NORDIC CLIMATE FACILITY

Nordic Development Fund • Nordic Environment Finance Corporation

Nordic Climate Facility (NCF)
Annual Report 2015

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Cover photo: Heli Sinkko: Nursery in Kisumu: Vi Skogen's Climate Smart Agriculture for Improved Rural Livelihoods project in Kenya

1. INTRODUCTION

The Nordic Climate Facility (NCF) provides grants with co-financing requirements to encourage and promote technological innovations in areas susceptible to climate change in low-income countries. NCF is financed by the Nordic Development Fund (NDF) and jointly administered by NDF and the Nordic Environment Finance Corporation (NEFCO). This report ("Grant Report") has been prepared by NEFCO. It summarizes and analyses the progress of NCF projects[1] administered by NEFCO during 2015.

The report is divided into six main sections. After the Introduction and Executive Summary, section three discusses - on the basis of NCF projects completed during 2015 - the progress towards the achievement of NCF's objectives. Section four summarizes the implementation status of NCF1-4 calls at the end of 2015. The fifth section focuses on the institutional aspects of NCF administration as well as co-operation and division of responsibilities between NEFCO and NDF during 2015 and the last section presents some conclusions. Results of projects completed in 2015 are presented in Annex 1 and implementation status of on-going NCF1-4 projects is summarized in Annex 2.

[1] Wherever referred to in this report, "NCF projects" shall refer to NCF1-4 projects only.

2. EXECUTIVE SUMMARY

Year 2015 was the fifth full operational year of NCF since the facility was launched in late 2009. NEFCO's activities during the year focused on the day-to-day management of NCF projects, on the completion of NCF5 evaluation and on providing support to NDF in contract negotiations with successful NCF5 applicants. NDF decided to take over NCF management from fifth call onwards. At the end of 2015, out of 51 NCF projects 60% were completed in substance with the total value of approximately EUR 33.9 million (including the co-financing share for the projects) of which grant funding from NCF amounted to EUR 20.0 million.

During 2015, altogether 11 projects selected under NCF1, NCF2 and NCF3 were completed in substance. Three agreements were fully closed; four more were included in the detailed analyses while some clarifications are being sought. More documentation is still expected from the remaining projects. 23 projects are fully completed, and the number of projects completed in substance is 32.

All 11 NCF4 projects were well under implementation. Negotiations with shortlisted NCF5 projects started in the autumn 2015 under NDF management and NEFCO provided support for the process.

The results and progress of both completed as well as ongoing NCF projects have during 2015 contributed to the achievement of key NCF objectives of (i) facilitating exchange of technology, knowledge, know-how and innovative ideas between the Nordic countries and low-income countries in the field of climate change; (ii) increasing the low-income countries' capacity to mitigate and adapt to climate change; and (iii) contributing to sustainable development and the reduction of poverty.

The annual direct CO_{2e} reductions in mitigation projects are characteristically quite modest, given the small scale of the projects with some exceptions. Projects completed in 2015 reduced emissions via sustainable charcoal production and sales of energy efficient appliances. A completed reforestation project is expected sequester over 100,000 tonnes of CO_2 over the lifetime.

Completed adaptation projects have tackled a variety of issues linked to climate change. Technology has been delivered that facilitates better planning for infrastructure development and better preparedness for flood disaster prevention. Sustainable agricultural land management practices have been supported to help farmers to adjust to changing weather patterns and to secure their livelihoods despite of them. Rain water harvesting systems installed improve water security.

Naturally the previously completed and on-going NCF projects contribute to mitigation and adaptation.

Development impacts of NCF projects completed during 2015 were increasingly linked to investment projects which encourage private sector's involvement in development efforts. These include gearing remittance funds into investments in renewable energy appliances, and measures to ensure sustainable farming and food security while at the same time increasing yields and farmers' income. Activities also supported farmers' graduation from subsistence farming towards commercial farmer enterprises supporting private sector development. Rainwater harvesting systems to supply water to households and a school were also financed, and beneficiaries enjoy better hygiene and improved access to water. Women and children save also more time. Urban flood and inundation forecasting project was also supported. This allows future city infrastructure planning to adapt to climate change, abate urban flood and inundation effects.

The business development aspects of NCF projects have increased since projects selected under NCF3 and NCF4 support the involvement of private sector in climate change mitigation and adaptation

actions. Concrete business development projects have the potential to leverage more private funds for climate actions after the completion of the NCF financed project.

3. PROGRESS ASSESSMENT

3.1. Progress towards achieving the overall NCF objectives

The main objectives of NCF are to: (i) facilitate the exchange of technology, knowledge, know-how and innovative ideas between the Nordic countries and low-income countries in the field of climate change; (ii) increase the low-income countries' capacity to mitigate and adapt to climate change; and (iii) to contribute to sustainable development and the reduction of poverty. NCF's purpose and objective is also to encourage testing of concrete concepts relating to climate change and, especially, to facilitate partnerships.

For NCF1 and NCF2 the expected results included the financing for feasibility studies, demonstration and pilot projects as well as development of strategies for showcasing and adopting suitable technologies as viable alternatives to develop business-oriented initiatives related to climate change mitigation and adaptation. For NCF3, the expected results are similar with the exception of pre-feasibility and feasibility studies. It was decided to give prevalence to concrete investment projects based on the lessons learned from NCF1 and NCF2.

NCF4 continued along the lines of NCF3 but focus was shifted towards various direct and indirect ways of supporting private sector development, promoting economic activity and facilitating private sector's participation in climate-related development efforts. NCF4 projects are expected to promote green growth that stimulates low carbon development, alleviates poverty and/or reduces vulnerability and increases resilience to climate change.

NCF5 had the theme *Climate Resilience in Urban and Private Sector Contexts.* Proposals under the theme shall address adaptation or a combination of adaptation and mitigation linked to climate resilience in urban and private sector contexts. The projects are also required to have strong development impacts, be sustainable as well as innovative and support private sector development.

Figure 1. NCF1-4 projects.[2]

3.2. Mitigation and adaptation impacts

All NCF projects increase the host countries' capacity to mitigate and adapt to climate change[3] and facilitate the exchange of technology, knowledge, know-how and innovative ideas between the Nordic countries and the host countries related to climate change. NCF projects are almost equally divided between mitigation and adaptation.

40% of the projects are on-going, and expected emission reductions are sometimes optimistically calculated. While mitigation impacts are of key consideration for NCF, it has never been the only selection criteria as adaptation, innovativeness and development impacts are similarly crucial. The multifactor criteria used in project evaluation and selection leads to NCF projects not being comparable as far as their impacts are concerned. Most projects combine mitigation and adaptation and are classified as combination projects. Some projects are classified as mitigation only even though there typically are some adaptation impacts as well.

The annual direct CO_{2e} reductions in mitigation projects are characteristically quite modest, given the small scale of the projects with some exceptions. The three mitigation projects were completed during 2015, namely the Green Resources' charcoal project in Uganda, Gaia Consulting Oy's energy efficiency project in Bolivia and NORDECO's reforestation project in Cambodia, continue along the lines of previously completed NCF projects in respect of mitigation impacts. In the Green Resources project, annual charcoal production at the kilns has reduced reached 780 tCO_{2e} annual reductions. According to Gaia, the emission reductions of the project, through sales and installation of 150 solar water heater systems (SWH), amounted to approximately 540 tCO_{2e}/a. The replicability potential of the project may result in more considerable reductions.

[2] Some projects are regional. The total amount of NCF projects that are completed or under implementation is 51 (with one terminated project).

[3] All NCF2-NCF4 projects have passed the NCF's climate screening criteria for mitigation and/or adaptation. NCF1 projects were also assessed later, after the introduction of the NDF Climate Screening tool to meet the criteria.

In NORDECO's reforestation project over 310,000 trees were planted and tended providing a long-term carbon sink. The tree planting has sequestered an estimated 200 tonnes of CO_2 for the first year, 2,900 tonnes for the second year and additional 5,500 tonnes for the third year. Over the expected 20+ years' lifetime of the trees they are expected to sequester more than 100,000 tonnes of CO_2. NORDECO's project is a good example of how mitigation and adaptation impacts often go hand in hand. The tree planting has also contributed to local reduction of erosion from the increased number of extreme weather events since the project planted trees along 70 km of roads and 36 km of irrigation canals and borders of artificial ponds that previously had no protection against weather-induced erosion.

While in mitigation projects the CO_2 reductions are rather easy to calculate, in adaptation projects, the assessment of concrete yet often qualitative results and/or adaptation indicators poses a challenge.

The NCF adaptation projects ended in 2015 have tackled a wide variety of issues linked to climate change, most importantly the impacts extreme weather events may have on safety and on food and water security. DHI's project in Vietnam for example delivered a technology that facilitates better planning for infrastructure development and better preparedness for flood disaster prevention in coming years. In Sub-Saharan Africa, DanChurchAid and Vi-Skogen introduced sustainable agricultural land management practices which help farmers to adjust to changing weather patterns and to secure their livelihoods despite of them. In Accra, the capital of Ghana SINTEF introduced rain water harvesting systems to households and to one school improving their water security despite of black-outs in the public water service.

Please see Annex 1 for a detailed description of climate change impacts of NCF projects completed during 2015. Expected climate change impacts of NCF projects are summarized in Annex 2.

3.3. Development impacts

In addition to climate change challenges, NCF projects aim to tackle development issues through a diversity of actions. Development impacts in NCF projects are typically closely linked to climate change impacts. Again, the magnitude of these impacts varies due to the multifactor criteria used for project selection. Some typical development impacts are income creation and employment, improvements in nutrition and health and access to safe water. In the Green Resources project for example a number of households buy sustainably produced charcoal from a known source at predictable prices avoiding them to use time to fetch fuelwood. The time saved allows the families, both women and men, to spend time on education and employment. In another mitigation project, the NORDECO project which ended in 2015, the development impacts of the project include improved income of participating farming families provided through the income from tree tending which work as a carbon sink. While sequestering carbon the planted trees provide also fruits to sell to the market, fuelwood and raw material for traditional medicine. Additional income in coming years can be notable.

Development measures financed by NCF have been increasingly geared towards investment projects which encourage private sector's involvement in development efforts. Gaia Consulting took an innovative approach to the private sector's role already in NCF2 and attempted to gear remittance funds combined with credits flowing from Spain to Bolivia into investments in renewable energy appliances. As a result of the project, several project beneficiaries have been able to showcase cost savings from the installation of solar water heaters while reducing CO_2 emissions.

In many adaptation projects climate change and development impacts are inherently interlinked. In two NCF3 projects, the DanChurchAid's and Vi-Skogen's agricultural adaptation projects measures

taken have ensured sustainable farming and food security while at the same time increasing yields and farmers' income. Both projects have therefore contributed towards poverty reduction through increased household income from increased crop productivity reached through the implementation of sustainable agricultural land management practices. Both projects also supported the farmers' graduation from subsistence farming towards commercial farmer enterprises supporting thus private sector development.

In both climate change adaptation and development, access to safe water is one of the key questions. SINTEF implemented rainwater harvesting systems in Accra, Ghana that supply water to households and a school. Households now enjoy better hygiene and improved access to water, more time saved especially to women and children and, in some cases, of better quality of life since some used part of the water to grow fruit and vegetables. SINTEF's project supported further the formal qualification of artisans in RWH system construction, as well as new skills and added income from installing further RWH systems.

Water is a key element as far as climate change is concerned. Impacts caused by floods for example can hamper development steps already achieved. DHI supported in Vietnam the incorporation of urban flood and inundation forecasting into the flood forecasting sector. The new early warning technology allows future city infrastructure planning to adapt to climate change, abate urban flood and inundation effects, which will contribute to urban environmental sustainable development. Appropriate early warning system will increase resilience of poor people in particular as material losses have a major negative impact on a poor person's capability to recover after a flood.

In addition to tangible development impacts, NCF projects are required to pay attention to cross-cutting issues, most importantly to gender aspects. Despite of challenging cultural contexts, the projects have succeeded in engaging women in projects and especially in business and income generating activities. Many NCF3 and NCF3 projects show good business potential but challenges are also evident. This is yet to be analysed in more detail.

Please see Annex 1 for a detailed description of development impacts of seven NCF projects completed during 2015. Expected development impacts of ongoing NCF projects are summarized in Annex 2.

3.4. Innovativeness, partnerships and Nordic interest

As discussed in previous NCF Annual Reports, innovativeness and partnerships between Nordic and local partners are key NCF objectives and these, together with Nordic interest (e.g. technology, know-how, management), are to varying degrees present in all NCF projects. What comes to innovativeness, the projects completed during 2015 have, among others, promoted the transfer of innovative technologies into a new environment, introduced new business models or combined existing methods and technologies in a way that is new to the local context.

For example, the Green Development's charcoal project acted as a demonstration ground and it was the first plant in East Africa where methane emissions from charcoal production were recycled. It is hoped that the project's innovative gas capture technology will set a precedent for future charcoal production and increase the innovation amongst traditional charcoal producers to raise their efficiency. Gaia's remittances project contained several innovative components: the project developed a competitive credit mechanism focused on sustainable energy by engaging renowned financial institutions, also available for low-income households. The core innovation of the project was the business model created and piloted that allows the use of remittance flows in financing sustainable energy solutions.

Co-operation between Nordic and local partners has appeared to function well in most projects. Some signs of challenges may be apparent in setting up actual business in some NCF projects but as of today, there are no reported issues currently between the Nordic and local partners. Local ownership of projects has been partly secured through the co-financing requirement, which has been gradually tightened since NCF1 which did not apply any co-finance criteria directly but higher co-financing gained more scoring points. Please see Annex 1 for a summary of innovativeness, learning and partnerships aspects for all completed projects.

3.5. Continuation and scaling-up

Continuation, replication and scaling-up activities are of key importance for NCF. As no official system has been built into NCF in order to follow-up projects once NCF financing is over, information on these aspects is still somewhat scattered and not fully studied. It can be, however, noted the NCF's support for Solvatten in early phase of deployment of the novel water purification technology has likely supported company's continuing activities. Likewise, project centred in Kenya around Grundfos' LIFELINK leapfrogging water supply technology with Danish Red Cross is being replicated elsewhere in Eastern-Africa. Another IFI is following-up Pöyry Management Consulting's charcoal project in Ghana with possible replication considerations.

The Finnish Red Cross project concept which introduced early warning systems in Malawi has been scaled up into a USD 12.3 million "Saving Lives and Protecting Agriculture based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning Systems" project which was among the first projects selected for financing by the Green Climate Fund (GCF).

4. IMPLEMENTATION OF NCF PROJECTS

4.1. NCF1

While the progress of NCF1 projects has generally been good, two projects, the Green Resources' project and Uganda Carbon Bureau's projects in Uganda continued to face delays and challenges also during 2015. In November 2015 it was decided to close the Green Resources' project (with reduced grant amount) due to the company wanting to discontinue the project as the sustainably produced charcoal cannot compete well in the market with typically unsustainably produced cheaper charcoal. Four out of 12 targeted charcoal kilns had been commissioned during the implementation and they continue to produce charcoal from sustainable forest sources. One of the kilns was subsequently lost. The results of the project are presented in Annex 1.

In the Uganda Carbon Bureau (originally also with CARE Denmark) cook-stove project four additional cook-stove component project activities (CPAs) are still in the process of being added to the Programme of Activities before all NCF components are completed. The implementation status of the on-going project is summarized in Annex 2.

At the end of 2015, the NCF1 disbursement rate was 99% of the amended contracted amount of EUR 4,917,414. The original NCF1 contracted amount was EUR 5,450,842. The reductions in the total grant amount have been due to lower final costs and co-financing in some projects, due to early completion/discontinuation or changes in project scope. One final disbursement to the CARE/Uganda Carbon Bureau project in Uganda is pending after which all funds allocated to NCF1 projects have been disbursed.

Table 1. Cumulative NCF1 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of the Agreement	Basis
Naps Systems Oy (Finland)	NDF C3 b11	Scaling the Solar Market Garden, Benin	415,000	415,000	Progress and final reports
Diakonia (Sweden)	NDF C3 b12	Adapting to Climate Change in Bolivian Andean Community Depending on Tropical Glaciers	496,951	496,951	Progress and final reports
Uganda Carbon Bureau (CARE Denmark)	NDF C3 b13	Fuel Efficient Stoves in East Africa: Reducing Emissions and Improving Livelihoods	309,458	343,842	Progress reports
Gaia Consulting Oy (Finland)	NDF C3 b14	GHG Mitigation and Sustainable Development through the Promotion of Energy Efficient Cooking in Social Institutions in Ethiopia	212,000	212,000	Progress and final reports
Hifab Oy (Finland)	NDF C3 b15	Demand Side Management for Climate Change Adaption for the Ethiopian Power Sector, Ethiopia	407,300	407,300	Progress and final reports
DHI Water Policy (Denmark)	NDF C3 b16	Climate-Proofed Water Conservation Strategies in Northern Ghana	44,005	44,005	Lessons Learned Report[4]
Raw Materials Group AB (Sweden)	NDF C3 b17	Energy efficient recycling of electric and electronic scrap, e-scrap, Ghana	480,033	480,033	Progress and final reports
Danish Red Cross (Denmark)	NDF C3 b18	Community based adaptation to climate change through environmentally sustainable water resource management in Isiolo District in Kenya	391,446	395,372	Progress and final reports
ORGUT Consulting AB (Sweden)	NDF C3 b19	Building Adaptive Capacity to Climate Change in Kenya	496,750	496,750	Progress and final reports
Niras (Ramboll) Natura AB (Sweden)	NDF C3 b110	Providing Assistance for Design and Management of Appropriate Water Harvesting Technologies in Arid Lands of Kenya	500,000	500,000	Progress and final reports
Solvatten AB (Sweden)	NDF C3 b111	Enhancing Capacity for Adaptation to, and mitigation of, climate change in Kibera, Nairobi	301,290	301,290	Progress and final reports
Vi-Skogen (Sweden)	NDF C3 b112	Mount Elgon Integrated Watershed Management Project, Kenya	227,751	227,751	Progress and final reports
Motiva Services Oy (Finland)	NDF C3 b113	Strengthening National Capacities on Energy Efficiency, Nicaragua	381,046	381,046	Progress and final reports
Green Resources AS (Norway)	NDF C3 b114	The Bukaleba Charcoal Project, Uganda	220,000	220,000	Progress and final reports
Total			**4,883,030**	**4,917,414**	

4.2. NCF2

At the end of 2015, eleven out of twelve NCF2 projects were substantially completed. In two projects some final reporting was however still pending at year end.

At the end of 2015, one NCF project, the Stockholm Environment Institute's (SEI) project in Ethiopia, was still under finalization. Two projects, Gaia Consulting's project in Bolivia and DHI's project in Vietnam were completed during 2015. Final disbursements to both projects were however still pending at year end due to clarifications being sought to final reports.

[4] Project terminated.

Nine out of 12 NCF2 projects have been extended during their implementation in order to obtain the planned climate and development benefits. As only one NCF2 project is under implementation, it seems likely that most NCF2 projects can be completed substantially as planned despite of the delays. The results of Gaia Consulting's and DHI's projects are presented in Annex 1 and the implementation status of the on-going SEI project in Annex 2 together with a summary of climate and development impacts for all projects.

The total cumulative grant disbursements to NCF2 projects amounted to EUR 4,636,959 which is 91% of the amended contracted amount of EUR 5,094,143. The original NCF2 contracted amount was EUR 5,255,054. As in NCF1, the reductions in the total grant amount have been due to lower final costs and co-financing in some projects or due to early completion or changes in project scope.

Table 2. Cumulative NCF2 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Basis
Gaia Consulting Oy (Finland)	NDF C3 c12	Financing sustainable energy through remittances flows, Bolivia	356,513	489,550	Bank guarantee and progress reports*
KTH Royal Institute of Technology (Sweden)	NDF C3 c11	Urban and industrial waste to energy – promoting sustainable development in Bolivia	440,627	440,627	Progress and final reports
Stockholm Environment Institute (Sweden)	NDF C3 c13	Demonstrating the Feasibility of Locally Produced Ethanol for Household Cooking, Ethiopia	279,783	346,059	Progress reports
Finnish Red Cross	NDF C3 c14	Strengthening the resilience of people living in high risk urban and semi urban areas to weather-related disasters, Malawi	499,500	499,500	Progress and final reports
COWI A/S (Denmark)	NDF C3 c15	GIS tool for urban adaptation to climate change and flood risk, Mozambique	499,236	499,236	Progress and final reports
Finnish Consulting Group	NDF C3 c16	Promoting Renewable Energy Technologies for Enhanced Rural Livelihoods, Nepal	341,505	341,505	Progress and final reports
Pöyry Management Consulting Oy (Finland)	NDF C3 c17	Enhancing sustainable energy supply for tea factories in Rwanda and Uganda	280,000	280,000	Progress and final reports
Reykjavik Geothermal EHF (Iceland)	NDF C3 c18	Karisimbi Geothermal Prospect, Rwanda	449,584	449,584	Progress and final reports
Norwegian Institute for Water Research	NDF C3 c19	Climate Resilient Action Plans for Coastal Urban Areas, Sri Lanka	378,308	455,000	Progress and final reports
The Royal Norwegian Society for Development	NDF C3 c20	Sustainable renewable energy businesses in Uganda	500,000	500,000	Bank guarantee, progress and final reports
DCEA, Aalborg University (Denmark)	NDF C3 c22	Adapting Urban Construction Plans to Climate Change in Vietnam by the use of Strategic Environmental Assessment, Viet Nam	468,131	468,130	Progress and final reports
DHI Water and Environment (Denmark)	NDF C3 c21	Building technology in urban flood & inundation forecasting to be applied for operational early warning system in the Ha Noi City, Viet Nam	143,771	324,950	Progress reports*
Total			**4,636,959**	**5,094,143**	

*Completed in substance in 2015 - final disbursement scheduled for 2016

4.3. NCF3

Most closing dates for NCF3 projects were initially agreed for 2015. As in NCF1 and NCF2, delays in implementation have been observed and grant closing dates of 13 out of 14 projects have been extended, mostly during 2015. The delays are mostly linked to the challenging business development and investment requirements of the call. Despite of the delays, SINTEF's and Vi Skogen's projects were fully completed during 2015.

Several more NCF3 projects were completed in substance by the end of 2015. These include DanChurchAid and NORDECO projects included in the analyses while some clarifications were still being sought and the final disbursements are planned to be made in 2016

Danish Forestry Extension, Finland Futures Research Centre, and Gaia Consulting projects were also completed in substance, but some key data and/or reports were still pending at end of 2015 and reviews we on-going. University of Copenhagen's project in Bolivia was also completed in substance but some key documentation was pending. The implementation status of all NCF3 projects is presented in Annex 2.

As for NCF1 and NCF2, disbursements for NCF3 projects are made against achieved milestones or, if agreed, against an advance payment bank guarantee. The table below summarizes the disbursement status of NCF3 projects. The cumulative disbursements at year end were EUR 3,472,640 out of the amended contracted amount of EUR 5,527,899, *i.e.* the disbursement rate was 63%. The original contracted amount was EUR 5,597,700.

Table 3. Cumulative NCF3 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Basis
Viegand & Maagøe A/S (Denmark)	NDF C3 d1	NAMA and Innovative Energy Optimisation in the steel sector in Bangladesh	172,898	299,340	Progress Report
University of Copenhagen – Department of Plant and Environmental Sciences (Denmark)	NDF C3 d3	Promoting cañahua in the Andean highland: a highly nutritive crop with a great market potential, adapted to extreme climate conditions	92,715	269,952	Progress Report*
Danish Technological Institute (Denmark)	NDF C3 d4	Ecological Food Processing Unit	297,186	381,436	Progress Report
Nordic Foundation for Development and Ecology, NORDECO (Denmark)	NDF C3 d5	Cambodian Farmland Carbon (CAFACA) Project	269,696	386,130	Progress Report*
Finland Futures Research Centre (Finland)	NDF C3 d5	Scaling up low carbon household water purification technologies in the Mekong Sub Region	353,923	452,081	Progress Report**
C.F. Nielsen A/S (Denmark)	NDF C3 d7	Biomass Green Briquette Fuel (GBF) Production (BidiePa) under Kitchen Efficiency Programme	394,790	494,790	Progress Report
Pöyry Management Consulting Oy (Finland)	NDF C3 d8	Pilot Project: Efficiency Enhancement and Entrepreneurship Development in Sustainable Biomass Charcoaling in Ghana	325,155	500,000	Progress Report
SINTEF (Norway)	NDF C3 d9	Rain Water Harvesting (RWH) for resilience to climate change impact on water availability in Ghana	330,199	330,199	Progress and final Reports
Niras Natura AB (Sweden)	NDF C3 c17	Business Development Closing the Rural-Urban Nutrient and Carbon Dioxide Cycles	50,000	499,220	Progress Report
Vi-Skogen, The Foundation Vi Planterar Träd (Sweden)	NDF C3 d11	ADAPTea: Climate Change Adaptation for FAIRTRADE Tea Producers in East Africa	444,936	444,936	Progress and final Report

DanChurchAid, DCA (Denmark)	NDF C3 d12	Mainstreaming climate-smart agriculture in solar irrigation schemes for sustainable local business development	106,945	350,000	Progress Report*
Danish Forestry Extension (Denmark)	NDF C3 d13	Developing low community based innovative solutions to mitigate and adapt with climate change while creating viable local business solutions	304,059	360,565	Progress Report**
Norges Vel, The Royal Norwegian Society for Development (Norway)	NDF C3 d14	From Waste to Local Business Development and Vigorous Soil	163,213	500,000	Bank Guarantee
Gaia Consulting Oy (Finland)	NDF C3 d15	Sustainable charcoal business development	166,925	259,250	Progress Report**
Total			**3,472,640**	**5,527,899**	

*Completed in substance in 2015 - final disbursement scheduled for 2016
**Completed in substance in 2015 - some documentation/clarifications sought

4.4. NCF4

For NCF4, launched in December 2013, the selection criteria and process have been already discussed in the 2013 and 2014 Annual Reports. By the end of 2014, Grant Agreements had been signed with Gaia Consulting Oy (Finland), Matis (Iceland) and Orgut Consulting AB (Sweden). Remaining Grant Agreements, including with NIRAS' and Norges Vel's projects which were selected from the reserve list, were signed during spring 2015. While most of the due diligence site visits were done already in 2014,

At the end of 2015, all NCF4 projects were well under implementation however slight implementation delays could already be noticed in few projects. The expected climate and development impacts as well as the progress of all NCF4 projects are summarized in Annex 2.

Disbursements were made to eight out of eleven NCF4 projects during 2015. Disbursements amounted to EUR 476,140, or 11% of the total contracted grant amount of EUR 4,471,292.

Table 4. Cumulative NCF4 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Basis
Gaia Consulting Oy (Finland)	NDF C62 B1	Strengthening resilient and inclusive green growth by advancing clean energy technologies (CET) through business development in the micro finance sector in Ethiopia	75,486	325,900	Progress Report
UNEP DTU Partnership (Denmark)	NDF C62 B2	Roadmap to Nationally Appropriate Mitigation Actions in the Livestock Sector of Honduras and Nicaragua	0	282,650	-
Vi-Skogen, The Foundation Vi Planterar Träd (Sweden)	NDF C62 B3	Climate Smart Agriculture for Improved Rural Livelihoods	53,187	300,000	Progress Report
Norges Vel, The Royal Norwegian Society for Development (Norway)	NDF C62 B4	Creating Green Local Economy through Commercial Production of Biomass Briquettes from Agro-Industrial Residues in Kenya	34,552	500,000	Progress Report
ORGUT Consulting AB (Sweden)	NDF C62 B5	Improved water economics within sub catchments of Kenya (IWESK)	0	497,000	-
NEPCon (Denmark)	NDF C62 B6	Leveraging Markets for Climate Friendly Sustainable Development, in Laikipia, Kenya	91,902	489,919	Progress Report
Arbonaut Ltd. (Finland)	NDF C62 B8	Piloting REDD+ Monitoring and Non-Wood Forest Product Value Chains to Mitigate	81,152	450,000	Progress Report

		Green House Gas Emissions in the Rural Communities of Bandafassi			
Matis (Iceland)	NDF C62 B9	Reduction of greenhouse gases and deforestation related to food processing in sub-Sahara Africa	59,319	488,903	Progress Reports
Aqua Unique Norge AS (Norway)	NDF C62 B10	3Ws Innovative Water Solutions	0	359,355	-
Aalborg University (Denmark)	NDF C62 B11	Sustainable Consumption and Production of biofuel in Uganda	80,242	277,565	Progress Report
NIRAS A/S (Denmark)	NDF C62 B13	Waste recycling in Mozambique through the establishment of Waste Transfer and Recycling Centres: Testing concept and formulation of bottom-up NAMA	0	500,000	-
Total			**476,140**	**4,471,292**	

4.5. NCF5

The deadline for submitting NCF5 pre-qualification proposals under the theme of "Climate resilience in urban and private sector contexts" was 30 January 2015 via an online application platform. Applicants were allowed to submit questions until 9 January 2015.

Pre-qualification proposals as well as final applications were scored by an evaluation team composed of both external and NDF representatives. NEFCO acted as a secretariat and evaluated also all pre-qualifications and final applications.

58 pre-qualification applications were received by the deadline. 54 applications were accepted for evaluation which was completed on 18 March 2015. Shortlisting of 30 pre-qualifications was subsequently approved by the MC. In comparison with previous Calls, the number of prequalifications was slightly less in comparison with the previous calls - apparently due to 'niche' and innovative nature of the theme of Call. A total of 21 final applications were received by 12.5.2015. Based on evaluation, eight projects including the reserve list of four projects were approved on 16.6.2015 by MC in order to initiate due diligence process and negotiations. On 25.8.2015 NDF took over the NCF management from 5th Call onwards and NEFCO provided support for contract negotiations until the end of the year.

Table 5. NCF5 selected applications

Applicant	Applicant country	Project name	Project country	Project classification
Plan Danmark	Denmark	Community Driven Climate Adaptation - Making sustainable climate adaptation solutions accessible to the urban poor	Bangladesh	adaptation
Niras A/S	Denmark	Exploiting the synergies between sustainable urban drainage systems (SUDS) and urban farming in Vinh Yen City, Vietnam	Vietnam	adaptation
Diakonia	Sweden	Technology, adaptation and mitigation: Greening the economy of urban agriculture at Kanata metropolitan area	Bolivia	combination
Deloitte	Denmark	Inclusive business opportunities for climate resilience and public health in Zambia's peri-urban areas	Zambia	adaptation
Världsnaturfonden WWF	Sweden	Introducing renewable energy solutions to enhance energy security and build climate resilience in Karachi, Sindh Pakistan	Pakistan	combination
Vista Analysis	Norway	Implementing incentives for climate resilient housing among the urban poor in Vietnam	Vietnam	adaptation

HAMK University of Applied Sciences	Finland	Climate Resilient Low Cost Buildings in Marsabit County	Kenya	combination
Danish Refugee Council (DRC)	Denmark	Increasing resilience to climate change among displaced communities in North West Pakistan	Pakistan	adaptation
Arbonaut Ltd.	Finland	Building resilience and adaptive planning in urban centers of Nepal	Nepal	adaptation
Nordeco	Denmark	Green Innovation Solutions for Better Urban Resilience - linking experience of green solutions to climate adaptation in Copenhagen with development of urban resilience in HoChiMinh City, Vietnam	Vietnam	adaptation
Hifab International AB	Sweden	Promotion of climate resilient water supply, sanitation and clean energy technologies in vulnerable coastal municipalities	Bangladesh	adaptation
VTT Technical Research Centre of Finland Ltd (VTT)	Finland	Solar Energy and Adaptive Skills (SEAS)	Zambia	combination

5. ORGANIZATION AND ADMINISTRATION

5.1. Financial administration

The Funds Administration Agreement between NEFCO and NDF had been amended twice since the launch of the NCF programme. In June 2015 NDF informed NEFCO of NDF's decision to assume the administration of NCF. It was confirmed that NEFCO would continue to administer NCF1-4 until the end of 2017. With regard to NCF5 and any future calls, NDF would be in charge of administration.

A further amendment to the Restated and Amended Funds Administration Agreement is to be signed in spring 2016 to reflect the above changes. At year end 2015 the total funding for four calls under NEFCO's administration is EUR 22.37 million (including some interest earned). The new amendment agreement will cover all four calls.

Less staff and other resources were utilized in 2015 than anticipated due to administration changes. NEFCO did provide support to NDF on negotiations during the autumn 2015. NEFCO was not, however, involved in NCF5 due diligence nor NCF6 design or launch. External costs were also slightly reduced as there was no involvement in NCF6 call as anticipated. The cumulative administrative costs since the beginning of the NCF programme are EUR 1 597 684. Administration is carried out cost-effectively as confirmed by the external NCF Evaluation.

Table 6. Administration costs for NCF1-5 in 2015 (EUR)

Budget item	Cost estimates	Actual
Staff	189,000	176,726
Travel	41,000	18,973
Marketing	11,500	1,036
Office supplies	1,000	708
Contingency	2,867	-
External Expert Services	51,450	43,207
TOTAL	**296,817**	**240,650**

5.2. Management

As mentioned above and in accordance with the Funds Administration Agreement, as amended, the implementation, administration and monitoring work related to NCF1-4 have been carried out by NEFCO. NEFCO was also in charge of arranging and coordinating the Fifth Call for Proposals during spring 2015.

As before, all final decisions and approvals related to NCF programme have been taken by the NCF Management Committee chaired by NDF. The MC had three meetings during 2015. Several decisions have also been made via written procedures.

5.3. Reporting

As before, NEFCO prepared NCF MC Minutes, quarterly reports and this Grant Report covering the year 2015.

Project reporting was based on the progress and financial reports by the grantees linked to milestones. In addition, the grantees prepared a brief NCF Project Summary Report in connection with the final reporting of the project. The project specific key results have also been published on the respective project web pages, and more material and updates are being added to the project descriptions. The final summary report will consist of a public report, which will be published on NDF's web pages and a confidential part which is intended only for NCF/NDF/NEFCO.

5.4. Marketing and dissemination

The progress of NCF projects was disseminated via the respective, regularly updated websites including specific material linked to completed projects.

In April NEFCO arranged, together with NDF, a Mini-Seminar on the topic "Nordic Climate Facility – the role of adaptation and private sector involvement". Also in April 2015, the Nordic Working Group for Global Climate Negotiations (NOAK) published a report called "Nordic Climate Finance Opportunities – the NCF Case Study". NCF was also the topic of a panel discussion on "Climate finance in practice - concrete results from 50+ Nordic Climate Facility projects" which was arranged at the Nordic Pavilion in Paris COP21.

Three NCF supported activities, namely Naps Systems Oy "Scaling the Solar Market Garden" in co-operation with SELF in Benin, Solvatten's "Enhancing Capacity for Adaptation to, and mitigation of, climate change in Kibera, Nairobi", and Danish Red Cross (Denmark) "Community based adaptation to climate change through environmentally sustainable water resource management in Isiolo District in Kenya" in co-operation with Grundfos LIFELINK were awarded with UNFCCC's Momentum for Change initiative awards in 2015.

The launch of the fifth call was advertised through the usual communication channels of NDF and NEFCO, their respective websites and social media channels, the climate-l email list, and previous NCF applicants. In addition, Nordic networks, urbanization and adaptation actors and other relevant stakeholders were especially targeted in order to attract new potential applicants for NCF for a niche Call. As for NCF4, a small flyer/postcard on the call was also printed and distributed by NDF and NEFCO staff at different events.

6. CONCLUSIONS

By the end of 2015, the NCF programme had been implemented as planned. Completed NCF projects show tangible climate and development benefits, albeit typically small in absolute terms. Some have more development and/or climate impacts and some projects are more innovative than others.

For mitigation projects completed during 2015 the annual direct CO_{2e} reductions reached 540 to 5,500 t/a. In some cases overestimation of the expected CO_{2e} reductions or other benefits has been noted. For adaptation projects the results vary from ensuring access to safe and affordable water for the beneficiaries, understanding potential adaptation measures that are crucial to the management of climate-related disasters, facilitating better planning for infrastructure development and improving preparedness for flood disaster prevention. Projects also introduced sustainable agricultural land management practices which help farmers to adjust to changing weather patterns and to secure their livelihoods. Many NCF projects also combine mitigation and adaptation, and previously completed NCF projects continue to generate climate and development benefits.

Development impacts are typically closely linked to climate change impacts. Development impacts include income generation and employment, cost savings, improvements in nutrition and health; access to safe water and energy efficient appliances via innovative financing mechanism. Early warning technology supported can contribute to sustainable development. Special attention to gender aspects is also evident in NCF projects.

Business development aspects of NCF projects have increased especially since NCF3. Concrete business projects have the potential to leverage more private funds for climate actions - adaptation included and support long term sustainability of activities. Many NCF3 and NCF4 indicate that combining business with climate outcomes is possible but challenges exist. Concrete results are yet to be assessed once most of the projects have been completed.

The multiple criteria used in project selection lead to diversified outcomes, and the projects are not directly comparable. There is major diversity at the portfolio level - a key feature and strength of the NCF programme. While the key targets are practically fully met in most projects, there is some underperformance in few projects, and many have faced delays. This is not untypical for development projects with innovative nature. Taking into account the short implementation period, the innovative nature of the programme, challenging project countries, and new partnerships, some further challenges and underperformance can be expected in the continued implementation of the NCF programme.

Scaling-up and replication of many NCF projects is on-going, and this is likely to be further supported by UNFCCC's Momentum for Change initiative awards in 2015 for three NCF supported activities and scaling-up an NCF concept by Green Climate Fund's funding last year. These linked to continued progress with concrete results indicate success of the NCF programme including clear Nordic components in all projects.

Annex 1. Projects completed during 2015

Project Name:	Bukaleba Charcoal Project		
Country:	Uganda	**Financing:**	
Nordic Partner:	Green Resources AS (Norway)	EUR 433,588	66.34%
Local Partner:	Busoga Forestry Company Ltd (BFG)	-	0%
	NCF	EUR 220,000	33.66%
	Total	**EUR 653,588**	**100.00%**
Classification:	Mitigation		
Project cycle:	Contracted 30.9.2010, ended (early) on 9.11.2015		
Project description:	The primary objective of the project was to build two clean and sustainable high yielding charcoal plants with 12 kilns at two sites to reduce the impact charcoal production and deforestation has on climate change. Charcoal is an important energy source for East Africans, vital for the daily household activities of the poorest people. The high demand for firewood and charcoal is the main source of deforestation in Uganda. Traditional charcoal production methods using for example earth pits are highly inefficient providing only 10-15% yields. In addition, charcoal production is usually illegal since indigenous forests are being used as raw material as well as polluting due to methane emissions. The Bukaleba Charcoal project introduced four modern, energy efficient and practically methane-free charcoal kilns. The new kilns are capable to double the efficiency of traditional charcoal production reducing the need of biomass required to make the same amount of charcoal.		
Main outputs:	• A set of fours kilns were installed and three are operational at Jinja and Bukaleba • Briquetting line and two wood splitting machines operational • Annual production reached 374 tonnes of charcoal • Obtaining a Letter of Approval from the Designated National Authority to proceed with the Programme of Action (PoA) registration process • Capacity building and increased income for staff households		
Final beneficiaries:	The project has employed more than 50 people directly and a good number indirectly. Households and other customers have access to sustainably produced charcoal from a known source at predictable prices.		
Climate change impacts:	The four sets of installed modern kilns have mitigated climate change in a number of ways, including the prevention of methane emissions, a greenhouse gas with a global warming potential 21 times that of CO_2, from the carbonisation process. The project has saved around 1,400 tonnes of CO_{2eq} during the two-year implementation period and annual reductions have reached 780 t/a. The project has produced charcoal using renewable biomass sources such as timber and waste residues from the Busoga Forest Company's sustainable plantations. As per Green Resources' policy, ten trees have been planted for every harvested one. This will have a positive impact on deforestation since almost all charcoal in Uganda is currently produced using indigenous forests which are not replanted.		
Development impacts:	A number of households and other customers have bought sustainably produced charcoal from a known source at predictable prices. As a result, these households have diverted their attention from looking for fuel to education and employment for both men and women, thereby enhancing gender equality and development. The project has acted as a learning ground for most people who have been producing charcoal using other inefficient methods and others who have been dreaming of producing charcoal more efficiently and on a large scale. The project has attracted a number of people from various sectors in the country to see the project. The project has employed more than 50 people directly and considerable more indirectly. The company has generated revenues from waste wood as a result of using waste wood as a raw material for charcoal production and has demonstrated to other industries that value can be added to waste. In addition, employment has been created for more than 50 people directly.		
Innovation,	This pioneer charcoal project has acted as a demonstration ground. The project has created		

technology and learning:	employment opportunities, contributed to the country's tax base and demonstrated that charcoal production is not a subsistence industry as many Ugandans think but contributes to the overall development of the country. This was the first plant in East Africa where methane emissions from charcoal production were recycled. It is expected that the project's innovative gas capture technology will set a precedent for future charcoal production and increase the innovation amongst traditional charcoal producers to raise their efficiency.
Partnership:	Relationship with local state authorities has been good and the grantee has been able to acquire all the necessary certificates and permits for project implementation however with some delays here and there because of bureaucracy. The project has liaised with other organizations like CDM Designated National Authority (DNA), Makerere University, and Climate Change Department in areas like getting letter of approval for carbon credits, transportation of spares and charcoal plus carrying out charcoal laboratory tests.
Sustainability and replicability:	In the long term the project is expected to impact on land use changes characterised by degradation of natural forests for both wood and charcoal products. Adapting to plantation charcoal rather than that from natural forests should lead to a reduction in conversion of existing natural forests though charcoal production resulting from increased demand of growing population and industries. The company plans to continue participating in national trade exhibitions and agricultural shows in order to make more Ugandans aware of the benefits of using efficient and environmentally friendly technology in producing lump charcoal and charcoal briquettes. The project will continue operating without support from NCF because it has already started generating revenue. The project has also acted as a learning ground for many people who have been producing charcoal using inefficient methods and others who had been considered producing charcoal more efficiently and on a large scale. The project has attracted a number of people from various sectors in the country. Despite BFC's competitive pricing the uncontrolled charcoal production from hard wood species remains a challenge and impact on charcoal demand and supply trends in Uganda. This resulted in accumulation of charcoal, and charcoal from responsibly managed plantations remains outcompeted by uncontrolled charcoal production using conventional and low conversion traditional earth kilns. This is the key reason why not all kilns were installed during the NCF project period (and leading to reduced grant). Green Resources targets to change consumer behaviour with support from Government on energy policy implementation to spearhead use of charcoal from sustainable chain of production.

Project Name:	Building technology in urban flood & inundation forecasting to be applied for operational early warning system in the Ha Noi City		
Country:	Vietnam	**Financing:**	
Nordic Partner:	DHI (Denmark)	EUR 18,286	3%
Local Partner:	The National Hydro-Meteorological Service of Viet Nam (NHMS)	EUR 264,997	43.6%
	NCF	EUR 324,950	53.4%
	Total	**EUR 608,233**	**100.00%**
Classification:	Adaptation		
Project cycle:	Contracted 27.12.2011, ended 31.12.2015[5]		
Project description:	The overall objective of the project was to reduce the consequences and improve resilience of the Vietnamese society to the adverse effects of increasing flood and inundation disasters in urban areas. The project aimed to build, test and implement an urban flood forecasting and climate-based flooding adaptation system for a selected zone of Hanoi City. An innovative technology has been introduced to the flood forecasting sector in Vietnam. The technology facilitates better planning for infrastructure development and better preparedness for flood disaster prevention in the coming years. A selected area of Hanoi City has tested the technology, which can be scaled-up and replicated in latter phases to other cities nationwide.		
Main outputs:	• Site survey and drainage system data collection for 4 to 8 districts of Inner Ha Noi executed • Flood risk maps for inner Ha Noi produced • Software provided and users trained • Monitoring system established • Operational early warning and inundation demonstration forecasting system applied to the selected district of inner Ha Noi implemented • Training of NHMS personnel executed and study tour performed • Effectiveness of the systems and procedures demonstrated • Project results disseminated to stakeholders in other Vietnamese cities		
Final beneficiaries:	Number of final beneficiaries living in the area covered by the early warning system is 840.000 people. In addition to that NHMS and the Ministry of Natural Resources and Environment (MONRE) have benefited from the project.		
Climate change impacts:	Due to climate change, a change of hydrological patterns is expected, through concentration of yearly rainfall into wet periods of shorter duration, but with more intensive and violent rainfalls. This means that extreme hydrological events will become more frequent, which, in turn, will increase the flooding risk. Increased urbanisation will aggregate urban flood risks. The physics of man-made urban cities means that a relatively minor additional increase of hydrological inputs will cause a significant, potentially catastrophic increase of flood-related losses and damages. The technology delivered by the project facilitates better planning for infrastructure development and better preparedness for flood disaster prevention in coming years.		
Development impacts:	Soundly-based and innovative technologies have been introduced to the flood forecasting sector in Vietnam; where in the past urban flood and inundation forecasting have not been incorporated into NHMS operational forecasting. Along with the new flood forecasting technology, the institutional capacity and know-how for groups of NHMS functional units have been upgraded. This new early warning technology allows future city infrastructure planning to adapt to climate change, abate urban flood and inundation effects, which will contribute to urban environmental sustainable development. Urban flooding risks cannot be treated exclusively in terms of monetary value losses, because social aspects play an important role in evaluating the overall impact of the flood on the urban community. Some loss can have a different effect on the members of different social groups, due to their different		

[5] The final disbursement was made in 2016

	resilience capacity. I.e. loss of the same material goods could be insignificant for a well-off person, while the same loss may have a major negative impact on a poor person's capability to recover after a flood. This problem is magnified by the fact that it is typically low-income people who settle in the areas which are naturally prone to flooding, as the land there is cheaper. Therefore, urban flood mitigation and adaptation measures in general, generally have a very good social effect, providing a relatively higher value to low-income social groups.
Innovation, technology and learning:	Few cities in the world have the combination of high susceptibility to climate change flooding impacts combined with rapid development like the major centres of Vietnam. Flood warning by the integration of hydro-meteorological information with advanced models is an emerging technical field, but the combination of the willingness of the NHMS and the Vietnamese Government to embrace the opportunity, and the applicability of the technology represent an opportunity to create a truly innovative outcome.
Partnership:	NHMS and DHI have strengthened their already existing relationships and may together implement similar technology in other cities in Vietnam. The project cooperated also with Ha Noi Water Resources University. This partner participated in all status meetings as well as the weekly online meetings.
Sustainability and replicability:	The project has expandability and replicability to other cities in Vietnam and within the NHMS nation-wide networks. The project has been specifically designed to focus on pilot areas in Ha Noi. As such, it was a demonstration project with a strong dissemination component, aiming at scaling-up to include entire Ha Noi and at replication in other major cities in Vietnam. Dissemination activities in Ho Chi Minh City and in Da Nang have been included. The scaling-up and replication will be possible with significantly smaller participation of foreign experts. This will make scaling-up and replication economically viable without limited foreign financial contribution. Steering Committee for Flood Control for Ho Chi Minh City has showed interest in the system and currently looking for a financial source to implement similar system.

Project Name:	Financing sustainable energy through remittances flows, Bolivia		
Country:	Bolivia	**Financing:**	
Nordic Partner:	Gaia Consulting Oy (Finland)	EUR 84,648	10.98%
Local Partner:	Fundación AMIBE CODEM (Official registration name in Bolivia) / ACOBE – Asociación de Cooperación Bolivia España	-	0%
Other Partners:	Basel Agency for Sustainable Energy	EUR 24,886	3.23%
	Arc Finance	EUR 7,800	1.01%
Other Financiers:	Harder Fund	EUR 149,464	19.39%
	UNDP	EUR 14,318	1.86%
	NCF	EUR 489,550	63.52%
	Total	**EUR 770,666**	**100.00%**
Classification:	Mitigation		
Project cycle:	Contracted 16.12.2011, final disbursement pending[6]		
Project description:	The project aimed to encourage Bolivian migrants living in Spain to use part of their remittance flows to purchase renewable energy products or more energy-efficient appliances for their relatives in Bolivia. The target group was low-income families in Bolivia living in urban and rural areas. A business model, EcoBazar was established in 2014. The model allows Bolivians in Spain and/or Bolivia to channel remittance income to purchase renewable energy or energy efficient devices. The business model combines 1) strong local financial partners with the capability to provide financial services at competitive interest rates, 2) an experienced local Bolivian technical installation, maintenance, and after sales service provider, and 3) sales and information networks in both Bolivia and Spain.		
Main outputs:	• Market potential identified and assessed • Business model structured and refined • Project piloted and marketing campaign implemented with 50,000 people reached in Spain and 250,000 in Bolivia; 149 devices sold in pilot phase • Business model evaluated and results disseminated		
Final beneficiaries:	150 families in La Paz, Cochabamba and Santa Cruz; 2,000 low-income persons living in institutions.		
Climate change impacts:	By November 2015, the emission reductions of the project, through sales and installation of 150 solar water heater systems (SWH) reached annual tCO_{2e} reductions of 540 tonnes. The annual emission reduction so far is lower than originally planned due to the decision to focus on one initial technology and due to lower than expected sales. However, the replicability potential, which is at the core of the business concept, is considerable. Over 2016-2017, assuming a healthy SWH sales development and the introduction of new product categories to the platform, the business could generate 30,000 tCO_{2e} in total GHG emission reductions (taking into account an expected operational lifespan of circa 15 years of all installed devices).		
Development impacts:	The project has contributed to more sustainable energy services through improved access to renewable and more efficient energy services in Bolivia. By November 2015 approximately 150 families in La Paz, Cochabamba and Santa Cruz have gained access to renewable energy solutions. In addition, SWH were installed at three social institutions that aim to 1) strengthen family relationships, 2) support abused girls and young women; and 3) help mentally challenged persons; with a total of 2 000 low income persons hereby reached for improved energy access and security. The project has targeted at least an estimated 50,000 Bolivian immigrants living in Spain and 250,000 potential remittance recipients in Bolivia through its various marketing and sales measures increasing overall awareness on the financial and environmental benefits of using renewable and more energy efficient solutions.		

[6] Final payment was transferred to 2016 as some clarifications were still being sought

	Several project beneficiaries have been able to showcase considerable cost savings from the installation of solar water heaters. The possibility of access to consumer credit for lower income segments, which has been addressed during the project through the cooperation with Banco FIE and Banco Los Andes, has the potential to ensure wide societal reach, including better targeting of rural areas during upscaling. Good governance and gender aspects have been considered and respected throughout the project activities; however, no explicit gender related goals were set for this project. The operations are planned to be further scaled up, with respective developmental impacts expected to realize and grow accordingly.
Innovation, technology and learning:	The project contains several innovative components that have pushed the project partners towards constant and sometimes steep learning curves. The project has developed a competitive credit mechanism focused on sustainable energy by engaging renowned financial institutions, also available for low-income households. The core innovation of this project lies in the business model created and piloted that allows the use of remittance flows in financing sustainable energy.
Partnership:	The Local Partner, Acobe has continually helped raising awareness among Bolivians living in Spain for the duration of the project. Acobe has supported the diffusion and marketing of the project and its intended benefits among Acobe's affiliates and beneficiaries both in Spain and in Bolivia. Acobe has a close relation with the Bolivian community in Spain. Acobe was more involved with the project during the first half of the project, and has during the business implementation remained a strong partner and understands the challenges. BASE has provided support in the preparation of the business plan leading to the implementation of the pilot phase. BASE has been responsible for supporting the project in developing relations with financial institutions in Bolivia: Banco FIE and Banco Los Andes. Arc Finance has provided insights into remittances and microfinance, market research, and building partnership arrangements between the finance and energy sector, but has not had an active role during the business implementation phase. Other key partners in the project have been Transfer Latina and Elpuntosolar.
Sustainability and replicability:	The central goal from the start of the project has been to create and establish a business model and brand with strong viability and upscale potential, once support from NCF has ended. This goal has been reached through an innovative business and cooperation model that has been developed and piloted during the project. The existing business model has the potential for upscaling through accelerated i) SWH sales, ii) expansion to other RE/EE technologies, as well as iii) expansion to other countries with significant remittance flows and RE/EE needs. Understanding the respective roles of private and public sectors and harnessing their optimal interplay are essential in successful upscaling. Eco Bazar business platform, due to the successful project, is in the process of investing in order to 1) strengthen the consumer finance product, 2) assess upscaling business models (e.g., partnership, stand-alone company, and/or franchising) and create a commercially viable business plan, and 3) train personnel with implementation partners in Bolivia and possible other South American countries.

Project Name:	Mainstreaming climate-smart agriculture in solar irrigation schemes for sustainable local business development in Malawi		
Country:	Malawi	**Financing:**	
Nordic Partner:	DanChurchAid (Denmark)	-	0%
Local Partners:	Churches Action in Relief and Development (CARD)	-	0%
	Christian Service Committee of the Churches in Malawi (CSC)	-	0%
	Kusamala Institute of Agriculture & Ecology (KIAE)	-	0%
Other Partner:	Lilongwe University of Agriculture and Natural Resources (LUANAR)	-	0%
Other Financier:	DANIDA	EUR 199,511	42%
	NCF	EUR 279,316	58%
	Total	**EUR 478,827**	**100.00%**
Classification:	Combination		
Project cycle:	Contracted 1 July 2013, final disbursement pending[7]		
Project description:	The objective of the project was to empower vulnerable communities in Malawi adapt to the impacts of climate change through sustainable businesses in existing solar irrigation schemes, and mitigate climate change through climate-smart agriculture. The project has supported 15,000 farming households in adapting to climate change and reduced emissions through new agriculture practices. Smart agriculture techniques, including organic fertilisers, agro-forestry, high-yield crop varieties and conservation farming are expected to lead to environmental and financial sustainability. The project built on existing capital investments in the solar irrigation schemes, using already established community structures to mainstream climate-smart agriculture to empower and support poor rural communities.		
Main outputs:	• Households produce a diversity of high yield crops that meet the market requirements. • Households have adopted climate smart agriculture techniques. • Households have been provided with effective marketing strategies to access larger and more sustainable markets. • Households have acquired improved business management skills for profitable agribusiness. • A framework on reducing greenhouse gas emissions at community level has been piloted in three targeted districts.		
Final beneficiaries:	15,000 households		
Climate change impacts:	Enhanced capacity in building community resilience through the implementation of climate change mitigation and adaptation activities has been one of the key benefits. Implementation of sustainable agriculture land management practices as a climate change adaptation measure has enabled the land to be sustained over the project period and beyond. The use of solar powered irrigation with water reservoirs and installation of salt batteries in the irrigation schemes contributed greatly to increased yields of high value crops and increased income levels from sales. Overall, the resilience of the targeted households has been built as the project empowered vulnerable target communities to adapt to the impacts of climate change. A dedicated mitigation component of the project was dropped mainly as a result of assessment conducted during the project (and the grant amount will be reduced).		
Development impacts:	The project has contributed towards poverty reduction through increased real household income from sales of high value crops grown in the irrigation schemes. Members of the households actively involved in growing more than 3 high value crops and marketing of the crops are now living above $1.25/person/day which was not the case before commencement of the project interventions. Success		

[7] Final payment was transferred to 2016 as some clarifications were still being sought (inc. financing).

	stories collected described building iron-roofed houses, installing solar panels in homes, paying school fees and buying push and motorbikes. The project targeted both females and males enabled gender equity in terms of receiving information and benefits (7954 were females - representing 53%). The project also promoted active participation of females and males contributing to gender equality.
Innovation, technology and learning:	Through the solar powered irrigation technology the project partners and communities have learnt that in dry prone areas growing of crops is possible throughout the year. The learnings have been utilised to scale up the interventions in other project sites. Solar powered irrigation has for example been implemented in other DCA project sites. Results of the learning have also been disseminated through documentation of the technology.
Partnership:	The relationship between project partners has been complementary and contributed to the achievement of the project goals and targets. Beyond the formal project partnership, organisations such as FAO, the World Bank, and National Smallholder Farmers Association.
Sustainability and replicability:	Improved farmer organisations, active participation of local leaders/chiefs and enhanced access to markets will ensure sustainability of project activities after the end of NCF support. The use of climate friendly technologies such as conservation agriculture, permaculture, integrated soil fertility management and integrated pest management will ensure the project's environmental sustainability. DCA is working with other partners such as the Danish Grundfos for possible upgrading of the lagging behind irrigation schemes i.e. by upgrading the schemes to allow them to provide more water for irrigation.

Project Name:			
Country:	Cambodia	**Financing:**	
Nordic Partner:	NORDECO (Denmark)	**EUR 32,050**	6.10%
Local Partner:	Cambodia Centre for Study and Development in Agriculture - Centre d'Etude et de Développement Agricole Cambodgien (CEDAC)	**EUR 82,358**	15.66%
	Direct revenues from the project	**EUR 25,280**	4.81%
	NCF	**EUR 386,130**	73.43%
	Total	**EUR 525,819**	**100.00%**
Classification:	Mitigation		
Project cycle:	Contracted 11 March 2013, final disbursement pending[8]		
Project description:	The development objective is to improve the living conditions for small-scale farmers and at the same time increase the carbon sequestered in the farming landscape. The immediate objective is to create a sustainable low-cost carbon trading business that will allow farmers to improve their livelihoods through the trading of sequestered carbon. The project will mitigate greenhouse gas emissions by introducing a carbon sequestration scheme, which rewards Cambodian small-holder farmers when they carry out climate-smart farming. The project will disseminate practical approaches to climate-resilient agriculture, including creative low-cost ways to organise tree planting in the farming landscape. The project plans to establish a business (Cambodia Farmland Carbon – CAFACA), which will connect to the existing farmers' associations and support them to increase their incomes from carbon sequestration. The project thus links farmers associations to the voluntary carbon and corporate social responsibility (CSR) markets in an innovative and cost-effective way. In addition, the project plans to develop eco-agro tourism in rural Cambodia in connection with the climate-smart farming, introduce small-scale biochar production and develop advisory services for climate-mitigation aspects of sustainable agriculture. The project will provide small-holder farmers with income opportunities and improved financial security, while generating considerable environmental benefits. The benefits are not restricted to mitigation - additional adaptation benefits are expected through decreased erosion and improved groundwater availability.		
Main outputs:	• Over 310,000 trees have been planted and have sequestered c. 8,600 tonnes of CO_2 during the 2.5-year project. • 1,500 households have adopted climate-resilient and effective farming practices. • 70 km of roads and irrigation infrastructure protected against erosion by planted trees. • Marketing is going well and first major buyers are in the pipeline. CAFACA has been registered in Cambodia and TroFaCo in Denmark. Practices and agreement for collaboration with farmers' associations have been established. • Business entity able to sustain itself after less than 2 years and has proven capacity in monitoring and documenting carbon mitigation, making it able to obtain premium prices (20% above average voluntary carbon market). • Increased understanding among participating farming households about climate change. Increased household income (10 EUR/HH/year) obtained from tree tending and carbon trading. 50% of this income controlled by women.		
Final beneficiaries:	Directly 2,840 (1,420 women), indirectly 28,400 (11,360 women)		
Climate change impacts:	The project has generated both mitigation and adaptation benefits. The participating farmers have planted and tended over 310,000 trees providing a long-term carbon sink. The tree planting has sequestered an estimated 200 tonnes of carbon for the first year, 2,900 tonnes for the second year		

[8] Final payment was transferred to 2016 as some clarifications were still being sought

	and additional 5,500 tonnes for the third year. Over the expected 20+ years' lifetime of the trees they are expected to sequester more than 100,000 tonnes of CO_{2e}. The tree planting has also contributed to local reduction of erosion from the increased number of extreme weather events. CAFACA has planted trees along 70 km of roads and 36 km of irrigation canals and borders of artificial ponds that previously had no protection against weather-induced erosion.
Development impacts:	The development impacts of the project include improved income of participating farming families provided through the income from tree tending, and carbon trading. A long term estimate suggests direct economic benefits of more than 2.7 million euro from the planted trees. Other benefits include improved soil fertility from use of compost derived from the trees, positive health impacts due to the medicinal use of traditional medicine or reduced time spent looking for small firewood. Gender aspects have been addressed in the promotion of women's participation in the activities under the farmer associations. Women got a significant share of the paid work of the farmer associations on planting and tending trees and nurseries and on monitoring.
Innovation, technology and learning:	The innovativeness lied in the combination of working with established farmers associations, facilitating carbon sequestration in the farming landscape, linking to the international voluntary carbon and CSR markets and thereby building a sustainable low-cost business with significant development benefits for small-scale farmers. The clever use and development of an existing institutional framework allowed for low transactions cost per unit of carbon, which is not usually the case when working with small-scale farmers. The project has planted trees in 23 schools. In the large majority of these the trees have become instruments in learning, as children in various classes get allocated parts of the tree stands, and compete in being best in taking care of the trees. Also trees and their role in the local community have entered the curriculum in several schools. Moreover, the MRV system is highly credible while being low-cost. It provides geo-referenced pictures and text for each project location, directly on a map on a homepage accessible for customers as well as the general public. CAFACA has held two workshops, in Phnom Penh and Copenhagen to disseminate results of the system.
Partnership:	CAFACA has had good collaboration with the 'on the ground partners', i.e. the Farmers' Associations (FAs) and local authorities. The project has benefitted from the support of local authorities, i.e. commune councils, district authorities as well as education officials (in schools) and monks in local temples. The local authorities co-signed CAFACA-contracts with local farmers' associations, and in many locations they actively participated in identifying areas for planting of CAFACA's trees. No other third parties have been or are involved.
Sustainability and replicability:	Through the spread of the business activities to cover an increasing number of farmer associations in the coming years the development impacts are likely to spread and be replicated. Institutional sustainability has been facilitated by the development of business relations with existing farmer associations and by using the principles of shared value where CAFACA and the farmer associations benefit from developing mutually beneficial business relations. Trading in sequestered carbon is being dealt with simply as one more aspect of existing farmer organisations and it has not been necessary to create new structures. This improves sustainability. Social sustainability has been facilitated through the promotion of better understanding among farming households of climate change, ways to adapt and combat it, and ways of benefitting from sequestering carbon in the farming landscape. By working with organised farmers the project facilitated further social coherence and further empowerment. Effective scaling-up would require additional funds towards a) identification of suitable producer groups, b) identification of suitable staff for local operations, c) training of the staff, d) set up of local business, MRV system and homepage, and e) marketing and sales of the offsets. Expansion could be financed by customers who agree to pay this investment, private foundations or by public funds.

Project Name:	Rain Water Harvesting (RWH) for Resilience to Climate Change Impact on Water Availability in Ghana		
Country:	Ghana	**Financing:**	
Nordic Partner:	SINTEF (Norway)	EUR 36,447	8.80%
Local Partners:	Science and Technology Policy Research Institute (STEPRI)	EUR 12,055	2.91%
	Water Research Institute (WRI) of the Council for Scientific and Industrial Research (CSIR)	EUR 35,267	8.52%
	NCF	EUR 330,197	79.76%
	Total	**EUR 413,966**	**100.00%**
Classification:	Adaptation		
Project cycle:	Contracted 18 December 2012, ended 10 November 2015		
Project description:	The project aimed at mitigating the expected negative effects of climate change - intensive floods and rainfall events combined with a short rainy season - by providing urban households and institutions with improved access to water through affordable, simple and safe rainwater harvesting (RWH) systems. The project has assessed the most appropriate solutions for rainwater harvesting, monitoring and disinfection, and implemented model systems in selected houses and institutions. The project created standardized design criteria and implemented innovative RWH systems. It also installed model systems to 20 households and one school, which were then monitored and evaluated. The results showed that the implemented systems functioned as a main water source for most of the households. On average, the tanks had a filling degree of 64% or higher for half the monitoring period. Finally, the project has supported local business development by training 25 local artisans who have secured jobs in construction and maintenance of the systems. The project has also contributed to capacity-building among key stakeholders and generated increased public awareness about the potential and benefits of RWH in Ghana.		
Main outputs:	• Increased resilience to climate change impacts on water availability in Ghana; • Local business development; • Improved urban livelihoods; • Increased water availability in 20 household and 1 school; • Affordable, appropriate and innovative RWH systems are more available in Ghana; and • Human and institutional capacities strengthened to implement RWH.		
Final beneficiaries:	20 households (9 female-headed), 25 artisans and 700 school children		
Climate change impacts:	The project has had a direct impact as adaptation at the local level. The monitoring indicated that on average the tanks had a filling degree of 64% or higher for half the monitoring period. All the model systems are also adaptive in the sense that they provide water independently of any problems that might affect the public water supply and/or private tanker water services due to climate-related flooding and/or pollution of surface waters. Locally, risks of storm water run-off, pollution, flooding and erosion have been reduced.		
Development impacts:	The implemented systems provide alternative water supply to 20 households and one school with more than 700 school children that previously did not have adequate water supply and who now enjoy better hygiene and improved access to water. 9 of the 20 households were female-headed. Depending on family size the households saved 50-300 GHS (approximately 10-70 Euros) per month, from not having to buy water. Some reported time savings, especially for women and girls. 70% said they use more water than before and therefore enjoy improved hygiene and quality of life, and some used part of the water to grow fruit and vegetables. The 25 artisans have got a formal qualification in RWH system construction, as well as new skills and added income from installing further RWH systems. Capacity has been built in relevant institutions, and, most importantly when upscaling is concerned, increased public awareness about RWH and climate change has been created, both through targeted reports and events, and through general reports in the news media.		

Innovation, technology and learning:	Standardized RWH designs were not available for Ghana before this project, but are essential to ensure that RWH systems perform adequately and meet customer expectations, and therefore critical when it comes to upscaling. The low-cost approach has aimed to support local business development. Training local artisans in how to construct the systems and set up business, dialogue with key stakeholders and the promotion of RWH among local estate developers and entrepreneurs will facilitate the adoption of the model RWH systems on a wider scale. Since artisans in Ghana often work with at least two apprentices, the knowledge and skills will be further spread quite efficiently among enterprises and individuals at the grassroots level in the water sector.
Partnership:	Recruitment of beneficiaries, procurement and coordination of RWH system installations were more challenging than foreseen, but all partners learnt from this. A proposal for further RWH collaboration involving all the three partners has been worked out, and two joint proposals have been submitted for joint research in related topic areas. SINTEF has a good relationship to the relevant authorities in Ghana, especially the Ministry of Environment, Science, Technology and Innovation (MESTI), through previous collaboration with CSIR-STEPRI. During the current project, SINTEF has developed stronger relations also with MWRWH and WRC, again through the Local Partners. Other involved partners included The National Board for Small Scale Industries (NBSSI) which contributed significantly to the training, as did Ghana Real Estate Developers Association (GREDA) and Ghana Science Association when it came to dissemination. Community Water and Sanitation Agency (CWSA) was an important dialogue partner in technical matters. There have also been fruitful discussions with Ghana Institute of Architects, who would be an important partner when it comes to integrating supply from different water sources and incorporating RWH with other green technologies in new, future-oriented building designs.
Sustainability and replicability:	The project partners want to continue the collaboration towards upscaling in a larger, more broad-based project. A proposal has been outlined and is supported by WRC, but its realization will depend on external funding. There is already a smaller spin-off in the grant collaboration between CSIR and COTVET, and individual contracts for further system installations. The GARH cluster will continue, and be linked to other local business clusters in the Pan African Competiveness Forum (PACF). The supply companies are moving forward, and one of them has specific plans to set up local production of components they import currently. The model RWH systems are environmentally sustainable, but there is still potential for improvement. Social and gender impacts are positive. The initial costs are relatively high, but as compared with tanker service the model systems are associated with long-term savings. The findings from the baseline study indicate that for many middle class households in GAMA, reliability, quality, and control over one's own water influence house-keeping with water as much as does cost. Local production of components, further research and development, and steps for increased economies of scale may spur the upscaling process.

Project Name:	ADAPTea: Climate Change Adaptation for Fairtrade Tea Producers in East Africa (NCF3)		
Country:	Kenya, Uganda, Tanzania and Rwanda	**Financing:**	
Nordic Partner:	The Foundation Vi Planterar Träd (Vi-skogen) (Sweden)	EUR 122,203	18.75%
Local Partner:	Africa Fairtrade Network (Fairtrade Africa)	EUR 84,595	12.98%
Other Partner:	Fairtrade Labelling Organisations International (FLO) (Germany)	-	0%
	NCF	EUR 444,936	68.27%
	Total	**EUR 651,734**	**100.00%**
Classification:	Adaptation		
Project cycle:	Contracted 5.3.2013, ended 15.7.2015[9]		
Project description:	The project responded to the need to adapt climate change effects in the East African tea sector. Research shows that tea growing in the region will become unsuitable as a result of climate change. The main objective of the project was to develop adaptive capacity and resilience for improved productivity of small-holder Fairtrade tea farmers in Eastern Africa. The project purpose was to integrate Sustainable Agriculture Land Management (SALM) into tea production system to ensure sustained production.		
Main outputs:	The main outputs of the project are: • 14,682 small-holder farmers from 21 Fairtrade tea producer organisations were trained on SALM technologies out of which 86% adopted at least 3 SALM practices. In addition, 720 farmers accessed 24 new demonstration plots and 819 farmers attended Farmer Field Schools. • Production of a SALM manual and establishment of functional online and SMS communication platforms to make climate and SALM information available to farmers across East Africa. The platforms continue to be maintained by Fairtrade Africa (http://adaptea.fairclimatedeal.net/) • Organisational Development of Fairtrade tea farmers' organisations and their participation in the tea value supply chain. • Mainstreaming of gender equality on farmer and organisation levels. • 21 climate change adaptation plans developed using Risk and Opportunity Assessments (ROAs).		
Final beneficiaries:	14,682 small-holder tea farmers in Kenya, Uganda, Rwanda and Tanzania.		
Climate change impacts:	The Risk and Opportunity Assessments (ROAs) revealed a number of climate related risks and vulnerabilities of climate variability and climate change in the tea sector, and this led the producer organisations to develop activity plans for risk reduction management. As a result of the project, the farmers' skills on sustainable land management and climate change risks were improved. SALM practices enhance productivity, increase resilience to climate change and improve carbon sequestration through restoration and rehabilitation of degraded lands.		
Development impacts:	The main objective for the project was achieved by training 14,682 farmers and 86 % of them adopting SALM practices. As a result of this project, 86 % of the farmers adopted SALM practices which are above the target of 60%. The major impact observed was increased crop productivity by 8% and diversification of food crops. From the final survey carried out, maize productivity had increased substantially from 829 kg per acre to 912 kg per acre. Banana productivity increased from 2,389 kg per acre to 2,510 kg per acre. Additionally, the project increased of the number of tree nurseries and tress established in the area increasing biodiversity, soil and water conservation, timber, fruit, fuel, fodder and income. The project also achieved a number of other unintended positive results. For example, the use of improved cooking stoves increased especially among female farmers. This significantly reduces the stress on natural forests in the area. Additionally, several farmers diversified their farm enterprises		

[9] The end date indicates the date when the final disbursement was effected.

	after trainings on Farm Enterprise Development.
Innovation, technology and learning:	SALM is a unique set of technologies that lead to three agricultural outputs: increased productivity, strengthened resilience and improved mitigation to climate change. The SALM practices build on both traditional and scientific knowledge, and they are easily adopted by farmers. The practices influence small-holder farmers' agricultural productivity within 2 - 5 years. When SALM practices are institutionalised among farming communities, the practices can restore and stabilise soil nutrients and improve livelihoods and improve ecosystems. The adoption of SALM practices increases yields while at the same time conserving and protecting soil. The SALM model has increased knowledge among tea farmers and their producer organisations on climate change adaptation and mitigation. This will continue to add value to the Fairtrade brand and in future. The online platform and the SMS platform are innovative ways of sharing information and transfer knowledge to farmers on how to adapt to climate change. These platforms and other information packages will continue disseminating the results of the project. The producer organisations have developed post-project plans to continue disseminating the SALM knowledge to more Fairtrade certified producers.
Partnership:	The project has had a strong positive effect on participants (staff, board members and farmers) in the 21 SPOs. The project partners increased their technical capacity, shared experiences, improved networks and linkages, increased visibility and ventured into new collaboration in the project areas and among stakeholders. The partners created a Project Implementation Team (PIT), Project Steering Committee and Project Advisory Panel (PAP) to provide advice, management, implementation and technical support to the project. The Advisory Panel included other project partners including ETP, Cafédirect, CIFOR, Waitrose and Fairtrade Foundation. The work of the panel aimed also to ensure sustainability, as the project partners could capitalise on technical and capacity relationships for future cooperation and opportunities to scale up the project or new projects and collaborations. In addition, as a result of this project, Fairtrade and Tea Research Foundation of Kenya and the World Agroforestry Centre (ICRAF) have collaboration for research opportunities in the smallholder tea sector.
Sustainability and replicability:	The SPOs developed way forwards during end project feedback meetings to internally and externally mobilise resources to sustain and scale up the project activities. Vi Agroforestry and Fairtrade could in the future provide outreach support to SPOs. Already, in Rwanda, ASSOPTHE has become a consortium partner of Vi Agroforestry and signed for future project financing with Vi Agroforestry to scale up the activities. In Tanzania, Fairtrade and Vi Agroforestry are collaborating on developing a project proposal to Comic Relief to fundraise for scaling up the project activities in 2 SPOs.

Annex 2. Summary of climate change and development impacts[10] and implementation status of NCF1-4 projects

Table 1. NCF1

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
Naps Systems Oy	Scaling the Solar Market Garden, Benin	26 t CO_2/a The conservative lifetime estimate is 15 years	Addressing water shortage and food insecurity via increased agricultural production	Creating income for rural farmers and overall improvement in their nutrition and health	Completed in 2013.	-
Diakonia	Adapting to Climate Change in Bolivian Andean Communities Depending on Tropical Glaciers	n/a	Addressing the vulnerability of the glacier-dependent communities, especially related to water use and availability	Reducing communities' and municipalities' dependency on climate-related hazards	Completed in 2013	-
(CARE Danmark) Uganda Carbon Bureau	Fuel Efficient Stoves in East Africa: Reducing Emissions and Improving Livelihoods	Up to 177,000 t CO_2/a (for the five first activities; direct) if successfully implemented/scaled-up	n/a	Saving up to EUR 300 million (for buying charcoal) and up to 191,000 years of productive time (for collecting firewood) over the 21-year lifetime if successfully implemented and scaled-up. Reducing indoor air pollution	The first CER issuance and sales completed linked to the first CPA (sub-project). The support facility handed over to ICSEA. Four CPAs are at an advanced stage of inclusion; 6 CPAs visible on the Gold Standard registry, but no inclusion yet.	Considerable and on-going delays in completing the project. 4 CPAs (sub-projects) still to be added to the NCF project. Project period extended up to 31 August 2015. Climate and development impacts overestimated due to decrease of the value of carbon credits.
Gaia Consulting Oy	GHG Mitigation and Sustainable Development through the Promotion of Energy Efficient Cooking in Social Institutions in Ethiopia	1280 t CO_2/a Lifetime not specified but can be expected to be 5-10 years	n/a[11]	Reducing fuel expenditure for universities and other social institutions; saving labour time for children; reducing indoor air pollution; Increasing income for stove producers	Completed in 2012	-
Hifab Oy	Demand Side Management for Climate Change Adaptation for the Ethiopian Power	Up to 20% reduction in electricity consumption in 10 years (indirect), *i.e.* approx. 1000 t CO_2/a if	Addressing water resources conservation and reducing food vulnerability	Creating a stronger power system less vulnerable to climate change	Completed in 2012	-

[10] Expected for on-going projects and actual for completed projects.
[11] Classified as a mitigation project. There are, however, some adaptation impacts due to reduced deforestation.

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
	Sector	the expected recommendations can be implemented; emissions can be reduced considerably more if the saved energy is assumed to be exported to the neighbouring countries with high EF factors				
DHI	Climate-proofed water conservation strategies in Northern Ghana	n/a	Addressing water resource conservation and reducing vulnerability to water insecurity	Improving livelihoods of a population of over 30,000 beneficiaries who live in the White Volta River Basin	Terminated in 2013	-
Raw Materials Group AB	Energy efficient recycling of electric and electronic scrap, e -scrap, Ghana	95 t/a (direct), Considerable indirect potential, up to 100,000 t/a in Ghana, and more in elsewhere Africa	n/a	Improving livelihoods of approx. 10,000 workers currently involved in the e-scrap recycling activities	Completed in 2013	-
Danish Red Cross	Community based adaptation to climate change through environmentally sustainable water resource management in Isiolo District in Kenya	2,670 t CO_{2e}/a with a lifetime of up to 15 years	Addressing water resource conservation and reducing vulnerability to water and food insecurity	20,251 beneficiaries living in the target area will have improved access to safe water and 90% of them will have improved knowledge of hygiene and sanitation issues	Completed in 2014	-
ORGUT Consulting AB	Building Adaptive Capacity to Climate Change in Kenya	n/a	Building adaptive capacity through: i) improved knowledge on the impacts of climate change on water resources; ii) robust strategies for climate change adaptation; and iii) improved adaptive capacity to implement	Improving the understanding and knowledge of potential climatic variations and their implications for water availability and demand; improving water management	Completed in 2013	-

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
			climate change measures.			
Niras (Ramboll) Natura AB	Providing Assistance for Design and Management of Appropriate Water Harvesting Technologies in Arid Lands of Kenya	n/a	Increasing resilience through improved water utilization techniques	Contributing to increased long-term food security, health state and income diversification for the estimated 15,000 beneficiaries	Completed in 2012	-
Solvatten AB	Enhancing capacity for adaptation to and mitigation of climate change in Kibera, Nairobi	5,700 t/a for 7 years	Improving the capacity to adapt to deteriorating water quality	Improving livelihoods of appr. 15,000 people	Completed in 2012	-
Vi Skogen	Mount Elgon Integrated Watershed Management Project, Kenya	n/a	Addressing land degradation and forest resource conservation	Improving livelihoods of appr. 7,000 households in the Mount Elgon water catchment area	Completed in 2013	-
Motiva Services Oy	Strengthening National Capacities on Energy Efficiency, Nicaragua	4,000 t/a of direct potential is the suggested measures will be implemented	n/a	Increasing energy efficiency can lead to increased competitiveness and productivity	Completed in 2013	-
Green Resources AS	The Bukaleba Charcoal Project, Uganda	780 t/a; expected minimum lifetime 5 years	Reducing deforestation and addressing natural resources conservation	Sustainably produced charcoal from a known source at predictable prices. Employment of more than 50 people directly and more indirectly. Revenues from waste wood.	Completed early in 2015.	See Annex 1 for full assessment.

Table 2. NCF2

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
Gaia Consulting Oy, Finland	Financing sustainable energy through remittances flows, Bolivia	540 t/a and 8,000 t over expected lifetime Potential up to generate 30,000 tCO_{2e} in total	n/a	More sustainable energy services through improved access to renewable and more efficient energy services in Bolivia for 150 families and Institutions leading to cost savings. The project has targeted an estimated 50,000 Bolivian immigrants living in Spain and 250,000 potential remittance recipients in Bolivia with potential for scaling up.	Completed in 2015.	See Annex 1 for full assessment.
Stockholm Environment Institute, SEI, Sweden	Demonstrating the Feasibility of Locally Produced Ethanol for Household Cooking, Ethiopia	Implementation of 1,000 stoves will potentially result in up to 2,933 tCO_2 /a (direct) with a lifetime of up to 7 years	Mainly mitigation with reduced pressure on forest areas	Improved indoor air quality in 1,000 households; household income savings in 1,000 households; employment generated: 12 new jobs created during the project period; time saved in 1,000 households; children have more time for education; women's and children's health improved in 1,000 households; reduced pressure on forest areas.	Plant commissioned in Q4 2015 and pilot production commenced.	Challenging project. Plant commissioned but some additional measures still needed for full production including actions linked to health, safety and environmental issues.
Norges Vel, Norway	Sustainable renewable energy businesses in Uganda	538 t/a (direct) for 10 years. 43,500 t/a (indirect) up to 30 years	n/a	New employment opportunities; the total number is estimated at 57; communities will benefit from affordable, clean and stable energy access; if 200 people benefit from each of the 30 projects estimated above, this will be a total of 6,000 people.	Completed in 2014	
DHI Water and Environment, Denmark	Building technology in urban flood & inundation forecasting to be applied for operational early warning system in the Ha Noi City, Viet Nam	n/a	Providing technology and expertise transfer, an operational flood risk early warning system applied to a pilot area in Ha Noi City and to mitigate climate-related inundation risks; technology will also facilitate better planning for infrastructure development and better preparedness for flood disaster prevention in coming years.	Early warning technology will allow future city infrastructure planning to adapt to climate change, abate urban flood and inundation effects, which will contribute to urban environmental sustainable development; the project has high replicability to other cities in Viet Nam.	Completed in 2015.	See Annex 1 for full assessment.
Norwegian Institute for Water Research (NIVA), Norway	Climate Resilient Action Plans for Coastal Urban Areas, Sri Lanka	n/a	The project focuses on urgent needs of the Sri Lankan coastal cities in adapting to climate change through disaster risk management also addressing solutions to the drainage of	Expertise through technology transfer from the Nordic countries will strengthen the Sri Lankan planning education to respond to climate change and its disaster management; other coastal cities will benefit from expertise	Completed in 2014	

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
			excess rainwater; to ensure effective planning processes for climate change adaptation at communal level, the project will disseminate the obtained results to provincial and national levels and raise awareness and make sure that the relevant national policies, plans and strategies are in line with the local climate change adaptation needs.	to improve the safety of urban environments and life quality of the inhabitants; knowledge of areas at risk may increase the investments in safe areas and thus ensure long-term economic development; the scaling-up of the locally gained experiences to higher levels offers the possibility to implement similar activities in all coastal cities in Sri Lanka where 70% of the urban population lives, thus contributing to sustainable urban development in the country.		
Finnish Red Cross, Finland	Strengthening the resilience of people living in high risk urban and semi urban areas to weather-related disasters. Malawi	n/a	Strengthened capacity of the Red Cross, authorities and other stakeholders at national and local level to manage climate risks; (e.g. capacity building, establishing Climate Change Adaptation Committees and Village Civil Protection Committees (VCPC); Early warning systems in place; - Communities' knowledge and capacity to reduce the risk of prepare for and respond to weather-related disasters improved.	Reduced loss of income and livelihoods by enhancing resilience; education: children are directly affected by ill health caused by floods together with the difficulty of reaching schools during urban floods; gender mainstreaming in all activities to empower women, promoting them as leaders and powerful agents of change; environmental sustainability: focus on informal settlements in urban areas where climate change impacts severely on women and children through urban flooding and work to improve lives in the informal settlements.	Completed in 2014	
COWI A/S, Denmark	GIS tool for urban adaptation to climate change and flood risk, Mozambique	n/a	Providing local and national authorities with the relevant tools to address the risk of floods in urban areas.	Preventing disasters and their consequences is crucial to protect vulnerable, developing societies and promote stability; Reliable information is essential for improved disaster prevention and preparedness.	Completed in 2014	
The Danish Centre for Environmental Assessment (DCEA), Aalborg University, Denmark	Adapting Urban Construction Plans to Climate Change in Vietnam by the use of Strategic Environmental Assessment, Viet Nam	n/a	Climate change and sea level rises are likely to have negative impacts on urban development and infrastructure construction; by integrating climate considerations into urban planning, the project responds to the needs for a proactive and holistic assessment of the potential climate impacts on urban areas, infrastructure and communities.	The literature indicates that climate change will be affecting urban living, e.g. heat waves, cyclones, sea level changes, and more severe droughts and flood events; these risks will grow with increased population density and poorly planned urban developments; it is important to start experimenting and testing with new approaches to the mainstreaming of climate change adaption into urban planning as early as possible.	Completed in 2014	

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
FCG Finnish Consulting Group Ltd, Finland	Promoting Renewable Energy Technologies for Enhanced Rural Livelihoods, Nepal	16,500 t/a for 6 years (or longer)	Mainly mitigation; the project also contributes to adaptation; activities include scaling up and implementing non-conventional irrigation systems in water-stressed areas, improving water mills for multiple uses, and promoting clean and low-carbon energy technologies.	The proposed activities has taken place in remote hill and mountain communities; Integrated Water Mills allow farmers to process their grains more easily; use of renewable energy and appropriate technology increases local incomes and employment, and local infrastructure development, leading to enhancement of livelihoods.	Completed in 2014	
Reykjavik Geothermal ehf, Iceland	Karisimbi Geothermal Prospect, Rwanda	Scope of the project reduced in 2012 to management only of the drilling phase based on the agreement with the local partner. A 10 MW plant could potentially reduce up to 60,000 t CO_2/a (direct) over a lifetime of up to 25 years	n/a	The project is linked to Rwanda's first geothermal energy project aiming opening up a new low-cost energy source in the country; an initial 5-10 MW project would increase Rwanda's power supply by anywhere from 6 to 12%, paving the way for bankable large-scale expansion; potential multiplication effects are also considerable, and access to low-cost power can render previously uncompetitive economic sectors viable; increased stability in the electric grid (*i.e.* reduction of brownouts and blackouts) can vastly increase efficiency and lower costs.	Completed in 2014	
Royal Institute of Technology (KTH), Department of Energy Technology, Sweden	Urban and industrial waste to energy-promoting sustainable development in Bolivia	Potentially up to approximately 50,000 t CO_{2e}/a (indirect) if the key recommendations can be implemented. Additional potential identified.	Mainly mitigation project/study with some urban adaptation indirect benefits through a reduction of the organic contamination of the scarce water resources in the region.	Transfer of expertise in the waste management sector and reduced need for landfills can give economic benefits for the municipalities; job creation through the implementation of a waste-to-energy scheme. Over 19,000,000 m^3 of natural gas could be substituted.	Completed in 2014	

Table 3. NCF3

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
C.F. Nielsen A/S, Denmark	Biomass Green Briquette Fuel (GBF) Production (BidiePa) under Kitchen Efficiency Programme	Direct reduction of 150,000 tCO_{2e} over the 10-t year period with indirect ER potential	The project will provide 455,476 people (75,913) families with renewable energy resource to displace 286,950 tonnes of non-renewable biomass and avoid the felling of 285,950 tonnes of trees for charcoal.	Capacity building, public education and training; construction / marketing / distribution and access to know-how, reduced dominance of women and girls in wood collection; expanded and improved public health outreach; reduced expenditure on wood-fuels and improved food and water security.	Briquetting plant commissioned and production on-going (uncarbonized briquettes).	Project in final stages with some delays and limited carbonized briquette production. Some challenges meeting the sales targets. Extension until 28 February 2016. Discussions concerning the discrepancies in importing equipment are being handled by NEFCO's committee fighting against corruption.
DanChurchAid (DCA), Denmark	Mainstreaming climate-smart agriculture in solar irrigation schemes for sustainable local business development	Indirect	The project has supported 15,000 farming households in adapting to climate change including reduced emissions through new agriculture practices. Smart agriculture techniques, including organic fertilisers, agro-forestry, high-yield crop varieties and conservation farming are expected to lead to environmental and financial sustainability. The project built on existing capital investments in the solar irrigation schemes, using already established community structures to mainstream climate-smart agriculture to empower and support poor rural communities.	75, 000 poor and marginalised people living in Malawi's remote and rural areas will have increased income and reduced vulnerability to climate shocks that affect their livelihoods. Decreased dependency on external assistance through the shift from expensive fertilisers allowing communities to produce for sale as well as household food and nutritional sufficiency.	Completed in substance 2015	See Annex 1 for full assessment. Some clarifications still being sought.
Danish Forestry Extension, Denmark	Developing low community based innovative solutions to mitigate and adapt with climate change while creating viable local business solutions	The tree planting activities can lead to the sequestration of approximately 50,000 tCO_2 during a period of 25 years. The installation of ICS will lead to an annual carbon offset amounting to 200 t. The eco-system restoration degraded natural forests will store an estimated amount of 5,000	The project will provide poor and vulnerable with knowledge, skills and possible means to adjust to emerging climate change realities.	Sustainable economic development of forest communities strengthened through carbon sequestration and climate adaptation interventions.	Completed in substance 2015. Rooted cuttings of patchouli planted in order to produce high value oil production. Weeding implemented in the restoration sites, patchouli plantation sites and nurseries of the project areas. Nurseries handed over to the communities. ER monitoring conducted in the project sites. On the marketing side for carbon credits/social and environmental services various initiatives undertaken.	Project substantially completed; final disbursement request received. Final reports still pending (recent milestones not yet updated). One area - Gatlang in Rasuwa district has been hit by the earthquake while there have been no notable impacts in Chitwan, Nawalparasi and Makwanpur.

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
		tonnes annually.				
Danish Technological Institute, Denmark	Ecological Food Processing Unit	The food processing plant and savings in traditional fuel is expected to result in 770 tCO_2/a	Agricultural adaptation by improving and exploring new products. By making cassava edible will provide an accessible food product to the population thus reducing the risk of food insecurity due to sorghum efficiency drop.	Increased income to the poor farmers through the introduction of cheaper food conservation methods, employment creation, more children enrolled to school for children due to families' increased income.	Mango dryers were finished by end of previous season (April to July/August) but no dried mango production has taken place. The attieke production has started with 250kg/day and is expected to double soon. As the steamed rice production uses the same cooking pots and dryers (with a limited capacity) the project plans to sell some of the rice as dehusked rice as there is a local market for that.	Project progressing with delays. Grant extended until 31 Aug 2016. Political instability in Burkina Faso.
Finland Futures Research Centre, Finland	Scaling up low carbon household water purification technologies in the Mekong Sub Region	The target of 72,500 distributed Ceramic Water Purifiers (CWP) units by 2013 and 83,000 units in use by 2014 will yield an issuance of 40,200 tCO_{2e} reductions by 2013 and 48,500 by 2014, a total of 313,000 emission reductions by 2017.	Households are provided with access to purified drinking water, reducing health impacts from both indoor air pollution and unsanitary drinking water. Households do not have to spend time and money to obtain wood for boiling water. Thirdly, the effects of reduced fuelwood usage decrease pressures on forest resources, improving the state of the forest.	Improved drinking water quality and reduced fuel-wood usage to boil drinking water. The ceramic water filter also reduces the air and water-borne disease burden for households and especially for women and girls who usually care for the sick family members. Jobs are created throughout the supply chain in producing, selling, marketing and distributing technologies. This can be an important source of rural non-farm employment for local producers and expands business opportunities for rural merchants.	Completed in substance 2015. 94,500 Household Ceramic Water Purifiers sold in Cambodia and a total of 15,290 CWPs sold in Laos. Research component completed.	Project completed with the key milestones met. The final disbursement request received and the final reports expected in the near future.
Gaia Consulting Oy, Finland	Sustainable charcoal business development	The project can create annual emission reductions of 697 tCO_{2e}/year two years after project start up, The project could avoid 50,000 tCO_{2e} (including indirect emissions) reaching the atmosphere, preserving about 13,000 hectares of native Tanzanian forests.	n/a	Increased income and new jobs in rural areas and in town centres; Reduction of deforestation; Health benefits through decrease in Indoor Air Pollutants (IAPs); Business skills development.	Completed in substance 2015. Sustainable Charcoal Company established; Draft marketing strategy completed; and Management Information System (MIS) ready.	Progress slightly delayed but on track and is understood to be completed. The final reports expected in the nearest future.
Niras Natura AB, Sweden	Business Development Closing the Rural-Urban Nutrient and	Methane is collected and burned, releasing CO_2, which is a much less potent	The project will provide a sustainable model for service provision that supports direct sanitation facilities. Improved	Increased use of inorganic fertilisers; Improved sanitation and health and strengthened livelihoods in Nairobi and in rural areas; increase income and	Environmental certificate granted. Site available just outside Kibera. The engineering design done.	Challenging project. Budget constraints and progress delayed. Water Resources Management Authority has apparently approved the project but actual licence

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
	Carbon Dioxide Cycles	greenhouse gas (GHG) than methane. If part of the human waste is converted to methane if dumped, as the alternative praxis generally prescribes, this means an annual direct reduction of 1,200 tCO_2.	sanitation will reduce the risk of water borne diseases which is relevant due to higher probability for heavy down pour and flooding and the consequent mobilisation of human waste. In addition, an increased income for communities will lead to an increased asset base and increased resilience in general.	investments through community development funds.		is still pending. Building permit still pending, consent from energy commission is needed. The project extended until April 2016. Health and safety procedures to be re-assessed. Niras Natura is negotiating with the local partner the continuation of the project (e.g. a scaled down plant) with a termination risk.
Nordic Foundation for Development and Ecology (NORDECO), Denmark	Cambodian Farmland Carbon (CAFACA) Project	The tree planting has sequestered an estimated 200 t CO_2 for the first year, 2,900 t second year and additional 5,500 t for the third year. Over the expected 20+ years' lifetime they are expected to sequester more than 100,000 t.	Reduction of erosion from the expected increased number of extreme weather events and increased resilience of agriculture against more severe droughts and higher temperatures.	Improved income of participating farming families provided through the income from tree tending and carbon trading; improved farming practises will provide increased and climate resilient yields.	Completed in substance 2015	See Annex 1 for full assessment. Some clarifications still being sought.
The Royal Norwegian Society for Development (Norges Vel), Norway	From Waste to Local Business Development and Vigorous Soil, Tanzania	Electricity produced will be used to substitute for electricity that would otherwise be produced using fossil fuels. This will result in CO_2 reductions (volume to be defined due to change of scope)	Biochar produced can improve the water retention capacity in poor soils, thus making better use of the rainfall; it can help farmers to adapt to a harsher and dryer climate.	It is expected that the project will provide reliable and affordable electricity to 500 households (equivalent to approximately 1400 people) and 20 small trading centres, 2 schools and 2 agro-processing mills in Tanzania. These customers will be served through 2 rice husk biomass mini-power Plants (32kW) generating power that will be distributed through micro-grids. Beneficiaries pay for electricity on a pre-paid basis, saving an estimated 30% on current energy costs. The project will promote local economic development by assisting entrepreneurs, especially women, to utilize the power for productive uses.	Project scope being updated.	Implementation on-going with delays. As there were challenges with efficiency of the original kiln Norges Vel has proposed and MC agreed to change the project concept from kilns to Husk Power systems - similar as used in their previous NCF project in Uganda.
Pöyry Management Consulting Oy, Finland	Pilot Project: Efficiency Enhancement and Entrepreneurship Development in Sustainable Biomass	Up to approximately 20,000 tCO_2 if successfully implemented and expected production target achieved	The local population is trained in plantation management and efficient charcoal production, a process and technology that can easily be replicated with the technical capacity in Ghana, so	Improvement of environmental health conditions of energy supply in Ghana, eradication of poverty through improved efficiency in charcoal production, local entrepreneurship creation, reduction of deforestation and	Construction of all 7 kilns completed and sales of charcoal on-going.	Implementation on-going with delays. Additional extension needed to be able to complete some pending plantation activities and increase sales. Challenging project due to local set-up/management, monitoring and

Contract party	Name of project	Climate change impacts		Development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
	Charcoaling in Ghana	(including deforestation impacts)	that desertification of indigenous forests will be reduced.	desertification, improvement of energy security. Reduced time for women from wood collecting.		production targets. Limited local input. Possibility for scaling-up with IFC funding.
SINTEF, Norway	Rain Water Harvesting (RWH) for resilience to climate change impact on water availability in Ghana	n/a	The challenge concerning water availability in households is becoming more pronounced in urban settlements. Harvesting of rainwater gives increased availability of water for various uses and can give the required ability to store water during prolonged dry seasons expected as a result of climate change.	Affordable, appropriate and innovative RWH systems for small-scale application and business development in urban Ghana will result in improved livelihoods and increased resilience to climate change impact on water availability in urban Ghana.	Completed in 2015	See Annex 1 for full assessment
University of Copenhagen – Department of Plant and Environmental Sciences, Denmark	Promoting cañahua in the Andean highland: a highly nutritive crop with a great market potential, adapted to extreme climate conditions	n/a	New climate patterns evaluated for the Andean region show that precipitation in average will be more concentrated over shorter periods of time with increased risks of drought and frost. The only alternative is cañahua that can tolerate drought and frost, and mature in a shorter time. Using early maturing varieties, farmers may obtain locally produced food product and a cash product for market devising successful adaptation process.	The project will promote cañahua production among poor Andean households mainly headed by women, through the introduction of varieties adapted to the new climate patterns with the application of appropriate crop and land management techniques. Furthermore it will strengthen local community organization to develop markets and generate income in the food chain.	Completed in substance 2015	Project understood to be completed with the key milestones met. The final reports pending.
Viegand & Maagøe A/S, Denmark	NAMA and Innovative Energy Optimisation in the steel sector in Bangladesh	Estimated direct emission reduction potential is 26,800 tCO_2 over a 20 year period through the introduction of energy efficient solutions to the steel sector.	n/a	Employment opportunities from the construction and maintenance of the projects and opportunities in the consultancy business as part of the knowledge transfer in this project, Improved health and reduced diseases for people working in the sector and the people living in the vicinity. The NAMA will create the framework for further development in Bangladesh.	The heat recovery system is being build next to the induction furnace. Vikrampur Steel is reinforcing the civil construction of the induction furnace floor. The training program conducted for owners, management and workers at Vikrampur Steel involving training in energy efficiency, health and safety, environmental protection and production optimisation.	Challenging project but proceeding with delays. Implementation of the second, commercial heat recovery system a challenge. NAMA component completed as planned. Recent delays due to political instability and V&M has not been able to work on-site. Extension until 31 March 2016.
The Foundation Vi Planterar Träd (Vi-Skogen), Sweden	ADAPTea: Climate Change Adaptation for FAIRTRADE Tea Producers in East Africa	n/a	8,400 farmers and 127,000 tea farmers will be more apt to adapt to climate change. Small producer organisations' capacities are strengthened to adapt to climate change.	Farmers will more resilient which should help them to sustain/increase their productivity and thus generate a positive impact on their livelihoods. The project will support women to take up leadership and participate in decision making process.	Completed in 2015.	See Annex 1 for full assessment.

Table 4. NCF4

Contract party	Name of project	Expected climate change impacts		Expected development impacts	Status as of 31.12.2015	Assessment
		Mitigation impacts	Adaptation impacts			
Orgut Consulting AB, Sweden	Improved water economics within sub catchments of Kenya (IWESK)	n/a	Better utilization and more equal distribution of water resources, better on farm water management practices.	Beneficiaries of better utilization and more equal access to water include 15 Water Resource User Associations (WRUAs) and 250,000 people residing in their areas. The project will also support small holder farmers in the area to design their water resources investments and access finance.	Implementation on-going.	The first milestone report delayed.
Aalborg University, Denmark	Sustainable Consumption and Production of biofuel in Uganda	Production of up to 14 million litres of bioethanol per year solely from the waste product blackstrap molasses gives an emission reduction of 31,584 tCO_2 per year when used to replace gasoline for transportation.	n/a	New innovative technology substituting either fossil fuel or forest derived cooking fuel bring opportunities for private sector development and creating employment and local livelihoods; the use of bioethanol as cooking fuel improves indoor air quality and especially women's and children's health conditions.	A preliminary ethanol production has been established at Kaliro Sugar and the bioethanol (96%) has been produced for initial testing of the product (as cooking fuel and sanitizer used at the Kaliro Health Clinic). A number of cooking stoves procured, and initial testing of stoves and fuel undertaken by CREEC. Scale Biofuel Ltd. registered in Uganda. A background analysis undertaken, this will serve as the base for a business plan for bioethanol and national expansion plan. Stakeholder interactions undertaken.	Alam Group (Kaliro Sugar) has temporary problems with their financial liquidity and has therefore not been able to purchase the recommended heat pump system during milestone 1 as planned. It has been decided to apply a phased approach in building up the system based on the recommendations of Hybrid Energy AS and Scale Biofuel ApS. First (partial) disbursement made in November 2015.
Vi-Skogen, Sweden	Climate Smart Agriculture for Improved Rural Livelihoods, Kenya	Use of sustainable agricultural management practices in smallholder farming have will help to sequester about 43,740 tCO_{2e} over a 20 years' lifetime through soil organic carbon and use of woody perennials and also through facilitation of green growth.	Sustainable Agricultural and Land Management practices (SALM) practices will improve soil quality which is a precursor to increased yields in both crops and livestock leading to improved food and nutritional security. SALM also restores the degraded lands back to useful use, increases tree cover, soil health and water retention capacity of the soil.	Smallholder farmers participating in the project will be trained to view agriculture as a sustainable business and will be supported also by financial services (savings and loaning) to make a shift from subsistence farming to sustainable farming for profit.	First milestone fully met: project implementation structures in place (logistics and staffing); project launch meeting organised in February with all project stakeholders; 4 Risk and Opportunity assessments concluded; baseline and project progress monitoring tools developed; baseline survey conducted; stakeholder forum organised; 150 farmer groups recruited and 156 of their leaders representing 138 farmer groups trained on CSA and SALM practices. The 4 business plans developed further; 178 group leaders and community resource persons trained in climate change and SALM.	Project progressing in schedule. First disbursement made in November 2015.
Arbonaut Ltd., Finland	Piloting REDD+ Monitoring and Non-Wood Forest Product Value	Volume of direct emission reduction expected to exceed 60,000 CO2 tons and volume of indirect	Promotion of alternative livelihoods for rain fed agriculture to adapt to the adverse effects of climate	Organizational dynamics strengthened capacity of rural populations to develop other private income generation initiatives increased; women and young	The REDD+ MRV taken place during the reporting period including finalization of the land use and cover map for 2014. Field data collection protocol document	Project progressing with some delays. Second disbursement/milestone reports received in Dec 2015, and clarifications are being sought.

Contract party	Name of project	Expected climate change impacts		Expected development impacts	Status as of 31.12.2015	Assessment
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	Chains to Mitigate Green House Gas Emissions in the Rural Communities of Bandafassi	emission reductions expected to exceed 810,000 CO2 tons during the 3-year project period.	hazards; preservation of forest resources against various degradation factors; increase resilience of local people through promotion of entrepreneurship and increased income generating opportunities	people who are the two segments most involved in commercialization activities of NWFP are empowered, better health and time saved from the promotion of improved stoves.	and mobile application finalised (field data collection will still continue in Feb 2016 due to challenging rainy season conditions). The construction of the fruit transformation unit finalised. Training of improved stoves taken place in 10 villages, additionally 4 training sessions on NWFP production have taken place for EIGs	
Aqua Unique Norge, Norway	3Ws: Water purification, wastewater treatment and waste management, Greening micro-economies for climate benefits – a Private Public Partnership between Aqua Unique Norge & Kampala Capital City Authority	Reduced charcoal consumption will avoid carbon emissions with 9,604 $tCO_{2e/a}$	Reduced charcoal dependency; improved sanitation and prevention of untreated wastewater being directed into waterways; reduced deforestation	Provision of clean and affordable water for up to 55,000 people; poverty reduction; reduction of water-borne diseases; increased awareness about the importance of WASH	Grant agreement signed.	Delay in project start due apparently very slow process with signing a MoU with the local counterparty. Negotiations are understood to be at the final stage.
Gaia Consulting Oy, Finland	Strengthening resilient and inclusive green growth by advancing clean energy technologies (CET) through business development in the micro finance sector in Ethiopia	Approximately 8,000 tCO_2 during the three year implementation period. 120,000 tCO_2 more avoided indirectly due to up-scaling during ten years after project completion.	n/a	The project is estimated to reach 3,000-14,000 beneficiaries during the project period. Indirectly the project will benefit tens of thousands of people more. Enabling access to CET will save women's time by having to collect less fuel wood, expose them less to smoke and fine particles and create new income-generating opportunities. The project will reduce poverty through improved livelihoods, better sanitation, cleaner indoor air and providing more income-generating opportunities.	Development of the sustainable business mechanism to facilitate scale-up for CET dissemination initiated by the MFIs and selection of viable CET providers and technologies for establishing business relationships completed.	Project on track. Second milestone report received.
Matis Plc, Iceland	Reduction of greenhouse gases and deforestation related to food processing in sub-Sahara Africa, Tanzania	4,924 tons CO_2/a	Enhanced food security through better utilization and availability of the fish proteins. The new smoking technique will reduce respiratory illnesses of the fish producers. The environmental impact will	Better quality and safety of fish products; higher income for the fisheries communities; improved food safety; less respiratory illnesses; improved labour skills for at least 50 people; improved understanding on marketing of food; about 80% less cost for firewood collection as much less	The design and testing of the smoking unit completed. A hand-over agreement was made with one Beach Management Unit (for operating the smoking unit).	Project progressing as planned. The second milestone report indicating met milestones.

Contract party	Name of project	Expected climate change impacts		Expected development impacts	Status as of 31.12.2015	Assessment
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			reduce as various toxic chemicals will be reduced due to decreased smoke from burning wood.	wood will be used; 30% less food waste.		
NEPCon, Denmark	Leveraging Markets for Climate Friendly Sustainable Development, in Laikipia, Kenya	Direct reduction 1,055,305 tons CO_{2e} over a 20 year period and indirect reductions: 32,051,740 tons CO_{2e} during 30 years	The project will enable people adapt to scarcity of water through harvesting of 1,000,000 litres of rainwater annually; conservation agriculture introduced to ensure farming systems become more resilient, leading to enhanced food security and secure livelihoods; ecological restoration of degraded land.	4,000 households (24,000 people) will benefit from 50-100% increase in their farm income during the life of the project, 20,000 additional households 120,000 people) will enhance their income from farming, improve access to clean and reliable water sources and thus improve heath and minimise dangers from wildlife predation. 200 permanent farm jobs would be created plus 2,000 work days of casual labour. Additionally, hundreds more may benefit from 'spin-off' commercial activities such as honey production.	Central Training and Demonstration Site completed and CA plot upgraded to 10 acres, training of 26 ToTs held, training extended to the 10 project sites, Stakeholders planning meeting held with 52 participants, All personnel contracted and equipment purchased, M and E baseline information established and report prepared, farmer field day organised (85 adults and 46 school children attended)	Project progressing in schedule. First disbursement made in November 2015.
UNEP DTU Partnership, Denmark	Roadmap to Nationally Appropriate Mitigation Actions in the Livestock Sector of Honduras and Nicaragua	Formulation of NAMA for the livestock sector	Identification of good farming practices to improve adaptation to climate change of livestock producers, such as the use of trees in pastures, protection of bodies of water, fodder production, contributing to improve the comfort and productivity of animals.	At least 40 farmers will be applying the good practices and new technologies considered in the sustainability scenarios; between 20% and 30% of increase in revenues can be directly attributed to the good practices of the project; milk production can be boosted from 4 to 7 kg*day*7 months of dry season per cow when applying the good practices of the project.	Implementation has commenced.	
Norges Vel, Norway	Creating Green Local Economy through Commercial Production of Biomass Briquettes from Agro-Industrial Residues in Kenya – Green Economy Partnership (GEP)	2,160 tonnes of $CO_{2e/a}$ from year 3 onwards	Increased food security of rural households through enhanced awareness and skills of farmers on application of biochar in areas with declining soil fertility; increased access by rural communities to alternative renewable energy products thereby building resilience to declining woody biomass.	Increased income along the briquette value chain through business development and job creation will lead to improved health and well-being; improved access to renewable energy will limit the need for collecting firewood, especially for females - who will have more time for entrepreneurship and other activities. The Project ultimately targets 1,600 households with 6,720 beneficiaries.	Project sites identified and 5 community enterprise groups/cooperative societies in five locations of Ligodho, Ariri, Ober, Sikwadhi, and Kona-Kobodo established and registration process initiated; participatory site layout designs (with communities) of integrated bio-enterprise centres in all 5 project sites comprising of briquette and cookstove production and a tree nursery carried out; a mapping of carbonization kilns and briquetting machines conducted and best practices and designs for possible adoption chosen; baseline	Project progressing with some initial delays and certain concerns with regard to procurement of raw material from Sukari mill. First disbursement split into advance payment and partial milestone payment.

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		Mitigation impacts	Adaptation impacts			
					survey undertaken; 2 consultative and dialogue meetings with management of Sukari Sugar Industries Ltd aimed at obtaining confirmation letter/of commitment agreement for bagasse supply held	
NIRAS A/S, Denmark	Waste recycling in Mozambique through the establishment of Waste Transfer and Recycling Centres: Testing concept and formulation of bottom-up NAMA, Mozambique	15,640 tCO_2 per year on average over 20 years' period	n/a	It is expected that the business will create at least 300 direct jobs by the year 2020; small-scale waste collectors will have a ready and in some cases new market for recovered materials; in the agricultural sector, the compost product will benefit agribusiness anchor clients and smallholder farming households	Implementation has commenced.	Meeting held with Niras in conjunction with their visit to Helsinki in autumn 2015.