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UNEP

Climate Technology Centre and Network

CFP no: CFP 2012-S1

Proposal to host the Climate Technology Centre

16 March 2012

Prepared for:

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C ANNEXES

Annex C0	Declaration of lead proponent and profile forms of the Consortium
Annex C1	Organisation chart of the Climate Technology Centre with brief descriptions of key positions *(see also: B3a)*
Annex C2	Outline of terms of reference of the Director of the Climate Technology Centre *(see also: B5d)*
Annex C3	Cost sheet using the template in CFP Annex 2A *(see also: B7)*
Annex C4	Schedule for the start-up of the Climate Technology Centre and Network *(see also: B5a)*
Annex C5	Resumes of key staff proposed to be assigned to the Climate Technology Centre and Network *(see also: B5d)*
Annex C6	Response to the sample requests presented in CFP Annex 2B and referred to in para 8(c) of CFP Annex 3 *(see also: B8c)*
Annex C7	Statements of work of past activities relevant to the functions of the Climate Technology Centre and Network, including a matrix of past performance and associated references (see CFP Annex 2C) *(see also: B2, B6f)*
Annex C8	Audited financial reports of the past three fiscal years *(see also: B6b)*
Annex C9	Other relevant material a) substantiating material (brochures, references) b) organisational material (certificates, annual reports, social responsibility reports) *(see also: B2)*

Key terms used in this proposal:

The Climate Technology Centre *[CTC] – comprising the* ***Core Centre*** *(UNEP supported by UNIDO) and the* ***Technical Resource Pool*** *(all other partners) – the proposed institutional configuration for the CTC.*

The Network *– comprising relevant institutions (Network members) capable of responding to requests from developing country Parties related to technology development and transfer*

The Climate Technology Centre *[CTC] and* ***the Network*** *make up the* ***Climate Technology Centre and Network*** *[CTCN]*

Nationally Designated Entities *[NDEs] – focal point for issuing requests from developing country Parties under decision 4/CP.13*

The Consortium *(all consortium partners including UN partners) – the group of organisations submitting the proposal*

A Executive Summary

Context

The issue of technology transfer has been a cornerstone of the United Nations Framework Convention on Climate Change (UNFCCC) since it was established, and each meeting of the Conference of the Parties (COP) has since taken decisions to promote the development and transfer of climate relevant technologies.

As a major step forward the Technology Mechanism was established by the 16th session of the COP in Cancun in December 2010. The Technology Mechanism consists of a Technology Executive Committee and a Climate Technology Centre and Network.

The stated mission of the Climate Technology Centre and Network (CTCN) is to stimulate technology cooperation and to enhance the development and transfer of technologies and to assist developing country Parties at their request, consistent with their respective capabilities and national circumstances and priorities, 'to build or strengthen their capacity to identify technology needs, to facilitate the preparation and implementation of technology projects and strategies taking into account gender considerations to support action on mitigation and adaptation and enhance low emissions and climate-resilient development.'

In line with the COP decision, the CTCN will be guided by an Advisory Board and implemented by a host institution selected through competitive tendering. This document responds to the Call for Proposals issued by the secretariat of the UNFCCC on 16 January 2012. It is submitted by a consortium of partners committed to making the CTCN a driving force for a sustainable low-carbon and climate resilient future through a pioneering approach to accelerating technology development and transfer. Our vision is of a CTCN based on local and national ownership and country driven needs, and focused on building and strengthening developing country capacity to address technology challenges and opportunities for adaptation and mitigation.

Our Consortium

Our Consortium would create and manage a CTC that meets the broad range of demands of developing countries, and does so in an efficient and effective manner. We bring together a carefully constituted group of leading institutions located in both developing and developed countries combining decades of complementary expertise. Our experience spans the entire technology life cycle and covers equally adaptation and mitigation. We have the sectoral and geographic knowledge needed to respond to developing country requests in a manner that meets *their* needs. Our 'distributed' CTC would be competent, responsive, and cost effective, with a lean Core Centre managed by UNEP and UNIDO responsible for overall coordination, Network development, and liaison with Nationally Designated Entities (NDEs). Supporting the Core Centre in preparing country response plans and providing a strong technical link to the Network are the other partners, who constitute a Technical Resource Pool that could be tapped quickly in response to country needs.

We are:

- United Nations Environment Programme (UNEP) – lead CTC host institution and co-manager of the Core Centre
- United Nations Industrial Development Organization (UNIDO) – co-manager of the Core Centre
- Asian Institute of Technology (AIT) – Thailand
- Bariloche Foundation – (BF) Argentina
- Council for Scientific and Industrial Research (CSIR) – South Africa
- The Energy and Research Institute (TERI) – India
- Environment and Development Action in the Third World (ENDA-TM) – Senegal
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- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) – Germany
- Energy Research Centre of the Netherlands (ECN) – The Netherlands
- National Renewable Energy Laboratory (NREL) – United States
- UNEP Risø Centre, including expertise from UNEP-DHI Centre (URC) – Denmark

The Core Centre would hosted in UNEP, an international intergovernmental organization located in a developing country.

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Our Approach to the CTC

A number of principles will guide our approach. We will not duplicate the work of other bodies, such as the Green Climate Fund or the GEF. We will develop working relationships with the donor community and UNFCCC partners to identify opportunities for complementary support. This will allow for deeper and more sustained operations of the CTCN. With equity in mind, we will aim to serve a large number of developing countries, rather than focusing efforts on a smaller number of countries. And we will be driven by country needs, recognizing as well that weak institutions are often a barrier to the transfer of technologies and that developing the capabilities of developing countries is critical.

Overall success of the CTCN will depend on creation of an efficient and effective structure for the CTC. Our consortium structure, with a broad-based knowledge pool and a lean and efficient UN-led Core Centre, is designed with the aim of providing a cost-effective and highly flexible CTC with the ability to respond quickly and competently even to a large number of national requests.

The **Core Centre** staff will be responsible for managing the overall CTCN process including logging and screening requests received from the Nationally Designated Entities (NDEs), engaging relevant parts of the Technical Resource Pool in further development of the proposals and contracting implementation of support activities to the wider Network established under the guidance of the Advisory Board. The Core Centre staff will be responsible for supporting the Advisory Board and for reporting on CTCN activities, including substantive achievements and financial performance. Similarly the core centre will manage awareness and capacity building programs while drawing on the technical expertise in the Technical Resource Pool.

The **Technical Resource Pool** is constituted of lead experts from the eleven partner institutions and will be responsible for the initial appraisal, refinement, and technical support for requests received through NDEs. Where necessary a small expert team will be established to lead the request appraisal and refinement, deliver immediate technical support (when requested), and prepare a response plan for more in-depth support provided through the Network. As a basic principle any team responding to a request will have a regional institutional lead complemented by one or two topical experts in the relevant field coming from other partner institutions.

The consortium structure will in this way provide a CTC with limited number of fixed cost staff in the Core Centre combined with a Technical Resource Pool, providing for **fast and flexible technical support and rapid implementation**. The number of experts in the pool can quickly be scaled up to respond to a potentially growing demand for services. In addition partner institutions can support the fast start of the CTC through secondments of expert staff to the core centre until recruited UN staff are in place and operational.

While our Consortium has national reach and expertise, we will **strengthen and emphasize the primary role of NDEs at the national level** and not duplicate their role by setting up parallel UN structures and offices.

Consistent with decision 1/CP.16, we will develop and operate the CTCN to serve three main functions:

1) Management of requests and responses in the technology cycle
2) Fostering collaboration to accelerate technology transfer
3) Strengthening networks, partnerships and capacity building for technology development and transfer, and fostering collaboration to accelerate technology transfer.

These core functions of the CTCN will be supported by broader **outreach and awareness activities** and a **knowledge management system** that enables learning and enhanced response quality over the life of the CTCN, reflecting the two other functions.

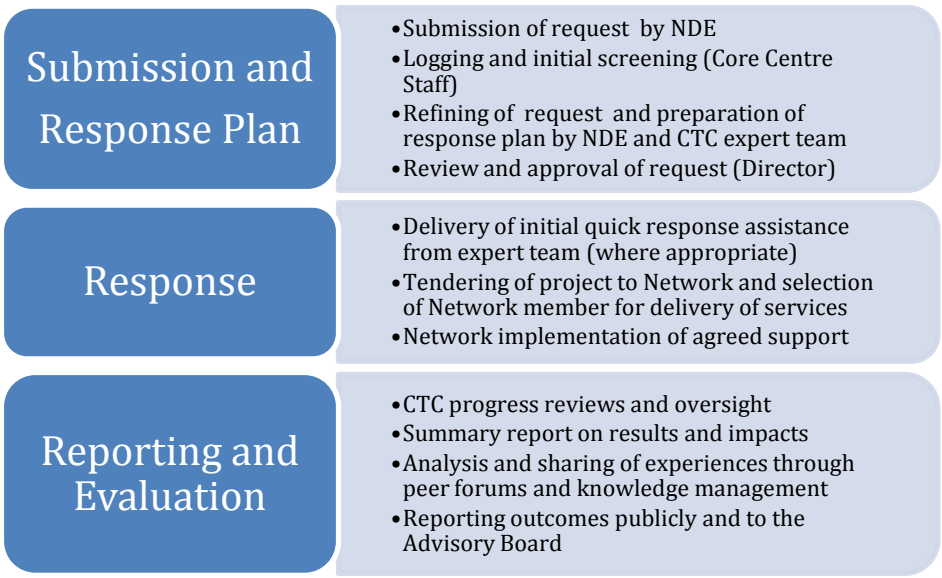
Managing requests from NDEs and providing highly qualified support to countries along all stages of the technology cycle, from identification of technology needs, through assessment, selection and piloting of technological solutions, to their customization and widespread deployment remains the core function of the CTCN and the principle approach proposed by the Consortium is illustrated in Figure ES1.

Our Consortium will emphasize meaningful and **sustained capacity building** for developing countries on technology development and transfer as a core part of the CTCN. This will include areas such as i) Building capacity of NDEs to identify priority technology needs and design collaborative programmes with the CTCN; ii) Capacity building as an integral part of CTCN support to countries; iii) Regional and global peer learning, exchange, and training programmes and finally iv) Strengthening the capacity of Network members.

Competence to Deliver

The UNEP led consortium has deep experience and expertise spanning the full range of issues in the development and transfer of technologies for adaptation and mitigation under the UNFCCC. Seven of the thirteen partners are technical institutes and development organisations located in developing countries and are leaders in their regions on climate technology issues, while the other partners have extensive experience working with developing countries on the development and transfer of technologies. The partners have rich expertise that extends across all relevant sectors, the technology life cycle, types of activities, and forms of regional, sub-regional, and global collaboration required to meet developing country needs for development and transfer of adaptation and mitigation technologies.

Figure ES1 Management of requests and responses in the Technology Cycle – delivery approach



All of the thirteen consortium partners have at least 20 years of experience implementing collaborative projects in developing countries, experience that is directly relevant for the key roles and functions of the CTCN. This includes assisting countries with technology needs assessments; managing responses to these needs; providing capacity building and support for deployment of technologies; stimulating collaborative technology development and transfer projects; facilitating cooperation networks, partnerships, training, and twinning arrangements; developing tools and policies; codifying and sharing best practices; and managing other supporting activities. Our experience extends as well to the areas of facilitating access to finance, entrepreneur development, technology licensing and IP management, monitoring, and evaluation**. The consortium partners are currently engaged in approximately 1500 activities related to climate technologies in over 150 countries** with a strong sub-regional coverage.

As one example, UNEP has as an Implementing Agency of the Montreal Protocol Multilateral Fund implemented more than 1500 projects in developing countries that directly or indirectly support the transfer of technology under that MEA. These cover issues such as integrated technology and policy national plans, technical assistance, capacity building and institutional strengthening. Jointly UNEP and UNIDO manage a global network of 42 National Cleaner Production Centres (NCPCs), which use a multi-stakeholder approach and involve different levels of industry, government, academia and the financial sector to bring about Resource Efficient and Cleaner Production approaches by businesses and other organizations. Again, a collaborative approach is used to accelerate technology transfer, one that draws on networks, develops partnerships, and stresses capacity building for technology development and transfer. Other partners have similar experience that is described in our proposal.

The UNEP led CTCN will operate in accordance with UN governance structures and management procedures. Core UN principles, made operational through UN rules and administrative procedures, include integrity, transparency, and ethical behavior. Tendering processes follow guidelines that ensure openness and transparency, fairness, cost-efficiency, and effectiveness. The UNEP management structure includes rigorous administrative and financial procedures that are reviewed by external auditors and made public.

Our proposed budget is based on a low administrative cost structure so that most of the funds can be used in responding to country requests for assistance. A proportion of the proposed budget will be used for knowledge management, capacity building, and network building. The consortium approach allows for a cost efficient and quick-start through short term secondments of staff to the CTC, providing 'in-house' access to a range of technical experts and enhancing

its ability to operate in a cost efficient manner. The broad reach of our Consortium makes possible regional expansion as resources permit, which will allow activities such as knowledge transfer and capacity building to be performed on a regional basis. A further advantage of our consortium approach is that it will allow for flexibility in supplementary staffing arrangements to match growth.

Finally, our Consortium can bring a variety of direct financial and in-kind contributions to support the CTCN. As a group we commit to seeking financial and in-kind co-funding for CTCN activities by engaging with other donor organizations and climate technology transfer initiatives.

Building and Managing the Network

Considering the wide range of adaptation and mitigation expertise required across sectors, regions and sub-regions and technologies, a wide and diverse Network of regional and national institutions will be required as a delivery mechanism that can respond effectively and efficiently to requests from developing countries. Potential members of the Network could include a wide variety of different types of institutions ranging from regional climate technology centres and networks to intergovernmental, international, regional and sectoral organisations, partnerships and initiatives that could contribute to technology deployment and transfer. Also included could be research, academic, financial, non-governmental, private-sector and public-sector organisations, and partnerships.

The Advisory Board of the CTCN will establish criteria for the structure of the Network and designate organizations as members Network. We suggest an approach of gradual expansion and increasingly sophisticated structuring of the Network, reflecting the expected build up of demand and underlying financing for activities. We suggest establishing – or where these exist strengthening – sub-networks for each of the key climate change adaptation and mitigation sectors, as well as sub-networks focused on private sector partnership and financing support.

Criteria for Network membership drawn from UNFCCC practices in other areas could include:

- Regional and sub-regional coverage
- Adaptation and mitigation expertise
- Sector expertise
- Balance among relevant types of stakeholders – government, industry, science, NGOs, research, finance
- Capacity building and knowledge management capabilities
- Experience with relevant phases of technology development and transfer in developing countries
- Ability to provide objective and neutral support to developing countries and to be responsive to country needs
- Proven record of cost-effective and high quality delivery of technical assistance and capacity building services.

These criteria will be elaborated further in consultation with the Advisory Board when the CTC is operational. While preparing this proposal the consortium partners have solicited views of a number of potential Network members. Based on this assessment we believe it is prudent to create a Network with different categories that reflect Network members' mandates, structure, governance, areas of expertise, and other criteria. To rapidly mobilize expertise through the Network we propose that members undergo a pre-qualification process that safeguards legal and fiduciary interests while avoiding the delays of an *ad hoc* procurement process initiated in response to each NDE request.

B MAIN PROPOSAL

B1 Introduction

The Conference of Parties (COP) decided to establish the Climate Technology Centre and Network (CTCN) with the aim 'to accelerate, diversify, intensify and scale-up collaboration and transfer of climate technologies in support of sustainable development in developing countries, and as a means to implement and achieve the commitments of both developing and developed country parties to the UNFCCC'. Our group of institutions – acting as a consortium – proposes to host and operate the Climate Technology Centre (CTC) in a needs-driven and inclusive manner, to achieve the following outcomes:

1. Broad based and accelerated transfer and scaled-up deployment of priority adaptation and mitigation technologies in developing countries
2. Reduced GHG intensity and climate vulnerability of key economic sectors
3. Improved technology and innovation capacities in developing countries throughout the technology cycle
4. Accelerated mobilisation of private and public investment in adaptation and mitigation, and
5. Enhanced collaboration and peer learning on technology transfer and deployment across and within developing countries.

The CTCN is being established to help developing countries reduce the risks and costs of technology transfer and deployment by supporting them to make informed choices about mitigation and adaptation technologies and determine which of these best meet their sustainable development objectives and match their emissions and vulnerability profiles. The CTCN will support countries along all stages of the technology cycle, from identification of technology needs, through assessment, selection and piloting of technological solutions, to their customisation and widespread deployment.

Our Consortium would create and manage a CTC that meets the broad range of demands of developing countries, and does so in an efficient and effective manner. We bring together a carefully constituted group of leading institutions located in both developing and developed countries combining decades of complementary expertise. Our experience spans the entire technology life cycle and covers equally adaptation and mitigation. We have the sectoral and geographic knowledge needed to respond to developing country requests in a manner that meets *their* needs. Our 'distributed' CTC would be competent, responsive, and cost effective, with a lean Core Centre managed by UNEP and UNIDO responsible for overall coordination, Network development, and liaison with Nationally Designated Entities (NDEs). Supporting the Core Centre in preparing country response plans and providing a strong technical link to the Network are the other partners, who constitute a deeper Technical Resource Pool that could be tapped quickly as specific needs arise.

We are:

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The Core Centre would hosted in UNEP, an international intergovernmental organization located in a developing country.

CTCN Functions

Consistent with decision 1/CP.16, we will develop and operate the CTCN to serve three main functions:

Function 1 – Management of requests and responses in the technology cycle As a group we are broad based in terms of geography, sector and technology expertise and will be able to mobilise quickly both technology- and region-specific responses to queries articulated by NDEs.

Function 2 – Fostering collaboration to accelerate technology transfer We have experience in implementing technology cooperation projects in developing countries through partnerships with the public and private sectors. Our consortium partners are currently conducting over 1500 climate technology projects in more than 150 countries.

Function 3 – Strengthening networks, partnerships and capacity building for technology development and transfer We have set up and maintained numerous networks to support capacity building and technology transfer. For example, since 1994 UNEP and UNIDO have fostered a global network for Resource Efficient and Cleaner Production (RECP) spanning 50 developing and transition countries. This network, and similar networks assisting climate change focal points, can serve as a launch-pad for rapid development and roll out of the Network under the guidance of the Advisory Board.

Structure

The active involvement of Network members is critical for success of the CTCN, as it is Network members who will develop and implement technology transfer and deployment projects, both under the auspices of the CTCN and under their own institutional mandates. We anticipate the Network will be expanded under the guidance of the Advisory Board, building upon and extending existing networks and initiatives, including many already coordinated through one or several of our institutions.

The CTC is the hub of the Network and overall success of the CTCN will depend on creation of an efficient and effective structure for the CTC. Our consortium structure, with a broad-based knowledge pool and a lean and efficient UN-led Core Centre, will make for an effective and highly flexible CTC. Lead experts from each Consortium partner will enable rapid mobilisation of expertise, in particular for the initial appraisal, refinement, and technical support for requests received through NDEs. Where necessary a small expert team will be established to lead the request appraisal and refinement, deliver immediate technical support (when requested), and prepare a response plan for more in-depth support provided through the Network. We also see this structure as providing the means for a fast start to the CTCN through secondments of staff to the Core Centre until recruited staff become operational.

While our Consortium has national reach and expertise, we will strengthen and emphasize the primary role of NDEs at the national level and not duplicate their role by setting up parallel UN structures and offices.

Operations

The CTC will be capable of responding effectively to a high volume of requests from NDEs, which we expect to reach several hundreds annually. We aim to provide an initial assessment and response for all requests that meet basic eligibility criteria, with a means of prioritising requests if demand for support outstrips resources available to the CTCN. The Network members and the CTC consortium partners (Technical Resource Pool) will deliver the technical services and capacity building, most of these being provided by members of the Network. Moreover, we plan to make Network development, knowledge management and training priorities of the CTC. The engagement of different Network members and the Technical Resource Pool will be managed using UN procurement processes, meeting the highest fiduciary and reporting standards imposed by bilateral donors, multi-donor trust funds, and UN member states.

Impact

Our CTCN will be impact driven, striving for the best possible outcomes in view of developing countries' sustainable development goals and mitigation and adaptation needs, through:

1. Broad based and accelerated transfer and scaled-up deployment of priority adaptation and mitigation technologies in developing countries
2. Reduced GHG intensity and climate vulnerability of key economic sectors
3. Improved technology and innovation capacities in developing countries throughout the technology cycle
4. Accelerated mobilisation of private and public investment in adaptation and mitigation, and
5. Enhanced collaboration and peer learning on technology transfer and deployment across and within developing countries.

B2 Technical capabilities *(see also: Annexes C7 and C9)*

The Consortium has deep experience and expertise with the full range of issues associated with the development and transfer of technologies for adaptation and mitigation under the UNFCCC. Seven of the thirteen partners are technical institutes and development organisations located in developing countries and are leaders in their regions on climate technology issues, while the other partners have extensive experience working with developing countries on the development and transfer of technologies. The partners have rich expertise that extends across all relevant sectors, the technology life cycle, types of activities, and forms of regional, sub-regional, and global collaboration required to meet developing country needs for development and transfer of adaptation and mitigation technologies.

B2a Understanding of the development and transfer of technologies including challenges and opportunities

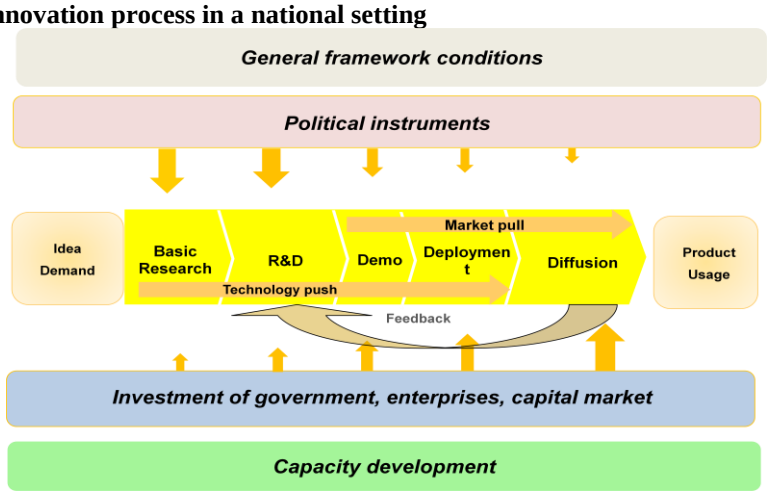
The Consortium believes that technology cooperation by any developing country with outside partners must be orientated towards the country's own sustainable development and must produce economical, ecological and social benefits for the country. Efforts need to be carefully targeted and country specific approaches are required even if there may be some commonalities across groups of countries and valuable opportunities for South-South collaboration and cross-country learning.

UNEP and its partners have been engaged with the UNFCCC process since its creation and have a clear understanding of how support for development and transfer of technologies under the UNFCCC has evolved from Article 4.5, which recognises that developing country parties need assistance to implement provisions of the Convention. The details are elaborated in subsequent decisions of the Conference of Parties, most comprehensively in the 'Framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention'[1]. Decisions on the Technology Mechanism – taken at Cancun and Durban and derived from the Copenhagen Accords – are a continuation and advancement of this Framework. Consequently, decision 1/CP.16 confirms the critical role of the development and transfer of adaptation and mitigation technologies and highlights nationally determined technology needs and actions spanning the technology life cycle, from research and development through demonstration, deployment, diffusion, and transfer of technology.

The CTCN is one of several Convention technology initiatives. Technology development and transfer forms part of the vision for long term cooperative action "to guide the policies and actions of all Parties while taking into consideration the different circumstances of Parties in accordance with the principles and provisions of the Convention ... in a balanced, integrated and comprehensive manner to enhance and achieve the full effective and sustainable implementation of the Convention."[2]

Parties have identified 'the need for effective mechanisms, enhanced means, appropriate enabling environments and the removal of obstacles to the scaling up of the development and transfer of technology to developing country Parties'.[3] These needs translate into three objectives: support for technologies for mitigation and adaptation, ensuring technology needs are nationally determined and seeking ways of accelerating action at different stages of the technology cycle, for example through a robust national technology innovation system reflecting the process illustrated in Figure 1.

Figure 1 Technology innovation process in a national setting



Institutionally, the COP has established a Technology Mechanism comprising two components – the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) – each with policy and operational functions. The Technology Mechanism has been tasked with addressing seven major challenges: low capacities in R&D and demonstration, low levels of deployment and diffusion of environmentally sound technologies (ESTs), low levels of public and private investment, difficulties with soft and hard technologies for adaptation and mitigation, inadequate climate change observation and information systems, weak national systems of innovation and technology innovation centres and inadequate national technology planning capacity for mitigation and adaptation.[4]

[1] FCCC/CP/2001/13/Add.1
[2] Decision 1/CP.16 page 2 para 1
[3] Decision 1/CP.16 page 18, para B
[4] Decision 1/CP.16 page 19, para 120

These challenges were elaborated in a 2010 working paper of the UNFCCC Expert Group on Technology Transfer (EGTT). The working paper drew on examples to illustrate the range of barriers to technology development and transfer. Barriers include: i) a lack of performance data, systems demonstrations and tools for techno-economic assessment; ii) a lack of knowledge on accessing project finance; iii) inadequate capacity to prepare technology proposals to meet the standards of international financing institutions; iv) low levels of application of new agricultural technologies and practices; v) lack of opportunity in the energy sector to share technology standards, test procedures and simulation models; and vi) lack of opportunity to share knowledge on energy efficiency. Several consortium partners were involved in preparing background material for this paper and other expert papers commissioned by the EGTT, reflecting their recognised expertise on technology transfer issues.

Challenges and opportunities are clearly region, country, sector and technology specific, reflecting different levels of economic development, technical and industrial capacity, experience in climate change mitigation and adaptation activities, and other factors. The understanding of technology and technology transfer differs significantly between adaptation and mitigation, in part because adaptation to climate change has only recently received due attention as a priority and national and international experience and expertise on adaptation is more limited. This will be a specific challenge for the CTCN. Our group has been carefully assembled to ensure that partners have the necessary expertise to contextualise approaches to: i) sectors such as agriculture, industry, energy, forestry, transport, health, water, urban development, and coastal protection; ii) unique and distinct approaches for adaptation and mitigation technologies; iii) differences in needs and approaches for different regions of the world and stages of development; and iv) cross-cutting topics, such as integrating policies, national innovation systems, technology needs assessment and planning, financing and investment, collaboration with the private sector, and intellectual property management.

There are several dimensions of intellectual property rights that can influence the success of technology development and transfer under the UNFCCC. Countries may benefit from capacity support and knowledge sharing on approaches for developing licensing agreements or other forms of IP exchange in a manner that allows in-country businesses to adapt and commercialise technologies and fosters technology diffusion that benefits local businesses and consumers. In some cases, there may also be an opportunity to strengthen IP protection to help attract private investment, foster developing country led technology development, and stimulate international collaboration on technology innovations. The CTCN may assist developing countries in dealing with IPR and licensing issues on a demand driven basis.

UNEP, UNIDO and the other consortium partners have long-standing experience on activities relating to technology transfer in the area of climate change and related areas, experience that has given us a thorough understanding of the challenges that make transfer an imprecise science. Examples include UNEP's role as Multilateral Implementing Entity of the Adaptation Fund, and UNEP's and UNIDO's role as Implementing Agencies of the GEF the Montreal Protocol Multilateral Fund. Regarding the latter, UNEP currently has projects in 121 countries directly or indirectly support the transfer of technology under the Montreal Protocol, which cover integrated technology and policy national planning, technical assistance, capacity building, and institutional strengthening. Similarly, UNEP, URC, AIT, ENDA and Bariloche are supporting 36 countries in preparing national technology action plans for adaptation and mitigation that reflect national priorities. This work includes analysis of specific national and international barriers to technology transfer and provides recommendations on how countries can deal with opportunities and constraints.

As described in subsequent sections, our Consortium is able to assist countries address issues across the technology cycle. Some of our partners conduct basic research, while other focus more on adapting technologies for use in local conditions. We understand how technology, policy, and financing must intersect to achieve transfer, the different roles of governments and the private sector, and the importance of strengthening personal and institutional capabilities to deal with climate technology issues in a comprehensive manner. This broad knowledge of technology in a development context – and its specific place in the UNFCCC – equips our Consortium particularly well to manage the CTC.

B2b Breadth and depth of expertise relating to subject areas, activities and roles

Our Consortium consists of institutions that are internationally recognised for their expertise on adaptation and mitigation issues, expertise that has been developed through in-depth engagement in and with developing countries in all regions of the world. This experience is illustrated in Table 1 and Figure 2. As a group we have extensive working relationships with the community of expert institutions around the world in all relevant sectors, and can quickly and efficiently facilitate engagement of this broader community in the Network, under the guidance of the Advisory Board. Our group has deep experience in working across the spectrum of technology transfer in partnership with developing countries, including capacity building programmes and collaboration on research and development, demonstration, deployment, diffusion, and transfer for adaptation and mitigation technologies. Much of this work involves direct engagement with the private sector.

As shown in Table 1, every one of our thirteen partners has at least 20 years of experience implementing collaborative projects in developing countries, experience that is directly relevant for the key roles and functions of the CTCN defined in Decision 1/CP.16. This includes assisting countries with technology needs assessments; managing responses to these needs; providing capacity building and support for deployment of technologies; stimulating collaborative technology development and transfer projects; facilitating cooperation networks, partnerships, training, and twinning arrangements; developing tools and policies; codifying and sharing best practices; and managing other supporting activities. Our experience extends as well to the areas of facilitating access to finance, entrepreneur development, technology licensing and IP management, monitoring, and evaluation.

Table 1 Consortium partner experience – activity types, length of experience, and examples

Consortium partner	Manage responses on technology needs, training and deployment of existing technology	Stimulate collaborative projects on technology development and transfer	Facilitate a Network for cooperation, partnerships, training, twinning, tools, policies, and best practice	Manage other supporting activities (financing, entrepreneur development, IP management, monitoring and evaluation)
UNEP	>30 yrs – RE promotion, including through the Mediterranean Renewable Energy Programme; en.lighten global project on efficient lighting	>30 yrs - waste plastics fuel technology in Thailand and the Philippines; Partnership for Clean Fuels and Vehicles	>25 yrs – regional Climate Change Adaptation Networks in Asia and Latin America	> 25 yrs - Rural Energy Enterprise Development Initiative supporting more than 50 new clean energy enterprises in developing countries
UNIDO	>25 yrs - training and capacity building for cleaner production and resource efficiency	>20 yrs - establishing energy technology centres	>15 yrs - global network for Resource Efficient and Cleaner Production	>10 yrs - Investment and Technology Promotion Offices Network
AIT	> 35 yrs - Technology Needs Assessments in Asia and Europe for climate change mitigation and adaptation	>40 yrs -Asian Regional Research Programme on Environmental Technology	>40 yrs - Southeast Asia Urban Environmental Management Applications project	>40 yrs - Wetlands Alliance programme: local development and management, institutional policy change, and securing resources
Bariloche	>40 yrs - technical assistance on energy efficiency and related technologies	>3 yrs - Technology Need Assessment Project in nine LAC countries	>20 yrs - Training activities, networks participation, policies development in LAC	>20 yrs – Analysis, assessment and evaluation PV installation programme in Rio Negro province, Argentina
CSIR	>65 yrs – analysis of potential coastal zone climate change impacts and possible response options	>25 years - , in partnership with industry, R&D and demonstration of photovoltaics, including dye solar cells	>20 years – founder of the Southern Education and Research Alliance (SERA) encompassing education, research and technology transfer infrastructure and competence	>20 years - systematic monitoring and evaluation of the impact of CSIR R&D on society and the economy
TERI	> 25 yrs - planning and assistance for promotion of biomass gasifiers and energy efficiency in Uganda	> 30 yrs - developing and promoting EE and RE technologies in small scale industries in India	> 20 yrs - promoting RE as member of Organizations for Promotion of Energy Technologies (OPET) in five South Asian countries	> 35 yrs- Lighting a Billion Lives campaign to provide lighting and energy services in rural areas
ENDA	>30 yrs - promoting energy technologies for electrification and supply of clean bioenergy technologies and forest management practices	>3 yrs – ENFIBIO: removal of non-technological barriers to encourage SME energy efficiency by the rational use of biomass	>20 yrs - networks for climate change knowledge sharing, coordination, tool development and training with UNITAR	>10 yrs - AREED programme for SME business development in five African countries; investment and financial flows assessment (IFF) support to three African countries
CATIE	>35 yrs - carbon cycle management for coffee, cattle	>20 yrs - adaptive forest, watershed, and water resource management; low emission cattle farming	>10 yrs - Iberoamerican Regional Network of Model Forests	>20 yrs - monitoring and evaluation of forest management; small holder farming business development
ICRAF	>25 yrs; training in agroforestry practices in developing countries	>25 yrs; collaborative projects on natural regeneration: Zambia, Mali and Senegal	>20 yrs; established the Alternatives to Slash and Burn (ASB) network	>30; development of methodologies for monitoring and evaluating agroforestry technologies

GIZ	>30 yrs - RE for rural development; waste management and other climate technologies for German ODA	>30 yrs - renewable energies, ozone depleting substances, waste management, EE in 30 countries	>8 yrs - EU Energy Initiative Partnership Dialogue facility	>20 yrs - public-private partnerships through over 30 projects involving climate relevant technologies
ECN	>20 years - CCS workshops and presentations in Botswana	>20 years - support to PV manufacturing industry China	>10 years - technology deployment capacity building in Indonesia	>10 years - monitoring of PV systems in the Philippines
NREL	>25 yrs - pilot TNA programme for CTI and US Government	>30 yrs - advanced biofuels development with Brazil, China, India, others	>25 yrs - Clean Energy Solutions Center with 10,000 users to date	>30 yrs - enterprise growth forum collaboration; business plan coaching and investor matchmaking
URC	>20 yrs - TNA and TAP programme in 36 countries globally	>20 yrs - adaptation and vulnerability reduction in 11 countries in Sub Saharan Africa	>15 yrs - Global Network on Energy for Sustainable Development	>12 yrs - African Rural Energy Enterprise Development start-up support

As a result of this long engagement, our institutions have extensive experience and related capabilities covering all phases of managing technology transfer and diffusion projects. Table 2 presents a few selected examples of these experiences that are directly relevant for the functions of the CTCN, such as receiving and responding to requests, identifying Network members for responses, refining and prioritising requests with national counterparts, and responding to requests with appropriate services.

Table 2 Selected examples of project management experience of consortium partners relevant for the CTCN

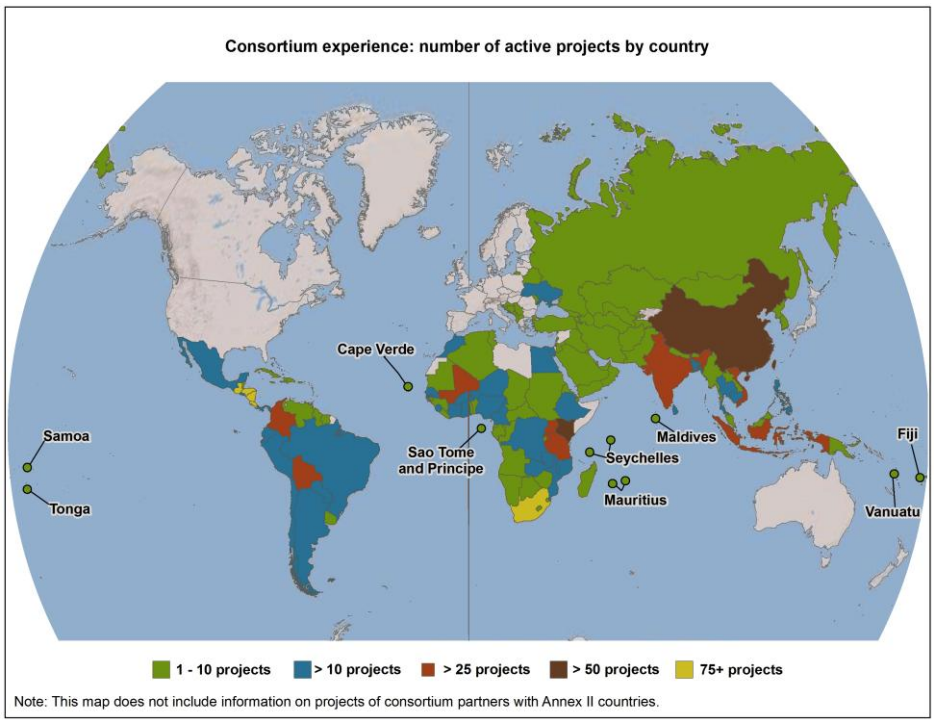
CTC Activity	**Asian Regional Research Programme on Environmental Technology (AIT with 21 national research institutions (NRIs) in eight countries)**	**Clean Energy Solutions Center (NREL, UN-Energy, and Clean Energy Ministerial initiative with users in 150 countries)**	**Tropical Forest and Climate Change Adaptation (CATIE with Honduras, Costa Rica, Nicaragua)**	**Improving Energy Efficiency of MSME in India (TERI-SDC Partnership)**	**TRANSfer - Towards climate-friendly transport technologies and measures (ECN, GIZ, and Indonesia on transport NAMAs)**
Step1: Managing the process of receiving and responding to requests from Nationally Designated Entities (NDEs)	NRIs submit requests to AIT experts, who endorse to Programme Coordinator for approval	Countries submit requests to NREL moderator who responds within 1-2 days	Multi-stakeholder workshops to identify priority issues	MSMEs submit requests to TERI moderators who seek additional information/data from the MSMEs if needed	Indonesia Ministry of Transport submits request for policy assistance to ECN and GIZ, which respond with initial proposal
Step 2: Identifying Network partners for responses	Established team of 6 experts from 8 countries organized by research theme	Established team of > 15 clean energy policy experts by topic from all regions	Established teams of regional and local experts from various government agencies and academia	Established cross-sectoral team of local and international experts, industrial associations, and academia	Identified and established team of national and international transport and climate change experts
Step 3: Refining and prioritising requests with NDEs	Principal investigators work with country partners to refine and prioritise requests for Programme Coordinator approval	Moderator works with countries to qualify requests, define assistance needed, and assign to expert	Conceptual research at regional scale; applied research and development of responses at national and local levels)	NDEs informed about progress and consulted for overall advice and support; joint decisionmaking approach	Together with MoT and climate change related government bodies, appropriate policies and steps towards developing NAMAs identified and agreed
Step 4: Responding to request with appropriate service (e.g. training, TA, info product)	In collaboration with NRIs, AIT experts provide TA, training when needed	Under guidance from NREL, experts provide technical assistance, training, and analysis	Staff and local stakeholders participate and learn from project; best practices shared; training courses designed	TERI and partners identify, design and develop technical solutions, provide TA, training and capacity building	ECN, GIZ, local consultants and ministries provide hands-on work, studies, training, and policy support
Step 5:	AIT experts along	NREL oversees	CATIE oversaw	TERI oversees the	ECN and GIZ

Supervising substantive work by Network members; monitoring of results	with Resource Persons review and evaluate progress	assistance provided by more than 30 international organizations; monitors and reports to donors	overall delivery and quality of services provided	overall delivery and final quality of services provided; secures feedback from users	oversee the delivery of service in collaboration with Partnership on Sustainable, Low Carbon Transport

B2c Demonstrated capacity to build capacity and facilitate technology transfer and diffusion

As shown in Figure 2, the consortium partners are engaged in approximately 1500 activities related to climate technologies in over 150 countries. These activities cover the broad range of sectors and technology development, demonstration, deployment, and transfer issues that will need to be addressed by the CTCN. This robust portfolio of current climate change adaptation and mitigation technology projects gives us a strong working relationship with a large number of national institutions. Our Consortium would be able to leverage resources through these complementary projects. Annex C7 provides more detailed information on the relevant experiences of the consortium partners.

Figure 2 Current engagement of consortium partners in technology transfer projects



Our Consortium is working on a wide range of capacity building programmes with developing countries, engaging with wide groups of stakeholders including public and private entities and civil society. This ranges from collaboration to strengthen educational curriculum and workforce development, intensive training programmes, personnel exchanges and fellowships, and peer learning forums, through to workshops, networks, and web forums.

The two UN organisations forming the Core Centre both have long experience in managing programmes that support technology transfer to developing countries. This experience is directly applicable to establishing and operating the CTCN. Two examples illustrate this point.

UNEP: As an Implementing Agency of the Montreal Protocol Multilateral Fund, UNEP has since 1991 implemented 1556 projects in developing countries valued at US$219m (as of 2011). Currently, UNEP is implementing 413 such projects in 121 developing countries. All projects directly or indirectly support the transfer of technology under that MEA, and cover issues such as integrated technology and policy national plans, technical assistance, capacity building and institutional strengthening. Alongside these individual projects, Compliance Assistance Programme (CAP) teams based in UNEP's regional offices provide technical and policy support to 146 developing countries through Regional Networks of Ozone Officers, backed by a Global Information Clearinghouse function operated in UNEP's Paris-based Division of Technology, Industry and Economics.

UNIDO: The Green Industry initiative promotes the establishment of specialised enterprises in the environmental goods and services sector, and supports entrepreneurs in assuming the risks of launching businesses in that sector. The

initiative removes gaps in the industrial sector's knowledge and skills set by partnering with institutions of higher learning. It assists governments in developing green technical and managerial knowledge and skills in enterprises, and develops public-private partnerships in the environment field.

B2d Demonstrated capability in international multi-stakeholder cooperation (including the private sector)

All of the consortium partners are experienced in fostering robust partnerships with stakeholders across government agencies, the private sector, academic and technical institutes, community groups, and international institutions. The following section provides selected examples of our experience in fostering cooperation among stakeholders.

- UNIDO and UNEP manage a global network of National Cleaner Production Centers (NCPCs), which use a multi-stakeholder approach and involve different levels of industry, government, academia and the financial sector to bring about Resource Efficient and Cleaner Production approaches by businesses and other organisations. Some of the 42 NCPCs in four regions are hosted by private sector associations. Activities encompass networking and peer learning; efforts aimed at creating an enabling environment for RECP; and capacity building for the management, transfer, adaptation, and replication of Environmentally Sound Technologies (ESTs). The NCPCs define their strategies in consultation with the private sector through various mechanisms, including consultation and private sector representation in NCPC governance. The private sector contributes approximately one quarter of the operating budget through fee-for-service arrangements.

- UNEP's GEF-funded en.lighten initiative is accelerating a global market transformation to environmentally sustainable lighting technologies through a coordinated global strategy and technical support to developing countries. Philips, Osram, and the National Lighting Test Centre are en.lighten partners helping bring about the phase-out of inefficient lighting products, saving consumers and countries millions of dollars in energy costs.

- The Low Emission Development Strategy Global Partnership (LEDS GP) brings together NREL, ENDA, TERI, URC, ECN, GIZ, UNIDO, and 35 other organisations in developed and developing countries and multilateral institutions. An additional 28 organisations in the Coordinated Low Emissions Assistance Network (CLEAN) coordinate efforts with the LEDS GP. Its purpose is to coordinate donor and technical assistance for LEDS in developing countries, deliver harmonised capacity building and peer learning, provide a means for members to collaborate on enhanced technical resources, and document and share best practices. NREL provides the secretariat for the initiative while other members lead or contribute to specific collaborative tasks. The private sector participation in active in both networks, particularly in finance mobilisation through the LEDS GP.

- AIT houses the Global secretariat of IPLA, an international partnership strengthening capabilities of local authorities in sustainable waste through collaboration across governments, businesses, the financial sector, and civil society. IPLA includes national and local authorities, technical institutes, and NGOs from over 30 countries, 20 private sector companies, nine regional and sub-regional secretariats, and eight UN and other international organizations.

- Ecoadapt strengthens adaptive capacity of local networks for natural resource management and distribution under changing climate conditions. Consortium partner CATIE provides with CIRAD overall coordination of the initiative, while SEI, IUFRO, and FFLA provide scientific backstopping. The private sector is involved in various committees.

- GIZ is the main sponsor and promoter of the Household Energy Network, HEDON, which counts among its 4000 members private and public sector entities, academic institutions, Practical Action; Engineers Without Borders UK, the Shell Foundation. HEDON provides information sharing, learning, networking, and facilitation of partnerships for household energy solutions in developing countries.

- TERI provides critical inputs and advisory support to the South Asia regional secretariat of the Renewable Energy and Energy Efficiency Partnership (REEEP), which has 50 organisations from developing and developed countries in the regional and 400 partners – including 45 governments – globally. All members help define regional programming needs and strategy for regional action plan. TERI provides regulatory and policy development; promotes innovative finance and business models; fosters stakeholder engagement by identifying regional RE and EE priorities; coordinates donor and secretariat functions, and performs regional M&E. Private sector stakeholders help define needs, and are involved in identifying risk mitigation tools, creating innovative financial/business models, and identifying market development needs.

- UNEP and UNIDO are members of the Partnership for Clean Fuels and Vehicles, for which UNEP serves as Global Secretariat. The partnership's 90 members include governments, civil society, IGOs, academic and research institutions, and 28 members from the fuel, automotive OEMs, and parts sectors. The PCFV assists developing countries to reduce vehicular air pollution through the promotion of lead-free, low sulfur fuels and cleaner vehicle

standards and technologies. It has been successful in its original goal of eliminating use of lead as a motor fuel additive, and is moving aggressively on efforts to reduce sulfur levels as a pre-condition to cleaner and more efficient engines in developing countries.

- UNEP, GIZ and UNIDO are members of the Renewable Energy Policy Network for the 21st Century (REN21), which UNEP established and for which UNEP and GIZ jointly administer the secretariat. REN21 stakeholders are companies, governments, NGOs, IGOs, financial institutions, and others concerned with advancing renewable energy policy. Six members of the REN21 steering committee come from the private sector.

In addition to these examples, other examples further demonstrate our rich experience in engaging with the private sector to advance development, commercialisation, diffusion, and investment in climate adaptation and mitigation technologies. Additional examples of this type of collaboration are:

Private Sector Technology Development and Deployment Cooperative Agreements are used by ECN, NREL, and URC for in-depth collaboration with a large number of companies. These agreements cover the development, demonstration, commercialisation and deployment of climate change adaptation and mitigation technologies.

Many consortium partners provide entrepreneur development and financing support to small companies in developing countries. For example, over the past 15 years, NREL has conducted industry growth forums both in the US and in developing countries that have enabled clean energy companies around the world to obtain over US$2.5bn in financing, while also providing expert advice to these companies on business planning and finance.

UNEP has been working with the private sector for over 30 years and organizes annual consultative meetings with more than 50 international industry and trade associations for discussions of sustainable development opportunities. UNEP's programmes include: the Climate Finance Innovation Facility (CFIF), which provides developing country financial institutions with technical assistance and funding to support finance for technology dissemination; the Seed Capital Assistance Facility managed jointly by UNEP, ADB, and AfDB and providing provide support to private equity funds for undertaking early-stage investments in clean energy projects and companies; and the UNEP Finance Initiative, a global public-private partnership between UNEP and the financial sector that identifies, promotes, and realises the adoption of best environmental and sustainability practices, inclusive of climate technologies, at all level of financial operations via various activities, including expert training.

B3 Technical approach

As described in the introduction, our proposal is for a CTC with a Core Centre managed by UNEP in partnership with UNIDO that is supported by a Technical Resource Pool comprising the other consortium partners.

The proposal to use a consortium approach to the CTC has been considered at length. In our view the proposed approach is the best way to manage a potentially large number of very different requests for assistance coming through NDEs in an efficient and cost effective manner. By focusing the Core Centre on managing the overall process and performing preliminary screening functions, the more sector and subject specific analysis and elaboration can be provided in a flexible manner through the regional and technical partner institutions making up the Technical Resource Pool. Concerns about scale and speed of delivery are addressed by having an adequate number of experts available who can be easily accessed when needs arise. This proposed approach to the CTC will also allow for efficient engagement of regional technical institutions in assisting NDEs in refining requests. The expertise available in the Technical Resource Pool will enable fast responses to small requests, where tendering tasks out to the wider Network would be slow and unwarranted. Finally the consortium partners may be directly engaged in facilitating a fast start of the CTCN by seconding short term staff to the Core Centre during the initial period.

Small expert teams that may be established will work with the NDE will be solicited from the partners in the Technical Resource Pool. As a basic principle any team responding to a request will have a regional institutional lead complemented by one or two topical experts in the relevant field coming from other partner institutions.

B3a Overall vision, organisational and administrative structure and ability to prioritise requests *(see also: Annex C1)*

Vision

Our vision of the CTC is that, jointly with the Network, it will be a driving force for a sustainable low-carbon and climate resilient future through a pioneering approach to accelerating technology development and transfer. It will be based on local and national ownership and country driven needs and will focus on building and strengthening developing country capacity to address technology challenges and opportunities for adaptation and mitigation. It will

assist countries in advancing priority technologies through the life cycle of technology development, demonstration, deployment, and diffusion including accessing necessary know-how, information, capacity building and finance for meeting local development needs. This will include a specific focus on facilitating uptake and adoption of technologies suitable for local conditions. The CTCN will be managed through a lean Core Centre supported by regionally distributed consortium partners selected on the basis of flexibility, technical competency, cost efficiency, inclusiveness and impartiality.

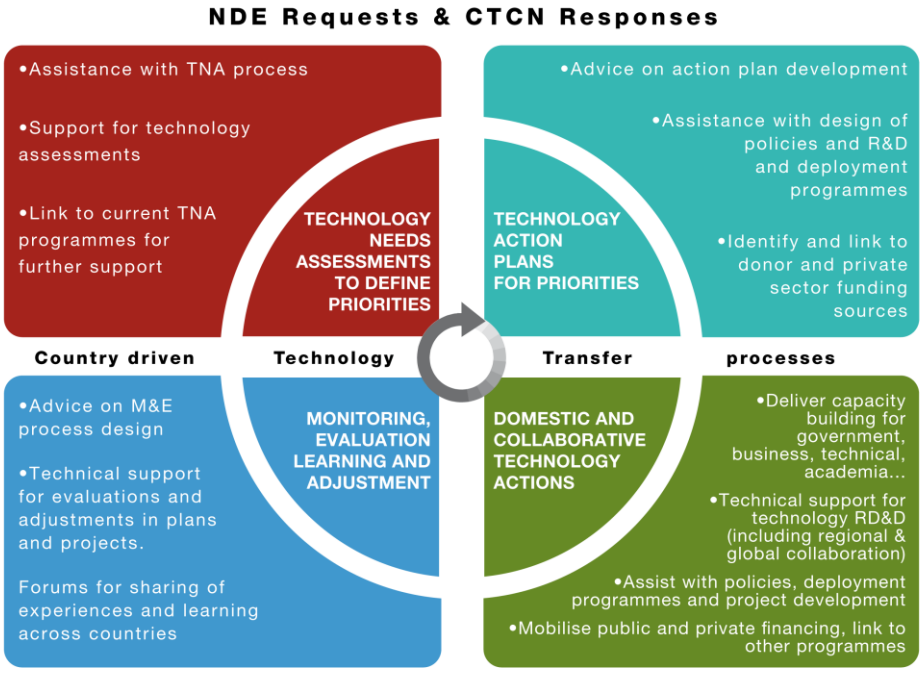
Our CTCN will, as described in section B1, be impact focused, striving to achieve outcomes that meet developing countries' sustainable development goals and mitigation and adaptation needs, through:

1. Broad based and accelerated transfer and scaled-up deployment of cost-effective, priority adaptation and mitigation technologies in developing countries
2. Reduced climate vulnerability and GHG intensity of key economic sectors
3. Improved technology and innovation capacities in developing countries throughout the technology cycle
4. Accelerated mobilisation of private and public investment in adaptation and mitigation, and
5. Enhanced collaboration and peer learning on technology transfer and deployment across and within developing countries.

Organisational and administrative structure of the Climate Technology Centre

The organisational and administrative structure of the CTCN must enable delivering the multifaceted services and functions specified in the Call for Proposals and relevant COP decisions. Among them, efficiency and effectiveness in receiving and responding to a potentially large volume of highly diverse developing country requests is critical. The success of the CTCN in realising its mission and vision, however, goes beyond the handling of individual request and ultimately depends on the ability to nurture and support the creation at local, national, regional and global level of enabling environments for all steps in the technology cycle, where capacity building, access to technologies and financing and private sector involvement are critical. Figure 3 shows how the CTCN can support developing countries in accelerating development and deployment of priority adaptation and mitigation technologies with speed and at the scale needed to meet climate and development goals.

Figure 3 Possible requests from Nationally Designated Entities and CTCN responses



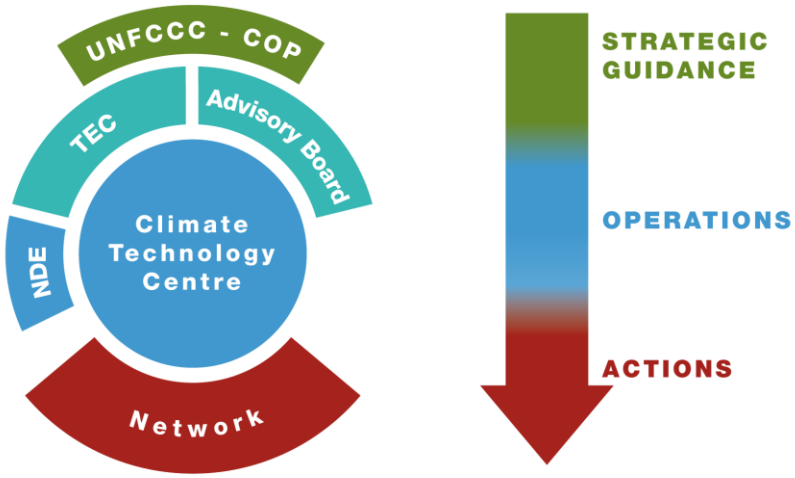
The proposed organisational and administrative structure of the CTCN will build on a number of principles that consortium partners share, including:

- A strong focus on making the CTCN demand-driven combined with a realistic understanding of what the Network and consortium partners can offer;
- Transparency on CTCN operating modalities and prioritisation criteria ensured by formal communications and direct feedback to proponents;

- Supporting leadership by developing countries by engaging developing country centres of excellence in design and delivery of CTCN services where possible and fostering peer-to-peer learning and collaboration, with the aim of building regional and national expertise and capacity;
- Bringing a consortium culture that is inclusive amongst the partners, quick acting, lean and flexible, strongly represented regionally, able to access a wide range of financing channels and contribute in-kind resources where possible, while remaining independent of single region or single sector interests;
- Involving the private sector including finance institutions where relevant in the context of the technology cycle and ability to mobilise private sector partnerships and investments where desired by countries.

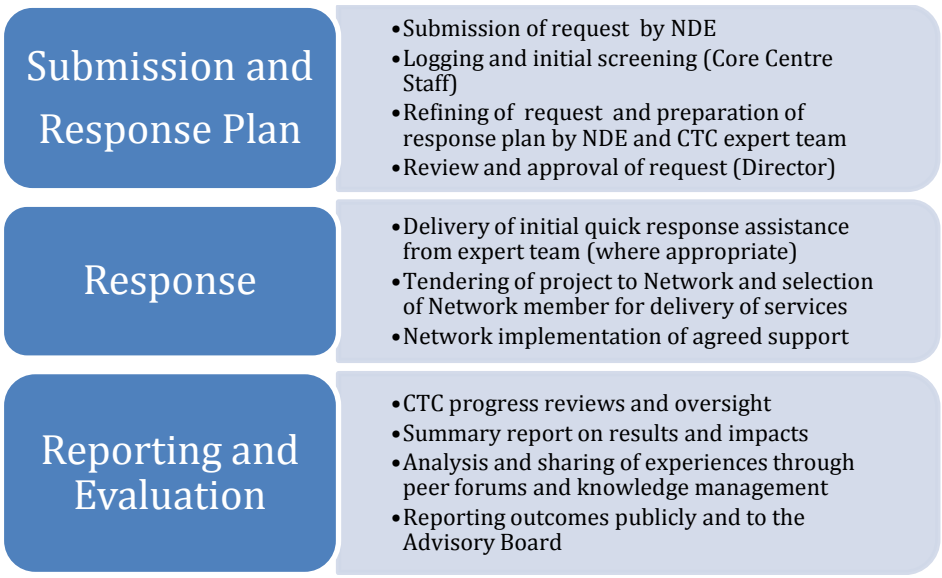
The apparent paradox of complexity of services and functions and the need for a lean, flexible, cost-effective organisational structure can be addressed by structuring the CTCN around a small and cost-effective Core Centre led by UNEP in partnership with UNIDO supported by a flexible Technical Resource Pool of experts constituted by eleven leading international institutions. The proposed organisational structure of the CTCN is described in more detail in Annex C1 while the principal structure is illustrated below in Figure 4.

Figure 4 Principal structure of the proposed CTCN



In order to illustrate how our consortium partners envisage the CTCN working, the principal approach to handling requests from NDEs is presented in Figure 5; an elaborated version appears in Annex C6. The process description only addresses the basic country-driven services reflecting the first of the three functions for the CTCN presented in B1 above, that is, Management of Requests and Responses in the Technology Cycle.

Figure 5 Management of requests and responses in the Technology Cycle – delivery approach



The individual steps in the service delivery process will be governed by specific timelines, so the proponents can in a transparent manner understand the steps and know when to expect what kind of response from the CTC. This can be done by creating an on-line tracking system for requests. For example, it might be agreed with the Advisory Board that the initial screening and appraisal shall take no more than two weeks, with another two or three weeks for the technical team to work with the NDE elaborating and refining a prioritised request. Similar timing will be elaborated for the other steps in the process as far as possible, allowing for flexibility where this is required.

This core function of the CTCN will be supported by broader outreach and awareness activities and a knowledge management system that enables learning and enhanced response quality over the life of the CTCN, reflecting the two other functions.

B3b Demonstrated long term commitment to host the Climate Technology Centre

Realising the mission and vision of the CTCN requires long-term engagement and commitment, our Consortium is fully able and committed to providing the required long-term framework for making the CTCN a success.

Since no direct guarantee can be provided, the best way of illustrating this commitment is through the significant direct and in-kind contributions the consortium partners are bringing and by providing examples of long term commitment in other activities.

Climate change is one of UNEP's six overarching organisational priorities in both its current and upcoming Medium Term Strategy approved by the UN General Assembly. The organisation has been engaged in climate change issues since 1980, with numerous examples of long term support to developing countries on climate issues. UNEP and WMO supported the creation of the Intergovernmental Panel on Climate Change (IPCC), and have jointly managed its secretariat. UNEP helped create the GEF and has been a GEF implementing agency for almost two decades, where its management of enabling activities relating to national communications, NAPAs, and TNAs have many elements that benefit the CTCN in terms of learning and capacity building. Outside the climate area UNEP has a similarly long history of engagement in technology transfer initiatives. As mentioned in section B2, UNEP has been an implementing agency of the Montreal Protocol Multilateral Fund since 1991, and provides the institutional home for the Multilateral Fund secretariat. UNEP has over the last 20 years operated ten Regional Networks of Ozone Officers assisting National Ozone Units in 148 developing countries, the first of these dating to 1992. Similarly UNEP has facilitated the Global Network on Energy for Sustainable Development since its creation in 2002 as a so-called Type II initiative at the World Summit on Sustainable Development. To promote the transfer of climate technologies, UNEP has started building regional networks of climate change focal points.

UNIDO's core mandate is to promote sustainable patterns of industrial development. Environmental issues have been prominently featured in the organisation's activities for more than two decades. Climate change related issues form part of one of three thematic priorities. UNIDO considers the development and deployment of appropriate and modern technologies as a key issue driving its interventions, and has a long history of providing services designed in such a way as to address the specific needs of these countries according to their respective stage of technological development. UNIDO's long-term vision statement and new medium-term programme framework identify environmental degradation and climate change as major global challenges to be addressed in order to meet goals set forth by the international community. Endorsed by member states, this strategic document reaffirms UNIDO's commitment to climate change issues and the development and transfer of technology, thereby providing the organisation with a clear mandate that aligns with the mission of the CTCN. UNIDO's senior management is providing its full support to this undertaking.

The UNIDO-UNEP NCPC network, mentioned above, dates back to the mid-1990s and is an excellent example of a cooperative commitment, illustrating the two organisations' ability to implement joint long-term programmes.

The consortium partners have similarly, over several decades, demonstrated their capability and commitment to enhancing action on climate change mitigation and adaptation and to stimulating technology development, transfer and cooperation as an integrated part of such actions, but space constraints prevent elaboration here. Annex C7, however, provides detail.

B3c Feasibility of the proposed approach and methodology for establishing the Network

Parties determined through UNFCCC decision 1/CP.16, para 123 that the Network will be central to the functions of the CTCN. Considering the wide range of adaptation and mitigation expertise required across sectors, regions and sub-regions and technologies, it is clear that a wide and diverse Network of regional and national institutions will be required as a delivery mechanism that can respond effectively and efficiently to requests from developing countries.

A comprehensive list of potential members of the Network would include a wide variety of different types of institutions ranging from regional climate technology centres and networks to intergovernmental, international, regional and sectoral organisations, partnerships and initiatives that could contribute to technology deployment and transfer. Also included on the list would be research, academic, financial, non-governmental, private-sector and public-sector organisations, and partnerships. Several approaches can be taken to organising the Network, including establishing networks for each of the key climate change adaptation and mitigation sectors, a network focused on private sector partnership and financing support, and a network of existing climate change and development programmes and donor institutions that could assist in coordinating CTCN activities with these programmes. Other organising approaches also merit consideration as the CTCN prepares recommendations on the Network structure for the Advisory Board.

The Advisory Board of the CTCN is responsible for approving criteria for the structure of the Network and designating organisations as members of the Network. The CTCN host, however, will have to develop and propose practical and pragmatic criteria for establishing and supporting the Network. It is reasonable to expect that the Advisory Board will adopt an approach of gradual expansion and increasingly sophisticated structuring of the Network, reflecting the expected build up of demand and underlying financing for activities.

Some immediate criteria we suggest for Network membership can be surmised from UNFCCC practices in other areas:

- Regional and sub-regional coverage
- Adaptation and mitigation expertise
- Sector expertise
- Balance among relevant types of stakeholders – government, industry, science, NGOs, research, finance
- Capacity building and knowledge management capabilities
- Experience with relevant phases of technology development and transfer in developing countries
- Ability to provide objective and neutral support to developing countries and to be responsive to country needs
- Proven record of cost-effective and high quality delivery of technical assistance and capacity building services.

These criteria will be elaborated further when the CTCN is operational, and provided to the Advisory Board.

While preparing this proposal the consortium partners have solicited views of a number of potential Network members. Based on this assessment we believe it is prudent to create a Network with different categories that reflect members' mandates, structure, governance, areas of expertise, and other criteria. We have also been approached by a number of organisations and institutions that would be interested in providing services as part of the CTCN. A full listing is not realistic but a few selected examples are described below to illustrate the potential range of Network members that have approached our Consortium. These interest statements in no way preclude decisions by the Advisory Board, but the examples illustrate the broad range of contacts of consortium partners and how our existing links and strong relationships would allow for rapid engagement with Network members, a link to their own initiatives and networks, and consequently a quick start to for the CTCN.

The Consultative Group on International Agricultural Research (CGIAR) a global partnership of organisations engaged in research for sustainable development with their funders. The work is carried out by 15 members of the Consortium of International Agricultural Research Centres, in close collaboration with hundreds of partner organisations, including national and regional research institutes, civil society organisations, academia, and the private sector. The involvement of ICRAF as a partner in this proposal and good links through the CGIAR Fund office in the World Bank, provide a means to quickly engage CGIAR member centres in the Network, particularly on adaptation responses.

The Climate and Development Knowledge Network (CDKN) provides demand-led research and technical assistance, channelling the best available knowledge on climate change and development to support developing country policy processes. CDKN is managed by an alliance led by PricewaterhouseCoopers LLP (PwC), and including Fundación Futuro Latinoamericano (FFLA), International NGO Training and Research Centre (INTRAC), Leadership for Environment and Development (LEAD) International, the Overseas Development Institute (ODI), and SouthSouthNorth (SSN).

The University of the West Indies and University of the South Pacific would provide links to expertise in number of Small Island states that is particularly relevant for coastal vulnerability and adaptation support plus decentralised energy systems. The African Regional Centre for Technology (ARCT) in Senegal can as a focal point of 31 African countries in the field of science and technology and similarly provides a link to regional African expertise.

The World Intellectual Property Organisation (WIPO) brings a completely different kind of expertise. WIPO would be able to provide valuable support to the CTCN in areas such as technology partnerships, access to technology information, technology reports provided through its Patent Landscaping Reports Services, capacity building underpinned by training and awareness-raising activities within the framework of WIPO's Technology and Innovation

Support Centres (TISCs), and mediation and possible dispute resolution. As the competent body within the UN system for intellectual property issues WIPO could provide authoritative expertise in this area.

The World Business Council on Sustainable Development (WBCSD) is an organisation of forward-thinking companies that galvanises the global business community to create a sustainable future for business, society and the environment and could be a strong entry point for engagement with the private sector. The UNEP Finance Initiative and the Private Financing Advisory Network (PFAN) of the Climate Technology Initiative provide complementary entry points to the finance community.

As examples at the more technical level, the International Renewable Energy Agency (IRENA) and the Renewable Energy and Energy Efficiency Partnership (REEEP) will provide both direct expertise and access to their own wider institutional networks in the mitigation area.

B3d Feasibility of how the Climate Technology Centre will engage with the Network

The links between the CTC and the Network must be considered carefully. Only a smooth and effective connection between these two parts of the CTCN will allow delivery of its main functions described in decision 1/CP.16 and summarised in section B1, the introduction to this proposal. Clear responsibilities, effective coordination, and clear lines of communication are essential. Our Consortium proposes three main means of engaging with the Network.

1. CTC and Network engagement in response to requests received from NDEs
This is the main function of the CTCN. The way in which the CTC will engage with the Network in responding to individual requests received via NDEs is described in detail in section B3a, Approach to Delivery. To rapidly mobilise expertise through the Network we propose that members undergo a pre-qualification process such as that used by the UN Office of Project Services (UNOPS). This will safeguard legal and fiduciary interests while avoiding the delays of an *ad hoc* procurement process initiated in response to each NDE request. The CTC will suggest to the Advisory Board criteria that Network members must satisfy in order to pre-qualify for delivering services.

We believe that in responding to requests the CTCN must aim to complement and avoid redundancy with other programmes. Our Consortium believes that in formulating request response plans the CTCN must identify and exchange information with other bilateral and multilateral efforts supporting adaptation and mitigation and determine how CTCN support can best build on or augment their efforts. The CTC will require that Network members coordinate with other efforts where this makes sense. In some cases, an effective response to a request is likely to require funding that exceeds the CTCN mandate. The CTC will in such cases engage with Network members, international financial institutions, public and private donors, and international programmes with the aim of identifying and helping the country secure additional funding. A valuable function of the CTCN, then, will be helping countries tap larger sources of funding for technologies.

2. Engaging with the Network to support collaboration that accelerates technology transfer processes
A second role of the CTC is to identify areas where developing countries request similar types of services, or where there is a common need for specific forms of technology collaboration and capacity building across governments, businesses, technical entities, and other groups. We propose that the CTC identify opportunities for coordinated action where this would enhance efficiency, avoid redundancy and foster peer-to-peer learning. Identification of good opportunities should involve NDEs, Network members, national agencies, and relevant programmes; suggestions would be put to the Advisory Board in the annual CTC work plan. (See also Table 4 and Annex C4: First year start-up). NDEs and Network members will be asked on an ongoing basis and as part of the annual CTCN review process to identify opportunities for such collaboration across countries.

Our Consortium's experience in managing technical assistance and technology transfer projects suggests that engaging the Network in this manner would be a powerful and cost-effective way to increase the pace and scale of technology transfer. Collaborative activities led by Network members and supported by the CTC could include: i) cooperative research, development, and demonstration of common priority adaptation and mitigation technologies; ii) peer exchange programmes that support short and long term visits of developing country personnel to technology research and deployment institutes in other developing and developed countries; iii) regional and global technology training programmes (in-person and via the web) on specific technology applications, analysis tools, policies, or deployment programmes of interest; iv) collaboration on improved technology assessment and project and system design tools; and v) enhanced documentation and sharing of best practices and lessons with technology development and transfer and similar activities. The CTC will propose a portfolio of such collaborative activities to the Advisory Board when a strong case can be made on efficiency and the value of such collaboration in and across countries.

3. Engaging with the Network to strengthen partnerships and capacity building for technology development and transfer

This element of engaging the Network would essentially look beyond the Network proper and seek to expand its members' interaction with a broader community in order to advance CTCN objectives. The CTC Network and communications manager will lead efforts with Network members to cultivate and expand partnerships with other international programmes and market actors, planning and finance departments of developing country governments, UN and other international organisations, bilateral and multi-lateral donors, private sector companies and investment groups, the adaptation, the mitigation and finance mechanisms under the UNFCCC, and so on. The aim would be to identify opportunities for strengthening collaborative approaches that extend beyond the Climate Technology Network and that could – with support – accelerate the transfer of adaptation and mitigation technologies.

The CTC management will propose specific activities to the Advisory Board. Possibilities include supporting through the Network broader developing country engagement with other adaptation and mitigation technology networks and platforms, enhancing links with their activities, strengthening peer learning, and undertaking joint capacity building programmes. Such activities would aim to achieve high leveraging of CTCN resources. Additional CTCN capacity building activities are described in section B3e.

B3e Extent to which approach focuses on capacity building in requesting developing countries

Our Consortium will emphasise meaningful and sustained capacity building for developing countries on technology development and transfer as a core part of the CTCN. Some of the envisaged capacity building activities and approaches are described below.

1. Building capacity of NDEs to identify priority technology needs and design collaborative programmes with the CTCN

Capacity building for NDEs will be a priority action area particularly during the first year of operations. A targeted capacity building programme will be designed with interested NDEs. The purpose is to ensure that the NDEs are capable of managing the national submission process and supporting the national articulation and prioritisation of ideas and proposals. The CTC teams that respond to requests from NDEs will, as needed, provide training and advice to the NDEs and opportunities to strengthen requests, ensuring that country needs are well articulated and that the CTCN can deliver high value support. The CTCN will conduct regional or sub-regional workshops for NDEs to explain the process for requesting and receiving CTCN support, the types of services offered by the CTCN, approaches and tools for defining adaptation and mitigation technology needs. These workshops will provide an opportunity to raise awareness and build demand for the CTCN services and to receive early feedback from the NDEs on CTCN procedures and on priority types of assistance and collaborative programmes of greatest value to them.

2. Capacity building as a component of CTCN support to countries

More sustained capacity building support will be offered by the CTCN as part of the support to countries. The CTC will work with the NDEs to evaluate capacity building needs for each request submitted and include a section on capacity building needs and proposed activities as an element of all response plans. These activities will be incorporated into the terms of reference for support to countries provided by the Network members. Our experience suggests support for national technological and policy institutions as well as in-country businesses and finance organisations be emphasised. Where of interest to the countries, the Network partners and the CTC will assist the country in identifying opportunities for additional and longer-term capacity building support from other programmes.

3. Regional and global peer learning, exchange, and training programmes

As described in B3d, the CTCN will conduct regional and global peer learning, exchange, and training programmes to address common needs identified by several countries and to take advantage of opportunities for learning across countries. This will include exchange programmes for short and long-term visits to sister institutions in other countries (including multi-country exchange programmes), in-person and web based training events, peer-to-peer sharing of experiences and best practices, and related activities. NREL's experience in operating the Clean Energy Solutions Center for the Clean Energy Ministerial is particularly relevant here.

4. Strengthening capacity of the Network

Capacity of the Network members will be enhanced and strengthened where necessary through their engagement in the delivery of services to the national partners. It will be fostered through peer learning and collaboration among Network members made possible through the CTC, and be a main responsibility of the Network and communications manager working in the Core Centre. Experience will be captured in the CTCs knowledge management system. Annual reviews will identify needs for enhancing and filling gaps in capabilities of the Network.

The consortium partners have years of experience designing and conducting capacity building programmes in different areas of climate change. UNEP has, for example, been helping a number of countries developing their NAPAs and

currently supports countries establishing a National Implementing Entity for the Adaptation Fund. URC, AIT, ENDA and Bariloche have over the last decade jointly supported establishment and strengthening of Designated National Authorities in approximately 50 developing countries and provided training to thousands of project developers on the rules and procedures of the CDM. Many other examples could be added; some of these are summarised in section B2 above.

B4 Existing governance and management structures

The CTCN will in our proposal be led by UNEP and supported by UNIDO through a Core Centre that operates in accordance with UN governance structures and management procedures. Core UN principles, made operational through UN rules and administrative procedures, include integrity, transparency, and ethical behaviour. Tendering processes follow guidelines that ensure openness and transparency, fairness, cost-efficiency, and effectiveness. The UNEP management structure includes rigorous administrative and financial procedures that are reviewed by external auditors and made public. UNEP and UNIDO have managed numerous demand-driven, technical cooperation projects, and ensure accountability of their managers through result-based management and annual performance reviews.

B4a Effectiveness of the governance structure

UNEP, UNIDO and the other consortium partners will adhere to United Nations governance and management approaches in administering the CTCN. UNEP and UNIDO each have a governing body drawn from Member States that determines the organisation's guiding principles and policies and approves budgets and work programmes. These bodies (the UN General Assembly, UNEP Governing Council and UNIDO General Conference) receive and review oversight reports, and monitor the implementation of approved work programmes. They also review and approve resources utilisation. This ensures legitimacy at the highest level of governance. The governance structure of the other institutions constituting our Consortium reflects their respective needs and constituencies.

UN agencies operate under the guiding principles of the UN Charter, and the foundation of their approach is modelled after the Standards of Conduct for the International Civil Service. These Standards promote common values and define the behaviour and performance expected of international civil servants in all their actions: fundamental human rights, social justice, the dignity and worth of the human person, and the equal rights of men and women. Consortium partners will adhere to these Standards.

Our Consortium will also apply established UN standards for accountability, transparency, and ethical integrity in operating the CTCN under the guidance of the Advisory Board. We propose to develop and apply a standard procedure for reviewing and responding to NDE requests and will share the decisions made on requests, as described in section B3. The CTC will generally use competitive procurement processes in selecting Network members to provide assistance to countries. CTC managers will conduct formal quarterly progress reviews, and we propose an annual peer review of CTCN performance.

B4b Demonstrated capability to ensure fair and open international tendering

In operating the CTC our Consortium will rely on UN tendering processes, as reflected in the procurement regulations and practices of UNEP and UNIDO. These are based on the premise that, in managing public funds, it is expected that the highest level of fairness, transparency, integrity, economy and effectiveness applies in the context of procurement activities. If selected we intend also to determine how the UN Global Marketplace System can serve the goals of the CTCN. This system provides an online UN wide database of pre-screened vendors that focuses on sustainable procurement thorough socially responsible suppliers.

We propose that CTC work with NDEs to develop Invitations to Bid (ITB) or Requests for Proposal (RFPs) for Network technical support based on needs submitted through the NDEs. To ensure an efficient process for responding to these RFPs provisions may be made to ensure 'pre-qualification to tender' of selected sub-groups, such as the members of the Network in the context of the CTCN. UNEP and UNIDO have formal procedures for pre-qualifying partner institutions. Pre-qualification is a formal method of assessing suppliers against pre-determined criteria and only suppliers who meet established criteria are invited to participate in the streamlined tender process. Pre-qualification does not preordain a contract, but helps reduce the risk of contract failure and lowers transaction and administrative costs.

The CTC managers along with the NDE and the technical expert team of selected consortium partners working with the NDE will review proposals received from Network members and select the Network member who can most cost-effectively provide the requested assistance. Results of this review will be shared with all Network members submitting proposals for any specific support.

UN rules and procedures differentiate between small and large procurements, with the objective of ensuring cost effectiveness. Small tenders undergo a streamlined process so as to allow quick and efficient responses to demand, whilst still applying the core principles. Complex procurements are dealt with following a comprehensive process. We propose to work with UNOPS, a central procurement resource for the United Nations system with many years of specialised experience, to see how these could be applied to specific conditions of the CTCN.

B4c Effectiveness of the current management structure

UNEP will bring to the CTC a transparent management system with clear mechanisms that ensure compliance with UN rules and regulations. We will emphasise transparency to protect the integrity of the CTCN and ultimately the interest of both donors and requesting countries. UNEP has well documented structures and mechanisms that to ensure proper use of resources. A Quality Assurance Section was established in 2008 with the aim of improving the quality of UNEP's programmatic work and is integrated in UNEP's Office for Operations. Corporate Services oversees all financial matters using a financial control framework that defines roles for management, internal auditors and other staff. The framework also covers the control environment, risk assessment, internal control activities, monitoring, and procedures for information sharing. Audits are conducted in accordance with the UN Standards on Auditing; internal and external audit reports are made public.

As a UN agency, UNEP is ultimately responsible to governments. The overall mandate and focus are determined by UNEP's Governing Council, comprising 58 rotating Member States elected by the UN General Assembly for four ·year terms, taking into account the principle of equitable regional representation. The Governing Council reviews the impact of national and international environmental policies and measures on developing countries, as well as the problem of additional costs that may be incurred by them in implementing environmental programmes and projects, while ensuring that such projects are compatible with development plans and priorities. The Committee of Permanent Representatives (CPR), which is made up of government delegates who are accredited to UNEP, is a subsidiary of the Governing Council. The mandate of the CPR includes reviewing, monitoring and assessing the implementation of Governing Council decisions, reviewing the UNEP Programme of Work and budget and its subsequent implementation, and preparing draft decisions for consideration by the Governing Council.

Advising the Executive director, UNEP's independent Evaluation Office is responsible for conducting, coordinating and overseeing evaluation, as described in the organisation's Evaluation Policy. This covers all programmes and projects of the Environment Fund, related trust funds, earmarked contributions and projects implemented by UNEP under the GEF. The Office reports directly to the Executive Director and works independently from programmatic divisions. In 2011 it was 'peer-reviewed' by the UN Evaluation Group and considered an example of best practice in the UN system. Evaluations of the CTCN would fall under the mandate of the Evaluation Office.

UNEP's Senior Management Team (SMT) ensures coordination and smooth operation across the organisation. The SMT consists of the Executive Director and Deputy Executive Director, heads of UNEP's six substantive divisions, the Chief of the Executive Office, and the Chief of the Office for Operations. All UNEP staff are accountable to the Executive Director, usually through directors of UNEP's substantive divisions. Staff prepare with supervisors annual work plans and undergo a performance appraisal every six months.

As recent evidence of UNEP's continued ability to manage new and potentially complex initiatives, governments have decided to host in the Division of Technology, Industry and Economics the secretariat for the new Climate and Clean Air Coalition for Reducing Short Lived Climate Pollutants. UNEP will also manage the trust fund for this initiative.

UNIDO is also accountable to its General Conference and benefits from similar control systems. While specific structures differ, all the consortium partners have governance and management systems reflecting their legal status, structures, operating procedures, and stakeholders (see Annex C0).

In managing the CTC, our Consortium is committed, congruent with UN practices, to take a gender-inclusive approach.

B4d Ability to manage and administer multiple and complex projects

This section focuses on UNEP as the lead proponent of the CTC. The ozone related programmes presented in section B2c well demonstrate UNEP's ability to manage and administer multiple and complex projects at the national, regional, and global levels. As noted, as an Implementing Agency of the Montreal Protocol Multilateral Fund, UNEP has since 1991 implemented 1556 projects in developing countries valued at US$219m (as of 2011). Support to countries ranges from integrated technology and policy planning to technical assistance to capacity building and institutional strengthening. Compliance Assistance Programme teams in UNEP's regional offices provide technical and policy

support to 146 developing countries through regional networks. This program has since its inception been gradually expanded both in depth and geographical coverage based on documented results achieved.

The total expenditure of UNEP's climate change programme in 2011 was over US$50m with 72% of this expenditure coming from trust funds and earmarked contributions of the sort that would fund the CTCN. In addition, as an Implementing Agency of the GEF, UNEP has 120 projects with a value of US$130m in its mitigation portfolio, including projects providing support for National Communications under the UNFCCC. Many of these projects involve technology or investment components, and 12 are regional. Examples include the Technology Needs Assessments and en.lighten projects described earlier, the Global Fuel Economy Initiative that is helping countries improve vehicle fuel efficiency, the Solar Water Heating Market Transformation and Strengthening Initiative, and a Pilot Climate Technology Network and Finance Centre in Asia Pacific that is undertaken with the Asian Development Bank. UNEP's adaptation portfolio currently has 15 projects with a value of US$60m.

Another complex and multi-partner climate initiative in which UNEP is involved is the UN-REDD Programme, the United Nations Collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries. The Programme, launched in September 2008, builds on the convening power and expertise of FAO, UNEP, and UNDP to assist developing countries prepare and implement national REDD+ strategies. The Programme currently supports 42 partner countries spanning Africa, Asia-Pacific and Latin America, of which 14 are receiving support to National Programme activities. To-date, the UN-REDD Programme's Policy Board has approved a total of US$59.3 million for National Programmes in these 14 partner countries.

External evidence of UNEP's capabilities comes from a recent annual study undertaken by MOPAN, the Multilateral Organisation Performance Assessment Network. MOPAN is a network of 16 donor countries that share an interest in assessing the organisational effectiveness of the multilateral organisations they fund. The report of MOPAN's 2011 examination of UNEP's performance commented on UNEP's 'skills, technical knowledge and support provided by its staff. Respondents [to the MOPAN survey] noted in particular the level of professionalism of UNEP staff, their knowledge of global and local environmental issues, their commitment and generally high level of technical support.' Relationship management was singled out as UNEP's strongest area of performance, particularly in providing inputs to policy dialogue and respecting the views of its partners.

The MOPAN study also noted that 'UNEP promotes results-based management in its MTS 2010-2013, biennial strategic frameworks, and programs of work. It captures results through the Project Information Management System (PIMS) and reports on results in Programme Performance Reports and in Evaluation Synthesis reports. UNEP provides staff training in RBM and encourages its direct partners to adopt a results oriented approach.' UNEP has mechanisms in place to inform adjustments in its programming. The Programme Performance Report, every six months, provides a summary of highlights and challenges for each sub-programme and describes the management actions taken to respond to these performance issues.

Finally, the MOPAN survey noted that UNEP's projects were 'considered relevant to UNEP objectives and country needs; most have achieved their objectives and have a good chance of replication and/or up-scaling. A majority of the projects evaluated have been successful in ensuring a strong stakeholder involvement through information sharing and consultation, through active stakeholder participation in project design, implementation, monitoring and evaluation.'

B5 Climate Technology Centre and Network management plan

This section follows directly from section B3 (Technical approach) in which we described our vision, structure and capacity to manage requests and responses effectively. The need to address regional and sub-regional issues through a wide range of organisations further shapes our plan. Furthermore, we have stressed capacity building of developing country institutions as a critical element throughout the work. In this section we describe the CTCN management plan in terms of aims, results and activities. The institutional set-up of the Core Centre is described by means of both an organisational and a procedural response, followed by an outline of accountability to the COP through the Advisory Board. Finally, the quality of our team as well as the quality of our working methodology (for example in procurement) is presented.

B5a Feasibility of the plan and the schedule for rapid start-up (*see also: Annex C4)*

Framework of the plan

The overall approach to the CTCN has been informed through COP meetings and specialist inputs, for example through the UNFCCC Expert Group on Technology Transfer and the Technology Executive Committee. Key guidance has been given in the following decisions: 1/CP.16 paragraph 120 (priority areas), 1/CP.16 paragraph 123 (functions), and 1/CP.17 paragraph 135 (roles). Our proposed management plan is grounded in these decisions and will be made

operational by agreement with the Advisory Board. The plan confirms to the UNEP project management cycle in terms of procedures and requirements for project preparation, approval, revision, reporting monitoring, and evaluation. The intention is to achieve outcomes that comply with the UNEP mandate, are focussed and effective and have sustainable long-term impacts. The logic of the plan can be expressed as follows:

1 Principal aim: To accelerate, diversify, intensify and scale up collaboration and transfer of climate technologies in support of sustainable development in developing countries, and as a means to implement and achieve the commitments of both developing and developed country Parties to the UNFCCC.

2 Main functions:
2.1 Management of requests and responses in the technology cycle
2.2 Fostering collaboration in accelerating technology transfer
2.3 Strengthening networks, partnerships and capacity building for technology development and transfer

3 Activities:
3.1 Start-up tasks
3.2 Establishment phase
3.3 Full scale implementation, intensification, and expansion

We foresee that the coherence of the management plan will be reviewed after the inception period and updated regularly under the guidance of the Advisory Board, taking into consideration feedback from NDEs, Network members, and other stakeholders.

Work-plan and schedule

The summary work-plan below shows the UNFCCC context, reporting requirements, and intended results over the initial five year period. Start-up and establishment will be completed in Year 1, while Year 2 will focus on managing responses, supervising services and documenting experiences. From Year 2, our Consortium will diversify and intensify activities through the well-established relationships and procedures with both requesting authorities and network members. Reviews of results and lessons will be conducted each year and communicated to the Advisory Board along with recommendations for improvement.

Table 3 Five year project: summary workplan

Activity	**Project years 1-5**																			
	Year 1				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Meetings and events associated with the UNFCCC framework																				
SB/COP meetings: June/December		o		o		o		o		o		o		o		o		o		o
Other meetings		o		o		o		o		o		o		o		o		o		o
I Reporting to Advisory Board																				
Quarterly																				
Annual																				
II Intended results (from functions in decision CP.16, paragraph 123)																				
1 Management of requests and responses in the technology cycle																				
2 Fostering collaboration in accelerating technology transfer																				
3 Strengthening networks, partnerships and capacity building for technology development and transfer																				
III Activities																				
1 Start up																				
2 Establishment																				
3 Full scale implementation, intensification and expansion																				

Table 4 provides a summary of start-up and establishment activities for the CTC and the Network over the first year; a more detailed version is in Annex C4.

Table 4 First year start-up: activities

Project year 1				
III Activities	**Q1**	**Q2**	**Q3**	**Q4**
1 Start up				
Tasks A-F: Staff mobilisation, briefings, NDE liaison, review of relevant projects, establish protocols for requests, appointment of CTC Technical Leads through consortium partners				
Tasks G-L: Handling priority requests, design internal management guidelines, prequalification for network members, launch of larger scale procurement packages, identification of further staff, preparation of inception report (Q2)				
2 Establishment				
Task M: Expanded handling of priority requests, documenting pattern of requests/responses and lessons learned				
Task N: Intended results 1-3 – Revisions to approaches, framework and future scheduling in consultation with Advisory Board (Q2 and Q4)				

B5b Strength of the institutional management plan

Good execution of the CTC management plan can be ensured through good organisation and sound operating procedures. The organisational response encompasses choice of staffing and a well designed accountability structure, while the procedural response of the CTC depends mainly on application of rigorous and transparent procedures and processes. Tables 5 and 6 present these two components of the institutional management plan.

Table 5 Needs of the management plan and response in terms of staffing

No	**Needs of the management plan**	**Organisational response – proposed key positions**
Staff – HQ – Expert/managerial resource		
1	Strategic oversight, Secretary to the Advisory Board, External Relations, coordination with other donor programmes to avoid redundancy	Director
2	Request review, technical oversight of consortium partners and Network members for mitigation, project cycle, M&E and links to procurement	Mitigation manager
3	Request review, technical oversight of consortium partners and Network members for adaptation, project cycle, M&E and links to procurement	Adaptation manager
4	Outreach to NDEs, peer-to-peer learning, management of training, exchange programmes and knowledge management	Capacity building and knowledge manager
5	Coordination of relations with network members, private sector representatives, communications with all programme audiences, overall CTCN M&E and reporting	Network and communications manager
6	Implementation of IMIS for all financial transactions, bank signatory for Administration and supervision of administrative staff	Fund management officer
Staff – HQ – Support staff/admin support		
7	Support in HR, legal, finance, IT and procurement	Administrative assistants
Staff- Other offices – Expert/managerial resource		
	Assist NDEs in refining requests and develop response plans for CTC managers, quick response technical support to countries, review of network proposals, assist with knowledge management and peer learning	CTC Technical Leads
Staff – Other offices – Support staff/admin support		
	Support to CTC technical leads	Administrative assistance

Table 6 Needs of the management plan and response in terms of proposed guidelines and responsibility

No	Needs of the management plan	Proposed guidelines	Responsibility
1	Project management capacity to deliver intended results ensuring transparency, responsiveness and quality assurance	Project management guidelines Monthly, quarterly and annual reports	All CTC staff
2	Monitoring and evaluation activities customised according to specific technical areas	M&E guidelines; Annual report (CFP page 5, para 10 and page 6, para 18-20); Independent review at four years (CFP page 6, para 20)	Technical staff
3	Understanding both external and internal audiences with a view to precise tailoring of CTCN responses	Communications guidelines	Network and communications manager
4	Providing effective financial management, auditing and reporting functions (CFP page 13, para 4 (c)) - to fund the CTC costs and Network services from various sources (CFP page 17, para 12)	Financial management guidelines Fundraising and co-financing guidelines	Fund management officer
5	Ensuring fair and open international tendering for the procurement of services in line with the fiduciary and ethical standards of the United Nations (CFP page 13, para 4(b)) Ensuring that members of the Network undertake the substantive work to address requests (CFP page 5, para 6)	Procurement guidelines	Administration (Procurement)
6	Ensuring legal capacity, transparency, responsiveness, flexibility and the identification and management of risks, including legal risks (CFP page 13, para 5(b))	Contracts, agreements and position papers	Administration (HR and Legal)

B5c Ability to evaluate operational performance and to account to the Conference of the Parties

According to the rules mandated by resolutions of the UN General Assembly, every project or programme implemented by UNEP and UNIDO requires a recurrent and systematic evaluation. The objective of UN evaluations is to 'determine as systematically and objectively as possible the relevance, efficiency, effectiveness and impact of the organisations' activities in relation to their objectives'. Evaluations provide recommendations and lessons learned for improving future policy, programmes and projects, and establish a basis for accountability.

CTCN activities will undergo in-depth, external evaluations to determine impact, assess whether the objectives and goals of the CTCN are being achieved in an effective and efficient manner, and provide recommendations. More informally, the CTC managers will conduct formal quarterly reviews of the CTC and Network to identify problems and take remedial actions. The CTC Director will, in with guidance provided by the Advisory Board, conduct an annual review, seeking feedback from all countries receiving CTCN through surveys, and prepare an annual report to the Advisory Board of the activities of the CTCN based on this review. This report will include recommendations for improvements in CTCN procedures.

With the Technology Executive Committee, the CTCN is required to present to the Conference of the Parties – through the subsidiary bodies – a report on the Technology Mechanism. The report, prepared according to UN standards, will include information on requests received and activities carried out as well as information on efficiency and effectiveness in responding to NDE requests, on lessons learned, and on best practices. In addition to the annual report, an independent review of the CTC activities in Year 4 of its operations. This evaluation will – if agreed by the Advisory Board – be managed by UNEP's independent Oversight and Evaluation Office.

Regarding accountability to the COP and by extension accountability to governments, UN General Assembly resolution 2997 (XXVII) in 1972 created the Governing Council of UNEP and its secretariat. Among other responsibilities, the Executive Director of UNEP is entrusted to provide substantive support to the Governing Council of UNEP, and to provide, at the request of all parties concerned, advisory services for the promotion of international co-operation in the field of the environment. UNIDO similarly reports and is accountable to its General Council, which also consists of Member States.

B5d Quality of respective proposed key personnel *(see also: Annex C5)*

Content removed as requested.

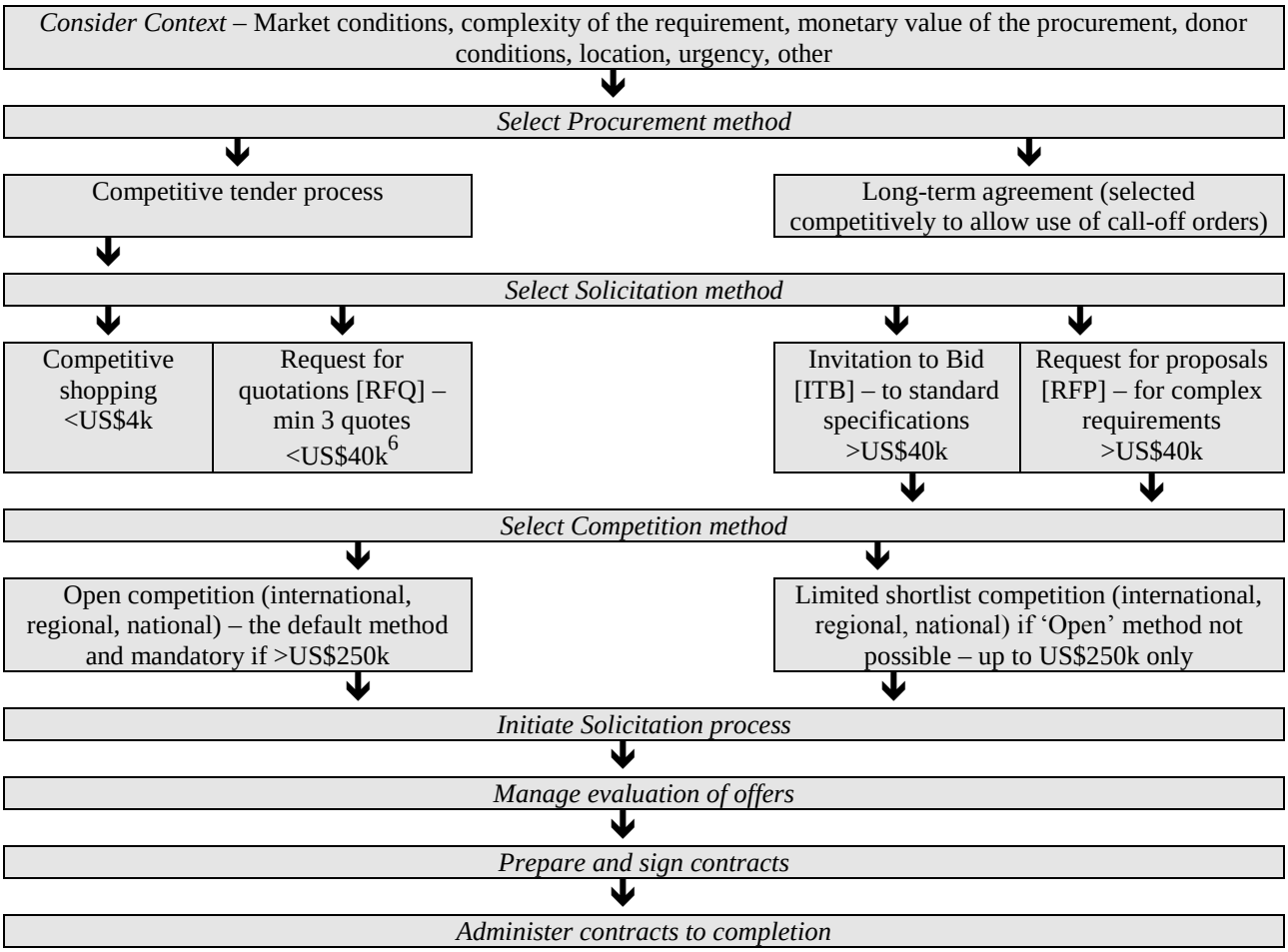
B5e Transparency and feasibility of the approach on engaging with Network members

The CTC will approach the Network in a number of ways depending on the relationship envisaged. In responding to requests Network members may be asked to collaborate as service providers under a fee-for-service arrangement, or as project or financing partners. In many circumstances, where a financial relationship is not envisaged, we foresee that the CTC will approach Network members in order to discuss and agree the nature of a relationship prior to any technical exchange. Insofar as the role of members is as 'service provider', the CTC will approach this in stages to ensure conformity with best practices for procurement.

In the start-up phase, priority requests will be managed under existing UNEP and UNIDO procedures so as to allow flexibility and responsiveness while the CTC becomes operational. Procurements up to €20,000 can be handled through project managers (UNIDO) and, in some cases (SSFA, UNEP) up to US$200,000. In the establishment phase, the aim is to achieve optimal transparency and cost-effectiveness and the CTC will prepare a customized procurement strategy to reflect the specific characteristics of the technology field and the best practices (for example, market research, solicitation and competition) and updated financial thresholds currently used in the UN. Figure 6 illustrates a typical procurement path used by UN agencies (UNEP, UNFCCC, UNOPS, and UNIDO).

It is likely that the procurement strategy will recommend that interested network members be invited to participate in a prequalification process, which will serve to assess the capability and resources of prospective service providers prior to inviting them for specific tenders. This provides a pool of suppliers who have satisfied a set of eligibility criteria and are already identified as able to meet a need in a particular technical area as well as being able to respond quickly through a streamlined tendering process (eg omitting general capability statements on legislative, technical, financial and personnel background).

Figure 6 An indicative procurement pathway[5]



B6 Past performance

The following section demonstrates our Consortium's past performance in delivering high quality products and services and assembling and supporting technical assistance teams. As a Consortium we are broad based in terms of geography, sector and technology expertise and can mobilize quickly both technology- and region-specific responses to queries articulated by NDEs. All consortium partners have experience in implementing technology cooperation projects in developing countries through partnerships involving public and private sector actors, and have acquired a wide range of experience and knowledge of best practices.

B6a Quality of the product or service

UNEP, UNIDO and their consortium partners have a long record of delivering high quality products and services that support the development and transfer of climate change related technologies.

UNEP consistently receives requests from the UNFCCC and other stakeholders to support the international climate negotiations process by providing analysis and support on issues under negotiation, and undertakes scientific analysis and projects directly responding to UNFCCC decisions. As measured by UNEP's Project Implementation Management System, 70 % of the 22 projects implemented in 2010-11 are exceeding their targets. In recent years, UNEP mitigation projects have received Secretary General's UN21 Award for innovation, efficiency, and excellence in delivery of the Organisation's programmes and services, and the Energy Globe Award. One of our partners, NREL, has garnered more than 100 awards, honours, and appointments in recent years demonstrating the laboratory's wide range of pioneering capabilities.

[5] Based on UNOPS Procurement manual, Revision 4 - September 2010 and UNFCCC Procurement procedure http://unfccc.int/secretariat/procurement/award_procedure/items/2568.php

[6] Solicitation method financial thresholds:US$40,000 (UNEP), US$50,000 (UNOPS)

Our collective record in delivering high quality products and services in a timely manner, adhering to contract and other project conditions while ensuring effective management, prompt decision making, and efficient operation of tasks, is underscored by the fact that a large percentage of the projects and programmes we undertake come through competitive bidding processes. GIZ, for example, is increasingly managing climate change related programmes and projects for funders other than the German government. GIZ's programme "Energizing Development" is supported by the German, Dutch and Norwegian governments.

Our record of engagement in the climate change field reflects our ability to learn from problems and adjust our projects, programmes, strategies and organizations accordingly. One of the challenges in addressing mitigation and adaptation is that these areas cut across ministries so achieving government coordination on policies and actions is challenging. New UNEP projects, such as the FIRM ("Facilitating Implementation and Readiness for Mitigation") project, helping countries identify and develop Nationally Appropriate Mitigation Actions (NAMAs), have specific work packages dedicated to promoting cross-ministerial and multi-sectoral collaboration. UNEP's Ecosystem-based Adaptation projects now emphasise mobilising knowledge and supporting access to finance, resulting in more robust and coherent support to countries. Our Consortium will apply the same flexibility to adjust the CTCN and its organisational structure if there is a need to reorient focus and enable growth.

B6b Track record of cost control *(see also: Annex C8)*

UNEP, UNIDO and the other consortium partners all have in place systems to ensure cost control. All of our organisations undergo annual external audits, which in the case of the lead UN partners are conducted by the UN Board of Auditors (UNBOA). (See Annex C8). The UNBOA was established in 1946 by the General Assembly and consists of the heads of the Supreme Audit Institutions from the Member States of the UN. Cost control in the host organisations (UNEP and UNIDO) is ensured through application of UN financial rules and regulations and Administrative Instructions. These govern the administration of all financial activities and transactions, as well as the preparation of budgets and, for example, prevent over-expenditure of funds in project budgets while allowing for some flexibility. A financial performance control system is used for the processing payments and financial and management reporting. Financial statements are audited both internally and externally.

B6c Experience in assembling and supporting technical assistance teams

Both UNEP and UNIDO have in the examples listed in section B3 illustrated significant experience and expertise in assembling and supporting technical assistance teams, for example in the areas of phasing out ozone depleting substances and promoting Cleaner Production, where support has been provided to more than 100 developing countries. Both organisations are implementing agencies of the GEF where the main functions are to assist countries in developing projects and identifying and soliciting the necessary technical assistance. The consortium partners bring vast experience both in the processes of assembling and supporting technical assistance teams and most are often engaged directly in providing part of the required technical assistance. As an example, in most country engagements URC operates through a national technical team supported by either a regional expert institution or where relevant directly by URC staff.

One specific and highly related project, illustrating how cross-sectoral support teams are being engaged, is UNEP's GEF-supported Technology Need Assessment (TNA) project, which is supporting 36 countries in prioritising adaptation and mitigation technologies through engagement of national , regional and where relevant international technical assistance teams. An example illustrating strong cooperation with the private sector is a TERI project helping micro, small and medium enterprises in foundry, glass and brick industries improve energy efficiency and reduce carbon emissions. The project uses a collaborative Research, Development, Demonstration and Diffusion (RDD&D) approach and is funded by the Swiss Agency for Development and Cooperation. (See TERI's 2010-11 Annual Report in Annex C9). Many other consortium partners have similar experience in assembling and supporting technical assistance teams. GIZ, for example, operates in more than 130 countries worldwide. The project examples in Annex C7 provide additional examples of our ability to assemble, deploy, and support the operation of technical assistance teams.

B6d – Demonstrated broad regional coverage and ability to respond to requests

Our Consortium has an exceptionally broad regional coverage. Figure 2 above shows that we are active in almost all countries of the world. The main offices of our Consortium's organisations are spread globally, with four organisations based in Africa (ENDA, ICRAF, CSIR, UNEP), four in Europe (GIZ, ECN, UNEP Risø Centre, UNIDO), two in Latin America (Bariloche Foundation, CATIE), one in North America (NREL) and two in Asia (TERI, AIT). Moreover, UNEP and UNIDO are represented in many developing and transition countries through country and regional offices and associated technology and policy networks. As described in section B3, each consortium partner provides a lead technical expert which gives the CTC access to regional and technical expertise through a flexible, on-demand basis. We believe that this approach gives us the ability to work effectively with NDEs in responding to developing country

requests for assistance. The combination of a national NDEs, a CTC with global and regional coverage, and a Network operating at different scales will make for the most cost effective and flexible arrangement. Such an approach will also direct national efforts through the NDEs and other national stakeholders, ensuring that CTC resources are not used to strengthen nationally-based UN CTC entities at the expense of national institutions.

Responding to the needs of developing countries is at the heart of UNEP's and UNIDO's mission and strategies, and is a central aspect of our work. The CTC will draw on some of the recent experience of the consortium partners in responding to developing countries' requests in an expeditious manner. Through the Clean Energy Solution Center NREL has, for example, been providing fast-response, web-based and customized technical resources, capacity building programmes, and free policy assistance from international experts in support of clean energy policy and programmes for developing countries. Additional examples are provided in Annex C7.

B6e – Experience in relation to functions identified in decision 1/CP.16, para 123

The consortium partners have years of experience with the CTI functions elaborated in decision 1/CP.16, paragraph 123. The Consortium's broad composition gives us an exceptional strength, which has been presented in Table 2 in section B2b. Annex C7 provides more detailed descriptions of relevant work by our partners. Some additional examples are described below.

UNEP's GEF-funded Technology Needs Assessment project is undertaken in cooperation with AIT, ENDA and Bariloche Foundation and relates to function 123(a)i. The TNA project and its resulting Technology Action Plans aim at enabling and facilitating the smooth transfer of the selected technologies, which is relevant to function 123(a)iii. CATIE's regional programme "Innovation, learning and communication for adaptive co-management of watersheds" (FOCUENCAS II) facilitates the provision of information, training and support (function 123(a)ii) on methods, practices and proven technologies consistent with the approach of integrated river basin management and reducing vulnerability to natural disasters.

TERI's research and outreach activities in over 30 countries, including water audits and support for disaster preparedness in Nepal and support on solar energy and improving energy access in Kenya, are examples of stimulating transfer of technologies through South-South cooperation (function 123(b). Section B6f below provides additional evidence of our experience in facilitating networks to provide on request Technical Assistance and training, stimulate twinning centre arrangements for cooperative R&D, facilitate international partnerships amongst public and private stakeholders, and assist with development of analytical tools, policies and best practices for country-driven planning (function 123(c)).

B6f Demonstrated experience of setting up and managing a network *(see also: Annex C7)*

The Consortium has experience of setting up, organising, coordinating and managing networks. Some examples are:

- Since 1994, UNEP and UNIDO have jointly supported a global network for Resource Efficient and Cleaner Production (RECP). The resulting network of National Cleaner Production Centers was set up to deliver services to business, government and other stakeholders and to assist with the implementation of Cleaner Production methods, practices, policies and technologies. The network has a critical mass and spans 42 developing and transition countries in Latin America, Africa, the Middle East, and Asia, allowing for information exchange and cross-fertilization between the Centers. To ensure successful delivery, the programme emphasizes networking and knowledge management. This network can serve as a launch-pad for rapid development and roll out of the CTCN.
- UNEP also has wide experience in establishing and maintaining regionally based knowledge sharing networks that accelerate learning and replication of good experience between countries. UNEP's Regional Climate Change Networks are modeled on the Regional Networks of Ozone Officers that have greatly aided implementation of the Montreal Protocol on Ozone Depleting Substances (ODS). A first such network was established in 1990 by UNEP and Sweden for countries in Southeast Asia. The success of this initiative led to its replication globally, with nine such networks now supported financially by the Multilateral Fund for the Implementation of the Montreal Protocol, operated by UNEP and comprising 148 developing and 14 developed countries. The networks are administered on a day-to-day basis by Regional Network Coordinators with a technical and administration back-up at UNEP DTIE in Paris. Networking activities have resulted in improved data reporting, strengthened policy making, preparation of national technology management plans, and technical support and advice to ODS Officers in taking early steps to implement the Montreal Protocol.
- Similarly, the Regional Climate Change Networks in Asia and Latin America – such as a pilot Southeast Asia Network of Climate Change Offices – provide a means for Climate Change offices from developing countries to exchange experiences, develop their skills and tap the expertise of their peers in both developing and developed countries.

- UNEP, in partnership with UN and other international and bilateral agencies, is also facilitating the development of the Global Climate Change Adaptation Network (GAN), recognizing that "that regional centers and networks undertaking work relevant to climate change play an important role in enhancing adaptation" (UNFCCC SBSTA, 28th Session). The focus is on a bottom-up structure helping development of regional networks such as in Asia and Latin America.
- UNEP also facilitates the Global Network on Energy for Sustainable Development (GNESD), a knowledge network of Member Centres of Excellence and Associates, and network partners worldwide, which carries out policy analysis on energy issues which can facilitate in reaching the Millennium Development Goals (MDG). GNESD has been successfully operating since 2002. GNESD's structure emphasizes the role of existing institutions and the importance of a flat networking organization that avoids unnecessary bureaucracy.

Many of the other consortium partners have and continue to develop and support additional multiple national, regional and global thematic and sector networks, which we will mobilise to augment and scale-up the activities of the CTCN.

B7 Budget proposal for the Climate Technology Centre and Network *(see also: Annex C3)*

The following sections present a budget for the CTCN that is in accordance with UN approaches while being balanced and scalable. We present the resources that our Consortium can provide, both direct and in-kind, and describe a business model that enables cost efficiency and sustainability.

B7a Budget proposal that is balanced and scalable and compliance with UN standards

Our proposed budget is based on a low cost administrative structure so that most of the funds provided to the CTCN can be used in responding to country requests for assistance. A proportion of the proposed budget will be used for knowledge management, capacity building, and network building. Balanced, estimated budget details for the CTC and Network for each of the US$10m and US$30m per year scenarios are presented in Annex C3 and Section 8. These are 'expenditure estimates', showing how, if available, funds of US$10m and US$30m would be spent to realize the CTCN objectives. As explained below, part of these can be met by our Consortium's cash and in-kind contributions.

The consortium approach allows for a cost efficient and quick-start through short term secondments of staff to the Core Centre. The CTC will thus have 'in-house' access to a range of technical experts, enhancing its ability to operate in a cost efficient manner. The broad reach of our Consortium makes possible regional expansion as resources permit (as illustrated in the US$30m scenario), which will allow activities such as knowledge transfer and capacity building to be performed on a regional basis. A further advantage of our consortium approach is that it allows for flexibility in supplementary staffing arrangements to match growth.

B7b Level of resource contributions, such as financial and in-kind, with monetary total sum

Our Consortium can bring a variety of direct financial and in-kind contributions to support the CTCN. At this early stage of the selection process, as a group the Consortium can commit to providing a cash contribution of US$2.4m to the Centre, including US$1m in the first year to allow a fast start while core financing of the CTCN is arranged through the UNFCCC financial mechanism. This cash contribution from UNEP and UNIDO can fund the Director position for the first five years of the CTCN's operation as well as other operating costs of the CTC. We believe other donors can contribute immediately – directly or indirectly – to the CTCN, such as Norway, Switzerland, Finland, Sweden, Denmark, and France. Depending on the scale of the CTCN agreed by parties, we estimate an additional US$10 million in cash financing can be secured over five years, a figure that is included in Table 7.

In-kind contributions valued at an estimate UD$11.8m will also be provided by the consortium partners, constituting a second resource. The consortium partners have a vast bank of knowledge, experience and resources in mitigation, adaptation, and capacity and network building. In order to quickly set up operations and build the knowledge management aspects of the centre and reduce administrative costs, the consortium partners will provide in-kind contributions such as staff resources, office space, and various mitigation and adaptation resources and knowledge platforms. The Consortium will allocate (i) staff time in support of request refinement and quick response assistance services; (ii) in-kind co-financing for knowledge management and outreach/capacity building activities; and (iii) in-kind support for other technical activities to be implemented through the Network.

As an example, one partner programme that can provide in-kind contributions (included in Table 7) is the Clean Energy Solutions Center (CESC). NREL, as the CESC operating agent, can make available on an in-kind basis services of the Solutions Center to support relevant developing country clean energy policy and deployment programme needs identified through the CTCN. This can include delivery of quick response expert advice and assistance, training and

peer learning, and sharing of data, analysis tools, and reports available through the Solutions Center. CESC resources can be linked with and used to share relevant technical resources and on-line platforms with the energy sector knowledge management and peer learning system established for the CTCN. The Solutions Center sponsors are providing approximately US$2,000,000 per year of support for clean energy resources and services tailored to developing countries. Of this, NREL estimates that approximately US$1m per year of these services will align with CTCN activities and can be delivered as in-kind co-funding.

The total value of direct financial and in-kind contributions is an estimated US$24.2m over the initial five years of the CTCN's operation, and is summarised in Table 7.

Table 7 Level of resource contributions from consortium partners (based on contributions applied to the US$30m/year scenario)

Admin/management costs (annex 2A)		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Operation/management of CTC	In-cash	$ 500,000	$ 500,000	$ 300,000	$ 300,000	$ 300,000	**$ 1,900,000**
	In-kind	$ 140,000	$ 140,000	$ 140,000	$ 140,000	$ 140,000	**$ 700,000**
Sub-total 1		$ 640,000	$ 640,000	$ 440,000	$ 440,000	$ 440,000	**$ 2,600,000**
Knowledge management, capacity and network building activities		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Knowledge Management, peer learning and capacity building	In-cash	$ 200,000	$ -	$ -	$ -	$ -	**$ 200,000**
	In-kind	$ 500,000	$ 500,000	$ 500,000	$ -	$ -	**$ 1,500,000**
Outreach, networking and private sector engagement	In-cash	$ 300,000	$ -	$ -	$ -	$ -	**$ 300,000**
	In-kind	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	**$ 1,500,000**
Sub-total 2		$ 1,300,000	$ 800,000	$ 800,000	$ 300,000	$ 300,000	$ 3,500,000
Technical assistance in response to country requests		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Quick response assistance [max. 50k$/activity]	In-cash	$ -	$ -	$ -	$ -	$ -	**$ -**
	In-kind	$ 1,315,000	$ 1,455,000	$ 1,455,000	$ 955,000	$ 955,000	**$ 6,135,000**
Response activities (Network response to country requests)	In-cash	$ -	$ -	$ -	$ -	$ -	**$ -**
	In-kind	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	**$ 2,000,000**
Sub-total 3		$ 1,715,000	$ 1,855,000	$ 1,855,000	$ 1,355,000	$ 1,355,000	**$ 8,135,000**
Total in-cash		**$ 1,000,000**	**$ 500,000**	**$ 300,000**	**$ 300,000**	**$ 300,000**	**$ 2,400,000**
Total in-kind		**$ 2,655,000**	**$ 2,795,000**	**$ 2,795,000**	**$ 1,795,000**	**$ 1,795,000**	**$ 11,835,000**
Estimated additional in-cash		**$ 2,000,000**	**$ 2,000,000**	**$ 2,000,000**	**$ 2,000,000**	**$ 2,000,000**	**$ 10,000,000**
TOTAL		**$ 5,655,000**	**$ 5,295,000**	**$ 5,095,000**	**$ 4,095,000**	**$ 4,095,000**	**$ 24,235,000**

B7c Business model for the CTCN to enable cost efficiency and financial sustainability

The proposed business model of the CTCN is a consortium model that involves a lead agency – UNEP, supported by UNIDO, and a group of technical and development partners, located both in developing countries in Africa, Asia, Latin America and in developed countries. This consortium model is designed to ensure maximum cost efficiency, provide flexibility and sustainability while being well placed to address practical local, regional and national based issues.

UNEP, UNIDO, and the other consortium partners have the ability to design and manage technical assistance efforts that have stable, diverse, and self-sustaining funding bases and to deliver services in a cost efficient manner. The Consortium will manage CTCN resources to achieve public value and impact at low cost. The Consortium will achieve both cost efficiency and financial sustainability for the CTCN through the following operating practices and approaches:

- Leveraging CTCN resources with other international programmes to increase the impact of CTCN funds: The Consortium will develop working relationships with the donor community and UNFCCC partners to identify opportunities for complementary support. This will allow for deeper and more sustained operations of the CTCN. Such partnerships will also help avoid redundancy and duplication with other programmes.
- Mobilising private sector investment and support: Where of interest to developing countries, the Consortium will work with NDEs and other in-country institutions to partner with private sector companies and investors. Done well, this will increase investment and garner technical and financial support for priority adaptation and mitigation technology projects.
- Diversifying CTCN core funding sources: The Consortium will explore opportunities to attract support for the core CTCN programme from additional sources. This will include seeking support from foundations, bilateral donors, and multilateral institutions.
- Developing a plan for long-term financial sustainability: The Consortium will develop a plan for implementing the above and related strategies to improve the financial sustainability of CTCN operations. This plan will be presented to the Advisory Board for review and a revised plan prepared based on suggestions from the Advisory Board.
- Conducting annual reviews of the cost efficiency of CTCN cervices: As part of the annual review of the CTCN operations and impacts, independent reviewers will be asked to evaluate the cost efficiency of delivery of CTCN services and recommend improvements. Reviewers will be asked to review the CTCN plan for financial sustainability and identify potential approaches to strengthen the long-term funding support across diverse sources.

B8 Examples

This section describes the services our Consortium could provide under the two budget scenarios of US$10m per year and US$30m per year.

B8a Nature, scope and quantity of services that could be provided under Scenario 1 (US$10m) and Scenario 2 (US$30m)

The nature, scope and quantity of services provided under annual US$10m and US$30m scenarios are summarised in Tables 8 and 9 below. Budget simulations are organised around three main components: (i) operation and management of the CTC (costing details are presented in Annex C3); (ii) knowledge management, capacity building, and network building activities, as well as outreach and private sector engagement activities; and (iii) technical assistance and capacity building based on country requests including request refinement, response plan development, and quick response expert advice and assistance.

We anticipate that significant effort will be needed during the first year of the CTCN to raise awareness, promote the services available to developing countries, and help NDEs understand how best to use CTCN resources. This would include strengthening the capacity of NDEs to manage country requests, if necessary. Establishment of the Network, development of the knowledge management platform, and engagement of the private sector are other start-up activities. Subsequent years, when the CTCN is operational, will see greater emphasis on the delivery of services in response to country requests. In order to reflect this, separate budgets have been presented for years 1 to 5.

Knowledge management, capacity building, and network building activities are important functions of the CTCN and critical to its success. Similarly important are outreach, networking and private sector engagement. These activities will be enhanced through cost sharing and leveraging with other knowledge management systems, in particular those where the consortium partners are already involved. Outreach generally will be conducted back-to-back or in conjunction with other major events and with co-funding from partners.

Technical assistance provided by the CTCN in response to country requests submitted by the NDEs is the core function of the CTCN. TA activities have been divided into two categories. The first, "quick response assistance", will for the most part be directly handled by the CTC and consist of support to: (i) stimulate initial requests; (ii) refine the requests received from NDEs; (iii) develop response plans or approaches; and (iv) other requests that can be addressed directly by the CTC. The second category of technical assistance – referred to as "response projects" – will be provided by the Network members working with country stakeholders. When the available budget increases, the number of quick response assistance interventions and response projects supported by the CTCN increases at a higher rate and efficiency increases significantly. As shown in the case of the US$30m per year scenario, where the budget is increased three fold, the number of quick response interventions is increased almost five fold to 440 and the number of response projects is increased over three fold to 425 (see Tables 8 and 9). The actual number of interventions and activities realised, however, ultimately depends on the level of involvement required for each specific request.

Table 8 Example budget for scenario of US$10 million per year for five years

Main components and assumptions	*Estimated cost under the example budget scenario of USD 10 million per year over 5 years*					
Administrative and management costs (15%)	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Operation/management of CTC	$ 1 500 000	$ 1 500 000	$ 1 500 000	$ 1 500 000	$ 1 500 000	**$ 7 500 000**
Sub-total 1	$ 1 500 000	$ 1 500 000	$ 1 500 000	$ 1 500 000	$ 1 500 000	$ 7 500 000
Knowledge management, capacity and network building activities (10%	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Knowledge Management, peer learning and capacity building	$ 800 000	$ 600 000	$ 500 000	$ 500 000	$ 500 000	**$ 2 900 000**
Outreach, networking and private sector engagement	$ 1 500 000	$ 1 050 000	$ 500 000	$ 500 000	$ 500 000	**$ 4 050 000**
Sub-total 2	$ 2 300 000	$ 1 650 000	$ 1 000 000	$ 1 000 000	$ 1 000 000	**$ 6 950 000**
Technical assistance in response to country requests (75%)	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Quick response assistance [max. 50k$/activity]	$ 700 000	$ 600 000	$ 500 000	$ 500 000	$ 500 000	**$ 2 800 000**
Estimate number of quick response interventions	23	20	17	17	17	**93**
Response projects (Network response to country requests)	$ 5 500 000	$ 6 250 000	$ 7 000 000	$ 7 000 000	$ 7 000 000	**$ 32 750 000**
Estimate of number of response projects [250k$/project]	22	25	28	28	28	**131**
Sub-total 3	$ 6 200 000	$ 6 850 000	$ 7 500 000	$ 7 500 000	$ 7 500 000	**$ 35 550 000**
TOTAL	**$ 10 000 000**	**$ 10 000 000**	**$ 10 000 000**	**$ 10 000 000**	**$ 10 000 000**	**$ 50 000 000**
Delivery	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 9 Example budget for scenario of US$30 million per year for five years

Main components and assumptions	*Estimated cost under the example budget scenario of USD 30 million per year over 5 years*					
Administrative and management costs (10%)	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Operation/management of CTC	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	**$ 15,000,000**
Sub-total 1	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	**$ 15,000,000**
Knowledge management, capacity and network building activities (7	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Knowledge Management, peer learning and capacity building	$ 1,000,000	$ 900,000	$ 800,000	$ 800,000	$ 800,000	**$ 4,300,000**
Outreach, networking and private sector engagement	$ 2,000,000	$ 1,800,000	$ 1,300,000	$ 1,300,000	$ 1,300,000	**$ 7,700,000**
Sub-total 2	$ 3,000,000	$ 2,700,000	$ 2,100,000	$ 2,100,000	$ 2,100,000	**$ 12,000,000**
Technical assistance in response to country requests (83%)	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Quick response assistance [max. 50k$/activity]	$ 3,200,000	$ 2,800,000	$ 2,400,000	$ 2,400,000	$ 2,400,000	**$ 13,200,000**
Estimate of number of quick response interventions	107	93	80	80	80	440
Response projects (Network response to country requests)	$ 17,500,000	$ 21,250,000	$ 22,500,000	$ 22,500,000	$ 22,500,000	**$ 106,250,000**
Estimate of number of response projects [250k$/activity]	70	85	90	90	90	**425**
Sub-total 3	$ 20,700,000	$ 24,050,000	$ 24,900,000	$ 24,900,000	$ 24,900,000	**$ 119,450,000**
TOTAL	**$ 26,700,000**	**$ 29,750,000**	**$ 30,000,000**	**$ 30,000,000**	**$ 30,000,000**	**$ 146,450,000**
Percentage of budget	**89%**	**99%**	**100%**	**100%**	**100%**	**98%**

B8b Percentage of the overall operating budget to be used for administrative costs under Scenario 1 (US$10m) and Scenario 2 (US$30m)

The estimated budget for the administrative costs of the CTC is detailed in Annex C3, as stipulated in the CFP. We anticipate that, for the US$10m per year scenario, the CTC will be staffed with one director, five professionals (including a financial management officer) and two administrative support staff. If the available budget increases to US$30m per year, the CTC will be expanded by placing one climate technology manager and a half time administrative support staff in four regions where UNEP has regional offices: Africa, Asia and the Pacific, Latin America and the Caribbean, and West Asia. This CTC structure is thus flexible, adaptable, and scalable to demand and available budget. The percentage of administrative costs relative to the overall budget scenarios is presented in Table 10.

With the cash and in-kind contribution totalling $ US$14.2m that our consortium can bring over five years, the amount of external financing required is US$35.8m for the US$10m/year budget scenario, and US$135.8m for the $30m/year budget scenario.

Table 10 Costs relative to overall budget

US$10 million per year scenario	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Percentage used for administrative costs	15.5%	15.5%	15.5%	15.5%	15.5%
co-financing contributions towards administrative center	$640,000	$640,000	$440,000	$440,000	$440,000
Percentage used for administrative costs, including co-financing	9.1%	9.1%	11.1%	11.1%	11.1%
US$30 million per year scenario	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Percentage used for administrative costs	10.0%	10.0%	10.0%	10.0%	10.0%
co-financing contribution towards administrative costs of center	$640,000	$640,000	$440,000	$440,000	$440,000
Percentage used for administrative costs, including co-financing	7.9%	7.9%	8.6%	8.6%	8.6%

B8c Feasibility and cost effectiveness of the prospective host's approach to two sample requests

Annex C6 contains detailed descriptions of the proposed CTCN response to the two sample requests, which are described in more general terms in section B3 (Technical approach). Our proposed responses are characterised by the following features that make them both feasible and cost effective:

- Use of an inclusive and rigorous process to identify the each country's needs, capacity constraints, policy and market environment, and other challenges and barriers so that responses will be appropriately tailored to the unique circumstances of each country.
- Leading regional and international organisations as partners in the Consortium having specialised expertise and experience with technology development and transfer across all adaptation and mitigation sectors, allowing the CTC to develop sound and achievable response plans for the countries.
- A means for selecting from among organisations in the Network those most capable of delivering assistance to the countries (competitive procurements where technical feasibility is one of the primary selection criteria)
- Delivery of assistance that couples rigour with speed and flexibility to ensure that countries receive assistance in a timely and efficiency manner.

- Use of monitoring and evaluation for all CTCN projects to provide feedback on performance and impacts and to adjust approaches as needed over time.
- A clear understanding of the unique role that the CTCN plays in assisting countries with technology development and transfer under the UNFCCC relative to other UNFCCC mechanisms and international programmes, ensuring that the CTCN support is focused on those areas where it adds the most value.

The feasibility of the response itself and of the long-term impact of the support depends, among other things, on the inclusiveness of the process to refine the request. The Consortium believes that feasibility of the responses must also include measures of long-term sustainability, speediness and scalability. Although the refining and response plan process needs to be rigorous, the responsible CTC team (in our approach called the Request Expert Team) is bound by strict deadlines to ensure quick implementation.

Our proposed response to the two examples provides for cost-effective and high quality support to the counties through the following approaches, which are further described in Annex C6:

- Leading, experienced international experts on sectors, technology and crosscutting issues are used for planning, but implementation support is provided by local experts through the Network.
- Costs are reduced by building local capacity in renewable energy and crop research in the respective countries and regions, supporting peer-to-peer learning and exchange, and only using foreign experts where needed.
- Matchmaking with current international programmes and donors provides complementary support and leverage and sustains the assistance provided by the CTCN.
- Initial investment in collaboration with the NDE on the development of a well formulated request and response plan ensures that resources are applied in an optimal manner for greatest long-term value.
- Partial use of in-kind funding reduces the costs of operating the CTC Core Centre, as does use of in-kind services in delivering technical support; this increases the amount of resources directly available to developing countries.
- Competitive bidding for Network services with close CTC oversight along with efficient and flexible engagement of the CTC Technical Resource Pool provides for cost and quality control.

Table 11 summarises the feasibility and cost effectiveness of the sample requests.

Table 11 Feasibility and cost effectiveness of the responses to the Annex 2B sample requests in Annex C6

Example	Key elements	Feasibility	Cost effectiveness
National energy programme in Renewland	• problem identification and situational analysis • National Energy Strategy preparation process design • quantitative analysis • preparation of Strategy • development of tariff and other policies • total budget: US$290,000	The proposed programme is feasible as it: • is supported and encouraged by independent data and assistance • long-term sustainability is ensured by including relevant government departments, finance institutions, and private actors. • scalability is taken into consideration as part of the quantitative analysis, feed-in premiums and strategy goals	Cost effectiveness through: • use of regional partners • careful planning around the current capabilities of Renewland, making the assistance tailored • efficient but flexible planning of delivered support • linking with other donor programmes for additional support
Crop research programme in Resilonia	• problem and research demand, engagement sector • R&D collaboration through secondments • development of other technologies • capacity building and information exchange • crop research strategy preparation • design of relevant and enabling policies • total budget: US$231,000	The proposed programme is feasible as it: • is in dialogue with the NDE about the use of the crop research programme • involves researchers with experience on similar research challenges • stakeholder involvement, including from the private sector and the users of the technology, is a core part of the response, stimulating follow-up and sustainability • has attention for non-crop research aspects of the problem, in order to find non-technical solutions • respects long-term sustainability of the response lies in the implementation with private sector stakeholders	Cost effectiveness through: • involvement of local partners use of foreign experts only when necessary • involving foreign experts through cost-effective secondments, • early engagement with local farmers (the users), allowing their demands early on in the research, thereby avoiding expensive adjustments