earning. However, the report still finds that gender, and the intersection of gender and race, shapes economic opportunities; ?Women, especially black women, are more likely to be outside paid employment, less likely to be business owners, and on average earn about 70% as much as men? .

223. South Africa has low levels of entrepreneurial activity with only 9 out of every 100 women involved in total early-stage entrepreneurial activity, as seen in 2017/18 Global Entrepreneurship Monitor 2017/18 . Women-owned businesses represent 38 % (2017) (having fallen from 48 % in 2008) of officially registered enterprises, although the figure is likely to be higher if informal and very new businesses are included . A recent World Bank report ?Profiting from Parity: Unlocking the Potential of Women?s Businesses in Africa? noted the importance of encouraging entrepreneurship for women as a pillar of sustainable growth, while recognizing the barriers, which have produced an environment where most women led enterprises battle to move beyond small-scale operations in the informal economy.

224. The barriers faced by South African women green entrepreneurs fall under two broad areas: barriers to advancement and barriers to transformation . Those relating to advancement refer to accessing markets, skills, awareness, networks, and finance to conduct business whilst the barriers to transformation relate to discrimination, both overtly and covertly, harmful social norms, institutionalised sexism and racism, and the caretaking duties faced by women disproportionately to men . Based on these findings, GCIP South Africa aims to address some of the gaps, and foresees that a minimum of 35% of the total number of experts trained and GCIP-supported entrepreneurs will be women.

225. The GCIP overall, and this project, have been identified as a project with ?significant gender mainstreaming? impact according to the Gender Marker used in categorizing UNIDO projects. It is expected to significantly contribute to gender equality and/or women?s empowerment. These projects possess multiple entry-points for gender mainstreaming activities and/or affirmative action, but do not explicitly state gender equality and/ or women?s empowerment as a principal objective. Rather, gender equality and/or women?s empowerment is a secondary objective and the project has corresponding outputs and indicators that measure how gender equality will be advanced.

226. A guiding principle of the project is to ensure that both women and men equally lead, participate in and benefit from the project (UNIDO Gender Policy 2019). Particularly in the Accelerator as well as the Post-accelerator support, gender-responsive activities are important to ensure this goal. Special efforts will be made to promote equal participation of women and men, both at managerial and technical levels, as consultants, participants, entrepreneurs, mentors, etc. in all stages of project implementation. GCIP South Africa, supported by GEF6, increased its participation of semi-

finalist women over the years resulting in an average across the four cycles of 19% women-led semi-finalists. Progress monitoring showed below-target participation from women in the first years and that a more active approach was needed. Following a new strategy to attract more women entrants, including workshops at eight universities, the number of semi-finalists increased to 32% in 2017. Proactive measures were also taken to recruit, train, and retain women mentors (22% were women) and judges (45% were women). This project aims to continue this trend and even to increase the proportion of applicants and semi-finalists; with a target of 35% of beneficiaries being women. In the longer-term, TIA is committed to increase women participation across beneficiaries, mentors and judges so they make up 50% of the programme.

227. 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 project in order to ensure that the project is in line with both UNIDO and GEF requirements. Based on the guidelines, attention will be paid to:

a. 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.

b. Consideration of 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.

c. Collection of gender-disaggregated data.

d. 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.

228. A Gender Analysis has been carried out and an action plan developed (Annex K) which has influenced the project design. In the project design UNIDO has ensured that the relevant gender dimensions are considered, and the project log-frame developed reflects key gender dimensions of the respective outputs, activities, indicators and targets. A review of previous GCIP projects and an analysis of the project has identified how the project can improve gender equality and proposes gender specific targets to be monitored and evaluated throughout the project implementation period. This will be reviewed by TIA early in the project and where necessary the review will allow for adjustments of the gender related targets, will capture the gender dimension in the first year of the project and define the ways in which the project can achieve, or improve on, its gender-specific targets. Project progress reporting will include progress on the gender action plan.

A summary of some suggested approaches to gender mainstreaming is shown in the table below: A full list and further details are provided in the gender analysis and action plan.

Table 13: Proposed gender mainstreaming measures

Stage/Activity	Gender equality measure
Project execution	? Gender sensitization workshops for all stakeholders involved in GCIP ? Development of a gender training package (material for national capacity building on gender awareness) will be adapted for South Africa from the training package developed by the global child project. ? Gender focal point within TIA ? Gender mainstreaming targets have been included in the ToR for the PEE
Recruitment of all GCIP consultants/ experts	? Completion of the ?I know gender? UN course ? Training on awareness raising, gender-bias for mentors and judges ? Consultants to provide evidence on how gender equality is addressed in the material they develop
Development of GCIP methodologies, guidelines and training material	? Guidebooks (guidelines and methodologies) developed will highlight the need to make special effort to encourage women to apply to the accelerators, including with targeted outreach and gender specific communications material (e.g., videos, success stories) and explicitly stating that GCIP encourages applications from women ? Include ideas for options for gender focused support ? Training materials for entrepreneurs/SMEs will include capacity building on gender awareness ? Gender equality will be addressed in the curricula and content of all training material developed for trainers, mentors and judges as well as in the training.
Application stage for Accelerator	? Applying a gender lens to application stage ? Collection of gender-disaggregated data through application forms: Number of women-led enterprises, % of women in the applying team; ? Targeted and gender responsive outreach: The main target groups would be both men and women with varying backgrounds (e.g., business, science, engineering), but importantly also ways in which to bring the groups together. From the second year of implementation, the project will consider organizing events specifically targeted at connecting women technicians/engineers with business women; ? Setting a target on the 35% of women-led enterprise applications. (35% for global accelerator)
Selection of both men and women semi-finalists, and mentors and judges	? Stringent selection criteria will be defined that provide equal opportunities for both women and men. The objective would also be to involve women in the mentoring/training and judging processes so that more role models could be created, thus mitigating the impact of this inequality in the future. o Efforts will be made to ensure gender balance of judges for selecting semi-finalists. Special support will be provided to women to prepare for the judging and considerations made, e.g., women could receive possibility to select their slot so it does not overlap with their household responsibilities or safe transport can be offered to women to participate in the judging. o Evaluation methodology for selection of semi-finalists will consider the gender balance within entrepreneur?s management and beneficiaries and gender-responsive policies within the organizations.

Special Awards	? Special consideration will be given to the creation of a gender related award; this includes an award for the women?s entrepreneur of the year and/or a special award for the team with the product/service with the highest impact potential for gender equality. A similar prize was awarded in a number of previous GCIP project cycles and has led to increase in the number of women-led innovators applying to the GCIP, including in South Africa. 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.
Provision of support to entrepreneurs in accelerator, advanced accelerator and post-acceleration	? Women focused support: Where considered necessary support for GCIP will seek to target areas that women entrepreneurs have seen as barriers to ensure inclusion. For example, it may be necessary to offer segregated financial training to encourage women to attend and so increase the uptake and learning. ? Specific training module as part of the accelerator curriculum to address gender-related challenges and barriers Ensure equal participation of women and men as participants but also facilitators ? Ensure that training material is gender-responsive, e.g., avoid stereotypes ? Organize at times suitable for both women and men, maybe some in the morning, some in the evening, provide recordings
Forums	? Women participants will be encouraged to attend through focused outreach and ensuring that topics of interest to women entrepreneurs are included ? Targeted event for women or panel to discuss women?s entrepreneurships, ? Participant data gender-disaggregated
Investment facilitation	? Investment facilitated under GCIP will have gender lens investing principles applied to all investment decisions. To support this GCIP investing guidelines will be developed which will incorporate gender lens investing principles. ? Specific training material for investors will be developed on investment with a gender lens.
Capacity building	? Capacity building on gender equality and the engagement strategies and frameworks developed will include a focus on engaging with women. ? Gender sensitization training
Policy support	? Gender and youth empowerment policy framework will be developed

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

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

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

Yes

4. Private sector engagement

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

229. Private sector engagement is key for success for this project with the private sector being the main target group. GCIP South Africa includes several areas of private sector interaction; all of which are integral to the GCIP approach to identifying and supporting cleantech innovation, as follows:

a. Direct interaction and support for SMEs and start-ups with technology and market innovations. Innovative technology SMEs are agents of change and by supporting them, markets can be transformed. Support will be provided to SMEs identified as part of pre-accelerators, national GCIP accelerators and challenges. Furthermore, advanced and post-acceleration support will be provided to, inter alia, help companies test their products, commercialise, to find markets and to find investment and partners. Investment facilitation support will be provided by linking the accelerator alumni enterprises with potential investors and by ?derisking? them for financial institutions.

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

c. GCIP South Africa will partner with corporations with commitment to identify and invest in specific technology innovations. National Cleantech Innovation Challenges would constitute a partnership between the project and Government and/or local corporations to find demand driven solutions with direct market access. These are planned from Year 2 in parallel to the accelerator programme. Discussions have started with some corporations (e.g., Eskom, Sasol and Growthpoint) and with government departments. The scope of the specific challenges will be agreed with the partners and the budget for such work would be allocated from Government or/and the private sector.

d. GCIP South Africa will bring financiers together with SME innovator start-ups and will engage with financiers to transform investment decisions to consider socio/economic benefits in addition to profit. IDC is an executing partner of the project and will be hosting the proposed financing mechanism. Financing institutions, venture capitalists and angel investors will be a key target group for the communications and outreach activities. The project aims to bring together a robust network of national investors (and international investors through the Global coordination project) 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-ups and to crowd in private sector investments. Investor Connect events will be organized for accelerator alumni with targeted impact investment funds and venture capital funds and targeted investment / financing vehicles will be connected with selected alumni.

e. PFAN has a resident coordinator in South Africa and the project will, through its various acceleration activities, develop a pipeline of eligible enterprises for possible scale up financing for programme participants through PFAN. The project will engage directly with the PFAN coordinator to support enterprises toward financing opportunities.

f. GCIP will also engage with industry and business associations to leverage their knowhow, capital and interest in cleantech innovations. For example, with National Association of Automobile Manufacturers of South Africa as well as cluster-based associations. In particular, GCIP will also build capacity of national industry associations in the acceleration of cleantech innovations. This would include interactions with the Green Building Council, the National Business Initiative and Black Business Council.

g. Furthermore, GCIP will engage industry experts as mentors, trainers and judges in the acceleration processes.

230. 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. The proposed project is designed in line with the GEF policy on Stakeholder Engagement that sets out the core principles and mandatory requirements for stakeholders.

231. The private sector is a key source of co-financing, thus the project PMU will be explicitly tasked to connect the start-ups to as many potential investors (public, private, national, regional, global) through activities like Investor Connect, National Forums and the Global forums especially. Accordingly, the PMU will become a platform through which GCIP start-ups will be connected and establish relationships with network of private investors, industry association, VCs, impact investors, etc.

5. Risks to Achieving Project Objectives

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

Table 14: General Risk Analysis

Risk	Risk level	Reduction measure
Institutional Risk ? Lack of absorptive capacity by the national counterpart	Low	Capacity building of TIA will be an ongoing process throughout the project implementation period to ensure that staff are comprehensively trained and sustainability of the programme is ensured. TIA has been running a GCIP Accelerator since GCIP supported under GEF 5 and so has demonstrated capacity.

Institutional Risk ? Insufficient administrative and organizational capacity of TIA for successful execution of the project	Low	As a risk mitigation measure, an organizational assessment (a micro assessment under the Harmonized Approach to Cash Transfers framework) was conducted during PPG phase to evaluate potential execution risks. The results showed the risk assessment to be ?low? in all tested subject areas. Project audits will be carried out by independent auditors.
Institutional Risk ? Insufficient technical capacity of TIA for successful execution of the project	Low	TIA was nominated by the government of South Africa in consultation with key stakeholders as the most appropriate national agency to execute the project, and therefore has the pertinent mandate and technical capacity for successful achievement of the project objective and associated outputs and activities.
Institutional Risk ? Lack of effective coordination between various project partners	Low	Proper coordination will be sought through the Project Steering Committee and ad-hoc working groups will be established if necessary. TIA already has formal and informal links with the proposed project partners.
Operational Risk - On-going global restrictions due to global shock (e.g. COVID-19)	Medium/ High	Some of the support is intended to be face to face. However, if this is not possible due to travel and/or group meeting restrictions then the training/events will be organized on-line with the aim of providing an experience as close as possible to the physical events, with side events and one to one meetings also possible.
Sustainability risk - Lack of ownership to run activities and inability to source funding to continue the programme's activities in the medium/long term	Medium	TIA has already shown its ability to commit to and continue GCIP after the GEF funded project. The same approach will be used again for TIA and its hub partners. Sustainability is mainstreamed through the project with exit strategies developed early on which will identify the management and financing of the accelerator and ecosystem more generally. TIA is in a good position to access further private and public sector support

Political risk - Lack of political support to mainstream innovative clean technologies	Low	The project has strong support from the South African government and different departments have been involved in the design of the project.
Market Risk ? Lack of interest by the public and SMEs in participating in the GCIP South Africa accelerator, as well as entrepreneurs and mentors, resulting in limited participation, or entries with low quality, especially in the first years	Medium	Outreach activities will be a key component of the project, in the lead-up to the opening of applications and throughout the programme to attract applicant entrepreneurs, potential sponsors and partners, and mentors and judges. To ensure a high quality of publicity, a clear and concise communication strategy will be developed and implemented. Mentors and judges will be identified through a properly prepared process and their roles, responsibilities and benefits will be determined and made widely known at an early stage of project implementation. GCIP alumni will be recruited where appropriate and a stipend is proposed, following feedback from the first phase, to ensure active engagement. Close cooperation with the executing agency and project counterparts will also be sought to help mitigate this risk, allowing the project to make use of existing communication channels and relationships. The proposed project will also make use of the success of GCIP funded under GEF 5 to promote the benefits of the programme and raise awareness.
Market risk - Failure of businesses supported by GCIP South Africa	Medium	Selection of participants will be based on eligibility criteria included in the GCIP South Africa guidebooks which will include criteria on market potential and likelihood to succeed. Using the GCIP methodology will also provide innovators and entrepreneurs with the skills required to develop and commercialize their innovations. GCIP support 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 organisational capacity for scaling-up.

Financing Risks ? Incentive and financial support system are insufficient	Low	The promotion and outreach activities will include financing institutions, venture capitalists and angel investors as a key target group. The transfer of a branded and recognized model such as GCIP, and the direct involvement of renowned global project execution entities in the national execution of the project, aims to build stronger confidence of national and international venture capitalists and investors in the clean energy technology innovation investments proposed by GCIP South Africa. A key part of the project is the establishment of a financing facility for innovative cleantech. The facility will be managed by IDC and GCIP alumni will be mentored to make successful applications to this facility. The project will facilitate access for GCIP South Africa alumni enterprises to financial mechanisms and government grant programmes for SME development and technology modernization and innovation (e.g., TIA?s Seed Finance or Technology Development Fund, SEDA finance and other IDC mechanisms). The PSC will include at least 1 representative of financing institutions and investors.
Social and gender risks	Low	To ensure gender inclusiveness of all project activities, UNIDO methodology for gender assessment and gender responsive communication showing the benefits of gender equality for both women and men will be applied. To mainstream women entrepreneurship, adequate and gender responsive communication strategy as well as further sensitization workshops will be employed. A full gender analysis has been carried out and its recommendations have been incorporated into the project design. There are also possible negative social impacts relating to the technologies supported such as poor labour, health and safety conditions in the SMEs? operations or related to their contractors. There is also a real risk that there is low women and youth participation in all project activities. Social safeguarding will address this through the former being included in the E&S criteria and stringent screening and the latter will be mitigated with gender and youth mainstreaming actions.

Climate Change Risks	Low	There is no climate change risk foreseen for the achievement of the project?s objectives: South Africa is vulnerable to climate variability and change because of its rural dependency on agriculture. Future climate changes are likely to see temperature increases, an increase in the number of extreme weather events such as droughts and floods and severe storms. These effects are not likely to have an impact on this project which aims to support cleantech innovation. The extent to which climate change affects the outputs and outcomes of the project will depend on the cleantech innovations supported as part of the project. Possible impacts of climate change could relate to cleantech innovation dependent on biomass or water supplies whose raw material is affected. There are also climate change impacts that could affect any SME such as through logistic disturbances, disruptions to production, effects to working conditions or to the market, increased utility prices and costs for insurance, finance or imports. To safeguard against climate change risks the screening of technologies for selection for GCIP support will include an assessment of the climate risks, over the next 30 years, and where a risk is identified it will be necessary for the SME/entrepreneur to propose suitable adaptation or management measures. Climate risk will be included in the E&S criteria. GIZ?s Climate Expert Tool[1] could be used as one tool available to entrepreneurs. Once selected the alignment of proposed technologies will continue to be reviewed against local climate risks, as part of the support provided within the accelerator.
Environmental Risks	Low	It is recognized that some potential clean technologies may have significant environmental risks such as the use of block chain, which could have major GHG emissions associated with it unless powered entirely by renewable energy, which is difficult to ensure. Similarly, technologies related to storage, in particular, can have harmful environmental impacts if not mitigated or managed effectively. Clear environmental safeguarding measures are proposed that include any cleantech innovation applying for support will need to meet strict E&S criteria and be subject to stringent screening by an expert to ensure that any related impacts are mitigated appropriately. An Environmental and Social Management Plan (ESMP) has been prepared (Annex L).

Table 15: COVID-19 risk analysis

Risk	**Risk level**	**Reduction measure**
Technical expertise is not readily available due to the pandemic	Low	Alternate technical expertise will be identified in case it is required. Planning will be flexible enough to reschedule activities onsite that require specific expertise. This is particularly important if government experts are not available due to emergencies.

Possible re-instatement of COVID-19 containment measures limits available capacity or effectiveness of project execution/ implementation	Medium	The capacity of stakeholders, and especially the beneficiaries, for remote work and online interactions will be strengthened by securing access to commercially available conferencing systems. The current design of the curriculum for entrepreneurs is mostly based on online interactions and deliverables, using webinars and web platforms, and therefore COVID-19 is not expected to pose a significant risk to the conduct of the acceleration cycles. Where in-person meetings are expected, it will be possible for these to be conducted remotely where necessary.
Some project supporters, co-financiers or beneficiaries may not be able to continue with project execution/ implementation.	Low	The situation will be closely monitored in order to find alternate supporters or co-financiers, or to readjust the list of beneficiaries if needed.
Price increases for procurement of goods/services	Medium	The project team will work to in find alternate providers and making sure that competitive pricing is obtained.

Table 16: COVID-19 opportunity analysis

Opportunity	**Opportunity level**	**Opportunity optimization measure**
New business opportunities created in response to COVID-19 related restrictions and measures	High	Response to COVID-19 restrictions, such as remote working arrangements and no-contact business modalities will require solutions that can be turned into new business models. These opportunities will be analyzed at the national levels and shared with the GCIP entrepreneurs as part of the market intelligence information. Examples of former GCIP alumni responding to new business opportunities by providing innovative solutions during the pandemic are summarized here: https://www.unido.org/stories/cleantech-innovators-take-covid-19

New business opportunities to build back better for business continuity and economic recovery post-COVID-19	High	By design, the GCIP South Africa engages the private sector (especially start-ups and SMEs) to promote energy efficiency and renewable energy technologies, business models with resilience to climate change, and circular business practices. New business opportunities and policies and regulations will be added to the Accelerator curriculum so that the entrepreneurs are fully informed of the market and policy environment trends.

[1] https://www.climate-expert.org/en/home/

6. Institutional Arrangement and Coordination

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

Implementation

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

A schematic representation of the project implementation arrangement is shown in Figure 9 below.

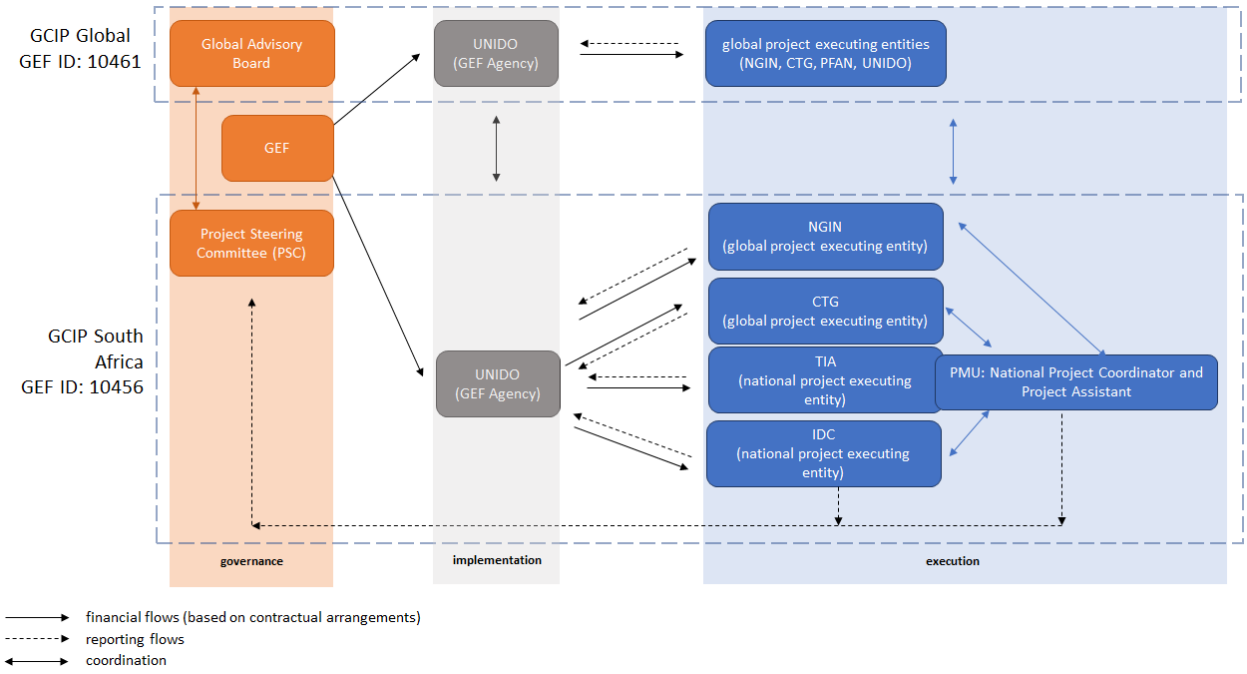


Figure 13: Project implementation arrangements

Execution

233. GCIP South Africa will be executed by a primary national project executing entity (PEE) with support from global PEEs. The Technology Innovation Agency (TIA) and the Industrial Development Corporation (IDC) were nominated to be the national PEEs by the government in South Africa, the Department of Forestry, Fisheries and Environment (DFFE), along with the Department of Science and Innovation and the Department of Trade, Industry and Competition. As happened after the first phase of GCIP, it is envisaged that TIA will take the lead in continuing and expanding the accelerator programme and IDC continue the financing mechanism after the completion of the present project.

234. TIA will designate internally, or recruit directly, project management personnel to form the Project Management Unit (PMU) to execute the activities of the national project. As a minimum, the PMU will consist of the National Project Technical Expert and Coordinator and a Project Administration Assistant . The PMU will be responsible for the day-to-day management of the project execution, monitoring and evaluation of project activities as in the agreed project work plan. The PMU will coordinate all project activities being carried out by project national experts and partners .

235. TIA will sub-contract qualified service providers for the execution of certain additional activities. This will include the hub and spoke partners identified in the project description. An open and competitive process will be used to select service providers. In addition, a number of activities, as outlined in this document, will be delivered by the global PEEs as subcontractors to the national PEE.

236. The global PEEs that will support the execution of GCIP South Africa are PFAN (Private Financing Advisory Network), Network for Global Innovation (NGIN), and Cleantech Group (CTG). The global PEEs will perform several activities - some at no cost to the GCIP South Africa (i.e. covered from the GCIP Global child budget) while some covered from the GCIP South Africa budget, as detailed in the project budget. NGIN, CTG and PFAN were identified and selected by UNIDO through an open competitive process according to UNIDO procurement rules and regulations. There will be a contractual agreement between UNIDO and NGIN, CTG and PFAN detailing the expected outputs and deliverables.

237. With regard to GCIP South Africa, NGIN and PFAN will be supporting the execution of outputs related to enterprise acceleration, post-acceleration support and investment facilitation (Component 1), whilst CTG will support the execution of some outputs related to policy and ecosystem development (Component 2). An integral role of all global PEEs will be to facilitate collective interaction, training, knowledge sharing, and communication with the GCIP country projects through the national PEEs. This includes the development of tools and guidelines for dissemination to TIA, as well as training and workshops provided to the TIA and partners to strengthen its capacity to adopt and operationalize the tools and guidelines developed.

238. In terms of reporting, TIA is responsible for providing the following reports:

a. Half-yearly progress and financial reports (in consultation with PSC)

b. Half-yearly workplan tracking, updates and budgeting (in consultation with PSC)

c. Annual progress reports (in consultation with PSC)

d. Periodic thematic reports (as and when required by UNIDO)

e. Technical reports (as prepared by engaged experts/sub-consultants)

f. Project publications (as prepared by engaged experts/sub-consultants)

g. TIA provides all related information to the evaluation experts for any mid-term review and final evaluations.

239. The IDC will be the executing agency for the establishment and operation of the financing facility. The IDC will be contracted directly by UNIDO and will work closely with TIA. The IDC will be a member of the project steering committee, and will report to the PSC and UNIDO.

240. Project management will be funded in part by the GEF budget as well as in-kind funding and co-financing from the project counterparts. During the project implementation period, UNIDO will provide the PMU with the necessary management and monitoring support.

Governance

Project Steering Committee

241. To ensure proper oversight and Government and institutional ownership of the Project, a Project Steering Committee (PSC) will be established under the joint Chairmanship of Department of Science and Innovation (DSI) and the Department of Trade, Industry and Competition (dtic). Representatives from institutions involved in the different project components will be members of the PSC. Specifically, it will include the GEF OFP and representatives from DFFE, the IDC and TIA. The private sector should be part of the PSC for example, The Southern African Venture Capital and Private Equity Association (SAVCA).

242. The PSC is set up to provide advisory inputs for the project. The PSC will meet twice per year to review the project implementation and execution progress and confirm the workplan for the subsequent year and any changes in upcoming the six months. Any changes/amendments proposed to the project and/or to the workplans and budgets by the PSC are done in accordance with the approved project document, the GEF policy, and UNIDO rules and regulations. Minutes of meetings are signed by UNIDO and the PSC Chairperson(s).

TIA?s project PMU forms the secretariat of and reports to the PSC on the progress of the project.

Global Advisory Board

243. A Global Advisory Board will be established to provide strategic inputs to the global child project and to the overall global programme. The Global Advisory Board will comprise of the GEF,

UNIDO and government representatives from each GCIP partner country. Other key partners and stakeholders active in the cleantech space may be invited to join the Advisory Board. The Advisory Board will provide strategic guidance to the programme, and is the approval 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 at the programmatic level, address potential problems and discuss strategic and policy issues affecting the programme. It will review impact tracking and is responsible for defining strategy and advocacy messages.

244. While each national child project will have its own PSC, the Global Advisory Board will also actively discuss emerging issues across child projects and suggest solutions that contribute to the overall objectives of the GCIP. Communication between the Global Advisory Board and TIA and the IDC will be through UNIDO as the Implementing Agency.

Coordination with relevant GEF-financed projects and other initiatives

245. This project will be conducted in coordination with ongoing GEF projects in South Africa and the region, as well as other projects and initiatives identified in the baseline scenario, so as to build upon lessons learned, increase synergies, and avoid duplication of efforts. In particular, the project will collaborate with the GEF-funded Industrial Energy Efficiency Improvement Project in South Africa (5515) and the Industrial Organic Waste-to-Energy Project (5704). With the involvement of TIA and IDC, the project has been designed to be closely coordinated with TIA?s programmes and seed funds, IDC?s Khoebo Innovation programme and the uYilo e-mobility innovation cluster programme. Similarly, the involvement of the hubs will allow for easy coordination with regional innovation programmes. In addition GCIP will coordinate with the National Cleaner Production Centre of South Africa and the Water Technologies Demonstration Programme. Furthermore, GCIP will work with GIZ and USAID to identify synergies in their programmes. Beyond South Africa, the global GCIP programme will ensure that South Africa?s PEE and entrepreneurs and experts are linked up to GCIP child projects in Cambodia, Indonesia, Kazakhstan, Moldova, Morocco, Nigeria, Turkey, Ukraine and Uruguay.

Legal Context

246. The following legal context will apply to the project: ?The Government of the Republic of South Africa agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 03 October 1994.?

Transfer of assets

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

7. Consistency with National Priorities

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

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

248. 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. South Africa is an active participant in global climate change mitigation and the reduction in GHG emissions. Addressing climate change and environmental degradation in South Africa requires a serious and sustained national response. To this end, South Africa, together with 190 other countries, adopted the Paris Agreement in December 2015 and made a commitment to reduce GHG emissions by 30% by the year 2030.

249. South Africa?s 3rd National Communication (2018) clearly recognises the importance of adaptation and resilience to climate change. There is a particular focus on the energy sector and energy efficiency, as well as technology transfer to enable the mitigation strategies of the South African Government. Further, it highlights that a lack of project finance and adequate human resources are key constraints to the adoption of clean technologies, thus stressing the need for an enabling environment to be developed. The proposed project's focus on the facilitation of financing and the development of business skills in South African cleantech entrepreneurs, while also encouraging the development of the energy sector in a more sustainable manner, clearly support these priorities.

250. In its updated draft Nationally Determined Contribution (NDC) of 2021 of the first Intended NDC submitted to UNFCCC, South Africa set to reduce the country?s emissions below the Business-As-Usual (BAU) emission level by 42% by 2025. The Climate Change Bill (planned to be finalized in 2021) will provide the firm legal basis for action. The NDC refers to the implementation of the power sector investment plan as set out in the 2019 Integrated Resource Plan, the Green Transport Strategy, enhanced energy efficiency programmes, and the carbon tax as means to meet this target. This project is therefore aligned with the NDC.

251. South Africa?s Technology Needs Assessment (TNA) was carried out in 2007, already noting the areas that have been addressed through targeted policy development (noted above), including waste management, renewable and energy-efficient electricity sources, and water resources. In addition to policy alignment, the National Planning Commission's multi-stakeholder process has also prioritised energy, land-use, and water as key sectors for low-carbon transitioning and support. These priority sectors correspond closely with the technology sectors selected by the proposed project for the GCIP, indicating that the project will support the objectives of the TNA. Further, the TNA recognizes the role of innovation and clean technologies in job creation and skills development, but also highlights the key role that external financing has to play in this field.

252. Despite widely accepted challenges, South Africa?s favourable policy environment provides the context for South Africa to commit itself to reduce GHG emissions and drive the growth and dissemination of clean technologies. South Africa has a comprehensive low-carbon policy ecosystem, with

components focused on climate change, industrialisation, and social development. This project is in line with these policies and strategies. Within this context, the green growth economy forms a critical part of the overarching national development strategies/plans, which include:

a. The National Climate Change Response Strategy (2011)

b. The New Growth Path (2010)

c. The Green Economy Accord (2011)

d. The National Development Plan (2012): The National Framework for Sustainable Development (2008)

e. The Bio-Economy Strategy (2013)

f. The Water Research, Development and Innovation Roadmap for South Africa (2015-2025) (2015)

g. The Green Transport Strategy 2018-2050 (2018)

h. The Industrial Policy Action Plan (2018/19-2020/2021) (The implementation of these regularly updated plans are to be supported by a series of sectoral Master Plans, which are in development.)

i. White Paper on Science, Technology and Innovation (2019)

j. South Africa's Low Emissions Development Strategy (2020)

k. National Waste Management Strategy (2020)

253. The project is aligned with the country?s commitment to science, technology and innovation (STI). The latest White Paper on Science, Technology and Innovation was adopted as government policy in 2019. The paper sets out the Government's long-term policy approach for the STI sector, building on existing progress in the development of the South African NSI . Relevant policy shifts to which this project is aligned include (selected from a range of issues addressed in the policy):

a. Enhancing an innovation culture in society and Government

b. Developing local innovation systems

c. Supporting social and grassroots innovation

d. Developing human capabilities

e. Increasing investment in the NSI

f. Improving policy coherence and budget coordination across government.

8. Knowledge Management

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

254. Knowledge management is one of the key objectives of GCIP. Knowledge management is embedded within all three components of the project and seeks to create, generate, capture and disseminate knowledge generated by the GCIP at national and global levels in a symbiotic and mutually reinforcing manner. Without dedicated knowledge management it is not possible for the project to achieve its overall impact.

255. Knowledge management will ensure that the South Africa ecosystem is strengthened and connected and will assist the entrepreneurs to reach their potential, thereby contributing to promoting coordination, ecosystems connectivity and accelerating the uptake of, and investment in, innovative cleantech solutions. A GCIP South Africa knowledge management, communication and advocacy strategy will be developed at the beginning of the project, based on the global child project strategy, which will outline the mechanisms to be used and for whom, along with relevant timelines and milestones. Table 15 provides a general overview of the deliverables relevant for knowledge management. Knowledge management products will be designed to be targeted at different stakeholders. All knowledge management activities will be gender responsive, e.g. gender dimensions will be integrated into publications and it will be assured that women, men and youth have equal access to, and benefit to the same extent from, the knowledge created.

256. A key element in knowledge management is increasing the national pool of experts (trainers, mentors and judges), through the ?training the experts? approach, which allows for quality best practices and business skills to be shared with participants and stakeholders in a structured manner. The national pool of mentors/judges will be created from representatives of universities with business development programs, national banks, investment companies and businesses. The pool of mentors and judges will be trained to provide entrepreneurs with the skills needed to participate in the programme, and ultimately to bring their innovations to the market. Mentors and judges will broaden the impact of the programme by providing one-on-one training for entrepreneurs and alumni of the programme. TIA will be responsible for including various stakeholders, such as universities, nonprofit institutions, and government authorities to ensure that the selection process for entrepreneurs is inclusive and impactful in identifying the right candidates for the programme.

257. Knowledge sharing will be conducted through trainings, workshops, roundtable, printed materials and through the GCIP web platform at global and national levels. The combined set of outreach activities will ensure recognition of and support for GCIP at the programmatic level and at national levels beyond the project duration. TIA and the PMU are tasked with ensuring the visibility of GCIP South Africa and accessibility of key findings through the GCIP web platform. Such activities will provide the opportunity to reach out to future entrepreneurs and investors, while raising public awareness on clean energy technologies and ultimately climate change mitigation.

258. Facilitating continued networking among entrepreneurs during and after the annual Accelerator cycle will be a key addition to Component 2 of the project in strengthening South Africa?s cleantech ecosystem. The GCIP South Africa network will be a key output from the project and will be

based on the GCIP web platform. See outputs 2.3 and 3.2 for further information on the networking, knowledge products and web platform.

259. The clear potential for South-South and North-South collaboration in policies, structures and frameworks promoting innovations in sustainable energy and climate action is captured by the interaction between the respective national PEEs and PSCs in each of the GCIP partner countries.

Table 17: Proposed knowledge products / activities*

Knowledge products / activities	Targeted stakeholders	Timeline (Year and months)
Knowledge management, communication and advocacy strategy for GCIP SA		Y1 M6 and updated annually
GCIP South Africa web platform established and maintained, including the establishment of an alumni network and a community of experts (mentorship platform)	GCIP alumni, SMEs and entrepreneurs, public, government, finance community, investors, experts	Y1 M6 and continually updated
International training events provided by the global child project, including on: running a GCIP accelerator, training experts, stakeholder engagement, cleantech innovation clusters, cleantech innovation policy strategy and a specific training workshop on how to use the frameworks produced by the global child project	TIA and the hub partners	During Y1
GCIP South Africa guidebooks and methodologies	Hub and spoke partners; mentors, judges and trainers; alumni	Y1 M6 and updated annually
Training materials for experts and GCIP participants	Hub and spoke partners; mentors, judges and trainers; alumni	Y1 M6 and updated annually
GCIP internal guidelines including operational guidance for PMUs	Hub partners and TIA	Y1 M6 and updated annually
GCIP South Africa Awards Event	Investors, finance community, SMEs and entrepreneurs, partners, GCIP alumni	Annually
Participation in international forums and events such as the UN annual Climate Conference, the Vienna Energy Forum, and GCIP Global Forum.	GCIP alumni, finance community, partners	Throughout the project
Training material for selected stakeholders including national institutions, industry associations, and business platforms on supporting cleantech innovation prepared and delivered	National institutions, industry associations, government,	Y1 M6 then throughout the project
Cleantech electronic course on the value of green technologies and how it contributes to the NDP	Government	Y1
Cleantech innovation policy workshop for feedback and suggestions on the SA policy framework	Government, SMEs and entrepreneurs, industry associations, finance community, CSOs	Y1

GCIP SA impact reports	Investors, finance community, SMEs and entrepreneurs; government; public	Annually
Policy briefs, brochures, webinars, briefing sessions, press releases, social media	GCIP alumni, SMEs and entrepreneurs, public, government, finance community, investors, experts, CSOs, industry, transport and building sector	Continuous
Outreach activities for GCIP activities and to raise the profile	GCIP alumni, SMEs and entrepreneurs, public, government, finance community, investors, experts, CSOs, industry, transport and building sector	Continuous

*The budget for knowledge management is incorporated into the general budget (Annex E) as the activities and products are integral to the overall project.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

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

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

262. The Project Result Framework (LogFrame) in Annex A provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis for the project's M&E Plan. The actual progress will be reported against the workplan approved by the PSC. The PSC will assess progress against the framework and gender indicators. Corrective measures will be needed in case there are significant deviations between the forecasted workplan and actual implementation.

263. The M&E procedure will consist of a project inception report, 6-monthly progress reporting, PIRs and a project final report. A detailed monitoring plan for tracking and reporting on project time-bound milestones and accomplishments will be prepared by UNIDO in collaboration with TIA and project partners at the beginning of project implementation and then periodically updated. Monitoring will include the regular monitoring of the Environmental and Social Management Plan, the Stakeholder Engagement Plan, the Gender Action Plan and the Risk Analysis. An external mid-term review and a terminal project evaluation will be carried out by independent evaluators.

264. The GCIP methodology for impact assessment will be developed by the GCIP Global child project and shared with TIA for review and application. This will ensure a common understanding of estimation, tracking and reporting approaches amongst all involved stakeholders and will allow for data aggregation, comparisons and extrapolation at the national and global programme level. The methodology will enable assessment of core indicators that include social, economic, and environmental impacts, and at a minimum, it will account for global environmental benefits (GEBs), energy saved, additional renewable energy capacity installed, job creation, gender mainstreaming, and investment leveraged. The data will be gender-disaggregated and gender-sensitive, and youth participation will also be recorded.

265. The National Project Coordinator will be responsible for continuous monitoring of project activities execution and performance, and will track progress towards milestones. The UNIDO Project Manager will be responsible for tracking overall project milestones and progress towards the attainment of the set project outputs and will be also responsible for reporting to the GEF.

266. US$ 75,000 from the GEF and co-financing equivalent to US$ 125,000 have been foreseen for the M&E activities. From this GEF grant contribution, US$ 25,000 has been reserved for an external mid-term review and US$ 40,000 has been reserved for the independent terminal evaluation. This evaluation will be conducted six months prior to the completion of the project.

In addition, part of UNIDO?s contribution to project implementation will be used by the UNIDO Project Manager for monitoring of the project implementation.

Table 18: M&E budget

M&E Activity Categories	Feeds Into	Time Frame	GEF Budget (USD)	UNIDO (USD)	Co-financing (in-kind, USD)	Responsible Parties
Periodic progress reports and monitoring of project impact indicators (as per Log-Frame)	Annual progress report	12 monthly	10,000	10,000	35,000	PMU
Mid-term review	Mid-term review	At 2.5 years (i.e.within year 3)	25,000	15,000	20,000	UNIDO

Independent terminal evaluation	Terminal Evaluation conducted by UNIDO	Project completion (at least three months prior to the end of the project and no later than six months after project completion)	40,000	10,000	35,000	Independent evaluator, for submission to UNIDO PM
		Total	**75,000**	**35,000**	**90,000**	

10. Benefits

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

267. The project is expected to result in more cleantech startups and SMEs being identified and supported, thus acting as a catalyst for SME development and clean technology investment in South Africa. The creation of a dedicated national platform for promoting clean technology innovation in SMEs will result in an enhancement of human capital, thereby leading to job creation and poverty reduction as well as to increased women and youth participation in the entire value chain of the project. Furthermore, new job opportunities will also emerge, as the viable clean technologies commence local production and scale up innovations. Local development and production of these new technologies will very likely result in lower costs benefiting both the technology developer and end-user. Finally, the increased use of clean technology innovations supported by the project will result in GHG emission reductions.

268. GCIP South Africa will highlight the need for stronger support at the national level for clean technology innovations and SMEs? contributions. In particular, this project will provide added value by better bridging the gap between clean technology innovators and investors, thereby paving the way for the creation of new businesses resulting in a value added for the domestic economy. The project will forge linkages between clean technology innovators and the international private sector for investment in the subsequent commercialization of the technologies. It will also provide investors access to SMEs with attractive incentives to invest in innovation in clean technology in a relatively risk-free environment that will benefit the economy as a whole. At the same time, the growing number of participants encourages cross-country networking and creates opportunities for cooperation to further enrich the innovation ecosystem in participating countries.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

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

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

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex L - ESMP SA 15062021	**CEO Endorsement ESS**	

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

Project Strategy	KPIs/Indicator	Baseline	Target	Means of Verification	Assumptions and Risks
Objective: Support sustainable and inclusive economic growth by promoting clean technology innovations and entrepreneurship in start-ups and SMEs	National cleantech ecosystem established to support cleantech entrepreneurs # hubs established to provide support	Incoherent and weak clean technology innovations ecosystem TIA is one hub	National Cleantech Ecosystem established in 5 provinces to support SMEs and early-stage entrepreneurs with promising innovative clean technologies products/ services/ business ideas 5 new regional hubs established to provide support	Project progress reports Final independent project evaluation report GEF Tracking Tools Global GCIP impact tracking tools Database and records maintained during and after project completion Website data	Technology innovation, energy productivity and creation of jobs remains the top priority of the Government SMEs/startups are committed to the Cleantech approach The government remains committed to the Cleantech approach
	# SMEs/startups pursuing innovations in clean technologies (gender-disaggregated for leadership) supported by GCIP-SA II	None	At least **200** new clean energy technologies or innovative businesses developed and grown (>35% women-led)		
	# Successful Cleantech (CT) programmes organized after project completion	n/a	>1 cleantech programme organised post project across all five provinces GCIP cleantech programme extended to remaining 4 provinces		

	Additional investment into clean technology innovations due to increased interest in the CT programme	Limited investments in innovative clean technology, especially by SMEs	SMEs and startups are trained and connected with funding partners and investors Approximately US$14 million invested in clean technology innovations supported by GCIP		
	# SMEs as members of the national platform (gender-disaggregated)	n/a	At least 500 SMEs/startups as members of the national platform; (at least 35% women-led SMEs/startups)		
	Tonnes of GHG emissions directly or indirectly avoided	Data on emission reductions related to clean technology innovations in SMEs not available	Emission reductions in the range of 360,000 t CO2 eq to approximately 720,000 t CO2 eq over a 10-year period (for GCIP alumni)		
	# new jobs associated with cleantech innovations (gender disaggregated) supported by GCIP	n/a	At least 150+ new jobs created (at least 35% women)		
Project Component 1 ? Identifying, fostering and developing cleantech innovations and businesses					
Outcome 1.1 Promising cleantech innovators are identified and supported by established national platform,	# new clean technologies or innovative businesses grown and supported by GCIP SA II	n/a	At least **200** new clean energy technologies or innovative businesses developed and grown (at least 35% women-led)	Project progress and evaluation reports Company reporting Survey of competition and accelerator	Continuous support from the Government and national partner institutions

accelerators and challenges	# trained and certified judges and mentors	49 experts trained (25% women)	120 judges and mentors trained by the project are equipped with skills and tools to replicate and improve mentoring and training programmes for clean energy technology innovation (at least 35% women trainers and mentors)	participants Feedback from entrepreneurs trained and mentored through surveys and interviews Training and certification records	Commitment from project partners and committed participation of SMEs and entrepreneurs Sufficient commitment and participation by the experts, mentors
Output 1.1.1 GCIP methodologies and guidelines for accelerator, advanced accelerator and post acceleration adapted for SA	#Analysis reports on potential entrepreneurs, mentors, trainers and judges	Little analysis carried out	2 Analysis reports per province (1 on entrepreneurs, 1 on mentors, trainers and judges)	Project progress and evaluation reports Project documentation Guidebooks Attendance records from training	Continuous support from the Government and national partner institutions Commitment from project partners and committed participation of SMEs and entrepreneurs Sufficient commitment and participation by national experts and mentors
	#Reports on recommended interventions to address weaknesses	No interventions proposed	1 Report on recommended interventions to address weaknesses in each province		
	# methodology and guidelines (Guidebooks) for GCIP South Africa competition established (including training)	Guidebook from GCIP supported under GEF5	2 GCIP South Africa Accelerator Guidebooks (for accelerator, and advanced and post-accelerator) - including training		
	#internal training within TIA and hub partners	Training carried out under previous GCIP	At least 2 internal training sessions on GCIP guidebooks to all hub partners		
	#staff trained in each training session (gender responsive)	n/a	>10 staff trained in each training session (>35% women, gender-disaggregated)		
	# dedicated training on gender awareness	none	At least 2 internal training sessions to all hub partners		

	# of gender experts involved to promote GEEW, e.g., gender-responsive GCIP SA guidebook				
Output 1.1.2. 120 business innovation and entrepreneurship experts (women and men trainers, mentors and judges) trained and certified to support cleantech innovation	#customised GCIP South Africa expert training material	Existing GCIP material	Localised training material for GCIP South Africa ? updated	Project progress and evaluation reports Project documents Training material Attendance records from training Trainer/mentor/judge certificates SEDA website Mentorship platform	
	# training received by TIA from NGIN	Under GEF 5 funding	1 training session delivered		
	# tailormade mentor course developed incorporating the GCIP specific material into their existing mentor course	None	1 tailormade mentor course developed by an accredited organization incorporating GCIP specific material		
	GCIP certification integrated into South African system Recognition of the GCIP trainer material within the small business trainers? ecosystem	Certification system not integrated into SA system GCIP training not nationally recognised	GCIP certification integrated into South African system SEDA endorses GCIP Training material		
	# trained and certified national trainers/mentors/judges (gender-disaggregated)	49 experts	120 new trained and certified additional national trainers/mentors/judges (35% women)		
	# of experts attending the UN ?I know gender1-2-3? training and Gender lens investing training	None	100%		
	# training sessions	None under GEF7	10 training sessions (5 for trainers/mentors and 5 for judges)		

	# national cleantech online mentorship platform	0	1		
	# users of mentorship platform (gender-disaggregated)	0	120 (>35% women)		
	# of women that received dedicated mentoring				
Output 1.1.3 Ideation and concept validation support provided to at least 100 entrepreneurs	# pre-accelerator courses held	None held	4 pre-accelerator courses held	Project progress and evaluation reports Project documentation Training records ? material and participants Participant feedback on pre-accelerator	
	# pre-accelerator participants per course (gender-disaggregated)	None	15 pre-accelerator participants per course (at least 35% women target)		
	# entrepreneurs receiving ideation and concept validation support (gender-disaggregated)	None (not registered)	100 (at least 35% women)		
	# of pre-accelerator courses held that address specific women barriers				
Output 1.1.4 Four cycles of the annual GCIP South Africa competition-based multi-track accelerators supported through provincial hubs (accelerators, advanced accelerators and national industrial innovation challenges) conducted, in	# GCIP South Africa multi-track accelerators and challenges held	n/a	4 GCIP South Africa multi-track accelerators, advanced accelerators and national challenges held (one annually) 4 national accelerators 4 advanced accelerators in GP, WC, EC and 3 in MP and NC 3 national innovation challenges	Project progress and evaluation reports Project documentation Training records ? material and participants Participant feedback on accelerators and challenges Meeting/forum records	

alignment with international GCIP Accelerator cycle	# private and public sector partnerships providing support to national challenges	0	>4		
	At least one partnership with a national institution, agency and university with a focus to promote women?s entrepreneurship				
	# targeted gender-responsive outreach activities promoting GCIP SA	limited to 1 university roadshow and 5 media articles	>20		
	# partners involved that promote gender equality and women and youth empowerment	individuals not institutions	>5		
	# special awards that promote youth and/or women	4	>6		
	# competition entries per year (gender-disaggregated)	n/a	At least 10 entrants per category competition in Year 1 (at least 35% women participants)		
		n/a	At least 20 entrants per category competition in Year 2 onwards (at least 35% women participants)		
		n/a	Total of 100 SMEs/startups invited to participate in each annual competition (at least 35% women-led SMEs/startups)		

	# semi-finalists and finalists per cycle (gender-disaggregated)	n/a	50 Semi-finalists (at least 35% women-led target)		
		n/a	12 Finalists (at least 35% women-led target)		
	# entrepreneurs identified, coached and promoted during GCIP (gender disaggregated)	0	At least 50 entrepreneurs and SMEs identified, coached and promoted per year (at least 35 % women led)		
	# focused training, mentoring and support for women entrepreneurs	0	? 1 per year		
	#national GCIP forum (gender disaggregated data on participants and speakers	Annually held under GEF 5	>4 national GCIP forum (at least target 35% women speakers and participants)		
	# panels at fora that focus on women entrepreneurship	None	At least 1 panel focusing on women entrepreneurship per forum		
Outcome 1.2: Cleantech innovation and businesses are supported through advanced and gender responsive business growth and investment facilitation services	# cleantech entrepreneurs supported with additional services for business growth (gender-disaggregated)	Baseline data not available so zero	80 cleantech entrepreneurs supported with addition services for business growth (at least 35% led by women)	Project reporting/documentation Meeting notes GCIP impact reporting Company records	Continuous support from the Government and national partner institutions Sufficient commitment and participation by national experts and
	# entrepreneurs / SMEs connected with funding and partnerships (led by data gender-disaggregated)		30 entrepreneurs / SMEs connected with funding and partnerships (at least 35% led by women)		

	# dedicated early-stage financing facility for cleantech entrepreneurs/SMEs established	0	1		mentors Interest from investor community
	# USD raised for cleantech entrepreneurs	-	Approximately US$14 million invested in clean technology innovations (at least 35% for women-led SMEs)		
	# entrepreneurs receiving finance from new financing facility	-	40 entrepreneurs/SMEs receive financial support from the new financing facility (at least 35% led by women)		
Output 1.2.1 Targeted support services delivered (technology verification, product development, advanced business support, connecting to markets etc.) to more than/at least 80 selected cleantech enterprises towards commercialization	# gender-responsive virtual training modules/webinars for alumni community	None	>3 virtual training modules/webinars for alumni community	Project documentation Company reporting Participant lists and forum schedules Training records Training participant lists and feedback Tracking tools Meeting notes	Continuous support from the Government and national partner institutions Commitment from project partners and committed participation of SMEs and entrepreneurs Sufficient commitment and participation by national experts and mentors
	#enterprises participating in each webinar (gender-disaggregated)	None 1.	>15 enterprises participating in each webinar (at least 35% led by women)		
	# entrepreneurs receiving needs-based support (gender-disaggregated)	No training	80 entrepreneurs receiving needs-based support (at least 35% led by women)		
Output 1.2.2 Investment facilitation and market expansion support is provided for 30 selected GCIP alumni	# half-day investor connects events	None	>8 half-day investor connects events		
	# participants in investor connect events (gender disaggregated)	None	80 participants in investor connect events (at least 35% women)		

enterprises (gender responsive) **2.**	# cleantech GCIP alumni connected with funding and partnership opportunities (gender-disaggregated)	0	At least 30 GCIP alumni (at least 35% led by women) connected with funding and partnership opportunities at least 1 Partnership with impact investor that uses gender lens established.		Interest from impact investors in cleantech
	# USD raised for cleantech entrepreneurs (gender-disaggregated)	0	Approximately US$14 million additional finance invested in clean technology innovations (at least 35% for women-led SMEs)		
	# impact investors investing in South Africa cleantech	0	3 new impact investors investing in South African cleantech		
	# awareness raising and training session for investors	0	>3 training session for investors (one provided by PFAN)		
	# investors trained (gender responsive)	0	20 impact investors trained (at least 25% women of women investors)		
	# training on gender-lens investment or gender sensitization for investors	0	20 impact investors trained (at least 35% women)		
	# GCIP SA alumni supported by PFAN (gender-disaggregated)	0	8 GCIP SA alumni supported by PFAN		
Output 1.2.3 Mentorship and partnership	# forums held	No similar forums held	6 forums held		

support provided to 40 GCIP alumni with innovations that can grow into other countries, regions and globally	# participants attending (gender disaggregated	0	100 participants attending forums (at least 35% women)		
	# GCIP alumni receiving mentoring and partnership support (networking, introductions etc.) (gender-disaggregated)	0	>40 GCIP alumni receiving mentoring and partnership support (networking, introductions etc.) (>35% of women)		
	#GCIP SA alumni successfully accessing TIA programmes (e.g., LIF, SWISS and GAP) (gender-disaggregated)	0	20		
	Membership of NGIN	None	Membership of NGIN		
	# GCIP SA alumni nominated for support by the GCIP Global Accelerator (gender-disaggregated)	None	>20 (at least 35% women)		
Output 1.2.4 Innovative early-stage financing mechanisms established and operationalised to support the deployment and scale-up of cleantech solutions in 40 companies	# dedicated cleantech early-stage financing facilities established	None exists	1 set up within IDC		
	# applications to financing facility (gender-disaggregated)	None	200 (at least 35% women-led)	Project progress and evaluation reports Project documentation Fund reporting Company records Press releases	Interest from impact investors in cleantech
	# enterprises going through selection process (gender-disaggregated)	None	120 (at least 35% women-led)		
	# enterprises receiving financing (gender-disaggregated)	None	40 enterprises (35% women-led)		

	# GEF funds disbursed	None	USD 1,000,000		
	# co-finance leveraged/disbursed	None	USD 12,000,000		
	# enterprises that took the gender-lens investing training course	None	At least 50%		
Component 2: Cleantech Ecosystem connectivity, policy and institutional framework strengthening					
Outcome 2.1: National ecosystem strengthened to promote and support cleantech innovation and entrepreneurship whilst promoting gender equality and the empowerment of women	South Africa cleantech innovation ecosystem actively supporting entrepreneurs	Limited institutional capacity to support entrepreneurs and conduct technology innovation competitions and business incubator services	?	Project progress reports The final project evaluation report Policy documents Budget documents Cleantech support programme plans	Continuous support from the Government and national partner institutions Continuous support and participation by industry and other partners
	# GCIP hubs focusing on support for cleantech innovators (forming the national platform)	1 (TIA)	5 new provincial GCIP hubs providing support for cleantech innovators		
	#programmes supported beyond GCIP #provinces covered by GCIP		>1 programme supporting cleantech entrepreneurs beyond GCIP All		

	Quality and importance of training and mentoring in clean technology business accelerator programmes at national level (gender-responsive)		Staff and trainers trained by the project are equipped with skills and tools to replicate and improve mentoring and training programmes for clean energy technology innovation (at least 35% women trainers and mentors		
	Increased importance of the provision of advanced training and mentoring in government-funded technology innovation and business development support programmes for SMEs and startups - Budget assigned (USD)	No clear budget allocated	- USD 1 million assigned (will this budget be gender-responsive?)		
	The extent to which STI circular economy 10-year plan is effectively implemented	A score between 0 and 4, will be given to assess these policies (0 is poor and 4 is optimal	A score of at least 3		
Output 2.1.1 National level platform and coordinating mechanisms for ecosystem stakeholders established	# hubs focusing on support for cleantech innovators (forming the national platform)	1 (TIA)	5 new provincial hubs providing support for cleantech innovators	Project progress and evaluation reports Project documentation GCIP Website	Commitment from project partners and committed participation of SMEs and entrepreneurs
	#Manuals on GCIP platform coordination and communication mechanisms	-	1		

#Output 2.1.2 Capacity building for national cleantech innovation and entrepreneurship support institutions (i.e., industry associations and business platforms, etc.) based on the results of the GCIP cleantech innovation and entrepreneurship ecosystem (CIEE) assessment	#Assessment of the cleantech innovation ecosystem using CIEE	draft	1	Project progress and evaluation reports Project documents - Strategy documents, training material Workshop minutes and attendance lists Feedback from those trained Attendance records from training	Continuous support from the Government and national partner institutions Continuous support and participation by industry and other partners
	# GCIP capacity building strategy and action plan (gender-responsive)	0	1		
	#training materials for entrepreneurship support institutions	0	2 (targeted at different audiences ? one more technical, one more financial)		
	# (gender-responsive) training sessions for institutions	0	5		
	# attendees at training sessions (gender-disaggregated)	0	15 per session (>35% women)		
	# partners involved that promote GEEW	0	3		
	# targeted interventions to promote gender equality and to enhance participation of women and youth in the cleantech sector designed and implemented	0	5		
	# hub and spoke institutions? staff trained (gender-responsive) to be able to support cleantech innovation entrepreneurs	0	20 staff from hub and spoke institutions receive training to be able support cleantech innovation entrepreneurs (with at least 35% women)		

	# training sessions delivered	0	2 training sessions delivered		
	# trainers trained	0	10 trainers trained (at least 35% women)		
	#on-the-job training for PMU		>1-month on-the-job training for PMU		
	#global GCIP workshops attended by PMU		4 global workshops attended by PMU		
	# government staff with enhanced skills in policy implementation	0	10 (from experiential learning on development of action plan, and MEL framework on circular economy)		
	# short cleantech innovation awareness course developed and endorsed for government staff	0	1		
	# government staff attending the short course (gender-disaggregated)	0	>40		
	% of involved government staff that attended basic gender training or took the I-know gender course, and gender-lens investing training course		At least 50%		
Output 2.1.3 Policy support provided to strengthen cleantech innovation	4. # cleantech policy implementation framework developed	0	1	Project progress reports / project documentation The final project	Continuous support from the Government and national

entrepreneurship ecosystem and promote a circular economy	# cleantech innovation policy workshop	0	1	evaluation report Policy documents Meeting minutes and attendance records GCIP South Africa website Government documents	partner institutions
	# attendees at policy workshop (gender-disaggregated)	0	30 (target >35% women)		
	# youth and gender mainstreaming strategy	0	1		
	Support provided to the implementation plan for the DSI?s Science, technology and innovation (STI) framework for the transition to a circular economy (10-year plan) #action plans #MEL framework	0	1 action plan 1 MEL framework		
	# documents mappings regulatory sectors to support SMMES to navigate the regulations	0	At least two sectors mapped (eg. Energy storage, e-vehicles, waste to energy)		
	# evidence of awareness raising of green (and gender-responsive) procurement (e.g., Press releases, policy briefings)	0	3		
	#IP policy development recommendations	0	1		

	# regulations proposed for inclusion in Preferential Procurement Policy Framework Act (PPPFA)	0	>1		
Output 2.1.4 Networking, knowledge generation, exchange and dissemination at national and global levels to promote linkages, collaboration and synergies across cleantech ecosystems of GCIP countries	# knowledge products and promotional materials (eg. policy briefs, impact reports, brochures, webinars) disseminated through events and social media channels	None on GCIP SA II	? 3 policy briefs ? >4 impact reports ? >5 brochures ? >5 webinars ? At least 5 stories or videos on GCIP women entrepreneurs, mentors and judges published ? 1 webinar with a focus on women entrepreneurs in cleantech ? 1 policy brief on the relevance of gender equality in cleantech	Project progress and evaluation reports Meeting notes and participant lists Agreements	Continuous support from the Government and national partner institutions Interest from cleantech innovators and from national and global stakeholders
	#GCIP SA alumni participating in GCIP global forum (gender-disaggregated)	0	8 Target 35 % of women		
	# international events attended by PMU	0	5		

	# GCIP SA alumni attending international cleantech events (gender-disaggregated)	0	10 Target 35% of women		
	% of knowledge products and promotional materials that is gender-responsive i.e., includes gender-disaggregated data in the reports/policy briefs/etc.		100%		
Component 3: Project Coordination and Coherence					
Outcome 3.1: Project coordination and coherence strengthened	GCIP South Africa recognized as part of the global GCIP programme: Publicity shows links	GCIP South Africa not clearly linked to global GCIP programme	5 publicity documents/social media show links to the GCIP global framework	Project documentation GCIP global records Websites of Global GCIP and South African GCIP	Continuous support from the Government and national partner institutions
	GCIP South Africa website established on GCIP global web platform		GCIP South Africa website established on GCIP global web platform		
	#Global GCIP methodologies, tools and standards adapted and followed		>3 GCIP methodologies, tools and standards adapted and followed (including impact monitoring, competition-based accelerator methodology and tools, mentor and judge training)		
	Active Global GCIP links		At least quarterly formal and informal links to Global GCIP established		

Output 3.1.1: GCIP guidelines adapted and implemented for programmatic coherence with all GCIP child projects	#Global GCIP methodologies, tools and standards adapted and followed	First phase of GCIP methodologies in place	Operational GCIP methodologies, tools and standards adapted and followed for South Africa.	Website and project documents Project documentation Social media Programmes and attendance lists for regional and international events GCIP global records	Continuous support from the Government and national partner institutions Sufficient commitment and participation by national experts and mentors
	#PMU training sessions attended (gender-disaggregated)		3 PMU training sessions attended		
	#GCIP South Africa sustainability and exit strategy	0	#GCIP South Africa sustainability and exit strategy		
	Formal and informal links to Global GCIP established	0	At least quarterly formal and informal links to Global GCIP established		
Output 3.1.2 Programme level knowledge management, communication and advocacy strategy adapted and implemented for GCIP South Africa	#Knowledge management, communication and advocacy strategy and action plan for GCIP South Africa	No strategy	A (gender-responsive) knowledge management, communication and advocacy strategy and action plan for GCIP South Africa		
	(gender-responsive) Awareness raising and marketing material available for entrepreneurs and officials	Shortage of effective and good quality public awareness raising and marketing material on cleantech	Public awareness raising, marketing and training material developed and adapted for South Africa and made available in printed and electronic format		
	Awareness raising and marketing material available for the public:				
	# briefing sessions		>5 briefing sessions		
	# press releases,		>10 press releases		
	# social media activity		Monthly social media activity		

Output 3.1.3 GCIP South Africa web platform operated to maintain GCIP community and network, coordinate and consolidate project operations under the GCIP global platform	GCIP South Africa website developed as part of global GCIP web platform	No clear GCIP SA website	GCIP South Africa website developed as part of global GCIP web platform		
	# frequent platform users (if possible, gender-disaggregated)	0	100 frequent platform users		
	Establishment of the alumni network	No formal network established	Alumni network established		
	# active alumni in network (gender-disaggregated)	0	150 alumni active in the network (at least 35% women)		
	# entrepreneurs attending regional and global events (gender-disaggregated)		>9 entrepreneurs attending regional and global events (at least x% women)		
	# sharing of best practice/experience between GCIP countries and South Africa		>10 examples of sharing of best practice between GCIP Countries and South Africa (at least 35% of examples should showcase women entrepreneurs)		
	Establishment of the alumni sub-chapter for women in the network				
Outcome 3.2: Impact of GCIP tracked and reported at national and global levels	Evidence of impact of GCIP-SA (#impact reports)	0	5 impact reports	Project documentation	Continuous support from the Government and national partner institutions
	Project on schedule	n/a	Project on schedule		
	Project on budget	n/a	Project on budget		
	Project meets objectives	n/a	Project meets objectives		

Output 3.1.1 Environmental impact of GCIP South Africa estimated, tracked and reported in line with established GCIP methodologies	GCIP Impact monitoring established in South Africa	none	GCIP Impact monitoring established Clear methodologies established for South Africa	Project reporting and project correspondence Global GCIP impact tracking Websites of Global GCIP and South African GCIP Project documents	Continuous support from the Government and national partner institutions Sufficient commitment and participation by national experts and mentors
	# impact monitoring training sessions to all GCIP South Africa accelerator semi-finalists	0 0	At least one training session per cycle to all GCIP South Africa accelerator semi-finalists		
	# annual GCIP South Africa impact reports	0	5 annual GCIP South Africa impact reports		
Output 3.2.2 Project effectively monitored - Regular monitoring exercises conducted including monitoring and reporting on the ESMP, gender action plan and risks; PIRs prepared according to UNIDO and GEF requirements	M&E plan for GCIP South Africa	none	M&E plan for South Africa		
	# Progress reports (including monitoring of ESMP, GAP, risks & SEP)		9 Progress reports (including monitoring of ESMP, GAP, risks & SEP)		
Output 3.2.3 Mid-term review and independent final evaluation conducted	Independent mid term review	none	Mid term review	Mid term review	
	Independent terminal evaluation report	none	Terminal evaluation report	Terminal evaluation report	

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

The Global Cleantech Innovation Programme (GCIP) to Accelerate the Uptake and Investments in Innovative Cleantech Solutions (GEF ID: 10408) consists of 11 child projects as follows: Global,

Cambodia, Indonesia, Kazakhstan, Moldova, Morocco, Nigeria, South Africa, Turkey, Ukraine, Uruguay. Therefore, UNIDO responses as presented below show how the comments from Council were addressed across all the 11 child projects and, where feasible, country specific responses are provided.

	GEF Secretariat Comments ? January 2020	UNIDO response
	Germany	
	Germany welcomes this innovative proposal that aims to foster clean tech start-ups and SMEs through capacity building, access to finance, policy and regulatory strengthening and learning and exchange, building on the lessons learnt from a previous project. The proposal is aligned with the relevant GEF focal strategy and comprehensive. Germany requests that the following requirements are taken into account during the design of the final project proposal:	
1	Germany asks to review the risks section of the document as to identify environmental risks for relevant strategies and develop associated mitigation measures. The proposal currently considers environmental risks to be low without providing detail. However, some (e.g. blockchain) have concerning carbon footprints, unless they are powered exclusively by renewable energies, which is rarely the case. Industrial processes related to battery-based technologies can have harmful environmental impacts if these are not mitigated through environmental regulation and risk mitigation measures, which are often not effectively enforced.	The environmental risk section and ESMP have been reviewed and revised based on the comments and the environmental risks of some technologies have been acknowledged and mitigation measures proposed. The criteria for technology selection (output 1.1.1) has also been updated to include for mitigation measures for possible negative environmental and social impacts. Where necessary expertise will be used to help the entrepreneurs to minimise the negative impacts and if the mitigation measures are not sufficient then that technology will not be supported by GCIP.
2	In this context, Germany also suggests to review the technologies alignment with local climate risks, when deployed. The GIZ ?Climate Expert? tool could provide a relevant frame to do so in a local context.	The alignment of proposed technologies will be reviewed against local climate risks in the target markets, as part of the support provided within the accelerator. Minimising any negative environmental and social impacts has been added as specific guidance available to the entrepreneurs (under output 1.1.4). Adaptation strategies will also be prepared if necessary. GIZ?s Climate Expert Tool could be used as one tool available by entrepreneurs and GCIP mentors and judges.

3	Germany suggests further broadening the scope to support low-tech and lower-tech approaches to energy, resource efficiency or waste management that do not exclusively rely on strong IT skills. It might not be the local SMEs? lack of access to finance and entrepreneurial capacities alone that hinder their development and scaling up.	The scope of technologies to be supported is not prescriptive as long as it is cleantech and in line with GEF 7 CCM priorities (electric drive technologies and electric mobility, accelerating energy efficiency, and decentralised renewable energy power with energy storage) plus sustainable cities and food systems. The level of IT or technology will not be defined so low-tech and lower-tech approaches to energy will be included. The criteria for GCIP support will be defined at both the provincial and national level and will take into account the local skills and technology base. Specifically the provincial hub partners will carry out analysis of potential in their provinces and will carry out outreach to encourage grass-roots and rural entrepreneurs to apply. The GCIP approach is designed to address other ecosystem weaknesses that may impact on SME?s ability to develop and scale-up. Component 2 is designed to address some of these weaknesses by building capacity and supporting policy development that will strengthen the local ecosystem.
4	Germany also suggests seeking synergies with KfW?s SME and start up support program for energy-efficient production processes, as well as the GIZ project on the promotion of smallest, small and medium-sized enterprises in Morocco.	The full design of the Morocco child project will consider working with GIZ?s project in the country.
	Germany further invites consideration of potential additional synergies with research institutes (e.g. by leveraging the partnership with Climate-KIC); such partnerships might be able to provide some of the IT technology needed or help to bring technologies to maturity and to foster market readiness	UNIDO is in discussion with Climate KIC, which will be a collaborating partner in the project. In South Africa, national academic and research organisations and technology stations, will be involved in the delivery of the project as hub and spoke partners in each province and their expertise used.
United States		
	We are supportive of this project, through there were initial concerns that the program appears to be duplicative of other major UN programs and IERNA efforts. Reviewers noted that as long as UNIDO, IRENA, the World Bank, Clean Energy Ministerial, CSLF, IEA, OECD, USAID, the EU, GiZ, and other major donors who are active in this space coordinate and de-conflict their efforts, or receive funding for their efforts from the program, it seems fine to promote innovation in clean technologies	From meeting: The Secretariat clarified that the GCIP uniquely combines an array of comprehensive and interlinked services to promote innovative cleantech solutions in developing countries and emerging economies. There are no known overlaps with any existing UN programmes or initiatives. Rather, the GCIP may collaborate with these institutions and initiatives so as to enhance GCIP the impact services.

	Other reviewers are supportive of this initiative and think it is well-designed for Cambodia. However, there is concern about partnering with UNIDO who has struggled with implementing programs in the past.	UNIDO has successfully implemented GCIP in a total of nine countries, namely Armenia, India, Malaysia, Morocco, Pakistan, Thailand, Turkey, Ukraine and South Africa[1]. Four of these countries have requested additional GCIP support. The independent evaluation of GCIP unequivocally concluded that GCIP was very successful. Any shortcomings and findings from the evaluation and feedback from participants has been used to design the activities of the GCIP global child project. Further details regarding the findings of the GEF IEO thematic evaluation of GCIP are provided in Annex N.
	STAP Comments ? January 2020	**UNIDO Response**
1	Good discussion is provided on barriers and lesson-drawing from past experiences. Transferability will need to be monitored closely for the new countries added (that were not in earlier GEF 5 and 6 Cleantech programs)	The coordinated approach through the global child project allows for the development of common tools and methodologies that are adapted to local contexts. Regular meetings and trainings on methodologies and operationalization of the in-country projects with all countries ensures knowledge transfer from the Global coordination team but also between countries to the benefit of the new countries especially. In particular, component 3 is primarily focused on programmatic and coherence efforts across the countries to ensure transferability.
2	Adequate presentation of stakeholders engagement is provided throughout the proposal. However, engagement with particular businesses that have experience with Clean-Tech development through organizations such as the World Business Council on Sustainable Development may be appropriate	UNIDO totally agrees with this. In the South Africa RCE private sector stakeholder have been included in the stakeholder engagement plan. This includes both business/industry associations as well as women and youth organisations which have interest in cleantech.
3	The Global Environmental Benefits from this program are linked to a range of other efforts including the Sustainable Cities program. Hence the project will require coordination between this project and these other efforts. A good review article that can guide on planning and assessing potential benefits of CleanTech is recommended: Thomassen, G. et al. 2019. How to assess the potential of emerging green technologies? Towards a prospective environmental and techno-economic assessment framework. Green Chemistry, 21(18), 4868?4886. https://doi.org/10.1039/C9GC02223F	The project will be systematically coordinated with the Sustainable Cities, E-mobility and Africa Mini-grids Programmes for scaling the pipeline of technologies nurtured by the programme. The principles from the article mentioned will be applied in addition to the impact methodologies developed under the global child project.

4	There is considerable emphasis on scaling based on prior experiences. In this regard, the differential experience between the countries will need to be carefully monitored, particularly with regard to the effective implementation of co-financing arrangements.	Each country project is designed and developed with its unique context in mind while still ensuring that coherence exists in the programmatic approach i.e. common tools and methodologies. Co-financing is country-specific and will be monitored through the regular monitoring and tracking activities, such as the PIRs. In South Africa this GCIP project builds on, and integrates, the GCIP-5 funded GCIP and co-financing has been committed against the specific South African activities.

[1] 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

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

The committed funds will be spent in the project start-up phase, i.e. they will be used 1) predominantly to strengthen the capacity of and provide training to the national PEE (TIA and IDC) on the project execution arrangements with due consideration of the updated GEF guidelines on the project and programme cycle policy (the training of the national PEE is directly related to project/country preparation and as such its cost is eligible to be financed from the PPG.

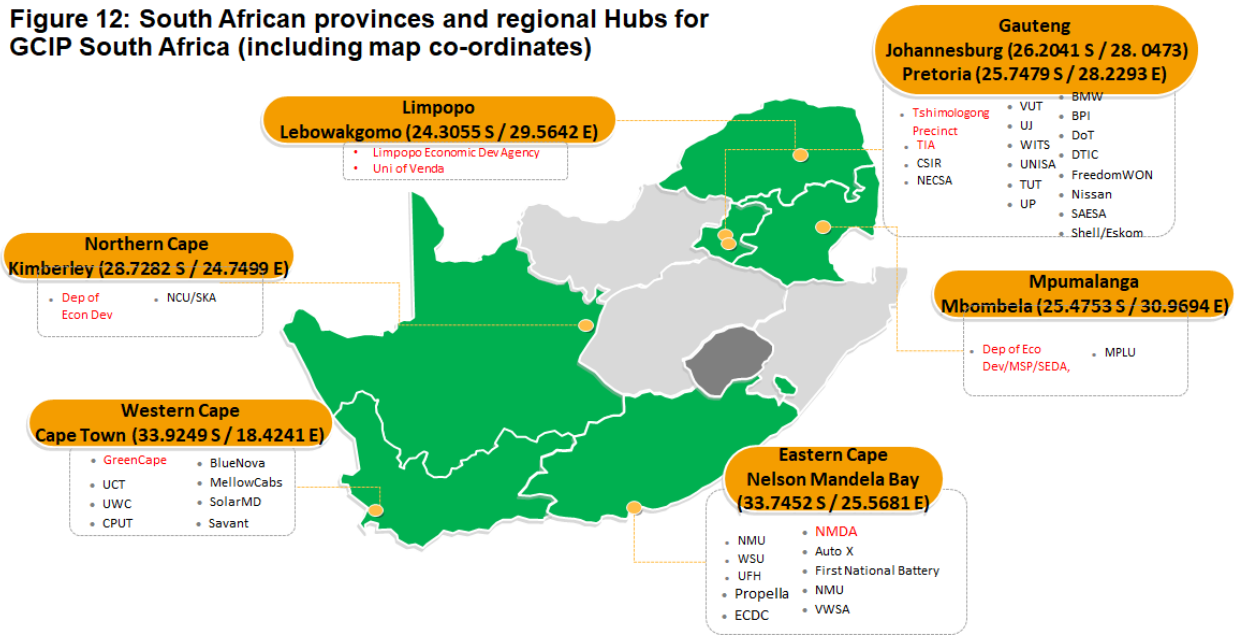
Project Preparation Activities Implemented	***GETF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Description of the project implementation/execution modalities and agencies, incl. - Draft TOR for contractual arrangements - HACT assessment of the proposed executing agency - Obtaining of co-financing letters from donors, NGOs, Agencies and government - Training for executing entity on execution modality	20,000	17,556.85	2,443.15

Development of the project document (incl.), incl. - Analysis of baseline and ongoing/planned initiatives - Gender analysis/ assessment - Preparation of environmental and social management plan (ESMP) (for Category B projects)	60,000	59,809.54	190.46
Stakeholder engagement activities: Stakeholder Workshop to verify the project document	10,000	8,791.29	1,208.71
Total	90,000	86,157.68	3,842.32

ANNEX D: Project Map(s) and Coordinates

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

Figure 12: South African provinces and regional Hubs for GCIP South Africa (including map co-ordinates)



ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)					Sub-Total	M&E	PMC	Total (USDeq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1		Component 2	Component 3						
		Outcome	Outcome	Outcome 2.1	Outcome	Outcome					
		Outcome 1.1	Outcome 1.2	Outcome 2.1	Outcome 3.1	Outcome 3.2					
Revolving funds/ Seed funds / Equity	Seed investment to IDC	-	1,000,000	-	-	-	1,000,000			1,000,000	IDC
Contractual Services – Individual	Independent terminal evaluation consultant	-	-	-	-	-	-	40,000		40,000	UNIDO
	Mid term review consultant	-	-	-	-	-	-	25,000		25,000	UNIDO
Contractual Services – Company	Analysis of gaps and design of implementation measures	13,042	-	-	-	-	13,042			13,042	TIA
	Pre-accelerators	17,634	-	-	-	-	17,634			17,634	TIA
	Customisation of accelerator	5,525	-	-	-	-	5,525			5,525	TIA
	Help line	9,264	-	-	-	-	9,264			9,264	TIA
	Delivery of two sessions of academy, mentor and training	50,682	-	-	-	-	50,682			50,682	TIA
	Localised guidebook and training	4,505	-	-	-	-	4,505			4,505	TIA
	Support for integrating certification	1,513	-	-	-	-	1,513			1,513	TIA
	Policy localisation	-	-	30,000	-	-	30,000			30,000	TIA
	Development of website	-	-	-	25,000	-	25,000			25,000	TIA
	Publicity material contracts	-	-	-	8,000	-	8,000			8,000	TIA
	NCPC - development of training material	-	-	25,000	-	-	25,000			25,000	TIA
	SEDA - approval of training	15,000	-	-	-	-	15,000			15,000	TIA
	Mentor institute - development and delivery of training	40,000	-	-	-	-	40,000			40,000	TIA
	SETA - approval of training	25,355	-	-	-	-	25,355			25,355	TIA
International Consultants	Financial consultants support to semi-finalists and alumni	70,000	70,000	-	-	-	140,000			140,000	TIA
	Technical/business consultant/trainers(s) involved in capacity building	-	-	42,000	-	-	42,000			42,000	TIA
	Policy and capacity building experts	-	-	98,000	-	-	98,000			98,000	TIA
TIA and hub and spoke partners	Training, GCIP coherence, outreach and reporting	-	-	60,000	21,000	9,000	90,000			90,000	TIA
	Delivery of ideation and concept validation/pre-accelerators	162,000	-	-	-	-	162,000			162,000	TIA
	Delivery of GCIP accelerator	409,500	-	-	-	-	409,500			409,500	TIA
	Delivery of post-accelerator	-	270,000	-	-	-	270,000			270,000	TIA
National consultants and mentors	Mentor stipends	40,000	34,000	-	-	-	74,000			74,000	TIA
	Technical/business consultant/trainers (s)	39,000	81,000	-	-	-	120,000			120,000	TIA
	Financial consultants/trainers	39,000	45,000	6,000	-	-	90,000			90,000	TIA
	Environmental/Social consultant (s)	12,000	-	6,000	-	9,000	27,000			27,000	TIA
	Gender consultant	4,500	-	6,000	6,000	-	16,500			16,500	TIA
	Policy expert (s)	-	-	72,000	-	-	72,000			72,000	TIA
Salary and benefits / TIA costs	Enterprise development training staff	-	-	72,000	-	-	72,000			72,000	TIA
	Project Technical Expert and Coordinator	-	-	27,000	12,000	9,500	48,500		78,000	126,500	TIA
	Project administration	-	-	-	7,000	-	7,000	10,000	33,892	50,892	TIA
Trainings, Workshops, Meetings	National forum, capacity building, investor-connect events	-	-	-	-	-	-			-	TIA
	Outreach events/ forum	-	-	6,000	8,613	-	14,613			14,613	TIA
Travel	Travel to meetings, project sites,workhops - national	-	-	-	-	-	-		16,000	16,000	TIA
	Travel to meetings, project sites,workhops - local	-	-	-	-	-	-		4,000	4,000	TIA
Office Supplies	Office rent, equipment, stationery and communications	-	-	-	-	-	-		6,000	6,000	TIA
Grand Total		958,520	1,500,000	450,000	87,613	27,500	3,023,633	75,000	137,892	3,236,525	

ANNEX F: (For NGI only) Termsheet

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

N/A

ANNEX G: (For NGI only) Reflows

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

N/A

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

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

N/A