



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: MEDIUM-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title:	Integrated Solutions for Energy, Water, Food, and Ecosystem Security under Rapid Global Change		
Country(ies):	Global	GEF Project ID: ¹	6993
GEF Agency(ies):	UNIDO (select) (select)	GEF Agency Project ID:	140312
Other Executing Partner(s):	IIASA	Submission Date:	2014-10-24
		Re-submission Date:	2014-12-24
GEF Focal Area(s):	Multi-focal Areas	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of parent program:	[if applicable]	Agency Fee (\$)	180,500

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM-1 Program 2	GEFTF	950,000	675,000
IW-2 Program4	GEFTF	950,000	675,000
Total Project Cost		1,900,000	1,350,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: The project will establish a long-term systems approach to developing, refining and applying the tools, and skills essential for identifying integrated approaches to energy, water, food, and ecosystem security in selected regions in line with the GEF 2020 strategy.						
Project Component	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Development of a systems analysis framework for assessing integrated policy and management options.	TA	1.1. Coordinated and sustainable resource allocation and planning decisions that acknowledge tradeoffs while taking advantage of synergies across themes, sectors and management scales.	1.1 An innovative system analysis framework for integrated options 1.2 Identification of joint energy, water, food and ecosystem hotspots 1.3 Knowledge gaps and long-term transformational pathways	GEFTF	850,000	650,000
2. Prototyping and testing of the systems analysis framework in case studies in Africa and Asia.	TA	2.1. Greater understanding among stakeholders of the tradeoffs and potential synergies of decisions in different sectors and	2.1 Integrated assessment of systems framework at the regional level 2.2 Testing of systems	GEFTF	450,000	300,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

		across different scales. 2.2. Availability of applicable integrated decision support tools and databases, enhanced by local knowledge.	framework in Asia and Africa			
3. Building the foundation for a knowledge and capacity network on integrated systems analysis and decision support	TA	3.1. Foundation of a regional knowledge and capacity network around integrated systems analysis and decision support. 3.2. Active participation in CCM, Water, Food and Ecosystem Security knowledge learning activities. 3.3. In particular, 1% of the grant will be allocated to IW-Learn participation such as attending IW conferences, drafting experience notes, establishing a project/initiatives website and other dissemination and knowledge exchange (via IW-Learn).	3.1 Tools for informed decision making by policymakers 3.2 Report on knowledge gap in energy, water, food and ecosystem sectors 3.3 Consultations and workshops on case study findings 3.4 Setting up of a regional knowledge and capacity network	GEFTF	350,000	200,000
4. Monitoring and Evaluation	TA	A monitoring and evaluation plan will be prepared and carried out.	4.1 M & E plan developed and put in place	GEFTF	100,000	100,000
Subtotal					1,750,000	1,250,000
Project Management Cost (PMC) ⁴					150,000	100,000
Total Project Cost					1,900,000	1,350,000

If Multi-Trust Fund project :PMC in this table should be the total and enter trust fund PMC breakdown here ()

C. INDICATIVE SOURCES OF **CO-FINANCING** FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
(select)	UNIDO	Grants	75,000
(select)	UNIDO	In-kind	275,000
(select)	IIASA	In-kind	1,000,000
(select)		(select)	
(select)		(select)	

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

(select)		(select)	
Total Co-financing			1,350,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNIDO	GEFTF	Global	Climate Change	Cross-Cutting Capacity	950,000	90,250	1,040,250
UNIDO	GEFTF	Global	International Waters	Cross-Cutting Capacity	950,000	90,250	1,040,250
Total GEF Resources					1,900,000	180,500	2,080,500

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$100,000					PPG Agency Fee: \$ 9,500		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
UNIDO	GEF TF	Global	Climate Change	Cross-Cutting Capacity	50,000	4,750	54,750
UNIDO	GEF TF	Global	International Waters	Cross-Cutting Capacity	50,000	4,750	54,750
Total PPG Amount					100,000	9,500	109,500

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$100k for PF up to \$3 mil; \$150k for PF up to \$6 mil; \$200k for PF up to \$10 mil; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

and maintenance of ecosystem services		
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

A. Humans and their actions have become the main drivers behind global environmental change. Climate is changing due to human emissions, land and water are becoming increasingly degraded and scarce, and biodiversity is rapidly diminishing as increasing human populations put pressure on natural resources. Energy, food, water and ecosystems security issues are inseparable and essential contributors to social progress and human wellbeing. Yet, despite intensifying resource use, billions of people still also suffer from lack of adequate energy, water, and food. Looking ahead to 2050, up to 70% more food production will be required globally, even more in developing countries, while electricity generation is expected to double and access to energy will be universal. With increasing energy and food demands, water demands are also expected to increase by 50 percent, with 40 percent of the world's population living under severe water stress by 2050. Greater resource demands have historically acted as conflict multipliers, leading to social unrest and even collapse of civilizations.

The world is now increasingly interconnected and rapidly growing primarily in the poorest regions, with the global population expected to increase by more than 2 billion by 2050, with the urban population almost doubling to 7 billion, many in mega-cities. Urbanization puts increased pressure on energy, water, and food resources and the associated ecosystems. Most mega-cities will develop along rivers and near the coast, importing their resources from the surrounding, as well as distant, regions. Many freshwater sources, both surface water and groundwater, are transboundary. Local policy decisions can therefore be felt regionally and even globally, and resource management is no longer confined to urban administrative units or national boundaries but must be coordinated across all sectors and scales. The interconnectedness of energy, water, food, and ecosystems combined with increasing scarcity and risk, require integrated strategies from local to global scales to improve efficiency, cost effectiveness, human benefits and sustainability.

A further dimension of the challenge is that the hydro-climatic regime in low-latitude regions (including much of Africa, South and Southeast Asia and Latin America) is uniquely complex. Energy poverty coupled with absent or unreliable water supply, sanitation, and irrigation services, and uniquely great and largely unmitigated hydrological variability, including floods and droughts, severely impact one half of the planet's population. These same regions are characterized by unique and important ecosystems, rapidly growing and urbanizing populations, and many large surface water and groundwater basins shared by numerous nations, in part at least a consequence of recent boundaries drawn by colonial powers. For example, Africa has more river basins shared by 3 or more countries than

any other continent, and the Ganges Basin has a population of about 650 million in 4 riparian states. The water futures in these regions are particularly uncertain, with largely unknown impacts of rapidly changing populations, economies, and climate on fresh water fluxes, on which all terrestrial life and biodiversity depend. However, it is clear that: most of the impacts of climate change and unsustainable energy systems on society will be transmitted by water; that these impacts are likely to be greatest in the poorest (low latitude) parts of the world; that effective water management is one essential key to development, adaptation and ecosystem security; and that much of this management will need to involve transboundary institutions, with consequent institutional and legal challenges.

The identification of management and development options that will keep us below key tipping points and planetary boundaries, beyond which recovery will either be impossible or excessively costly and complex, is at the core of the GEF mission. Managing more severely constrained resources without exceeding tipping points will require better understanding of the drivers of change, i.e. demographics, economic development, human behavior and preferences, which lead to demands for good and services that generate environmental pressures, and the impact of these various drivers on the environmental and social systems. Addressing these challenges requires a new approach to identifying evidence-based policy options and long-term, inter-sectoral pathways that will inform decision making in an increasingly complex and rapidly changing world. Responses to the challenge must be based on evidence derived from scientific endeavor. Previous studies have demonstrated feasible strategies for each sector in isolation in areas where good information is available, but trade-offs and synergies for achieving multiple goals still remain unclear even in such areas. A few studies, such as the Global Energy Assessment, in which IIASA partnered with GEF, UNIDO and other UN agencies, and both public and private sectors, have provided examples of the potential co-benefits of integrated policies: in that case a potential 70% reduction in costs if energy security, greenhouse mitigation and air pollution policies are integrated rather than treated separately. Scientific assessments of this type for energy, water, food, and ecosystems are essential, particularly in regions where they are most stressed and climate is most variable. This is particularly true of water, where adequate monitoring data, essential to define the system, calibrate and verify models and assess solutions, either do not exist or are scarce, and are becoming scarcer as many established monitoring networks are poorly maintained, creating immense data and knowledge gaps, particularly – and perversely – in low-latitude regions where needs are greatest but financial and human capacity is typically low. Beyond the challenges of data availability, there are further challenges in building frameworks and models that link processes acting on very different spatial and temporal scales in order to assess synergies and tradeoffs and support decisions across the energy, water, food, and ecosystems nexus.

B. This project will lay the foundations for developing integrated approaches to identify evidence-based policy options and long-term, inter-sectoral pathways that will inform decision making, underpinning the GEF 2020 Strategy and long term vision and serving to inform GEF in the medium to long-term. The causal chain of environmental change provided in the document GEF 2020-Strategy for the GEF, May 2014, provides a valuable conceptual framework for the nature of the global challenges that need to be addressed on priority.

The baseline scenario is a world where future scenarios, models, policies and management plans, and projects continue to be developed for a particular scale of management within sector 'silos', without consideration of the potentially conflicting strategies being developed in the other sectors and disciplines or at other management scales. Current sector analyses and strategies will be assessed within the project to determine the effectiveness and robustness of those strategies when considering developments in other sectors.

Baseline knowledge and information for this project are provided by the vast experience accumulated by IIASA and UNIDO together with their partners and collaborators through decades of regional and global analysis focused on various drivers and economic sectors. The project, for example, builds on IIASA's groundbreaking advances in:

- demographic projections, including probabilistic populations projections and the inclusion of human capital in demographic projections;
- energy systems modelling and analysis, with the Global Energy Assessment quantitatively assessing multiple pathways toward global energy security and sustainability while holding climate change below 2 degrees Celsius, and providing tools to visualise tradeoffs among options;
- forestry and land use assessments, which have not only helped advance the quality of global databases, but have

advanced understanding of land use and carbon management options, such as those associated with REDD+;

- global agricultural, land-use, energy, climate change, technology and demographic databases, assessments, and online tools;
- climate and socio-economic scenario development, with the development of the IPCC Special Report on Emissions Scenarios (SRES) and now the Shared Socio-economic Pathways (SSPs);
- global water assessments through IIASA's co-leadership of the Water and global Change (WATCH) project and its water model inter-comparison project, the Inter-Sectoral Impact Model Inter-comparison Project (ISI-MIP), and the recently launched Water Futures and Solutions Initiative.

These initiatives, and many more like them, have collected and harmonised global data and knowledge and relied on broad-based collaboration with stakeholders and partners across industry, government, academia, and NGOs, linking them with a wide range of complementary initiatives. Most of these studies including integrated assessments include the baselines or reference developments that do not include future policies but rather extend the current trends and dynamics into the future. This means that they do not include nexus considerations such as potential synergies and benefits of integrated policies that encompass simultaneously energy, water, food, urbanisation and ecosystems security developments.

C. In the foreseen alternative scenario, systems analysis, increasingly applied to complex challenges in the developed world, provides state-of-science methods for the integrated analysis of these challenges and of possible coordinated solutions throughout the world. Actionable measures that combine technological innovation with demand-side adjustments can potentially be coordinated such that concurrent energy, water, food, and ecosystem challenges can be met in a “joint, safe operating space”.

The long-term goal of the GEF-IIASA-UNIDO Initiative is the development and implementation of integrated solutions for energy, water, food, and ecosystem security in regions characterised by extreme hydro-climatic complexity, multiple energy and land use challenges, and rapid demographic, economic, and climate change. The project will not only develop tools for identifying solutions, but also provide policy guidelines as well as make strategic recommendations to governments and to the GEF partnership. A medium term goal is to inform the implementation of GEF 2020 and GEF programming directions over the longer term. The project will also strive to advise the GEF on how to internalise the findings on multiple levels and linked issues into its future programming and in tracking progress in the spirit of GEF 2020.

The Project has three key components: 1. development of a systems analysis framework for assessing integrated policy and management options, 2. prototyping and testing of the systems analysis framework in case studies in Africa and Asia, and 3. building the foundation for a knowledge and capacity network on integrated systems analysis and decision support.

Component 1: Development of a systems analysis framework for assessing integrated policy and management options:

Under this component, the main emphasis will be placed on undertaking an in-depth integrative analysis, which, among others, will focus on:

- a. Developing an innovative, ‘state-of-science’, conceptual and modelling framework of systems analysis for assessing integrated policy and management options focusing on the nexus of energy, water, food, and ecosystems and for exploring global and sub-regional transformational pathways using integrated assessment methods.
- b. Identifying joint energy, water, food, and ecosystem security “hotspots”, combining variability/unpredictability and risk, and nexus policy hotspots, where joint decision-making could produce the most benefits.
- c. Identifying knowledge gaps that prevent the analysis of actionable measures (including due to scarce and declining hydro-climatic monitoring), assess the benefit of additional information on improved decisions in order to establish monitoring priorities and to catalyse technological ‘leapfrogging’ in data collection, and develop innovative technological/institutional solutions to ensure fit-for-purpose data and knowledge for robust systems analysis of problems and solutions.

d. Undertaking feasibility analysis of long-term transformational pathways for achieving multiple objectives, with integrated story-lines of major drivers of change, and policy measures and strategies.

Component 2: Prototyping and testing of the systems analysis framework in case studies in Africa and Asia:

Under this component, an integrated assessment on the world-regional level will be complemented by in-depth analyses of specific basin(s) in low-latitude regions characterised by hydro-climatic complexity, which is the focus of the second component of the project.

This component will also undertake, in partnership with premier scientific institutions, and potentially with other partners, preliminary exploratory fast-track systems analyses of two case studies in Africa and Asia, including at least one (or more) trans-boundary river basin and catchment urban areas in these regions.

Case study partners will be approached while deciding on the case studies, but partners will be selected that can connect with key stakeholders across food, water, energy, and environmental management in private industry, government, academia, and NGOs. To help identify stakeholders and partners, existing networks and linkages can be leveraged, like the national- and international river basin commission- level water planners involved in Water Futures and Solutions, as well as utilities connected to IWA and the US Water Partnership, the vast network of the Global Energy Assessment in the area of energy and several others dedicated to food security and ecosystems research, IIASA's National Member Organisations, and the regional offices of UNEP, FAO, UNESCO, UNDP, UNIDO, and GWP. An effort will be made to establish links with the regional organization such as Africa Union (AU) and sub-commissions as well as regional economic grouping in Africa (e.g. EAC, ECOWAS and SADC) and Asia (ESCAP, ASEAN and SAARC etc.) as well as private sector in each of the regions.

The case studies will build the evidence base of the benefits of integrated policies to address the nexus; identify and prioritise specific knowledge gaps required to be filled for analysis and decision-making, and specific, innovative solutions for doing so; identifying specific, innovative and actionable policies for achieving synergies among the nexus challenges, involving network interaction with stakeholders; and proposing specific, innovative approaches for integrating investment strategies including financing requirements over several decades.

Component 3: Building the foundation for a knowledge and capacity network on integrated systems analysis and decision support:

The third component of the project will build the basis for a knowledge and capacity 'Network for Integrated Solutions in Low Latitudes', with a program of consultative meetings, workshops and training seminars, including premier scientific and knowledge institutions in Africa and Asia.

Outputs would include identifying key areas for delivering tools for informed decision making by policymakers. A systems analysis framework for assessing integrated policy and management options, and development pathways and their trade-offs and synergies, across the nexus; a typology and description of nexus hotspots and benefits of joint decisions; a report characterizing knowledge gaps and providing insight on which gaps, if filled, would provide the largest benefits in terms of security across the nexus; stakeholder development and testing of decision support prototype tools; reports and workshops on case study findings and enhanced databases and indicators; the foundation of a regional knowledge and capacity network; and a final report and conference, training materials, seminars and briefings.

The objective of the 'Network for Integrated Solutions' is to build the systems analytic capacity and expertise of existing scientific institutions in low latitude regions, so that they can become local centres of integrated decision support. They may also serve to inform and advise GEF future programming directions and monitoring. The goal of this project is to identify the "Network institutions" and establish the connections. Partners and advisors to the project partners can help identify the best local institutions and individuals to lead these knowledge hubs. For the purposes of outreach and dissemination, this project will build on existing networks and high level fora, leveraging these whenever possible, particularly high level events (World Water Week, Vienna Energy Forum, UNESCO

Scientific Fora, OECD, GEF Council and STAP, SE4ALL Global Forum, SDSN, UNFCCC COPs, Future Earth, etc.).

Component 4: Monitoring and Evaluation. This project component covers project monitoring and oversight by UNIDO in close coordination with country counterparts and project partners, as well as terminal evaluation of the Project. A monitoring plan will be established at the onset to assure compliance with UNIDO and GEF guidelines.

D. Together, completing the objectives of this Project will enable the systematic analysis of possible pathways towards achieving multiple normative objectives and nexus targets for energy, water, food, urbanization and ecosystem security, as well as the identification of priority areas for investments and the multiple benefits associated with them. Relevant nexus targets will be examined in the context of proposed Sustainable Development Goals (SDGs) for tradeoffs and potential synergies in reaching them. The integrated assessment of which monitoring investments will provide the biggest impact in term of achieving the SDGs will assist countries and GEF prioritize projects. It is assumed that the SDGs will establish a monitoring and tracking system for each SDG and it will be important to link the cross-analysis of the project to these.

E. Previous studies have demonstrated feasible strategies for each sector in isolation in areas where good information is available. A few have provided some examples of the potential co-benefits of integrated policies. This project develops an innovative, 'state -of-science', framework of systems analysis for assessing integrated policy and management options focusing on energy, water, food, and ecosystems, particularly in regions with limited data, which are most stressed, and where climate is most variable. At the same time, the project will strive to address the key challenges of linking various processes acting on different spatial and temporal scales in order to assess synergies and tradeoffs, and support decisions across the energy, water, food, and ecosystems nexus issues. To ensure the sustainability and possibilities for scaling up the project in future, within the policy framework and management options, business models design will be clearly outlined in the project document during the PPG phase.

2. *Stakeholders*. Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes /no) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation.

Stakeholder groups will be involved at several different levels within the Project. Efficient and effective advisor groups are those that are small and have a common purpose. It is proposed to establish two advisory groups: first one for providing institutional advice (Steering Group) and second one for providing technical and scientific feedback (Scientific Advisory Group). Institutional stakeholders would, among others, include the following: GEF, GEF STAP, UNIDO, UNDP, FAO, World Bank, IUCN, SEI, TERI, WRI, WBCSD and regional development banks (such as ADB and AfDB). Each of these organizations will be asked to appoint one person to represent them at one or both structures. Scientific and technical advisors, among others, may include: David Grey, Johann Rockstrom, Ged Davis, Fritz Holzwarth, Helga Weisz, Jose Goldemberg, Ogulande Davidson, R. K. Pachauri, Sabine Fuss, and Kejung Jiang.

The Project will employ stakeholders groups formed in the existing coordinated initiatives mentioned in section A.5. The core Water Futures and Solutions Initiative, for example, has two stakeholder groups, one which includes representatives of national water planning agencies, international river basin commissions, and international organizations to help define possible futures and water policies, and a second stakeholder group consisting of planning agencies and private corporations in agriculture, energy, and urban utilities. Finally, stakeholders will be identified as part of the African and Asian case studies.

3. *Gender Considerations*. Are [gender considerations](#) taken into account? (yes /no). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

To ensure that gender dimensions are mainstreamed into project activities, and gender inequalities in activities and outcomes are reduced or eliminated, gender issues need to be considered and addressed during the entire project

cycle – from design and implementation to monitoring and evaluation. By systematically mainstreaming gender into specific interventions, UNIDO's Energy and Climate Change Programme (ECC) aims to ensure equal opportunities for both women and men, thus furthering UNIDO's inclusive and sustainable industrial development agenda and contributing to the achievement of the Millennium Development Goals (MDGs), and the Post-2015 development framework, as well as the Sustainable Energy for All (SE4ALL) objectives. In order to strengthen gender mainstreaming and provide practical guidance on how to systematically address existing or potential gender inequalities specific to UNIDO's energy and climate change and environmental management interventions, a tailored guide has been developed aimed at helping the UNIDO staff to apply a gender perspective to their work and, more specifically, to mainstream gender throughout the project cycle. Likewise, in this project gender mainstreaming will be considered in the policy framework and management options tools for integrated solutions for energy, water, food, and ecosystem security.

Gender is an important driver of developments in demography, energy, food, water, urbanization, technological change and ecosystems security, in terms of the use and management of resources, and is therefore a key element of a system analysis framework that can identify and assess robust and sustainable management options and development pathways. Because gender is critical to the project assessments, gender representation will be a key criterion in selection of main stakeholders and beneficiary groups through the project cycle.

In addition to the assessment, main agencies involved in the project, such as IIASA, have language in their regulations prohibiting discrimination based on gender, and gender balance is sought for staffing the project team.

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

Beyond risks to completing project goals, risk is a key component of the assessment. The analysis will assess impacts/risks of development paths in terms of their robustness in improving combined water, food, energy, and environmental security across ranges of uncertainties faced, their sustainability and their impacts to poor segments of society.

Assessment activities themselves will carry negligible physical, environmental, political, economic, or social risks. Coordination among many initiatives always carries some risk, as do case studies in regions where information and capacity are not as readily available as needed, and where travel may potentially be restricted due to security risks or infectious diseases. In worst case scenarios, the Project would need rely on existing, available information, potentially resulting in some loss of detail, particularly in for the case studies. These risks will be limited by careful selection of case studies in the first phase of the Project. Successful interactions with stakeholders are also important to the success of the study, and the Project will employ experts in participatory process management to ensure effective management of the stakeholder processes.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The project will build the foundations of knowledge and capacity for integrated solutions across energy, water, food and ecosystems, which are relevant to all GEF focal areas: with particular relevance to Climate Change (CCM and CCA), International Waters and the Sustainable and Resilient Cities Integrated Approach Pilot, and significant relevance to the Food Security Integrated Approach Pilot (with a major focus on the Sahel) and to the Biodiversity, Land Degradation, Chemicals, and Sustainable Forest Management Focal Areas.

The project also has particular relevance to each of the GEF-6 IAPs: Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa (addressing water, energy, soil and food in an integrated manner); Sustainable Cities (where resource-sensitive cities integrate optimization of water and energy demands and must manage water-related risks); and Taking Deforestation out of the Commodity Supply Chain (where the conservation of forests is central to watershed, livelihood and biodiversity protection, and to carbon sequestration). It also provides vital input for the implementation of SDGs by assessing tradeoffs and synergies among options to achieve the SDGs and suggesting

monitoring priorities.

UNIDO as a recognized implementing agency of the Global Environment Facility has a comparative advantage in the development and implementation of such global projects focusing on nexus issues. It has in-house expertise to deal with energy, water, resource efficiency, trade and agri-business issues in an holistic manner. With its mandate to promote inclusive and sustainable industrial development, UNIDO has positioned itself as one of the most relevant players in assisting industries to become more productive and competitive. Since this proposal seeks to address multi focal areas and proposes integrated solutions for energy, water, food, and ecosystem security, UNIDO-team would use in-house expertise in the field of Energy and Climate Change, Agri-Business Development, and Environmental Management. In addition, UNIDO has close collaboration with IIASA for over two decades in areas of energy, environment and sustainable development. To ensure the success of project implementation, the UNIDO team will coordinate closely with its field offices, investment offices, NCPCs, technical and regional centres, as well as strategic partners and networks such as REEEP and TERI etc.

In addition to synergies with GEF Focal Areas and IAPs, this Project is seen as integral to a number of ongoing global projects and processes and will seek and exploit synergies with the related programmes. Some examples of associated processes:

IIASA and UNIDO work closely with SE4ALL, UN Energy, UN-Water, the World Water Council, the International Water Association, the Austrian Development Agency, the US Water Partnership, USAID, and a large number of research institutes and planning agencies through the Water Futures and Solutions Initiative (WFaS). WFaS is also linked with GWP/OECD and DFID support to water security research led by Oxford University and its many partners.

In addition, IIASA and UNIDO worked together on GEF-funded Global Energy Assessment project. While UNIDO has set up regional sustainable energy centres and developed global cleantech innovation programme through GEF funding, IIASA is co-coordinating the development of the Shared Socio-Economic Pathways for the IPCC, and was a leading partner in the EU's Water and Global Change (WATCH) and Scenarios for Europe and Neighboring States (SCENES) projects. It is also a leading partner of the Inter-sectoral Impact Model Inter-comparison Project (ISI-MIP), headquartered at Potsdam Institute for Climate Change Research – PIK, part of Germany's NEXUS platform for research, and is involved in many initiatives with The Stockholm Environment Institute, Stockholm International Water Institute, and Stockholm Resilience Center, International Water Association, IFPRI and IWMI.

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

Not Applicable since it is a global project.

However, wherever found feasible, the project will try build on and link up with reports and the information contained under the national /regional /global plans, strategies and assessments under relevant conventions and treaties.

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

Knowledge management will play a vital role in the project by learning from other relevant projects and initiatives, networking with key institutions and documenting best practices and results from case studies for dissemination to wider stakeholder groups. The project will follow a comprehensive knowledge management approach by collating information on the existing and new data, tools and methodologies, as well as innovative projects and initiatives on nexus issues and disseminate it in user friendly way. This approach will also seek to foster partnerships, networking

and collaborations among agencies and organizations working in the field of energy, water, food and ecosystem security systems.



PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT⁸ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
 (Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies⁹ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Mr. Philippe R. Scholtès, Managing Director, Programme Development and Technical Cooperation Division - PTC, UNIDO GEF Focal Point		12/24/2014	Mr. Pradeep Monga, Director, PTC/ECC 	+43-1-26026-3018	p.monga@unido.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

⁸ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

⁹ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF