

Review of Support to the Renewable Energy and Energy Efficiency Partnership, REEEP

Review

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The report is presented in a series, compiled by Norad to disseminate and share analyses of development cooperation. The views and interpretations are those of the authors and do not necessarily represent those of the Norwegian Agency for Development Cooperation.

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**Review of Support to the
Renewable Energy and
Energy Efficiency
Partnership,
REEEP**

Final Report



Scanteam

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Project: Review of Renewable Energy and Energy Efficiency Partnership, REEEP

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Executive Summary

BACKGROUND

The governments of Norway and Switzerland, currently REEEP's main donors, have decided to carry out an external review to assess to what extent REEEP has reached its objectives, and to appraise REEEP's new strategy, which includes the establishment of a new Phased Finance Facility in collaboration with the Climate Technology Initiative's (CTI) Private Finance Advisory Network (PFAN).

REEEP was started in the aftermath of the Johannesburg Conference of Sustainable Development. It is registered as an Austrian NGO and supports small projects promoting renewable energy (RE) and Energy Efficiency (EE). REEEP sees itself as a promoter of more effective public energy policies and regulation, to enable the private sector to expand and mainstream clean energy solutions in developing countries. It operates through a mechanism of call for proposals almost every year. It establishes a short list of proposals received and asks for full proposals, and then selects projects for funding within its financial means. It seeks especially to scale-up successful business models for clean energy, through decentralized and off grid generation. So far, a total of 185 projects have been approved in 58 countries. There were 58 projects approved during the latest 8th and 9th call.

The main data sources of the review are program and project documents, interviews with senior staff member of REEEP and CTI PFAN, visits to REEEP's current projects in India and South Africa, portfolio review of REEEP's 8th and 9th call for new project proposals and a desk review of REEEP's support to the power sector in China.

FINDINGS ON REEEP PROJECTS

Relevance: The REEEP activities are found to be consistent with its overall goal. The existence of REEEP is important as a catalyst and risk-taker in small-scale ventures outside the mainstream. Its programs are in harmony with the UN Sustainable Energy for All (SE4A), announced by the UN Secretary General in 2011, and supported by Norway through the Energy+ program.

Effectiveness: Overall, REEEP operations are found to be satisfactory across its own as well as the SE4A and OECD/DAC criteria. Among the projects visited two were rated highly successful. One RE project (SELCO solar lights) and one EE project (TERI metal casting in South India) were found Highly Satisfactory. One project in South Africa was found partly unsatisfactory. One project in India was found unsatisfactory (the fuel barter model).

Concerning the Project Call System, the team questions whether REEEP is working actively enough before and during the call processes to secure a high number of relevant/quality projects. While the call system clearly has advantages; it offers the needed flexibility to make sure local needs are responded to, and identifies partners that are willing and able to implement projects, the disadvantage is seen as a lack of the potential to influence projects once a call is out. The review notes that projects in the most recent calls deviate to some extent from the expectations formulated in the calls. This is not dramatic, but it deserves due attention in future calls.

Generally, most projects seem to be reaching their objectives. However, due to their short duration, most objectives serve only an "intermediate" step in the clean energy context. Currently, REEEP has insufficient review/evaluation mechanisms to verify the attainment of objectives in a fuller global/societal context.

REEEP management has put in place efficient tools such as the proprietary project monitoring implementation system, which poses the right questions and saves a lot of time. One single document (the contract) includes all contractual matters, including payments and contract cancellation for each project and this contributes also to clarity and efficiency. REEEP is un-bureaucratic and small. It can take quick decisions for itself. However, the adherence to its regulations and decisions by the project implementers is another matter. The review finds that about 20 out of the 58 projects at the 8th and 9th calls have not reported quarterly as per the agreements. The final report in a project is frequently delayed. This suggests that implementation is not straight forward, or that there could be weaknesses in the attainment of important objectives.

A special case is the study on 30% share of renewables in China by 2030. It is the view of the team that relevance is high, but impact is uncertain. The study has by and large followed the policy trend of the government rather than informing it. It states that an important element is to develop clean electric power by setting up large coal-fired power plants. The Review Team does not share the positive view of the use of “clean coal”.

Efficiency: The project call mechanism of REEEP is functioning efficiently, firstly in the sense that there is partly hard competition for limited resources. The administrative costs are low (11-13%), which is lower than for most INGOS. . However, the co-funding ratio is not very high (1:2). This is especially favorable considering REEEP’s hosting of the important database Reegle, supported by the German government and other donors. This is a unique tool for providing overviews of energy policies and regulation in about 160 countries, which is more readily available, user-friendly and comprehensive than the search engines of the major development agencies. It is reported that as of March 2012 the website attracted an average of 220,000 users per month. This has a unique potential value for donors and partners.

Impact: REEEP has operated in 58 countries and with a disbursement portfolio of EUR 4 million (last call). Its relative impact is high due to a number of factors. Firstly, its priority countries are the rapidly emerging economies of Brazil, China, India, Vietnam and South Africa, to which over 60 per cent of the funds were allocated last year. The team finds that the country profile of cooperating countries is logical, given its special objectives of policy development and demonstration projects. The capacities for innovation are the highest in these developing countries. Subsequently the insights gained could be spread to the rest of the developing world. REEEP is also concerned with this perspective by expanding the number of regional secretariats.

Sustainability: REEEP engagements are small and of a short-term nature, due to the limited size of the projects (limit of EUR 150.000). A sustainability plan is often not discernible in the projects approved. This has the inherent danger that the results of its current initiatives could fall down by the roadside, unless they are well integrated into other longer-term efforts of partner countries and larger agencies.

However, REEEP is determined to strengthening its regional institutions, which is especially addressing longer-term sustainability. The proposed cooperation with CTI PFAN in the new Phased Finance Facility would secure follow up with investments and a long-term perspective on viability for one part of the portfolio.

In general, the projects undertaken involve some investment. If the project has been successfully implemented, the further functioning of the investment is as a rule not in question. From its India portfolio there are many examples of REEEP partnering with national institutions, which have long-term interests at stake. As an example, the TERI Cupola furnaces installed will continue to function for years after completion of the project. In this case, sustainability is assured. Small

hydro in water supply systems, once installed, will function for many years beyond the project duration.

In other projects, sustainability may be a different issue. For example, in the case of solar light users, the day will come when batteries need to be replaced. Whether the poor users have the money to buy new batteries is perhaps an open question. Where the user is a customer of SELCO, one may be confident that the company will help and work out a solution. With other suppliers it may be different and there is a possibility that the solar PV system may be abandoned, thereby becoming unsustainable. In the current REEEP portfolio, there is a clear limit to insights into the sustainability of project efforts. Within the cooperation of the REEEP-CTI PFAN the sustainability of efforts is likely to be improved. The cooperation model includes the establishment of an evaluation system, which will have a longer-term perspective.

COOPERATION WITH CTI PFAN

The REEEP and CTI PFAN will jointly form a new facility, in which the two cooperate while at the same time pursuing their different activities as now; REEEP's area of work mostly geared toward public policies and regulation in developing countries, and CTI PFAN's work areas geared towards private investments in the same countries.

CTI PFAN is an alliance of private-sector companies that are experienced in providing investment and financial advisory services to climate-friendly projects. Network members include specialist investment funds, institutional investors, and financial advisors. CTI PFAN provides a variety of services to clean energy businesses to help them secure financial closure. CTI-PFAN has mostly addressed the areas of renewable energy technologies within biogas, biomass, waste to energy, clean transport, wind, and solar, small hydro and energy efficiency measures.

From the perspective of CTI PFAN, its gain from the cooperation with REEEP's efforts on policy and regulatory work would be to have at hand de-risked clean energy project pipelines to present to the investment market. Conversely, to REEEP, there is not much point in seeking to bring about an improved policy and regulatory framework unless there is the promise that entrepreneurs are ready to invest and bring about economic progress.

It is very possible that cooperation between the two can offer "an effective one-stop service" across the whole project development chain, thereby reducing complexity and time and accelerate the development process. Certainly, the areas of expertise and capability of the REEEP and CTI PFAN are highly complementary.

In the four phases from project concept to project closure, it is intended that REEEP will handle the grant phase (addressing energy policy and regulations), while CTI-PFAN will take over, carry out coaching on investment issued, and steer potential investments towards closure.

REEEP will also be responsible for the life-long phases of the project when it comes to "communication" and also M&E-learning, which will apply to all phases of a project and not only address individual projects, but also the portfolio as a whole.

In order to reduce risks they will need to coordinate also some of their procedures and systems. This relates to internal security measures, and is especially the case for monitoring and evaluation, which will require competence building and also changes in openness towards financiers and the public at large. This may constitute a test case since a private company is much more inclined to guard business secrets in a broad sense and more reluctant towards transparency than an idealistic NGO.

Recommendations

In view of the observations made, the review makes the following recommendations:

- REEEP's Board and donors should clearly state their expectation of the degree to which the organization aims at identifying projects for CTI PFAN up-scaling, or work on issues aimed at the public sector only.
- REEEP's Board and donors should have an active role in overseeing that Monitoring and Evaluation systems are developed for projects to be run by the Facility and by REEEP itself.
- The "acquisition" of projects is no doubt critical to the future of REEEP. Therefore, we recommend improving the proposal evaluation system done by the external experts and making it more rigorous, and improving the appraisal of fully developed proposals.
- It is also recommended to make the call for proposals process more meaningful in terms of target country definition, technology orientation and implementer characteristics with the aim of addressing weaknesses, in particular in the 9th call.
- Strive to establish a balance between its traditional window of addressing public policy and regulation issues in developing countries, and the new window of running the Phased Financing Facility.
- Further develop its Monitoring and Evaluation procedures and manuals for projects within both windows.
- Seek further to develop project proposals according to its preferences, in close cooperation, especially with regional partners.
- Initiate and support entrepreneurial capacity development at the local level to overcome the shortfall of local expertise in the medium term. This could be done outside the calls for proposals with selected partners. Of crucial importance is to use top-class coaches.
- The discipline of implementers with regard to project completion reporting is not very good. 20 projects have not delivered a final report or are late with one or several reports. The recommendation is to be more insistent that grantees deliver final reports and more promptly submit the interim progress reports. Note is taken of the fact that final payments are actually being held back until the reports due are received.
- Make the PIMS format more reader friendly (portrait versus landscape format).
- With regard to external audits, the review recommends to change the auditing firm from time to time. Currently, there is no dissatisfaction whatsoever with the auditors, but it is a good practice to change, in particular in organizations handling donor money.

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Annex D:	8 th and 8 th Call omparison (separate file)

Acronyms

ADB	Asian Development Bank
ASE	Alliance to Save Energy, India office Bangalore
CE	Clean energy
CTI PFAN	Clean Technology Initiative Private Finance Advisory Network
DAC	Development Assistance Committee
DBC	Divided Blast Cupola (furnace)
DSM	Demand Side Management
Pico	Pico hydro = very small capacity hydro power 0.1 to 5 kWh
EE	Energy Efficiency
GWh	GigaWatt hour, Unit of Energy = 1,000 MWh
IEA	International Energy Agency
IEC	International Electrotechnical Commission
INR	Currency: Indian Rupee, 19.5.2014 - 1 NOK = INR 9.83
kWh	KiloWatt hour, Unit of Energy: 1 kWh = 3.6 megajoules
LDC	Least Developed Country
LED	Light Emitting Diode
MWh	MegaWatt hour, Unit of Energy = 1,000 kWh
NGO	Non government Organization
NOK	Currency: Norwegian Kroner 19.5.2014 1 Euro = NOK 8.13
RE	Renewable Energy
REEEP	Renewable Energy and Energy Efficiency Partnership
Reegle	Renewable Energy information portal
RO	Reverse Osmosis
Rs.	Indian Rupee (colloquial)
SE4A	Sustainable Energy for All
SEA	Sustainable Energy Africa
SWH	Solar Water Heater
TERI	The Energy Resources Institute with headquarters in New Delhi
TNUIDF	Tamil Nadu Urban Infrastructure Development Fund
TOR	Terms of Reference
USD	Currency: United States Dollars, 19.5.2014 - 1 USD = NOK 5.93

1 Introduction

1.1 Purpose of the Review

The purpose of the review is to evaluate to what extent REEEP has reached its objectives, and to document experience gained and learning elements. DAC criteria are used to perform this task. In addition, the second part of the review is to be an assessment of the planned Phased Finance Facility, which REEEP is about to launch in cooperation with CTI PFAN.

1.1.1 Terms of Reference

In accordance with the agreements governing Switzerland and Norway's contributions, the two countries have implemented a review of their cooperation with REEEP. The review has the standard scope of work and review of relevance, effectiveness, efficiency, impact and sustainability.

In conjunction with the tenth call for proposals, to take place during mid-2014, REEEP will offer two windows of grant funding. The first is the classical funding up to EUR 150.000, focusing on policy and regulatory market development of low carbon energy solutions and energy efficiency work.

REEEP's second aid window is constituted by a new "Phased Finance Facility" to be run in cooperation with the CTI PFAN, with initial grant funding (through REEEP) up to EUR 300,000 per project, expected to lead to larger private investments (facilitated by CTI PFAN).

1.1.2 Implementation Time Frame

The field missions and other work were planned and carried out as follows:

The review was initiated by the team's meeting with the Norwegian aid authorities the second week of March, followed by team preparations and visit to REEEP's International Secretariat in Vienna during the last week of March. At that junction the decision about the choice of countries and projects to be visited were made.

The fieldwork in South Africa was conducted during the first week of April. The review of a biogas project in Tanzania was cancelled because of late planning by REEEP and poor internet connection when the team member was in the country.

Unfortunately, it took more than three weeks to prepare for fieldwork in India, which lasted from 23rd April till 8th May. The report drafting was completed on 19 May, and the draft final report prepared on the basis of comments from REEEP, the Norwegian and Swiss aid agencies was completed on 23 June 2014.

Table 1: Schedule of the Review

Date	Event/Activity
7 March 14	Briefing meeting at Norad
27 March 14	Visit to the REEEP International Secretariat in Vienna
28 March 14	Visit to the REEEP International Secretariat in Vienna
1 Apr.- 12 April 2014	Fieldwork of Jarle Harstad in South Africa. Planned work in Tanzania was called off due to REEEP's weak supervision capacity.
23 Apr. to 8 May 2014	Field work of Ulrich Meier in India
8 to 18 May 2014	Submission of draft report
12 June to 20 June 14	Submission of final report

1.2 Structure of the Report

Table 2: Report Chapters

Content	Chapter
Executive Summary	
Introduction	1
Description of REEEP	2
Data sources for the review	3
Project review results	4
Review of projects in South Africa	5
Portfolio review of projects in 8 th and 9 th call	6
Review by DAC criteria	7
Conclusions	8
Assessment of the REEEP- CTI PFAN Approach	9
Recommendations	10

1.3 Acknowledgements and Disclaimer

The review team wishes to express its thanks to all the stakeholders who graciously gave their time and shared freely their knowledge about the various projects with the team. Special thanks go to the international secretariat, its management and all staff. Their organization skills and tireless efforts have made it possible to meet with relevant stakeholders, even when this was at short notice.

The review team also wishes to extend its sincere thanks to the secretariat staff in South Africa and in India, and also the staff met from the various implementing organizations. Their dedication is truly remarkable and this is found to be one of the factors of success for the various programmes. They have given their time to the review team far beyond the ordinary, and they have travelled long distances to be able to implement the review.

The present draft final report and its findings is the sole responsibility of the review consultants, and does not necessarily reflect the views of the client, the international and regional secretariats, or other institutions participating in the programme activities.

2 DESCRIPTION OF THE REEEP

2.1 Background

The Renewable Energy and Energy Efficiency Partnership (REEEP) was established after the World Summit on Sustainable Development in Johannesburg in 2002. REEEP is a public private partnership, registered as an NGO under Austrian law. It has been offered offices by UNIDO at the International Centre in Vienna, where the international secretariat is located from the outset.

Norway's contribution so far has amounted to NOK 61.5 million in the period from 2006 to 2012, while the contribution of Switzerland has amounted to two million Euros (EUR). The implementation of the present review was a joint decision by Norway and Switzerland.

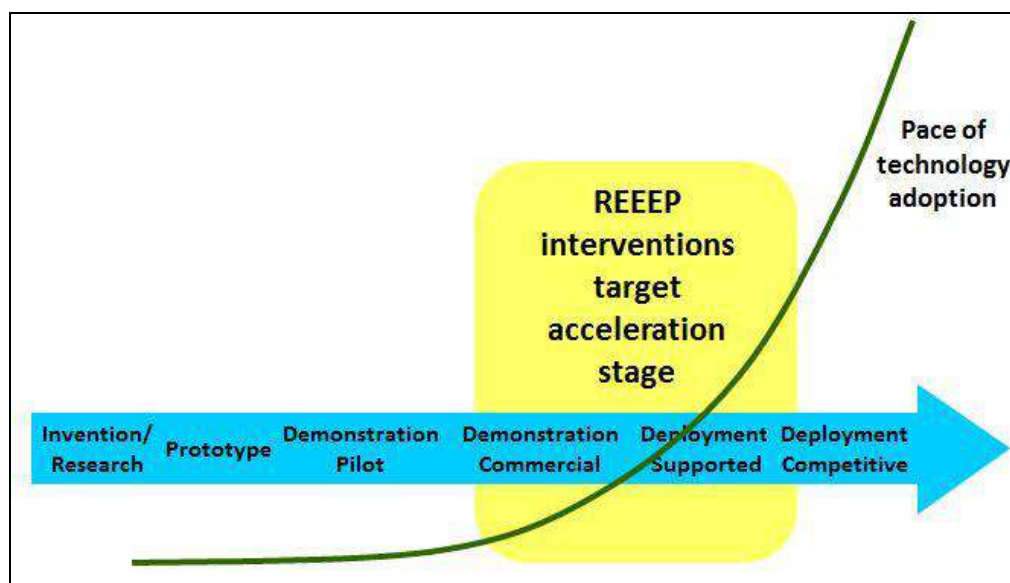
REEEP sees itself as a catalyst for **scaling up clean energy business models** in developing countries and emerging markets. REEEP plays a central role in promoting policy and regulations

that provides incentives for and enables private sector investments in Renewable Energy (RE) and Energy Efficiency (EE).

REEEP is using the classic technology adoption curve to frame and clarify its intervention space. As can be seen in this curve (Figure 1). REEEP targets especially the acceleration stage. For REEEP it is important to:

- Identify clean energy (CE) business models that are reaching demonstration stage, and to act as conduit for their up-scaling and policy making;
- Link people and information – provide information, data access, and knowledge sharing for developers, business people and policy makers.

Figure 1: New technology adoption curve



Source: REEEP Strategy paper 2012

The scope of REEEP's work encompasses activities from simple business solutions at a national level up to multi-national policy solutions, with the focus on developing countries. The main focus of REEEP is on working with governments to identify policies and regulations that are making RE and EE markets work better.

2.2 How REEEP works

Based on (mostly) annual calls for proposals, REEEP identifies and supports the most relevant and promising projects on RE and on EE. The support is of a relatively short duration of between one and two years. In its 12th year, it has now almost completed nine project cycles and is currently preparing for the 10th call.

REEEP carries out the calls for proposals, selects the projects, grants funding for selected projects, and then monitors project implementation. The implementation is left to the applicants responding to the calls for proposals. These are developing country governments, research institutions, international and local NGOs.

REEEP has extensive knowledge of energy markets, and project development and grant financing experience, derived from a portfolio of 185 projects. The projects are often scalable, and its wide network of project developers and implementers presents a fertile ground for more business initiatives. REEEP's experience in this space is focused on a funding level from €150,000 to

€300,000 in co-financing (per project). Projects have achieved on average a 1:2 ratio of financial leverage over their lifespans. REEEP's experience in project management and monitoring and evaluation (M&E), as well as its broad network of experts, are invaluable assets in identifying and testing business models on the ground, and in developing policy and financial responses to develop the clean energy market in developing countries and emerging economies.

REEEP plays a central role in promoting policies and regulations that provide incentives for clean energy. While recognizing the individual requirements of each country, rather than promoting a universal approach, it seeks to increase the share of sustainable energy in the country's energy mix.

2.3 Overall Goal and Objective

REEEP has three objectives in particular:

- Stimulation of a significant global increase of investments in renewable energy sources.
- Stimulation of significant increase in the global use of energy efficiency measures.
- Improvement of rural energy supply in developing and transition countries by utilisation of renewable energy sources and increase of energy efficiency.

REEEP focuses on developing alternative strategies and models for energy production, both to expand energy access and to replace/reduce the existing fossil fuel use and to pre-empt future CO₂-intensive energy production. This approach is spearheaded by the UN initiative on Sustainable Energy for All (SE4A), which has linked *universal access to energy* to doublings of *energy efficiency* and *renewable energy* in its threefold sustainable energy objective by 2030.

2.4 REEEP Administration and Management

REEEP administration is lean. Personnel in various regional secretariats on three developing continents support a small team at the international secretariat in Vienna. The total number of staff is 18 at the time of the review.

For selecting projects, REEEP maintains an expert database with more than 500 experts. Five experts from this database assess each fully developed proposal, before its Governing Board for decision makes decisions with regard to support. The contracts with the selected projects regulate all relevant matters in the ensuing cooperation on implementation.

Implementers are required to report on progress and expenditure on a quarterly basis. The Programme Management Information System (PMIS) is a great help in this, as expenditure totals are computed automatically once data entry is complete. This is clearly an efficiency element.

The personnel cost-level is moderate, and the REEEP international secretariat benefits from moderate office rent from UNIDO in Vienna. It has regional secretariats in East Asia, South Asia, Southern Africa and Latin America and the Caribbean, and a Focal Point in West Africa.

3 DATA SOURCES OF THE REVIEW

In addition to general data and information from the REEEP Secretariat, the data sources are based on two country visits, and two project portfolio reviews, and one desk review of the power sector in China.

Due to the limitations of the funding and the time for the review, it was found necessary to concentrate the field visits essentially to two counties; one in Asia and one in Africa. At the initial meeting in Vienna during the last week of March 2014, it was decided that the field would be made in India and South Africa/Tanzania; since these countries had the largest and most diverse portfolio. The REEEP Secretariat in cooperation with its Regional Secretariats made the organization of the visits.

The review is looking into actual projects on a non-representative sample basis. The sample results from visits to implementers that could actually take place, in view of the difficulty of fixing appointments on short notice.

3.1 Project Visits in India

Table 3: Project visits

#	Implementing entity	Relationship to REEEP	Link
1	SELCO pvt. Ltd.	Implementer of multiple projects	www.selco-india.com
2	SELCO foundation	Technology Innovator	www.selcofoundation.org
3	Small Scale sustainable Infrastructure Development Fund, S3IDF	Renewable energy projects	www.s3IDF.org
4	Alliance to Save energy	Implementer of EE projects	www.ase.org
5	Energy and Resources Institute, TERI,	Multiple projects on EE, South Asia secretariat of REEEP	www.teriin.org
7	Saurya EnerTech	Implementer of Reverse Osmosis Clean Water	www.sauryaenertech.com
8	DESL, Development Environenergy Services	Fuel Barter Model for biomass power generation	www.veolia.com
9	Aquasub Engineering Coimbatore	Metal Casting EE in Coimbatore cluster	www.aquagroup.in
10	Saravana Engineering Coimbatore	Technology supplier	http://www.indiamart.com/saravanaengineering-work/
11	TN Urban Infrastructure Development Fund, TNUIDF	Tamil Nadu Municipal Energy Efficiency financer	www.tnudf.com
12	Electricity Inspectorate, Chennai	Implementation of Energy Efficiency in street lighting	www.tnei.tn.gov.in

3.2 Project Visits in South Africa

13	Sustainable Energy Africa (SEA)	Solar Water Heating Rollout	www.sustainable.org.za
14	EThekweni (Durban) City Council	Powering Water Supply in eThekweni (Durban)	www.durban.gov.za
15	Sustainable Energy Africa (SEA)	Municipal Energy Efficiency of DSM Management	www.sustainable.org.za

4 PROJECT REVIEW RESULTS

4.1 General

The Renewable Energy and Energy Efficiency Partnership (REEEP) is a high performance organization with a high level of internal efficiency. Processes are highly developed and streamlined. The international secretariat in Vienna manages all project-cycle tasks with a small team of eight to ten professionals.

Many initiatives were taken, and partnerships formed after the Johannesburg Summit in 2002. Most have disappeared in the mean time. REEEP is one of a few, if not the only one, that still exists and continues to deliver results, across many countries and a broad range of subjects.

REEEP is effective and free of administrative processes that delay or hinder decisions. Its staff consists of a small group of dedicated professionals.

At the same time, the review notes that there is an issue with delays in reporting and completion of projects. According to the time line, all 8th call projects should have been completed by about mid 2012, with only 3 projects that were extended to 2014. One project was interrupted and consecutively restarted to be completed by the end of 2014 and one project was terminated by REEEP prematurely due to lack of progress on the part of the implementer.

The review notes reporting or completion delays in 20 instances. REEEP argues that some projects in the 8th call are not completed, and most in the 9th call are still ongoing. But the international secretariat concedes that average lagging has been 9 months in the 8th call, and that this was improved to average 2 months during the 9th call. According to this information, routines have been improved from the 9th call onwards, but there is more room for improvement.

In terms of communication, REEEP has successfully pioneered Linked Open Data. Its policy is to make available all information pertaining to RE and EE through its dedicated database Reegle, (www.reegle.info). This is in line with the policies of most donors, whose governments wish to put all development effort results in the public domain.

REEEP management and administration is very efficient, not in the least because it has put in place efficient tools such as the proprietary PMIS, which saves a lot of time. One single document (the contract) includes all contractual matters, including payments and contract cancellation for each project and this contributes also to clarity and efficiency.

The review has found the accounting of REEEP's operations is up to date and in good order. PwC Wirtschaftsprüfungs GmbH has acted as the external auditor on an annual basis. Audit results have been good, without any reservation.

4.2 Clean Energy and Women Empowerment

Project Implementer

SELCO, a proven partner of REEEP has embarked on this project through a women-lead energy co-operative in Bihar. This is a true replication project, as SELCO has a customer base of about 150,000 systems out there. The company is very well known for the fact that lighting solutions are tailor-made, technically, as well as socially, to fulfill the needs of target groups in the best way possible.

SELCO Solar Light Company Pvt Ltd is a private-sector shareholding company with a social mission. Its shareholders are one Swiss and two US-based philanthropic investment foundations. Total paid-in share capital is USD 1.9 million.

So far the company makes a profit, of which most is reinvested in the operation of the company. The founder, Harish Hande, has been awarded the prestigious Magsaysay award in 2011 (the Asian Nobel Prize).

SELCO has received several REEEP grants for projects that target the poor. The review paid visits to several of their projects. SELCO has also created a foundation. Its purpose is to carry out non-commercial activities: Test out new models, innovate and scale up technologies. Among these, solar powered drip-irrigation for small farmers is at a prototype stage.

Bihar today has a population of more than 82 million and about 85% of villages have no access to electricity. The need and potential for solar PV light is therefore enormous.

The Project

The project in Bihar is organizing women in self-help groups (SHG) in order to establish co-operatives that will engage in solar light business. A quarterly report was due in March 2014, which has not yet been entered into the REEEP project management system. Meanwhile, what the project achieved is impressive.

Activities supported by REEEP

- Awareness camps on solar home light systems and the entire model to access it through the project were conducted among SEWA Bharat¹ members, the local partner of SELCO. The project team organizes community meeting and use innovative method to disseminate information. SEWA Bharat has used platform of its livelihood, microfinance and health services to reach out to the maximum number of people possible. 236 Awareness camps have been conducted by end of December 2013 with attendance of over 2,700 women.
- One round of micro-enterprise training was conducted recently with 20 selected potential women entrepreneurs. This was a two-day training providing detailed business and technology lessons conducted by a highly experienced SELCO trainer. 10 women from this group have shown interest to move to the next level of becoming entrepreneurs. SELCO is currently working with them to develop specific business models based on the market potential of their own areas.

Results

By end of December 2013 the project has managed to install 228 solar home systems through SHGs financed by Bihar Gramin bank. There have been several constraints starting with financing delays to cost of system delivery going high due to non-availability of public transport and private vehicle costs going up due to increasing fuel prices. So far over 90% of the systems have been installed in completely off-grid households. This has a very high and immediate impact on the standard of living.

Overall, the intention is to install at least 4,000 solar home systems benefitting 20,000 people during the project period of 2 years. However, SELCO projects have proven to be sustainable. The project deserves high marks for performance and impact.

4.3 Clean Energy Supply Chain in Karnataka Villages

¹ SEWA Bharat is the All India Federation of Self-employed Women Associations

Project Implementer

Through the Small Scale Sustainable Infrastructure Development Fund, S3IDF, REEEP has supported its Social Merchant Bank Approach under the 7th call. Such funding is considered critical as it is for the pre-investment phase.

The Project

The Ministry of New and Renewable Energy (MNRE) in Karnataka approved a Pico hydro systems subsidy scheme through the Karnataka Renewable Energy Development Fund. The subsidy programme required that the beneficiary first installs the system and then claims the subsidy. This process takes six to 12 months from the time the paperwork is filed, to the time that the subsidy is made available. This means that for the farming families, who typically earn less than 3,000 Rupees per month, Pico-hydro systems which cost between Rs 114,000 to 118,000 per system, are out of reach.

Activities

With REEEP funding, S3IDF² provided 20 families, living in locations suitable for Pico-hydro with gap-filling finance and support with the help of Prakuti Hydro Labs, a technology supply company. In this way, the government subsidy could be made available.

Funding was provided under the 7th call. Pico Hydro plants have been installed, which supply individual homes with electricity. The fund S3IDF is working with local partners who are the technology suppliers.

Results

Support from REEEP has enabled a remote village to receive Pico-hydro electricity. This has much improved village life, according to the implementer, however at very high subsidy cost. The impact is not assessed satisfactory as subsidy exceeds an acceptable level.

4.4 Tamil Nadu Municipal EE Program

Project Implementer

The partner is the Alliance to Save Energy (ASE) to pursue EE projects in India to create and demonstrate a replicable financing model for energy efficiency in the municipal sector. ASE, a not for profit US-based organization, has an office in India. Among other work, a large energy efficiency project for municipalities has been funded by the International Finance Corporation. As part of this project, a Manual for the Development of Municipal Energy Efficiency was produced in collaboration with the Bureau of Energy Efficiency and ASE.

The Project

Funding from REEEP was provided for two projects so far, in the sector of municipal EE, with street lighting as emphasis. India's urban population has increased to 28% of total population in recent years. A report on electric power use has found that Public Water Works in India consume more than 12,000 GWh of electricity, and Public Lighting consumes 5,000 GWh per year. By becoming energy efficient, each municipality can reap energy savings of 25 to 40% at a minimum. This translates to at least 4,000 GWh of energy savings that can avoid the need for an additional capacity of 600 MW³. This is significant as it is realistically achievable.

The funding has had an impact at the national as well as at the state level. Tamil Nadu has taken a policy decision to allow municipal energy performance contracts. This allows the private sector

² S3IDF is a US-based non-profit charity

³ Source of information: Alliance to Save Energy

to share risks, but also to participate in EE project benefits. This is considered a great achievement as it sets an example for other states.

Activities

ASE's partner is The Tamil Nadu Urban Infrastructure Development Fund, TNUIDF, Chennai. Initially 45 municipalities were bundled into a package for implementing EE in street lighting. On further scrutiny, this was reduced to 27. These are at various stages of implementation.

The city of Chennai has its own street lighting programme. More than 110,000 existing streetlights are to be converted to LED⁴. The economic sense and short payback time of the planned measures is evident.

Baseline studies show that municipal water pumping has an energy saving potential of at least 30%. However, implementing measures is relatively complex as an entire system needs to be considered rather than only a water pump, in each instance. Components that matter are the status of the pipeline, overall length, and the condition and placement of valves and other items. The ultimate answer to EE in water pumping lies in Variable Frequency Drive (VFD) technology.

Results

On street lighting EE in Chennai, 40% completion is reported. This amounts to 44,000 lights. Projects in other Tamil Nadu municipalities are smaller, but many projects are ongoing and good results are being expected.

4.5 Business model for Reverse Osmosis Water Purification System

Project Implementer

Potable water is one of the most acute problems in developing India. The fringes of large cities become more and more industrialized. Local farming people have shifted from farming to work in factories in these areas. Due to polluting effluents in this industrial belt, ground water has become more contaminated with heavy metals and toxins. Water borne diseases are also rampant due to open sewage systems.

Saurya EnerTech of Gurgaon, a small owner-run private company with a social mission, has come up with a very innovative idea to treat water with reverse osmosis and various filtrations to produce good quality drinking water.

The Project

They have developed prototypes of a water vending machine. REEEP funding is used to install and monitor 5 pilot solar PV operated water stations.

Saurya EnerTech has developed detailed plans for a commercial system based on a solar powered reverse osmosis (RO) water purifier, linked to a chain of small franchised centres that produce clean drinking water and sell it through a vending machine at a price affordable to the target strata. Hardware manufacturers have been identified, and costs are partially subsidized by the Ministry of New and Renewable Energy (MNRE).

Activities

Funding from REEEP helps in the deployment of five machines within easy reach of Saurya's offices in Gurgaon. The organization has found that to stay in the vicinity is essential as it saves fuel when making the rounds between the various locations.

⁴ LED = Light Emitting Diode technology. It is increasingly displacing CFL= Compact Fluorescent Light. LED is several times more efficient than CFL and LED have a longer life. Conversion to LED is found to offer shorter payback periods. For this reason, more recent street-lighting-EE projects are about changing existing systems to LED.

The project is to raise awareness among the people of the importance of clean water, and ultimately make the people buy clean water from its vending machines.

Further, the project is to continue R&D for improved machinery, to test improved prototypes, to continue data collection and analysis for identifying possible glitches, to develop remote monitoring of machine performance, and to expand the model further.

Expected impacts are:

- Reduction in waterborne diseases by as much as 80%
- Reduced occurrence of heavy metal-related sickness by 80 to 90%
- A fully replicable business model tested and ready for up scaling.

Results

It appears that the business model is not yet fully in place. At present, Saurya owns the machines and it has to rent the space for the water vending machine at the location of the house owner, and pay for the water that the machine treats. Also, the number of machines that Saurya EnerTech can own themselves is limited. In view of the plan to turn out 300 machines per year, it is imminent to source loans for financing the machines. One unit at the present costs Rs. 500,000, but a 40% cost reduction is envisaged when production is scaled up.

In addition, as far as experience with product development goes, Saurya EnerTech does not have a long history. The vending machines now in place can at best be termed prototypes. There is little doubt that over time there will need to be many changes in the design.

With regard to the impacts expected, it will not be possible to reach a reduction of water borne disease by 80% for many years, and prove that this is due to the pure water vending machines. The attribution question is critically important and difficult here. Also, a business model for up scaling will require time to develop. As the underserved population in Haryana is large, it may be prudent to stay as close to home as possible. Overall, Saurya EnerTech is to be commended for its continuing efforts.

4.6 Progressive Purchase of Solar Lights

Project Implementer

Simpa Networks is a US-based, venture-backed technology company with a bold mission to make modern energy simple, affordable, and accessible for everyone. Simpa has introduced a product and business model that will make sustainable energy choices “radically affordable” to many of the 1.6 billion base of the Pyramid consumers who currently lack access to electricity. SIMPA operates as SIMPA India Energy Pvt. Ltd. with headquarters in Bangalore.

The Project

Simpa sells distributed energy solutions on a “Progressive Purchase” basis to underserved consumers in emerging markets. Simpa customers make a small initial down payment for a high-quality solar PV system and then pre-pay for the energy service, topping up their systems in small user-defined increments using a mobile phone.

Activities

Funding from REEEP has allowed Simpa to re-engineer its technology and re-work the pricing model successfully. While having initially worked with SELCO, Simpa is now independent and it sources the components for its systems on the open market, including China.

Results

The technology developed is an amazing innovation. It uses mobile phone technology to manage the progressive purchase of the system. Due to its cost it may not address the poorest of the poor. India is so huge that there are dozens of millions of not-so-poor people who lack access to electricity.

The Asian Development Bank has provided USD 2 million equity capital. This gives Simpa a lot of confidence in its further work and market development. The technology is ready for scaling up on a large scale.

It is estimated that the mark-up in price is about 48% when compared with cash-down costs of systems. This is well in line with costs that will result under a micro-finance approach. In view of the fresh capital, the entry into the large market of Uttar Pradesh is promising.

4.7 Fuel Barter Model for Power Generation from Biomass in Rajasthan

Project Implementer

DESL, Development Environenergy Services ltd., a consulting firm in New Delhi is the implementer of the project.

The Project

The purpose is to develop a barter model linking the supply of electricity to farmers who supply a regular quantity of biomass to the power plant throughout the year, creating a win-win-situation for the farmer, the project developer and the utility, piloted around a proposed 8MW biomass plant in Rajasthan.

However, further investigation revealed that the demand for biomass fuel was increasing at that time. This led to increasing prices for agricultural waste and the unwillingness of farmers to barter fuel rather than sell it on a competitive market. No barter model could be developed that would bring about a solution in the prevailing situation. In fact, it was reported that other existing biomass generation facilities were closing down, as fuel costs became unaffordable.

Activities

Some of the advantages highlighted are as follows:

- 24 hours assured power supply to farmers, improved yield of existing crops due to longer operation of electricity-driven pumps,
- Growing two or more crops in a year and increase in the overall crop production. Higher production would improve the availability of biomass in the region and improve earnings of the farmers.
- With the free power supply, there would be opportunities for small industrial units in the area such as flourmills, slab cutting, garage, etc.
- The employment opportunities generated by this model would lead to overall socio-economic development of the farmers and the village area. It was expected that farmers would benefit of both increased farm produce and power in exchange for biomass.

Results

The background study of the prevailing fuel situation was weak and erroneous. Ultimately, at that time, biomass power operators became squeezed between what they had to pay for fuel and how much they were paid for the product – electricity – supplied to the local utility.

Seasoned proposal assessment experts would perhaps have been able to uncover the overwhelming weaknesses, and would not have supported the project for approval. Apparently,

not all the installments of the REEEP grant have been paid out. The review suggests that the project should be closed and funds be used elsewhere.

4.8 Energy Efficiency Improvement in Coimbatore Metal-casting Cluster

Project Implementer

TERI is the implementing partner. It is professional and highly reputed. It is itself a developer of technology, and in the energy efficiency area, its development of the Divided Blast Cupola (DBC) furnace is a groundbreaking technology. Deployment across India's vast foundry industry⁵ can make a difference of many hundred MW in saved energy. Based on this technology, the EE project in the metal casting industry in Coimbatore is impressively successful.

The Project

According to AQUASUB ENGINEERING, Coimbatore, there are an estimated 400 foundries in the area of Coimbatore, the second largest city in the state of Tamil Nadu in South India. AQUASUB ENGINEERING is an exemplary firm of these. It has installed two TERI-type Cupola furnaces, and a third one is under construction. Replication is taking place without further REEEP funding across this South Indian foundry cluster.

Metal casting is an energy-intensive industry, and in India, iron production is often clustered in groups of small and medium-sized enterprises (MSMEs).

A previous REEEP-funded project in the Coimbatore District in the state of Tamil Nadu in southern India looked at a cluster of more than 600 small-scale grey iron metal foundries, which consume 180,000 tons of coke and 600 million kWh of electricity a year.

This project developed and installed 8 energy efficient demonstration furnaces (against 3 targeted) and trained around 100 entrepreneurs and shop floor supervisors in their operation. A total of 5 firms in the cluster have now installed the improved furnaces. The Coimbatore experience shows that a minimum of 25% energy savings is possible in the sector. According to information received, the number of firms with improved furnaces is now 10.

Main Activities

- Establish and train four local nodes for advisory and technical back-up support; hold four state-level policy forums
- For each of the identified clusters, produce a status report and a policy framework that is conducive to improved efficiency
- Develop models for financing the capital costs
- Install a total of 12 new metal-casting demonstration units; three in each state
- Train local metal-casting firms in best operating practices; create customized design details and technical drawings for each cluster

Results

Increased awareness of energy efficient solutions in the metal-casting sector, with a substantial increase in the number of high-efficiency furnace units over the original project.

Improved quality in metal-cast products and in the working environment producing them.

Strengthened local supply side delivery systems and an increasing demand for the technology.

⁵ India is the World's largest producer of cast iron: Annual production stands at 6.8 million metric tons per annum.

Reduced energy consumption of 5,800 MWh annually, if measures are adopted in all clusters. So far, actual measurements did not take place.

CO₂ emissions cut by 1.5 million metric tons equivalent, assuming energy efficient melting units adopted in all demonstration locations.

The project was implemented in the period 2011 to 2013 in the Coimbatore cluster of cast iron foundries. The project is assessed as highly satisfactory on relevance, sustainability and impact, and satisfactory on effectiveness and efficiency.

SARAVANA ENGINEERING, Coimbatore, is a family Micro and Small and Medium Enterprise (MSME) specializing in environmental technology, among other products producing TERI Cupola furnaces. They have supplied AQUASUB with the Cupola furnaces that the company operates.

Future prospects for the company are good. The state government implements and enforces environmental regulations increasingly, among them on energy efficiency.

4.9 Desk Study: Roadmap to meet 30% Renewable Energy Share in China by 2030

Project Implementer

This study was carried out by the Centre for Renewable Energy Development (CRED). CRED is a unit under the Energy Research Institute of the government in Beijing. REEEP funding was provided under the 7th call.

The Project

The purpose was to produce a reference document that will guide the government in its efforts to further the use of renewable energy in the overall energy mix. The study built on previous work that contributed to setting renewable energy government targets for 2020.

Activities

The following activities were:

- Analyze the significance for high penetration RE in the national energy mix
- Examine the resource potential for various RE technologies to determine if the natural resource endowment would allow large scale RE development
- Depict China's RE roadmap by describing the RE supply curves under the perspective of cost competitiveness
- Determine the appropriate RE targets considering resource availability and cost, and summarize the challenges to realize the targets
- Recommend strategic RE targets, key projects deployment and policy instrument.

The expected impact was formulated to serve the government to understand clearly the future RE picture, and aim at influencing the government in the formulation of the 2015 target. In terms of market development impact, the expectation was that once the programme up to 2030 was on the way, the RE market would expand greatly, and the 30% target would be reached.

Results

After overcoming initial communication problems, study progress was satisfactory. The project was completed by July 2010. The implementer concluded that the 30% target was going to be possible. But this Review Team do not share this positive conclusion. The reason for this is best made clear with a brief quote from the study report:

Quote:

"...China will develop clean coal-fired electric power by setting up large coal-fired power bases and encouraging the building of power plants at pitheads, with emphasis on large, highly efficient, environment friendly power generating sets and cogeneration of heat and power." (Page 6)
Conclusion: The problem is that in the view of the review team there is no such thing as clean coal power that is highly efficient and environment friendly. As regards the conduct of the study, it has been performed satisfactorily across all the other criteria.

5 Review of Projects in South Africa

5.1 Solar Water Heating Mass Rollout

Project implementer

The NGO "Sustainable Energy Africa" (SEA).

The Project

A study done by the government in 2007 showed that energy for water heating is the largest source of households energy use at 35%, followed by lighting at 21%. The National Energy Regulator of South Africa (NERSA) allocated funds, to cover programme development, marketing and funding the incentives to consumers to pay rebates for five years, after this period the programme was to be reviewed.

In view of this, two REEEP projects have addressed the issue of the scope of energy efficiency by helping to facilitate the uptake of Solar Water Heating (SWH) in major cities. The first was entitled "Developing a vehicle for solar water heating mass implementation in South Africa".

A follow-up project in the 7th REEEP funding round continues supporting Cape Town and Ekurhuleni Municipality on capacity building and moving their own SWH bylaw process forward. The project was working in a conducive economic context of government subsidies. Options for the main funding are further being established with the Development Bank of South Africa's Energy Market Transformation Unit.

Activities

The first project sought to establish sustainable delivery vehicles, in the form of either ESCOs or city-owned SWH utilities, in three leading South African cities. Its second aim was to establish and widen a manual and website for local authorities, outlining the renewable and energy efficiency options that are available to South African cities. In Cape Town, the REEEP project supported the SWH bylaw process by helping city staff make their case with the city's legal department. This involved assistance in developing national and municipal legislation, a financial model for subsidies, and sound business models and additional government support.

Results

The attention given to renewable energy at the UNCCC COP 17th meeting in Durban, and the ensuing activities of governmental and non-governmental organizations, hereunder "Sustainable Energy Africa" (SEA), gave a large boost especially to SWH. Government subsidies played an important part in this. It is difficult to assess the role of SEA and REEEP separately, although it

certainly made a useful contribution. The overall benefits in the country include a reduction in peak electricity loads, which had previously led to frequent outages of the distribution networks. The number of jobs created through a thriving SWH manufacturing and installation industry is also significant.

South Africa's Department of Energy (DoE) stated in April 2014 that the country's effort to introduce a new procurement model for the national solar water heating (SWH) program is at an advanced stage, and that the government for that reason had decided to stop the subsidization of imported SWH systems. The government was in favor of local manufacturing to increase job creation, industrialization and the socio-economic impact of the program. It is possible that the solar water initiative has developed to a level whereby it will take off on its own. However, considerable price increases may slow down the spreading of solar water heaters, especially outside the two main urban areas.

5.2 Powering Water Supply in the eThekweni region (Durban)

The Implementer

The eThekweni (Durban) City Council

The Project

The project sought to identify tangible and profitable opportunities to install mini hydro-power generation (e.g. 100kW to 1MW) on existing water supply infrastructure in South Africa, using the City Council as a model. The eThekweni Council has progressed the development of two mini hydro schemes on existing infrastructure (to tender stage). One was funded by REEEP, and is to be complete by mid-2014. The project aimed to provide an example for roll-out to other regional water managers across the country.

Activities

Firstly, the project made assessments of the potential to generate electricity on existing water infrastructure assets, taking into consideration load centers, power generation potential, sustainability issues, network issues, technical and construction issues, and cost-benefit analyses. Secondly, it identified sites where containerized mini-hydro technology could be deployed, and gave training and support to Durban City Council (eThekweni) staff and/or its partners on assessment of technical and commercial aspects and various risks.

Results

The expected result was that the funding would enable eThekweni to establish other opportunities to a point where it would attract other developers and investors to cooperate in taking them forward (concept level). It would also allow the sharing of a process/framework for other council areas, including rural areas of northern Kwa Zulu Natal, which are supported by eThekweni, and where water and power are limited. It is anticipated that some standard approaches and designs can be developed which would further support wider implementation.

Even if the current project was not a success, it has provided an example of determining factors. Both incomes and costs are different for every case, and it is impossible to give an accurate figure without knowing the specifics of the site. It seems that eThekweni will be unable to fund the

development of other opportunities that exist within this power segment. However, it should also be mentioned that worldwide attempts at popularizing containerized hydro systems have generally not been very successful.

5.3 Municipal Energy Efficiency and DSM Programme

Implementer

The NGO “Sustainable Energy Africa”.

Project

For a number of years REEEP has supported the national-led pilot program for energy efficiency demand-side management (EEDSM), which was initially run by Sustainable Energy Africa. This has contributed to build capacity for the implementation of energy efficiency and demand side management at the municipal level. The support has included building viable business plans, providing stakeholders with technical information and decision-making tools and enhancing data verification.

Activities

In the run-up to COP17, 2011 in Cape Town, the project co-funded a capacity and training event, which brought South African city officials together, and forming a city network meeting on EE. The project also supported the South Africa Local Government Association (SALGA) in running a two day, municipal energy efficiency strategic planning training event, which was an important opportunity to 'test' the energy efficiency assessment and planning tools developed by the project implementers; Sustainable Energy Africa (SEA) with Consulting Engineers South Africa (CESU).

Result

A report on EE in the country, supported by REEEP, and presented to the National Treasury in August 2011, was a contributing factor to the government’s decision to extend the EEDSM program to technologies beyond street lighting.

The national EEDSM program has broadened from its primary focus on very energy efficient alternative street lighting, to include a wider range of efficiency technologies relevant to the public sector. Funding will also allow South African municipalities to provide EE training for building managers on how to mainstream energy efficiency into standard facilities management. South Africa is one of the pioneering countries to have set up a transparent and systematic mechanism for mainstreaming EE.

Also with support from REEEP the Ekurhuleni Metropolitan Municipality joined a network of cities committed towards driving renewable energy and energy efficiency actions by officially launching the project “Local Renewables: South-South cooperation between cities in India, Indonesia and South Africa”.

6 Portfolio Review of REEEP Projects from 8th and 9th Calls.

6.1 Running the Calls for Proposals

The review has focused on the 8th and 9th call, as required in the TOR for the review. In summary, the 8th call was designed to cover up to 27 projects with an average grant of Euro 150,000 per project. The focus was on China, Brazil, India, Indonesia and South Africa with an allocation of 14 projects and 3 projects for sub-Saharan Africa. Also listed were 5 projects with replication potential, 7 Projects for governments or Development Finance Institutions (DFIs), as well as one commissioned project on wind energy in South Africa. The table below shows actual projects against the plan of the call.

Table 4: Planned Projects against Actually granted Projects in 8th Call

Type of project	No. Planned In 8th call	Total grant	Actual 8th call	Total grant
- Replication and scale-up projects	5	750,000	4	599,983
- Projects with governments/DFIs	7	1,050,000	6	697,141
- Commissioned project on Wind Energy in South Africa	1	150,000	----	----
- Projects in rapidly emerging economies of Brazil, China, India, and South Africa, + replication	14	2,100,000	13	1,838,314
- Indonesia	1		1	149,986
- Projects in sub-Saharan Africa	3	450,000	2	300,000
Totals	30	4,500,000	26	3,585,424

Source: REEEP 8th call and list of projects of 8th call

Fewer grants have been awarded than planned, amounting to almost one million less in funding than intended⁶. There are fewer projects on replication and scale-up than intended, and the interest of governments is decreasing against the expectations. Also, a project on wind energy in South Africa that REEEP wished to commission did not materialize, as there was no one picking it up. The lack of this latter project is very unfortunate. South Africa has the industrial base to go for developing its own wind energy industry, and it is of concern that there was no organization showing an interest in the study. This shows a disadvantage of the call system. Once the call is out, REEEP does not have an influence on the projects under that respective call. It has to take all or less of what it gets. In terms of rating, the relevance of the actual projects is not as satisfactory as expected, and expected impact is also not as satisfactory, since approved projects have different features from those expected.

Similarly, in its 9th call the plan was to approve a total of 28 projects, funded with on average Euro 150,000 in the following categories:

⁶ In reaction to the draft report, REEEP has informed that it was decided in the steering committee meeting on 8th call projects to reserve approx. EUR one million, to ensure the replenishment of the 9th call. This was a donor decision. It was said to have had no bearing on the interest in the market or availability of good projects. The review had not been informed of this decision.

i) three replication or scale-up projects, ii) three projects from Governments or financial institutions, iii) 17 projects from rapidly emerging economies in China, Brazil, India, Ghana, Indonesia and South Africa, Colombia, Peru and Vietnam, and iv) another five projects from other priority countries: Bangladesh, Lao, Bolivia, Nicaragua, Nepal, Ethiopia, Liberia and Kenya.

In a nutshell, REEEP was looking for projects in the 9th call that have the following desired characteristics:

- Measurable outcomes
- Needs-driven approach,
- Stakeholder identification
- Clear plan for scale-up and replication (in-built)
- Projects that cover one of the regional priorities and
- Thematic priorities to scale-up successful business models for clean Energy
- Support to decentralized and/or off-grid generation,
- Harness the benefits of clean energy in food production
- Employ clean energy in providing reliable water supply
- Communication of learnings and opening up energy data and information.

The following table summarizes this call and compares it with actual projects granted.

Table 5: Planned projects in the 9th Call, against actually awarded projects

Type of project	No planned 9th call	Total grant	Actual 9th call	Total grant (Euro)
Replication and scale-up projects	3	450,000	1	150,000
Projects with governments/DFIs	3	450,000	2	300,000
Projects in rapidly emerging economies of Brazil, China, India, Colombia, Vietnam and South Africa	17	2,550,000	12	1,741,186
Other priority countries	5	750,000	13	1,764,076
Totals	28	4,200,000	28	3,955,262

Source: REEEP 9th call and list of projects of 9th call

The result is that the full number of projects has been awarded. However, the geographical spread of proposals received has been very different from the expectation. Earmarked funding has been undercut by just about 10%. The number of replication projects is further reduced and so is the number of government-sponsored projects. The number of projects in priority countries was drastically reduced, but many secondary countries have had the opportunity to participate. The number of projects in these countries is more than double higher than called for. With regard to the desirable characteristics of projects, only one is really on replication of a proven business model (SELCO). Most projects are more of a piloting and experimental nature. Hence, measurable outcomes is rather far fetched as a concept. Rated against the call's expectations, both relevance and impact of the actual projects is not satisfactory. The exceptions are the various large-scale solar PV activities and energy efficiency in the municipal and industrial sector. These do have measurable impacts, but, as far as the team knows, no effort has been made so far to measure.

Nevertheless, in twelve years of operation, REEEP has built up an excellent reputation. It has established itself as a reliable partner. It is remarkably often acknowledged as a catalyst and reducer of risk. This enables project implementers to undertake projects otherwise not possible for lack of financial flexibility.

6.2 Assessment of 8th and 9th call projects

The review team has looked at roughly 600 documents that represent the accumulated documentation on the projects in the 8th and 9th call. Time and resource constraints did not permit us to carry out a full analysis of all documents. We have decided to limit the assessment to the following:

- For each project, we have looked at the Project Reference document that contains the project proposal information. As all projects are on RE or EE, we disregarded any other objectives that projects may have had, and simply looked for results in terms of energy produced and energy saved.
- We consulted the contract of the implementer to determine for what time period the project was concluded, and also what funding leverage⁷ was applied for.
- Finally, we looked for results reported in the progress reports. At the same time, we checked for any delays in implementation.

The result of this study is done in tabular form as annex D to this report.

7 Review by DAC criteria

The TOR for the review require the team to use the international DAC criteria. The following is defined and specified for each criteria:

7.1 Relevance

The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor:

- *To what extent are the objectives of the programme still valid?*
- *Are the activities and outputs of the programme consistent with the overall goal and the attainment of its objectives?*
- *Are the activities and outputs of the programme consistent with the intended impacts and effects?*
- *Did the selected projects meet REEEP Project Call objectives?*

Overall discussion

In summary, the review rates meeting call objectives as satisfactory, with the exceptions outlined in the following.

The objectives of REEEP are to contribute to a) global increase of investments in renewable energy, b) global increase of investments in energy efficiency, and c) increase in rural energy. The selected projects meet the overall objectives. On the 9th call REEEP stated that it was especially seeking proposals from “rapidly emerging economies”, since they hold the largest potential for reduction of emissions. An insufficient number of viable proposals from these countries were filed, which constituted a minor mismatch between the call objectives and the characteristics of the desired applications.

⁷ Leverage is the ratio of other funding than REEEP to the project; a leverage of 1 indicates that other funding is as much as that provided by REEEP

On the 8th call for proposals, a number of international agents and global donors such as UNDP were accepted as beneficiaries⁸. The UNDP project in question has not provided a single report, it appears. Another project, with CTI PFAN on scale-up of projects in Uganda and Mozambique, also of the 8th call, and completed in July 2013, provided only two reports. In both cases, this sheds doubt on the respective implementing partners. In addition, a number of consultants residing in OECD countries became beneficiaries to carry out policy-related studies on specific developing countries, at the same time as there were very few applications from public energy and related units in the beneficiary countries. The team does not doubt the competence of the international consultants and researchers. The concern is whether REEEP, in addition to its information and learning role, also should develop a more active capacity building role for developing countries. The team poses the question whether REEEP is working systematically enough upfront to encourage the public and private sectors in developing countries to be more active to submit proposals. It seems to the team that it is important to have an early recipient country buy-in into research/consultancies aiming at renewal of policies and regulatory issues. Once an international call has been made, REEEP has diminishing opportunities to shape the portfolio.

All objectives of the programme are still valid. The activities and outputs of the programme are fully consistent with the overall goal and the attainment of its objectives. The selected projects met the call objectives to a large extent, but there are exceptions to this for the following reasons:

1. First of all, once a call is published, it is not any longer in the hands of REEEP what proposals it will receive under the specific call. It will fully depend on the proposers. For example, REEEP has stipulated what are to be the priority countries considered under a call, but it may not get a sufficient number of viable proposals from those countries. This has happened in the 9th call, where the number of viable projects from the main target countries (rapidly emerging economies) has not been achieved⁹. Instead, a considerably larger number of three times the target was in second rung countries. This was simply due to the fact that many more proposals were received from countries at the margin of the geographical interest stipulated.
2. Another area where a certain mismatch of the call objectives was experienced, this time in the 9th call, is with regard to the type of invited proponents, and the characteristics of the desired projects.

Governments and local Financial Institutions tend not any longer to submit proposals to REEEP for modest finance grants and small projects. The non-availability of finance for renewable energy appears to be a disappearing barrier for the implementation of large projects.

The review finds that many countries have made available funds for the development of renewable energy, for example, Brazil, Mexico, Vietnam, South Africa and India. Funding is often assigned to mega projects by the respective governments. India is a case in point. The government in January 2010 launched the Jawaharlal Nehru National Solar Mission. It aims at implementing 20,000 MW of grid connected solar PV by the year of 2022.

⁸ The UNDP project aimed at updating of some technology description, which had been prepared by the Risø National Laboratory, Denmark. A direct payment (with no co-funding) to an institution, which Norway is supporting under its multilateral program, seems peripheral to REEEP's objective in the view of the team.

⁹ According to information provided by REEEP in reaction to the draft report, the reason for a small number of projects from emerging economies is donor preference which reverted to middle income and LDCs, away from emerging economies. The information received indicates that there is continued interest from emerging economies.

Funding is made available through budgetary allocations and taxes on non-renewable energy, for example with a levy on the use of coal of INR 50 per ton. At an annual production level of more than 500 million tons of coal, this fund accumulates large amounts of money. It is expected that funding will go to the larger projects that are needed to achieve the government mission goal, and not to the small scale, poverty-oriented endeavors typical for REEEP.

3. The mismatch with call objectives is not dramatic. In a broad sense, the activities and outputs of the programme are consistent with the overall goal and the attainment of the objectives.
4. Typically, it is not possible to predict measurable outcomes of projects in any meaningful manner at the outset. Projects of the 8th and 9th call are too recent for measuring impacts, but intended outcomes may be expected.
5. A sustainability plan is often not discernible in the projects approved, because of their piloting nature. At this stage, proponents themselves are not always clear about what it means to achieve sustainability. More immediate issues are often in focus.

7.2 Effectiveness

A measure of the extent to which an aid activity attains its objectives in evaluating the effectiveness of a programme or a project:

- *To what extent were the objectives achieved/are likely to be achieved?*
- *What are the major factors influencing the achievement or non-achievement of the objectives?*
- *Assessment of REEEP administration, management and overhead cost level. How is the overhead composed and whether it is on a reasonable level compared to similar organizations?*
- *Reporting and financial procedures.*

Effectiveness is the measure to what extent the REEEP projects have reached or are likely to reach their objectives. This criterion is project-specific, usually representing one inputs, factor or facility that have to be in place, together with many others, for a country to move forward to save or produce green energy. The contents of the projects are frequently user manuals, standards, carbon trading systems, new “clean energy” companies, etc. However, due to the short duration of projects, most serve only an “intermediate” step in the clean energy context. For a country to move forward takes simultaneous efforts at many levels, which cannot be facilitated by the REEEP’s mode of operation alone, unless complementary activities are assured. For this reason, it is very important that REEEP activities are connected to institutions like the international development banks, the UN System or CTI PFAN that are supposed to have a broader and longer term approach.

At the moment, the team does not find that most projects have that broader or longer-term anchorage. Revisiting earlier projects and expanding on those may well be a suitable way forward. Also it is especially the reason why the linkages to CTI PFAN are relevant.

The reasons for success or failure are straightforward. All REEEP projects have the purpose to produce renewable energy or to save energy by implementing efficiency improvement measures. Hence, in the case of successful projects, the project itself is the success factor. On the other hand, the factor for non-achievement of objectives is possible project failure, or a radical change in the local situation related to the project subject. The fuel barter model for biomass power generation in India is such a case. The implementer has encountered a very complex situation with regard to

coping with existing fuel traders and administrative issues with the utility. It appears the project was not well prepared and the implementer was not familiar with the local situation. At the time of project implementation, the biomass-based power generation in the region collapsed due to demand for biomass fuel outgrowing its availability, which led to a drastic increase of the market price for fuel. This in turn made farmers lose interest in bartering fuel for power. In addition, in the area in question, power supply is affected by load shedding. Any attempt at getting power for a longer time span during the day against the supply of fuel was doomed from the beginning due to the complexity of doing this for the fuel suppliers only. Hence, with many complications, the project did not make any progress and came to a virtual standstill.

REEEP administration and management

Administration is extraordinarily lean. The overhead level stands at approximately 11 to 13%. The overhead is used to pay all operating costs of the international secretariat and the regional secretariats. For special tasks, for example to develop and maintain Reegle, REEEP was able to obtain funding from the German government (BMU and GIZ), from the UK (DECC and CDKN), as well as from Austria and the Netherlands.

A comparison with other implementers is difficult as there do not seem to be comparable projects. It is quite certain however, that effectiveness is generally better than with implementation through the UN system.

One element that makes administration efficient is the fact that there is only one document (the contract) to regulate each project.

Project monitoring is efficient because the same system (the PMIS) handles project documents, progress reports and budget tracking on a quarterly basis. One feature is automatic computation of the quarterly billing amount per project, once all cost data have been entered and checked. At the same time, intensifying follow up on reporting discipline is still necessary.

Financial procedures in REEEP appear to be in good order, with no reservation whatsoever from the side of periodical external audits.

7.3 Efficiency

Efficiency measures the outputs –qualitative and quantitative – in relation to the inputs. It is an economic term, which signifies that the aid uses the least costly resources possible in order to achieve the desired results. This generally requires comparing alternative approaches to achieving the same outputs, to see whether the most efficient process has been adopted.

- *Were activities cost efficient?*
- *Is the achievement of the objectives on time/completed?*
- *Was the programme or project implemented in the most efficient way compared to alternatives?*
- *Assessment of REEEP's catalyzing ability and capital multiplier effects*
- *Assessment of REEEP's ability to cooperate and attract funding from potential donors and cooperation partners*
- *Assess the strengths and weaknesses of the programme both on REEEP's capacity building programmes on policy and regulations, and on the development of business and financial models.*

The efficiency factor can be measured in several ways:

The project call mechanism of REEEP is functioning efficiently, firstly in the sense that there is partly hard competition for limited resources. Each applicant must generally strive to economize with resources, in which case REEEP pays less for results.

Secondly, the administration is extraordinarily lean, which also reflects high administrative efficiency in project management, as well as the knowledge management system Reegle. The administration has not been able to access funds from many donors in recent years. In addition to public Swiss and Norwegian funds (at the moment), REEEP is finding some additional resources for special tasks, like the German governments support to develop and maintain Reegle. REEEP is stretching its dollars further due to its high level of cooperation with regional, national, municipal, research, publication and other networks.

The overhead level stands at approximately 11 to 13% and goes towards paying all operating costs of the international secretariat and the regional secretariats. This proportion is at the lower end of the range of overheads in INGOS. However, the mode of operations in organizations varies, and it may be that the preparatory services before each call rendered by REEEP is lower than what would be optimal. This refers to the question whether REEEP is doing enough in terms of supporting local capacity building of implementers.

The time used to implement the grants is longer than envisaged for a third of the applicants. This does not necessarily reflect inefficiency. It might be that the applicants are overly optimistic with regard to project implementation in developing countries. The review finds this is a case for REEEP to rise with some of the implementers, especially when they lack experience.

The leveraging or multiplication factor is reported to be nearly 1:2, with a total disbursement since start of EURO 18.4 million for more than 180 projects in 58 countries, and the leveraging of another EURO 35.1 million.

REEEP has considerable catalyzing ability. An illustration of this is found in energy efficiency activities in the municipal sector, as well as in the metal casting industry in India. Authorities in several states have taken up the issues, and are making progress, including local financing solutions. It is possible for REEEP to raise funding from other sources quite successfully. One such recent success is the mandate to run the CDKN Climate Knowledge Brokers Group coordination hub. This has been won on REEEP's merits as an effective organization.

The TOR question, whether the same result could possibly be achieved at lower cost, is hypothetical. It would require a comparable project to provide an answer. However, at a more general level, the review finds lower overhead in REEEP than in UN organizations, for example.

There is no direct answer to questions relating to REEEP's capacity building programme on policy regulation. REEEP does not have such programmes, unless this is one of the projects that has been selected and funded. Projects of that nature can be mentioned: The introduction of standards for LED lights in Ghana. These were elaborated with REEEP funding under the 8th call, and ultimately published. Another instance is the successful establishment of a Carbon Registry in China, also funded under the 8th call.

7.4 Impact

The positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, environmental and other development indicators. The examination should be concerned with both intended and unintended results and must also include the positive and negative impact of external factors, such as changes in terms of trade and financial conditions.

- *What has happened as a result of the programme or project?*
- *What real difference has the activity made to the beneficiaries?*
- *How many people have been affected?*

- *Added value of REEEP for partner countries and for implementing partner's ability to implement and scale up projects?*
- *Assess REEEP's approach on Data and Knowledge Management, including its emphasis on Linked Open Data*
- *Assessment of the search engine REEGLE and comparative evaluation vis-à-vis similar search engines. Value for donors and partner countries and "universally".*
- *How is REEEP's contribution to the realization under the overarching goals established by the Sustainable Energy for All (SE4A) initiative?*
- *Evaluation of past and future profile opportunities for donors*

As a donor that has operated in 58 countries and with a disbursement portfolio of EURO 4 million (9th call), its relative impact is high due to a number of factors. Firstly, its priority countries are the rapidly emerging economies of Brazil, China, India, Vietnam and South Africa, to which over 60 per cent of the funds were allocated last year. The team finds that the country profile of cooperating countries is logical, given its special objectives of policy development and demonstration projects. The capacities for innovation are the highest in these developing countries. Subsequently the insights gained could be spread to the rest of the developing world. REEEP is also concerned with this perspective by expanding the number of regional secretariats. Unfortunately, the groups of countries with emerging economies were less represented during the 9th call than planned for.

The review team has been able to record a number of cases of strategic impact in India, and to a lesser extent in South Africa. The main effects are expected to be achieved through:

- New policies and regulation for energy price, uses, standards, user manuals, carbon trading systems, new "clean energy" companies, etc.
- Demonstration of economic feasibility within:
 - Energy efficiency in public and private uses - lighting, sewage treatment, industrial processes (foundries, furnaces);
 - Renewable energy technologies: solar PV, solar water heating, mini-hydro, biogas, biomass, pedal-powered batteries;
 - Water purification and other health measures;
 - Innovative organizational models: cooperatives, user associations, self-help groups, combined use of discounts, subsidies and aid to buy down prices of EE and RE;
 - Roadmap to progress towards 2030 (in China).

The number of persons directly affected by REEEP in the first round could be a few thousand. The main effects however are expected down the road through new policies and replication projects. Municipal energy efficiency is one of those measures. Ultimate benefit that can realistically be expected is avoidance of one generating facility of 600 MW in the case of India. Metal-casting EE in India will save 5,800 MWh of energy annually, when the full potential of the sector is harnessed. Avoidance of CO₂ will be well in excess of one million metric tons once all demonstration clusters are fully developed in terms of energy efficiency.

REEEP has (through REEGLE) a unique tool for providing overviews of energy policies and regulation in about 160 countries, which is more readily available, user-friendly and comprehensive than the search engines of the major development agencies. It is reported that as of March 2012 the website attracted an average of 220,000 users per month. This has a unique potential value for donors and partners.

The purpose and attention is in harmony with the overarching goals established by the SE4A initiative. Since the organization is small it has focused its attention especially on selected aspects,

which support the breakthrough of new policies, technologies and modes of operation. Until now, REEEP has not used much its resources for monitoring and evaluation. This will be specially emphasized in its proposed cooperation with CTI PFAN.

7.5 Sustainability

Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable:

- *To what extent is it likely that the benefits of a programme or project continue after donor funding is ceased?*
- *What were the major factors, which influenced the achievement or non-achievement of sustainability of the programme or project?*

REEEP engagements are small and of a short-term nature, due to the limited size of the projects (limit of EUR 150.000). A sustainability plan is often not discernible in the projects approved. This has the inherent danger that the results of its current initiatives could fall down by the roadside, unless they are well integrated into other longer-term efforts of partner countries and larger agencies.

However, REEEP is determined to strengthening its regional institutions, which is especially addressing longer-term sustainability. The proposed cooperation with CTI PFAN in the new phased finance facility would secure follow up with investments and a long-term perspective on viability for one part of the portfolio.

In general, the projects undertaken involve some investment. If the project has been successfully implemented, the further functioning of the investment is as a rule not in question. From its India portfolio there are many examples of REEEP partnering with national institutions, which have long-term interests at stake. As an example, the TERI Cupola furnaces installed at AQUASUB Engineering company, will continue to function for years after completion of the project. In this case, sustainability is assured. Small hydro in water supply systems, once installed, will function for many years beyond the project duration.

In other projects, sustainability may be a different issue. For example, in the case of solar light users, the day will come when batteries need to be replaced. Whether the poor users have the money to buy new batteries is perhaps an open question. Where the user is a customer of SELCO, one may be confident that the company will help and work out a solution. With other suppliers it may be different and there is a possibility that the solar PV system may be abandoned, thereby becoming unsustainable.

8 Conclusions

8.1 Project call system

It identifies its projects through an open call for proposals system, which has mostly taken place annually since 2002. Till now 185 projects have been approved from 58 countries. There were 53 projects in the 8th and 9th call during the last two years. On the 9th call REEEP stated that it was especially seeking proposals from “rapidly emerging economies”, since they hold the largest potential for reduction of emissions. The number was a bit short. Furthermore, not all the projects had the characteristics of the highest priority. During the last couple of years there were few proposals from the public sector in developing countries, while a relatively high number of researchers/consultants residing in OECD countries became beneficiaries to carry out policy-

related studies on specific developing countries. The team poses the question whether REEEP is working systematically enough upfront to secure the desired profile of the proposals. There are fewer opportunities to shape the portfolio once an international call has been made.

8.2 Project quality

The review team reviewed altogether 11 ongoing or recently completed projects in India and South Africa. The projects reviewed did not constitute a representative sample, since the team was not in a position to fully decide on the project sample and prepare project visits. Of the 11 projects 2 were rated Highly Satisfactory, 8 Satisfactory and 1 Unsatisfactory.

The team found the relevance of the projects to be high. The team sees REEEP as an important catalyst and risk-taker in small-scale ventures outside the mainstream, which has a potentially high impact in the context of SE4A.

The team found the majority of the REEEP projects to have reached their internal objectives. However, due to the projects' short duration most of them serve only an "intermediate" purpose in the clean energy context. Countries will not reap the full benefits of REEEP projects, unless complementary activities on a wide front are assured. For this reason, it is very important that REEEP activities are well connected to related longer-term efforts of the cooperating country, major bilateral and multilateral donors or an institution like CTI PFAN, which have the potential to provide links. The links are present in all cases. REEEP projects were found to be efficient in most cases.

- This is firstly because the proponents have to economize with funds, due to the tough competition.
- Secondly, the administration has a high administrative efficiency in project management, as well as an efficient management system, PMIS. Its overhead level on the total funds stands at approximately 11 to 13%.
- A third factor is the leveraging or multiplication factor, which is reported to be nearly 1:2. REEEP focuses especially on emerging economies like Brazil, China, India, Vietnam and South Africa, which have the highest potential for reducing CO₂ emissions, and capacities for innovation.

In summary, REEEP is performing well, and results at the level of meeting call objectives, of selected projects, and overall, are shown in Table 6.

Table 6: Summarized REEEP performance rating

Project/Review aspect	Relevance	Effectiveness	Efficiency	Impact	Sustainability
India Projects					
Women-led cooperatives, Bihar	HS	HS	HS	HS	HS
RO water purification, Haryana	S	S	S	S	S
Simpa, Progressive solar purchase	S	S	S	S	S
Fuel Barter Model	U	U	U	U	U
Karnataka Clean Energy Supply	S	S	S	U	S
EE in Street lighting	HS	S	S	HS	S
EE in metal casting industry	HS	S	S	HS	HS
Africa projects					
Powering Water Supply in eThekweni	S	S	S	S	U
Municipal Energy Efficiency and DSM	S	S	S	S	S
Solar Water Heating Mass Rollout	S	S	S	S	S
DESK STUDIES					
Study on 30% RE for China by 2030	S	S	S	S	S
OVERALL REEEP PERFORMANCE	S	S	S	S	S
Key to rating HS Highly satisfactory S Satisfactory U Unsatisfactory HU Highly unsatisfactory					

9 ASSESSMENT OF THE REEEP-CTI-PFAN APPROACH

9.1 CTI PFAN

The CTI PFAN reads in full the Clean Technology Initiative's (CTI) Private Financing Advisory Network (PFAN). The CTI lies under the International Energy Agency. 23 IEA/OECD Member Countries and the European Commission established it at the first Conference of the Parties to the UNFCCC in 1995.

CTI PFAN is an alliance of private-sector companies that are experienced in providing investment and financial advisory services to climate-friendly projects. Network members include specialist investment funds, institutional investors, and financial advisors. The network provides a variety of services to clean energy businesses to help them secure financial closure. There is no direct cost to the project developer for the initial stage of mentoring. It reports both to the CTI Executive Committee and various bodies of the UNFCCC on a regular basis. CTI PFAN follows the triple bottom line goal/approach. It cooperates with private companies, individuals, NGOs, local public authorities and agencies.

It has mostly addressed the areas of renewable energy technologies within biogas, biomass, and waste to energy, clean transport, wind, and solar, small hydro and energy efficient measures. Furthermore, it recently extended the range of eligible projects to mobilizing investment for adaptation to climate change projects, including agri-business, water and sanitation, tourism, urban adaptation, forestry and eco-systems, and other efforts for adaptation to climate change. The adaptation stream activity is now being scaled-up and mainstreamed due to a significant injection of funding from IDRC of Canada, which came into effect from 01.03.14.

9.2 Comparisons, UN's Sustainable Energy for All and REEEP-CTI-PFAN

The UN Secretary General launched the Sustainable Energy for All Initiative in 2011. It is an implementing initiative, which works with governments in developing countries to employ a unique strategy to scale up renewable energy and energy efficiency, based on similar approaches as REEEP and CTI-PFAN.

The Norwegian contribution to SE4All is the Energy+ initiative. Both focuses on leveraging financial investments, applying a sector wide approach and payments based on achieved results, with the following key aspects:

- **Leveraging Commercial Investment:** Just like REEEP - CTI PFAN, SE4All and Energy+ recognize that official development assistance will not be sufficient to achieve the two goals of universal energy access and reduced GHG emissions (by 2030). Both approaches are based on the notion that there is a need for governments to pursue strategies based on national goals that will serve to mobilize the private sector and accelerate investments through supportive policies. In the REEEP-CTI PFAN cooperative approach, the Phased Financing Facility (see 4.4 below) the responsibility for identifying supportive public policies is generally the responsibility of REEEP, while CTI PFAN's job is to find investors.
- **A Sector-Wide Approach:** Rather than investing in individual projects, both approaches seek to engage governments on a country-by-country basis to implement policies and regulatory actions that impact the energy sector as a whole. In doing so, the REEEP-CTI PFAN partnership aims to establish supportive conditions to enable transformational change by learning from concrete, market-relevant investment ventures. What is noticeable is that the CTI PFAN approach is in fact broader as it also addresses Adaptation to Climate Change, which is not included in SE4All but falls under the UNFCCC with whom CTI PFAN has a long relationship.
- **Payment by Results:** To ensure governments meet their targets for reform, Energy+ employs a performance based system that provides financing to governments for verifiable progress made in terms of increased energy access, reduced or avoided emissions and supportive policy implementation. This system is tailored to the individual country's capacity and phased in over time. The same thinking lies behind the REEEP - CTI PFAN approach, where payments are bound to reaching contractual milestones and benchmarks; financial closure of investment-ready projects follows independently from the market and business information that entrepreneurs need to provide and that is being used to inform policy makers.

9.3 CTI-PFAN's Current Activities

Since starting operations in 2006 CTI PFAN has developed regional networks covering Latin America, Asia, Africa and CIS as well as in-country networks of developers and investors. As of 31.03.14 a total of 240 projects have been included into its Project Development Pipeline, with

total investment of USD 6.2 billion and about 14 million tons of CO₂e pa mitigation potential. The number of projects added during 2012 is 44, while 65 were added in 2013.

The total number of projects closed is currently 45, amounting in total to USD 545 million. The main mode of identifying promising ventures is through calls for proposals, mostly in cooperation with a numbers of co-sponsors, which may be regional, national or local financial and technology institutions. The calls cover a broad range of technologies and modalities of clean energy, mostly over 15 technologies and modalities. CTI PFAN has hosted 12 Financing Forums, where 482 projects were identified, 153 selected for one-on-one intensive coaching, and 106 projects showcased at these financing forums to potential investors and financiers.

It is expected that 10 of the best adaptation projects will be showcased at an investor forum in November 2014 for private sector funding. At the same time REEEP is also turning its attention more to adaptation efforts, for several reasons, especially as adaptation is much more relevant for the poorest countries in Africa and some individual countries in Asia and Latin America where the GHG emission from industry is low (due to few industries) but where agriculture is increasingly affected by climate change.

9.4 The new Clean Energy Phased Financing Facility

REEEP and PTI PFAN will jointly form a new facility, in which the two organizations cooperate while at the same time pursuing their different activities as now, REEEP' pursuits mostly geared toward public policies and regulation in developing countries, and CTI's work geared towards private investments in the same countries. The perception in the two organizations is that their different areas of operation can be coordinated in order to bring about desired changes in the energy sector. An improved energy policy has no worth unless there are substantial private sector investments that replicate and multiply projects for energy supply. Conversely, CTI PFAN often does not think that private investments will take place until there are structural changes and improvements in policies. The "Clean Energy Phased Financing Facility" (hereinafter also referred to the "Facility") is an innovative blend of public and private funding that targets clean energy initiatives with commercial promise, and bridges their funding gap through the acceleration stage.

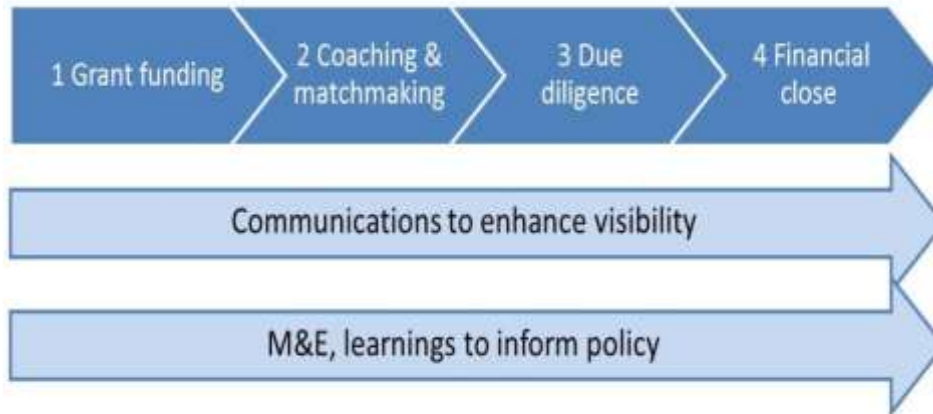
From the perspective of CTI PFAN, its gain from the cooperation with REEEP's efforts on policy and regulatory work would be to have at hand de-risked clean energy project pipelines for the investment market. Conversely, to REEEP, there is not much point in seeking to bring about an improved policy and regulatory framework unless there is the promise that entrepreneurs are ready to invest and bring about economic progress.

It is very possible that cooperation between the two can offer "a one-stop service" across the whole project development chain, thereby reducing complexity and time and accelerate the development process. Certainly, expertise and capability of REEEP and CTI PFAN are highly complementary. It is likely that the planned cooperation on the Facility will make both more attractive to their respective clients as well as donors. Presumably, this will mean an additional supply of quality-enhanced projects, through the initial granting processes.

The figure below illustrates how the intended cooperation will work. In the four phases from project concept to project closure, it is intended that REEEP will handle the grant phase (addressing energy policy and regulations) and partly the next phase (coaching), while CTI PFAN will take over and steer potential investments towards closure.

It is also interesting to note that REEEP will be responsible for the life-long phases of the project when it comes to “communication” and also M&E-learning, which will apply to all phases of a project and not only address individual projects, but also the portfolio as a whole.

Figure 2: The Phases of the Clean Energy Phased Financing Facility



Source: CTI PFAN Phased Financing Brochure

9.5 Feasibility of the REEEP-CTI PFAN Cooperation

The two partners intend to operate in a transparent and cooperative way. One important reason for the cooperation is to learn from all common projects, to enhance knowledge and ensure that the portfolio gets improved over time. As the figure shows, there will be consistent efforts throughout the cycle for external communication to enhance visibility, as well as conducting monitoring and evaluation efforts. REEEP will be given the main responsibility for this, and will monitor and evaluate across the four project stages.

The desire to create a one-stop-shop may seem daunting, but has a huge potential. There is much evidence from countries showing that the current road from policy adaptation and regulation to investments is far too long. Before politicians in cooperating countries engage in difficult regulation, it is a great advantage to have a better knowledge of the prospects for rapid follow up with investments. Conversely, demonstrated opportunities for investments (through CTI PFAN) play an important role to facilitate needed policy changes, in order to improve the economic prospects of the investments.

9.6 Risks and Sustainability

Since both organizations will continue to operate separately, and cooperate only in part of their portfolio – the Facility- the economic risks of failure may not be large. However the reputational risks for REEEP may be critical. The coordination of two different bureaucracies is in itself difficult and risky, unless this is well prepared. This may include agreements on insurance against risks, division of costs of operations and maintenance of administrative measures. Due to the different character of the two organizations, the partnership may easily come into situations where they will have to compromise between philanthropy and the private profit motive.

In order to reduce risks they will need to coordinate also some of their procedures and systems. This relates to internal security measures, and is especially the case for monitoring and evaluation, which will require competence building and also changes in openness towards financiers and the public at large. This may constitute a test case since a private company is much

more inclined to guard business secrets in a broad sense and more reluctant towards transparency than an idealistic NGO.

This is likely to be more difficult for REEEP, which also have to make decisions, which will influence its credibility as well as its profile as donor. It will have to defend its credibility as being an open and honest knowledge broker and important learning disseminator of M&E results and learning both vis-à-vis the general public, its fellow NGOs, research institutions and governments. Full accountability and transparency are essential for tracking progress in the context of sustainable energy for all. This relates to how the various actions are succeeding and contributing to their objectives, how much remains to be accomplished and with what kinds of actions.

9.7 Conclusion

The team finds that creating a function (Facility) to link explicitly the assessments of the public and private spheres in the context of clean energy projects could be quite promising. For REEEP this cooperation may seem a far step, but is in tune with its mission to be a “catalyst for scaling up clean energy business models in developing countries”. CTI PFAN seems to be a good partner for moving countries and organizations towards that goal.

However, as REEEP certainly is aware of, there may be tensions between the two operational approaches of REEEP since philanthropy and business may at time be difficult to combine.

10 Recommendations

In view of the observations made, the review makes the following recommendations:

- REEEP’s Board and donors should clearly state their expectation of the degree to which the organization aims at identifying projects for CTI PFAN up-scaling, or work on issues aimed at the public sector only.
- REEEP’s Board and donors should have an active role in overseeing that Monitoring and Evaluation systems are developed for projects to be run by the Facility and by REEEP itself.
- The “acquisition” of projects is no doubt critical to the future of REEEP. Therefore, we recommend improving the proposal evaluation system done by the external experts and making it more rigorous, and improving the appraisal of fully developed proposals.
- It is also recommended to make the call for proposals process more meaningful in terms of target country definition, technology orientation and implementer characteristics with the aim of addressing weaknesses, in particular in the 9th call.
- Strive to establish a balance between its traditional window of addressing public policy and regulation issues in developing countries, and the new window of running the Phased Financing Facility.
- Further develop its Monitoring and Evaluation procedures and manuals for projects within both windows.
- Seek further to develop project proposals according to its preferences, in close cooperation, especially with regional partners.

- Initiate and support entrepreneurial capacity development at the local level to overcome the shortfall of local expertise in the medium term. This could be done outside the calls for proposals with selected partners. Of crucial importance is to use top-class coaches.
- The discipline of implementers with regard to project completion reporting is not very good. 20 projects have not delivered a final report or are late with one or several reports. The recommendation is to be more insistent that grantees deliver final reports and more promptly submit the interim progress reports. Note is taken of the fact that final payments are actually being held back until the reports due are received.
- Make the PIMS format more reader friendly (portrait versus landscape format).
- With regard to external audits, the review recommends to change the auditing firm from time to time. Currently, there is no dissatisfaction whatsoever with the auditors but it is a good practice to change, in particular in organizations handling donor money.

Annex A: Terms of Reference

Terms of Reference - Review/assessment of the Renewable Energy and Energy Efficiency Partnership (REEEP)

I. Introduction

The Renewable Energy and Energy Efficiency Partnership (REEEP) is a market catalyst for clean energy in developing countries and emerging markets. The Partnership develops sector-specific interventions, and has so far funded more than 180 clean energy projects in 58 countries, disbursing €18.6 million and leveraging an additional €36.3 million in co-funding.

REEEP also operates www.reeegle.info, a clean energy information portal which currently attracts 220,000 users per month, and supports individual champions of clean energy with networking opportunities.

Norway has contributed with NOK 61.5 million in six installments during the period 2006-2012. The latest agreement signed on 12.08.2010 (amounting to NOK 31.5 mill.). Switzerland has been a major donor for two years (since 2012) with a contribution of EUR 2 million.

II. The Two REEEP approaches:

REEEP is planning its 10th Project Call for the second quarter of 2014, targeting in excess of €10 million. The call is being designed to offer two windows to ensure REEEP builds on the experiences of the grant levels of previous calls as well as delivering the first concrete business models for up-scaling through the new Phased Financing Facility:

Approach 1: The classical REEEP Enabling Environment projects with funding per project at a maximum of €150,000, focusing on policy and regulatory market development of low carbon energy solutions, such as energy efficiency policies, standards and labeling, or specific support schemes for the uptake of renewable energy;

Approach 2: The new Phased Finance Facility, in cooperation with Climate Technology Initiative (CTI) Private Financing Advisory Network (PFAN), with initial grant funding per project of up to €300,000, to lay the ground work for attracting private investment into successful and tested business models that are ready to build significant scale.

Both windows aim at providing policy makers with analysis for setting strong clean energy policies and improving them where they already exist (most countries have by now got at least the basic equipment of clean energy policies).

Currently, REEEP is finalizing the detailed process for the Phased Financing Facility; by February 2014, REEEP will have designed the project call's two windows; and by June 2014, overhauled and adjusted the call software and portal; tested the web application; and developed the analytical pathway to ensure that lessons and experiences are gathered in an effective way. The complete process and guidelines for the Call will be detailed in the REEEP 10th Call Project Line document, which will also feature all necessary tool kits, reporting and engagement materials. Specific focus will be put on the development of enhanced

Annex A: Terms of Reference (continued)

Monitoring & Evaluation for market development policy insights as well as on an effective communications plan to reach the relevant audiences.

III. Purpose of the review/assessment

In accordance with the agreements (governing the Norwegian and Swiss contributions) the Ministry of Foreign Affairs and the Swiss Ministry for Economic Affairs reserved the right to carry out independent reviews or evaluation as deemed necessary (see *Agreement (NO) dated 12.08.2010 - § 7.1. Meetings and review and Agreement (CH) dated 28 August 2012 -§12, Quality Assessment*).

Furthermore, the review/assessment will also inform the basis for potential new contributions in the next Project Call, within the two windows introduced above.

The purpose of the review/assessment is twofold:

Part 1: Review: Norway has been the second largest contributor to REEEP between 2006 and 2012. Switzerland has also been a major contributor during the last two years (2012 – 2014). Norway and Switzerland therefore see it as pertinent to carry out an external review to assess to what extent REEEP has reached its objectives, and to document experience gained and learning elements. This part of the review will focus on REEEP's classical approach (as explained above) within the time period of 2010 – 2013 (implementation period of project calls 8 and 9).

Part 2: Assessment: REEEP has during the last two years changed the leadership of the organization and developed a new strategy. As mentioned above a new call for proposals is planned for the 2nd quarter of 2014. There is a need to perform an independent assessment (appraisal) of the potential of REEEP's new Phased Finance Facility CTI PFAN approach as a part of REEEP's new strategy.

IV. Scope of work

The scope of work is divided into two, in order to address the two purposes of the assignment:

Part 1: Review

Norway and Switzerland would like an evaluation of the classical REEEP Enabling Environment projects in accordance with the OECD DAC criteria for the period 2010-2013 (8th and 9th project call) regarding *relevance, effectiveness, efficiency, impact and sustainability*. Questions to be addressed within each of the five areas include (but are not limited to):

Relevance: The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor:

- To what extent are the objectives of the programme still valid?
- Are the activities and outputs of the programme consistent with the overall goal and the attainment of its objectives?
- Are the activities and outputs of the programme consistent with the intended impacts and effects?
- Did the selected projects meet REEEP Project Call objectives?

Annex A: Terms of Reference (continued)

Effectiveness: A measure of the extent to which an aid activity attains its objectives. In evaluating the effectiveness of a programme or a project:

- To what extent were the objectives achieved / are likely to be achieved?
- What are the major factors influencing the achievement or non-achievement of the objectives?
- Assessment of REEEP administration, management and overhead cost level. How is the overhead composed and whether it is on a reasonable level compared to similar organizations.
- Reporting and financial procedures.

Efficiency: Efficiency measures the outputs – qualitative and quantitative – in relation to the inputs. It is an economic term which signifies that the aid uses the least costly resources possible in order to achieve the desired results. This generally requires comparing alternative approaches to achieving the same outputs, to see whether the most efficient process has been adopted.

- Were activities cost-efficient?
- Is the achievement of the objectives on time/completed?
- Was the programme or project implemented in the most efficient way compared to alternatives?
- Assessment of REEEPs “catalyzing ability” and capital multiplier effects
- Assessment and value of REEEPs network.
- Assessment of REEEPs ability to cooperate and attract funding from potential donors and cooperation partners.
- Assess the strengths and weaknesses of the programme both on REEEPs capacity building programmes on policy and regulations, and on the development of business and financial models.

Impact: The positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, economic, environmental and other development indicators. The examination should be concerned with both intended and unintended results and must also include the positive and negative impact of external factors, such as changes in terms of trade and financial conditions.

- What has happened as a result of the programme or project?
- What real difference has the activity made to the beneficiaries?
- How many people have been affected?
- Added value of REEEP for partner countries (where projects take place) and for implementing partner’s ability to implement and scale up projects.
- Assess REEEPs approach on Data and Knowledge Management, including its emphasis on Linked Open Data.
- Assessment of the search engine REEGLE and comparative evaluation vis-à-vis similar search engines. Value for donors and partner countries and “universally”.
- How is REEEP’s contribution to the realization under the overarching goals established by the Sustainable Energy for All (SE4All) initiative?
- Evaluation of past and future profile opportunities for donors.

Annex A: Terms of Reference (continued)

- How does partnership with REEEP as a country or a donor add value to their own network and knowledge base?
- How has the REEEP Network and project history helped identify replication and upscale projects for donors?

Sustainability: Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable:

- To what extent is it likely that the benefits of a programme or project continue after donor funding is ceased?
- What were the major factors which influenced the achievement or non-achievement of sustainability of the programme or project?

The evaluators are expected to include in the report a table which summarizes the findings according to the 5 criteria relevance, effectiveness, efficiency, impact and sustainability including a rating for each criteria using the following ratings: *Highly satisfactory (HS)* ; *Satisfactory (S)* ; *Unsatisfactory (U)* ; *Highly unsatisfactory (HU)*.

Part 2: Assessment

REEEP has developed a new strategy which includes a new window for financial contributions for scaled-up projects based upon a strategic partnership with CTI PFAN. The second part of this assignment shall focus on this part of REEEP's strategy and the potential of this window.

The assessment should look into the **relevance**, **feasibility** and **potential risks** and **sustainability** of this new window introduced.

Issues that should be addressed includes (but are not limited to):

- Assess REEEPs Phased Financing Facility as a tool for achieving REEEPs goals.
- Assess REEEPs Phased Financing Facility and the cooperation with CTI PFAN as a tool for scaling up successful business models.
- Assess REEEPs Phased Financing Facility as a mean to test, develop and/or implement selected components of the International Energy and Climate initiative (Energy+), for example result-based incentives/payments, result-based finance, sectoral or sub-sectoral approaches and private capital multiplier effects.
- Assess REEEPs Project Call Mechanism as a tool for developing and managing interventions.
- Assessment of the effectiveness (or output, outcome and potential impacts) of REEEPs capacity building programmes on policy and regulations, and on the development of business and financial models
- Assess REEEP CTI PFAN as a potential tool for activities to test, develop and/or implement selected components. Assessment of private capital multiplier effects of the International Energy and Climate Initiative (Energy+) through closer cooperation and the Project Call Mechanism
- What is the new CTI PFAN approach?
- What is the viability of the new CTI PFAN approach
- What is CTI PFAN's organisational history and experience in result-based incentives, result-based finance, sectoral or sub-sectoral approaches

Annex A: Terms of Reference (continued)

- How does REEEP CTI PFAN new Phased Financing Facility attract private capital and how will that stimulate multiplier effects of the International Energy and Climate Initiative (Energy+) through closer cooperation and the Project Call Mechanism

V. Implementation of the Review/Assessment

The review/assessment will consist of a desk study of relevant documents and reports, as well as a field visit to REEEPs headquarter in Vienna. In addition it is deemed necessary to visit some (3 or 4) of the projects funded by REEEP and REEEP regional offices (if possible). A selection of which projects to visit will be done in close dialogue with Norad, based on a list provided by REEEP identifying which projects received funds within the period under review.

A two person team is deemed sufficient for carrying out the review/assessment. A representative from Norad might join the team during the field visits (or parts of them).

It is required that one of the team members can document relevant experience with multi-donor initiatives and international organizations of similar size and reach as REEEP. Documented experience on energy efficiency technologies and knowledge on various energy sector market mechanisms will also be given weight.

List of documents and suggested persons to be interviewed are found in *Annex I*. REEEP and Norad shall jointly provide the consultant with all relevant documentation necessary for carrying out the review/assessment. As far as possible, REEEP will also assist the consultant team in scheduling meetings with relevant stakeholders during the field visits.

VI. Timetable

The total scope of work for the review shall not exceed 10 man-weeks, during a time period not exceeding 6 weeks.

- The team of consultants will meet with Norad and the Ministry of Foreign Affairs in Oslo prior to commencing the assignment, to clarify issues related to the ToR;
- Interaction with international stakeholders and visits to the field will be carried out over a period of two weeks and will start with a kick-off meeting at Norad with the team;
- A draft report will be submitted after finalization of interactions and field visit;
- Norad will gather comments from all stakeholders and forward to the consultants within two week after submission of the draft report;
- The final report shall be submitted within one week after receiving comments to the draft report.

VII. Reporting

- The report shall have a brief introductory/executive summary, giving an overview of conclusions, lessons learnt and recommendations.
- The main report shall not exceed 30 pages but may include supporting annexes.
- The report shall be delivered in an electronic version by email.
- The report shall be written in the English language.

Annex A: Terms of Reference (continued)

Annex 1: Additional information

Suggested documents to review (but not limited to):

Part 1 - Review:

- REEEP to provide access to audit reports conducted by external evaluators
- REEEP to provide current version of budget
- Annual Operational Reports
- REEEP's Revised Business Plan
- REEEP Phased Financing Facility Documentation
- Documentation on REIL and SERN (Network)
- Price Waterhouse Coopers' audit of the value of REEEP partnership
- Review of REEEP's project call history
- Review REEEP provided www.reeep.info

Part 2 - Assessment:

- Documentation outlining the new CTI PFAN approach to be discussed

Interviews should include, but not be limited to the following:

Part 1:

REEEP Programme Director, Eva Oberender, eva.oberender@reeep.org, +431260263669

REEEP Director General, Martin Hiller, martin.hiller@reeep.org, +431260263679

REEEP Operations Director, Florian Bauer, florian.bauer@reeep.org, +431260263714

REEEP Regional Secretariats (relevant for the projects under review)

REEEP International Secretariat

Selected Implementing Partners on the ground

In addition for part 2:

CTI PFAN

Annex B: Document List REEEP review

#	Title	Author/Date
1	Addressing Climate Change, Challenges in Africa (Guidebook)	African Union
2	Analysis of the regulatory framework for wind power generation in Brazil	Global Wind Energy Council
3	Auditor's Report REEEP as of 31 March 2013	Pwc, March 2013
4	Background note for the National Policy workshop on Strategies for Promoting EE in the Foundry Industry	TERI, October 2010
5	Beslutningsnotat. Stotte til intrnasjonalt partnerskap for fornybar energy og energieffektivitet	MFA Norway, Nov. 2006
6	Breaking the silos of energy, food and water supply	REEEP, March 2013
7	BUILDINGS FOR OUR FUTURE; THE DEEP PATH FOR CLOSING THE EMISSIONS GAP IN THE BUILDING SECTOR	Global Buildings Performance Network, June 2013
8	Call for Proposals, 8 th Programme Cycle	REEEP, March 2011
9	Call for Proposals, REEEP's 9 th Programme Cycle	REEEP, August 2012
10	Catalysing low-carbon growth in developing economies; Public Finance Mechanisms to scale up private sector investment in climate solutions	UNEP
11	China's 12 th 5-year Plan, 2011-2015	
12	Climate Knowledge Brokers workshop	Report, June 2013
13	Climate Knowledge Brokers; Application for Coordination Hub	REEEP, 2014
14	Close to home: Subnational Strategies for Climate Compatible Development, working paper	CDKN, April 2014
15	Collaboration between UNIDO an REEEP	UNIDO, June 2013
16	Corporate Clean Energy Investment Trends in Brazil, hina, India and South Africa	Carbon Disclosure Project
17	Crossing the Valley of Death; Solutions to the next generation clean energy project financing gap	Bloomberg New Energy Finance, June 2010
18	CTN Membership Application Form	Climate Technology Network
19	DC Microgirds: Benefits and barriers	REIL/Yale School of Forestry and Environmental Studies, Paul Savage et al, 2010
20	Developing markets for Positive Energy Buildings in emerging economies	REEEP, Marh 2014

#	Title	Author/Date
21	Draft Programme description 10 th call	SECO, 2014
22	Driving new technology adoption in South Africa's energy sector (Briefing article)	Intenational Institute for Environment and Development, Dec.2013
23	Electricity Governance Initiative of South Africa. The Governance of Power; Shedding light on the electricity sector in South Africa	ANSA Africa
24	Evaluation: Affordable energy service to improve generation in rural India	REEEP proposal evaluation 9 th call, 2012
25	Evaluation: Cheap and Clean Drinking Water Supply using solar RO system for villages in industrial belt	REEEP, 2012
226	Exploring the challenges of energy and resources network governance	Vermont Law School, ELSEVIER, Oct. 2011
27	GBPN and REEEP launch the "1 billion m2" Initiative: an effort to promote residential positive energy buildings	REEEP & Global Buildings Performance Network, May 2013
28	Grant Contract: Cheap and Clean Drinking Water Supply using solar RO system for villages in industrial belt	REEEP/Saurya Enertech, January 2013
29	Grant contract: Progressive PURCHASE: Pricing solar for India's unbanked	REEEP/SIMPA, August 2011
30	Grant Contract: Upscaling Energy Efficiency in metal casting in southern India	REEEP, June 2011
31	High Impact Opportunity (HIO) on the water-energy-food nexus	Energy for All, Jan. 2014
32	High Impact Opportunity (HIO) Water-energy-Food Nexus, Scope summary	REEEP, Feb. 2014
33	Impact Assessment: Scaling up a proven mechanism to implement energy efficiency street lighting projects in India	Econoler, April 2011
34	Impact of REC harmonization on renewable investment decisions	REIL/Yale School of Forestry and Environmental Studies, July 2009
35	Letter of Agreement between FAO and REEEP	FAO, Oct 2012
36	Letter of intent to jointly work on the "Linking Open Data to support Sustainable Urban Transport in booming cities" project	REEEP & ITDP, June 2013
37	Leveraging Private Finance for Clean Energy	Global Climate Network, Nov. 2010
38	Linked Open Data: The Essentials; A quick start guide for	REEEP, 2012

#	Title	Author/Date
	decision maker	
39	Linking Open Data to Support Sustainable Urban Transport in booming Cities	REEEP, Jan. 2014
40	Making a Difference for Entrepreneurs; Doing Business	IFC, 2011
41	Memorandum of Understanding with IRENA	REEEP-IRENA
42	Meta Analysis of Impact Assessments of REEEP Supported Projects	Srinivasan Sunderasan, April 2012
43	Mobilising Private Finance for low-carbon development	Climate Strategies.org, Sept. 2011
44	Obstacles to Renewable Energy and Energy Efficiency	REIL/Yale School of Forestry and Environmental Studies, Richard L. Kauffman, 2010
45	One billion m2 of Positive energy buildings	REEEP & GBPN, May 2013
46	Overview 10 th Call	REEEP, 2014
47	Overview over contributions received since 2004	REEEP, 2009
48	Phased financing facility; A de-risking investment programme for clean energy in developing markets	REEEP, Aug. 2013
49	Phased financing facility; A fresh approach to bridge the clean energy financing gap in developing economies	CTI PFAN, March 2014
50	Phased financing facility; Q&A from REEEP governing board meeting	REEEP, May 2013
51	Policy Briefing	Global Village Energy Partnership, Sept. 011
52	Possible policy options for scaling up EE in the foundry industry in India	
53	Programme and Project Manual	REEEP Secretariat, Aug. 2012
54	Progressive PURCHASE: Pricing solar for India's unbanked	Project reference report REEEP 108080520, August 2011
55	Progressive PURCHASE: Pricing solar for India's unbanked	Project reference report, REEEP 108080520, 2011
56	Progressive PURCHASE: Pricing solar for India's unbanked	Progress report 2, 1.1.2012
57	RE/EE supply chain outlets in villages of Karnataka	REEEP 107010425, 8 th call
58	RE/EE supply chain outlets in villages of Karnataka	Progress report 6, 14.1.2011

#	Title	Author/Date
59	REEEP 9 th Call Projects	REEEP, December 2012
60	REEEP Budget 2013/14,	March 2013
61	REEEP Business Plan 2013-2015	REEEP
62	REEEP Project and Funding Pipeline	REEEP
63	REEEP Quarterly Financial Report 1Q to 3rdQ. 13/14	Jan. 2014
64	REEEP Strategy Overview 2012 to 2015	REEEP, May 2012
65	REN21 Renewables Global Futures Report	REN21, 2013
66	Renewable Energy and Energy Efficiency in China; Current Status and Prospects for 2020	Worldwatch Institute
67	Renewable Energy Roadmap for China in 2030	Energy Research Institute, National Development and Reform Commission, 2011
68	Renewables: South-south cooperation between cities in India, Indonesia and South Africa; Process of preparing RE/EE action plans	8 th programme cycle, Proj. nr. 108080346
69	Replicating linkages between energy services and income generation using innovative financing	Progress report 5, 30.09.2010, SELCO
70	Report on China's Renewable energy Law	REIL/Yale School of Forestry and Environmental Studies, Paul Curnow et al, May 2009
71	Scaling Up CTI PFAN in southern India	CTI PFAN, August 2013
72	Scaling Up CTI PFAN in southern India	REEEP project reference report, 2013
73	Scaling Up SME Access to Financial Services in the Developing World	International Finance Corporation, Oct. 2010
74	Scaling Up SME Access to Financial Services in the Developing World	IFC, October 2010
75	SELCO Case Study on Bihar, Munger	Selco, 2013
76	SELCO Mid-term assessment report	Progress report, 2013
77	SERN seminar on feed-in tariffs	Progress report, June 2012
78	Statuten des Vereins Renewable Energy and Energy Efficiency Partnership (REEEP)	Nov. 2013
79	Submission to ADP Chairs on Workstream 2 (Pre 2020 ambition)	REEEP, Aug. 2013

#	Title	Author/Date
80	The Flight from the Rational: Why emissions trading fell from grace and why it needs to be restored	REIL/Yale School of Forestry and Environmental Studies, Henry Derwent, 2010
81	The Good, the Bad, and the Even Worse	Kacper Szulecki, et al. GLOGOV.org, Jan. 2010
82	The Reegle Universe; www.reegle.info and its surrounding "knowledge tools"	REEEP, March 2014
83	The Renewable Energy and Energy Efficiency Partnership: An official History 2002-2012	REEEP
84	The Road from Copenhagen: Next steps in climate and energy policy	REIL/Yale School of Forestry and Environmental Studies, James Davey et al, April 2010
85	Twelfth Five Year Plan, 2012-2017, Volume 1	Government of India
86	Twelfth Five Year Plan, 2012-2017, Volume 2	Government of India
87	Twelfth Five Year Plan, 2012-2017, Volume 3	Government of India
88	Unlocking Finance for Clean Energy: The Need for Investment Grade Policy	Chatham House, Dec. 2009
89	World Energy Outlook	IEA, 2012
90	Project information - powering water supply in South Africa	REEEP, 8 th call project information
91	Grant contract: Entura (trademark of Hydro Electric corporation) - Grant Contract.pdf	REEEP/Entura, July 2013
92	Project information ICLEI - South-South cooperation between India, Indonesia and South Africa.pdf	REEEP, Nov. 2011
93	Local Renewables and model communities network - Evaluation	REEEP, Oct. 2011
94	ICLEI Grant Contract.pdf , Local Renewables and model communities network - South-South cooperation, Grant Contract	REEEP/ICLEI, Nov. 2011
95	ICLEI Progress report 1.pdf	REEEP, 1.1.2012
96	ICLEI Progress report 2.pdf	REEEP, 1.4.2012
97	ICLEI Progress report 3.pdf	REEEP, 1.7.2012
98	ICLEI Progress report 4.pdf	REEEP, 1.10..2012

#	Title	Author/Date
99	ICLEI Progress report 5.pdf	REEEP, 1.1.2013
100	ICLEI Progress report 6.pdf	REEEP, 1.4.2013
101	Renewables: South-south cooperation between cities in India, Indonesia and South Africa: Ekurhuleni Metropolitan Municipality Urban energy Profile	ICLEI, 203
102	Yogyakarta GHG inventory and Action Plan.pdf	ICLEI, 2013
103	Project information - Sustainable Energy for Economic Development (SEED)	REEEP/RONGEAD, July 2012
104	RONGEAD Grant contract.pdf	REEEP/RONGEAD, March 2013
105	RONGEAD Progress report 1.pdf	RONGEAD, 1.8.2013
106	RONGEAD Progress Report 2	RONGEAD, 1.11.2013
107	Project information - Lighting Africa.pdf	REEEP/World Bank, February 2011
108	WB Signed and Scanned EFO Agreement Contract.pdf	REEEP/World Bank, May 2012
109	Project information - Generating power - exploring local energy resource options in rural South Africa.pdf	REEEP, March 2011
110	IIED Grant Contract.pdf	REEEP/IIED, April 2011
111	IIED Progress report 1.pdf	REEEP, 1.8.2011
112	IIED Progress report 2.pdf	REEEP, 1.1.2012
113	IIED Progress report 3.pdf	REEEP, 1.4.2012
114	IIED Progress report 4.pdf	REEEP, 1.7.2012
115	IIED Progress report 5.pdf	REEEP, 1.10.2012
116	Capacity_development_case_study on efficient street lighting South Arica	Sustainable Energy Africa,
117	Behaviour campaign case study.pdf	SEA,
118	CESU_REEEP_Efficient_public_lighting_guide.pdf	City Energy Support Unit, Cape Town 2012
119	Data report to NT on National Municipal EEDSM Programme.pdf	City Energy Support Unit, Cape Town 2012
120	Paper on impact EE RE on municipal electricity distribution revenue.pdf	SEA, Sept. 2012
121	Project information - Lighting Africa.pdf	REEEP/World Bank, Feb. 2011
122	Upscaling energy efficiency in metal casting in Southern India	REEEP Project reference,

#	Title	Author/Date
	- TERI	Feb. 2011
123	TERI Upscaling energy efficiency in metal casting in Southern India contract.pdf	REEEP/TERI, Sept. 2011
124	108010246 Project Progress Report 1, 01.10.2011.pdf	REEEP, 1.10.2011
125	108010246 Project Progress Report 2, 01.01.2012.pdf	REEEP, 1.10.2011
126	108010246 Quarterly progress report for October - December 2011.pdf	REEEP, 1.1.2012
127	108010246 Project Progress Report 3, 01.04.2012.pdf	REEEP, 1.4.2012
128	108010246 Quarterly progress report- January to March 2012.pdf	REEEP, 1.14.2012
129	108010246 Project Progress Report 4, 01.07.2012.pdf	REEEP, 1.7.2012
130	108010246 Project Progress Report 5, 01.10.2012.pdf	REEEP, 1.10.2012
131	108010246 Project Progress Report 6, 01.01.2013.pdf	REEEP, 1.1.2013
132	108010246 Project Progress Report 7, 01.04.2013.pdf	REEEP, 1.4.2013
133	108010246 Progress Report8-Apr-Jun 2013 (with annexes).pdf	REEEP, 1.7.2013
134	Project Reference Report 108080733 Affordable energy services to improve income generation in rural India.pdf	REEEP, 1.6.2011
135	108080733 Signed and Scanned Contract.pdf	REEEP/SELCO, July 2011
136	108080733 Project Progress Report 1, 01.10.2011.pdf	REEEP, 1.10.2011
137	108080733 Project Progress Report 2, 01.01.2012.pdf	REEEP, 1.1.2012
138	108080733 Project Progress Report 3, 01.04.2012.pdf	REEEP, 1.4.2012
139	108080733 Project Progress Report 4, 01.07.2012.pdf	REEEP, 1.7.2012
140	108080733 Project Progress Report 5, 01.10.2012.pdf	REEEP, 1.10.2012
141	108080733 Project Progress Report 6, 01.01.2013.pdf	REEEP, 1.1. 2013
142	108080733 Project Progress Report 7, 01.04.2013.pdf	REEEP, 1.4.2013
143	108080733 Activity Report =.pdf	REEEP, Jan. 2012
144	108080733 New Case study booklet - English.pdf	SELCO, 2012
145	SIMPA Progress Report No 1	REEEP, 1.10.2011
146	SIMPA Progress Report No 2	REEEP, 1.1.2012
147	SIMPA Progress Report No 3	REEEP, 1.4.2012
148	SIMPA Progress Report No 4	REEEP, 1.7.2012
149	SIMPA Progress Report No 5	REEEP, 1.10.2012
150	SIMPA Progress Report No 6	REEEP, 1.1.2013
151	SIMPA Branch Training Presentation - Final .pdf	SIMPA 2012

#	Title	Author/Date
152	Client Risk Assessment Analysis Presentation - Aug 2012.pdf	SIMPA Aug. 2012
153	Customer Value Proposition Research - Report 1.pdf	SIMPA, 2013
154	Mid-Term Design Summary for new Simpa Regulator.pdf	SIMPA, 2013
155	Single light system data logging analysis - draft paper.pdf	SIMPA, 2013
156	Simpa Pricing Plan brochure for agents.pdf	SIMPA, 2013
157	project reference report 109010643 Business model for clean drinking water using solar RO in Indian industrial belt.pdf	REEEP, July 2012
158	Saurya 109010643 signed and scanned contract.pdf	REEEP/Saurya Enertech, March 2013
159	109010647 progress report Q1.pdf	REEEP, 1.5.2013
160	109010643 Project Report 1 Supportive document.pdf	REEEP, 2013
161	109010643 Q2 report.pdf	REEEP, 1.8.2013
162	109010643 Second progress report Supportive document.docx	REEEP, July 2013
163	109010643 Q3 report.pdf	REEEP, 1.11.2013
164	109010643 Third Oreport Supportive document.pdf	Saurya Enertech, Oct. 2013
165	Project reference report 10601504 Scaling up proven mechanisms to implement energy efficient street lighting projects in INdia.pdf	REEEP, February 2007
166	10601504 Signed Contract.pdf	REEEP/Econoler, Sept. 2007
167	10601504 Project Progress Report 1.pdf	REEEP, 1.12.2007
168	10601504 Project Progress Report 2..pdf	REEEP, 1.3.2008
169	10601504 Project Progress Report 3.pdf	REEEP, 1.6.2008
170	10601504 Project Progress Report 4.pdf	REEEP, 1.9.2008
171	10601504 Project Progress Report 5.pdf	REEEP, 1.12.2008
172	10601504 Project Progress Report 6..pdf	REEEP, 23.2.2009
173	10601504 Econoler Impact Assessment.pdf	ECONOLER,
174	Project reference Report 108080229 Nuru Energy to empower rural entrepreneurship .pdf	REEEP, Feb. 2011
175	108080229 Signed and Scanned Contract.pdf	REEEP/NURU, Aug. 2011
176	108080229 Project Progress Report 1, 01.10.2011.pdf	REEEP, 1.10.2011
177	108080229 Project Progress Report 2, 01.01.2012.pdf	REEEP, 1.1.2012
178	108080229 Project Progress Report 3, 01.04.2012.pdf	REEEP, 1.4.2012

#	Title	Author/Date
179	108080229 Project Progress Report 4, 01.07.2012.pdf	REEEP, 1.7.2012
180	108080229 Project Progress Report 5, 01.10.2012.pdf	REEEP, 1.10.2012
181	108080229 Nuru Energy - Proposed Partnership model for IGS and Womens Federations.pdf	NURU, 2012
182	108080229 Consolidated report on Risk Mitigation strategy and changes to Nuruoff-grid Delivery model.pdf	NURU, 2012
183	Project Reference Report 109010479 Setting up innovative jute processing using biomass based electricity.pdf	REEEP, July 2012
184	Evaluation - setting up innovative jute processing using biomass based electricity.pdf	REEEP, 2012
185	109010479 Signed and Scanned Contract.pdf	REEEP/TERI, April 2013
186	109010479 Project Progress Report 1, 01.06.2013.pdf	REEEP, 1.6.2013
187	Project information 109010514 CTI-PFAN India - Expansion of Dedicated Country Network & Scale-up of Operations in Southern India.pdf	REEEP, July 2012
188	ICETT (signed) contract 109010514.pdf	REEEP/ICETT, Feb. 2013
189	109010514 Progress report 1 - 2.pdf	REEEP, 6.5.2013
190	109010514 Progress report 2.pdf	REEEP, 1.8.2013
191	Manual for the Development of Municipal Energy Efficiency Projects	BEE, India 2008

Annex C: Persons met

#	Name	Affiliation, position
1	Ms. Quinn Ferguson	Senior project manager REEEP Vienna
2	Ms. Claudia Florowski	Project officer REEEP Vienna
3	Ms. Merja Laakso	Project officer REEEP Vienna
4	Ms. Eva Oberender	Programme director REEEP
5	Martin Hiller	Director general REEEP
6	Florian Bauer	Operations and IT director REEEP Vienna
7	Ms. Katrin Harvey	Senior project manager REEEP Vienna
8	Geoffrey Barnard	Partner on Climate and Development Knowledge Networks, CDKN
9	Ms. Elfriede Anna More	Governing Board Deputy Chairwoman and Rapporteur
10	Ms. Sonya Fernandes	Manager REEEP South Asia secretariat, India
11	Matthew Kennedy	Programme board chairman, REIL member
12	Henry	
13	Ms. Sonya Fernandes	REEEP South Asia Secretariat, Regional Programme Manager
14	Ananth Aravamudan	Associate Director SELCO foundation and SELCO Labs
15	Prasant Biswal	Regional Manager SELCO
16	Ms. Huda Jaffer	Lead Designer, SELCO Labs, SELCO foundation
17	Harish Hande	Founder, SELCO Managing Director
18	Avinash Krishnamurthy	S3IDF, Small Scale Sustainable Infrastructure Development Fund,
19	Pradeep Kumar	Alliance to Save Energy, Director India Office
20	Karthik Meda	SIMPA Energy India pvt. Ltd., Vice president finance
21	Nagaraja Rao	CTI PFAN, Asia Regional Coordinator
22	Paul Needham	SIMPA Energy India pvt. Ltd., president and co-founder
23	Amit Kumar	TERI Director Energy-Environment Technology Development, REEEP Regional Programme Adviser
24	Shirish Garud	TERI Associate Director Energy-Environment Technology Development Division
25	Ms. Siddha Mahajan	TERI Research Associate Renewable Energy Technology Applications
26	Suresh Kumar Dev	TERI Gram Retreat Assistant Manager
27	Dr. Satyendra Kumar	Saurya Ener Tech Solar Engineers Chairman
28	Ms. Vibha Tripathi	Saurya Ener Tech Solar Engineers Director

#	Name	Affiliation, position
29	Bikash Kumar	Saurya Ener Tech Solar Engineers Director Technical
30	Dr. R.K. Pachauri	TERI Director General
31	Ms. Nisha Menon	DESL, Development Environergy services, senior consultant
32	Srikant Kasturi	DESL, consultant
33	Manish Saxena	DESL, consultant
34	Girish Sethi	TERI Director Industrial Energy Efficiency
35	Prosanto Pal	TERI Senior Fellow
36	N. Purushottama	AQUASUB Engineering General Manager, Coimbatore
37	P. Arulmozhidevan	AQUASUB Engineering Manager Production, Coimbatore
38	N. Raveendranath	AQUASUB Engineering Assistant Manager maintenance, Coimbatore
39	V.V. Naagendiran	SARAVANA Engineering Work Chief Executive, Coimbatore
40	D. Rajendiran	Tamil Nadu Urban Infrastructure Financial Services Ltd., TNUIFSL Senior Asst. Vice President, Chennai
41	S. Appavoo	Chief Electrical Inspector to Govt., Chennai

Annex D REEEP review, draft report

REEEP 8 th and 9 th call Brief characterization					
Project number	Title, Country	REEEP grant (Euros)	Frequency of reporting	Results	Financing Multiplier, %
108040510	Amazonas Renewable Energy Company to be established in Brazil	150,000	Ok	Planned company registered and opened	80
108000707	Treatment of Tofu Wastewater, use for biogas, Indonesia	149,773	Ok	Biogas technology implemented in one of Central Java's action plans	0
108010710	Fund structuring for Asia and Africa		Not available	Project terminated by REEEP due to lack of progress	N/A
10810004	Carbon trading registry, China	150,000	Ok	Registry for carbon trading established	100
108080346	South-South Cooperation between India, Indonesia & South Africa, Renewable Energy	72,448	Documents not well assembled in database	Impossible to read document, documents not in place	N/A
108000686	Determining standards for Led lamps, Ghana		Documents not well assembled	Standards have been set, gazetted and published, one year delay	0
108010494	Low carbon transport, Jakarta		Ok	Positive, identification of cleaner fuel	108
108010742	Replicate and scale-up CTI PFAN in Uganda and Mozambique at AFRICEF 2	150,000	Slow; only 2 reports delivered	CTI PFAN's normal business of seeking and reviewing bankable projects	23
108030699	RE in Chaningijang River Valley, China	150,000	Ok	Final report presented alternative models for RE efforts	7
108010736	UNDP/UNEP/Risoe Centre: technology database ClimateTechWiki	143,368	No reports	Additional funds to complete a UNDP database, which the	0

REEEP 8th and 9th call Brief characterization					
Project number	Title, Country	REEEP grant (Euros)	Frequency of reporting	Results	Financing Multiplier, %
				Risoe Center had prepared ¹	
108040583	Study for installation of EE led lamps, in Minas Gerais, Brazil	149,864	OK, but with 1 year delay	Project found LED to be worthwhile only by about 2020	0
108040510	The Amazonas Renewable Energy Company	150,000	OK	The plan was to establish a RE company in the Amazonas. The company CERAM was established and registered	55
108000707	Development of Planning and Policy Support for Improving the Potential Production of Biogas as Renewable Energy in Indonesia's Tofu Industries	149,773	OK	Project was successfully concluded with an academic paper	0
108070364	Generating power: Exploring local energy resources, S. Africa	74,925	Not available	No info available	
108070500	Solar steam engine pumpset	150,000	OK, but 6. Report missing in database	Project continues under 9 th call with activities in Kenya	36
108010041	Creating energy and water use efficiencies in Municipal systems, South Africa	150,000	OK, delayed	Project restarted. To end December 2014	67
108010192	Study on ancillary services + grid connection standards, China	149,940	6 of 8 reports delivered	All reports are in Chinese	0
108030134	Market analysis + policy research of biomass briquetting, China	150,000	Report 4 = final report missing	Study completed	110
108080229	Nuru Energy: Village entrepreneurship, India	149,703	Final report missing. Delay of one year	Previous distribution model stopped. New model with village retailers in place	50
	9th call projects				
109010514	CTI PFAN India – Expansion of country network + scaleup	150,000	Delayed by	Project ongoing	17

¹ A provision in the contract stipulates that unspent funds up to USD can be transferred to another account in UNDP. UNDP can apply to REEEP to retain even higher amounts.

REEEP 8th and 9th call Brief characterization					
Project number	Title, Country	REEEP grant (Euros)	Frequency of reporting	Results	Financing Multiplier, %
			one report		
109010138	EE and RE in micro and small enterprises, Brazil	149,760	Final report missing	Project completed	21
109080633	Clean energy and women empowerment in Bihar, India	150,000	March 2014 not yet available	Good project progress	153
109070054	Sustainable electricity at the municipal level, South Africa	148,180	Final report missing	Study complete	16
109080351	EE policy recommendations for South East Asia	150,000	1 report overdue	Not a standard contract with IEA	63
109000237	Enterprise biomass briquetting business Model; large plant	150,000	OK, but delayed	Extension needed due to delay in availability of equipment	510
109010066	Alternative energy plan for 27 rural municipalities	100,120	Most recent report from Aug. 2013	Intangible result	110
109010164	Financing of solar-powered cold storage for fishing, Indonesia	148,000	OK	No equipment installed so far	200
109000076	EE in building codes mainstreaming in West Africa	150,000	Most recent due but missing	Progress OK	67
109000445	Clean energy access through pay-as-you-go, Kenya	144,297	Most recent report 11.2013	Testing of products ongoing	299
109080518	Electric two-wheelers, with solar charging in Vietnam	149,600	Reports of two periods missing	Good progress	107
109080207	Sustainable RE for rural villages in Vietnam	147,000	Reporting two terms behind	No tangible output so far	100
109030976	Research on climate-friendly tariff mechanism for China	150,000	Reporting one term behind	Acceptable progress	0
109030966	Upscaling Greening China Supply chains in textiles	150,000	Reporting one	Good progress	66

REEEP 8th and 9th call Brief characterization

Project number	Title, Country	REEEP grant (Euros)	Frequency of reporting	Results	Financing Multiplier, %
			term behind		
109030247	Performance evaluation indicator system. Fiscal incentive in EE in China	150,000	OK	Successfully completed	0
109010957	RET Screen Expert: Decision intelligence platform (global)	150,000	No report since Aug. 2013	RETscreen is supported by Canadian government	530
109010810	Energy access database for RE expansion in China	78,823	OK	Good progress	15
109010774	Improved EE in agriculture in China	150,000	OK	2 green houses with seasonal storage built	60
109010745	Tourism EE investment programme, Indonesia	149,994	Most recent report July 2013	Situation of progress unclear	50
109010699	Sunflower solar pump, Kenya	149,980	OK	Project on track	451
109010671	Scaling up EE in Tofu and Tempe in MSMEs, Indonesia	149,951	OK	Success. Overachieved!	125
109010657	Promotopn of EE building construction in Vietnam, meia channels	149,976	OK	Good progress	27
109010643	Clean drinking water with RO process in India industrial belt	92,851	OK	At prototype stage	101
109010527	Sustainable energy for Economic Development, Tanzania	100,200	Reporting one term behind	Delay due to need for new partners	73

