

**Government of Kenya**

**Danish Ministry of Foreign Affairs**

**INNOVATION AND PILOTING GREEN ENERGY  
BUSINESS SECTOR PROGRAMME SUPPORT, PHASE II  
KENYA**

**COMPONENT DESCRIPTION**

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## **COVER PAGE**

Country	: Kenya
Programme	: Business Sector Programme Support, phase II
Component	: Innovation and piloting green energy
National Agencies	: Climate Technology Innovation Fund (CTIF) and the African Enterprise Challenge Fund (AECF)
Starting date	: January 2011
Budget	: DKK 100 million from Danida; GBP 10 million from DFID (UK)

The Innovation and Piloting Green Energy component is to enable innovative entrepreneurs and firms in Kenya to exploit the market opportunities offered by the emerging market for new climate change technologies and to catalyse investments in new companies, products and services. It has two sub-components, mutually reinforcing each other:

- The CTIF sub-component, a Trust Fund to be established by the Kenya Private Sector Alliance), DFID and Danida, and
- The Renewable Energy & Adaptation Climate Technologies (REACT)-Kenya sub-component, a finance window to be set up under the AECF. REACT will be co-funded by DFID.

CTIF offers risk finance and facilitates mentoring and incubation services to start-up small and medium sized enterprises with innovative ideas for the development and deployment of climate change technologies. The CTIF will have three windows of support:

- Innovation grants, to finance the cost of innovative product development on a cost-shared basis with innovators and their associated venture capitalists;
- Seed capital to invest quasi-equity capital in start-up SMEs, and
- a Technical Assistance Window to finance the cost of developing a network of incubation services and other ad-hoc service costs and provide interest-rate free loans to SMEs for contracting such services.

The AECF challenge fund will under the REACT-Kenya programme implement three challenge rounds for innovative projects proposed by established firms having the potential to transform the market in Kenya for Climate Technology (CT) products. Aiming to bring the highest number of products and services to a maximum of rural people, the window targets innovations that can transform the market for CT-products. REACT-Kenya is expected to market and engage with three types of businesses:

- Energy and agribusinesses specialising in clean energy;
- Agribusinesses innovating to adapt to climate change, and
- Financial institutions offering loans and climate-related insurance products.

The CTIF and the REACT Kenya window share the purpose of catalysing private sector entrepreneurs in Kenya to innovate and find profitable ways of improving market access to climate change products and services. They differ with regard to their target group of innovators, their finance instruments, their time perspective and impacts.

Signatures

## **EXECUTIVE SUMMARY**

### **Component Objective**

1. The objective of the innovation component is to enable innovative entrepreneurs and firms in Kenya to exploit the market opportunities offered by the emerging market for new climate change technologies and to catalyse investments in new companies, products and services. The component will support development of (i) clean energy products and services providing lower cost and more reliable energy supply and (ii) products and services, including insurance products, that help smallholder farmers adapt to climate change.
2. The subcomponent is during 2010 being developed jointly with infoDev, a global development financing programme hosted by the World Bank. DFID also supports the preparatory process and are considering to finance the CTIF. A Memorandum of Understanding is being entered into between these three partners for developing and implementing CTIF as a tripartite set-up with access to funding and expertise from all three partners.

### **CTIF**

3. The Climate Technology Innovation Fund (CTIF) sub-component will support start-up Small and Medium Sized Enterprises (SME) with innovative ideas for the development and deployment of climate change technologies. The CTIF will offer innovation grants and seed finance (equity and quasi-equity) to these and facilitate mentoring and incubation services, as well as private finance and know-how transfers.

### **REACT Kenya**

4. The Renewable Energy & Adaptation Climate Technologies (REACT)-Kenya sub-component will support innovations by established firms that can transform the

market for climate technology (CT) products. REACT provides incremental cost finance to projects that without support would not have passed the minimum risk-adjusted rate-of-return threshold set by management in the proposing firm.

5. The AECF will organise three challenge rounds during the 2011-2015 period for innovative projects proposed by established firms that test the commercial viability of new business models and technologies ready to be taken to the market place. REACT-Kenya goes in with a minimum investment of USD 250,000 and a maximum of USD 1.5 million, providing its funds partly as a non-recourse loan at zero percent rate of interest, partly as a grant.

### **Outputs of CTIF**

- Incubation-, mentoring- and Technical Assistance (TA)- facilities for climate change technologies (CCT)-innovators;
- A small community of business angel /venture capital investors investing in climate technology-SMEs;
- Commercial banks loan finance for the early growth phases of start-up SMEs;
- Network to transfer international know-how about climate technology to CT-entrepreneurs, and
- Creation of around 30 innovative SMEs in climate technology of which around 25 prove commercially viable, creating employment directly and indirectly to around 900 people during the 2011-15 period.

### **Outputs of REACT-Kenya**

- Clean energy products and services providing lower cost and more reliable energy supply to rural businesses and households in off-grid areas;

- Non-financial products and services that help smallholder farmers adapt to climate change;
  - Financial products and services that help smallholder farmers adapt to climate change, and
  - Communication to spread successful business models.
6. The products and services provided by REACT-Kenya supported firms are expected to reach more than 100,000 users by end 2015.

### Management and Organisation

7. CTIF will be established as a Trust Fund with the Kenya Private Sector Alliance (KEPSA), DFID and Danida as founders. The three founders will appoint a professional Board, the composition of which reflects the CTIF-objective of incentivising the creation of a national innovation system for climate change technology. Board members will be appointed based on their individual capacities rather than their institutional representation.
8. A small fund management team composed of a Chief Executive Officer, an Investment Officer, a Technology Officer and financial management and support staff will manage three finance windows:
- An innovation grant window to support the development of above average level innovations by covering 50% of the estimated costs of bringing an innovative technology idea towards the development of a prototype,
  - a seed-capital window to invest quasi-equity capital in start-up SMEs, and
  - a Technical Assistance-window to finance the cost of developing a network of incubation services and provide interest-rate free loans to SMEs for contracting such services.

9. REACT-Kenya is a finance window to be set up under the Africa Enterprise Challenge Fund (AECF) housed in the Alliance for a Green Revolution in Africa (AGRA). AECF is managed by a contracted fund manager who reports to the Governing Council of AECF, which operates under full delegated authority from the AGRA Board and consisting of representatives of the AECF Donors, the President and the Vice President, Policy and Partnerships of AGRA.

### Budget

10. Each sub-component is co-financed by Danida with a DKK 50 million contribution, and DFID is expected to contribute GBP 5 million to each of the CTIF and REACT Kenya.

<b>TOTAL BUDGET</b>	Million DKK
<b>Subcomponent 1: CTIF</b>	
Output 1.1 Incubation System including own workshop facility	10,0
Output 1.2 BA/VC finance for CT	0,5
Output 1.3 Bank finance for CT	0,5
Output 1.4 Know-How Transfer Network	1,0
Output 1.5 CT-SMEs established	63,0
Fund Management operating costs	15,0
Contingencies	5,0
Subcomponent 1.1 Subtotal	95,0
<b>Subcomponent 2: REACT-Kenya</b>	
Output 2.1 Clean energy technologies and services	30,0
Output 2.2 Non-financial products and services for climate adaptation	30,0
Output 2.3 Financial products and services for climate adaptation	13,0
Output 2.4 Spread of successful business models	0,4
Fund Manager's fee	16,6
Contingencies	5,0
Subcomponent 1.2 Subtotal	95,0
<b>TOTAL BUDGET</b>	<b>190,0</b>

## Assumptions

11. Key assumptions are:

- The national demand for CT-products and services grows by at least 10% per year during the 2010 to 2015 period;
- Suitable and willing partners exist in Kenya for the establishment of a network of firms and institutions providing incubation-, mentoring- and TA- facilities for CT-innovators;
- The combination of innovative ideas with promising market prospects and the risk reduction provided by CTIF co-finance and know-how is capable of attracting Kenyan Business Angel (BA)/Venture Capitalist (VC) investors to co-invest in start-up CT-SMEs;
- The menu of services offered by CTIF can persuade commercial bank to overcome their strong hesitancy in providing loans to start-up SMEs during their early market-growth phase, and
- Private firms have a large number of product and investment ideas ready to be marketed, but need some grant support in order to pass the internal risk-adjusted rate-of-return hurdles.

## Risks

12. The main risks are:

- Poor performance of the CTIF FM team (risk is rated as medium);
- CTIF is unable to identify start-up SMEs with significant innovation potential (risk rated as high);
- Incubation, mentoring and workshop facilities cannot be outsourced due to lack of suitable or willing collaboration candidates (risk rated as medium);
- The programme is negatively influenced by powerful stakeholders or vested interests (risk rated as medium);
- Kenyan Universities and technology institutions such as Kenya Industrial Research Development Institute will not provide sufficient support towards the creation of a CT-innovation system in Kenya (risk rated as high);
- BA/VC investors and commercial banks are unwilling to co-finance investments in CTIF-supported SMEs (risk rated as medium);
- Failure for REACT-Kenya to deliver intended pro-poor benefits (risk rated as medium);
- Successful REACT projects do not lead to systemic impact (risk rated as medium), and
- Duplication or lack of synergy with other initiatives (risk rated as medium).

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## **ABBREVIATIONS**

ACTS	African Centre for Technology Studies
AECF	Africa Enterprise Challenge Fund
AfDB	African Development Bank
AGRA	Alliance for a Green Revolution in Africa
AI	Angel Investor (also called business angel)
AusAID	Australian Government Development Program
B2B	Business to Business (Danida private sector support programme)
BA	Business Angel
BSPS	Business Sector Programme Support
CCT	Climate Change Technology
CGAP	Consultative Group to Assist the Poor
CDA	Development Credit Authority
CIC	Climate Innovation Centre
CIPA	Climate Change Investment Program in Africa (by IFC)
CT	Climate Technology
CTIF	Climate Technology Innovation Fund
Danida	Danish International Development Assistance
DfID	Department for International Development (UK)
DKK	Danish Korner
EA	Executing Agency
EAC	East African Community
EIA	Environmental Impact Analysis
EIB	European Investment Bank
EE	Energy Efficiency
FI	Financial Institution
FM	Finance Manager
GDP	Gross Domestic Product
GA	General Assembly
GBP	British Pounds
GC	Governing Council
GTZ	Gesellschaft für Technische Zusammenarbeit (German Development Agency)
IC	Investment Committee
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFU	Industrialisation Fund for Developing Countries (Denmark)
KEPSA	Kenya Private Sector Alliance
KES	Kenyan Shillings
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
KIRDI	Kenya Industrial Research and Development Institute
KWh	kilowatt hours
LED	Light Emitting Diodes
MFI	Micro Finance Institution
MoU	Memorandum of Understanding
MoES&T	Ministry of Education, Science & Technology
MSME	Micro, Small and Medium sized Enterprises
MW	megawatt

NGO	Non-governmental organisation
PV	Photo Voltaic
PCG	Partial Credit Guarantee
PCN	Project Concept Note
PSC	Programme Steering Committee
PSD	Private Sector Development
PSDS	Private Sector Development Strategy
R&D	Research & Development
RDE	Royal Danish Embassy
RE	Renewable Energy
REACT	Renewable Energy and Adaptation Climate Technologies
SHP	Small Hydro Power
SHS	Solar Home System
SME	Small and Medium sized Enterprises
STI	Science, Technology and Innovation
S&T	Science & Technology
SWH	Solar Water Heater
TA	Technical Assistance
tCO <sub>2</sub> e	tons carbon dioxide equivalent
UNEP	United National Environment Programme
VC	Venture Capitalist
USD	United States Dollar

## **DEFINITIONS**

Angel investor	(or business angel) An affluent individual who provides capital for a business start-up (see also seed capital).
Critical success factor	(or “key success factor”) Any of the aspects of a business that are identified as vital for successful targets to be reached and maintained. The identification of success factors is similar to the identification of core competences.
Contingent grants	Loans without interest and repayment requirements until the technology and intellectual property have been successfully exploited (see also project development grant).
Equity	The part of a company's capital which is share capital.
Feed-in-tariff	Fixed kWh-tariff paid to RE-power plants up to a maximum size, e.g. 10 MW. Feed-in-tariffs are technology specific, reflecting differences in costs of production; e.g. wind farms will be paid a lower tariff than solar PV-plants.
Innovation	The introduction of new products or services, business models, production methods, delivery or service methods to a market where these have not previously been applied, although they may be used in other markets.
Innovation system	Structured collaboration relationships among the key actors in the national technology system - universities, research institutes, private enterprises, financial institutions, Government sector policies - that ensure an efficient flow of technology information and funds between these in order to maximise the national innovation potential.

Mezzanine finance	Finance positioned in the financing package somewhere between equity and fixed returns debt (loans): Mezzanine loans take more risk than senior debt because regular repayments of the mezzanine loan are made after those for senior debt. Unlike a bank loan, mezzanine finance does not hold real assets of a company as collateral; instead, lenders offering mezzanine financing have the right to convert their stake to an equity or ownership in the event of a default on the loan.
Patient capital	Funds invested for medium or long term (5 to 10 years) in a business with no expectation of turning a quick profit. In the commercial private sector, the term is associated with equity-type investment for long-term value maximisation; in the ‘social economy’ it is associated with mezzanine-type finance targeting a combination of social and economic returns.
Project Development Grant:	Loan without interest or repayment until the project has become financially viable.
Public finance instrument	Use of public finance to mobilise private investments in RE&EE by addressing financing gaps along the finance continuum where the private sector is unable or unwilling to provide capital on a purely commercial basis.
Seed-capital	Equity or mezzanine-type capital from private investors other than the owner-entrepreneur in start-up firms with no access to bank loans.
Sub-ordinated loan	A subordinated loan has a lower priority of repayment in case of default than the senior loan. It has only recourse to assets after the claims of the senior lender have been met. (see also mezzanine finance).
MSME-definitions	MSMEs are defined following the definition of the government in its MSME Bill of 2009. The Bill categorises MSMEs along the criteria number of employment and annual turnover. Accordingly, a micro enterprise has typically 1 to 9 employees and an annual turnover not exceeding KES 500,000. Small enterprises are defined to employ among 10 and 49 employees and have a turnover between KES 500,000 and 5 million. A company with 50 to 99 employees and a turnover between KES 5 million and 800 million is considered a medium sizes enterprise.

## **1. NATIONAL SECTOR CONTEXT**

Energy and science, technology and innovation (STI) have been identified as one of the foundations for Kenya's Vision 2030.

### **1.1 ENERGY ISSUES AND CLIMATE CHANGE POLICIES**

Energy consumption in Kenya is dominated by biomass, petroleum and electricity. While biomass provides energy needs of the traditional sector including rural and poor urban households, electricity and petroleum products supply a large fraction of the country's commercial energy needs. Nationally, wood-fuel and other biomass account for 68% of the total primary energy consumption, followed by petroleum at 22%, electricity at 9%.

Economic and social development in rural areas is currently limited by lack of access to modern energy products and services. The current levels of unsustainable harvesting of biomass resources and their inefficient use cannot continue for much longer without serious environmental consequences. The increasing dependence on fossil-fuels in the commercial and industrial sectors is resulting in high energy costs and reduced competitiveness. Kenya's fossil-fuel based electricity generating capacity is rapidly increasing and the economic implications of this are being felt with electricity charges increasing by up to USD 20 million/month as a result of the introduction of 250 MW of thermal generation in 2009. Petroleum consumption has doubled over the last 5 years as have petroleum prices. Infrastructure deficits, i.e. power outages and transport bottlenecks, have been responsible for the slowdown in the growth of exports for locally manufactured products and account for almost 10% loss in sales. As a result, Kenya's weak engine is exports, brought down by a seriously underperforming manufacturing sector. Development projects recommended under Vision 2030 will further increase the demand on Kenya's energy supply. Kenya must therefore generate more energy at a lower cost and increase efficiency in energy consumption. The cost-effective potential for energy savings in industries and buildings is yet to be exploited.

Responding to the challenges of the situation described above, green energy, i.e. renewable energy (RE) and energy efficiency (EE), is quickly moving up the priority list in Kenya. The government has put in place strategic deployment policies to encourage use of renewable energy and energy efficient technologies. The Ministry of Energy introduced feed-in-tariffs for renewables to encourage investment in electricity generation from small hydro, solar, wind, geothermal, biomass and biogas. The Ministry of Energy has also undertaken to use solar PV in rural electrification by prioritising its use in electrifying schools and other institutions far from the grid. Solar water heating policy and regulations will soon require that all residential and commercial buildings within a city or municipality where hot water requirement exceed 100 litres incorporate solar water heating. Biomass energy policy aims at increasing the rate of adoption of efficient charcoal and wood stoves in both rural and urban areas and promoting sustainable practices for the exploitation of biomass resources for energy use.

The recently completed National Climate Change Response Strategy seeks to address the challenges posed by climate change and variability. It is a tool to guide the integration of adaptation and mitigation measures into government planning and budgeting. It identifies energy, agriculture and water as some of the most vulnerable sectors and proposes:

- Pursuit of energy efficiency options e.g. mandatory energy audits of large commercial and industrial consumers; review of tax policies to encourage the importation of energy efficient

motor vehicles; subsidies and other tax incentives to promote and sustain wider adoption of energy efficient lights and appliances as well as the development and implementation of a building code to ensure construction of energy efficient buildings, and

- Provision of downscaled weather information and farm inputs; water harvesting; soil and water conservation techniques; and research and dissemination of superior drought tolerant crops.

## **1.2 INNOVATION ISSUES AND POLICIES**

In Kenya, the youth constitute the largest and fastest growing component of the population. Innovation is often associated with the youth and effective STI systems tap into and nurture these talents. The quality of product ideas presented by students and entrepreneurs at competitive technology fairs in Kenya demonstrates that there is no shortage of innovative intelligence in Kenya. Yet, the supportive technology environment in Kenya is too weak for these to prosper, and the quality of research at the universities is low. Kenya has no national innovation system capable of providing efficient public-private-partnerships for innovators. Despite the existence of an elaborate S&T system there is very little coordination and direction of the various components whose portfolios fall within the line ministries. Promotion of private sector R&D is non-existent and the country is mainly a consumer of foreign technologies at the private and public domain.

Vision 2030 proposes intensified application of STI to raise productivity and efficiency levels and recognises the critical role played by research and development (R&D) in accelerating economic development. Kenya's STI policy and strategy highlights the need for developing and strengthening systems and institutions to foster targeted collaborative, multi-disciplinary scientific research; creating opportunities for productive interaction between the public and private sector in STI and establishing a supportive inter-institutions network to nurture, develop and diffuse required STI attitudes, knowledge and skills.

The overall responsibility for the management of STI in Kenya, including overall policy guidance, currently lies with the Ministry of Education, Science and Technology (MoES&T). At sector level, the management of STI is the responsibility of individual ministries or departments that also implement science and technology programmes and activities in their sectors. It is the mandate of the Ministry of Industrialisation to provide the policy framework and the enabling environment for players in the industrial sector to create wealth and employment, and tap the potentials and talents of the large pool of the Kenyan youth.

## **1.3 PRIVATE SECTOR ACTIVITY IN CLIMATE TECHNOLOGY**

With the exception of large power producers and the electricity utility, the green energy sector in Kenya is dominated by small to medium enterprises. Adapting of existing technologies for local conditions and low market penetration rates (due to ineffective delivery models for climate technologies) are key challenges facing these SMEs<sup>1</sup>.

In biomass energy, the clean energy market opportunities include improved biomass technologies, industrial fuel substitution for process heat and cogeneration and waste-to-energy projects. Some biogas activities are emerging as well. The solar market size is USD 6-8 million per annum and growing at perhaps 15-20% per annum. Applications are wide-ranging, from relatively new LED

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<sup>1</sup> infoDev has collected a list of 78 clean energy SMEs and institutions that operate in Kenya.

lighting packages starting around USD 20 per package, through basic solar home systems for USD 100-300, to larger systems for business and public institutions, costing anything upwards of USD 1,000. The needs of the rural cell phone market for energy by service providers<sup>2</sup> and users is moving investments in windturbines and collar PV. In wind energy, activity is dominated by the huge 300 MW lake Turkana windfarm project, and at micro-level some firms manufacture and market windturbines for water pumping.

About 10 venture capitalist funds, looking to provide debt, equity or quasi-equity to SMEs in Kenya, have been active in the country over the last five years. While most of these funds are not sector specific, two are keen on financing investments in the clean energy space: Acumen Fund and E+Co. Other funds, like Aureos East Africa Fund and FANISI, have no special preference for clean energy investments, but would invest in clean energy small and medium sized enterprises (SME) having good opportunities. These funds have rarely, if ever, been used to commercialise technologies from research findings of local research institutions. Their focus is already established SMEs with innovative technologies that are ready for commercialisation. Acumen Fund from the USA has financed 3-4 investments in energy projects in Kenya. Syngenta, Swiss Re and Munich Re are looking to pilot weather insurance products in Kenya, in areas where weather data are available, using delivery structures, which can be replicated across the country at a later stage.

#### **1.4 DONOR ACTIVITY IN CLIMATE CHANGE TECHNOLOGY**

A certain division of labour is evolving among donors. The development banks such as World Bank, AfDB, EIB, KfW co-finance private investments in major grid-connected windfarms and geothermal power plants, often as consortium members. UNEP, bilateral donors and IFC support private smaller-scale investments in clean energy technology (e.g. in mini-hydros, co-generation) and in firms providing climate change relevant technology. GTZ has an ongoing Technical Assistance (TA) programme in biogas technology. Also here the trend is towards jointly financed projects.

## **2. DESCRIPTION OF THE COMPONENT**

### **2.1 SUMMARY STATEMENT**

The objective of the innovation and piloting green energy component is to enable innovative entrepreneurs and firms in Kenya to exploit the market opportunities offered by the emerging market for new climate change technologies and to catalyse investments in new companies, products and services. The Climate Technology Innovation Fund (CTIF) is proposed established as a Trust Fund managed by a professional Fund Manager (FM), and it will support start-up SMEs trying to develop and implement product-, process- and deployment innovations. The interventions during the 2011-2015 period are expected to lead to the establishment of around 25 viable SMEs creating employment directly and indirectly to around 900 people during that period. The Renewable Energy & Adaptation Climate Technologies (REACT)-Kenya finance window under the Africa Enterprise Challenge Fund (AECF), will organise three challenge rounds during the 2011-2015 period for innovative projects proposed by established firms. The immediate aim of REACT-Kenya is to bring the highest number of products and services to a maximum of rural people. Its

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<sup>2</sup> Winafrique has installed over 70 windenergy installations for Safaricom remote base stations/masts.

products and services are expected to reach more than 100,000 users by end 2015. Each sub-component is co-financed by Danida with a DKK 50 million contribution for the 2011-2015 period. The financial contribution to be provided by DFID is expected to be GBP 10 million.

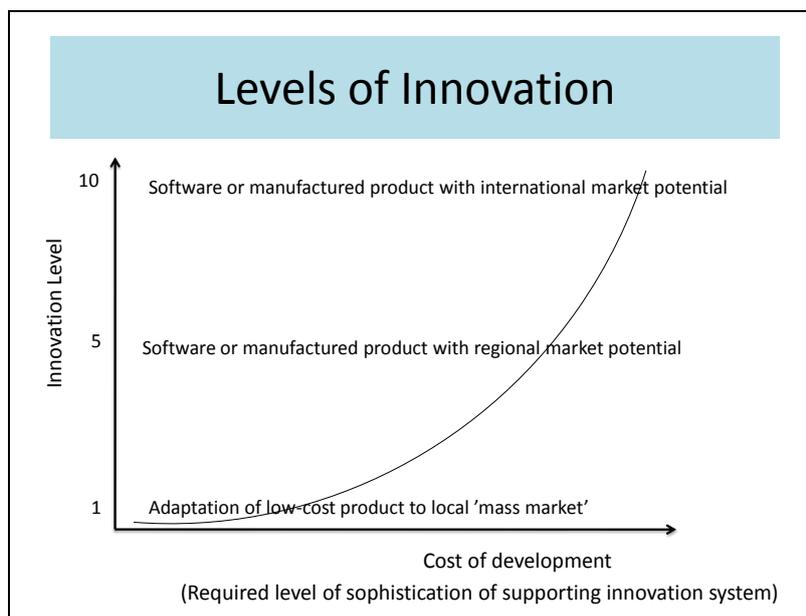
## 2.2 COMPONENT OBJECTIVE

The component objective is that innovative entrepreneurs and firms in Kenya are incentivised and enabled to exploit the market opportunities offered by the emerging market for new climate change technologies (CCT), and investments in new companies, products and services are catalysed.

## 2.3 COMPONENT STRATEGY TO REACH THE OBJECTIVE

### 2.3.1 Introduction

The objective for an innovation fund is to generate employment in high-value activities. Innovations by firms in the promotion of new climate technology take place in a continuum comprising the four areas of: (i) product innovation, (ii) process innovation, (iii) marketing innovation and (iv) end-user finance and climate insurance innovations. CTIF supports innovations in the first three areas; finance innovations are supported only as an integrated part of a marketing innovation. REACT-Kenya targets projects from the last three areas. Within each area, innovations can be ranked from a scale of 1-10 from “low level of innovation” to “highly innovative”. The Chart illustrates the point for product innovation.



At the lower end of product innovation one finds adaptations of low-cost, technologically simple technologies such as solar dryers for sales on the local or national market. The cost of development for this is low and can be undertaken within any national context at “blacksmith level”; no sophisticated supporting national innovation system is required. At the high end are innovations capable of finding an international market. In between are technologies capable of penetrating the regional export market, and which require involvement of university educated technologists in their development.

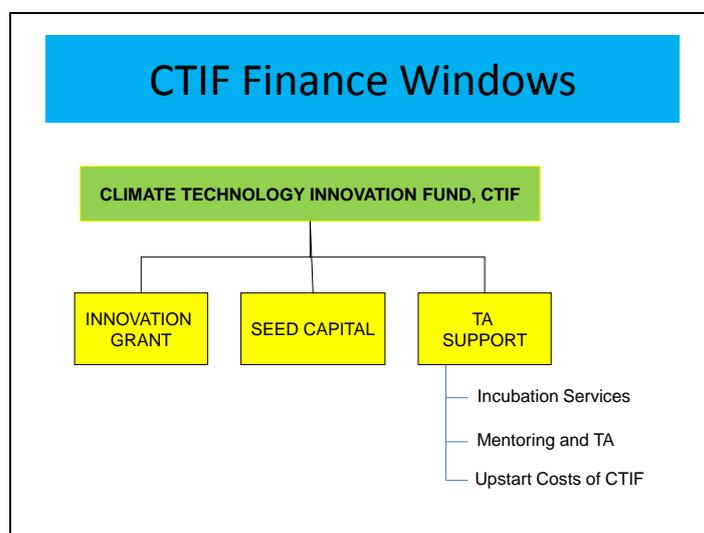
CTIF and REACT-Kenya share the purpose of catalysing private sector entrepreneurs in Kenya to innovate and find profitable ways of improving market access to climate change products and services. They differ with regard to their target group of innovators, their finance instruments, their time perspective and impacts.

### 2.3.2 CTIF

CTIF has the institution building aim of supporting the development of an innovation system for climate change technologies in Kenya, which is capable of providing a supporting framework for the creation of innovative start-up SMEs. Because institution building calls for a sustained long-term effort, CTIF must be created with a minimum of 15 years life-time in mind. The CTIF therefore is proposed to be established as an independent legal person, as a Trust Fund managed by a Board.

The CTIF is proposed to be a one-stop innovation centre providing mentoring and incubation services as well as risk finance for start-up SMEs with innovative ideas for the development and deployment of climate change technologies. Clean energy entrepreneurs supported by CTIF could e.g. be involved in energy savings, solar PV-systems, solar water heaters, improved biomass stoves, wind turbines for water pumping and waste-to-energy plants. Clean water and climate adaptation technologies can be supported as well. The key eligibility criterion, apart from innovation, is that the supported firm/innovation has the potential to grow into a medium-sized company capable of serving a regional market.

The CTIF will manage the three finance windows shown in the chart below.



The allocation of funds between the three finance windows is not set beforehand as the CTIF will be demand driven. Targeting start-up SMEs, CTIF will be heavily involved in seed-capital finance. It is expected that the TA window may use 15% of the total budget, the innovation grant window 25% and the seed capital window 60%.

The innovation grant window supports the development of above average level innovations, loosely defined as products and services that have the potential to serve the regional market, that is, “category 5” level (on a scale from 1 to 10) of innovations. The facility is proposed to cover 50% of the estimated costs of bringing an innovative technology idea, which is in the proof-of-concept

phase, towards the development of a prototype. The justification for the innovation grant facility is based on two arguments.

- (i) Few innovative ideas are coming forward for commercialisation because there is no adequate environment to support entrepreneurs with new product ideas in climate technology. More national talent will be encouraged to engage in product development if they can see that there is a supporting environment to assist them in turning ideas into commercial products.
- (ii) Kenya has no Angel Investors (AI) or venture capital investors in climate change technology because too few innovative high-risk / high-potential return business ideas are forthcoming. Yet, there are wealthy individuals in Kenya who would be tempted to engage in early seed and growth finance if business ideas with a realistic potential were presented to them.

The innovation grant window's support to product and production process innovations is given as a grant to reflect that the commercial risks at the proof-of-concept stage are high. Because the innovation grant is a strategic tool to provoke alliances between innovators and Business Angel (BA)/Venture capitalist (VC), CTIF's aims to limit the grant finance share to 50% of total cost; with the other 50% coming partly by in-kind contributions of the entrepreneur through providing his labour at below professional rates, partly by cash contributions from a BA/VC. Co-finance from BA/VCS also serves as proof that an independent private investor is sufficiently convinced of the commercial validity of the idea. Apart from the risk sharing provided by the grant itself, a BA/VC investor will be reassured to know that the proposal has been vetted by a professional fund manager and that the fund, if the development prove successful, will continue its financial engagement through the seed capital window. The expectation, that early stage AI/VC investments can be attracted, is subject to a reality check; the Board can, based on recommendations from the FM authorise its Investment Committee (IC) to approve higher grant percentages for specific projects and/or combine grant and seed capital investment from the start. The grant will range from USD 50,000 as a minimum to USD 1 million as the maximum.

The seed-finance window is essential for entrepreneurs in all areas of the innovation continuum: Start-up SMEs cannot access bank finance because they lack annual audited statements and cannot show sufficient proof of cash-flows capable of serving a loan. The seed capital window assists innovative SMEs with seed capital ranging from USD 50,000 to 500,000 up to a maximum of 85% of the cost of an investment. The FM will have flexibility with regard to the structuring of CTIF co-finance: Equity, quasi-equity and sub-ordinated loans for early growth stages when that instrument serves to bring in a commercial bank loan. Despite the higher risk taking and more flexible conditions of the seed capital instruments, the target rate of return of the invested seed capital is to equal the rates of conventional bank loans.

The funds allocated to the TA window will be used to cover:

- The operating costs of fund management;
- The costs of facilitating the provision of business support services to Climate Technology (CT) innovators: (a) mentoring and capacity building services, (b) assistance in securing Government approvals and standards for CT products, and (c) technical workshop facilities, and

- The granting of interest rate-free loans to innovators to pay for contracted business support and incubation services from the innovation centre within the Fund itself or from outside consultants.<sup>3</sup>

The TA services are available only for SMEs in which the fund invests either an innovation grant and/or seed capital. For cost saving reasons and as a means to promote the development of a national innovation system for CT, the provision of business support services will be outsourced whenever feasible. The CTIF will invest in setting up own service and technical workshop facilities only when no adequate outside facility can be identified.

The goal is for the Fund to become a financially self-sustainable operation over time, in the sense that operating revenue can cover the operating costs of the Fund (cost of staff, rental of office space, energy and communication, etc.). The Fund's operating revenue comes from (i) interest payments on seed capital investments, (ii) interest on Fund deposits at commercial banks, (iii) payment for business support services provided by Fund staff. During the initial years, the operating revenue will be lower than in later years, whereas costs will be higher as the Fund will incur non-recoverable losses in expenses for developing its mentoring expertise, establishing contacts, etc. Once the initial development cost phase is over, the cost of the TA can to a large extent be provided on full-cost recovery basis. However, in addition to annual losses in the real value of the interest-rate free TA-loans due to inflation, a roughly 25% shrinkage in invested seed capital can be expected as supported SMEs fail commercially.<sup>4</sup>

Since the long term success of the CTIF will depend on the quality of the national innovation system in Kenya, the Board and the FM must play an active role in technology policy advise and advocacy.

A further element in CTIF's institution building is the backstopping support that can be provided by infoDev's global network of more than 290 business incubators in over 80 developing countries.

### 2.3.3 REACT-Kenya

The immediate aim of REACT-Kenya is to bring the highest number of climate change products and services to a maximum of rural people. It supports innovative projects demonstrating the commercial viability of new business models and technologies that are ready to be taken to the market place and which are proposed by established firms. The rationale for REACT-Kenya's interventions is that the market for climate change technology in rural areas is relatively immature and lacking proven business models. This leads to high risk and businesses therefore need to be incentivised to develop and test business models with the potential to become commercially viable and hence sustainable. Supported projects are to trigger wider (beyond any project specific impact) pro-poor systemic change in the way markets operate. Product development is not eligible for support.

Dealing with established firms, REACT Kenya will not provide seed-finance, but incremental cost finance to projects that without support would not have passed the risk-adjusted rate-of-return hurdle of the proposing firm. For this light-handed approach, the challenge fund modality, utilising an open, competitive and transparent process of multiple rounds and targeted funding, is adequate.

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<sup>3</sup> The loans would not be transferred to the client SME's but be used by the Fund to pay contracted consultants directly. The fund could agree on a ceiling with regard to daily rates for consultants.

<sup>4</sup> Based on the experience of the IFC's SME solution centre.

REACT-Kenya goes in with a minimum investment of USD 250,000 and a maximum of USD1.5 million; providing its funds partly as a non-recourse loan and partly as a grant.<sup>5</sup> Co-financing is required from the applying companies, and the level of co-financing will be a selection criterion.

The Fund Manager for REACT-Kenya is expected to market to and engage with three types of businesses:

- (i) Energy and agribusinesses specialising in low cost, clean energy. Agribusiness could be large producers of biomass that may be contemplating supplying power to the grid (e.g. sugar cane, sisal and forestry) but could be incentivised to serve rural households and businesses off- grid;
- (ii) Agribusinesses innovating to adapt to climate change. E.g., providing climate resistant technology such as drought resistant or early maturing seeds, more affordable and more efficient irrigation; large agribusinesses that are involved in developing markets for products that are more resilient to climate variability (tree crops, bamboo) and intend to involve smallholder farmers in their supply chains; or agribusiness willing to invest in climate change adaptation for themselves who could be incentivised to supply smallholder farmers as well (irrigation schemes, flood protection), and
- (iii) Financial Institutions (FI) providing business finance (equity and debt) services to the above types of business and offering loans and climate-related insurance products to end-users. Weather derivatives for crop cultivation – insuring loans to farmers - is an example of an innovative insurance product.

Separate tenders for each investor category will not be made and the allocation of funds by investor category will be demand driven, determined by the quality of received proposals. Projects are selected by the IIC with the help of a point system. The list of criteria used to rank projects will comprise eight items: Innovation, business case, systemic market change, development impact, gender impact, capacity of company, level of co-financing, additionality (likelihood that without support the project would not be implemented). Each criterion is given a specific weighting.

Annex 4 provides an overview of the kind of projects that REACT-Kenya will seek to promote.

#### 2.3.4 Complementarities between CTIF and REACT-Kenya

CTIF-supported SMEs will deliver climate mitigation and adaptation products and services similar to those provided by REACT-Kenya supported projects, except that grid-based rural electrification projects and climate insurance products fall outside the range of realistic projects for CTIF.

REACT-Kenya has little if any institution building ambitions. But due to REACT's focus on established firms and the latter phases of the innovation continuum, the donor funds invested in REACT-Kenya will lead to a higher number of served end-users and created jobs during the 2011-15 period than the equivalent amount invested in CTIF. The justification of CTIF's approach lies in the hoped for dynamic effects on national innovative capacity in the future, which is expected to create extra employment in the long run.

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<sup>5</sup> DFID's project documents for the preparation of REACT also discuss the possibility of including guarantees in the portfolio of REACT's finance instruments. That option is not advisable for a challenge fund – only well-capitalised finance institutions with a perpetual life are proper guarantors. Nor is it necessary – several organisations offer guarantees now to SMEs.

## **2.4 CROSS-CUTTING ISSUES AND PRIORITY THEMES**

### **2.4.1 Gender**

Only about 10-12 percent of engineering students in Kenya are women and hardly any professors at the engineering faculties are women. One must therefore expect that the majority of applicants will be men. But CTIF and REACT-Kenya will in their advertising campaigns underline their interest in receiving project proposals from female entrepreneurs and gender-positive aspects will give extra points in the applications ranking system. The data collection for the monitoring and evaluation (M&E) of projects supported by CTIF and REACT-Kenya will disaggregate information on entrepreneurs by gender, thorough track development on gender, and the M&E system will report indicators and data on a gender basis.

At end-user level, the impact in terms of beneficiaries is as a minimum gender neutral. In so far as technologies are promoted that reduce exposure to smoke and particles (improved stoves, replacement of kerosene lamps by LED-lamps) women will benefit yet more than men. Biomass is the main energy carrier and in many areas there is an increasing shortage in supply, which adds to the burden of women whose responsibility it is to collect it. The responsibility for household energy provision affects women's health disproportionately to men's, for example, higher levels of lung and eye diseases due to the longer hours of exposure to smoke and particulates in smoky kitchens experienced by women compared to men. Fuel collection also reduces the time women have available for contributing to other aspects of livelihood strategies, and girls are frequently kept away from school to assist their mothers. It is also of note that a large number of biomass intensive small scale food processing business are run by women. Access to clean, modern energy services provides women with the means to reduce their workload, improve their health, and reduce expenditure. Electricity also facilitates access to information through radio and television, which also enhances women's empowerment.

### **2.4.2 Environment**

Clean energy and clean water technologies have lower emissions of water and air pollutants than the technologies they replace, reducing the well-known health hazards from pollution. Support to the marketing of improved stoves will reduce the environmental impact of unsustainable traditional fuel use in Kenya.

CTIF and REACT-Kenya will apply environmental screening procedures for each candidate project to specifically address sensitive issues, for example, Genetically Modified Organisms (GMOs) and the growing of bio-fuels. Guidelines to be put in place from the start of operation will ensure that support is given only to projects that are fully compliant with local legal requirements, are adjudged safe, meet international sustainability standards and do not displace food production.

Environmental issues are one of the criteria in the REACT project marking/assessment form during both of the two stages of project selection, the concept note and business plan stage. Applicants to the REACT fund will be required to provide relevant analysis: (i) At the concept note stage, the assessor must comment on environmental issues, stating whether an Environmental Impact Assessment (EIA) has been undertaken and if not whether it should be undertaken; and (ii) at the business plan stage, during the project due diligence visit, the AECF consultant is required to enquire further on environmental issues and raise any areas of likely concern. If environmental

issues are highlighted at this stage it may lead to a project being rejected or approved subject to a satisfactory EIA (if that is what is required).

#### 2.4.3 Democratisation

The transparent, merit-based procedures for project selection and the building of private-public sector networks for the achievement of societal goals support the democratic process in the country. An effective STI system helps bring new products, processes, and forms of organization into economic use based on the merit of the innovations and the innovators.

#### 2.4.4 Human rights

The rule-based procedures applied by CTIF and REACT-Kenya support respect for legal entitlements in the country.

#### 2.4.5 Youth

It is inevitable that the majority of the employment generated by the supported firms will go to young people and that young innovators will make up the bulk of supported start-up entrepreneurs. The data collection for the M&E of projects supported by CTIF and REACT-Kenya will disaggregate information on entrepreneurs and generated employment by age group, making a distinction<sup>6</sup> between “youth” (age 16-35) and “older than 35”.

#### 2.4.6 HIV/AIDS

CTIF and REACT-Kenya will have information leaflets on HIV/AIDS which supported entrepreneurs can hand out to their workers.

#### 2.4.7 Trade and Development

The innovation grant window of CTIF targets support to innovations that have East African Community market potential. CTIF and REACT-Kenya promote economic development by creating employment in higher value-added activities, improving energy supply and strengthening the resilience of the economy to oil supply shocks and climate variability.

#### 2.4.8 Climate Change

The component aims to improve low carbon development and help Kenya to build resilience and adapt to the impacts of climate change. The intention is to generate environmental benefits through faster action on climate change through the private sector. It will:

- Demonstrate where clean energy access in underserved areas can compete effectively with conventional solutions with potential for wider roll-out;
- Raise awareness and build consensus about low carbon development and adaptation to the impacts of climate change and catalyse appropriate action, and
- Demonstrate viable markets which could be replicated through the profit motive within the private sector.

The greenhouse gas emissions avoided due to the REACT-Kenya window are estimated at 300.000 tCO<sub>2</sub>e.

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<sup>6</sup> Youth are defined as persons between 15 and 35 years old. Definitions vary in Kenya, and some only include people in the age group 15-29 years.

#### 2.4.9 Addressing Harmonisation and Alignment

The component activities are fully aligned with the Government's 2030 strategy, the SME-support efforts undertaken by the Ministry of Industrialisation and the Government's climate change policy.

The CTIF is a jointly prepared and financed collaboration effort between Danida and the Climate Technology Program, a partnership between the World Bank/IFC based Infodev and DFID. REACT-Kenya is jointly financed by DFID and Danida and managed by the multi-donor AECF, which in turn is hosted by AGRA. IFC's SME solution centre has developed incubation and mentoring training modules and trained licensed consultants and it is expected that they can and will be used by CTIF-supported SMEs.

#### 2.4.10 Linkages to Other Danida Business Sector Instruments

Climate technology is an industry area where Danish firms have valuable expertise to offer and are strongly represented on the international market. There is potential for mutually beneficial collaboration projects between Danish and Kenyan firms in CTIF and in REACT-Kenya projects. The B2B and Innovative Partnerships for Development (IPD) instruments of Danida facilitate the establishment of initial contacts between Danish and Kenyan firms to jointly exploit the opportunities offered by CTIF and REACT-Kenya support. The Danish Industrialisation Fund for Developing Countries (IFU) can through its equity and quasi-equity instruments facilitate the establishment of joint stock companies jointly owned by Danish and Kenyan investors in CCT-firms. In this regard, formal links between IFU activities, the B2B programme and REACT will be explored and implemented.

#### 2.4.11 Cross Component Synergies

The Improvement of the Business Environment component can support business associations in their dialogue with government to introduce a national innovation system and promote reforms encouraging innovation, such as the legal and regulatory framework for intellectual property, research and development, and standards.

CTIF and REACT will during the inception period explore co-development of specific financial instruments with financial institutions. In addition, incentives will be put in place for participating enterprises to reach out to mainstream financial institutions as a method to co-finance innovative projects.

Considering that both the REACT Kenya window and the Competitiveness of MSMEs component work with agri- and rural businesses there is a clear scope for creating synergies between the two. This includes discussions with the Micro Enterprises Support Programme Trust on methodologies to assess development impact of investments in private sector companies for joint learning purposes. The natural resource management output of the Competitiveness of MSMEs component is of direct relevance for both Innovation and Piloting Green Energy sub-components. Support to innovative entrepreneurs within the common area of rural energy, climate technologies and agri-business provides the opportunity for Kenyan export to other EAC member countries, provided that the regional business climate is sufficiently conducive.

## 2.5 OUTPUTS, ACTIVITIES AND APPROACH

The difference in the focus of CTIF (creating an innovation environment for young entrepreneurs in climate technologies) and of REACT-Kenya (getting established firms to use innovative marketing techniques to move climate technologies to consumers) is reflected in the definition of outputs. SMEs created with the help of CTIF investments will supply end-users with clean energy products and non-financial products and services that help smallholder farmers adapt to climate change. Yet, whereas these are outputs for REACT-Kenya, they are desired outcomes for CTIF.

A draft Business Plan for the establishment of the CTIF has been prepared during 2010. The draft business plan, when finally agreed to by infoDev, DFID and Danida, will form the basis for providing the support to CTIF. The description of the CTIF in this Component Description might therefore differ in some aspects from the CTIF Business Plan.

### 2.5.1 CTIF

#### *Output 1: Incubation-, mentoring- and TA- facilities for CCT-innovators*

The FM will, assisted by KEPSA and members on the board, identify potential well-qualified collaboration partners who on a fee-for-service basis could make relevant workshop facilities available for supported entrepreneurs, as well as well-qualified business consultants for mentoring. The FM will sign Memorandum of Understandings (MoU) with collaborating partners. The MoUs will set standard fees for specific services. CTIF will invest in its own incubating workshop facility to house critical technical equipment and software that cannot be sourced on reasonable terms outside. The facility can be located at its own premises or at a rented workshop place for example at the Kenya Industrial Research Development Institute (KIRDI).

The FM will identify mentoring and capacity building requirements of supported SMEs, guide them to the right service providers, monitor the quality and price-competitiveness of these and co-finance the cost of provided services through loans carrying zero-interest and repayment, until the SME generates a cash-flow allowing the loan to be repaid. Inside CTIF, business advisory/mentoring services to a client can be provided by the technology officer or the investment banker depending on the theme.

The FM and the Board will provide strong policy advocacy support to strengthen Government investments in key institutions such as KIRDI, inter alia, by participating in national policy workshops.

#### *Output 2: Business Angel /Venture Capital investors invest in climate technology SMEs*

The FM markets the investment opportunities in start-up climate change innovators to existing and potential BA/VCs. Climate technology is a growth area and CTIF's specialist technical expertise in due diligence and its co-finance in the form of innovation grants and seed-capital provide strong risk reduction for private co-investors. The ability to leverage CTIF finance and business support expertise with BA/VC finance and business expertise will increase the investment, development and employment impact of CTIF finance. More start-ups can be financed with CTIF's budget and the survival rate of supported SMEs will increase. But developing BA/VC interest and expertise in climate technology is also an end in itself, a means to strengthen the innovation culture in Kenya.

*Output 3: Commercial banks loan finance early growth phases of start-up SMEs*

Several banks in Kenya show an active interest in adding clean energy finance to their lending portfolio. The reluctance of banks to engage in finance to start-up SMEs is well-known. Yet, the FM will seek to get banks involved already in the early growth capital stages of supported SMEs. To reduce the risks for participating banks, CTIF will offer co-finance in the form of subordinated loans and through MoUs establish cooperation agreements with donor-supported guarantee facilities, such as the US Government Development Credit Authority (CDA) facility, to provide partial risk guarantees to bank loans. The participation of BA/VC investors in the finance of a supported MSME ought to provide further assurance to collaborating banks. The strategic purpose of leveraging CTIF finance with bank finance is similar to CTIF's leveraging of BA/VC finance.

*Output 4. International network to transfer know-how about climate technology to CT-entrepreneurs*

The CTIF will support transfer of climate technologies to CT-SMEs in Kenya and of policy ideas and initiatives for developing and supporting a national innovation system for CT to national policy makers. The FM will establish close information exchange contacts with donor supported business-to-business programmes in Kenya, such as Danida's "B2B" and IFU, to assist in identifying potential collaboration partners for Kenyan entrepreneurs. The CTIF will exploit infoDev's business incubation network for information about product ideas and market development concepts that could be applied in Kenya. The CTIF could give financial support to the participation of staff from collaborating partners, e.g. KIRDI, or of supported young entrepreneurs at international CT-fairs to identify product ideas. The FM will encourage national universities to establish Ph.D. collaboration programmes with leading foreign universities in CT to enable talented students with entrepreneurial potential to acquire first-rate knowledge abroad and build international contacts.

*Output 5: Around 30 innovative SMEs in climate technology are established of which around 25 prove commercially viable*

The CTIF identifies innovative entrepreneurs through the equity fund modality of relying on market monitoring, referral from a broad network of contacts and walk-in of applicants. A low-cost filtering mechanism will be established through an online application portal for interested walk-in applicants. The FM will assess online applications and contact eligible applicants for further discussion.

The due diligence review will be thorough. It will include a review of the technical and marketing aspects by the technology officer, drawing in outside expertise whenever necessary, while the investment officer verifies the finance plan. The business acumen of applicants will be checked by asking them to do the business plan themselves under the supervision of FM-staff.

If co-finance from BA/VCS is required, the FM will assist the entrepreneurs with the establishment of contacts and provide basic assistance in the negotiations so that a mutually fair deal is agreed to. The options and potential benefits of bringing in a foreign co-investor will be checked. For business proposals close to the commercial stage, the possibility of bank co-finance will be verified. Required TA, mentoring, workshop and incubation facilities will be identified, together with best suitable contract partners for these.

The result will be detailed in a CTIF investment plan and enterprise business plan, which will be submitted to CTIF's IC for approval. The CTIF investment plan comprises innovation grants, seed capital finance and TA-loan finance to the business and a detailed justification for the chosen financial structure. Until invested, re-payable, funds have been recuperated, the FM will closely monitor the business performance of a supported enterprise through visits and the receipt of annual audited accounts.

### 2.5.2 REACT-Kenya

*Output 6: Clean energy products and services providing lower cost and more reliable energy supply to rural businesses and households in off-grid areas*

*Output 7: Non-financial products and services that help smallholder farmers adapt to climate change*

*Output 8: Financial products and services that help smallholder farmers adapt to climate change*

REACT-Kenya attracts project proposals from firms through the publication of challenge rounds. The AECF-FM core team, which manages the REACT-Kenya window will, with the assistance of the advertising company in the AECF consortium, advertise three bidding rounds, one each in 2011, 2012, 2013. The advertising will be targeted towards companies interested in the three types of products listed above and explain eligibility criteria. Eligibility and selection criteria for the first round of competitions are being prepared. These criteria will be published in the guidelines to applicants to ensure an open and transparent process. The criteria can be revised based on the experience from previous rounds.

Applicants submit Project Concept Notes (PCNs) according to REACT format. Incomplete PCNs are rejected from the start by an automated process. The rest are vetted by the FM, calling on specialists when needed for due diligence, to check fulfillment of eligibility criteria and establish a short list of proposals that, having passed a benchmark point test, merit a closer, direct contact. This shortlist is submitted with all required information to the IC consideration. The IC will then select – maybe 20 – projects for further investigation. These projects are visited by FM staff to verify strong prospects for commercial viability and to prepare detailed business plans that maximise the potential public benefits sought by REACT. The business plans are then submitted to the IC for selection, together with a ranking of the projects by the staff.

The following are the eligibility criteria for PCNs:

1. Private sector for-profit company;
2. Project must take place in one or more of the 5 EAC countries (specifically Kenya for BSPS II);
3. Project must fit under one or more of the following 3 areas: Renewable Energy, Adaptive climate technologies or financial services for the first two categories;
4. Request from AECF must be between USD 250,000 and USD 1.5 million;
5. Applicant must at least match the funds requested from the AECF from their own or third party resources;

6. Environmental Impact: The applicant must demonstrate that at a minimum the project will have no negative environmental impacts (otherwise it will be classified as ineligible and not considered for REACT funding), and
7. Additionality: The applicant must demonstrate that the project would not go ahead (at all, at the same speed or at the same scale) without AECF funding. Otherwise it will not be classified as eligible and will not be considered for REACT funding.

Selection criteria for concept notes:

1. Development impact of the project (40%);
2. Capacity of the company (20%);
3. Commercial viability/business case (20%), and
4. Innovation (20%).

As far as systemic changes are concerned, these questions, based on previous experience from other AECF windows, are not asked in the application form at the PCN stage. Instead the FM now assesses this as part of wider development impact at the concept note stage and then offers a more considered opinion to the AECF IC in the Grant Memorandum for each application completing a business plan, having had the opportunity to discuss the question with the applicant in person.

The IC approves a number of business plans, some first after further information has been secured.<sup>7</sup> The FM then negotiates grant/finance agreements with successful applicants that link REACT payments to progress milestones ensuring that the project is on course to deliver the returns to REACT. Before the contracts are signed, the winning applicants as a group participate in a M&E workshop to be introduced to the M&E process, impact indicators and baseline information that are annexed to the contract.

During implementation, the responsible FM officer monitors the projects and, working with investees, evaluates the extent to which projects are delivering their intended outputs and, when sufficient time has elapsed, outcomes and impacts, guided by specialist advisers. The FM helps the IC assess whether deviations from the agreement are a cause for either: (i) further resources to be invested by the business and/or REACT to get the project back on track; ii) result in a suspension of REACT support until the business overcomes obstacles to progress; and iii) cause the REACT to withdraw from the project.

#### *Output 9: Communication helping to spread successful business models*

The objective of AECT-REACT goes beyond the achievement of the goals fixed for individual projects. Supported projects are supposed to contribute towards the wider goal of market transformation. This is why the dissemination of lessons learned from successful marketing and service innovations is an important part of the FM's activities.

## **2.6 COMMUNICATION STRATEGY**

CTIF and REACT will develop its own communications strategy for how to get in contact with potential clients, but both will use very targeted campaigns. The CTFI will use close word-of-mouth

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<sup>7</sup> The IC in its reply operates with four categories: “no”, “yes”, “yes if” (if there is a weakness to be addressed, e.g. to improve business plan, change loan component), “yes maybe” (IC sees a material problem with the business plan but wants to see it dealt with, and see the business plan again).

contacts with the technology community in Kenya – universities, technology institutes, CCT-SMEs – and with youth organisations like the National Youth Fund and Youth Entrepreneurship Facility, presence at national technology fairs and articles published in technical magazines as means to communicate its existence and support opportunities to its target group of young, innovative entrepreneurs. REACT uses AECF’s marketing experts to identify how upcoming tenders can best be communicated, articles and advertisement in specialised technical magazines and business magazines, digital marketing, direct mail, presentation of papers and powerpoints at suitable regional workshops and conferences, participation at exhibitions with stands. The communication will be for firms in all countries covered by REACT-tenders.

The communication strategies for result communication and for STI and CCT policy advocacy are expected to be rather identical. The FMs for CTFI and REACT-Kenya will be responsible for the clear communication of evidence for policy and institutional reforms comprising identification of market failures, voids in policies and regulations. They are expected to use a range of channels for this, including participation at private and Government workshops, publication of articles on climate technology policy in newspapers and on the website of CTFI and of AECF.

CTFI and REACT are expected to collaborate on defining a joint communication strategy for how best to involve Danish businesses cooperation with Kenyan firms in the sector. Most likely relevant Danish business associations will be asked to spread information on how CTFI and REACT could help develop CCT-joint-venture opportunities in Kenya.

### **3. INPUTS AND BUDGET**

#### **3.1 INPUTS**

The inputs provided under CTIF include:

- 25 man-years of CTIF staff: 1 CEO, 1 Technology Officer, 1 Investment Officer, 1 financial management and 1 secretary/receptionist;
- An investment in physical facilities, equipment and software for CTIF’s own incubation/workshop facilities, and
- Investment funds to support the creation of new CT-SMEs.

A share of the funds, donors place in AECF, finances the cost of fund management, the rest is distributed to the winners in the challenge rounds. The present AECF-FM management fee is 20 percent of AECF’s funds under management, divided between 3% for AGRA and 17% for the FM. The 20% FM-fee was fixed for AECF-funds up to USD 100 million. This sum has been reached, making a specific negotiation for REACT-Kenya feasible. The fee for REACT-Kenya must be renegotiated with AGRA, and through AGRA, with the FM. Two factors motivate a downward revision. One is economies of scale in project management as most required fund management software is in place, and the other is the lower cost of due diligence and monitoring (site visits to firms) because projects are located in Kenya only.

The inputs include:

- Challenge funds, and
- FM management costs.

## 3.2 BUDGET

### Output-Based Budget for 2011-2015

<b>INNOVATION AND PILOTING GREEN ENERGY</b> Each sub-component include an assumed GBP 5 million contribution from DFID	Million DKK
<b>Subcomponent 1: CTIF</b>	
Output 1.1 Incubation System including own workshop facility	10,0
Output 1.2 BA/VC finance for CT	0,5
Output 1.3 Bank finance for CT	0,5
Output 1.4 Know-How Transfer Network	1,0
Output 1.5 CT-SMEs established	63,0
FM operating costs (salaries, office expenses and auditing)	15,0
Contingencies	5,0
Subcomponent 1.1 Subtotal	95,0
<b>Subcomponent 2: REACT-Kenya</b>	
Output 2.1 Clean energy technologies and services	30,0
Output 2.2 Non-financial products and services for climate adaptation	30,0
Output 2.3 Financial products and services for climate adaptation	13,0
Output 2.4 Spread of successful business models	0,4
FM fee, including auditing	16,6
Contingencies	5,0
Subcomponent 1.2 Subtotal	95,0
<b>Total Budget</b>	<b>190,0</b>

Since the expenditures on projects – and, therefore, on outputs - by both sub-components are demand driven, the allocation of the budget by output category is indicative. In particular the distribution of funds between outputs 2.1, 2.2 and 2.3 may at the end of the period deviate substantially from the assumed distribution. Due to the build-in flexibility of demand-driven fund operation, which allows transfer of funds between budget lines according to the demand from the market, the provision for contingencies is a low 5%.

At the end of 2015, CTIF will have financial assets from its seed-capital investments. Some of the assets will be funds in its bank accounts, some will be on its books as outstanding claims that will flow back into its bank accounts within the next four years. CTIF will also receive repayments on the interest rate-free TA-loans it has given to entrepreneurs. Finally, CTIF will earn interest on its funds placed in bank accounts during 2011-15. In addition, the balance sheet of CTIF will include the depreciated value of its investments in incubation facilities.

REACT-Kenya will invest its DKK 79 million of challenge funds in the form of grants and in the form of conditional grants, i.e. interest-rate-free loans that are repaid if the supported project becomes a success. Assuming that the DKK 79 million are distributed 60%/40% between grants

and interest-rate-free loans and that 80% of the latter are repaid, REACT-Kenya will have DKK 25 million on its balance sheet at the end of 2015.

## **4. IMPLEMENTATION ARRANGEMENTS**

### **4.1 JOINT FINANCING WITH OTHER DONORS**

CTIF is during 2010 being developed jointly with infoDev, a global development financing programme hosted by the World Bank. DFID also supports the preparatory process and are considering to finance the CTIF. A Memorandum of Understanding is being entered into between these three partners for developing and implementing CTIF as a tripartite set-up with access to funding and expertise from all three partners.

REACT-Kenya is a special window within the Africa Enterprise Challenge Fund (AECF), a multi-donor challenge fund set up by DFID, the Netherlands Ministry of Foreign Affairs (Development Cooperation), AusAid, the Consultative Group to Assist the Poor, and the International Fund for Agricultural Development. AECF is established to stimulate the private sector to innovate profitable ways of improving access to agricultural markets and finance for the poor. It is now managing funds of more than USD 100 million.

### **4.2 MANAGEMENT AND ADMINISTRATION**

#### **4.2.1 CTIF**

Reflecting the permanency of its institution- and capacity building objective and the nature of its finance instruments, CTIF is proposed established as an independent legal person, in the form of a Trust Fund. Founders are proposed to be KEPSA, DFID and Danida. CTIF should be open to new donors.

The Governing Council (GC) function will be performed by decision-taking meetings involving three persons: KEPSA's Chairman, and appointed Royal Danish Embassy (RDE) and DFID representatives. The Chairman of the Board acts as GC secretary. The GC should identify and appoint members of the Board.

The selection of KEPSA as co-founder and the composition of the Board are motivated by the wish to facilitate CTIF's networking efforts. The Board members should be appointed in their individual capacity rather than based on their institutional representation. Remuneration of Board members should be considered where relevant. The Board should:

- Provide strategic guidance to the FM-Chief Executive Officer (CEO), approve the draft annual report and draft annual budget submitted to BSPS II Programme Steering Committee (PSC);
- Facilitate networking between the CTIF and players in Kenya's innovation system;
- Select the three-person IC from amongst its members;
- Its IC approves innovation grants and seed capital investments proposed by the FM, and
- the FM-CEO is secretary of the Board and of the IC.

The CTIF will be managed by a FM-CEO who oversees a small staff composed of:

- One investment banker (financial analyst with at least 10 years of investment experience in banking/venture capital/equity, who knows how to structure deals) who would be involved in the day-to-day activities related to the seed capital investments;
- One technology/ business development services staff who would be involved in the technical aspects of the fund (including workshops, technical advisory assistance to clients) and the innovation grants, and
- Financial management and support staff (secretary/receptionist).

Business advisory/mentoring services to a client would be provided by either the technology staff or the investment banker depending on the theme. Both staff would be involved by the FM in policy advocacy according to the theme being discussed.

The FM-CEO will report to the Board. Supported by his staff, the FM-CEO will a.o. be responsible for:

- The operational management of the fund;
- Marketing the fund, receiving, and vetting applications, and providing a shortlist to the IC for selection;
- Identifying and selecting suitable mentors and TA service providers for applicants, and
- M&E of funded applicants and of the CTIF in general.

The cost of the fund management contract is paid out of the TA-window. For the first five years period the Fund Management contract covering all staff will be internationally tendered. Danida will, on behalf of the CTIF and other donors, administer the tender process. The BSPS II PSC will be represented in the tender committee.

To facilitate the conversion of interested staff to Fund employee status when the contract for the five year period ends, (i) compensation is to be input-based (per man-year/month) with an additional performance based bonus adding about 20 percent to staff fee rates; (ii) most of the staff is to be of Kenyan/ EAC nationality or have resident status and (iii) it is a performance requirement that the self-financing ratio<sup>8</sup> of the Fund increases over time.

#### 4.2.2 REACT-Kenya

REACT-Kenya is set up as a special CCT-window under AECF, a challenge fund, capitalised by the AECF donors, to stimulate private sector entrepreneurs in Africa to innovate and find profitable ways of improving access to markets and the way markets function for the poor, particularly in rural areas. AECF is housed within the office of the Vice President (Policy and Partnerships) of AGRA as a Special Partnerships Initiative. The AGRA Board exercises oversight over and has fiduciary responsibility for all aspects of the operation of the AECF.

At the apex of AECF is the Governing Council (GC) operating under full delegated authority from the AGRA Board and consisting of representatives of the AECF Donors, the President and the Vice President, Policy and Partnerships of AGRA. The GC is responsible for setting the mission, strategy, investment policy, budget, and annual work plans for the AECF. The GC has appointed:

- an IC for reviewing and approving all investments of the AECF;

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<sup>8</sup> The ratio is defined as (cost of staff + normal operating expenses)/(interest income from deposits + returns on seed capital investments + mentoring/TA fees).

- an Executive Manager for the AECF, mainly responsible for donor relations, and
- a FM for AECF, who is responsible for the operation of AECF.

The AECF IC consists of five members: The AGRA Vice-President for Policy and Partnerships and its Chief Operating Officer (one of whom is Chair), and three members appointed by the GC for their expertise in the target sectors of AECF, financial management, social and environmental impact evaluation and the management of investments. A five member *REACT* Sub-Committee of the AECF IC will be instituted, comprising three members of the AECF IC and two experts nominated by the GC on the advice of the *REACT* funders. The Sub-Committee will exercise the delegated authority of the AECF IC and report to it.

Since the AECF uses AGRA's legal personality, the AECF FM is contracted by AGRA. The current FM contract is held by a consortium of firms led by KPMG, and appointed by the GC through an international competitive tender process. The arrangement involves a small core team based in Nairobi that calls on a network of local offices of the consortium leader (KPMG) and on specialists in agriculture and financial innovation, marketing and advertising, making markets work for the poor, M&E, as and when needed. The AECF core team supported by one or two additional staff, specifically hired for its *REACT*-window will manage the *REACT*-Kenya window.

The special focus of *REACT* will be taken on board through representation at the GC and the IC. Presence on the GC - where Danida can expect to be represented having contributed more than USD 5 million to AECF - enables funders to translate their ambitions into practical guidance for the IC, Executive Manager and FM. The Executive Manager of the AECF will provide day-to-day oversight over *REACT* on behalf of the GC.

All procurement for *REACT*-Kenya will be undertaken either by the FM or an AGRA in-house procurement committee using the standard AGRA procurement procedures. Any procurement above USD 100,000 will be submitted to an in-house procurement committee.

There will not be made separate competitions of the multi country *REACT* programme for the Kenya window, but the Danish funding will only be used to support projects in Kenya.

### **4.3 FINANCIAL MANAGEMENT AND PROCUREMENT**

#### **4.3.1 General**

Planning, budgeting, accounting, auditing and procurement will be aligned with and fully integrated with the partner institutions procedures where possible in order to avoid parallel processes. The procedures in place for AECF are found acceptable. In the case of CTIF, the Fund Manager will establish these procedures for endorsement by the Board and the Governing Council and approval by the RDE. The RDE reserve the right to examine and assess the procedures at any time in order to secure that these are acceptable.

CTIF and *REACT*-Kenya will produce semi-annual work plans and budgets, as well as semi-annual progress and financial reporting. Work planning and budgeting at activity level is the task of the two respective FMs responsible for day-to-day implementation. After review and approval within CTIF's and *REACT*'s governance structures, work plans, budgets and progress reports at output level are submitted to the Programme Steering Committee (PSC) for BSPS II. The RDE, in its

capacity of overseer of Danish funds in the PSC, will focus on outputs and outcomes in both planning and reporting.

In order to avoid duplication of responsibilities between the BSPS II PSC and the CTIF and REACT governing structure, the annual workplans and budgets of CTIF and REACT will be forwarded to the BSPS II PSC for information only. However, it will be within the responsibility of the BSPS II PSC to decide on the overall level of annual funding to CTIF and REACT-Kenya.

The overall flow of funds and financial reporting lines are shown in the charts of Annex 3.

#### 4.3.2 Accounting

The following principles apply for CTIF and REACT.

The partner's procedures for financial management are used insofar as they comply with International Financial Reporting Standards. In cases of shortcomings, the partner's procedures must be strengthened as needed to ensure acceptable fiduciary standards.

This implies that accounts must be kept in accordance with international standards, ensuring that:

- The Danish grant is entered into the accounts as income;
- Reporting on expenditures is of at least the same level of detail as in the grant budget;
- All expenditures are documented by vouchers, original invoices and original, signed receipts;
- A register is maintained of equipment and other assets financed from the grant;
- Acceptable control procedures are put in place, and accounts are signed by the responsible component or sub-component management, and
- The administration adheres to established written procedures.

The implementing partner's accounting period (the calendar year for both partners) will be followed for financial reporting.

Accounting as well as financial reporting will be conducted in KSH. Any payments made in other currencies will be converted into KSH in the accounts at the time of transaction. As the Danish appropriation is in DKK, the RDE will monitor currency fluctuations' influence on commitments and disbursements insofar these are made in other currencies.

In the case of pooled funding (CTIF) Danish funds are not kept separate from other donor funds, and hence there is no requirement of separate bank accounts. In the case of the Kenyan window<sup>9</sup> of REACT implemented by AGRA/AECF, Danish funds will be kept in a separate bank account.

In the case of pooled funding, the Memorandum of Understanding between the partner and donors will specify the conditions under which funds will be transferred.

For earmarked funding, the conditions for transfer are:

- Satisfactory financial reporting has been submitted on previous periods;
- No other accounts are unsettled with the same partner, and
- There is an approved work plan and budget for the period to be financed.

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<sup>9</sup> If DFID also decides to provide funding for the Kenya window of REACT, the Danish funding will not be earmarked within the Kenyan window.

The transfer of funds to CTIF and AECF/AGRA will be carried out on the basis of a written request from the management to the RDE. The transfer can cover foreseen expenditures for up to six months. The transfer request must include information on the amount and the bank account into which the money is to be deposited. A copy of the bank statement with a reconciliation of the bank account must be attached to the request. A receipt should be submitted by the implementing partner to the RDE as soon as the funds have been received.

Interest accrued from bank holdings must be returned to the RDE on an annual basis, immediately following the end of the foregoing fiscal period, for onward transfer to the Danish Ministry of Finance.

The accounting documents and records must be kept for five years after the completion of BSPTS II. The documents and records shall be made available for control purposes to the Danish Auditor General and/or to the Ministry of Foreign Affairs (MFA) or their representatives, upon request.

#### 4.3.3 Auditing

The accounts must be audited annually in accordance with International Standards of Auditing. The final annual audit report, including a financial statement for the period audited and a memorandum of examination must be forwarded by CTIF and AECF/AGRA to the RDE and the BSPTS II PSC no later than six months following the end of the accounting period. An external private sector auditor must be selected for this purpose by the RDE in consultation with the BSPTS II PSC. Terms of reference for the audit, including the audit report must be approved by the BSPTS II PSC.

The annual audit must encompass – but not be limited to – inspection of accounting records, including examination of supporting documentation of the transactions, confirmation of cash and bank holdings, checking of bank reconciliation, direct confirmation of accounts receivables, and verification of physical inventories and fixed assets. The audit will also test compliance with the accounting manual and examine the procurement function.

The Danish Auditor General reserves the right to audit the programme or any part of it at any time up to five years after completion of BSPTS II.

## **5. MONITORING, REPORTING, REVIEWS AND EVALUATION**

### **5.1 MONITORING**

Monitoring is an essential tool for management of CTIF and REACT. Monitoring will provide the sub-component management with information needed to measure progress and effectiveness of activities and adjust strategies, procedures, institutional arrangements and allocation of resources, if needed. Monitoring data will also be an essential basis for reporting to the governing structures of CTIF and REACT as well as to the BSPTS II PSC.

The component monitoring is part of the overall BSPTS II monitoring structure. The logical framework matrix in Annex 1 presents an overview of suggested indicators and means of verification. These will be developed in further detail and quantified in terms of setting targets

during the inception period and presented to the governing bodies of CTIF and REACT and the BSPS II PSC for approval.

Collection and compilation of necessary data at objective (component and sub-component) level will be done externally under the auspices of the PSC secretariat to ensure an independent review of component success.

Provision of data and information for monitoring at the output level will be the responsibility of the FM of CTIF and AECF. For this purpose the CTIF will establish a strong M&E function as part of its institutional set up. The CTIF CEO and AECF management will submit monitoring reports according to agreed schedules to the BSPS II PSC.

Procedures for monitoring REACT activities are in place through the normal AECF M&E set-up. The AECF M&E system is primarily based on a self-reporting system, i.e. grantees have to report on project progress and development impact to the AECF. This system is based on a set of templates developed with each business during the contracting stage including compulsory attendance at a 2-day M&E workshop. The development impact indicators, that are assessed ex-ante, are the same indicators used by the grantees when they report to the AECF. The M&E system, which is currently being adjusted to be compliant with the Development Committee on Enterprise Development standard, is based on a results chain approach that defines the indicators to be monitored at each stage in the impact chain. This system will also incorporate gender and youth indicators.

AECF is for REACT in the process of defining a set of parameters to select participating enterprises, including social performance benchmarks in order to better ensure a wider impact of investments.

Development impact will be assessed through a number of assessments of investments:

- The number of low income people that will benefit as a result of the business idea;
- By how much each person will benefit in additional cash income or savings, by the end of the project, compared to what the situation would be if the project did not go ahead;
- Benefits to other business in the value chain;
- Impact on the market system;
- Job creation within the business, and
- Gender and youth.

Apart from the monitoring exercises in order to report progress against defined indicators, additional impact assessments on specific topics may be commissioned.

## **5.2 REPORTING**

The following reports will be produced:

- Inception report after 6 months of start of implementation. The inception report replaces the first progress report;
- Half yearly progress reports, including rolling annual workplans and budgets, monitoring results and progress on reaching synergetic effects;

- Draft Completion Report 6 months before completion of BSPS II. The final Completion Report will be uploaded in the Programme Data Base of Danida when the final BSPS II financial report has been approved.

The reports will follow the formats as described in the Danida Aid Management Guidelines. In addition, the half yearly progress reports will specifically describe progress towards implementing the suggested synergetic effects between BSPS II components and sub-components.

REACT-Kenya will rely on AECF's well-established reporting system. The FM for CTIF must develop a reporting system of similar quality, to be approved by the CTIF Board.

### **5.3 REVIEWS**

An inception review will be undertaken during the first half year of 2011 in order to provide recommendations to draft inception reports. The inception report will among other things provide the following:

- Refined indicators, targets and means of verification at the development objective, immediate objective, output and activity levels.
- An annex with the required baseline studies undertaken during the inception phase,
- Annual work plan and budget for 2011.

A mid term technical review of BSPS II will be carried out in the beginning of 2013. A joint BSPS II sector review will be undertaken in 2014, among others to assess the relevance of continued support to the sector.

Should it be decided by the participants in basket funding or other joint financing arrangements under BSPS II that there is a need for further reviews, Danida may decide to directly participate in carrying out these or rely on review reports prepared by other participating institutions.

### **5.4 EVALUATIONS**

Case studies of about 5 projects will be prepared, using long-term impact assessment techniques to increase the learning for the CTIF and REACT programmes and inform communication and advocacy work.

## **6. KEY ASSUMPTIONS AND RISKS**

### **6.1 ASSUMPTIONS**

- The national demand for CT-products and services grows by at least 10% per year during the 2010 to 2015 period. This assumption is essential for the immediate objective of enabling innovative entrepreneurs and established firms to grasp the opportunities offered by the growing CT-market. Without growth in demand, there will be no growth in supply. The key underlying assumptions are that the Government continues to implement pro-CT policies and regulations and understands to make maximum use of international funds in support of CTs;

- Suitable and willing partners exist for the establishment of a network of firms and institutions providing incubation-, mentoring- and TA- facilities for CT-innovators;
- The combination of innovative ideas with promising market prospects and the risk reduction provided by CTIF co-finance and know-how is capable of attracting Kenyan BA/VC investors to co-invest in start-up CT-SMEs;
- The menu of services offered by CTIF can persuade commercial bank to overcome their strong hesitancy in providing loans to start-up SMEs during their early market-growth phase;
- The FMs of CTIF and REACT-Kenya succeed in assisting the transfer of successful technologies to Kenyan entrepreneurs and established firms. This is assumed to take place through a number of measures: (i) Cooperation by Kenyan universities in establishing Ph.D cooperation programs with foreign universities that are leaders in CT; (ii) the marketing of B2B, IFU instruments to Kenyan entrepreneurs and of CTIF and REACT to business associations in developed and emerging economies, and (iii) active use of the infodev network of incubators, and
- Private firms have a large number of product and investment ideas ready to be marketed, but need some grant support in order to pass the internal risk-adjusted rate-of-return hurdles.

## 6.2 RISKS

- Poor performance of CTIF's FM-team.<sup>10</sup> The ideal team will be able to perform instantaneously in building up the required reporting systems, establish the called for networks and provide services to promising entrepreneurs, meaning it will have equity fund experience and CT-market know-how, yet offer the high likelihood that a majority of the experts will be interested in continuing as CTFI staff after the five-years period. Finding such a team is difficult and will properly require compromises to be made. This risk is rated as medium. Mitigation measures include careful procedures for the tendering of the FM-team and use of output-related bonus payments to reduce the risk of low performance.
- CTIF is unable to identify innovation level 5 category start-up SMEs. Local observers confirm that there is considerable interest among young potential entrepreneurs to move into the clean energy business. Innovation fairs and competitions for science and technology show interesting innovation potential among technical university and other students that are graduating. Yet, the generation of truly innovative ideas by young entrepreneurs probably requires collaboration contacts with advanced innovation systems outside of Kenya. These can e.g. be established through the systematic identification of ideas, concepts and products abroad. This risk is rated as high. A mitigation measure is an acceptance of another combination of seed-capital and innovation grant funding: If none or few level 5 innovations are received, the number of supported SMEs will not go down, but the average innovation level of supported SMEs will decrease. The implication for CTIF's investment support is that the share of seed-capital funding will increase and the share of innovation grant funding will decrease.

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<sup>10</sup> The quality of REACT's FM-team is not an issue; it is part of and thus, heavily supported by AECF's proven FM-team.

- Kenyan Universities and technology institutions such as KIRDI will not provide sufficient support towards the creation of a CT-innovation system in Kenya. The ability of the staff at the CTIF to get the public institutions involved in assistance in feeding high-quality proposals to the centre will be a key success factor. Yet, the valuable human resources at the public institutes linked to innovations are under-exploited due to insufficient public funding and due lack of specific Government directions. This risk is rated as high. Mitigation measures include that the participation of KIRDI and the research sector on the Board will raise awareness and feed the representatives with solid policy arguments towards politicians. In addition, the CTIF-FM will follow-up with policy advocacy.
- Incubation, mentoring and workshop facilities cannot be outsourced due to lack of suitable or willing collaboration candidates. The ability of the staff at the CTIF to get a collaboration network established is a success factor, both as a cost-saving measure and as a means to strengthen the development of a national innovation system for CT. This risk is rated as medium. Mitigation measures include that the composition of board members, and having KEPSA as founding member and Chair facilitates the networking efforts of CTIF-FM. If unsuccessful, more funds must be spent on investing in own incubation and workshop facilities, which will reduce the funding available for investments in SMEs.
- The CTIF is negatively influenced by powerful stakeholders or vested interests. This risk is rated as medium. The broad composition of CTIF's board and having KEPSA as founder will reduce but not eliminate the risk of stakeholder conflicts about the allocation of limited funds.
- BA/VC investors and commercial banks are unwilling to co-finance investments in CTIF-supported SMEs. The willingness of BA/VC investors to co-finance SMEs will be a function of the innovative and commercial quality of the concepts developed by CTIF-supported entrepreneurs. For BA/VC investors and the commercial banks the professional credibility of the FM-team will be a decisive factor as well. Inability to leverage private business finance has the short-term impact of reducing the funding available for investments in SMEs, and thus, the number of SMEs that can be supported by CTIF. Even more important is the medium-to-long term impact for the national innovation system of not having active private finance operating on the CT-market. This risk is rated as medium. This risk will be mitigated through having membership of representatives from both types of institutions on the Board as this increases the likelihood of private co-finance. In addition, intensive marketing and networking by the FM is a requirement.
- Failure for REACT-Kenya to deliver intended pro-poor benefits. The process of screening, evaluating and reaching investment decisions is set to determine and assure pro-poor benefits. This risk is rated as medium. Risk of failure to deliver development outcomes will be mitigated through use of high quality technical expertise by the FM during the REACT funding rounds and in the IC during decision making on individual investments.
- Successful REACT projects do not lead to systemic impact. Systemic impact happens through a) replication of successful business models or b) policy change. The profit motive ensures the former. This risk is rated as medium. This risk will be mitigated through the FM working with decision-makers directly and with other initiatives that focus on policy development and institutional capacity to improve knowledge about of the private sector's role in delivering poverty objectives in the context of climate change.

- Duplication or lack of synergy with other initiatives. There are a growing number of initiatives working in the climate change development space. These have been mapped. The comparative advantage of CTIF/REACT is their focus on the private sector, which enables supported companies to benefit from market expanding and TA-assistance initiatives by other donors. This risk is rated as medium. The FMs will mitigate risk of overlap by tracking, communicating and co-ordinating with other key initiatives that focus on leveraging private sector investment in climate change.

**7. IMPLEMENTATION PLAN**

Sub-component 1: CTIF	2011				2012				2013				2014				2015			
	Q 1	Q 2	Q 3	Q 4																
1 Contracting of FM and staff																				
2 Development of operational systems and processes																				
3 Set up of CTIF offices and in-house TA facilities																				
4 Develop database of external TA service providers and technical facilities																				
5 Promote and Launch CTIF																				
6 Selection and support of CT-SMEs begins and continues																				
7 Internal M&E - monthly data collection and annual reporting																				
8 External M&E																				

Sub component 2: REACT		2011				2012				2013				2014				2015			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1	Promote and launch 1st REACT tender																				
2	1 <sup>st</sup> tender																				
3	Selection process ending in signing of contracts with winners																				
4	Promote and launch 2nd tender																				
5	2nd tender																				
6	Selection process ending in signing of contracts with winners																				
7	Promote and launch 3rd tender																				
8	3rd tender																				
9	Selection process ending in signing of contracts with winners																				
10	Internal M&E - monthly data collection and annual reporting																				
11	External M&E																				

## APPENDICES

### Appendix 1 Logical Framework Analysis Matrix

Objective	Assumption	Objectively verifiable Indicator and Target	Means of Verification
<b>Immediate objective</b>			
Innovative entrepreneurs and firms in Kenya are enabled to exploit the market opportunities offered by the emerging market for new climate change technologies and investments in new companies, products and services are catalysed	High fossil fuel prices, conducive policy and regulatory framework and international carbon finance provide strong demand for climate change technologies  Minimum 10% annual growth rate in national demand for CT-products and services	20 % annual growth rates in yearly turn-over of climate technology products and services in Kenya by supported SMEs 2011-2015 30 public-private and 80 private-private R&D partnership projects developing climate change technologies 2011-2015 20 BA/VC investments in CT-technology USD 70 million investment in low cost clean energy and climate change adaptation technologies by end-2015	Data from annual audited company reports  Statistics collected by CTIF, by business associations, think tanks, VC Funds, technology institutes
<b>Subcomponent 1: Innovation Fund for Climate Technology (CTIF)</b>			
<b>Output 1.1</b>			
30 innovative SMEs in climate technology are established of which 25 prove commercially viable	Sufficient number of CCT-innovators submitting proposals for investment	25 SMEs are still in operation in 2015	Data collected by CTIF
<b>Output 1.2</b>			
Incubation-, mentoring- and TA-facilities for CCT-innovators	Suitable partners exist Accurate identification of equipment and software needs	Minimum 4 access-to-facilities agreements with outside providers Needs of at least 40 entrepreneurs are covered	CTIF signed agreements Data on service payments collected by CTIF Client satisfaction surveys
<b>Output 1.3</b>			
Angel /VC investors invest in climate technology SMEs	Good ideas and risk reduction through CTIF co-finance and know-how attract angel/VC investors	5 innovation grant/ seed-capital financed SMEs are co-financed by BA/VCS; CTFI finance/BA-VC finance ratio lower than 8:1	CTIF annual reports
<b>Output 1.4</b>			
Commercial banks loan finance early growth phases of upstart SMEs	Angel/VC finance, subordinated loans and facilitation of guarantees bring in bank loans	8 of seed-financed SMEs are cofinanced by banks; seed finance/ bank finance ratio lower than 10:1	CTIF annual reports
<b>Output 1.5</b>			

International network to transfer know-how about climate technology to CCT-entrepreneurs	Use of infodev network of incubators  Marketing of B2B, IFU instruments to entrepreneurs and of CTIF-REACT to business associations outside Africa  Kenyan universities react to CT-market	At least ten foreign technologies identified through networks and adapted to local use  5 B2B partnerships for SMEs  Kenyan universities have Ph.D. collaboration programmes with at least 3 foreign universities leaders in CT	CTIF annual reports
<b>Subcomponent 2: REACT (Renewable Energy &amp; Adaptation Climate Technologies)</b>			
<b>Output 2.1</b>			
Clean energy products and services providing lower cost and more reliable energy supply to rural businesses and households in off-grid areas	Policy regime for clean energy does not deteriorate  Government policy support to rural electrification	90,000 rural households served by low cost, clean energy products and services provided by REACT projects (200,000)  23,000 rural businesses served by lower cost, clean energy products and services provided by REACT projects  310,000 tCO <sub>2</sub> e greenhouse gas emissions avoided due to REACT window	M&E reports submitted by grantees verified by AECF
<b>Output 2.2</b>			
Products and services that help Smallholder farmers adapt to climate change.	The private sector engaged in supplying inputs to framers and large scale farmers are motivated to address climate change impacts.  Smallholder farmers are motivated to adapt and willing to pay for adaptation services through better access to finance	54,000 small holder farmers benefiting from private sector innovation in supply of seed and other inputs and investment in developing markets for climate resilient agriculture  36,000 smallholder farmers benefiting from investment by large agribusinesses in afforestation, water capture and storage and irrigation  90,000 smallholder farmers with improved access to knowledge of climate change adaptation	M&E reports submitted by grantees verified by AECF
<b>Output 2.3</b>			

<p>Financial service providers facilitate greater investment in lower cost, clean energy and climate change technologies, helping the rural poor access them</p>	<p>Government bond issues and borrowing do not crowd out private sector lending</p> <p>East African banks and Micro Finance Institutions are well capitalised and liquid.</p> <p>Financial sector has the appetite to invest in clean energy and climate change technologies</p>	<p>USD 1.3 million in private equity/venture capital incentivised to originate new deals in climate change sectors</p> <p>USD 4.5 million in increased lending by commercial banks and micro finance institutions to households and SMEs that wish to invest in renewable energy products and adaptation technologies</p> <p>23,000 small holder farmers with protected incomes through climate related insurance services</p>	<p>M&amp;E reports submitted by grantees verified by annual reviews of REACT</p>
<b>Output 2.4</b>			
<p>Communication helps to spread successful business models</p>	<p>REACT communication about successful concepts is effective and business models and technologies can be replicated</p>	<p>60,000 poor people benefiting from initiatives that replicate business models and technologies supported by REACT through effective communication</p>	<p>M&amp;E reports submitted by grantees verified by annual reviews of REACT</p>

## Appendix 2 Component Budget and Annual Budgets 2011-2015

### Output-Based Budget for 2011-2015 Period

<b>INNOVATION AND PILOTING GREEN ENERGY</b>	
Both sub-components assume a GBP 5 million contribution from DFID	Million DKK
<b>Subcomponent 1: CTIF</b>	
Output 1.1 Incubation System including own workshop facility	10,0
Output 1.2 BA/VC finance for CT	0,5
Output 1.3 Bank finance for CT	0,5
Output 1.4 Know-How Transfer Network	1,0
Output 1.5 CT-SMEs established	63,0
FM operating costs (salaries, office expenses and auditing)	15,0
Contingencies	5,0
Subcomponent 1.1 Subtotal	95,0
<b>Subcomponent 2: REACT-Kenya</b>	
Output 2.1 Clean energy technologies and services	30,0
Output 2.2 Non-financial products and services for climate adaptation	30,0
Output 2.3 Financial products and services for climate adaptation	13,0
Output 2.4 Spread of successful business models	0,4
FM fee including auditing	16,6
Contingencies	5,0
Subcomponent 1.2 Subtotal	95,0
Total Budget	190,0

### Input-based Budget 2011-2015

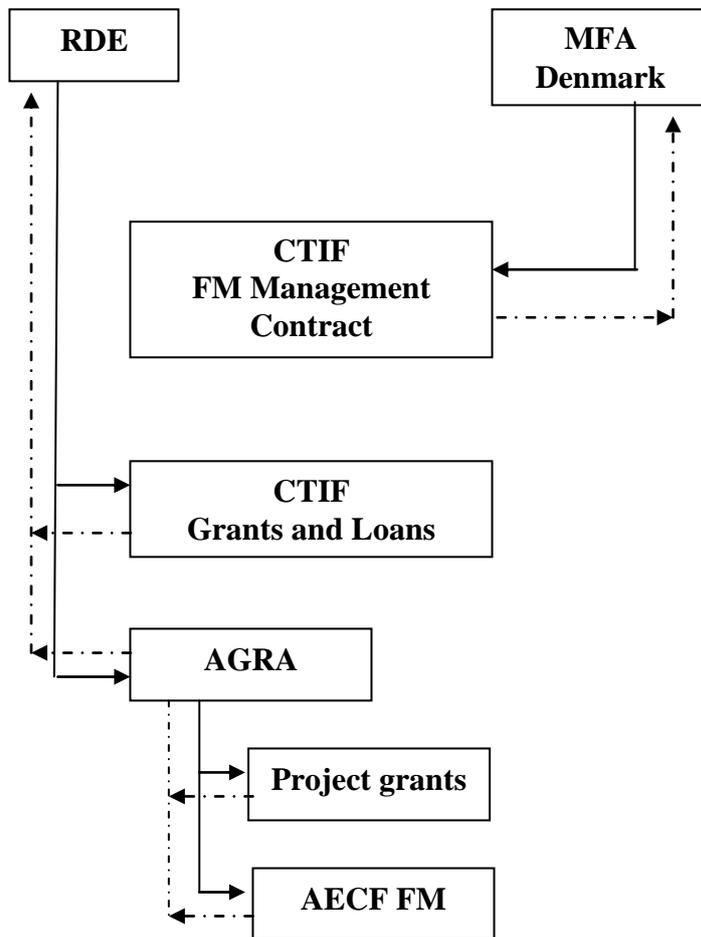
<b>INNOVATION AND PILOTING GREEN ENERGY</b>	
Budget includes expected GBP 10 million contribution from DFID (=DKK 90 million), allocated 50%/50% between the two sub-components	Million DKK
<b>Subcomponent 1: CTIF</b>	
Investment in own workshop / incubation facility	10
Innovation Grant Investment Facility	20
Seed Capital Investment Facility	45
TA Facility including FM-fee	20
<b>Subcomponent 2: REACT-Kenya</b>	
Challenge round investment facility	79
FM-fee	16
<b>TOTAL BUDGET</b>	<b>190</b>

The breakdown of CTIF’s DKK 95 million budget into the four input-items is indicative. The allocation of funds to innovation grant investments, seed capital investments and TA-funds will be demand driven, and the expected need for investments in workshop/incubation facilities has not been determined yet. The TA-funds will finance the cost of the development of incubation services and networks, the loan facility to give interest rate free loans to clients to cover the cost of contracted mentoring services and the operating costs of CTIF, including the FM-contract.

**ANNUAL BUDGET INNOVATION AND PILOTING GREEN ENERGY COMPONENT**

	2011	2012	2013	2014	2015	<b>Total DKK Million</b>
Denmark	25	25	25	15	10	100
DFID	25	25	20	15	5	90
Other donors	0	0	0	0	0	0
<b>Total</b>	50	50	45	30	15	190

**Appendix 3 Flow of funds and financial reporting diagramme**



Flow of funds: —————>  
 Financial reporting: - - - - ->

**Assumption:**

Danida is administering the basket fund for the CTIF, including holding the FM contract.

Note: MFA: Ministry of Foreign Affairs, Denmark

## Appendix 4 Examples of possible REACT-Kenya Projects

The types of projects that CTIF and REACT aim to support in order to help Kenya respond to climate change are:<sup>11</sup>

<b>Sub-category</b>	<b>Impact Area</b>	<b>Description</b>	<b>Examples</b>
Low Carbon Energy			
1.1	Off-grid power for households and public amenities that have little hope of being connected to the grid in the foreseeable future	Supply of renewable and energy efficient products and services for small scale home lighting, electrical charging, entertainment and communications devices. Power for schools, hospitals, border posts etc. Exceptionally, grid connected renewable projects will be considered where they also deliver significant rural energy services.	Market development of small-scale solar power solutions for households and other market segments such as NGOs, public services etc. Small to medium scale renewable power generation projects serving communities off the grid services.
1.2	Off-grid power for productive uses	Clean, lower cost (than diesel) technologies to enhance rural productivity and competitiveness, including the agriculture, tourism, commerce and communications sectors.	Biomass (e.g. sugar) or biogas (e.g. dairy) to energy conversion for heat and/or power generation Solar and wind power for rural telecoms infrastructure and tourism projects Solar drying equipment for food preservation
1.3	Reducing the use of expensive charcoal that damages the environment and is harmful to human health	Addressing government and market failures in the supply of traditional biomass, which accounts for about 90% of primary energy supply in SSA countries	Sustainable sources of wood/agri-waste for charcoal production such as afforestation, charcoal briquetting and biogas More efficient kiln technology for making charcoal
<b>Sub-category</b> <u>Adaptation services</u>	<b>Impact Area</b>	<b>Description</b>	<b>Examples</b>
2.1	Innovation and market development in climate resilient agriculture	Private sector innovation and market development in climate resilient agriculture	Diversification of agricultural products and services to reflect climate risk – tree crops, livestock etc. Development of markets for drought resistant and early maturing seed varieties. Climate resilient agricultural methods (i.e. zero tillage)
2.2	Improved access to climate knowledge and information	Access to appropriate guidance and support to plan/adjust practices	Outreach programmes to communicate and support the implementation of new products or methods.
<b>Sub-category</b> <u>Finance for both categories</u>	<b>Impact Area</b>	<b>Description</b>	<b>Examples</b>
3.1	Early stage private equity/venture	Incentivising fund managers targeting Africa to finance	Backing existing sources of private equity/venture capital

<sup>11</sup> The table is reproduced from “REACT Technical Appraisal”, Annex 7 in DFID’s REACT project document.

	capital for renewable energy and adaptation technologies and services	renewable and adaptation projects	for energy to originate deal flow in renewables Backing existing sources of private equity/venture capital for agriculture to fund projects promoting adaptation
3.2	Improving access to debt finance for renewable energy and adaptation projects	Incentivising the commercial banks to increase lending to renewable energy and adaptation projects	Training the banks in loan appraisal and monitoring for such projects Providing partial credit guarantees to overcome lack of collateral and risk aversion on the part of banks
3.3	Improving access to finance for poor households to overcome affordability constraints	Incentivising the commercial banks to increase lending to households and small businesses wishing to invest in renewable energy products and adaptation technologies	Training the banks in loan appraisal and monitoring of loans to households Providing partial credit guarantees to overcome lack of collateral and risk aversion on the part of banks
3.4	Climate related insurance services	Services to protect rural smallholders and business from climate impacts	Index based weather insurance for crops and livestock
<b><u>Sub-category Communication and policy advocacy</u></b>	<b>Impact Area</b>	<b>Description</b>	<b>Examples</b>
4.1	Replication of new business models that have been supported by REACT funds	Using AECF communications to highlight project successes in order to encourage other players to enter the market	Communicating case studies through mainstream media, networks, conferences and other channels
4.2	Influencing climate change adaptation and low carbon energy policy	AECF projects demonstrate that market solutions can solve development challenges	Policy advocacy, using of REACT successes to demonstrate impact, opportunities and challenges

## Appendix 5

### **Draft** **Terms of Reference for the Fund Manager of the Climate Technology Innovation Fund,** **Kenya** **Supported by infoDev, DFID and Danida**

#### **1. Background**

The Climate Technology Innovation Fund (CTIF) is during 2010 being developed jointly by Danida and infoDev, a global development financing programme hosted by the World Bank. DFID also supports the preparatory process and are considering to finance the CTIF. A Memorandum of Understanding is being entered into between these three partners for developing and implementing CTIF as a tripartite set-up with access to funding and expertise from all three partners.

The objective for the CTIF is to generate employment in high-value activities.

CTIF has the institution building aim of supporting the development of an innovation system for climate technologies (CT) in Kenya, which is capable of providing a supporting framework for the creation of innovative start-up Small and Medium sized Enterprises (SME).

The CTIF is proposed to be a one-stop innovation centre providing mentoring and incubation services as well as risk finance for start-up SMEs with innovative ideas for the development and deployment of climate change technologies. Clean energy entrepreneurs supported by CTIF could e.g. be involved in energy savings, solar PV-systems, solar water heaters, improved biomass stoves, wind turbines for water pumping and waste-to-energy plants. Clean water and climate adaptation technologies can be supported as well. The key eligibility criterion, apart from innovation, is that the supported firm/innovation has the potential to grow into a medium-sized company capable of serving the East African Community (EAC) regional market.

The CTIF will manage the three finance windows:

1) The innovation grant window supports the development of above average level innovations, loosely defined as products and services that have the potential to serve the regional market, that is, category 5 level (on a scale from 1 to 10) of innovations. The facility is proposed to cover 50% of the estimated costs of bringing an innovative technology idea, which is in the proof-of-concept phase, towards the development of a prototype. The justification for the innovation grant facility is based on two arguments.

- (i) Few innovative ideas are coming forward for commercialisation because there is no adequate environment to support entrepreneurs with new product ideas in CT. More national talent will be encouraged to engage in product development if they can see that there is a supporting environment to assist them in turning ideas into commercial products.
- (ii) Kenya has no angel investors (AI) or venture capital investors in climate change technology because too few innovative high-risk / high-potential return business ideas are forthcoming. Yet, there are wealthy individuals in Kenya who would be tempted to engage in early seed and growth finance if business ideas with a realistic potential were presented to them.

The innovation grant window's support to product and production process innovations is given as a grant to reflect that the commercial risks at the proof-of-concept stage are high. Because the innovation grant is a strategic tool to provoke alliances between innovators and Business Angel (BA)/Venture capitalist (VC), CTIF's aims to limit the grant finance share to 50% of total cost, with the other 50% coming partly by in-kind contributions of the entrepreneur through providing his labour at below professional rates, partly by cash contributions from a BA/VC. Co-finance from BA/VCS also serves as proof that an independent private investor is sufficiently convinced of the commercial validity of the idea. Apart from the risk sharing provided by the grant itself, a BA/VC investor will be reassured to know that the proposal has been vetted by a professional fund manager and that the fund, if the development prove successful, will continue its financial engagement through the seed capital window. The expectation, that early stage AI/VC investments can be attracted, is subject to a reality check; the CTIF Board can, based on recommendations from the Fund Manager (FM) authorise its Investment Committee (IC) to approve higher grant percentages for specific projects and/or combine grant and seed capital investment from the start. The grant will range from USD 50,000 as a minimum to USD 1 million as the maximum.

2) The seed-finance window is essential for entrepreneurs in all areas of the innovation continuum: Start-up SMEs cannot access bank finance because they lack annual audited statements and cannot show sufficient proof of cash-flows capable of serving a loan. The seed capital window assists innovative SMEs with seed capital ranging from USD 50,000 to 500,000 up to a maximum of 85% of the cost of an investment. The FM will have flexibility with regard to the structuring of CTIF co-finance: Equity, quasi-equity and sub-ordinated loans for early growth stages when that instrument serves to bring in a commercial bank loan. Despite the higher risk taking and more flexible conditions of the seed capital instruments, the target rate of return of the invested seed capital is to equal the rates of conventional bank loans.

3) The funds allocated to the Technical Assistance (TA) window will be used to cover:

- The operating costs of fund management;
- The costs of facilitating the provision of business support services to CT innovators: (a) mentoring and capacity building services, (b) assistance in securing Government approvals and standards for CT products, and (c) technical workshop facilities, and
- The granting of interest rate-free loans to innovators to pay for contracted business support and incubation services from the innovation centre within the Fund itself or from outside consultants.

The TA services are available only for SMEs in which the fund invests either an innovation grant and/or seed capital. For cost saving reasons and as a means to promote the development of a national innovation system for CT, the provision of business support services will be outsourced whenever feasible. The CTIF will invest in setting up own service and technical workshop facilities only when no adequate outside facility can be identified.

The goal is for the Fund to become a financially self-sustainable operation over time, in the sense that operating revenue can cover the operating costs of the Fund (including cost of staff, rental of office space, energy and communication). The Fund's operating revenue comes from (i) interest payments on seed capital investments, (ii) interest on Fund deposits at commercial banks, (iii) payment for business support services provided by Fund staff. During the initial years, the operating revenue will be lower than in later years, whereas costs will be higher as the Fund will incur non-

recoverable losses in expenses for developing its mentoring expertise, establishing contacts, etc. Once the initial development cost phase is over, the cost of the TA can to a large extent be provided on full-cost recovery basis. However, in addition to annual losses in the real value of the interest-rate free TA-loans due to inflation, a roughly 25% shrinkage in invested seed capital can be expected as supported SMEs fail commercially.

Since the long term success of the CTIF will depend on the quality of the national innovation system in Kenya, the Board and the FM must play an active role in technology policy advise and advocacy.

A further element in CTIF's institution building is the backstopping support that can be provided by infoDev's global network of more than 290 business incubators in over 80 developing countries.

## **2. CTIF Governance**

The CTIF is to be established as an independent legal person, in the form of a Trust Fund. Founders will be the Kenya Private Sector Alliance (KEPSA), DFID and Danida. The Trust is expected to be established in 2011.

The Governing Council (GC) function will be performed by decision-taking meetings involving three persons: KEPSA's Chairman, and appointed Royal Danish Embassy (RDE) and DFID representatives. The Chairman of the Board acts as GC secretary. The GC will identify and appoint members of the Board.

The selection of KEPSA as co-founder and the composition of the Board are motivated by the wish to facilitate CTIF's networking efforts. The Board members will be appointed in their individual capacity rather than based on their institutional representation. Remuneration of Board members should be considered where relevant.

The Board will:

- Provide strategic guidance to the FM-Chief Executive Officer (CEO);
- Facilitate networking between the CTIF and players in Kenya's innovation system;
- Select the three-person Investment Committee (IC) from amongst its members;
- Its IC approves innovation grants and seed capital investments proposed by the FM;
- Approve reports and budgets submitted to Business Sector Programme (BSPS) phase II Programme Steering Committee (PSC), and
- The FM-CEO is secretary of the Board and of the IC.

## **3. CTIF Fund Manager**

The CTIF will be managed by a FM-CEO who oversees a small staff composed of:

- One investment banker (financial analyst with at least 10 years of investment experience in banking/venture capital/equity, who knows how to structure deals) who would be involved in the day-to-day activities related to the seed capital investments;
- One technology/ business development services staff who would be involved in the technical aspects of the fund (including workshops, technical advisory assistance to clients) and the innovation grants, and
- Administrative and support staff (financial management, secretary/receptionist).

Business advisory/mentoring services to a client would be provided by either the technology staff or the investment banker depending on the theme. Both staff would be involved by the FM in policy advocacy according to the theme being discussed.

The cost of the fund management contract is paid out of the TA-window. For the first five years period the Fund Management contract covering all staff will be internationally tendered. Danida will, on behalf of the CTIF and other donors, administer the tender process.

To facilitate the conversion of interested staff to Fund employee status when the contract for the five year period ends, (i) compensation will be input-based (per man-year/month) with an additional performance based bonus adding about 20 percent to staff fee rates; (ii) most of the staff is to be of Kenyan/ EAC nationality or have resident status and (iii) it is a performance requirement that the self-financing ratio<sup>12</sup> of the Fund increases over time.

The FM-CEO, who will report to the CTIF Board, must have extensive private sector experience from the CT-sector and have an in-depth understanding of how the CT-market in developing countries operates.

Supported by staff, the CEO will be responsible for:

- marketing the fund, receiving, and vetting applications, and providing a shortlist to the IC for selection;
- identifying and selecting suitable mentors and TA service providers for applicants;
- networking with key stakeholders in the CT-innovation community;
- CT-policy advocacy.
- the operational management of the fund;
- setting up the M&E reporting system, financial management and auditing systems of CTIF;
- M&E of funded applicants and of the CTIF in general;
- the development of an operating manual detailing the procedures of CTIF, and
- the setting up of the CTIF website, inter alia, including an automated application system used for initial screening of potentially interesting deals.

The FM-CEO will be in close contact and ensure cooperation with other sub-components and components of BSPS II in order to enhance synergetic effects, including regular discussions with other components and sub-components, as agreed with KEPSA, which is acting as the secretariat to the BSPS II PSC.

The Investment Officer, a financial analyst, who knows how to structure deals from at least five years of investment experience in banking/venture capital/equity would be responsible for:

- performing the financial due diligence of the business plans proposed by entrepreneurs;
- provide and/or assist the provision of finance mentoring services to supported entrepreneurs and monitor the quality of provided services;
- structure the seed-capital investment deals for supported SMEs;

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<sup>12</sup> The ratio is defined as (cost of staff + normal operating expenses)/(interest income from deposits + returns on seed capital investments + mentoring/TA fees).

- collaborate with the technology officer in structuring deals involving innovation grant support;
- establish close links with the BA/VC community (existing and potential) and market investment opportunities in CTIF-supported SMEs to them;
- establish close links with commercial banks and persuade them to provide loan finance to promising SMEs that receive seed-capital from CTIF, and
- the day-to-day activities related to the seed capital investments, including the monitoring of disbursements and repayments on awarded loans.

The technology officer, an engineer, Ph.D. specialised in climate change technology, and preferably having a MBA, would be involved in all technical aspects of the fund including:

- supervising and maintaining own incubation-workshop facilities;
- organise a network providing technical advisory assistance to CTIF-supported entrepreneurs, including access to technical workshop facilities;
- maintain close contacts with infoDev's international network of incubators for the identification of new technical concepts applicable in Kenya;
- maintain close contacts with technical universities in Kenya and technology fairs to identify potential candidates for CTIF support;
- undertake the technical due diligence of innovative proposals submitted by entrepreneurs, if needed with assistance from specialised technical experts;
- evaluate eligibility for innovation grant support, and
- monitor the technical performance of supported SMEs and provide supporting advice as needed.

#### **4. Duration**

The contract for Fund Managent of the CTIF will cover the period 2011 to 2015.