



# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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## PART I: PROJECT INFORMATION

Project Title:	Ethiopian Urban NAMA: Creating Opportunities for Municipalities to Produce and Operationalise Solid waste Transformation (COMPOST)		
Country(ies):	Ethiopia	GEF Project ID: <sup>1</sup>	9048
GEF Agency(ies):	UNDP (select) (select)	GEF Agency Project ID:	5541
Other Executing Partner(s):	Ministry of Urban Development, Housing and Construction (MUDHCo)	Submission Date:	March 27, 2015
GEF Focal Area(s):	Climate Change	Project Duration (Months)	48
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 (\$)	633,377

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
(select) CCM-2 Program 3 (select)	GEFTF	3,747,721	27,403,161
(select) CCM-2 Program 4 (select)	GEFTF	2,919,402	16,034,465
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(select) (select) (select)	(select)		
Total Project Cost		6,667,123	43,437,626

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

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

## B. INDICATIVE PROJECT DESCRIPTION SUMMARY

<b>Project Objective: To promote significantly greater use of Integrated Solid Waste Management (ISWM) and Urban Green Infrastructure (UGI)<sup>3</sup> approaches in Ethiopian cities and towns in alignment with the national Growth and Transformation Plan for the urban sector</b>						
Project Component	Financing Type <sup>4</sup>	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. The enabling framework created and enforced to support ISWM and UGI	TA	The regulatory and legal framework, institutional and coordination mechanisms, and tools are established for supporting the national policy environment for integrating ISWM and UGI within urban systems.	<p>1.1 Regulatory and legal frameworks relevant to ISWM and UGI are harmonised at the federal and regional (sub-national) levels.</p> <p>1.2 Standards for ISWM and UGI developed at federal level are endorsed and transposed at the regional (sub-national) level.</p> <p>1.3 Capacity of cities and towns to develop cadastral maps to enforce land cover planning and to adopt best practices for sustainable land management regarding urban greenery and waste management is enhanced.</p> <p>1.4 Source-sorting by households in all kebeles in selected municipalities and city/town administrations, supported by public incentives, an inter-sectoral communication plan and an awareness-raising campaign involving civil society actors.</p> <p>1.5 A national standard for organic compost is adopted, and quality assurance systems (QAS) are in place at the regional (sub-national) level.</p> <p>1.6 A twinning programme is developed with other cities and towns experienced in ISWM and UGI, and with institutions developing and implementing standards, to inspire and build capacities.</p>	GEFTF	890,000	5,339,000

<sup>3</sup> UGI - vegetation, soils, and natural processes that regulate carbon sequestration, water flows and create healthier urban environments. (Source: US EPA: Green Infrastructure Definition and Examples: [http://water.epa.gov/infrastructure/greeninfrastructure/gi\\_what.cfm](http://water.epa.gov/infrastructure/greeninfrastructure/gi_what.cfm))

<sup>4</sup> Financing type can be either investment or technical assistance.

<p>2. The private sector value chain for compost is created and professionalism is promoted to support sustainable production and utilisation of compost</p>	<p>TA</p>	<p>A market-based system is developed and participating Micro &amp; Small Enterprises (MSEs) are supported professionally to ensure the financial sustainability of compost production and utilisation.</p>	<p>2.1 A capacity building programme is developed in conjunction with the Entrepreneur Development Centre (EDC) to enhance the occupational health &amp; safety conditions of Micro &amp; Small Enterprises (MSEs) – especially in SWM - and to enhance the entrepreneurship skills of all MSEs.</p> <p>2.2 A financing mechanism is established under the Innovative Financing Facility (IFF) to support the establishment of new MSEs and to support the skill and technological enhancement of existing MSEs in the ISWM-UGI value chain.</p> <p>2.3 Market outlets for compost generated by the municipal composting plants are ensured through long-term contracts with public (municipalities, city/town administrations), and private (landscapers, nurseries, farmers) institutions so as to support urban agriculture and peri-urban forestry on a large-scale.</p> <p>2.4 Market outlets for the non-organic recycled waste processed by the municipal sorting plant are ensured through long-term contracts with recycling firms.</p> <p>2.5 Incorporation of ISWM and UGI, including socio-economic and environmental benefits, into Technical Vocational and Educational Training institutions (TVETs), selected university degree courses, and into outreach activities targeting kebeles.</p> <p>2.6 Establishment of a voluntary carbon offset scheme to support urban and peri-urban reforestation.</p>	<p>GEFTF</p>	<p>719,878</p>	<p>6,392,873</p>
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3. Architecture for Nationally Appropriate Mitigation Action (NAMA) development and implementation is established.	TA	A NAMA is designed and implemented to catalyse the transformational capacity of integrated urban systems to generate large emission reductions.	<p>3.1 Establishment of standardised baselines for calculating emission reductions from: (1) compost production using landfill organic waste; (2) substitution of chemical fertilisers in urban greenery (urban agriculture, green spaces, nurseries and peri-urban forests) for compost; (3) urban and peri-urban reforestation of degraded land; (4) displacement of non-renewable fuelwood by renewable biomass generated from managed forests; and (5) Fukuoka method of semi-aerobic management of landfills.</p> <p>3.2 MRV mechanisms are developed for each of the five elements in 3.1, and linked with the City Prosperity Index of UN-Habitat.</p> <p>3.3 Development of comprehensive technology baselines and prioritisation of technology options for ISWM and UGI.</p> <p>3.4 A NAMA is designed, registered on the UNFCCC NAMA Registry and implemented – initially covering 6 regional cities and towns but with the potential for scale-up within Ethiopia.</p>	GEFTF	704,489	6,108,500
4. Integration of UGI and ISWM in urban systems, including design and implementation in 6 cities and towns (Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle)	Inv	Proof-of-concept urban systems integrating ISWM and UGI are operationalised with quantified GHG emission reductions in a NAMA framework.	<p>4.1 Municipal composting plant built, equipped and implemented in 6 regional cities and towns and linked with the Agricultural Transformation Agency's blending facilities to progressively displace chemical fertilizers with an organic blend.</p> <p>4.2 Implementation of Fukuoka semi-aerobic technology in the Bishoftu and Hawassa landfills.</p> <p>4.3 Rehabilitation of the open waste dump site in Bishoftu to create a green space.</p> <p>4.4 Reforestation of 17,700 ha of degraded land in 6 cities and towns, including support for existing nurseries to produce compost-grown seedlings.</p>	GEFTF	4,035,274	23,425,372
Subtotal					6,349,641	41,265,745
Project Management Cost (PMC) <sup>5</sup>				GEFTF	317,482	2,171,881
<b>Total Project Cost</b>					6,667,123	43,437,626

<sup>5</sup> 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.

**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 (\$)
GEF Agency	UNDP	Grant	3,704,000
GEF Agency	UNDP	In-kind	2,050,000
Recipient Government	Ministry of Urban Development, Housing and Construction (MUDHCo)	Grant	13,810,000
Recipient Government	Ministry of Urban Development, Housing and Construction (MUDHCo)	In-kind	2,870,340
Recipient Government	Regional (sub-national) administrations (governing cities and towns of Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle)	Grant	10,174,396
Recipient Government	Regional (sub-national) administrations (governing cities and towns of Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle)	In-kind	6,775,066
Private Sector	To be determined during project preparation	Grant	1,500,000
Private Sector	Mekete Demissie Landscape and Gardening Services (MDLGS)	In-kind	200,000
CSO	Horn of Africa Regional Environment Centre and Network (HoAREC)	In-kind	100,000
Recipient Government	Ministry of Environment and Forest (MEF)	In-kind	1,503,824
Recipient Government	Agricultural Transformation Agency (ATA)	Grant	400,000
Recipient Government	Agricultural Transformation Agency (ATA)	In-kind	350,000
<b>Total Co-financing</b>			<b>43,437,626</b>

**D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS <sup>a)</sup>**

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) <sup>b)</sup>	Total (c)=a+b
UNDP	GEFTF	Ethiopia	Climate Change		6,667,123	633,377	7,300,500
<b>Total GEF Resources</b>					6,667,123	633,377	7,300,500

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

**E. PROJECT PREPARATION GRANT (PPG)<sup>6</sup>**

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**

<b>Project Preparation Grant amount requested: \$ 100,000</b>					PPG Agency Fee: 9,500
GEF	Trust	Country/	Focal Area	Programming	(in \$)

<sup>6</sup> 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.

Agency	Fund	Regional/Global		of Funds	PPG (a)	Agency Fee <sup>7</sup> (b)	Total c = a + b
UNDP	GEF TF	Ethiopia	Climate Change		100,000	9,500	109,500
<b>Total PPG Amount</b>					<b>100,000</b>	<b>9,500</b>	<b>109,500</b>

## F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>8</sup>

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 and maintenance of ecosystem services	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>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	<i>3.4 million 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;**

Ethiopia is one of the fastest-growing economies in the world,<sup>9</sup> and one of the Government's key development goals is achieve a middle-income status by 2025.<sup>10</sup> To support this goal, the Government of Ethiopia (GoE) is focusing efforts on the development and renaissance of its cities and towns, which currently produce 60% of the country's GDP.<sup>11</sup> Currently, 19.5% of Ethiopia's population lives in urban areas<sup>12</sup>, with an urbanisation growth rate of 4.9% per year.<sup>13</sup> This urban growth has largely been unplanned and uncoordinated, giving rise to a range

<sup>7</sup> PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

<sup>8</sup> 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.

<sup>9</sup> Ethiopia ranked in eighth place globally in 2014, ahead of countries including China, Nigeria, Saudi Arabia, Turkey and Brazil. *IMF World Economic Outlook*, October 2014.

<sup>10</sup> Government of Ethiopia (2011), *Climate Resilient Green Economy (CRGE) Strategy*.

<sup>11</sup> *Ethiopia's Road to Middle-Income Status Runs through Its Cities*, 3 December 2014. <http://www.citiesalliance.org/node/5118>

<sup>12</sup> Ethiopian Central Statistical Agency (CSA), 2015.

<sup>13</sup> World Bank Databank: 2013: Annual Urban Population Growth, data.worldbank.org.

of problems, including poor land-use planning, insufficient waste management, limited opportunities for employment and a deteriorating urban environment.<sup>14</sup> The Government's Urban Development Policy has identified urbanisation as a challenge to the development of both urban and rural areas in Ethiopia. Urbanisation is generating a range of environmental impacts from the perspectives of both Integrated Solid Waste Management (ISWM) and Urban Green Infrastructure (UGI), the principal ones being:

- Urbanisation is increasing the volume of solid waste that is being generated in Ethiopian towns and cities. Where the waste is collected and disposed at landfills (semi-engineered or sanitary), the increase in quantity of waste increases the generation of methane emissions. According to the Second National Communication to the UNFCCC (currently in advanced draft form), solid waste volumes from towns and cities are increasing at a compound annual growth rate of 24.4%, with methane emissions associated with solid waste amounting to 143 million tCH<sub>4</sub> (i.e. 3 billion tCO<sub>2</sub>e) in 2013. Waste sector emissions have increased by 31% since the Initial National Communication in 1994. As the draft SNC notes (page 67), "This [increase in methane emissions] is a result of the gradual migration of people from rural to urban areas. It is expected that as the country continues to develop at the highest rates in the world, methane emissions will continue to escalate." And (page 76): "The emission trends from the waste sector are increasing exponentially and in tandem with the increase in urban population."
- Urbanisation is increasing the population in informal settlements, which do not necessarily benefit from the collection of MSW. This is especially an issue in towns and cities that use the water bill method to collect revenues from households that receive door-to-door waste collection. Since there is limited water access in informal settlements, households fall outside the cohort of households that receive MSW collection services. The end-result is the dumping of waste in public spaces such as open areas and river banks, which gives rise to odour and hygiene problems. The deterioration of urban open green areas has been identified as a trend running counter to the Government's efforts to enhance UGI.<sup>15</sup> As the draft SNC notes (page 37), "most Ethiopian municipality administrations are responsible for waste collection. However, this is a daunting task for the municipalities as up to 43% of the waste is collected for disposal in unmanaged landfills while the rest remains in the streets or dumped in open spaces."
- Urbanisation is increasing the demand for primary energy in urban areas, predominantly in the form of non-renewable biomass, as well as the demand for timber for construction. Both are driving rapid forest degradation and deforestation in Ethiopia. The latest data on forest cover in Ethiopia is available from the 2010 Forest Resource Assessment conducted by FAO. The rate of deforestation in Ethiopia is such that, on current trends, an area of 9m ha of forest will be lost between 2010-2030 and, over the same period, annual fuelwood consumption will increase by 65%. Biomass energy – mainly fuelwood and charcoal – accounts for 92% of the country's energy supply and translates into the equivalent of 1 tonne of (predominantly unsustainably harvested) fuelwood per capita per year (draft Second National Communication to the UNFCCC, page 30).

Local governments within cities and towns lack the knowledge, capacity and financial resources necessary to implement significant greenhouse gas (GHG) emission reduction measures based on Urban Green Infrastructure (UGI) – i.e. urban and peri-urban tree-planting, urban agriculture and urban green spaces. In spite of a range of strategies and plans promoting urban greenery in Ethiopia,<sup>16</sup> UGI activities are weakly enforced and given little importance. Moreover, almost all cities and towns in Ethiopia collect and dispose of less than 60 percent of solid waste generated<sup>17</sup> and have little or no disposal infrastructure in terms of either well-designed and operated landfill sites or disposal through recycling or incineration of organic waste. Although there is now a federal policy and legislation on waste management, municipal administrations require capacity and financial

<sup>14</sup> UN Habitat (2015), *Country Programme for Ethiopia (2015 – 2025)*.

<sup>15</sup> Thomas PZ Mpofu (2013), 'Environmental challenges of urbanisation: a case study for open green space management', *Research Journal of Agricultural and Environmental Management*, 2(4), pp 105-110.

<sup>16</sup> Ethiopia draft UGI Standards, Ethiopia draft UGI Handbook, Urban Land Development and Management Policy and Strategy, Construction Industry Development Policy.

<sup>17</sup> The baseline assessment of the SWM systems that has been carried out in the cities of Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle have shown that both the collection efficiency of municipal solid waste at the household level and the solid waste disposal rate at the landfill are at most 75%. These rates give an overall system efficiency of 56%.

reinforcement to implement even basic measures, and considerably more support to promote more innovative and sustainable solutions to the waste management problem.

The major challenges along the MSW value chain in Ethiopian cities are: **Generation** – MSW is not sorted at the household level in a systematic way. There is an informal economy related to the collection of recyclable waste at the household level. **Collection & transportation of waste** – Primary waste collection in all cases is carried out by door-to-door collection by MSEs. Waste is collected in 2-wheel wheelbarrows, and the persons employed by the MSEs work in very poor conditions – i.e. with little regard to occupational health and safety. Waste bins used for primary waste collection are typically of 1.5 m<sup>3</sup> capacity and are pushed mechanically to the communal bins. There are no transfer stations. The filled communal bins are then loaded by skip trucks owned by the municipality or city administration for dumping at a landfill. The major challenges regarding waste collection are: (1) cost recovery by either the MSEs or the city/town administration; and (2) a collection rate that is around 75% only. **Disposal of waste** – In most cities and towns, the solid waste is dumped at open landfills that are not fenced. The sites are therefore accessible to scavengers who pick waste such as PET bottles that have a commercial value or food scraps for feeding animals. The combined effects of a low collection rate (75%) and a low disposal rate (70%) implies that, on average, only 52% of MSW is disposed of at landfills. A significant fraction of MSW is dumped in open public spaces. The current regulatory framework is virtually silent on waste collection and disposal enforcement mechanisms. **Energy recovery** – There is no energy recovery at any of the waste disposal sites in the six cities and towns considered in the baseline. This is despite the fact that disposal sites such as in Adama and Hawassa were originally designed as sanitary landfills fitted with landfill gas capture equipment. These landfills are now operated as open dump sites principally because of the lack of appropriate equipment and trained operators.

Problems and root causes associated with these UGI and Solid Waste Management (SWM) deficiencies are described below:

Component	Problems and Root Causes
Policy (and regulatory) framework	<p><b><i>Lack of clear, effective legal frameworks and enforcement mechanisms for UGI and SWM</i></b></p> <p><b>SWM</b> Being a federal state, all the municipalities and city administrations in Ethiopia are guided by the national Solid Waste Management Proclamation, SWMP (No. 513/2007). Except for the City of Addis Ababa, none of the municipalities or city/town administrations has proclaimed local legislation pertaining to SWM. There are several issues/shortcomings related to the SWMP that are discussed below and that will need to be addressed from the perspective of an integrated solid waste management (ISWM) framework. Since the (sub-national) regions are guided by federal legislation, issues/shortcomings at the federal level are mirrored at the regional level. The SWMP is also very weak on enforcement.</p> <p><b>UGI</b> Although UGI is recommended in numerous strategies, policies and manuals, including the Land Lease Proclamation 721/2011, urban land is not properly utilised for development due to an increase in illegal holdings.<sup>18</sup> Green areas, river banks and open spaces intended for public services are occupied without permission. Actual urban land cover is not aligned with existing local development plans (LDPs), policies, strategies, legal frameworks and manuals. A recent study on Ethiopian urban forests found that many plots which had been allocated for green area development have been illegally occupied and used.<sup>19</sup> Consequently, people are living in precarious sites, such as on stream banks, which should be reserved for vegetation growth to help with flood control.<sup>20</sup> Urban local governments (ULGs) require reinforcement to sustainably manage and enforce urban land development.</p>
Financing	<p><b><i>Financial constraints impacting sustainability of initiatives</i></b></p> <p><b>SWM</b> Sustainable waste management business models are largely absent. The only element of the SWM system that operates under market conditions is the collection of primary waste by Micro &amp; Small Enterprises (MSEs). MSEs are remunerated for household solid waste collection. The MSEs are</p>

<sup>18</sup> Ethiopian Urban Land Development and Management Policy and Strategy.

<sup>19</sup> Fetene, A. and Worku H. (2013), 'Planning for the conservation and sustainable use of urban forestry in Addis Ababa, Ethiopia', *Urban Forestry & Urban Greening*, 12: 367–379.

<sup>20</sup> UN-Habitat (2008), *Ethiopia: Dire Dawa Urban Profile*.



	<p>registered with the relevant city/town administrations, but the contractual agreements for waste collection differ between cities and towns. The cost of transporting solid waste from communal bins to landfills is borne by the city administration or municipality. A user charge is recovered from households by the municipality or city administration only in cases where the contractual agreement for waste collection is between the local government and MSEs. A common approach that is used by a city administration or municipality for collecting user charges for waste collection is through the household water utility bill (hereafter referred to as the ‘water bill’ method). In this case, household water consumption is used as a proxy for the amount of solid waste that is generated. As water is a vital resource for households, linking the user charge for waste collection to the water bill is an effective means of securing payments. However, there are several problems related to financing the SWM system, including:</p> <ul style="list-style-type: none"> <li>• Due to socio-economic acceptability, not all cities and towns have recourse to the ‘water bill’ method, making cost recovery a problem;</li> <li>• In cases where the contractual agreement for household waste collection is between the households and the MSEs, there is a higher rate of waste dumping, and weaker oversight of the city administration or municipality on the quality of waste collection and disposal;</li> <li>• There is no cost recovery by the city administration/municipality for waste that is transported from communal bins to the landfill.</li> </ul> <p><b>SWM/UGI</b>  ULGs have limited capacities and experience in planning for and coordinating the sustainability of cross-cutting initiatives such as UGI/ISWM.<sup>21</sup> This is very clearly seen in the baseline situation discussed above for SWM, where a market-based mechanism exists only for waste collection but not for waste disposal, which is covered by city administrations/municipalities. The same situation applies to UGI, where expenses are covered predominantly by the city/town administrations without having a clear cost recovery mechanism in place. Also, because of contractual ambiguities – i.e. contracts for waste collection are generally between households and the MSEs rather than between the city/town administration and MSEs – the effectiveness of waste collection is jeopardised, resulting in low solid waste collection and disposal efficiencies. The inability to recover costs related to SWM and UGI creates a vicious circle in which the sustainability of SWM and UGI initiatives are constantly threatened. This is further exacerbated by the fact that current legislation does not make any provisions for enforcement. While this leaves the local administrations without an important lever to enhance the SWM system, the lack of enforcement modalities also implies the inability to increase revenues through penalties or fines.</p> <p><b>UGI</b>  ULGs are expected to finance UGI initiatives from locally-collected revenues for both recurrent and capital expenditures. However, ULGs have limited capacities to collect local tax revenues and to leverage other sources of financing (e.g. international climate finance). Consequently, lack of financing prevents cities from fulfilling their role in the provision of municipal services, such as development of open green spaces.</p>
Institutional framework	<p><b>SWM/UGI</b></p> <p><b><i>Poor coordination among institutions</i></b>  In a federal state such as Ethiopia, effective institutional structures linking the (national) State to the (sub-national) Regional States to the woredas and kebeles<sup>22</sup> are essential to ensure the effective and efficient implementation of ISWM and UGI policies and strategies. However, there is a lack of clarity regarding the mandate for SWM between the Ministry of Environment and Forest (MEF) and the Ministry of Urban Development, Housing and Construction (MUDHCo) at the federal level, and this lack of clarity is mirrored at the (sub-national) regional level. Furthermore, jurisdiction over hazardous waste falls under the Regional Environmental Protection Agencies (EPAs), and the departments working on SWM do not coordinate their activities with the Regional EPAs.</p> <p><b><i>Limited monitoring and verification by institutions</i></b>  Currently, the benefits of green growth are not monitored and measured on the ground due to limited capacity to establish baseline information, generate relevant data and monitor outcomes in order to obtain a better understanding of the impacts of urban planning and their multi-sectoral implications.</p> <p><b><i>Skills gap: lack of technically-qualified personnel</i></b>  As indicated in Ethiopia’s MSE Development Strategy (2013), MSEs have a crucial role in economic</p>

<sup>21</sup> UN-Habitat (2015), *Country Programme for Ethiopia (2015 – 2025)*.

	and social development and act as the main job creators in urban areas. Existing Technical and Vocational Education and Training (TVET) institutes in Ethiopia provide crucial technical support to MSE development. In the greenery and waste management sectors, skilled labour must be enhanced by supporting the TVET system to provide skills training in both sectors. Currently, there is a lack of technical personnel, qualified according to the National TVET Qualification Framework (NTQF), which directly links to difficulty in filling vacancies, particularly in local government positions. During stakeholder consultations for PIF preparation, all the interviewees reported that it would be desirable to have specialised personnel to deal with the specific activities involved in SWM and UGI development. In order to improve the TVET system in the UGI/ISWM sectors, an appropriate competency evaluation system must be developed that proves an individual has grasped the appropriate skills. Trainees must be incentivised, such as by giving different professional categorisations to workers based on training received (e.g., Stage 1 versus Stage 5 municipal solid waste manager).
Technology	<b>Limited transfer of efficient and appropriate technologies for waste management</b> The waste management system in all cities and towns is inefficient and unsafe. The systems are characterised by: (1) primary waste collection, (2) transportation to secondary sites (communal bins of 6-8 m <sup>3</sup> capacity), and (3) transportation from secondary sites to landfills. In most cities and towns, the solid waste is dumped at unfenced open landfills. The sites are accessible to scavengers, who remove waste such as PET bottles that has commercial value. Household waste is collected in 2-wheel waste bins, and the persons employed by the MSEs work in poor conditions – i.e. with little regard to occupational health and safety. Household waste contains a combination of organic and non-organic waste, including electrical and electronic waste and other hazardous waste (e.g. batteries).
Stakeholders	<b>Limited involvement of stakeholders in SWM/UGI development</b> Solid waste and green infrastructure development do not currently involve multi-sectoral stakeholders in planning and implementation processes. Local governments are not consistently providing transparency about plans and their benefits in order to secure local buy-in. To date, there are no structures to coordinate stakeholders, including within MUDHCo and within cities and towns. As a result, little knowledge exchange takes place between the stakeholders and innovation is inhibited in terms of technology, financial sustainability, and regulatory and policy enhancements.

## 2) the baseline scenario or any associated baseline projects,

The *Second Urban Local Government Development Programme (ULGDP II, USD 556.53m 2015-2019, implementation by MUDHCo)* aims to enhance the institutional performance of 44 ULGs in the planning, delivery and sustained provision of urban services. The capital investment component for the 44 ULGs is USD 499.53 m (USD 176.53 m from GoE and USD 323 m from the International Development Association (IDA)). Activities to be financed include core infrastructure investments in roads, water supply, sanitation, solid waste and greenery.

The *Climate Resilient Green Economy (CRGE) Fast-Track Projects*<sup>23</sup> (MUDHCo, approximately USD 424,000 for UGI projects and approximately USD 938,000 for waste management projects, 2014-2015) are financed by the Ministry of Finance and Economic Development (MoFED) using funding channelled through the CRGE Facility. Sixteen fast-track projects are being implemented in the urban sector that will contribute to the triple objectives of economic growth, greenhouse gas emission reduction and resilience to the adverse effects of climate change. Six UGI projects are being implemented in Adama, Asossa, Butajera, Dire Dawa, Hawassa, and Shire, while a further 10 solid waste management (SWM) projects are being implemented in Addis Ababa (x2), Bishoftu, Butajera, Dessie, Gambella, Harar, Hawassa, Jigjiga and Logia. A total of USD 1.5 million has been allocated to this initiative, including a budget of USD 150,000 for coordination activities by MUDHCo. The projects are being implemented during 2014 and 2015. The main features of the fast-track projects relevant to the COMPOST project are summarised below.

<sup>22</sup> Woredas are the third-level administrative divisions of Ethiopia. They are composed of a number of wards (kebeles) or neighbourhood associations, which are the smallest unit of local government in Ethiopia.

<sup>23</sup> Information obtained from Mr Zerihun, CRGE Facility, Ministry of Finance and Economic Development on 29 January, 2015.

Host city or town	Allocated budget (USD)	Brief project description
Urban Greenery Infrastructure (UGI)		
Adama	108,572	Greening and beautification of 16 ha of recreational park
Dire Dawa	73,422	Greenery development of Millennium Park; 6,000 plant species planted over 1.5 ha + 1 ha covered with grass
Hawassa	33,868	Greening of 1.56 ha of open urban space
Solid Waste Management (SWM)		
Bishoftu	143,823	Enhanced municipal solid waste collection and disposal, including the construction of three transfer stations and the production of compost from municipal organic waste
Hawassa	47,729	Production of organic fertilizer from municipal solid waste for urban greenery and urban agriculture applications

*Enhancing National Capacity for Agricultural Growth Programme (ENCAG)* (UNDP, USD 16m, 2011-2015): This project supports the Agriculture Transformation Agency (ATA) and aims to improve the livelihoods of small-holder farmers by fostering greater productivity. The construction of a series of compost/chemical fertilizer blending facilities is being supported by ENCAG to be able to remove dependencies on imported chemicals. Currently, inorganic fertilizer is one of the main inputs in agriculture in Ethiopia.<sup>24</sup> In 2013, some 700,000 tonnes of chemical fertilizer (mainly diammonium phosphate – DAP – and urea) were applied to more than 5.8 million ha of crop land. ATA constructed a blending facility in the Oromia region in 2014 to support the Becho-Woliso Farmer’s Cooperative Union. It is envisaged that the number of blending facilities will be upscaled (to approximately 20).

The *Horn of Africa Regional Environment Centre and Network (HoAREC)* has been assisting Addis Ababa City Administration in an initiative to re-purpose the city’s Repi landfill – building on earlier work undertaken by UNDP – into a recreational area with the support of the New York City Administration, Washington DC, and the US EPA. A preliminary design has been completed but the final cost of the project has yet to be finalised. Discussions have also taken place for the technical support of the US EPA to train staff of the Addis Ababa City Administration for the management and operation of a new sanitary landfill.

The *Entrepreneurship Development Programme (EDP)* (UNDP, 8.6m USD, 2015-2020) supports entrepreneurs and job creation by increasing the competitiveness and profitability of Ethiopia’s MSEs, especially those owned by women and youth. In 2013, an Entrepreneurship Development Centre was established to offer potential entrepreneurs and MSEs intensive training in entrepreneurship. Business development support (BDS) is also provided to business owners to improve their business management and operational skills and capacity, and to potential entrepreneurs to establish new business start-ups.

*MUDHCO and Ethiopian Cities Prosperity Initiative (ECPI): Building Green, Resilient, Well-Governed Cities* (MUDHCo UN-Habitat, 2014-2025) involves development of the Cities Prosperity Index (CPI) for Ethiopian cities and towns. The CPI measures prosperity across five dimensions of prosperity — productivity, infrastructure, quality of life, equity, and environmental sustainability. The ECPI initiative will establish 'urban observatories' at the municipal, regional and national level to become nodes where urban-related data are collated and analysed on an ongoing basis, thus building the foundation for a robust statistics database on urbanisation in Ethiopia that is critical for informed policy-making.

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

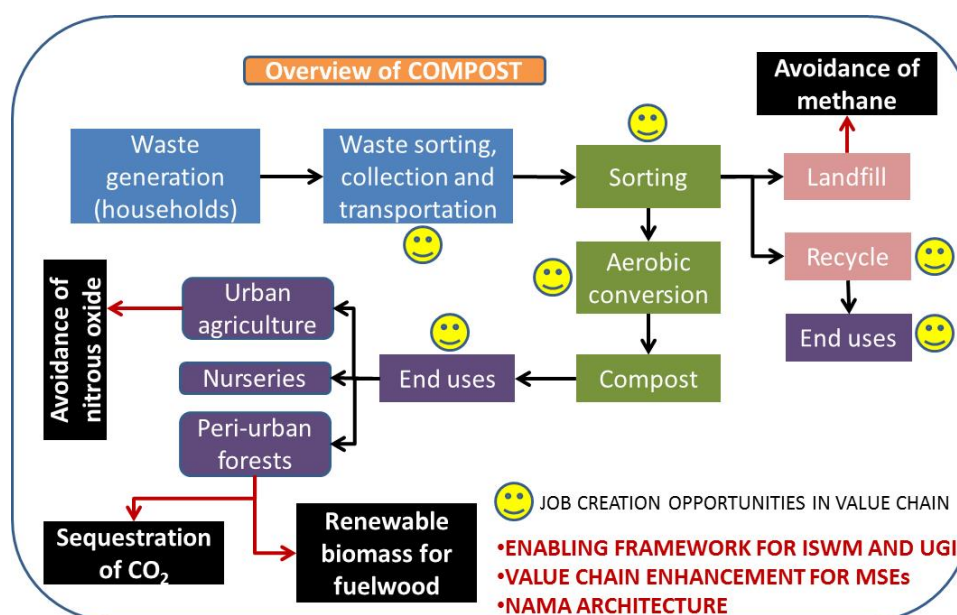
The project aims to integrate urban greenery and waste management to support sustainable urban development and urban agriculture and peri-urban forest management. Project interventions will provide six cities and towns – Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle – with an enabling environment that facilitates the transfer and diffusion of mitigation technologies that provide market and job opportunities. The core technology to be supported will be the production of organic compost to be generated from waste segregation at the household level and at municipal landfills, augmented by semi-aerobic decomposition technology at semi-engineered/sanitary landfills to reduce methane emissions. The compost will be used to displace and supplement

<sup>24</sup> Central Statistics Agency (2013), *Agricultural Sample Survey 2013/2014 – Vol III. Report on Farm Management Practices.*

chemical fertilizers in urban agriculture and peri-urban forestry to enhance production. Approximately 17,000 hectares of peri-urban degraded land will be reforested, with these managed forest resources serving as a source of renewable biomass for energy. The project falls within Programmes 3 and 4 of the GEF-6 climate change mitigation strategy.

Four components have been developed to enhance the synergies between UGI and ISWM. While the generation of compost from municipal solid waste is used as the primary link between ISWM and UGI in COMPOST, the issues of solid waste and urban greenery are also linked at both the institutional and policy levels. At the institutional level, MUDHCo is the line ministry in charge of implementing policies, strategies and actions plans related to SWM and UGI. At the policy level, COMPOST supports the Ministry’s sectoral Growth and Transformation Plan (GTP) II, which integrates SWM and UGI under the same pillar – i.e. Pillar 8, Urban Environmental Sustainability.<sup>25</sup> The COMPOST project therefore provides a concrete approach to integrate SWM and UGI into the GTP II, as well as synthesising the GTP II and the CRGE Strategy through the delivery of GHG emission reductions.

The overall structure of the proposed UNDP-implemented, GEF-financed COMPOST project is illustrated below, including the identification of job creation opportunities across the value chain and the sources of global environmental benefits.



### Component 1: The enabling framework created and enforced to support Integrated Solid Waste Management (ISWM) and Urban Green Infrastructure (UGI)

Component 1 aims to establish an environment conducive to UGI/ISWM integration and implementation. Existing frameworks and standards on UGI/ISWM, such as the draft UGI Standards, the Solid Waste Management Proclamation and the Urban Development Strategy, already developed at the federal level, will be endorsed and transposed to the (sub-national) regions. These standards will ensure that urban greenery and waste management planning will be fully supported by ULGs. Moreover, the Government of Ethiopia is currently revising the Proclamation that governs illegal land holding, after which cities such as Mekele and Diredawa will develop their own codes and enforcement systems. To further ensure that land management plans are sustainable, cities and towns will receive GEF financing to develop cadastral maps that clearly denote areas legally reserved for UGI/ISWM. The maps will be posted and made public record and serve as a means to deter illegal development. UGI teams will be able to cite the legal codes and provide visual maps to local populations so that their mandates can be enforced in a transparent manner. Greenery interventions will be enforced further by building the capacities of municipalities to monitor and publicise the benefits of urban greenery so that they can

<sup>25</sup> Presentation shared by His Excellency, Mr Dessalegn Ambaw, State Minister, MUDHCo during a meeting that took place on 24 November 2014.

secure local buy-in and deter unsustainable development. Similarly, composting standards similar to the European Compost Network – Quality Assurance System (QAS) will be adopted at the national level, with quality assurance systems to be established at regional levels. Both the composting standards and QAS will enable Ethiopia to develop a quality label for composting that is internationally recognised and which will support the establishment of a sustainable composting market linked to high-quality agricultural exports. To further support Ethiopia to create a compost market as well as to implement mitigation and climate-resilience aspects of UGI and ISWM, the 6 cities and towns supported by this project will be twinned with experienced cities around the world. Twinning will enable Ethiopian ULGs to share experiences and to garner knowledge.

## **Component 2: The value chain for compost is created and professionalism is promoted to support sustainable production and utilisation of compost**

Although the Government of Ethiopia would like to see increased utilisation of compost in urban agriculture,<sup>26</sup> there is no market chain for the generation of compost from municipal solid waste. Any composting activities remain on a small-scale and do not benefit from a structured value chain that links compost production to end-users. The COMPOST project will create a market for compost (or blended compost, consisting of a mix of compost and chemical fertilizer) that will be price-competitive with chemical fertilizers. Long-term contracts will be established with public and private institutions (e.g. landscapers, farming industries, municipalities and nurseries). The compost generation will consist of a low-technology value chain that will allow the creation of jobs. It will start with sorting of waste at the household level. The technology used for solid waste composting will be aerobic windrow composting. The production of compost from municipal solid waste brings several benefits, including: avoided methane generation from landfills, reduction of bad odours from open waste dump sites, creation of jobs, less littering in towns and cities, healthier agricultural products and improved yields.

The project will incentivise the use of compost over chemical fertilizers by progressively integrating compost into the existing fertilizer market and demonstrating its proven advantages. Ethiopia's Ministry of Agriculture has been supportive of restoring natural soil contents for some years. In 2009, the International Food Policy Research Institute (IFPRI) conducted a soil diagnostic study in Ethiopia. Also, the Ethiopian Agricultural Transformation Agency (ATA) conducted research and soil tests through the Ethiopian Soil Information System project. Both studies revealed that Ethiopian soils are deficient in various nutrients. Key recommendations included creating a tailored soil fertility plan that attends to local soil conditions. The current market for chemical fertilizers (which are 100% imported) is not functioning well, with affordability and last-mile distribution identified in official reports as key bottlenecks. The COMPOST project will use GEF financing to evaluate and establish market outlets for compost under Output 2.2. It is envisaged that this will include a marketing analysis, looking at competitors (inorganic fertilizer companies), competitor pricings and market trends to estimate penetration rates. Compost will inherently be cheaper in that it is a locally-available material which increases in supply with the increase of urbanization (in contrast, all of Ethiopia's chemical fertilizer is imported). To avoid the risk that farmers reject the use of solely compost (due to strong odours, difficulties in changing behaviours, etc), COMPOST will work with ATA to progressively add locally-produced compost to the blended fertilizers created by the new blending plants. Also, pilot sites and training on best practices for compost use for nurseries and forestry managers will be held to demonstrate its effectiveness. Demonstrations, setting up long-term contracts with both public and private institutions (Outputs 2.3 and 2.4) and a continual analysis of the market will ensure the scaling-up and increasing integration of compost use in the existing fertilizer market.

Compost is currently required to enhance urban agricultural initiatives. For example, 3,600 hectares of land in Adama are currently used for urban agriculture. In Bahir Dar, compost will be used to increase soil quality for existing urban agricultural activities along the shoreline of Lake Tana and the Blue Nile River, where traditional small-scale farming is practiced. The compost will also be used in nurseries to produce compost-grown seedlings that will feed the reforestation efforts to be supported with GEF financing.

A capacity development programme will be developed in collaboration with the existing Entrepreneurship Development Centre to enhance occupational health and safety conditions as well as the entrepreneurship skills of MSEs (see the EDP baseline project in Section 2). Training will also be provided for TVETs and within selected vocational institutes and university degree courses to enhance the country's technical skills to implement the supply and demand sides of composting. In addition to technical assistance and capacity building, the project

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<sup>26</sup> Ministry of Agriculture and Ministry of Environment and Forest (2014), *Climate Resilience Strategy – Agriculture and Forestry*.

proposes to provide financial support for MSE establishment and to increase the level of professionalism through the Innovative Investment Facility (IFF) that has been set up under the EDP. The financial support will be through a combination of micro-credit and partial loan guarantees. The project will also consider a Results-Based Financing (RBF) design to manage MSW under Output 2.2 during the PPG phase. The EDP will therefore act as a one-stop-shop for entrepreneurial skills development and financial assistance. The operation of the IIF will receive the support of the Ministry of Finance and Economic Development (MoFED) and the Development Bank of Ethiopia (DBE).<sup>27</sup>

A national voluntary carbon offset scheme will be set up and discussions have been held with a number of potential private-sector Corporate Social Responsibility (CSR) initiatives to be involved in this scheme. Since the discussions are ongoing, this Output (2.6) will be finalised during the project preparation (PPG) stage. In short, the offset scheme will be based on the sequestration that will result from the peri-urban forestry output (Output 4.4) of the proposed project. At this stage, it has been assumed that the CSR initiatives will engage in the offsetting of approximately 1 MtCO<sub>2</sub> over the project lifetime at a (very conservative) price of 1.5 US\$/tCO<sub>2</sub>.

### **Component 3: Architecture for Nationally Appropriate Mitigation Action (NAMA) development and implementation is established**

Component 3 will focus on facilitating Nationally Appropriate Mitigation Action (NAMA) development and implementation. A COMPOST NAMA will be developed for submission to the UNFCCC NAMA Registry with the goal of scaling-up the proposed GEF project<sup>28</sup>. In order to effectively monitor, report and verify emission reductions provided by the COMPOST NAMA, standardised baselines for emission reduction calculations will be established. The standardised baselines for calculating emission reductions from: (1) compost production using displaced landfill organic waste. In this case, the Recycling and Composting Emissions Protocol developed by ICLEI will be adopted as a standardized baseline; (2) substitution of chemical fertilisers in urban greenery (urban agriculture, green spaces, nurseries and peri-urban forests) for compost; (3) urban and peri-urban reforestation of degraded land; (4) displacement of non-renewable fuelwood by renewable biomass generated from managed forests; and (5) implementation of the Fukuoka method for semi-aerobic landfill treatment, will be developed<sup>29</sup>. A Monitoring, Reporting and Verification (MRV) scheme will also be established and linked with Ethiopia's Cities Prosperity Index (ECPI) so that the COMPOST project can build on greenhouse gas emissions data housed in the ECPI's urban observatories (See Section 2 on baseline projects).

### **Component 4: Integration of UGI and ISWM in urban systems, including design and implementation in 6 cities and towns (Adama, Bahir Dar, Bishoftu, Dire Dawa, Hawassa and Mekelle)**

Component 4 will support concrete, on-the-ground activities that promote UGI and ISWM. Planned activities will operationalise and field test integrated waste/greenery developments involving waste sorting, compost production, urban agriculture and peri-urban forestry in all 6 cities and towns.

Specifically, a municipal composting plant will be built, equipped and implemented in the 6 cities and towns and will be linked with the work of the Agricultural Transformation Agency (ATA) due to the Agency's experience with fertilizer blending. Under Component 4, it is also envisaged that the Fukuoka method of waste treatment will be piloted in a new landfill in Bishoftu (provided by the ULGDP I project) and the semi-engineered landfill in Hawassa. The Fukuoka method is a semi-aerobic method involving the installation of a network of sub-surface perforated pipes laid at various angles. The configuration of the pipes promotes the evacuation of leachate from the landfill and promotes air flow to the base of the landfill. The air mixes with methane and aerobically decomposes it into CO<sub>2</sub>. No power is required (gravity and thermal convection currents drive the process) and local materials and labour are used. This method has had much success in landfills around the world, proving to reduce methane emissions by 40% on average and to produce a better quality leachate (with reduced nitrogen and BOD content). Due to the fact that methane emissions are reduced and potentially toxic leachate has been removed, landfills using this method can be easily rehabilitated into green areas at the end of their lifetimes. Therefore, a related output will involve the rehabilitation of an open dump site into an open green space area in

<sup>27</sup> UNDP (2014), *Project Document: Innovative Investment Facility in Ethiopia* (UNDP, Addis Ababa).

<sup>28</sup> The GEF project will cover 6 cities; the NAMA will provide a framework for scaling-up to, in principle, the entirety of Ethiopia's urban population.

<sup>29</sup> See below. The Fukuoka method forms the basis of approved CDM methodology AM0083, 'Avoidance of landfill gas emissions by in-situ aeration of landfills'.

Bishoftu. The green area is expected to deliver a variety of socio-environmental benefits, as identified in Section 5. Finally, existing and new nurseries will be supported to cultivate forest seedlings grown in compost that will subsequently be used in peri-urban reforestation sites. Approximately 17,000 hectares of forest will be established within the vicinity of the 6 cities and towns. The compost-supported trees will serve as a renewable biomass energy source for the cities and towns, in which approximately 80% of urban dwellers rely on fuelwood and – primarily – charcoal for their cooking. Currently, rural forests are generally managed and operated by the Ministry of Forestry. Peri-urban forests are managed by the Urban Agricultural Office and the Urban Environmental Protection Office within municipalities or by MSEs organised by local communities. The COMPOST project plans to continue to use the existing management arrangements for peri-urban forests and will provide capacity building to both MSEs and appropriate municipality representatives on compost use in forestry.

Urban agriculture will be supported on approximately 20,000 hectares of land in 6 cities and towns. Compost will be used to improve soil conditions to produce high-quality fruit trees such as mango, avocado and peach. At the nurseries, rainwater harvesting technologies (such as roof storage tanks) will be used for watering the tree pots to support seedling growth in the compost-rich soils. Rainwater harvesting systems will also be installed to support urban agriculture. Trees will be placed in shallow pits to act as micro-catchments (a common practice in the Entoto Hills around Addis Ababa).

#### **4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCE, SCCF, and co-financing;**

The COMPOST project links UGI and ISWM in a novel manner that contributes to green development by reducing greenhouse gas emissions from four distinct sources: i) avoided CH<sub>4</sub>, ii) avoided N<sub>2</sub>O, iii) carbon sequestration and iv) increasing available renewable energy biomass. The project uses a holistic approach to reducing GHGs through the integration of UGI and ISWM in a manner that simultaneously generates local environmental benefits and creates jobs.

##### ***Co-financing from MUDHCo and City/Town Administrations: 15,255,102 USD***

Under Component 4, concrete activities to be supported by GEF funds include composting of municipal solid waste to reduce the volume of organic waste that is landfilled. Municipal composting plants will be built, equipped and implemented in the 6 cities/towns. Compost will be produced using local manpower and will be used to enhance urban agriculture and peri-urban forestry productivity. These activities will build on MUDHCo and the city/town administrations' experiences with fast-track CRGE projects.

##### ***Co-financing from MUDHCo: 1.9m USD***

The Fukuoka method of in-situ aeration for landfills will be an activity to be piloted in Bishoftu and Hawassa under Component 4. The COMPOST project will build on the prior experiences of MUDHCo in managing landfills and waste streams to facilitate implementation of the methodology.

##### ***Co-financing from MEF, MUDHCo and City/Town Administrations: 6,054,294 USD***

On-the-ground work in Component 4 will build on the success of nurseries in and within the vicinity of the six cities and towns. Composting will serve as the fertilizer in nurseries which will be used to cultivate tree seedlings for reforestation.

##### ***Co-financing from HoAREC and City/Town Administrations: 1,448,890 USD***

The COMPOST project will build on an output of the ULGDP I project, now under the management of the city/town administrations. Under ULGDP I, a new landfill was established in Bishoftu to replace an older and now defunct landfill. This old landfill will be rehabilitated into an open green space.

##### ***Co-financing from ATA, MUDHCo, MEF and City/Town Administrations: 3.92m USD***

UGI / ISWM activities will be supported by creating an enabling environment at the national and local levels. Currently, cities have Local Development Plans (LDPs) which dictate the need for UGI and ISWM. Component 1 will build on the support of MUDHCo, MEF and city/town administrations to officially recognise, harmonise and transfer existing UGI/ISWM frameworks and standards at the national level to the regional level. Such frameworks and standards will reinforce green development initiatives by preventing illegal and unsustainable practices, such as building on parcels designated for greenery (e.g. along river banks), and will create legal-

backing for SWM activities at the (sub-national) regional level for the first time. The COMPOST project will also collaborate with ATA to develop standards for compost under Component 1. COMPOST will improve organic compost production to maximise indigenous tree growth for renewable biomass production. Project activities also include collaborating with ATA to provide Ethiopia with its first certified agriculture label.

***Co-financing from MUDHCO - ULGDP II, UNDP, ATA, the private sector and City/Town Administrations: 4,179,340 USD***

The COMPOST project will build on the proposed concrete activities outlined in the ULGDP II project in Component 2. Although still in its planning phase, it is envisaged that the ULGDP II project will support public greenery, forestry, sorting and composting activities. The COMPOST project will enhance the activities of ULGDP II by providing cities and towns with in-depth expertise in composting for urban agriculture and forestry, along with the knowledge of how to create a sustainable market for composting which simultaneously provides GHG mitigation/sequestration benefits.

***Co-financing from MUDHCo, City/Town Administrations: 750,000 USD***

Under Component 2, the socio-economic and environmental (notably, GHG emission reduction) benefits of UGI/ISWM activities will be embedded into TVET and selected university degree programmes. Currently, an urban greenery programme is offered at Wonda Genet Forestry College of Hawassa University. Along with support from MUDHCo and the city/town administrations, more vocational institutes will be supported to produce technically-qualified recruits for UGI/ISWM design, implementation, management and validation, including qualified personnel to support the supply and demand sides of the compost market.

***Co-financing from the UNDP EDP project and the private sector (Mekete Demissie Landscape and Gardening Services Ltd): 1.8m USD***

The COMPOST project will build on the work of the Entrepreneurship Development Programme (EDP) by training MSEs and women-based groups to implement greenery and waste management activities (i.e. job creation). Training will be geared to improving the entrepreneurial skills of MSEs to seize opportunities for compost production and usage, sales and business expansion.

***Co-financing from MUDHCo, MEF and City/Town Administrations: 1.05m USD***

Furthermore, a comprehensive analysis of best available UGI/ISWM technologies in Component 3 will facilitate cities to find the most appropriate mitigation methodologies. By demonstrating mitigation benefits, Ethiopia will become empowered to access climate finance and to transfer much-needed funds to regional and local administrations. UGI/ISWM initiatives will be upscaled and more resources will be placed on establishing cost-recovery mechanisms to ensure sustainability.

***Co-financing from UNDP, MUDHCO/UN-Habitat: 3.88m USD***

Under Component 3, a coherent climate mitigation framework will be established for the development of a NAMA linked with the ECPI. COMPOST will support the ECPI by: (i) targeting ISWM and UGI to support city/town development; (ii) systematising baselines for mitigation efforts; and (iii) developing a NAMA for scaling-up ISWM and UGI efforts. The COMPOST project will also build on the work of the 'urban observatories' established at municipal, regional and national levels by contributing urban-related data on mitigation to the ECPI. This will enable urban greenery and ISWM to have a more quantified importance in the Cities Prosperity Index.

***Co-financing from private-sector corporate social responsibility initiatives: 1.5m USD***

The COMPOST project has also begun to collaborate with interested CSR initiatives to develop a carbon offset scheme. The carbon offset scheme will be linked to greenhouse gas emission reductions arising from the plantation of peri-urban forests in the six cities/towns and through the generation of renewable biomass from the managed forests for fuelwood. In the envisaged methodology, CSR initiatives will pay NGOs, firms or city/town councils in the 6 cities/towns to plant the appropriate number of trees to offset defined levels of emissions, thereby generating an income stream that can be re-invested in further planting.



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

The project will enable GHG reductions through:

- Avoided methane production in landfills by diverting MSW to produce compost: The project will reduce the volume of landfill waste by approximately 99,800 tonnes per year. This volume equates to approximately 75,000 tonnes of organic waste per year, since MSW generated in the 6 cities and towns has a 75% composition of organic waste on average. As a first-order estimate (to be firmed up during the project preparation phase), this will result in emission reductions of approximately 31,500 tonnes of carbon dioxide (tCO<sub>2</sub>) per year, using an emission factor of 0.05 tonnes of methane per tonne of reduced waste, a conservative Global Warming Potential for methane of 21, and a methane correction factor of 0.4.
- Avoided methane emissions from Fukuoka method: The Fukuoka method will be applied to two baseline landfills to cover two distinct but common baseline contexts. The case of Bishoftu involves a scenario where a new sanitary landfill will start operation (following closure of an existing open waste dump site), and where the new landfill is not fitted with landfill gas capture equipment. Hence, the application of the Fukuoka method to the sanitary landfill in Bishoftu will provide the first example in Ethiopia of a low-cost, low-tech means of managing new sanitary landfills in a semi-aerobic mode to avoid methane emissions. In contrast, the case of Hawassa provides an example where sanitary landfills are already operating but are operated in a sub-optimal manner (essentially as open dump sites) because of a lack of equipment and technical expertise. In this case, the Fukuoka method will be used to retroactively re-engineer the landfill. A first-order estimate based on the current waste disposal rate of 21,253 tonne/year; 75% content of organic matter; an emission factor of 0.05 tonnes of methane per tonne of reduced waste; a methane correction factor of 0.4 for an unmanaged landfill of depth <5 m; and a landfill use time of 5 years gives an approximate emission reduction of 33,500 tCO<sub>2e</sub>/yr. The avoided emissions will be refined during the PPG phase.
- Displacement of inorganic fertiliser in urban agriculture: using a conservative emission factor of 36 kgCO<sub>2e</sub> for the displacement of chemical fertiliser for each tonne of compost that is applied, annual emission reductions of 1,800 tCO<sub>2e</sub> can be expected from displacement of chemical fertilisers by approximately 50,400 t of compost per year.
- Urban forestry: According to the CDM reforestation project in Humbo, Ethiopia,<sup>30</sup> a planted forest with a 50:50 mix of *Eucalyptus globulus* and *Grevillea robust* sequesters an average of 11.73 tCO<sub>2</sub>/ha/yr in the first 10 years. Another study has shown that *Eucalyptus globulus* planted in the Oromia Region (the location of Bishoftu and Adama) sequesters on average 11.2 tCO<sub>2</sub>/ha per year.<sup>31</sup> With GEF support, it is expected that around 17,000 ha of degraded or deforested urban and peri-urban land will be reforested, resulting in approximately 198,000 tCO<sub>2e</sub> sequestration per year. During the PPG phase, a combination of fast-growing and endemic plant species will be selected for appropriate Agro-Ecological Zones (AEZs), based on the research work that is being carried out by the Wondo Genet Forestry College of Hawassa University.
- Generation of renewable biomass for fuelwood use: The primary source of energy in the Regions of Ethiopia is fuelwood and waste.<sup>32</sup> The COMPOST project will enable the displacement of non-renewable biomass with renewable biomass obtained from urban and peri-urban forests. Assuming that 5.1 tonnes (renewable biomass)<sup>33</sup> can be collected from managed urban forests per year, the project will displace 79,600 tonnes of non-renewable biomass each year. This will result in emission reductions of around 75,000 tCO<sub>2e</sub> per year.

Hence, the direct annual emission reductions that can be expected at the end of the project life are approximately 339,800 tCO<sub>2e</sub>. By assuming a lifetime of 10 years for compost facilities and managed landfills, the direct emission reductions generated by the project would be 3.4 MtCO<sub>2e</sub>, giving a GEF abatement cost of 2.0

<sup>30</sup> CDM Project Design Document (2009), *Humbo Ethiopia Assisted Natural Regeneration Project*, <https://cdm.unfccc.int/Projects/DB/JACO1245724331.7/view>.

<sup>31</sup> Bazezew *et al.* (2015), 'Carbon stocks in Adaba-Dodola community forest of Danabe District, West-Arsi zone of Oromia Region, Ethiopia: an implication for climate change mitigation', *Journal of Ecology and the Natural Environment*, 7(1): 14-22

<sup>32</sup> Energy supply is primarily based on biomass. With a share of 92.4% of Ethiopia's energy supply, waste and biomass are the country's primary energy sources.

<sup>33</sup> See Humbo Project Design Document, pg. 48.

US\$/tCO<sub>2e</sub>. This is considered to be a conservative estimate of mitigation cost as it excludes the indirect emission reductions associated with awareness-raising, capacity development and replication.

There will also be numerous environmental and adaptation benefits. The lifetime of engineered landfills in the six cities and towns will be prolonged by diverting a total of about 75,000 tonnes of organic waste from these landfills annually. Increased frequency of household waste collection and heightened awareness of waste issues among the population will lead to reduced uncontrolled waste dumping that will improve public hygiene and protect the quality of waterways. The production of a total of approximately 50,000 tonnes of organic compost per year will directly contribute to soil and water resource conservation through the improvement of agricultural soil properties and meeting the fertilizer needs of urban farmers. Tree planting will play a significant role in improving urban air quality, enhancing urban watersheds, and reducing the vulnerability to climate change by absorbing atmospheric pollutants such as ammonia and nitrogen dioxide and by countering the urban heat island effect. At least 120 jobs will be created at the household waste sorting collection level, 60 at the municipal sorting and composting plants (which will predominantly be held by women), and 36 within nurseries.

## **6) innovation, sustainability and potential for scaling up.**

*Innovative aspects* of the COMPOST project include the following:

- Linking the urban greenery and solid waste management sectors by promoting the use of compost in peri-urban forestry and urban agriculture.
- Developing a holistic and integrated approach to reducing cities and towns' greenhouse gas emissions.
- Facilitating access to a carbon offsetting scheme to finance urban forest planting.
- Twinning with other cities to enable Ethiopian local governments to share and garner knowledge on the use of compost, UGI and ISWM to support global low-emission and climate resilient development.

### *Sustainability*

Training for TVETS, vocational institutes and updates to relevant university programme curricula will provide a fresh pool of technically-qualified recruits to facilitate sustainability and replication of composting, Green Infrastructure development and ISWM throughout Ethiopia. The project will also ensure sustainability in Component 2 by facilitating access to climate finance for mitigation. Similarly, a financing mechanism will be established under the Innovative Investment Facility (IIF) to support new MSEs to participate in the ISWM-UGI value chain in Component 4. The project will also support households, with a focus on women, to become involved in compost production (i.e. source sorting). An awareness campaign and communications strategy will engage civil society actors so that job opportunities and the benefits associated with the supply and demand sides of composting can be effectively publicised. Such an approach will reinforce public buy-in and increase participation in composting opportunities. The project is also fully aligned with Ethiopia's sustainable development strategies such as the CRGE Strategy, the next phase of its Growth and Transformation Plan (GTP) as well as its Urban Development and its Micro and Small Enterprises Development Strategies.

### *Replicability*

To facilitate scaling-up, Component 3 will include compilation and dissemination of lessons-learned on the integrated urban system NAMA. Furthermore, Component 2 will develop a replication plan for scaling-up composting in 11 other cities and towns, including by detailing sustainable market investment plans.

**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.**

The COMPOST project will support the Horn of Africa Regional Environmental Centre and Network HoAREC, a consortium of NGO/CSO representatives, to enhance the provision of UGI and ISWM to cities and towns. It will also involve civil society actors to assist with awareness-raising and communication on source-sorting of compost by households and MSEs in all kebeles in the selected municipalities.

Other Stakeholders to be involved are listed in the following table.

<b>Stakeholder</b>	<b>Expected Role</b>
Ministry of Urban Development, Housing and Construction (MUDHCo)	MUDHCo is the lead implementing body for the Government's national initiative on Green Infrastructure. Its Urban Planning, Sanitation and Beautification Bureau manages urban waste and greenery initiatives. It also oversees land-cover and housing projects and is active in supervising MSE activities. In the context of this project, it is expected that MUDHCo will coordinate with competent authorities to undertake management of UGI/TWSM elements during project design. It will also help in transferring legal frameworks on UGI/ISWM from the national level to the regional and city/town levels. During project implementation, it is expected that MUDHCo and its regional branches will oversee UGI/ISWM activities.
Ministry of Finance and Economic Development (MoFED)	MoFED oversees the Climate Resilient Green Economy (CRGE) Facility. The Facility has been established in order to channel international financing for the implementation of Ethiopia's Green Economy Strategy. The project will work with the Ministry to integrate ISWM and SWM into the CRGE.
Ministry of Environment and Forest (MEF)	MEF houses the GEF Operational Focal Point and the UNFCCC Focal Point. MEF will provide technical guidance on how to support solid waste management (based on its involvement in the SWM Proclamation) and urban greenery (due to its extensive experience in Addis Ababa). The Ministry's Forest Department experts will support the reforestation efforts to be undertaken in each of the 6 cities and towns.
Ministry of Agriculture	The Ministry of Agriculture will provide technical guidance on sustainable urban agriculture and composting. The project will collaborate with the Ministry's Agricultural Transformation Agency during composting quality testing.
Horn of Africa Regional Environment Centre (HoAREC)	HoAREC is managing the Ethiopian Climate Innovation Centre (CIC). It is also assisting Addis Ababa City Administration in an initiative to rehabilitate the Repi landfill into a recreational area with the support of the City of New York and the US EPA. It therefore has a key role in UGI/ISWM development programmes and will be involved in knowledge sharing.
Technology Vocational Educational Training institutions (TVETs)	TVETs will be supported by GEF financing through training (such as by building on of UNDP's Entrepreneurship Programme) to help MSEs establish businesses with the supply and demand opportunities associated with compost.
Wondo Genet Forestry College of Hawassa University	The Forestry College is carrying out a mapping of the most suitable plant species for UGI projects in the agro-ecological zones in Ethiopia. The COMPOST project will collaborate with the College to identify the most suitable plant species that will be used for UGI development in the six cities and towns.
GIZ	GIZ has had significant experience in implementing waste and urban greenery activities throughout Ethiopia. It has established a set of Standards for Urban Greenery (still at the draft stage) and for Solid Waste Management. Its expertise in both UGI and ISWM will be called upon in the development of the COMPOST project.
UN-Habitat	UN-Habitat is supporting MUDHCo to develop the Ethiopian Cities Prosperity Initiative (ECPI). The COMPOST project will support the ECPI by providing information on UGI and ISWM to the ECPI's urban observatories.
World Bank	The World Bank is financing the Second Urban Local Government Development Program ULGDP II, which is being implemented by MUDHCo. This highly relevant project will support ULGs to implement activities such as roads, water supply, sanitation, solid waste and greenery. The COMPOST project will build on ULGDP II and provide examples of opportunities for GHG emission reductions and compost market growth for other cities/towns to replicate.
Civil Society and Community-Based Organisations, Non-Governmental Organisations and Women's Organisations	The Clean and Green Initiative in Addis Ababa is a consortium of representatives from NGOs and the private sector and has been active with urban greenery and waste management initiatives in Addis Ababa. Women-based MSEs will be supported with nursery development and to bring awareness and knowledge on household sorting of organic waste.

**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.

The Government of Ethiopia has developed a Micro and Small Enterprises Development Strategy (MSEDS)<sup>34</sup> for the creation of large numbers of jobs and to develop an attitude of entrepreneurship among the youth and women. It is worth noting that the MSEDS has singled out the youth and women as the main cohort of the population to drive the renaissance of Ethiopia through the setting up of MSEs. With GEF financing, women – and, in particular, women-based MSEs – will be supported to have an active role in ISWM and UGI development and implementation, such as with organic waste sorting at the household level, the production and marketing of compost, and tree seedling growth in nurseries using compost. MUDHCo has provided strict guidance that the COMPOST project should contribute to the overall strategy that 50% of all new jobs created will be for women.<sup>35</sup>

**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).

Risk	Risk Level (L, M or H)	Risk Mitigation Measure
Lack of motivation to support sustainable urban development	L	The Government has paid close attention to climate change mitigation, as evidenced by playing a lead role in global climate change negotiations and being a forerunner in Africa in the building of a green economy. It has developed numerous green development strategies (See Section 2.1), including sustainable development goals, the National Growth and Transformation Plan and the Green Development Strategy. Such motivation is a good indicator of Ethiopia's conviction to ensure sustainable growth.
Low level of cooperation between executing institutions at national and local levels.	M	Existing strategies at the national and local levels as well as legal frameworks will provide a conducive environment to execute low-emission urban development. Project implementation will also ensure an inclusive, participatory approach at the local level, involving all key stakeholders including women and youth. Also, clear institutional arrangements will be established that facilitate coordination between the national, regional and local levels of government.
Increasing poverty may challenge the municipality in collecting service fees.	H	Capacity reinforcement will be provided to the cities and towns to be able to perform annual budgeting and accounting for all mitigation measures in the proposed COMPOST project. They will also be trained on how to set up local tax collection procedures. Furthermore, the project will reinforce the capacities of municipalities to access climate financing to be tailored to the city/town's needs, such as through a NAMA.
Lack of nationally-available expertise and human resources	M	Universities and TVETs will be supported in introducing ISWM and UGI into existing degree programmes or vocational training courses. Students will be trained in the most up-to-date urban practices in the context of their respective disciplines. After training, a fresh pool of technically-qualified recruits will facilitate diffusion of UGI and ISWM throughout Ethiopia.
Increase in the frequency and intensity of climate change risks	M	The project will take into account city/town-specific climatic variability in the selection and choice of UGI/ISWM interventions. COMPOST has considered the conclusions of the NAPA and the Ethiopia Programme of Adaptation to Climate Change (EPACC) which detail how climate risks are likely to result in a decline in agricultural productivity, dwindling water supply and urban waste accumulation. Similarly, the National Policy and Strategy on Disaster Risk Management (2013) discusses how floods, forests and bush fires are likely to increase in scale and intensity due to climate change in the future. As cities/towns will face an increased incidence of flooding, COMPOST will collaborate with the Disaster Risk Management Council (DRM) and DRM coordination structures at regional, zonal and woreda levels to design project interventions to minimise implementation risks from climate change-related hazards.
Opposition from local residents relating to the sorting of waste	L	The risk should be low if the communication/stakeholder engagement plan and the information campaigns are adequately implemented. The awareness campaign will be supported by public incentives and an inter-sectoral

<sup>34</sup> MUDHCo (2013), *Micro and Small Enterprises Development Strategy*.

<sup>35</sup> Discussions with His Excellency Mr Makrya Haile, Minister of MUDHCo in January 2015.

Risk	Risk Level (L, M or H)	Risk Mitigation Measure
		communication plan. These efforts will be supported by the harmonisation of regulations and laws concerning ISWM at the federal and regional levels, as well as the implementation of the ISWM Standards that support sorting at source.
Illegal fuelwood collection of the reforested areas	M	The risk of illegal fuelwood collection in reforested areas is real but manageable through the following measures: (1) the forested areas will be managed scientifically to generate renewable biomass that will be made available to local communities for fuelwood. Further, (2) access to the forested areas will be limited through appropriate fencing, and monitoring of the state of the planted forests will be carried out on a regular basis as part of the MRV system that will be established under Component 3. Also, (3) city and town administrations will be empowered to enforce land use plans, such as by publicising cadastral maps (to be generated with GEF financing in Component 1) and city plans, implying better capacity to minimise illegal fuelwood collection in reforested areas.

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

Extensive coordination will take place with UNDP due to its extensive portfolio in the relevant fields of climate change mitigation, adaptation and environment. The COMPOST project will coordinate with the following UNDP-managed initiatives:

- Promoting Autonomous Adaptation at Community Level
- Second National Communication to the UNFCCC (draft stage)
- Promoting Sustainable Rural Energy Technologies for Household and Productive Uses
- Mainstreaming Biodiversity into the Agricultural System of Ethiopia
- CCA Growth: Implementing Climate Resilient and Green Economy plans in highland areas of Ethiopia

Other initiatives/agencies with which the COMPOST project will coordinate include:

The *Ethiopia Climate Innovation Centre (ECIC)* (part of infoDev’s Climate Technology Programme) is a World Bank-financed initiative that supports entrepreneurs to employ emerging clean technologies such as green building design due to financing, mentorship and advisory services. By creating jobs and improving the livelihoods of local citizens, the ECIC supports key components of Ethiopia’s Growth and Transformation Plan (GTP) and the Climate Resilient Green Economy Strategy (CRGE). Implementation is managed by the Horn of Africa Regional Environment Centre and Network (HoAREC).

GIZ has been the longest-serving development partner (10 years) in the urban management sector in Ethiopia. GIZ partly financed the *Urban Governance and Decentralisation Programme (UGDP)* (GIZ - 13 million Euros and the Bill and Melinda Gates Foundation - 6 million Euros, 2005-2014) that provided performance grants for infrastructure investments in 8 Regions and 8 partner cities and towns. The objective of the programme was to strengthen the capacities of towns and cities in delivering efficient and effective services through self-governed funding and improved public infrastructure. The programme helped strengthen the capacity of municipalities in the development of policies and activities such as: city proclamations, urban development policy, urban planning law, concepts of integrated development planning, land cadastre, financial and personnel management and training to provide better services to citizens and apply the principle of good governance through participatory planning. Technical assistance provided by GIZ related to the COMPOST project includes:

- Capacity building for MSEs (waste collectors) in several cities and towns (Irgalam, Adwa, Nekemet, etc.).
- Formulation of the National Urban Solid Waste Management Standards.
- Development of draft Urban Greenery Standards and a Handbook.

*AfD, Agence Française de Développement* – AfD is active in the field of solid waste management and is providing technical and financial (debt financing) assistance to the Addis Ababa City Administration. It has supported the design and construction of a new sanitary landfill (located approximately 27 km from the centre of Addis Ababa) and two transfer stations.

**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.

Ethiopia conducted a *National Capacity Self-Assessment* in 2006. The NCSA identified a range of capacity gaps, including institutional gaps, gaps related to the implementation of sound environment management tools, and gaps related to community empowerment in environmental management and sustainable livelihoods. The NCSA also identified improper solid waste disposal and handling as a major pollution problem. It proposed the design and implementation of a joined-up approach to reduce GHG emissions. The integrated design of the COMPOST project is evident from its ability to deliver GHG emission reductions related to waste management (methane avoidance from landfills), forestry (UGI), agriculture (displacement of inorganic fertilizer) and energy (generation of renewable biomass for fuelwood). Similarly, COMPOST will support the findings of Ethiopia's *Second National Communication to the UNFCCC* (SNC) by focusing on the mitigation of GHGs from the waste sector – identified as a priority sector in the SNC. The project is also aligned with Ethiopia's *National Adaptation Programme of Action* (NAPA, 2007). The NAPA emphasises the need for GHG emissions regulation (so as to, *inter alia*, improve air quality in cities and towns) and prevention of waste from entering water bodies. Recommended projects include community-based carbon sequestration, reforestation for fuel in the highlands of Ethiopia, and promotion of home-garden agriculture and agro-forestry. The project is similarly aligned with the *Ethiopia Programme of Adaptation to Climate Change* (EPACC) which provides updates to Ethiopia's NAPA. The *Technology Needs Assessment of Ethiopia* (2007) specifically identifies composting, integrated solid waste management and the expansion of forest cover as priority interventions for Ethiopia. Indeed, of 7 technology options considered for the waste sector, composting is identified as the most important option (page 28). Reforestation is identified as the most important option in the LULUCF sector (page 33). The report notes (p.16) that the amount of waste disposed of through open dumping is increasing at 5.4% per year, with only 60% of solid waste being disposed of in a managed way. The average organic content of urban solid waste is estimated to be 64%.

*Climate Resilient Green Economy (CRGE)* aims to provide Ethiopia with a common goal and roadmap for achieving a climate-resilient green economy. Two of the development pillars supported by the COMPOST project include “Improving crop and livestock production practices for higher food security and farmer income while reducing emissions” and “Protecting and re-establishing forests for their economic and ecosystem services including as carbon stocks.” The *Climate Change Resilient Urban Green Development Strategy (CCRUGDS)* targets the fulfilment of sustainable development goals by developing green areas and protecting against pollution and flooding. The Strategy prioritises the reduction of carbon emissions by improving urban agriculture. The *Climate Change Resilient Green Infrastructure Strategy* identifies areas that have a significant contribution to GHG emissions and which have a serious impact on climate change. It emphasises protecting and re-developing forests. The *Environmental Protection Policy (EEP)* states that emphasis should be placed on the planning and preparation of green and beautiful areas in cities and towns. The *Urban Development Policy* addresses strengthening urban planning and environmental protection activities. All the municipalities and city/town administrations in Ethiopia are guided by the national *Solid Waste Management Proclamation*, SWMP (No. 513/2007). Ethiopia has also recently generated draft *National Urban Green Infrastructure Standards (NUGIS)* and a draft *Urban Green Infrastructure Handbook* to provide a framework for municipalities to develop effective and sustainable urban green infrastructure (UGI) for their citizens in order to protect public health and environmental quality. NUGIS provide minimum requirements to enable competent authorities to meet their legal responsibilities as set out in various legal instruments. The project is also strongly aligned with the next phase of Ethiopia's *Growth and Transformation Plan (2015-2020)*. In line with the COMPOST project, the GTP II aims to enable sustainable economic growth and poverty reduction, having a common pillar supporting urban greenery and waste management. The COMPOST project also supports Ethiopia's *MSE strategy* by providing MSEs with entrepreneurial training on ISWM/UGI and improving the health and safety conditions of waste management work.

In addition to these national strategies and policies listed above, the COMPOST project is clearly aligned with three of the four priority areas of the *United Nations Development Assistance Framework (UNDAF)* for Ethiopia. The overarching strategic thrust of the Country Programme is strengthening capacities of national actors, particular regional states and city/town administrations, to manage the process of urbanisation in Ethiopia

and to build competitive, economically prosperous, socially inclusive, environmentally sustainable, and well governed cities and towns for the 21<sup>st</sup> century.

**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.

An awareness campaign in Component 1 will provide communication material to explain how source sorting works effectively to produce high-quality compost. Also, a twinning arrangement in Component 1 will enable ULGs from Ethiopia to work with other cities to share lessons-learned on developing a compost market and integrating UGI/ISWM to enhance mitigation benefits. Similarly, in Component 3, lessons-learned on the integrated urban NAMA will be compiled and disseminated. The MRV mechanism to be established to assist NAMA reporting will ensure that baselines are standardised and that targets and milestones are consistently monitored. By working with MUDHCo, data gathered during the NAMA process will contribute to the ECPI and will be used by the urban observatories. From the grassroots work in Component 4, lessons-learned on compost plant construction and the production and use of compost will be gathered and stored in Output 2.6. Other cities and towns will be able to replicate and improve on composting strategies in the future. Similarly, Component 2 will develop a plan for cities and towns on how they can establish market outlets for compost and facilitate the implication of MSEs in the compost value chain.

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


**A. RECORD OF ENDORSEMENT<sup>36</sup> 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)
Ghrimawit Haile	GEF Operational Focal Point	MINISTRY OF ENVIRONMENT & FOREST	02/23/2015

**B. GEF AGENCY(IES) CERTIFICATION**

**This request has been prepared in accordance with GEF policies<sup>37</sup> 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
Adriana Dinu, UNDP-GEF Executive Coordinator		March 27, 2015	Robert Kelly, UNDP Regional Technical Advisor, EITT	+251 91250 3306	robert.kelly@undp.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

<sup>36</sup> 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.

<sup>37</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF