



NDF results 2018

Summary report



Photo: Rare

Nordic Development Fund



Photo: EEP Africa

Photo: EEP Africa

Contents

1. Message from Management p.3
2. NDF's Results-based Management Framework p.3
3. Objectives and limitations of NDF's results management p.3
4. Operational highlights in 2018 p.4
 - New funding commitments in 2018 p.4
 - Small grants – big impacts p.5
 - Contribution to UN Sustainable Development Goals (SDGs) p.5
 - New funding commitments – predominant themes p.5
5. Institutional level results p.8
6. Portfolio level results p.9
7. How results are assessed at project level p.9
8. Results of NDF-backed projects completed in 2018 p.10
9. Nordic Climate Facility p.18
10. EEP Africa on fast track for clean energy access p.20
11. Summary p.22

1. Message from management

Blended financing this year's banner theme

NDF's 2018 results were characterised by a sizeable shift in our funding portfolio towards financing instruments other than grants. Of the EUR 47 million in financing approved by NDF's Board of Directors this year, EUR 16 million was in loans, EUR 17 million in equity, and EUR 5 million was in reimbursable grants. This is compared with only around EUR 9 million given out as grants. This puts the ratio of non-grants to grants this year at 82:18. In 2017 the corresponding ratio was almost antithetical at 29:71. We see this profound shift away from grants towards blended financing as a very good way to promote the viability of our projects. The increased use of loans and equity investments also serves to enable a development environment that will increasingly be led by the private sector.

Risk coverage mandate plays well to private sector

NDF as a funding partner is also mandated to take on larger risks than many other financing mechanisms, for example in testing new climate technologies or approaches for market readiness. Our new funding commitment this year to the market-driven equity fund, CRAFT, is a case in point, where NDF has combined a sizeable equity investment with initial

preparatory grants to help get this unique fund up and running and in front of investors.

Unprecedented funding demand for viable projects

In the wake of this year's dire report of the International Panel on Climate Change (IPCC) and UN predictions that the world has just 12 years to turn climate change around, it can be argued that never has the work of NDF been more urgent and, indeed, more relevant. To underscore this, 2018 was marked by a strong uptake in demand for funding for viable climate mitigation and adaptation projects, in line with NDF's mandated goals.



Photo: Marjo Koivumäki

Leena Klossner,
Vice President, Acting Managing Director

2. NDF's Results-based Management Framework

NDF's Results-based Management Framework, developed in 2016 to promote more systematic reporting, has five main pillars:

- 1. Indicators for Institutional Level Results** – examine how well NDF's activities are aligned with NDF strategy.
- 2. Guidelines for Project Identification and Screening** – help ensure that support projects focus sufficiently on goals related to climate change, development and other NDF priorities.
- 3. Continuous Project and Programme Monitoring** – informs on ongoing projects and is critically assessed to keep activities on track.
- 4. Project Performance Ratings (PPR)** – assigned within NDF as part of a database indicating how well projects are aligned with their objectives and outcomes.
- 5. Evaluations** – carried out selectively on completed projects.

3. Objectives and limitations of NDF's results management

Objective 1: Promote accountability for the achievement of NDF's strategic objectives by assessing the results, effectiveness, processes and stakeholder performance.

Objective 2: Promote feedback, learning and knowledge sharing among NDF and its partners with regards results and lessons learned. This in turn should enhance future decision-making on policies and strategies, as well as programme and project management.

Limitations: NDF's business model is largely based on co-financing partnerships with multilateral development banks and other institutions providing financing for climate-related projects. This co-financing model builds on the concept of the additionality of NDF financing, while seeking to avoid duplication of activities or

overlapping structures. In results management, NDF strives to maximise synergies with its co-financing partners, especially in the structuring of monitoring and evaluation.

In co-financing it is difficult to directly attribute specific results to NDF's financing; but wherever possible assessments focus on those results that can be directly linked to NDF's contribution. NDF's own Project Performance Ratings examine the progress and impacts of NDF financing.

Due to the nature of NDF's activities, and the project management systems currently in use, the process that we use to profile aggregated, portfolio-based results, is still evolving. This report profiles the results of completed projects based on the information available on the projects' completion. We are still striving to further enhance the way we present our aggregated results.

4. Operational highlights in 2018

85

ongoing projects in

16

countries

- At the end of 2018 NDF’s project portfolio consisted of 113 completed or ongoing projects launched under NDF’s climate change and development mandate since 2009 (not including NCF sub-projects), with NDF providing funding totalling EUR 375 million. In 2018, **85** of these projects were ongoing, at various stages of implementation, in **16 countries** across Africa, Asia and Latin America.

EUR 47.15 million

of new funding for 9 new activities

- During 2018 NDF’s Board of Directors approved financing amounting to EUR 47.15 million for nine new activities. These new commitments included EUR 16 million as loan, EUR 17.5 million as equity, EUR 5 million as a reimbursable grant and EUR 8.65 million as grants. This means that about 82% of NDF’s new commitments were made utilising other instruments than grants. In 2017 the corresponding amount was 29%.

The share of new NDF funding provided in the form of equity and loans rose to

82%

- Of the nine new commitments, two were made through NDF’s Small Grant Facility (SGF), which supports grants of up to EUR 500,000. SGF grants while being subject to the same criteria as larger grants, often involve preparatory financing, designed to have high leverage potential and catalytic impacts.

New funding commitments in 2018

Africa, regional	African Guarantee Fund (AGF) Green Guarantee Fund (GGF)	EUR 10.25 million (EUR 9 million equity; EUR 1.25 million grant)
Africa, regional	West African Coastal Areas Program	EUR 5.1 million grant
Africa, Benin	West African Coastal Areas Program	EUR 4 million loan
Africa, Senegal	West African Coastal Areas Program	EUR 4 million loan
Africa, Kenya	Nordic Green Hub	EUR 0.5 million grant
Asia, Lao PDR	National Road 13 North	EUR 8 million loan
Latin America, regional	Cloud Forest Blue Energy Mechanism	EUR 0.3 million grant - preparatory facility
Multiple regions	Climate Investor One	EUR 5 million reimbursable grant
Multiple regions	Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT)	EUR 10 million (EUR 8.5 million equity; EUR 1.5 million grant)

Total: EUR 47.15 million – EUR 17.5 million in equity (37%); EUR 16 million in loans (34%); EUR 5 million in reimbursable grants (11%) and EUR 8.65 million in grants (18%)

Small grants – big impacts

The Small Grants Facility (SGF) is an important corner stone of NDF’s strategic niche, backed by our focus on higher-risk bearing preparatory phase financing. The objective of the facility is to provide small-scale, up-stream financing of up to 500,000 euro for climate change related projects which are innovative and exploratory in nature. This is with a view to identifying projects focused on the early stages of project development and which have the capacity to be catalytic in that they aim to leverage additional financing from other sources. This type of high-risk, targeted financing is scarce and cannot be easily accessed.

Through SGF, NDF can efficiently channel financing to projects that address some of the key climate change related concerns. At the strategic and policy level, SGF advances further innovative, exploratory and transformative climate change solutions through the financing of activities that are catalytic in paving the way for additional public and private sector financing. Combined with the capacity of SGF to mobilise financing in a short time frame, in an administratively slim way, the facility is expected to continue to be an impactful mechanism to channel financing from NDF to climate change related interventions.

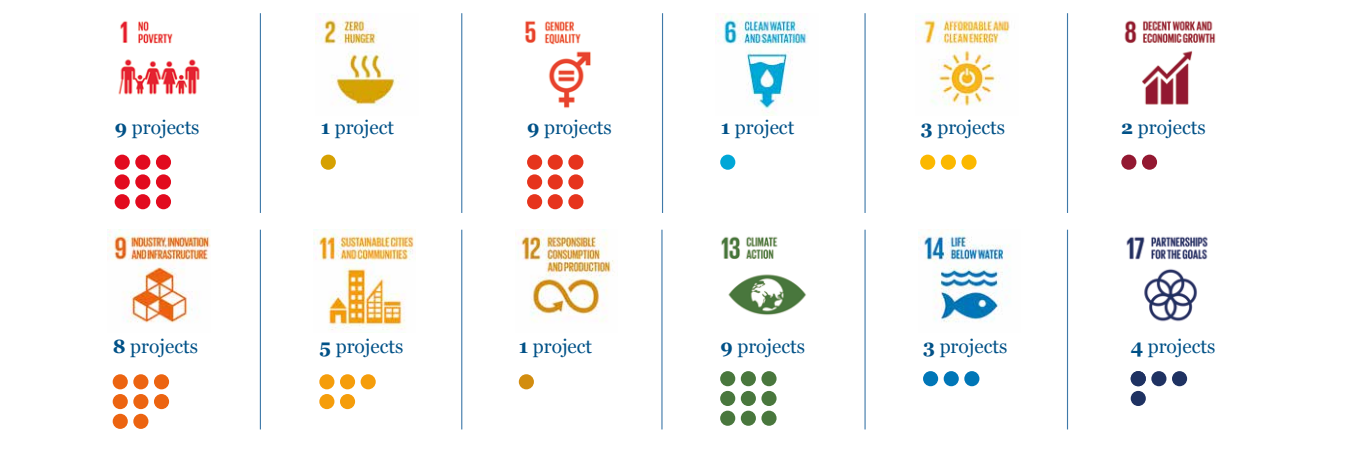
The entire facility is financed by NDF. Individual projects under the facility may include various activities related to

climate change adaptation and mitigation. Individual projects are expected to include co-financing by a partner agency, and if possible, also from the country involved.

During 2018, NDF approved financing for two new interventions under SGF:

- The Cloud Forest Blue Energy Mechanism in Latin America – a forest restoration and conservation project in the context of private hydropower production, and to which has significant scale up potential in Africa and Asia. The goal of NDF’s preparatory grant, in partnership with Conservation International and The Nature Conservancy, is to commercialise the concept of rehabilitating forests for water flows into a pay-for-success financing mechanism.
- The Nordic Green Hub in Kenya – a testing platform bringing proven Nordic know-how to Nairobi with the goal of curbing emissions and promoting climate resilience. This project is interesting in that it combines not just Nordic technologies but also smart Nordic business and financing models, with the business sector taking the lead.

Contribution to UN Sustainable Development Goals (SDGs)



New funding commitments - predominant themes

During 2018, the following themes predominated NDF’s new funding initiatives:

- Blended financing:** in line with our strategy to expand NDF’s portfolio towards increased equity and loan financing instruments versus traditional grants. In particular, NDF is using blended financing to spur clean energy investments in developing countries and expand market-based climate resilience solutions globally.
- Private sector adaptation:** in support of the need for governments and civil society to urgently scale up knowledge, technologies, and financing options for climate resilience, NDF has invested in CRAFT, the world’s first market-driven climate change adaptation fund.
- Catalytic financing for coastal resilience:** NDF is providing catalytic funding for climate resilience solutions along the heavily populated West African Coastline, where the extent and impact of climate change, particularly coastal erosion, has reached a critical juncture.



Photo: Russell Watkins/Department for International Development

Private sector adaptation: In climate change adaptation, private sector technologies and solutions can be key in helping governments and civil society scale up for transformation. In support of this, NDF has approved an investment in CRAFT, the world's first market-driven fund for climate resilience.

Uniquely targeted equity enabling private sector adaptation

The Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT) has been set up to rapidly mobilise private and public capital for climate adaptation investments around the world, and has been heralded by the international investor and development communities as one of this year's most promising new funding approaches.

Climate change is increasingly impacting global economies and the need for adaptation is urgent. What sets CRAFT apart is that it has identified 20 target market segments where companies already offer climate resilience solutions. These are in areas such as weather and agricultural analytics, disaster risk modelling, and distributed water solutions.

As NDF Program Manager Isabel Leroux puts it, "CRAFT will be the first private equity fund to approach resilience from a purely private sector point of view. That means focusing on growth equity investments in companies already active in the climate adaptation space, that are ready for scale."

NDF's newly-approved EUR 8.5 million equity investment, together with a EUR 1.5 million grant, are following on from an initial preparatory grant of EUR 0.5 million, made together with a grant from the Global Environment Facility, to help get this unique fund on its feet.

"While the mitigation gap has pretty much been taken care of, we still have a long way to go on the adaptation gap," explains Leroux. "UNEP has identified three barriers to adaptation: financing, technology and knowledge, and CRAFT addresses all three."

Blended financing for renewable energy: NDF has this year made two new financing commitments, one to Climate Investor One and one to the Africa Guarantee Fund, both textbook case studies for using blended financing to fast track clean energy investments in developing countries.

Blended finance to fast track renewable energy investments

NDF has made a EUR 5 million investment into Climate Investor One (CIO) to finance the development phase of profitable and sustainable renewable energy projects, in this case wind, solar and hydro, while bringing down the cost of clean energy for consumers in Africa, Asia and Latin America.

CIO's blended structure is a unique whole-of-life approach offering investment opportunities to a range of investors with varying risk-return profiles and mandates, from public donors to commercial and institutional investors, and this is done with the understanding that the capital requirements of renewable energy projects also vary among different stages of a project's lifecycle, as do the levels of risk.

NDF has committed an additional grant of EUR 1.25 million and equity financing of EUR 9 million to The African Guarantee Fund (AGF), to support scaleup of the fund's pioneering Green Guarantee Facility, tasked with unlocking access to finance for SME-led low-carbon, climate resilient green growth across Africa.

"Blended financing is leveraging limited public money to unlock larger private sector investments toward shared goals for climate and the SDGs," NDF Program Manager, Charles Wetherill, points out. "NDF is gaining visibility in the blended finance space with a growing blended finance portfolio, demonstrating how with flexible capital and innovative structuring, we can play an outsised role in enabling green growth at scale."

Coastal resilience: The extent and impact of climate change, particularly coastal erosion, on the West Africa coastline has reached a critical juncture, bringing an urgent need to mobilise solutions and finance now.

Catalytic climate funding for a resilient West African coastline

NDF is supporting the West Africa Coastal Areas Program (WACA) with the goal of strengthening climate resilience along the coastal regions of Benin and Senegal, as well as promoting more integrated and joint action in combating climate change in a further 17 coastal countries. NDF's contribution, provided in partnership with the World Bank, will also go towards the establishment of a WACA platform, with the goal of leveraging public and private financing of USD 2 billion for coastal resilience investments between now and 2023. The program presents a good example of how a small amount of seed funding from NDF can catalyse much larger investments.

"There are rapidly growing coastal populations, including capital cities, dependent on the coast and sea for their livelihoods, and who are increasingly vulnerable to climate change, including sea-level rise, extreme weather events, flooding and coastal erosion," warns Martina Jägerhorn, NDF Program Manager.

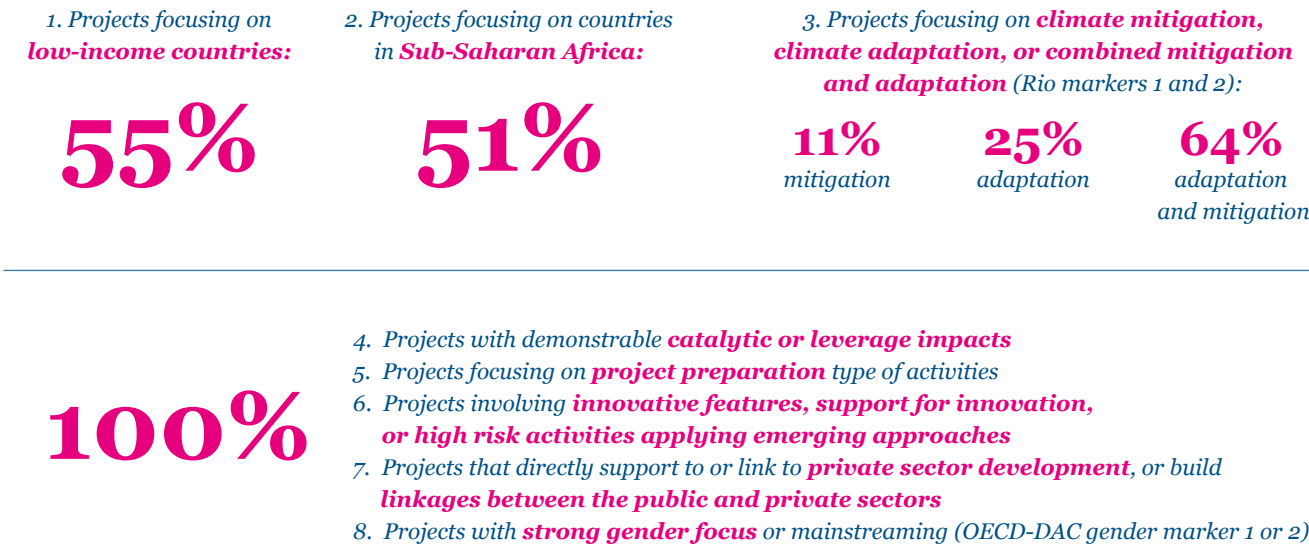
The WACA platform will focus, among others, on supporting infrastructure projects by promoting a knowledge base for governments and businesses dealing with changing conditions. Examples include early warning weather systems for fishers and farmers as well as green infrastructure planning. Port construction is a case in point, known to speed up coastal erosion but good for tourism and trade. "The benefits and costs of adaptation options need to be carefully analysed," Jägerhorn says, "and while governments have to make their own decisions, we want to support them by making as much knowledge available as possible on climate-related risks, for them to make informed decisions."

5. Institutional level results

NDF's ongoing strategy, developed in 2015, continued to guide our operations during 2018, notably through our operational focus on six strategic focus areas:

- Catalytic role and leverage
- Project preparatory funding
- Support for innovation
- Support for private sector development and linkages between the public and the private sectors
- Piloting of interventions with a high-risk level
- Identification of emerging climate change issues

This approach reflected further improvements in our institutional level results compiled for the below set of 11 indicators.



9. Projected emission reductions for newly-approved projects totalled

2.3 million tonnes of CO₂

which is the emissions equivalent of

3 million people flying from Helsinki to Paris and back.

10. Nine of the ten projects completed during 2018 were rated as **highly satisfactory** or **satisfactory** upon completion:

90%

11. Projects in current portfolio rated as **highly satisfactory** or **satisfactory**:

75,8%

6. Portfolio level results

NDF's Project Performance Rating (PPR) system is used to monitor the activities we finance. It is our main tool for reporting progress and results at the portfolio level. PPRs complement other project-specific reporting and information provided by the agencies responsible for project implementation, other partner agencies, and NDF's own program managers, who regularly visit projects. PPRs focus on how well projects are implemented regarding their specific objectives and targeted results.

Ratings and related brief descriptions are given for five separate aspects of projects:

- A: Preparatory activities
 - B: Partner agency cooperation
 - C: Implementing agency cooperation
 - D: Implementation progress
 - E: Outcomes and impacts
- (with three components: E1 = progress towards objectives; E2 = overall project progress; E3 = overall risk rating)

PPR ratings are given on a scale of 1–6:

- 6** = highly satisfactory, **5** = satisfactory, **4** = just adequate
- 3** = not quite adequate
- 2** = unsatisfactory, **1** = highly unsatisfactory

PPRs are conducted by the NDF program managers responsible for each project. To enhance comparability, a peer review system is used. This involves program managers working in pairs to review ratings. All recent NDF projects have been rated once a year since 2013, with results reported to the Board of Directors.

PPR ratings were conducted for 77 activities in late 2018. This number differs from the total number of ongoing projects, since certain ratings are conducted on a facility level, and some projects consist of two phases which may be covered by separate or combined ratings.

The ratings indicate that NDF's portfolio is performing well overall. Approximately 76.6 % of projects were classified as highly satisfactory or satisfactory regarding all three summary variables E1–E3. This means that 75.8% of NDF's present portfolio is "green-rated". In 2017, the corresponding figure was 81%. A total of 16 projects were "yellow-rated" as "not quite adequate" for one or more of the summary variables, due to potential problems that need to be closely followed-up. This is normal for a maturing portfolio like NDF's.

NDF takes active measures to deal with any projects rated as performing unsatisfactorily. Such actions may include intensified negotiations with project partners, or stronger support for procurement processes. In some cases, delays or problems relate to aspects beyond NDF's control, and projects may ultimately be curtailed or cancelled if this seems to be the best option.

7. How results are assessed at project level

The various pillars of NDF's *Results-based Management Framework* are used to assess results at project level.

As part of project preparation procedures, all NDF-backed projects are screened in advance using NDF's *Guidelines for Project Identification and Screening*, to ensure that they are able to fulfil requirements related to NDF's focus on climate change and development, and that they are duly aligned with NDF's other strategic focal areas.

Projects are then designed and implemented using *Project-level Results Frameworks* that facilitate the monitoring of project implementation and activities, the delivery of outputs, and progress towards objectives and outcomes. Quality checks assessing these project-level result frameworks are conducted to ensure that project management is driven by high-quality

results frameworks. During project implementation, results are monitored against these project-level results frameworks through written reports.

The Project Performance Ratings (PPRs) conducted by NDF's program managers are also useful in this context, especially when projects' final PPRs are issued.

At the end of each project, NDF receives a project-specific Completion Report summarising the project's results. A *NDF Closing Report* is additionally compiled to summarise the project's outcomes, set out the lessons learned, and review the project applying the evaluation criteria defined by the OECD Development Assistance Committee on *relevance, effectiveness, efficiency, impact and sustainability*.

8. Results of NDF-backed projects completed in 2018

During 2018, a total of **10 NDF-backed interventions reached completion**, including four projects financed through NDF's Small Grants Facility. NDF financing allocated for these projects totalled **EUR 16.8 million**.

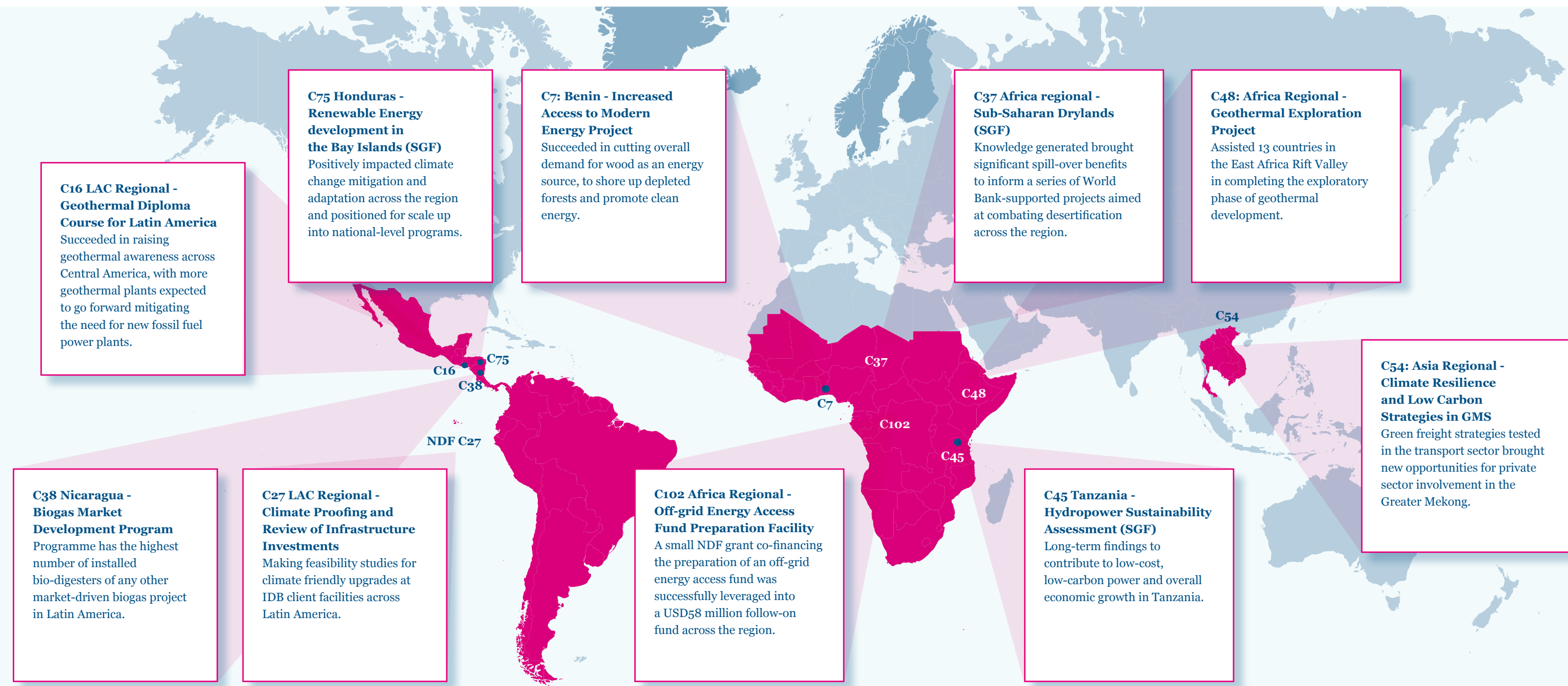
The completed projects relate to many different aspects of climate change and development. Six projects focused on mitigation and four had both adaptation and mitigation targets and results.

Final Project Performance Ratings (PPRs) have been made for all of these completed projects for all three summary PPR variables.

9
of 10 completed projects (90%) have been rated as satisfactory or highly satisfactory at the time of completion.

Significant steps towards vital Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) comprise our global blueprint for achieving a better and more sustainable future for all. In support of the kind of world we are working together with government, civil society and private sector to achieve by 2030, the ten NDF-backed projects completed in 2018 targeted, in particular, the following SDGs.:



Project C16: Geothermal Diploma Course for Latin America, LAC Regional

NDF contribution: EUR 1.5 million
Project implementation: 2012–2018

This project, which is a culmination of three separate collaborations over a number of years, has now developed into a successful and locally-driven geothermal training programme in El Salvador, which is set up to educate specialists across Latin America on geothermal technology.

The initial El Salvador Geothermal Diploma Course was launched in 2010, two years before NDF became involved, and was run by the Italian Development Co-operation. NDF followed on from this, together with IDB, from 2013 to 2015; then from 2016 to the present, NDF commenced a new collaboration with the Government of Iceland through the UN University - Geothermal Training Programme (UNU-GTP) in Iceland.

This new course has received a great deal of local buy-in, with teaching and administration being successfully shared with the El Salvador geothermal generation company, LaGeo, and the University of El Salvador, both bringing local knowledge and access as well as various in-kind support such as student lodging, training centres and scholarships.

By intensifying geothermal awareness and research and development, this specialist training programme is having overarching effects across Central America, with more geothermal power plant projects expected to go forward, mitigating the need for new construction of CO₂-emitting fossil fuel-based power plants.



Photo: Aage Jørgensen

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 5

Project C38: Biogas Market Development Program, Nicaragua

NDF contribution: EUR 1.5 million
Project implementation: 2012–2018

The Nicaragua Biogas Programme, co-financed by NDF and the Inter-American Development Bank is a text book example of the power of a market driven approach. In bringing biogas technology to rural farmers and their families, the programme has achieved far-reaching economic, social and environmental effects across the country's farming sector and Dairy Industry.

Big gains came from increased agricultural productivity and quality of life for farming households, environmental stewardship, and not least climate change mitigation. Unlike past biogas projects in Nicaragua, the project owes its success to establishing farmers as paying clients at the outset instead of aid recipients. As a result, farmers were able to expand their capacity through savings that came from the shift to cheaper renewable energy fuelled by their own farm waste. Some farmers were even empowered to reinvest savings into expanding their livestock or advancing into milk cooling systems or mechanised irrigation systems, amongst many other applications.



Photo: Aage Jørgensen

Final project performance rating summary: satisfactory

- Progress towards objectives: 6
- Overall project progress: 5
- Overall risk rating: 4

Project C75: Renewable Energy Development in the Bay Islands, Honduras

NDF contribution: EUR 0.5 million
Project implementation: 2014–2018

This project was set up as part of the ongoing transformation of the Honduran Bay Islands into a low carbon economy. The main project deliverables were to carry out a feasibility assessment of renewable energy sources, particularly wind and solar, and develop an energy strategy and investment plan.

The project followed three distinct phases:

1. Renewable resource assessment: Site selection, solar radiation evaluation, wind measurement and resource evaluation, and the training of local staff.
2. Feasibility study analysis: Topographical assessment, site analysis, electricity interconnection studies, geotechnical studies, design of access roads and platforms, preliminary environmental and social impact assessment, hybrid system analysis, and economic analysis.
3. Energy Strategy and Investment Plan for the preparation of: a) a strategy for introducing renewable energy sources gradually onto each island, b) an estimative investment plan for implementing the Energy Master Plan; c) strengthening capacity of local stakeholders for environmental awareness and resource management.

This renewable energy project, which has already positively impacted the Honduran Bay Island area from both a climate



Photo: Scarleth Castillo

change mitigation and adaptation point of view, is now positioned for scale up within national-level development programs.

Final project performance rating summary: highly satisfactory

- Progress towards objectives: 6
- Overall project progress: 5
- Overall risk rating: 6

Project C27: Climate Proofing and Review of Infrastructure Investments, LAC Regional

NDF contribution: EUR 1.5 million
Project implementation: 2011–2018

The project was set up to finance a range of feasibility studies carried out by the International Development Bank (IDB) at their client-owned facilities. Studies were made with a view to identifying concrete investment opportunities for making climate-friendly improvements, such as energy efficiency and building resilience. Projects included financing for the construction of new assets, such as toll roads, airports, water treatment plants, transmission lines and hotels, with upgrades aimed at better correspond to current climate thinking, energy pricing and technological possibilities.

The identification and assessment of smaller implementation measures, which didn't require major investments, were the particular focus of the NDF funded work. Measures included simple facility upgrades, such as lighting and heating and cooling system capacity. Based on the study findings, IDB has tried to catalyse funds from different sources to finance the recommended facilities upgrades.



Photo: Aage Jørgensen

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 5

Project C37: Climate Change and Livestock-dependent Populations in sub-Saharan drylands, Africa Regional

NDF contribution: EUR 0.5 million
Project implementation: 2013–2018

This major study, co-financed by NDF and the World Bank, on dryland regions of sub-Saharan Africa has brought forward valuable measures to reduce the vulnerability of the area to climate change as well as enhance the resilience of drylands populations living there.

This includes a summary of state-of-the-art interventions and policies for drylands livestock development and, using a set of modeling tools, projections on the future production and livelihood status of the livestock sector in the Sahel Region and Horn of Africa countries.

The knowledge generated with the help of NDF resources brought significant spill-over benefits. Notably, a paper on livestock systems and a larger synthesis report, both of which have already served to inform plans for a series of World Bank-supported projects aimed at combating desertification, restoring degraded land and soil, exposure and vulnerability to climate-related extreme events across the Sahel and Horn of Africa.

The longer-term goal of this project is to expand this knowledge and tools across Africa and the rest of the world to improve the quality of life and livelihoods of drylands communities confronting desertification and drought everywhere.



Photo: Jorgen Schytte/Danida

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 5

Project C45: Hydropower Sustainability Assessment, Tanzania

NDF contribution: EUR 0.5 million
Project implementation: 2013–2018

This NDF-financed study in partnership with the World Bank was set up to assess the viability and sustainability of existing and proposed hydropower schemes in Tanzania, looking specifically at the impacts of climate change as well as upstream human activities on the future of hydro power production in the country.

Relevant knowledge generated by the study designed to inform Tanzanian Government energy policy, has done much to enhance understanding of economic versus environmental trade-offs being made in current energy and water-use development plans. The study has also fed into the design of a larger investment project, the Resilient Natural Resource Management for Tourism and Growth (REGROW), a USD 150 million project with a large water resources management component aimed at tackling the water scarcity in the Great Ruaha River. Recommendations from this study addressing concerns on the reliability of hydropower generation, particularly in the face of a changing climate, are being implemented through this project.

In the long-term, study findings should help grow the Tanzanian economy through low-carbon sustainable energy production.



Photo: Martina Jägerhorn

Final project performance rating summary: not quite adequate

- Progress towards objectives: 3
- Overall project progress: 4
- Overall risk rating: 3

Project C48: Geothermal Exploration Project, Africa Regional

NDF contribution: EUR 5.0 million
Project implementation: 2013–2017

This project has assisted 13 countries in the East Africa Rift Valley in completing the exploratory phase of geothermal development, with NDF funding focused on our partner countries Ethiopia Tanzania and Kenya.

Even though geothermal is a non-polluting and readily available energy source, one of the biggest impediments to moving forward on projects is identifying viable sites. The only way to test for the presence of readily available energy is to drill down into a site. But even after extensive reconnaissance and pre-studies on a given site, there are no guarantees.

By assisting governments with the funding of this expensive, high-risk exploratory phase, NDF and our partner organisation ICEIDA, are essentially undertaking a ‘de-risking’ exercise, which can prepare the way for subsequent private sector involvement once a project site is deemed viable.

Along the way, we are also able to help governments resolve questions like how far they should proceed with a geothermal project before tendering it to private sector, as well as a better understanding of what the geothermal legal framework looks like.

The project team is also well-positioned to offer onsite training and capacity building for a future regional geothermal workforce.



Photo: NDF

In this case, focus has been on teaching project management skills, notably how to structure and develop a geothermal project.

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 5

Spotlight on NDF Geothermal Partnership with Iceland

NDF has just completed two shared projects with the Icelandic Foreign Ministry: one exploration project in Africa (NDF C48 Geothermal Exploration in Africa, highlighted above); and one training programme in Latin America (NDF C16 in Latin America, Geothermal Diploma Course, on page 12), both raising awareness and local knowledge around geothermal as a viable clean energy source.

Why Iceland and geothermal?

“Geothermal energy is a natural gift that we’ve been working with for nearly 100 years,” explains David Bjarnason, Director for Regional Development Cooperation and Partnerships at the Icelandic Foreign Ministry. “Around 90% of our heating is geothermal and nearly 30% of electricity production.”

Through the United Nations University Geothermal Training Programme, established in Iceland in 1979, nearly 700 fellows from various developing countries have been trained, in diploma programmes and more recently in Masters and Phd studies. Part of Icelandic Government’s development strategy has also been to assist countries on the ground, educating their experts in taking geothermal potential forward.

But how do countries know if they have geothermal potential?

“This is the challenge. And this is why the partnership with NDF is such a good fit,” Bjarnason enthuses. Geothermal exploration requires a high level of expertise, involving geochemistry, geophysics and geology but it also comes with a lot of uncertainty, which is in line with NDF’s mandate for providing high-risk, preparatory stage financing for clean energy projects.

“Together we can de-risk the early development, assisting countries to get to a stage where they know if a particular area is viable.” But even if surface studies show promise, next stage drilling is still needed to confirm viability. “This is where we typically link into bigger institutions such as the World Bank, for higher cost second stage viability testing,” says Bjarnason, “which is preparing the way for private sector investment as the project moves towards bankability.”

Local capacity building along the way

With education also comes capacity building of local experts through specialised workshops and short courses. So, what’s next for Iceland and NDF?

“We have a good dialogue with these geothermal countries and we’re trying to ask the question what kinds of a technical or capacity-building gaps still need to be filled and how we can provide meaningful assistance.”

Project C102: Off-grid Energy Access Fund Preparation Facility, Africa Regional

NDF contribution: EUR 0.3 million
Project implementation: 2017 – 2018

This off-grid energy access fund has proven to be a highly successful example of how small grants can have big impacts. The initial EUR 300,000 co-financing grant for the preparation of the Off-grid Energy Access Fund in Africa achieved exactly what it was set up to do. As a result, the project partners succeeded in launching a follow-on fund valued at USD 58 million. And the fund is well-positioned to scale-up access to clean energy for off-grid households and communities across Sub-Saharan Africa.

Over 600 million people are estimated to lack access to modern energy in Sub-Saharan Africa. The funding instrument that has evolved from this initial grant has become the first in Africa to enable debt financing, including in local currency, to off-grid energy access companies in need of capital to expand their operations across the African continent.

The Off-grid Energy Access Fund was backed by a strong partnership with the African Development Bank and a perfect case study for making blended finance work for climate, green energy growth and pursuit of the sustainable development goals.



Photo: EEP Africa

Final project performance rating summary: highly satisfactory

- Progress towards objectives: 6
- Overall project progress: 6
- Overall risk rating: 5

Project C7: Increased Access to Modern Energy in Benin, Benin

NDF contribution: EUR 1.5 million
Project implementation: 2010 – 2018

The overarching objective of the Increased Access to Modern Energy Project was to improve reliability and access to modern energy services in Benin. NDF funding, in partnership with The World Bank and International Development Agency, was focused specifically on a part of the project aimed at modernising Benin’s biomass energy services.

By supporting the sustainable use of forestry resources for biomass, NDF contributed to the successful creation of climate change mitigation strategies tailored for Benin conditions. These included introducing new measures to reduce deforestation through community-based sustainable wood fuel production as well as other market management systems.

The grant also succeeded in reducing overall demand for wood as an energy resource as part of an initial aim to try to shore up depleted forest stocks by promoting inter-fuel substitution. Other project highlights upholding local environmentally friendly economic development were schemes to support beekeeping and cashew nut plantations.



Photo: Martina Jägerhorn

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 5

Project C54: Climate Resilience and Low-carbon Strategies in Greater Mekong, Asia Regional

NDF contribution: EUR 4 million
Project implementation: 2013–2018

Financed in partnership with the Asian Development Bank, this broad-based knowledge project focused on the Greater Mekong Sub-Region (GMS), including Cambodia, PR China, Lao PDR, Myanmar, Thailand and Vietnam. The goals were two-fold: to enhance biodiversity conservation and strengthen climate resilience across the GMS region. NDF financed two sub-components of the project, the first, aimed specifically at developing capacity for climate change risk mitigation and disaster preparedness, had three focus areas:

- Climate change modelling and monitoring: working with strategic research and academic partners, work was done to expand knowledge on climate change projections and impacts for the region, such as identifying areas at risk from natural hazards through risk/hazard mapping, and compiling adaptation best practice, including drawing from the knowledge of indigenous people.
- Assessing risk and identifying adaptation interventions: working to integrate climate change considerations into local investment decisions and land use plans. This included replicating community-based risk assessments based on a local participatory approach.
- Testing and replicating cost-effective local-level adaptation options: developing and integrating local climate change adaptation including initiating local funding, to help communities prepare for natural disasters and respond better to a changing climate.

The second NDF funded sub-component was geared much more towards climate change mitigation actions, including on the ground testing; awareness raising; policy support; green-house tracking technologies; and developing low-carbon ‘green freight’ strategies for the energy and transport sectors. The Green freight pilots were conducted out of local level freight centres and provided opportunities to invite private-sector involvement.



Photo: Emeli Möller

Final project performance rating summary: satisfactory

- Progress towards objectives: 5
- Overall project progress: 5
- Overall risk rating: 4

9. Nordic Climate Facility

The Nordic Climate Facility (NCF) is a challenge fund set up by NDF to finance early-stage climate projects while stimulating local business and employment opportunities in the developing world. NCF financing is allocated on a competitive basis with thematic calls for proposals arranged annually.

NCF 8: Testing the business viability of climate solutions
The theme of NCF’s eighth call for project proposals, issued in August 2018, is ‘Testing the business viability of climate solutions,’ which is in line with NCF’s organisational tagline, Climate as Business. The goal of this year’s call has been to discover bankable climate solutions with clear and measurable impacts that can be further developed into sustainable business models beyond NCF’s grant financing. NCF 8 received 121 applications and 26 have been selected to submit full proposals.

New projects: From smart weather forecasting to pay-as-you-go solar
During 2018, the 13 signed and selected projects from NCF’s seventh call began their implementation, or preparation for implementation. Several of these projects provide climate adaptation solutions for farmers and other communities affected by climate change. These include affordable mobile weather forecasting technologies, probiotics for livestock for increasing milk productivity and thus enhancing farmers’ resilience, as well as a fast-response flood barrier, which inflates using the flood water itself. Other projects aimed at mitigating or avoiding greenhouse gas emissions include pay-as-you-go solar solutions for off-grid areas; replacing up to 50% of the plastic granules used for

plastic production with natural fibres; and testing solar-powered industrial heaters for tea processing. A notable 77% of the lead implementers of these starting projects are for-profit companies, indicating a strong private-sector element. The predominant sectors cover agriculture, energy, construction, and information and communication technologies.

Competitive advantage through personalised approach
NCF Manager, Emeli Möller says: “During 2018, we redoubled our efforts to provide a personalised, hands-on approach to fund management, which we see as a competitive advantage for NCF, vis-a-vis other funds. That means, despite the high, positive demand for NCF funding, we resolve to give direct and individual feedback on all submissions received. This helps all NCF applicants better understand what elements constitute a viable climate-financing project, while raising the probability of unsuccessful applicants returning in subsequent calls with more highly-developed proposals.”

Overall, NCF’s portfolio comprises 82 projects, including two projects which closed at the end of 2018 and 29 projects under implementation.

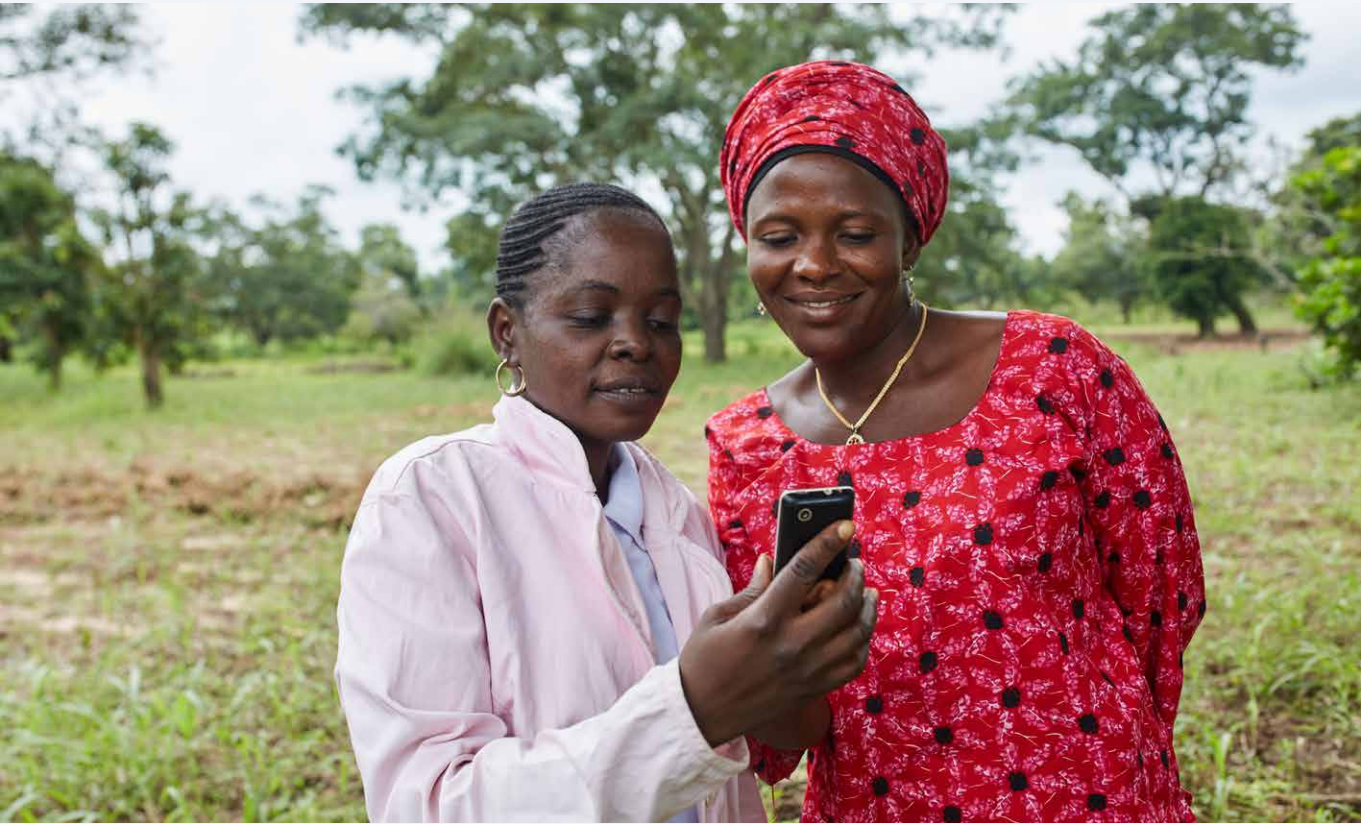
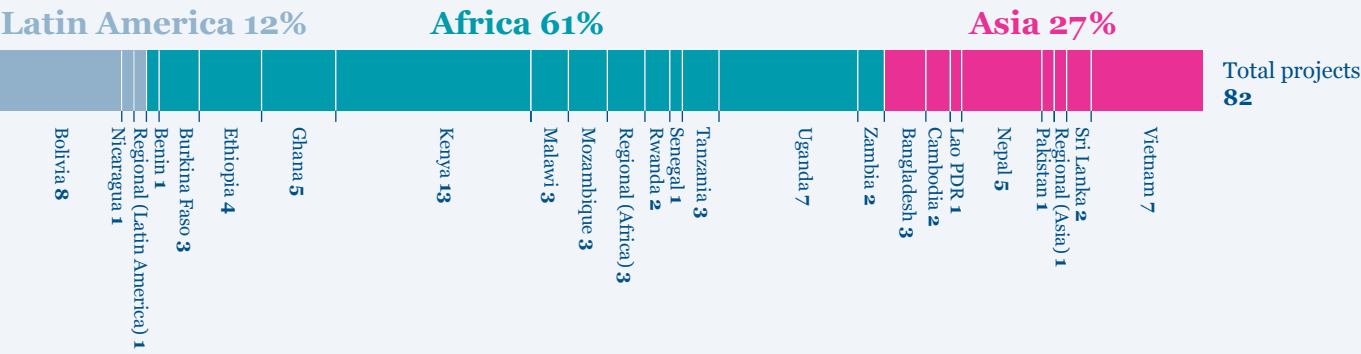


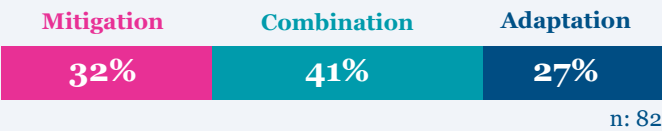
Photo: Ignitia

Glimpse of NCF’s portfolio

Since 2009, eight NCF calls for proposals have been organised and over **700 project applications** have been received. The NCF project portfolio comprises **82 projects**. Out of these, 29 projects are under implementation and 53 have already been closed.



Projects under NCF aim to increase resilience to climate change (**adaptation**), reduce greenhouse gas emissions (**mitigation**), or encompass both adaptation and mitigation (**combination projects**).



The average size of an NCF project has been around **EUR 700,000**, with an average of almost **EUR 300,000** in co-financing from project partners and other financiers.



All projects are required to have a Nordic lead partner. The largest share of projects has been implemented by Danish lead partners, followed by projects with Swedish and Finnish leads. The majority of the project partners have been private companies, followed by civil society organisations (CSO).



The total value of the NCF portfolio is **EUR 57.7 million**, of which **EUR 33.1 million** is NCF financing and **EUR 24.6 million** co-financing.

To date, NCF has disbursed **EUR 23 million** in grants.

10. EEP Africa on fast track for clean energy access

Launched in 2018, The Energy and Environment Partnership Trust Fund covering Southern and East Africa (EEP Africa) has become NDF's newest blended finance vehicle for mobilising private sector resources and partnerships for clean energy and green growth.

Taking on management of EEP Africa marks the first time NDF is administering funds on behalf of other donors. This is an exciting new funding vehicle for NDF and part of a broader portfolio shift toward more private sector-oriented activities and financing.

Building on the EEP brand

During 2018, we built EEP into a fully operational trust fund vehicle, with governance structure and project selection processes up and running and a strong implementing team with hands on presence in the region. Our first call for proposals went live in May and was massively oversubscribed, demonstrating clear demand as well as strong brand recognition across the market landscape.

Looking forward to 2019

EEP Africa Trust Fund Manager, Charles Wetherill says: "EEP has all the right attributes in place – brand recognition, strong demand, sound institutional setting and a proven working

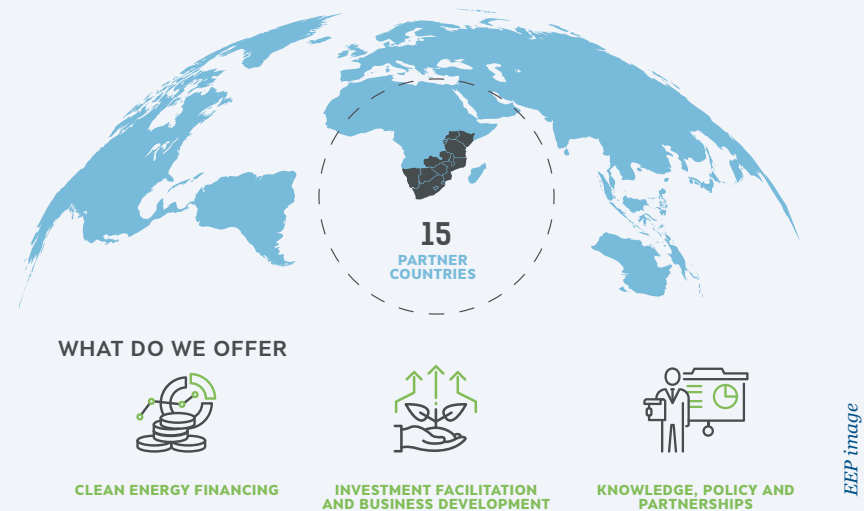


Photo: Drawn to Light

model closely aligned with achieving the SDGs – and we know there are investors downstream looking for investible pipeline coming out of the EEP portfolio. Moving into our second year, we will be rolling out our next call for proposals early in the year with a focus on gender as well as prioritising a push to mobilise additional capital and bring in new donors. There is a real and urgent need to scale up and fast track early stage support for clean energy and green growth across the region. We started with EUR 28 million in 2018, and we're confident we can continue to grow and serve that need."



Photo: EEP Africa



Mini-grid study draws lessons from EEP portfolio

The EEP Africa knowledge component launched a new mini-grid study, *Opportunities and Challenges in the Mini-grid Sector in Africa - Lessons learned from the EEP portfolio*, in September in Nairobi together with a number of partners. The study drew lessons learned from the more than 40 early stage mini-grid projects financed in previous phases of EEP and highlighted improvements in bankability for the sector as well as continued challenges in terms of regulation and integration with national electrification plans and rural development strategies. The study followed a similar knowledge product released the previous year providing an analysis of gender impact in the EEP portfolio. Both studies are freely available on the EEP Africa website.

Connecting Africa's renewable energy sector with knowledge and opportunity

During 2018, EEP hosted two flagship investor forums, one in May during African Utility Week in Cape Town, South Africa and another in December in Nairobi, Kenya. Both events brought together global investors and EEP companies working in renewable energy in Africa. EEP investor forums have been designed to assist EEP project developers to engage with the investing world in order to grow their businesses.

In November 2018, in Kigali, Rwanda, EEP Africa hosted a knowledge exchange forum as part of a range of events marking Rwanda Energy Week. The event brought together more than 120 renewable energy specialists from across the sectors of research, business and finance, government, and development. Targeted panel discussions at the event included a showcase of findings from the recent EEP Africa mini-grid study, followed by a chance for participants to openly share knowledge and discuss issues important to them in the more informal Communities of Knowledge roundtable segment.

EEP first call trends towards productive energy use

In 2018, EEP Africa approved 28 new projects, representing EUR 14 million in new financing commitments. This newly approved portfolio is characterised by a high share of projects targeting renewable energy for productive or business use like agricultural processing, irrigation, pumping, freezing, drying, or running electric motorbikes, amongst others. Gender is also a strong feature in many of the projects selected.

Examples from the new portfolio include:

- **Distributing and financing clean energy products for working mothers in Nairobi slums.** The project scales up an innovative distribution channel for energy products, such as clean cook stoves, to working mothers leveraging a network of child-care centres. In this case, client payment histories will act as a credit-determinants for asset-finance approval and working and often single mothers will have access to finance and clean energy products.
- **Transformational solar hybrid power solution for Northern Uganda municipal market.** Frequent grid outages are a serious barrier to business for local market sellers operating. This project will pilot a public-private partnership with the local municipality and aims to provide power to more than 2000 predominantly female market vendors.
- **Innovative biogas technology in Namibia.** This project will develop and test a Waste to Energy concept in which waste water sludge bonds together with energy crops to produce green electricity and field fertilizers. The project, led by a Finnish company, aims to cover the final stages of development of a new biogas plant.

10. Summary

NDF's 2018 results set forth in this report at the institutional, portfolio and project levels can all be described as highly satisfactory overall. These results can also be characterised by a distinct shift in our funding portfolio towards financing instruments other than traditional grants. During the year, NDF's Board approved financing for new nine projects with a total value of EUR 47.15 million. Of these commitments, EUR 16 million was allocated as loans, EUR 17.5 million as equity; and EUR 5 million as reimbursable grants; while the remaining EUR 8.65 million was allocated as traditional grant financing. The proportion of new commitments made through instruments other than grants was 82%, up considerably from 29% in 2017.

Newly approved projects reflect strategic funding shift
The thematic makeup of the newly approved projects also exemplified this strategic shift in our funding direction and approach, with the following three major themes identified:

- **Blended financing:** NDF is using blended financing to spur clean energy investments in developing countries and expand market-based climate resilience solutions globally.
- **Private sector adaptation:** in support of the need for governments and civil society to urgently scale up knowledge, technologies, and financing options for climate resilience, NDF has invested in CRAFT, the world's first market-driven climate change adaptation fund.
- **Catalytic financing for coastal resilience:** NDF is providing catalytic funding for climate resilience solutions along the heavily populated West African Coastline, where the extent and impact of climate change, particularly coastal erosion, has reached a critical juncture.

Completed projects depict organisation in transition
During 2018, 10 NDF-backed projects reached completion, including four projects financed through NDF's Small Grants Facility. NDF financing allocated for these projects totalled EUR 16.8 million.

The completed projects set out on pages 12 to 17 of this report relate to many different aspects of climate change and development. Six projects focused on mitigation and four had both adaptation and mitigation targets and results. 9 out of 10 projects were rated as satisfactory or highly satisfactory in all three summary variables of their project performance ratings.

This project list could be seen to represent a before and after snapshot of our organisation in transition. In the past several years, NDF's core funding approach has been moving towards various new kind of funding commitments. Notably WACA, CRAFT and the Africa Off-grid Energy Fund have received preparatory high-risk funding injections, but the projects themselves are designed to take on a life of their own, for example, by leveraging follow on funding, or relaunching as private sector led projects once technologies have been proven. However, some of the completed projects stem from earlier times in the organisa-

tion's evolution and can be described as more straightforward grant-based projects with a clear start and finish.

Launch of second challenge fund opens doors to private sector

With the launch of the Energy and Environment Partnership Trust Fund (EEP Africa) in 2018, NDF now manages two challenge funds, the other being the Nordic Climate Facility. EEP Africa offers early-stage clean energy funding predominantly to private-sector-led projects in Southern and East Africa, and represents the first time NDF has managed a trust fund in-house.

NDF has never been more relevant

In the wake of the 2018 dire International Panel on Climate Change report and UN predictions that the world has just 12 years to turn climate change around, it can be argued that never has the work of NDF been more relevant. During 2018, projected emission reductions for newly-approved projects totalled 2.3 million tonnes of CO₂, which is the emissions equivalent of 3 million people flying from Helsinki to Paris and back. With the adoption of the Paris agreement and the subsequent development of the Paris Rule book, the time for increased action has now come. To underscore this, NDF's saw strong funding demand in 2018, notably from qualified recipients in all regions, and for viable climate-related projects that reflect NDF's mandated goals. In light of this, NDF has a growing and much-needed role to play.

www.ndf.fi





Nordic Development Fund



The Nordic Development Fund is a joint Nordic development financing institution that supports climate-related projects in Africa, Asia and Latin America.

Layout and graphic design: Rebekka Gröhn and Sanna Turunen