



Analytical and Synthesis Study of the REEEP Programme

Consortium Le Groupe-conseil baastel Itée & Econoler International
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The aim of the project was to carry out an analysis of outputs and outcomes of the REEEP programme during the period 2005 – 2007 in order to establish its contribution towards renewable energy and energy efficiency market development.



renewable
energy
& energy
efficiency
partnership

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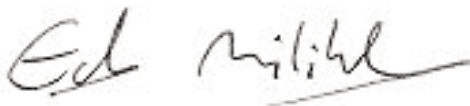
MINISTERIAL STATEMENT BY THE HON. EDWARD MILIBAND

Climate change is the biggest long-term challenge we face. Some have argued that in tough economic times, we should retreat from our climate change objectives. But in fact there are also common solutions to both problems: energy-saving measures which cut bills and emissions, and investment in new environmental industries which both improve energy security and reduce our dependence on high-carbon fuels. Delay, on the other hand, will only make action more expensive – and in the long run, we know that the costs of not acting on climate change are greater than the costs of acting.

For developed countries like the UK, this means two responsibilities. We must show that a low-carbon future is possible, and support developing countries in meeting their mitigation and adaptation needs.

REEEP helps us do that. We are particularly pleased to see that REEEP has grown significantly since its launch in 2003, and is now supported by 42 governments worldwide. REEEP is now a truly global effort.

As the need for action on climate change increases, we look forward to continuing to work with REEEP in the future.



Hon. Edward Miliband
Secretary of State for Energy and Climate Change, UK





Morgan Bazilian
Chair of the REEEP Programme Board

FOREWORD BY THE CHAIR OF THE PROGRAMME BOARD

REEEP has made a strategic commitment to delivering measurable, verifiable and reportable achievements, and to sharing the expertise and lessons learned.

In this context, we are very pleased to present the Analytical and Synthesis Study of the REEEP Programme, an independent investigation of the deliverables and impacts of 47 projects funded by the Partnership between 2005 and 2007. The fact that 71 percent of REEEP projects are deemed Successful to Highly Successful in attaining their stated goals is a gratifying result, and underlines the Partnership's commitment to delivering projects that are both relevant and influential.

The study also clearly demonstrates that REEEP has been able to maintain a high standard of project quality during a period of intensive growth – fourfold since the organisation's inception. Although REEEP is still a relatively small player, it reaches proportionally very high results for the level of funds disbursed.

The case examples provide useful insight into the projects supported by REEEP, and underline the effectiveness of our programme partners who have succeeded in improving practices in the areas of policy, regulation, business and finance. They are also achieving a high level of local stakeholder engagement, which is an important factor in any project's success on the ground.

We would also like to take this opportunity to thank our donor governments – the United Kingdom, Norway, Ireland, Italy and New Zealand — for their generous support, which is what makes REEEP's mission to accelerate the market development of renewable energy and energy efficiency possible.

And finally, we thank all of the REEEP Secretariats for their continued support and unique dedication to the Partnership.

A handwritten signature in black ink, appearing to be "M. Bazilian".

FOREWORD BY THE DIRECTOR GENERAL

REEEP is very happy to present this Analytical and Synthesis Study, an important step forward in the Partnership's overall strategy to deliver measurable results and to demonstrate the impacts achieved with its portfolio of projects.

The results of this independent report are very encouraging, with the vast majority of REEEP projects being rated as either Successful or Highly Successful, a fact which the report attributes to good project selection and strong project design, among other factors. The Partnership's programme is confirmed to deliver on both climate change mitigation and poverty alleviation. The report also gives useful indications for future direction, such as increasing the number of project formats and giving consideration to increasing the emphasis on capacity building.

Here we would particularly like to thank the implementing agencies for their partnership with REEEP. The report highlights just how effective these collaborations are, and the fact that local stakeholder ownership is very high. We look forward to building on this success.

Of course, this success is only possible through the contributions of our programme donors who facilitate the delivery of our core aim: the promotion of renewable energy and energy efficiency market development. We are deeply thankful to the governments of the United Kingdom, Norway, Ireland, Italy and New Zealand for their continued support and guidance to REEEP programme.

Finally we would like to extend our gratitude to all the Programme Steering Committee members for their support in identifying a quality portfolio of projects.

We hope you find the following report useful in providing a better understanding of the outputs and outcomes of 47 REEEP supported projects from 2005 to 2007.



Dr. Marianne Osterkorn
Director General



EXECUTIVE SUMMARY

The Analytical and Synthesis Study is part of REEEP's sixth cycle of funding, received from the governments of Norway, the United Kingdom, Ireland, Italy and New Zealand to support a new set of projects. The aim was to carry out an analysis of the outputs and outcomes of the REEEP projects, identify the lessons learned, and gauge the contribution of these projects towards clean energy market development. The report was based on an analysis of the outputs and outcomes of 47 REEEP supported projects for the purpose of presenting the "big-picture" of REEEP projects funded from 2005 to 2007. In order to answer REEEP's key questions, the study team used a methodology with several steps: project desk review, a survey, case studies, field visits and follow-up interviews.

The study shows that 71 percent of REEEP projects are Successful to Highly Successful in attaining their stated project purpose, while 19 percent are Moderately Successful, and only 10 percent of projects were deemed Unsuccessful. The high level of achievement of the project purpose stated in the initial project proposal is viewed as a result of good project selection and strong project design that defines well-targeted project impacts and expected outcomes. Through its careful and competitive selection process, REEEP has succeeded in funding well-targeted initiatives that really have the potential to benefit RE and EE market development. Field missions confirmed that REEEP regional secretariats play an active role during project implementation by engaging key stakeholders in the energy sector within target countries. They are also essential upstream, during project preparation, helping implementing agencies and other project stakeholders ascertain their needs, clarify their demands and focus their funding requests to provide high-quality, viable project proposals.

REEEP funds projects in both the policy and Finance arenas. The study shows that there is little difference in level of achievement in both cases, 70 percent of projects were Successful or Highly Successful in meeting their purposes. However, the level of success in achieving the purpose defined varies considerably according to the type of project (RE, EE or RE & EE). The RE project type has close to 90 percent of projects rated as Successful or Highly Successful in achieving project purpose, while such successful projects account for only 50 percent of the EE cluster. The RE & EE project type fares halfway between these two types, with almost 70 percent of projects rated as Highly Successful or Successful, but with a notably high number of Highly Successful projects (close to 40 percent). With regard to the types of implementing agencies, there is quite a difference in level of achievement between local and external agencies, where local agencies seem to have a higher level of success and lower level of Unsuccessful projects.

When looking at market development, the connection between project level and overall market level is not explicit. However, REEEP projects did contribute to **changing practices in policy, regulation, business and finance** by supporting changes in practices, either by updating existing practices or adopting new ones. REEEP projects have also been **successful catalysts that have achieved significant follow-on ef-**

fects. The study shows that this is a result of the Partnership's ability to support its partners through its regional secretariats, as well as through numerous workshops and joint working groups. In addition, REEEP projects have been successful in **improving stakeholder engagement**, as most projects have encouraged multiple stakeholders to be involved throughout project implementation. Finally, many projects managed to advance the agenda of renewable energy and energy efficiency market development, through **good practices in providing renewable energy and energy efficient services to the poor**, which are clearly demonstrated in the case studies.

REEEP projects have also faced certain challenges, especially in developing countries, where a common issue is the **lack of stakeholder capacity**. Nevertheless, REEEP projects have proved quite successful at dealing with this issue, due to the unique selection mechanism for REEEP implementing agencies that does not limit itself to nationality or type of agent, but rather is able to select or support the one that is most suited to undertaking the project. Another challenge are the **limitations in time and amounts of funding** provided by REEEP, which have had a bigger impact on public entities that have multiple mandates and shifting priorities and that may be delayed in starting projects, than on local agencies. In addition, **REEEP projects address barriers and target the renewable and energy efficiency sectors that are not mainstreamed**, which has been challenging in the global energy context. At the project level, REEEP projects faced two main challenges: (i) the limited ability of many projects to move into the implementation phase following the design work, thus resulting in a lack of sustainability. This is especially the case for written policies or frameworks; and (ii) third-party intervention or bringing in new stakeholders that are not natural players in the sector. This introduces a higher risk of failure, due to their lack of experience.

The study also assessed how REEEP projects contributed to REEEP goals. In regard to **greenhouse gas emissions**, some projects provided direct reductions, other projects have more sizable CO₂ reduction that will cumulate in the future, while others present the potential of large-scale savings as an indirect result of the project. REEEP projects have also contributed to **social improvements** by providing access and affordable clean energy as the central target of some projects. Although **economic benefit** is very difficult to quantify, REEEP projects have contributed to an increase in the share of indigenous renewable resources within the energy mix.

Given the specific nature of REEEP projects, overall lessons learnt are quite varied. These are presented in greater detail in the full report. However, there are three broader lessons related to REEEP programming that can be derived:

- REEEP is a relatively small player in most of the countries and sectors in which it acts, but has managed to have proportionally very high results for the level of funds disbursed.
- Creating environments conducive to renewable energy and energy efficiency within developing countries takes a significant amount of time that is often beyond the realm of REEEP projects.

- Although REEEP projects are small, they have often contributed as a catalyst to market development in renewable energy and energy efficiency.

The study gives useful indications regarding the future programming of REEEP projects. For instance, REEEP may want to consider increasing the number of project formats to better accommodate the variety of needs. Given its successes and the genuine interest in and impacts of capacity building, REEEP should consider focusing some of its programming track specifically on capacity building beyond the usual practice of information dissemination. Finally, there seems to be a strong opportunity for REEEP to work more in the niches lying between the national level and small-scale, very local initiatives, for example at the municipal level.

ACRONYMS

EE	Energy Efficiency
IA	Implementing Agency
INGO	International NGO
JPOI	Johannesburg Plan of Implementation
JREC	Johannesburg Renewable Energy Coalition
NGOs	Non-governmental organisations
RE	Renewable Energy
RECs	Renewable Energy Certificates
REEEP	Renewable Energy and Energy Efficiency Partnership
REES	Renewable Energy and Energy Efficiency Systems
SC	Steering Committee
ToR	Terms of Reference
WSSD	World Summit on Sustainable Development

CONTEXT OF THE STUDY

REEEP Background

The Renewable Energy and Energy Efficiency Partnership (REEEP) is an active, global public-private partnership that structures policy and regulatory initiatives for clean energy, and facilitates financing for energy projects committed to accelerating the development of a sustainable energy marketplace. Through its membership, it is supported by more than 280 partners, including 41 national governments, as well as businesses, development banks and non-governmental organisations (NGOs), which all contribute to international, regional and national policy dialogues through its initiatives, interventions and programmes.

REEEP was conceived at the Johannesburg World Summit on Sustainable Development (WSSD) in August 2002, as a means to accelerate the development of renewable energy (RE) and energy efficiency (EE) technologies by expanding the global market for renewable energy and energy efficiency. At WSSD, the Johannesburg Renewable Energy Coalition (JREC), established by about 60 countries, joined the European Union in a commitment to set clear and ambitious time-bound targets for renewable energy and to work together to establish regional and where possible, global targets. REEEP is therefore a voluntary, multi-stakeholder partnership contributing to the implementation of Agenda 21 and the Johannesburg Plan of Implementation (JPOI). In June 2004, REEEP was formally established as a legal entity in Austria with International NGO (INGO) status.

The main goal of REEEP is to accelerate the integration of renewable energies and energy efficiency policies; encourage innovation to reduce carbon emissions; improve energy security and reliability and accessibility to clean energy that will result in socio-economic benefits in developing countries and countries in transition. Since its establishment, the partnership has funded more than 80 high-quality projects in over 40 countries; these projects address market barriers to clean energy, which have delivered new business models, policy recommendations, risk mitigation instruments, handbooks and databases.

REEEP's International Secretariat engages political, financial and business support to reduce the risk inherent in implementing new policy and financing initiatives while REEEP's eight regional secretariats provide access to best practices in policy and finance to promote renewable energy and energy efficiency that correspond to regional needs. Some of REEEP's key partnerships include working with other international sustainable energy partnerships such as: the Mediterranean Renewable Energy Partnership, the Global Village Energy Partnership, the Collaborative Labelling and Appliance Standards Program, the Global Network on Energy for Sustainable Development, the EU Energy Initiative, the Global Forum for Sustainable Energy.

The partnership is funded by a number of governments including: Australia, Austria, Canada, Germany, Ireland, Italy, Spain, the Netherlands, New Zealand, Norway, the United Kingdom, the United States and the European Commission. The project funding cycle occurs annually. The total value and number of projects funded depend on donor contributions and the co-funding available for the project.

REEEP finances projects that seek to accelerate and expand the development of renewable energy and energy efficiency systems

through two main avenues, namely: building stable policies and regulatory frameworks that help stabilize the legal environment crucial to reducing financial risks and stimulating investment; and creating new forms of financing for small-sized renewable and energy efficiency projects that provide tool-kits, business plans and financing mechanisms which result in a significant increase in Renewable Energy and Energy Efficiency Systems (REES) investments.

As such, the REEEP has two funding programmes that fund a diversity of initiatives:

REEEP uses a bottom-up, project-based approach for the implementation of its programmes and projects as a means to engage its partners to work together at the national, regional and international levels to deliver policy, regulatory business and financing frameworks to foster market development and commercialisation of REES.

Policy and Regulation	Business and Finance
Directory of policy and regulatory experience	Targeted funds
Regional and international standards	Business models
Market development policy and incentive measures	Institutional mechanisms
Kyoto flexibility mechanisms	Market based sources of innovative finance
International implementation	Risk mitigation
	Investor networks

Objectives of the Study

The Analytical and Synthesis Study is part of REEEP's sixth cycle of funding that was received from the governments of Norway, the United Kingdom, Ireland, Italy and New Zealand to support a new set of projects. This new project cycle will support new projects and pilot initiatives. The Analytical and Synthesis Study is one of the pilot initiatives to be supported by the governments of Norway and the United Kingdom as a commissioned project.

The study aimed to carry out an analysis of the outputs and outcomes of the REEEP projects from 2005 – 2008, identify the lessons learned, and gauge the contribution of these projects towards RE and EE market development (see Annex E for Terms of Reference). The study was based on an analysis of the outputs and outcomes from REEEP supported projects for the purpose of presenting the 'big-picture' of REEEP projects funded from 2005 to 2007, by looking at the following key questions:

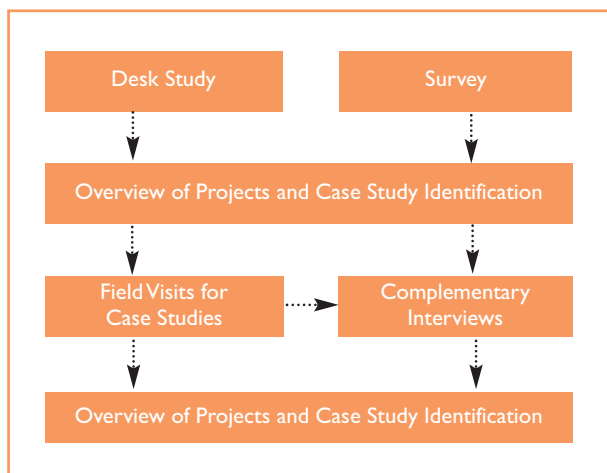
1. What are the contributions that REEEP has made in the four areas of Policy, Regulation, Business and Finance to develop the markets for RE and EE?

2. Which of the efforts have succeeded and which have failed, what are the lessons to be learned from these experiences for RE and EE market development?
3. What have been the catalytic and follow-on effects of REEEP project outcomes, if any, in the RE and EE markets?
4. What are the existing and emerging best practices, if any, from the projects that REEEP has supported?
5. What are the lessons that are particularly relevant to the renewable energy sector and the energy efficiency sector respectively?
6. What has been the contribution, qualitatively and quantitatively, of the project outcomes towards the REEEP goals?

Methodology

In order to answer REEEP’s key questions, the study team used a methodology with several steps: project desk review, a survey, case studies, field visits, and follow-up interviews. The methodology is illustrated below and described in Annex A. The study team created a matrix in order to structure the key questions, the methodology to be applied, and the sources of data (see Annex C). The methodology aimed to use a variety of complementary data collection tools in order to gain reliable and verifiable data on the outputs and outcomes of REEEP projects and their contribution to REEEP goals through data triangulation. This methodology allowed the study team to extract lessons learned on REEEP programming and formulate well-founded recommendations for future programming.

This study was not intended nor carried out as an evaluation of individual projects but rather as a review of the REEEP global portfolio.

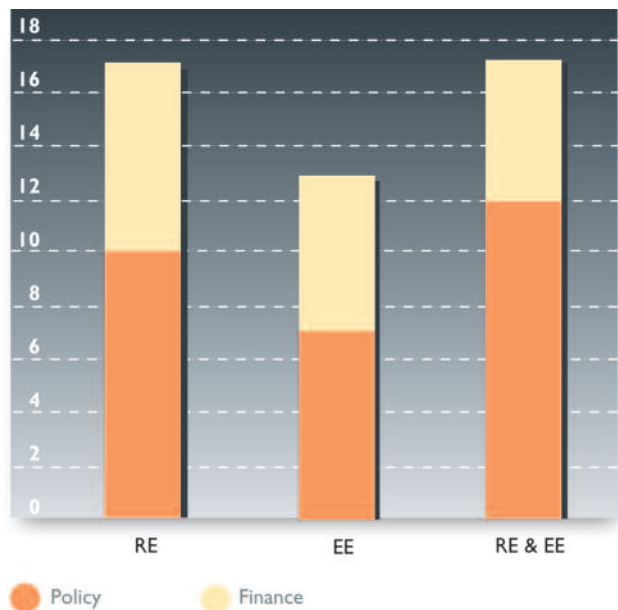


Overview of REEEP Portfolio

The study focused on a total of 47 projects, which is a review of all the projects that have been supported by REEEP in the third, fourth and fifth project cycles. In total, REEEP supported

51 projects, however, four of these projects did not receive co-financing, and thus they did not conclude a contract with REEEP. Of all the projects reviewed, 23 were completed and 24 were considered ongoing as per the status in the REEEP project database. A complete list of the projects analysed is provided in Annex B, including REEEP project number, project name, geographic location, and a brief description.

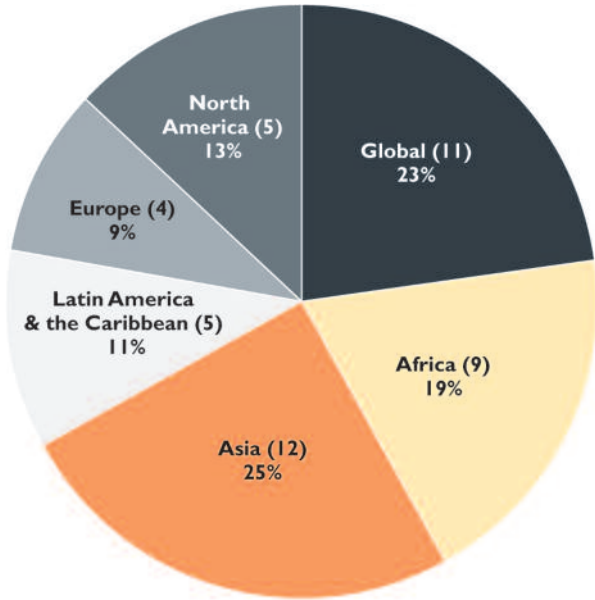
Chart 1
Projects by Type and Theme



The majority of the projects were in the Policy & Regulation theme (62 per cent of total) with a total of 29 projects, while the remaining 18 projects were in the Business & Finance theme (38 per cent of total). Within these two funding programmes, the REEEP portfolio contains three project types that are quite evenly represented. These three project types are (i) projects that focus only on renewable energy (thereafter labelled as RE in the text below), (ii) projects that focus only on energy efficiency (thereafter labelled as EE) and (iii) projects that cover both renewable energy and energy efficiency (labelled RE & EE). In total, the portfolio reviewed had 17 RE projects, 7 of which were Finance and 10 Policy; 13 EE projects, 6 of which were Finance and 7 were Policy; and 17 projects that dealt with both RE & EE, 5 of which were Finance and 12 Policy, (see Chart 1).

The geographical distribution of the 47 projects, shows a relatively even distribution between major developing continents (see Chart 2). While global projects represent about a quarter of the total (23 percent), Asia (25 percent), Africa (19 percent) and South and Central America (about 24 percent) share most of the remainder. The vast majority of non-global projects were undertaken in developing countries, while a few took place in transition countries such as Russia and Poland.

Chart 2
Geographical Distribution of Projects



LEVEL OF REEEP PROJECT ACHIEVEMENTS

The desk review of projects classified the level of project achievement in order to generate a common ground among projects to allow a global analysis of results.

For the sake of uniformity, projects are classified according to the estimated level of completion by project end of the purpose stated for the project at inception. When the project reports outputs and outcomes:

- Exceed the stated purpose, they are listed as *Highly Successful*,
- Meet the stated purpose, are listed as *Successful*,
- Fall short of stated purpose, are listed as *Moderately Successful*,
- Did not achieve stated purpose, are listed as *Unsuccessful*.

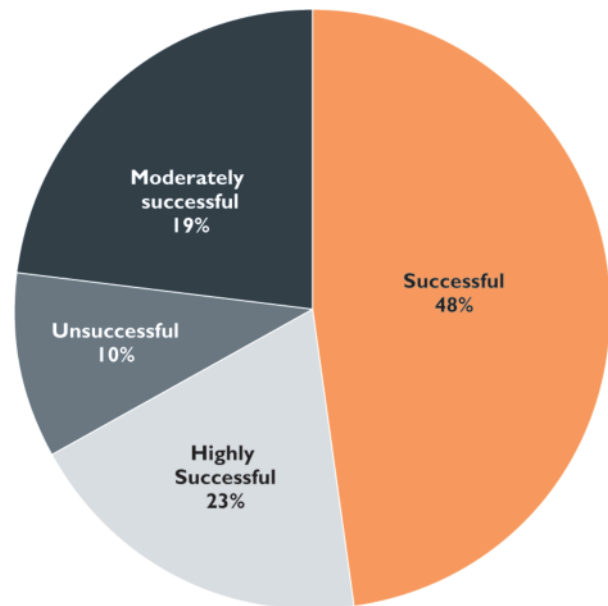
The stated level of achievement is solely based on information provided by implementing agencies' reports and does not result from, nor constitute, a project evaluation. Furthermore, a project may be considered very successful for the outputs it provided to a country or population, but still be listed as *Unsuccessful* if it did not achieve the purpose stated in the project proposal.

The desk review shows that the majority of REEEP projects are *Successful to Highly Successful* in attaining their stated project purpose (with 71 per cent of projects), while 19 per cent are *Moderately Successful*, and only 10 per cent of projects *Unsuccessful* (see Chart 3). Interestingly, these results are globally in

line with the self-assessments made by project implementation agencies, after correcting for some over-optimism that marginally inflates the *Highly Successful* and deflates the *Moderately Successful* and *Unsuccessful* self-evaluations.

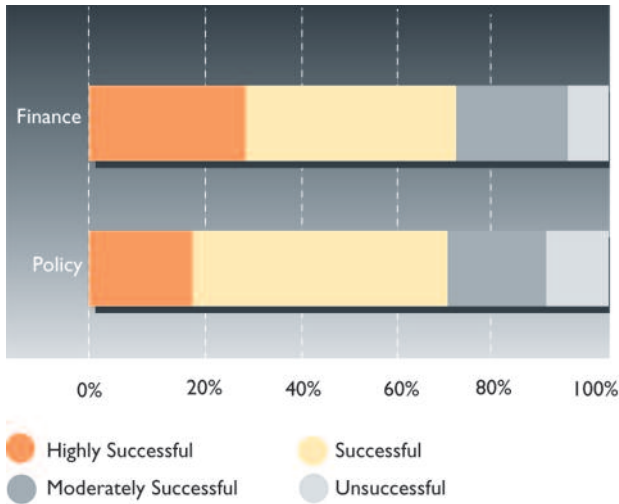
A high level of achievement of the project purpose stated in the initial project proposal can be seen as a result of good project selection and strong project design that defines well-targeted project impacts and expected outcomes. Through its careful and competitive selection process, REEEP has succeeded overall in funding well-targeted initiatives that really have the potential to benefit RE and EE market development. Field missions confirmed that REEEP regional secretariats play an active role during project implementation by engaging key stakeholders in the energy sector within target countries. They are also essential upstream, during project preparation, helping implementing agencies and other project stakeholders ascertain their needs, clarify their demands, and focus their funding requests to provide high-quality, viable project proposals.

Chart 3
Level of Success in Attaining Stated Project Purpose



A common yardstick for all projects allows one to view how clusters of projects fare relative to each other. For instance, Chart 4 below shows that there is no meaningful difference between the Finance theme and the Policy theme clusters in terms of achieving project purpose. In both cases, 70 percent of projects were *Successful* or *Highly Successful* in meeting their purposes. There is a small difference in the intensity of the success, with the Finance cluster being marginally more successful with more projects rated *Highly Successful* and fewer rated *Unsuccessful*.

Chart 4
Level of Success Clustered by Project Theme (Finance and Policy)



In the Policy theme cluster, the outcomes have often been a policy document, guidelines, a strategy, or an international conference or forum, while the projects under the Finance theme cluster included business plans, and the creation and implementation of new financing opportunities. In both cases, even when the project has been found successful in delivering the stated project purpose, it faced challenges in transforming the project achievements into lasting impacts.

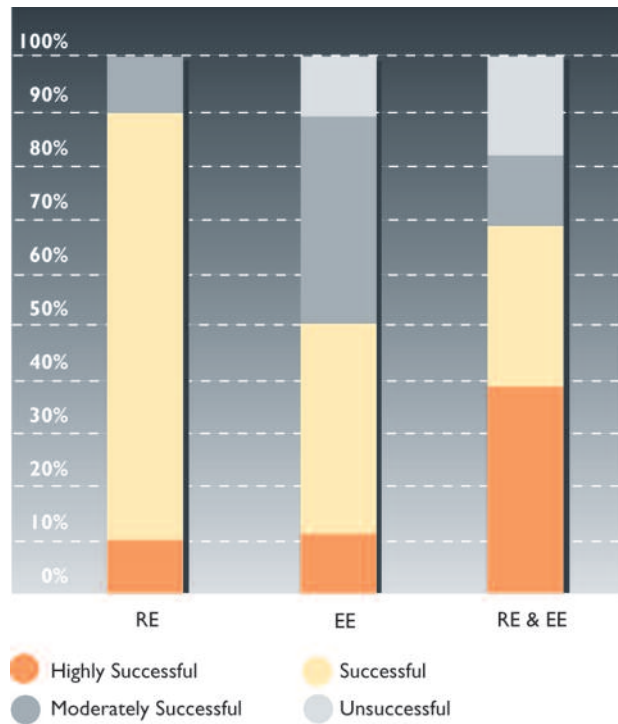
Indeed, one of the challenges found in Policy projects is that the implementation of the policies or plans developed is the responsibility of the recipient organizations, which may not always have the capacity or the appropriate political agenda to implement such policies. By the same token, in Finance projects, the use or replication of financial models developed following the initial awareness and demonstration of opportunities also depends on the recipients will to keep using or applying the tools. In either case, convincing the recipients of the value of the proposed activities is key but the drivers for doing so are different. For the Policy projects, the process is largely political and may be influenced by external factors, while bottom line results more frequently drive the process for Finance projects.

The region in which the project is located is not a factor in the achievement of project purpose. While it is not illustrated here, the review shows that there is no significant difference in the relative success rate when the projects are clustered by regions. Conversely, Chart 5 below shows that the level of success in achieving the purpose defined varies considerably according to the type of project (RE, EE or RE&EE). The RE project type has close to 90 percent of projects rated as *Successful* or *Highly Successful* in achieving project purpose, while such successful projects account for only 50 per cent of the EE cluster. The RE & EE project type fares halfway between these two types, with almost 70 per cent of projects rated as *Highly Successful* or *Successful*,

but with a notably high number of *Highly Successful* projects (close to 40 percent).

Overall, the lower level of achievement seen in the EE projects relative to RE projects can be explained by the different global contexts affecting them. Over the period of the portfolio, energy costs tended to still be relatively low, thus decreasing the incentive to be energy efficient from both a political (therefore handicapping efforts within the Policy theme) and an economic standpoint (therefore handicapping efforts within the Finance theme). Over the same period, international political pressure on reducing greenhouse gas emissions was mounting, which provided political interest that favoured RE policy efforts and in turn created business opportunities that supported finance efforts.

Chart 5
Level of Success Clustered by Project Type (RE, EE, RE & EE)



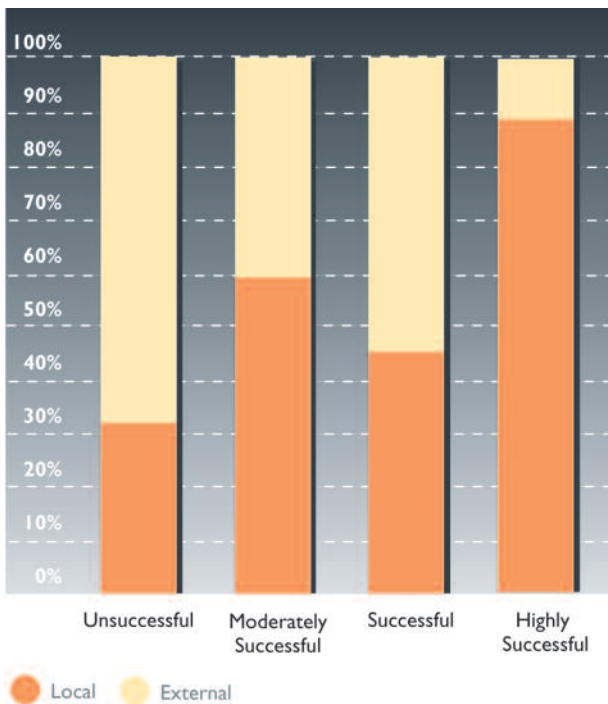
& EE)

There is a broad variety of projects, even within the same project cluster. In the RE cluster, many projects focussed on the development of policies and action plans but also on the promotion of new technologies for sources of energy such as solar and biomass. Other projects focussed on developing new finance mechanisms, and some projects established guidelines and lessons learned for RE. In the EE cluster, projects supported the development of EE policies for the industrial and commercial sectors, while others supported the creation of plans integrating EE in municipal sectors, and others assisted in the

development of building codes. In the RE & EE cluster, some projects supported international forums and conferences that allowed knowledge sharing and network building, some supported the creation of financing mechanisms for both RE and EE sectors, while other projects assisted in the development of policies and strategies for governments.

With regard to the types of implementing agencies, there is quite a difference in level of achievement between local and external agencies (see Chart 6). Local agencies seem to have a higher level of success and lower level of *Unsuccessful* projects. However, in terms of *Moderately Successful* and *Successful* projects, it seems to be quite even.

Chart 6



Level of Success by type of Implementing Agency

In conclusion, the review of the level of achievement of the project purpose confirms the overall high level of achievement in the REEEP portfolio, and highlights the quality, consistency and efficiency of the REEEP project selection and guidance process under all clusters covered by the Partnership.

REEEP SUPPORT TO MARKET DEVELOPMENT

REEEP impact in support of market development in RE and EE

sectors is discussed below based on:

- Contributions that REEEP has made through its Policy, Regulation, Business and Finance activities;
- Possible catalytic and follow-on effects of REEEP project outcomes;

When looking at market development, the connection between project level and overall market level is not explicit. There are cases where the project purpose defined was too broad, and therefore may not have been achieved within the context of the project, but nonetheless made a strong contribution or impact on market development. Conversely, narrowly defined projects may be very successful in attaining their stated goal but have made little contribution and very limited impact. One of the challenges of establishing project contributions for market development is that their impacts often happen after project completion, especially given that REEEP projects are implemented within two years.

It should also be noted that the definition of “market” is not uniform, as there is a multiplicity of markets and of levels of markets, such as local, national, regional and global, which are often intertwined with services and financial markets. Also, a market may be composed of numerous sub-markets that are more or less free and accessible. A market may be fully functional but a sub-component of it may be completely closed, or highly monopolistic. This review does not provide an explicit definition of markets as they range from the most common and tangible, such as the sale of solar lamps in rural areas of India that compete in the traditional lighting market of the poor (kerosene, batteries, wood fuel etc.), to the most complex and immaterial reduction of CO₂ emissions through the application of the Gold Standard using international clean development mechanisms.

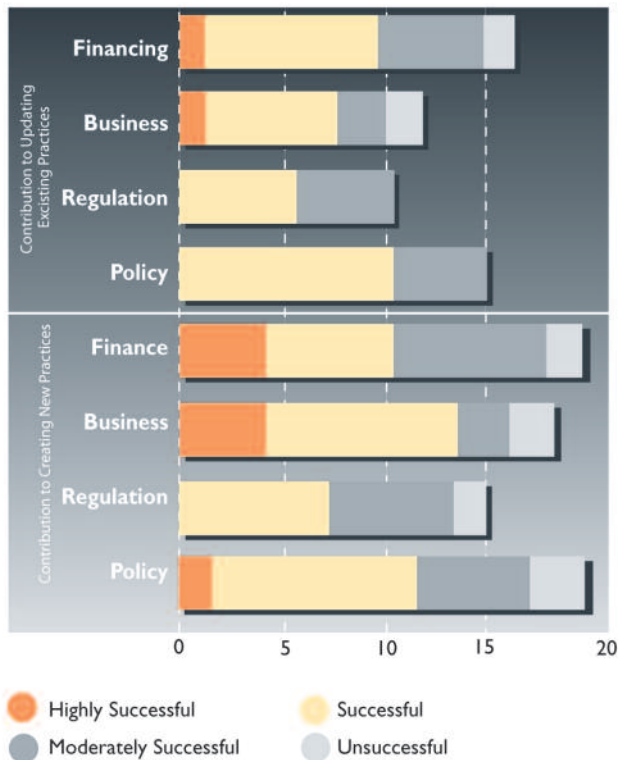
Changing Practices in Policy, Regulation, Business, and Finance

Focusing initially on actual contributions rather than on impact, results from the review found that REEEP has contributed significantly to RE and EE market development through its Policy, Regulation, Business, and Finance project themes. The projects have made these contributions by supporting changes in practices, either by updating existing practices or adopting new ones altogether. Chart 6 demonstrates that overall, REEEP projects have generally been successful in contributing to such changes. Bearing in mind that the chart shows outcomes at market levels, with scopes often broader than REEEP projects, the level of success in contributing to the change is striking.

In the politico-economic settings that can be found in many developing countries, even a moderate success in contributing to market development is remarkable. Especially considering that other institutional players, such as bilateral or multilateral organizations, have stronger human and financial resources. This highlights the catalytic and convening power of REEEP, as thanks to its International Partnership status it is not overshadowed by conflicting local political agendas.

Chart 7

Contribution to Changes in New and Old Practices in Finance, Business, Regulation, and Policy



and raising awareness. These contributions have been accomplished through the creation of new finance mechanisms for EE and RE, the development of new policy documents, and supporting international events. These have been manifested in the Policy, Regulation, Finance and Business sectors in which REEEP has invested, some of which will be described further below.

Within the **Policy theme**, a majority of the projects have focused on the development of new policies, roadmaps, strategies, and regulations for RE and EE. These have contributed to market development **in creating new strategies** for both local and national governments that focus on creating a more accessible environment for EE and RE technologies, such as the project *Developing a National Implementation Roadmap for Wind in China* (RE, Policy - see China case study), which has allowed market development in the wind sector – with a market that grew from about 1,000 MW installed in 2005 to 6,000 MW in 2007. Business replied by going from four domestic manufacturers in 2004 to 50 in 2007. The project *Promoting Renewable Energy and Energy Efficiency through City Energy Strategies in South Africa* (RE & EE, Policy – see South Africa Case Study) has also had a positive impact in regards to EE at the municipal level. For instance, the city of Tshwane (Pretoria) has established a comprehensive study of its environmental footprint, adopted an energy strategy to reduce it, and has started retrofitting its public lighting to be more energy efficient, which is now 60 per cent done.

In the desk review, a project was noted as unsuccessful when it did not achieve its stated purpose to impact a given practice. But an unsuccessful project can still influence practices beyond its original purpose by contributing to changes in business practices in opening new opportunities.

Overall, REEEP has been active and successful in supporting both changes in existing practices as well as generating new ones. In the Business cluster, the successes have focused on the development of new lines of activities, while in the Finance cluster, similar efforts and successes have been witnessed in developing innovative finance mechanisms or in adapting existing sources of finance. The relative difference between influence on Policies and on Regulation (old and new) illustrates the fact that players outside the government are more suited to help with the process of setting or re-designing policies than writing and passing regulations, which is the prerogative of the governments. The inability to influence regulation was actually an area of frustration expressed by NGOs and private sector implementing agencies in the surveys and field meetings.

Overall, the main contributions of REEEP projects for market development in RE and EE are in providing the development of new strategies, improved investment and business opportunities, innovative approaches to RE and EE, access to new technology,

Case Study: South Africa



South African local governments that understood and established strategies to reduce their energy footprint are also empowered to better cope with a national energy crisis.

PROJECT TITLE Promoting Renewable Energy and Energy Efficiency through City Energy Strategies in South Africa

DURATION 2006-2007

STATUS Completed

TYPE RE & EE

THEME Policy

IMPLEMENTING AGENCY Sustainable Energy Africa

PROJECT STATED PURPOSE

To promote renewable and energy efficiency as a practical means of assisting social and economic development of South-African urban communities and restrict growth in CO₂ emissions, by “making the case” for such

practice and ensuring related awareness, knowledge and capacity building at local and national government levels.

INDICATORS OF SUCCESS

- National government is better informed of role of cities in supporting RE and EE agendas and convinced that RE and EE will positively contribute to development targets.
- Increased knowledge amongst key city staff on the economic, social and environmental case for RE and EE (CO₂ reduction, welfare benefits, financial, savings, etc.).
- At least three beneficiary cities develop energy strategies, and start implementing projects based on outputs of this activity.

SUCCESSFULLY CONVINCED CITIES TO EVALUATE NEW APPROACHES TO MITIGATE THEIR ENERGY FOOTPRINT

The project, considered highly successful in achieving its purpose, has allowed the development of new climate and energy strategies in five of the top fifteen urban cities in the country: Ekurhuleni and Tshwane, Sol Plaatje, Cape Town and Potchefstroom. The project started by identifying and training sustainable energy champions within the senior staff of each target city, with the aim of facilitating access to, and buy-in from, higher level officials and city councillors. The project then had to tackle a common issue, that national strategies do not necessarily address problems that relate to decision makers at the local level. It was, therefore, difficult for city champions to convince city councils to act on the National Energy Strategy adopted in 2005 to reduce the energy footprint. Therefore, the project produced a manual specifically targeting local government staff and councillors, and explained broader sustainable energy issues in a format relevant to cities’ daily challenges. This led the cities to understand how the activities taking place within their boundaries were connected to national challenges and targeted a series of examples of immediate relevance to councils. These included improved public lighting, traffic lights and government building lighting, all areas of heavy cost on city budgets; solar water heaters, with direct peak demand repercus-

Case Study: South Africa (continued)

sion and equity related issues and public transport diversification, with repercussions on traffic congestion, equity and pollution. Following the case-making, cities were encouraged and supported in establishing their own assessment of the situation within their boundaries, drafted and discussed mitigation strategies and began immediate, “quick win” changes.

A SLOW IMPLEMENTATION OF STRATEGIES BUT NONETHELESS A HEAD-START IN DEALING WITH THE UNEXPECTEDLY ACUTE ENERGY CRISIS FACED BY THE NATION

These activities were undertaken in 2006-7 at a time when ESKOM, the national utility, and the national government were confident that the electricity crisis would be averted and were in a slow response mode. When adding low fuel prices, the context for the development of energy efficiency and renewable energy was not favourable to the endeavour. This in part explains why the project lagged in the implementation part, with some retrofitting being implemented by municipalities on a trial basis, replacing incandescent and fluorescent bulbs with CFL, uneven promotion of efficient street lighting and LED traffic lights (in large part due to the different rules on capital and operating expenditures) and promoting public transport. The most audacious initiative was undertaken by the municipality of Cape Town, which has developed and is negotiating the adoption of a municipal solar water heater by-law, which would require all new buildings within the city, and all additions to existing buildings to adopt solar water-heating systems for hot water. The adoption of this the Cape Town by-law is being watched closely by other municipalities waiting for all the hurdles to be overcome before preparing their own by-law as well.

Nonetheless, these cities have established diagnostics of their energy consumption, established strategies and action plans, and started communication with their citizens and other constituents. This is an exercise that few cities in the world have done and which has proved beneficial to those cities in the current crisis climate where planned and unplanned load shedding, became a regular occurrence in 2008. The work done under the REEEP project

prevents having to scramble in crisis mode to assess where and how energy gains can be made; this information is already available and agreed upon by stakeholders. Some limited but real experience has been collected in implementation of efficiency projects and can be scaled-up as funding and political will become available at the national level.

KEY LESSONS LEARNED

- Working with cities requires time as they are large organizations, which change direction slowly and can be affected by political change. Extensive capacity building, and repeated case-making as well as technical support at various levels of city departments, is required for substantial on-the-ground results to appear.
- Cities have relatively few staff allocated to sustainable energy issues and they are already over-stretched in terms of workload and often spread across different departments (electricity, transport, and environment) that may not connect. This is not different from issues met within national governments but the capacities to handle complex theoretical and strategic target are more limited. However, the will and the interest exist in municipalities when the issues are reformulated in a more concrete manner.
- Implementation of cities' energy strategies is impeded by internal hurdles that they must solve themselves, but also by national hurdles that are beyond their reach. For example, rules on procurement for equipment set to avoid waste and corruption prevent municipalities from starting a large replacement bid for more efficient lighting or traffic lights that may cost more in investment but be recouped over a few years. Similarly, delays in national decisions on standards, funding sources and policy priorities can also affect cities' capacities to act.
- Given how cities are at the forefront of much planning and investment decisions, the concentration of support to decision makers is much lower than at the national level and REEEP can make a major difference by continuing to assist at sub-national levels.

REEEP projects have also **developed case-making, awareness and training** that favour an increased interest in RE & EE markets like the project *Utilization of forest biomass for substitution of fossil fuels in the Volga River Region* that demonstrated the economic and environmental benefits of mitigating energy dependence in remote villages of the Volga River basin by substituting biomass for traditional fossil fuels. The project, *International Sustainable Energy Assessment (RE & EE, Policy)*, provided a critical informational tool for enabling decision-makers and policy analysts to improve the efficacy of international energy agreements in fostering the development of REES markets. The U.S. Senate Committee on Foreign Relations has used the information to support U.S. legislation calling for increased bilateral and multilateral energy agreements. The **introduction and promotion of Renewable Energy Certificates (RECs) has also been a key contribution** to market development in the RE sector as a means to increase the market share of RE in countries like China, India, Mexico, and Kazakhstan

REEEP **projects that focus on regulations have contributed indirectly to market development**, such as the project *Innovative market mechanisms and regulatory frameworks to develop biomass co-firing potential in China* (RE, Policy), which developed sustainable wood energy markets, thus adding a new option to the energy mix in China. Projects like *Building Energy Efficiency Codes in Russia and Kazakhstan* (EE, Policy), have helped modify building codes and introduce energy efficiency rating systems. This has helped building designers and contractors go beyond simple compliance with outdated regulations and introduce new technologies such as lightweight aggregate concrete, external insulation systems, double-skin-facade wall systems, and energy efficient windows with low-e glass, regulated air intake systems and heat delivery systems for individual apartments and influence businesses in investing in the production of this type of equipment.

Within the **Financing theme**, REEEP projects opened market opportunities for RE and EE through risk mitigation instruments, new financing mechanisms, improved affordability and business models.

REEEP projects have **increased the participation of financial institutions in the RE and EE sectors**. It supported initiatives that have created new funds, or expanded loans from existing banks into lesser-known business areas, as was the case for ESCOs in India and Brazil, or micro-financing for renewable energy in Africa, thus contributing to the development of the corresponding markets. The projects have also **increased the affordability of RE and EE products**

for a larger population in developing countries such as through the project *More Private Pro-poor Small-scale RE/EE Investments in South Asia* (RE & EE, Finance – see India case study) which has initiated several local supply chains dealing with one or more REES technologies. Other interesting projects include: *Developing a Financial Model for Renewable Energy Upgrade Interventions in Urban Low-Income Housing in South Africa* (RE, Finance); and *Facilitating Access to Finance for the Biodiesel Industry in Southern Africa* (RE, Finance).

REEEP projects have also **supported business access to markets through the implementation of new technologies and approaches**, such as solar water-heating systems in South Africa and Brazil. The project *Innovative financing to accelerate solar water heating in Brazil and the Caribbean* (RE, Finance) helped catalyze the launch of a new business dedicated to the solar thermal sale-of-energy business model, and helped facilitate the accession of at least one participant to the carbon market. This has also been the case for the project *E+Co Commercialisation of Large Scale Solar Heating Systems* (RE, Finance) which eventually benefited from a positive development of market opportunities for investment by creating a Guarantee Facility for local finance institutions to support end users of solar water heating systems in South Africa. Projects have also supported **the development of innovative business models** for new ways of integrating RE and EE within broader business opportunities, such as the project *Development of Energy Efficiency Fund in Brazil* (EE, Finance - see Brazil case study) which has encouraged the current utility providers in Brazil to open an ESCO branch within their operations that is specifically geared towards their industrial and commercial client base.

Successful Catalyst with Follow-on Effects

During project implementation, REEEP plays an important role as a catalyst for defining or implementing activities that favour market development in renewable energy and energy efficiency. This is often a result of the Partnership's ability to support its partners through its regional REEEP secretariats. REEEP's support during a project, through numerous workshops and joint working groups, helps federate the stakeholders, debate the issue at stake and weigh the various options that can be offered. Also, through the work of the implementing agency or its subcontractor, best practices are presented and positive proposals put forward for stakeholder perusal. A good illustration of this type of dynamic is provided in the project, *Developing a National Implementation Roadmap for Wind in China*.

Case Study: China



Helping China make informed decisions on wind policy provided a catalytic support to the making of the world's largest renewable market.

PROJECT TITLE Developing a National Implementation Roadmap for Wind in China

DURATION 2005-2006

STATUS Completed

TYPE RE

THEME Policy

IMPLEMENTING AGENCY Center for Renewable Energy Development, (a department of the Energy Research Institute, itself a branch of the National Development and Reform Commission)

PROJECT STATED PURPOSE

The purpose of the project was to develop a National Roadmap for Wind Development in China and its supporting documentation. That roadmap provided a detailed planning framework to enable China to achieve its intermediate and long-term strategic wind development and policy goals for 2010 and 2020.

INDICATORS OF SUCCESS

- Full cooperation and involvement of the government.
- Incorporation of the roadmap results into the planning structure of the government.
- Approval by key stakeholders and incentive to act on the roadmap.

A SUCCESSFUL PROJECT THAT ACHIEVED ITS STATED PURPOSE

The REEEP-funded work provided the right mix of international experience review, analysis of potential and challenges, proposals of reasonable targets and suggestions on how to reach them. Being undertaken by the Energy Research Institute (ERI) of the National Development and Reform Commission (NDRC, a branch of government), the implementing agency was close to the decision-makers and was able to efficiently relay the proposals of the Roadmap. The project was therefore highly successful and its results were used directly for developing the National Medium- and Long-Term Strategy for Renewable Energy Development, as well as the 11th five-year plan from 2006-2010. The roadmap was accepted by enterprises including wind farm developers, manufacturing, wind experts and policy makers.

UNPRETENTIOUS BUT FIRM CONTRIBUTION TO THE CREATION OF A NATIONAL WIND MARKET

While other contributing factors (primarily international pressure to reduce greenhouse gas emissions) should primarily be credited with the ongoing transformation of the Chinese wind market, the Roadmap provided a demand-driven and timely clarification of issues and challenges, a tool for advocacy as well as a solid basis for target setting. It showed that there can be a virtuous chain where providing relevant information and valid targets to high officials generates good will and support for adequate policies. These policies in turn influence investors such as large power generators which modify their investment decisions accordingly. This results in a strong market demand for wind farms and their components and the birth of a wind-related industry.

Case Study: China (continued)

When the REEEP project started mid-2005, the installed capacity in wind in China had not yet reached a thousand MW, and was barely growing at 200 MW per year. The target set of 5,000 MW by 2010 and 30 GW by 2020 was therefore ambitious but realistic and achievable. But the unlocking of minds and the clear message sent to the power generating companies (these are significant goals, and if need be, they may be enforced by a compulsory percentage of electricity to be generated by wind) enabled them to seriously consider wind as a component of their power mix. By mid-2008, installed capacity was already 6,000 MW, growing at 3,000 MW per year (compared with a total installed capacity in 2007 of 2,450 MW in the UK or 1,540 MW in Japan) and forecasted to keep growing exponentially. Using average wind capacity and grid CO₂ emission factors, the current installed capacity of 6,000 MW would prevent the generation of about 10 million tonnes of CO₂ every year. Using similar average figures, yearly CO₂ reduction could go up to 50 million tons by 2020, should the target of 30 GW be reached.

A CATALYTIC IMPACT THAT MAY WELL BE FELT BEYOND THE CHINESE WIND MARKET

An instrumental aspect of the Roadmap, strongly supported by the government, was looking into how best to establish an industrial strategy to create a national wind manufacturing industry. The Roadmap aimed at starting with simple components and local assembly only, then later on moving to more elaborate turbines and gearshifts and creating indigenous intellectual property. In fact, the number of domestic parts manufacturers went from 4 in 2004 to 50 in 2007 in a market still dominated by a few established international manufacturers. According to the Roadmap, in the next five

to ten years, the industry is expected to concentrate on acquiring and holding 80% of the domestic market-share. But after an expected concentration and thorough investments in R&D, by 2020 the industry will shift to international markets and may then revolutionize the basic economics of wind projects as has been done for other products in the past.

KEY LESSONS LEARNED

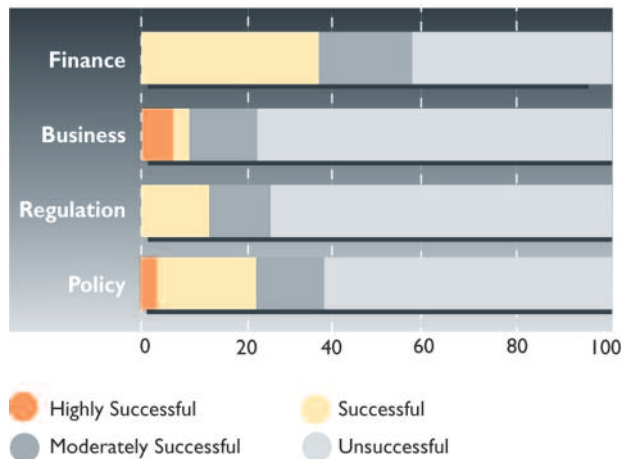
- Access of the implementing agency to the core levels of government is critical to gain political leadership support, particularly in the case of a centralised country such as China.
- A systemic framework that sets sound and realistic wind capacity goals in the short and medium term can fast-track the development of a nascent wind energy market and spur considerable investment.
- Strong, clear policy messages such as the Roadmap can prompt project investments that may not meet basic economic and financial internal return on investment but are nonetheless critical to generation companies for longer term investment considerations (positioning in a new market, meeting national energy requirements, marketing the company and country image as green and climate friendly, and long-term access to the best wind resources in the country).
- A well-crafted and discussed document can go beyond setting theoretical goals and help distribute and coordinate agencies' activities towards implementation (requirements for industrialisation, review of grid modifications, test centre for newly developed turbines etc.).

As always when assessing impacts, it is more complex to estimate follow-on effects and attribute a degree of contribution of project outcomes to market development. This is to a certain extent subjective, given the variety of factors typically affecting markets and this causal relationship. In fact, as shown in Chart 7 below, for about 60 percent of projects, the impact on markets could not be assessed due to the many actors, the number of variables involved and the short time elapsed since the end of the project. This is in large part because developing markets

is a long-term proposition and process and frequently cannot be attributed to a single contributing factor or player, no matter how important it may be. Also, more often than not, while the absence of a contributing source or factor prevents the market from developing, its presence is not always sufficient to make such a market unfold. This issue of "necessary but not sufficient condition" is well illustrated in the project *Compiling Renewable Energy Legislation in Kazakhstan* used later on as a case study in this report.

Chart 8

Estimated Levels of Impact on Market Development by Cluster



In assessing catalytic and follow-on effects, an important issue to consider is the nature of REEEP projects and the role of the implementing agencies which sometimes leads to a conundrum in terms of attribution. When the implementing agency is a central player in the sector, its contribution is strong and its potential impact in the creation of a viable market is most likely direct. But impacts often result from multiple long-term activities that have been undertaken by other agencies in addition to the REEEP-funded activities, and therefore, clear attribution of results is not as clearly established. This has been voiced often by implementing agencies themselves in the survey and the field trips, and leads sometimes to confusion in stakeholders' minds as to what was to be attributed to the work done under REEEP project and to the other activities of the agency. Conversely, when the implementing agency is a less central player, its involvement in the sector may be fully supported by REEEP and it may be able to bring a fresh view to the problems debated to help unlock the process. However, the final contribution to market mobilization would likely remain with other larger players.

The higher than average success rate in impacting market development seen in the Finance cluster (Chart 7) stems from the fact that clear and defined sectors were targeted with discrete and potentially market-friendly items highlighted. In other words, it was about providing financing mechanisms for items like solar lighting systems, solar water heaters, pressure cookers or windows and exterior insulation improvement with numerous potential customers, once the viability of the item purchase was improved, while in the Business cluster, impacts in market development are relatively lower since they are often a result of a Finance or Policy project. In order to reach the market level, the demand for the product, as well as the business taking on such products, has to go beyond the early adopters often targeted by REEEP projects.

Similarly, successes in the Regulation cluster are preceded by

successes in the Policy cluster, as the review showed that the vast majority of projects that succeeded in supporting markets through improved regulation, had also supported well crafted policies prior to that. There are some cases where regulatory activities were implemented with success but they tended to be more at the sub-national level, and concerned industry-specific codes or standards. The following section provides more specific examples of projects to illustrate the global trends discussed above.

Improving Stakeholder Engagement

REEEP intervenes in a large variety of countries, economic contexts and financial or policy environments. In every case, multiple stakeholders are involved and have been working in the areas of interest to REEEP but their efforts, prior to REEEP involvement, often faced a deadlock. The reasons for this situation are varied, such as stalemates resulting from competing interests, or lack of information, or lukewarm support due to the absence of demonstrated solutions that fit the perceived problems. But, for the most part, they have a common thread which is that while stakeholders are aware of the problems they face, they are sometimes at a loss regarding some of the steps involved in identifying, quantifying and analysing the possible solutions, clarifying the options best suited to their own situation, implementing them, assessing impacts, and adapting the solutions, if necessary.

While all activities cannot realistically be funded, REEEP has excelled at providing targeted and punctual support to some of the most active stakeholders, champions of the cause, in order to help them design the way out of the deadlock, at key moments in their longer-term efforts. As such, it has helped stakeholders conceive the keystone that makes their work stand on its own. REEEP assistance in RE and EE was especially catalytic when it provided awareness-raising, innovative approaches to implementing projects and access to new technologies.

Awareness raising is a common denominator and a major contribution of REEEP projects. Not only are solutions developed by implementing agencies but they are widely disseminated through training, workshops, conferences, websites, toolkits and working directly with key stakeholders, the public, as well as corporations. Even projects that may not have been as successful in achieving their purpose state that they have at least raised awareness regarding RE and EE issues. For example, the *Legal Framework for Renewable Energy in the State of Guanajuato* (RE & EE, Policy) project could not see implementation of its targets of increased use of renewable at the municipal level because their initiatives were blocked by the lack of national framework; but having raised the issue and requested change locally, with REEEP support, provided leverage to RE proponents nationally to start addressing the framework shortcomings. In some projects, such as the *China case study* (RE, Policy), initial awareness was already present but establishing clear goals required informing further policy makers on EE and RE issues and opportunities through the Wind Power Road Map. The project, *Financing Cogeneration and Small-Hydro projects in the Sugar and Tea Industry in East and Southern Africa* (RE, Financing) provides

another example of multiple stakeholder support. Not only have these sugar and tea industries benefited from receiving micro-financing, but the financial institutions learned that risks could be managed for REES in agro-industries and investors became more aware of the opportunities and the requirements for investments in these new areas of activity. Finally, REEEP has also supported those willing to undertake awareness raising but lacking the tools to do so. Global projects such as *RETScreen Version 4 – Multilingual Energy Efficiency Models* (Policy, EE) helped provide a tool, an expansion of the existing RETScreen model, as a free public mechanism that helped evaluate the savings, costs, emission reductions, financial viability and risk for various types of energy-efficient technologies. While the project did not directly train stakeholders, the worldwide availability of the free tool helped users build co-ordination and links through common codes, rules, and procedures as well as enhancing the energy efficiency market coherence in their own countries.

Innovative approaches to RE and EE were promoted by REEEP, through initiatives aimed at new designs or the transfer and adaptation of best practice models. For instance, the project *Developing a Financial Model for Energy Upgrade Interventions in Urban Low-Income Housing* (EE, Financing), is promoting the implementation of the model linking ESCOs and Clean Development Mechanisms to implement and finance energy efficiency action in low-income housing across South Africa. While the initial implementation was delayed for institutional reasons, the twinning of financial and delivery mechanisms has proven to be a good model for bridging the access gap between existing sustainable energy solutions and the poorest households. The project *Establishment of an RE/EE Financing Facility for Brazil* (RE&EE, Financing) mobilized local sources of funding by adopting existing approaches that were novel in the Central and South American local investment context in the renewable energy sector. This included use of pension funds, guarantees, and financial and physical bundling of projects to decrease transaction costs and enhance viability. In all, during its lifetime, the project supported the financing of 5 small hydropower plants totalling 97 MW, with an additional 8 totalling 96 MW being processed. As noted earlier, global projects can also help spread new approaches in a practical way that goes beyond awareness raising. That was the aim of the *Harmonization Road Map Development on Government Procurement for Energy Efficient products among APEC Economies* project (EE, policy) that assessed policy in some APEC economies including purchasing policies, regulations, and practices, evaluated barriers, and developed a roadmap to harmonise procurement policies in the region. Such projects have potentially strong impacts as they bring international best practices into sometimes otherwise inflexible procedures that can delay adaptation of standards and rules to less energy-demanding options.

REEEP projects promoted the access to new technologies that were not available in the REEEP project country but had been used successfully elsewhere in a similar context. The project, *Dissemination of Best Practices of Village Power to East Asian Countries* (RE, Policy), brought wind and photovoltaic power systems to four villages following REEEP-supported designs, which will also be duplicated on a larger scale in a rural electrification programme in Mongolia. The *India case*

study (RE & EE, Finance) incorporated new technologies such as LED-based lights, rural last mile electricity, efficient cooking and heating methods for households and micro-enterprises, as well as a fuel-saving device for domestic and commercial applications. These technologies are now accessible through an improved supply chain for lighting, as well as new financing mechanism concepts such as lease-to-purchase, and equity transactions that are refinanced by the banks that have benefited thousands of people. The project *Innovative Market Mechanisms and Regulatory Frameworks to Develop Biomass Co-Firing Potential in China* (RE, policy) helped introduce the widely available co-firing techniques in the US and Europe and see how these could benefit China. It created a baseline for biomass resource availability by province for co-firing and makes suggestions for establishment of collection and distribution systems. In this type of case, the technologies are well known but the challenge lies in their successful adaptation to China's unique land system, the only way to ensure long-term viability of this pragmatic CO₂ reducing option.

SUCCESSSES AND CHALLENGES OF REEEP PROJECTS

While targeting Policy and Finance projects in renewable energy and energy efficiency, REEEP provided a very large array of activities, while working with a variety of implementing agencies, models, countries, energy contexts, as well as applying a variety of implementation strategies, knowledge, and technologies. Below are some of the REEEP successes and challenges within the vast array of projects funded.

Successes and Best Practices

Some illustrations of activities that worked can help visualize how many projects managed to advance the agenda of renewable energy and energy efficiency market development. **REEEP projects developed good practices in providing renewable energy and energy efficient services to the poor** (in India, South Africa, Sri Lanka, Brazil – see the illustration of the India case study).

- **Successful implementation has often been successful by means of direct field operations rather than larger schemes, such as through partnering with small and medium sized businesses as intermediaries to sell RE and EE products.** This has allowed for a door-to-door marketing approach, which is more efficient in villages and slum areas. Providing items that are vital, and do not need daily maintenance, for under-privileged people like pressure cookers, solar lanterns or linked to income generation was also key. Micro-financing provides easy and flexible payment terms to the poor to facilitate access and allow increased use of such products by lower income families and businesses. While successful projects are usually well targeted in term of products, customers and area of expansion, this strength is also a limitation when trying to replicate the project at a larger level.

Case Study: India



Providing new approaches to marketing energy efficient products benefited low income families.

PROJECT TITLE More Private Pro-poor Small-scale RE/EE Investments in South Asia

DURATION 2006-2007

TYPE RE & EE

THEME Financing

STATUS Completed

IMPLEMENTING AGENCY The Small-Scale Sustainable Infrastructure Development Fund, Inc. (S3IDF)

PURPOSE

Expansion of investment portfolio and incorporation of additional financing mechanisms - new to S3IDF's portfolio - into the S3IDF model that facilitates local financing and enterprise development for small REES projects with large, pro-poor impacts, global and local environmental benefits, and the continued dissemination of the model's successes and lessons.

INDICATORS OF SUCCESS

- Geographical footprint of the transaction portfolio – measured in terms of locations (country, state, district);
- Transaction numbers of new types/scales of RE/EE resource (wind, solar, etc.) and technology (e.g., biogas, gasification);
- Investment co-financing by IFIs in terms of new/additional numbers and types (banks, their branches, leasing companies, etc.) noting initial versus repeat co-financing measuring degree of changes in “mind-set” .

LEVEL OF ACHIEVEMENT

The project successfully achieved its stated purpose of replicating S3IDF's existing examples of portfolio projects by incorporating a new aspect in the investments such as new geographical location, new financing structure, new technology, or new partners. The new model has improved the access of poor people to energy services by initiating several local supply chains dealing with one or more REES technologies. The door-to-door marketing approach used by a local entrepreneur responsible for the project facilitated the promotion of REES technologies and money collection from beneficiaries. The project resulted in tangible capacity additions for REES, in terms of increased market, different end-uses, increased replication and increased access through additional local supply chains and partners.

In Bangalore, six projects were implemented during REEEP activities. There are now eight additional projects implemented using the same approach. In the Bellary District, the entrepreneur has opened new retail shops in three villages and the distribution network has expanded for the supply of pressure cookers, and LED lanterns, but also for non-energy

Case Study: India (continued)

devices such as water filters and mixers using the same financing arrangements to end-beneficiaries. The market spending on REES technologies has drastically increased from 122,000 Rs in 2005 to 2,500,000 Rs in 2007 with pressure cookers representing 50 per cent of the sales. As a result, it is estimated that there has been a reduction of about 408 tonnes of CO₂ offset per year.

Since the end of the REEEP funding, there has been an increase in the number of businesses using the approach. All enterprises and businesses created during the 12-month REEEP project are operating and growing successfully and have been replicated in the same or other areas. The project outcomes are promoting the replication of successful models elsewhere and assisting in proving the social merchant bank model to banks, donors and other NGOs. Organizations such as SELCO and TERI collaborated with S3IDF and also implemented the same approach in India to develop access to energy for cooking, lighting and water in rural areas. It is estimated that around 10,000 people have directly and indirectly benefited from projects implemented under REEEP funding. S3IDF is partnering with Global Village Energy Partnership (GVEP) to replicate these business models in Africa, as well.

LESSONS LEARNED

- **RE/EE technologies that need daily services for end-users encounter some difficulties. End-users don't have the necessary services**

to deal with these failures and this creates a “poor quality of the technology” mind set in the entrepreneurs who don't have sufficient resources (human and technical) to provide daily assistance to their costumers.

- **The creation of supply chains can provide various energy services; supply chains, in particular, that are locally-based can be provided by individual entrepreneurs or NGOs.**
- **Informal supply chains can introduce unforeseen new issues to deal with, in addition to the existing problem of appropriate finance structuring for the supply chains and the end-beneficiaries.**
- **There is a need for variations on the social merchant bank model, promoted by S3IDF, especially for projects that could go forward after the detailed pre-investment analysis is completed, but are still small by conventional standards. The model provides either bank guarantees or direct funding for such projects that are small and cost-effective, but unlikely to get credit from conventional banking or microcredit systems due to the perceived risks on products promoted and common practices barriers.**
- **The quasi-commercial norms of S3IDF's standard Social Merchant Bank approach require special considerations and funding, when projects have limitations regarding the working poor's ability to pay for certain goods, especially when the costs of critical services (e.g. potable water, minimal lighting) limit the delivery of these services.**

- **There is also potential for larger scale results in the use of small systems that can become viable when installed and implemented on a large scale.** Examples such as solar water heaters in South Africa and Brazil townships; bio-diesel production at rural villages in Southern Africa, where the projects have demonstrated the viability of use when included in larger and unified programmes, have devised business models, including financial, ones to roll-out the projects but have not implemented them since doing so would go beyond REEEP time and finance capacities.

Some accomplishments were made in addressing markets that lay between the individual level and the national level and are therefore harder to define, such as:

- **The promotion of ESCO schemes has been valuable in engaging with municipalities and the**

commercial sector that may be seduced by the notion of energy savings but are unsure of how to go about it, due to their internal rules or dedication to core business activities. The shared-savings models facilitated privately financed EE project implementation without adding financial pressure on the beneficiaries that may distract them from other priorities. But the financing question is then moved onto the ESCOs, which may not find a sufficiently dynamic market to get guarantees and short-term loans for the initial investments. ESCO-type schemes are also promising as a mechanism for rolling-out execution of the distribution and maintenance of renewable systems such as solar water systems.

- Successes were also obtained in **helping municipalities modify their regulations to favour the development of RE and EE.** By-laws being developed in South Africa at the municipal level to require the use of solar

Case Study: Kazakhstan



Making the Case for Renewable Energies in Kazakhstan and Supporting the Drafting of Relevant Legislation.

PROJECT TITLE Compiling RES Legislation for Kazakhstan

DURATION 2006-2007

STATUS Completed

TYPE RE

THEME Policy

IMPLEMENTING AGENCY UNDP Kazakhstan

PROJECT STATED PURPOSE

To prepare for renewable energy to be included in the legislation of Kazakhstan.

INDICATORS OF SUCCESS

- Endorsement of regulation draft by IFIs and other banks.
- Acceptance of draft regulation by beneficiary, Ministry of Energy and Mineral Resources.

AN UPHILL BATTLE FOR RENEWABLE ENERGY IN A DIFFICULT CONTEXT

Early legislative efforts supporting RE in the mid-90s were stalled by the lack of interest on the part of direct stakeholders and even hostility of generating companies as the country's economy was going through a severe contraction following post-Soviet collapse. The absence of resources assessment and technico-economic arguments for the use of renewable energy provided another road-block. Knowing that Kazakhstan is a major producer and exporter of very cheap coal, the UNDP kept working to put renewable energy back on the map even against such a bleak background. With REEEP funding, the UNDP strengthened its advocacy role by generating and using factual data to support the position of the validity of using renewable energy as part of the energy mix (primarily wind but also small hydro) and patiently unlocked stakeholders' minds to convince them to participate in drafting an RE law and the related regulation on compensating tariffs.

EFFORTS AND ADVANCED WORK THAT PROVED VALUABLE AS CIRCUMSTANCES CHANGED

As local stakeholders began to be convinced of the value of renewable energy, the economic overview started to change because of a strong restart of the economy fuelled by an oil boom that suddenly highlighted the lack of investment in the electricity sector over the last 15 years and shortages started to appear. At the same time, the political landscape changed as the president put his weight behind RE following international pressure against greenhouse gas. In this context, available and abundant wind power in the capital region, at the border with China (Jungar gates) and quite far from the coal mines, started to become an attractive option.

PROVIDING QUICK DELIVERY OF DRAFT LAWS AND REGULATION FOR THE GOVERNMENT TO APPROVE

The timely REEEP support helped convince the government to move forward, provide and assist decisions on the mechanism and targets to be used to provide incentives for invest-

Case Study: Kazakhstan (continued)

ment in RE generation. The law was drafted and has been endorsed by most IFIs with the mutual agreement that passing the law will be beneficial and that the sector should attract investors which they stand ready to support with loans. The tariff mechanism chosen was to use Renewable Energy Certificates which was discussed against feed-in tariffs but deemed to better serve the local situation. The Ministry of Energy and Mineral Resources has grown very committed through the conceptual development and drafting of the law. The Ministry is now responsible for presenting the proposed legislation to Parliament early 2009. The law provides for the installation of wind farms for 7.5 MW by 2009, 50 MW by 2010 and up to 500 MW by 2020.

UNDP still provides continued support to the government on passing the law and is now discussing the start of a similar process for drafting an energy efficiency law.

KEY LESSONS LEARNED

- **An effective assessment of RE resources and impacts, as well as an argument for their use, is needed to be able to set policy targets. In addition, the presence of a favourable environment and political support for legislation are necessary to move the country towards implementation.**
- **The process of drafting a law is very slow and cumbersome in countries such as Kazakhstan, involving many ministries and thorough negotiations. Therefore, the development of regulations and policies that favour the establishment of markets is a very slow process that needs careful support and long-term commitment.**

water systems in all new construction and meaningful expansion of domestic or commercial residences allowed for a bottom-up approach where municipalities are taking the lead over the national government. Similarly, changes in building codes in Russia at municipal level provided the option for new more energy efficient building designs and the inclusion of previously unacceptable equipment due to out of date or misguided norms. In Russia again, municipalities showed real interest in the conversion of municipal heating from coal and heavy oil to forest biomass. In this case, while the municipalities are convinced of the value of the project, the change will require the capacity to adopt new financing mechanisms to complement their limited budgets.

At the national level, support to policy development in the renewable sphere is an area of good practice. The achievements are mixed however, with results that vary by the nature of the implementing agency and the type of support provided, namely direct support to building legislation or through awareness raising and training, such as:

- **Policy projects supported by entities close to the government had strong results with influencing, drafting and passing the laws and regulations** such as in the formalization of RE strategies in the China Wind Roadmap project through the Energy Research Institute, and the support to the design of an RE subsidy mechanism such as in Kazakhstan through the UNDP. There is some question, however, as to the extent to which external stakeholder input was sought and included.
- Policy projects supported by NGOs provided **good stakeholder involvement but had difficulties**

getting the proposed texts discussed and adopted at the government level. The sustainable energy framework in Guatemala and the hospital policy paper in Poland generated good stakeholder interest that were transformed into valuable contributions and inputs but were both blocked at ministerial level and could not get beyond the level of draft documents. A similar situation was encountered by a similar Policy framework created in Liberia that fell short of delivering policy papers but was considered successful by raising government awareness of the subject matter and giving it incentives to develop its own white paper.

- **Results of policy projects that targeted broader audiences and primarily awareness-raising and information are not traceable** beyond the delivery and receipt of the information by participants. The Latin American Regional Sustainable Energy Policy Development Forum helped policy-making participants establish contacts and understand how to promote the topic; results were also achieved by the project Capacity Building for State Regulators and Policy Makers in Mainstreaming RETs in electricity but in a more focused fashion. In either case, the question remains to see how much of what was learned by participants during those events will, in fact, influence policy making once participants return to their respective offices and activities.
- **Stakeholder participation is a central feature of REEEP projects and has been an instrumental factor in its successes.** It is also key in ensuring that projects are sustainable after the project's end or plans and policies are implemented, such as:

- **Training, learning/experience-sharing workshops, focus groups and dissemination seminars are key components of REEEP project designs.** Such activities are customary in this type of project but too often as a minor component. However, with REEEP structured as a partnership, such activities are considered important in their own right without being an end in themselves. Typically, projects that worked at a smaller scale or targeted specific organizations had more successful stakeholder engagement and seem to have avoided the risk of only working among like-minded people.
- **The use of the internet has been an efficient tool for information gathering and dissemination.** It accelerates the transfer of technology around the globe, maximizing impact while minimizing costs. The use of a semi-open wiki system for collecting information has been successful in reaching a large variety of stakeholders.
- The time limitation (12 to 24 months for most projects) prevents long-term actions, and as noted earlier, may seem frustrating for many implementing agencies that often only start seeing results at the end of their project, are aware of the vast amount of work still to be done, and have run out of funds.
- The size limitation, while consistent at around 100,000 Euros per project, prevents effective implementation of concrete projects beyond pilot projects. It also reduced the priority level in some contexts where the importance of a project is determined by the amount of funding. This can limit the attribution of impacts when other large actors are working on the same issues with much larger budgets.
- These often limit the use of REEEP funds to a gap-fund, either to a discrete topic or to a continuous topic.
- The time and financial limitations allow simplified disbursement procedures that are very competitive and provide for a rapid response by REEEP to specific requests. This flexible and swift support on a given topic such as helping with a deadlock on policymaking, for example, was noted as greatly appreciated by implementing agencies and stakeholders in field visits.
- All implementing agencies acknowledged that turnover of key stakeholders, especially in the policy area, is a major challenge. This was seen often during field visits when the team met many times with successors to the person that was connected to the REEEP project and who often had limited knowledge of its details. Limited funding prevents having people as full time counterparts to the implementing agency and increases the exposure to turnover. But short project duration limits this turn-over problem - as long as the turnover does not take place during the project, as has happened on several occasions, and was reported to have thoroughly disturbed meeting the project purpose on a few occasions.

Challenges of REEEP projects

REEEP-sponsored projects are responsive to the strength and limitations of its sectors of activity. Working in developing countries, REEEP is faced with the issues that are often encountered by development agents and that can often work either as a hurdle or a springboard.

Lack of stakeholder capacity is a key issue that has been cited by all implementing agencies during field visits and in reports and surveys. It has been highlighted as a major difficulty for undertaking projects, while at the same time often being one of the central reasons why the project has to be undertaken. In that respect, overall, REEEP projects have proven quite successful at dealing with this issue. This is in large part thanks to the unique selection mechanism for REEEP implementing agencies that does not limit itself to nationality or type of agent, but rather is able to select or support the one that is most suited to undertaking the project. For example:

- Government agencies and large international organisations proved more able to handle the policy projects. Through their relations with the government, they are able to convey the messages to decision-makers and are more efficient when contracting-out most of the knowledge making.
- NGOs are more able to handle the pro-poor projects, with lower basic costs, better knowledge of realities in the field and strong synergies with REEEP activities, usually reinforcing their own agenda.
- Private sector and consulting companies were often more able to address market level and finance projects, reaching out to private recipient companies in terms that are more palatable to them and addressing their issues with greater care.

The limitations in time and amounts of funding provided by REEEP were often voiced as a challenge. This was more acute with public entities that have multiple mandates, shifting priorities and may be delayed in starting projects. This has the following impacts:

- By design, **REEEP projects address barriers and target the renewable and energy efficiency sectors that are not mainstreamed.** The global energy context of 2005-2007, partly explains why energy efficiency projects had a relatively harder time (see Brazil case study) while the drive for renewable energy was slowly gaining momentum.
- The work to be done is often way upstream, in making the case, changing mentalities, including of individuals that are theoretically in charge of these sectors. When a ministry has both renewable energy and oil and gas in its portfolio and is an oil rich country, getting decision-maker interest is not an easy task. This also explains why some projects experienced relatively less success, having focused their purpose and effort on downstream aspects when the upstream work was not complete.
 - The drive to try to show tangible results has pushed some to ignore or underplay the difficulty in overcoming the barriers identified. In many countries it is easier to add 100 MW of conventional power than to just set-up the necessary conditions to have the opportunity to add 10 MW of renewable energy or reduce demand by 10 MW through efficiency.

Case Study: Brazil



Barriers to energy efficiency are country specific and may not diminish the project outcomes, but may limit the level of project implementation.

PROJECT TITLE Development of Energy Efficiency Fund in Brazil

DURATION 2006-2007

TYPE EE

THEME Financing

STATUS Completed

IMPLEMENTING AGENCY Econoler

PURPOSE

Development of a structured energy efficiency programme for the implementation and financing of EE projects in the commercial and industrial sectors of Brazil.

INDICATORS OF SUCCESS

- Amount confirmed for investment in the EE fund.
- Approval of the Business Plan for the EE programme from Petrobras' Board.
- Number of trained staff (minimum of four).
- Official launch of the EE programme in the media.

LEVEL OF ACHIEVEMENT

The project was successful with regard to achieving its purpose. The Business Plan was completed by Petrobras BR in March 2007, including a marketing strategy, and several staff members have been trained. The Business Plan proposes that energy efficiency projects be implemented through private "special purpose companies" (SPCs) of which BR will be the main shareholder. BR's EE programme, and its ESCO, have been unveiled to several industry associations, namely, BNDES, IFC and some Petrobras BR customers, and will be officially launched in the media once the business plan is approved by Petrobras BR Board. One of the challenges of this project has been that BR is a large state enterprise which moves quite slowly and accountable to its Board of Directors.

The ESCO market as a whole in Brazil is currently quite small and focuses mainly on the electricity sector, but the potential is very great. Most of the other existing ESCOs are very small and have little or no capital. The introduction of BR on the market has the potential to slowly serve as a catalyst in the EE sector as an organization that has the capital to fund EE projects in Brazil. This was the case for one SPC that was created with Telemar. The project directly contributed to BR's new SPC with Telemar, which was created in partnership with Ecoluz and LightESCO, with the financing of BNDES to undertake EE in 35 buildings. The partnership is 33 per cent BR, 33 per cent LightESCO, and 34 per cent EcoLuz. The financing is 30 per cent partners (at 10 per cent each) and 70 per cent BNDES through the PROESCO programme for a total budget of 4.5 million Reais. This project is a good example of innovative approaches for market development in EE.

LESSONS LEARNED

- Petrobras BR is seen as a leader in the energy sector and the creation of its ESCO will have a great impact on the EE market. However, Petrobras BR being a large organization, the ESCO start-up will take longer than initially planned.
- Current ESCOs in Brazil are quite small thus having limited capacity and capital to invest; therefore, access to capital is very

Case Study: Brazil (continued)

important in order to engage SPCs or ESCOs. Petrobras has the advantage of being a large company with resources and capital to invest.

- **Awareness-raising of the client base for the development of industry demand is crucial to future success.**
- **EE opportunities for the industrial sector are quite different from those for the commercial sector, as the share of energy in the cost of manufacturing is typically much smaller for industry than the commercial sector.**

Further promotion of EE in the energy sector requires giving adequate attention, as the cost of energy in the industrial sector in Brazil is quite low and does not provide much incentive for large scale EE operations.

- **Others had underestimated the effect of external barriers on the viable implementation of the project.** Barriers such as the lack of stakeholder capacity or limitations of the overall system at a level impossible to achieve within the project were not well measured. Many reported that while they were able to produce their outputs, this was at great expense of time and they would not be able to sustain such a level of involvement. The broader the concept and scope of the project, the more difficult it would be to implement or sustain it after project closure, as the number of people to involve increases as do training needs. Insufficient studies of key and country-specific market regulations prior to project start have also derailed some projects; this is especially acute in the case of projects that are based on transfer of technologies or new business models. For example, a project to implement ESCOs following a successful model in many countries had to be cancelled because the ministry in charge argued that its regulatory framework did not permit the type of financing mechanism that was to be put into operation.

- The problems and hurdles met at the national level are often much worse at the local level. Capacity problems are often more pervasive at the municipal level. Ways of handling projects have to be different, very focused and with additional assistance, as they do not have the advantage of the same level of interest that can be expected at the national level.
- Language is and remains an issue, especially at the local level and it gets more acute as the field of the project becomes more technical. When everything is done in the national language, there is a strong danger that benefits from external outputs and fresh ideas will be limited. When everything is done in English, the pool of stakeholders automatically becomes restricted, often excluding very valuable and informed actors from the process.

Project-level Challenges and Barriers

In addition to the general limitations presented earlier, linked to the areas of activity and other REEEP specificities, some projects encountered setbacks or barriers that limited their contribution to the development of renewable energy and energy efficiency markets. These are valuable to note, as REEEP can build its future programming on the lessons learned.

A main challenge noted is the limited ability of many projects to move into the implementation phase following the design work, thus resulting in a lack of sustainability of the initiative they supported. The causes of this challenge are varied, such as:

- **Some projects had a project purpose that was too broad, and thus were unable to attain expected results.** This results in part from the competitive selection process of REEEP projects. Some project proponents proposed unattainable outcomes, starting with government adoption of draft policies or regulations, but also general adoption of new business models by the private sector or banks. In some cases, this did not matter as changing perceptions and raising awareness was a worthwhile achievement in itself done as part of the REEEP sponsored initiative, that will lead to change in due time. But in others, well written strategies and ingenious concepts may well be shelved as project teams disband and business-as-usual continues.

- **Unless the initiative is clearly depicted as a stand-alone demonstration pilot project, the process to ensure the sustainability of the outcomes and impacts needs to be identified.** This step is often found to be generic and unconvincing in the project review and field visits. This ought to be done at project design, at inception or early in the project. The implementation of this type of sustainability strategy may not be something that the project can do itself, especially when it involves multiple players with other priorities, but the project should at least provide a plan for how this should be done.

Projects that require third-party intervention or bringing in new stakeholders that are not natural players in the sector, are at higher risk for failure.

This is a major limitation when depending on additional outside financing, be it banks or donors but also when the initiative is one link in a chain of events that are needed for success.

- **Competition with or between local financial institutions can lead to failure in new and “risky” projects.** While encouraging additional competition in the local finance sector is desirable in theory, it may not always

be the best choice in a given environment. In South Africa, a project targeting the establishment of dedicated RE investment fund had to be revised in order to avoid pushing local financing institutions out of the market and was replaced by a guarantee fund. Another case in Latin America was found where local institutions declined to join an RE investment fund because of competition rules to access the fund were deemed too risky or too costly to develop activities in a sector new and unknown to these local financial institutions.

- **Establishing a supply chain, while not always a core component to project design, is very important in projects that promote distribution of goods.** For example, introducing new RE and EE technology in poor areas can be challenging if the end-users do not have the necessary equipment or knowledge to maintain the technology over time. In cases where the long-term support or after-sales services is not well thought through, the failure of technology sends a negative image of how the technology performs and renders end-users reluctant to use new technologies/practices.

CONTRIBUTION TOWARDS REEEP GOALS

Going back to REEEP overarching goals, as defined by major member partners, these goals are to:

- Reduce greenhouse gas emissions
- Deliver social improvements to developing countries and countries in transition, by improving the access to reliable clean energy services, and by making REES more affordable
- Bring economic benefits to nations that use energy in a more efficient way and increase the share of indigenous renewable resources within their energy mix.

Greenhouse Gas Emissions

The range of contributions is extremely varied and for the most part, indirect or expected to happen in the future.

- **Some projects provided direct reductions,** even though these were often as a side-target and in small amounts. This is the case of a poverty-reduction biomass project in Central America that led to direct savings of about 1.7 MWh per year, leading to about 1.2 tonnes in CO₂ reduction. While any reduction is commendable, this has to be compared to the average yearly per capita emission of the US, which is about 20 tonnes per year according to the US energy information administration. The project CO₂ savings, therefore, amount to about 3 weeks of production by an average US resident. Another project, in India, saved about 408 tons CO₂ yearly or about the level of 20 US residents during the same period.
- **Other projects have more sizable CO₂ reduction claims, which are indirect or calculated cu-**

mulatively in the future. A street lighting project in India is expected to save 11 million tonnes of CO₂ per year, a more sizable amount that can be indirectly linked to the ESCO-building and financing mechanism work done by the project. The claim on the CO₂ reduction is valid since it would not have happened without the REEEP project, but it remains indirect because it is the work done by the ESCO that ultimately provides the savings. Another example is a cogeneration project in the tea industry in eastern Africa that is expected to save 3.2 million tonnes CO₂ over 20 years. Unfortunately, this figure remains speculative and can not be fully attributed to the project.

- **Finally, many projects with large scale savings are indirect and potential.** Energy efficiency in building codes in Russia have an impressive potential for savings, estimated by the implementing agency to be about 70 million tonnes per year but without indications of the level and extent of application of the regulations that would be required for that level of savings to be generated. Those would be indirect savings, as the work would be solely done on policy or regulation. In a similar fashion, the 10 million tons of CO₂ expected to be saved in 2008 by the China wind project as described in the case study, are only indirect contributions and while REEEP was instrumental in helping with the policy, many other players can claim a stake in this achievement.

Social Improvements

Access and affordability of clean energy was the central target of some projects and was successfully implemented in many cases.

- **Direct impacts at the society level are commensurate with the REEEP project scale.** However successful and life changing for recipients, the scale of these socio-energy projects still remains small (350 recipients in one project, 10,000 in another), unless the models developed are scaled-up. Identifying leads towards scale-up are often included in the projects' target outputs but this remains an area where results are less convincing and harder to measure.
- **Other projects have powerful potential social impacts, even when this aspect is not the core target.** This is primarily the case of projects that aim at widening energy efficiency at the household level in the sense that even nominal energy savings can have a more profound impact on poor households for whom the share of energy cost in the budget is disproportionately high. For example, projects targeting the development of solar water heaters (in Brazil or South Africa) often concentrate on means of delivery or on decreasing peak demand without necessarily targeting the poorest. But may have a very high impact when it is found that poor households can see their electricity bill cut in half and free the budget for other necessities. Similarly, better housing insulation in Russia would proportionally help the poorest the most.

Economic Benefits

It is very difficult to quantify the share of indigenous renewable resources within the energy mix, however it can be stated that most projects did have some contribution.

- **Economic benefits claimed can vary but are difficult to verify**, especially when renewable activities displace others. Some economic benefits may result from the reduction in costs for energy resulting from large scale implementation of projects, a view that would be supported by the current price spike of oil and its derivatives. But once again, REEEP-supported projects are not of a scale that could have an impact on national markets.
- **The impact of modification of the share of indigenous renewable resources within the energy mix is more quantifiable yet minimal in most cases.** It should be noted that energy efficiency should be counted in this share, as it often displaces the consumption of non-renewable and imported fuels. However, it should be noted that in many countries, renewable only represents a very small portion of the mix and while increases are valuable, their scale prevents them from having a strong influence. For instance, in the China example, most impressive where the installed capacity in wind is expected to grow to very high levels in volume with 50 GW by 2020, it would still only represent 3% of the total market by the same date.

LESSONS LEARNED

While each project has a set of lessons learned from its execution, they often are only relevant to the specific setting. Here we are dealing with broader lessons, related to REEEP programming as a whole and list a few examples of project level lessons learned.

One of the overarching lessons lies in the fact that **REEEP, a relatively small player in most of the countries and sectors in which it acts, has managed to have proportionally very high results** for the level of funds disbursed.

- These results come primarily from REEEP partnership structure and from the ability to identify, seek and select the most promising project concepts and identify well-positioned implementing agencies in each country and sector.
- They may be strengthened by increasing the flexibility of projects in terms of timelines and budgets to fit the specific needs of more complex or expected slow moving projects.
- Similarly, being able to adjust the goals of a project, to reflect changes in stakeholder focus and movements in targeted markets, has been shown to not only help projects reach their goals but also to increase their relevance to the recipients or stakeholders.
- Such flexibility is particularly important in the case of test projects that look into adaptation of best practices to a new environment, where the best recommendation can be to

not go further with a given technology, regulation or reform even if it has proved to be very efficient elsewhere and tempting at first view.

- REEEP projects have a common best practice of engaging key stakeholders at many levels of the project, indeed, projects with the most impressive results have managed to engage key stakeholders through a committed group of champions of the cause.
- Better results come with well-targeted outputs and technologies or areas of expertise. While policy level projects tend to be broad by definition, execution level projects that targeted multiple sub-sectors or multiple countries or even had multiple partners involved, had more difficulties in delivering because the number of barriers increase exponentially while the time to address them gets divided.
- Having well-defined project purposes, with prior knowledge of either the context of execution or the strengths and weaknesses of solutions envisaged is necessary. It is also key that the lesser known of the two elements above be looked into early on and possibly when the project is being determined.
- Having a good balance between local and external implementing agencies improves the chances of success. Local agencies seem to generally have a higher level of success than external ones, especially in the implementation of finance opportunities and policies in the RE and EE sectors.

The in-country creation of **environments conducive to renewable energy and energy efficiency take a significant amount of time and are often beyond the realm of REEEP projects. However, REEEP can, and often has, contributed as a catalyst**, by supporting stakeholders and institutional capacity building and supporting policy and regulatory regimes prioritising RE/EE solutions and moves to implement market development.

The energy efficiency market in particular is at a very early stage of development in most countries, and as a result, the EE investment market is still considered a novelty. Barriers are not only legislative, regulatory or political in nature, but also cultural and behavioural. Banking and financial institutions are usually hesitant when it comes to financing this sort of project. Adequate awareness raising and capacity building of financial intermediaries is then paramount to any forward movement.

Effective implementation of plans and concepts is an area of particular importance. Policies and legislation are indispensable for providing an effective framework and promises of stability without which investors and lenders will not agree to invest; however policies and legislation are of little help if they are not implemented and do not materialize in the field. REEEP often intervene at one end or the other (conceptual or implementation phase) but should consider getting more involved in the transition between these phases. Many projects often mention worries that policies will not be implemented or they move so slowly that momentum may be lost. Others explain that implementation is difficult when insufficiently clear policies or implementation decrees do not exist.

Creating synergies with other projects and initiatives is a good way to ensure catalytic and follow-on effects of project outcomes. Some of the most successful REEEP projects were well inserted into longer term transformation support actions funded by other donors.

In a similar fashion, it would be useful for REEEP to help create links with larger donors, which could provide technical assistance and loans to support the implementation phase of projects. While it is often one of the implementing agency's tasks, the agency may not have the connections or the resources that REEEP has to convince such donors to help.

Some **individual projects** also gained some lessons in the course of their execution that are of interest to a number of REEEP activities although they have not been confirmed by similar occurrence in several projects.

ESCOs-type settings and arrangements can be an efficient and effective mechanism for bridging the gap between existing sustainable energy solutions and communities that would not normally have access to such energy services because of lack of affordability due to up-front investment or viability linked to economies of scale.

Use of Guarantee Facilities rather than Investment Funds can, in the right setting, act as an incentive for local financing institutions to enter the market, by mitigating their financial risks, rather than producing a subsidized competitor.

It is important to involve local banks and local financial actors in projects linked to the delivery of goods, especially when it involves the creation of the supply chain and provision of services for the targeted products.

There is a strong interest among municipalities and sometimes states for RE and EE; while they might prove complex and slow moving, bureaucracies, supporting them may help achieve tangible outputs in certain countries and political contexts. However, those working with municipalities often face serious challenges in terms of lack capacities, language barriers and difficult access to financing.

For households and businesses, the decision to make RE/EE investments to reduce operating costs is usually based on information gained from existing experience judged to be similar in the circumstances. The effect of this type of demonstration is very important for proving the financial benefits of RE/EE solutions for energy users, and to convince potential customers or companies' management of the need to introduce energy management strategies.

Several REEEP projects demonstrated and explained the complex link between the use of biomass as a fuel and as part of the food chain well before it became an international issue. While this was not their core purpose, they highlighted the necessity of understanding the prevailing situation in each country or region before advocating large policy changes.

As most traditional legal and administrative systems are based on an energy matrix dominated by consumption of hydrocarbons, even once a favourable policy is in place, specific procedures and regulations need to be adapted to the new

requirements of RE and EE in order to successfully facilitate their development.

In many business projects that involved local companies, it was found that capacity building was needed in basic financial planning before work on the targeted design or specific mechanism could begin. In carbon finance projects, this was particularly true for public sector partners, while those in the private sector might have more capacity for engaging early on.

FUTURE PROGRAMMING

Any review exercise raises questions, issues and draws lessons; but all may not be relevant to future programming because other factors than those reviewed here may also influence such decisions and as often said in stock markets, past performance is not necessarily indicative of future results. However, in light of the exercise done throughout this document, some proposals can be made for consideration.

REEEP may want to consider **increasing the number of project formats to better accommodate the variety of needs**. For example, three types of project tracks are proposed:

- **The current mainstream project**, of 12 to 16 months with a budget of about 100,000 Euros (excluding co-financing) almost unchanged, as the model has proved its efficiency.
- A short seed-like project could be created to strengthen the toolkits available to regional secretariats to support the upstream development of proposals, as noted earlier in the achievement section. This seed-funding may work with small budgets of 10,000 to 15,000 Euros and short timelines of 2-4 months that would cover the basic trip and time of either a candidate Implementing Agency or a support consultant. This seed project would help proposals judged interesting, in theory, or as having potential impacts but for which the proposed concept remained weak or not well focused. This would especially help national IAs that sometimes lack the knowledge and means to explore, write and clarify the concepts behind their ideas. After completion, it would either result in a good quality proposal transformed into a mainstream project, or would be abandoned. The seed funding could also cover initial information gathering for the international IA to check that a project concept be effectively suitable for the country for which it is proposed. This could be of particular use in the case of technology transfer as well as financial and regulatory support based on other countries' experience.
- **A multi-phase project**, which may go beyond 16 months, up to 36-40 months and accordingly, with a budget exceeding the basic 100,000 Euros that would have to be negotiated on a case-by-case basis. This exists, in a way, but informally, as some projects had follow-up projects generated by the quality and interest of their work. This two-step project type would formalize this, recognizing that some activities need a longer time to materialize. Proponents would

submit a proposal as in the mainstream project covering estimated expenses throughout the required period but would have to define a set of milestones and quantified objectives that would need to be reached within a given time in the first period to activate the move into the second period. This could accommodate expected external delays such as a project helping to draft an energy efficiency law, then be suspended while waiting for the legislation to be passed (a government process not under IA influence) which once done, would act as one of the milestones triggering a specific predefined field implementation project.

Given its successes and genuine interest and the impacts on capacity building, REEEP should consider **focussing some of its programming track specifically on capacity building** beyond the current information dissemination. REEEP could establish a mixed roster of implementing agencies that have led successful projects, theme specialist consultants that can propose tailored additional support to projects by providing training, workshops or cooperation, which would be financed as a project add-on. This would ensure that effective cross-fertilisation happened in the field and at project level rather than only during international conferences. Implementing agencies are usually more receptive to others' experiences when faced with the real life difficulties of trying to implement their policies, strategies, instruments or concepts.

There seems to be a strong opportunity for REEEP to work more in the niches laying between the national level and small scale, very local initiatives.

More specifically, at the municipal level, combining several cities as was done in South Africa or at any other relevant sub-national administrative levels such as the provincial or state level.

- These sub-national administrations can have great influence on customers and local businesses through a proximity that no national entity can have; however, they face the same generic barriers as well as additional barriers that are specific to their situation.
- One area of need is to help bridge the gap of understanding between national and local levels, explaining logics and higher goals to local players and feeding back impacts on daily realities of policy decisions to national players.
- Another promising area is helping adapt regulations and legislation to ensure that local governments have the right incentives to invest in and support renewable energy and energy efficiency. These outputs may include: (i) reviews of national procurement rules that limit municipalities decision-making capacities related to energy efficiency investment; and, (ii) modifications to loan procedures so that a city may decide to take on a large scale renewable energy project at the household level as an infrastructure investment. But it could also be helping cities adapt their own internal procedures to fit in new policies and regulations, something they may not have sufficient resources to do on their own.

The capture of the wide range of outputs produced by the implementing agencies may be im-

proved. An initial toolkit was presented to the REEEP in order to provide a foundation on which more can be added. One area that needs consideration is in the processing of outputs produced in national languages, often as intermediary inputs on themes separate from the final report that often serves as a public summary in English. Without a dedicated effort to classify and possibly provide an executive summary in English, the chances of cross-fertilisation between similar initiatives are much decreased.

ANNEX A: METHODOLOGY

Project Desk Review

The study team initiated the study with an in-depth review of project documents that were provided by REEEP (a list of these project documents is found in Annex D). The project documents mainly consist of project proposals, progress reports, and evaluation reports, as well as reports produced for the project (i.e. business plans, policy documents, etc.). The purpose of this step was to allow the study team to become familiar with REEEP projects, as well as with REEEP's reporting methods, programme partners and stakeholders, and results achieved to date.

In order to efficiently collect information found, a documentation data collection tool was created, which each team member used to streamline all the information collected. The data collected through the data collection tool allowed a quantitative and qualitative approach to the documentation by establishing rating criteria based on: Highly Successful, Successful, Moderately Successful, and Unsuccessful. The ratings were used to establish the degree of success of the project purpose, the indicators of success established by the implementing agencies, as well as the level of market development, and catalytic and follow-on effects. The ratings were based on the REEEP's monitoring and evaluation template and assessed by the project desk review of the progress reports and evaluation reports provided.

Surveys

An online survey was conducted to complement the documentation review to fill information gaps, gather additional information, and address areas of interest that emerged during the documentation review. The survey was sent to one or two project contacts for all projects that had accurate contact information. The total number of people contacted was 62, from 44 projects. The total number of respondents is 19 representing 17 different projects, giving a response rate of 36 per cent based on the number of projects, a rather usual response rate for an online survey.

One of the limits expressed by the REEEP secretariat was the level of stakeholder participation in the survey. This limit is clearly justified by the challenges faced in assuring participation. An initial invitation was sent on February 29, 2008, followed by two reminders over the course of the study: one on March 25 and another on April 29, 2008. Targeted phone calls were also made to stakeholders to solicit participation. One of the challenges was that a majority of the stakeholders had moved on, rendering their contact information invalid. An internet search was conducted to attempt to retrieve their current posting but the responses were mostly inconclusive. This overall breakdown of the response rate gives the review team a fair representation.

Of the respondents, 73.3 per cent were from the NGO sector, while 26.7 per cent were from private industry, while none were from government. The majority of the project types were RE & EE with 55.6 per cent, 33.3 per cent were EE projects and 11.1 per cent were RE projects. With regard to the project theme, the split was even between finance and policy projects.

Case Studies

Building on the documentation review and surveys, the study team carried out five case studies; building on the desk review, the team also conducted field visits in order to further document and present more in-depth examples of REEEP project successes, failures and lessons learned. The case studies allowed the team to focus on key questions identified by the REEEP, namely key question 2 (see page 9). The case study methodology made it possible to extrapolate findings of REEEP project results and to contribute to the triangulation and validation of data gathered in the earlier stages of the assignment, and provide for a more in-depth assessment of those five cases. Given the need to select case studies that are representative of the REEEP portfolio as a whole, the sampling methodology for the case studies was designed to allow a broader generalization of findings and lessons learned to benefit REEEP programming. In line with the overall portfolio, the case studies had a representative geographic distribution with one project from Latin America and the Caribbean (Brazil), one project from Asia (China), one project from South Asia (India), one project from Central Asia (Kazakhstan), and one project from Sub-Saharan Africa (South Africa). The case studies were also representative of the type of projects with two in RE & EE, two in RE and one in EE. They were also representative of REEEP themes, with three case studies related to Policy, and two to Finance. The case studies selected are as follows:

- **South Africa:** Promoting Renewable Energy and Energy Efficiency through City Energy Strategies in South Africa (Sustainable Energy Africa, SEA) – RE & EE, Policy, Completed 2006/2007, South Africa
- **Brazil:** Development of Energy Efficiency Fund in Brazil (Econoler) – EE, Financing, Completed, 2006/2007, Brazil
- **China:** Developing a National Implementation Roadmap for Wind in China (Center for Renewable Energy Development, CRED)– RE, Policy, Completed 2005/2006, Global
- **India:** More Private Pro-poor Small-scale RE/EE Investments in South Asia (The Small-scale Sustainable Infrastructure Development Fund, Inc.) – RE & EE, Financing, Ongoing 2006/2007, India
- **Kazakhstan:** Compiling RES Legislation for Kazakhstan (UNDP Kazakhstan) – RE, Policy, Ongoing 2006/2007, Kazakhstan

Field Visits

A key component to assuring the triangulation and validation of data were the field visits. These missions allowed the team leader, and the RE and EE experts to observe REEEP project results first hand. Project visits provided the opportunity for verification of physical achievements, interviews with a broad group of partners and beneficiaries, meetings and focus groups (when appropriate) with local stakeholders to gain a better understanding of the selected projects. The missions were undertaken from March to June 2008 and focused on the five projects selected for the case studies. The countries visited were: Brazil, China, India, Kazakhstan, and South Africa.

Interviews

As part of triangulating and validating data, the study team conducted telephone interviews with key informants, such as REEEP project managers, implementing agencies and REEEP regional secretariats, in order to complement other data collected. The interviews aimed to provide in-depth information regarding REEEP project outputs and outcomes, and lessons learned in market development, which allowed the study team to address the program's achievement of results, overall key lessons learned, and possibilities for future programming.

ANNEX B: LIST OF PROJECTS REVIEWED

Ref	Project Title (Implementer)	Country	Description
REEEP Projects 2005/6:			
10301059	International Sustainable Energy Assessment (<i>University of Colorado</i>)	Global	Identify and analyse the impact of international energy impacts on the development and commercial deployment of RE and EE and increase international understanding.
10301030	PEMF2 - Asia Sustainable Energy Fund (<i>Emerging Power Partners (EPP)</i>)	South-East Asia, China and India	Development of a €50 million investment fund to finance RE, EE and energy services.
10301058	District Heating Systems in the Russian Federation: Developing new sources of finance for RE and EE options (<i>Winrock International</i>)	Russia	Develop financing mechanisms, have dialogue with banks for financing biomass district heating in Russia
10301078	Capacity building for state regulators and policy makers in mainstreaming RETs in a reformed electricity sector (<i>TERI</i>)	India	Framework document and capacity building of regulators in Andhra Pradesh in India to promote grid-tied RETs.
10301052	Renewable Energy Services for Developing Countries (<i>IT Power and IEA</i>)	Global	Publish Recommended Practice Guides and carry out workshops in Brazil, South Africa and India for IEA-PVPS
10301069	6th Inter-parliamentary meeting on RE and EE (<i>PRASEG/ EUFORES</i>)	EU, US, India, China, Japan, African States	Organise three-day high-level conference during the UK EU Presidency.
10304045	Regulation Methodologies for Renewable Energy (<i>Comision Reguladora de Energia Mexico</i>)	Mexico	Provide assistance to CRE in the development of methodologies aimed at promoting renewable energy development.
10304040	Innovative financing to accelerate solar water heating (<i>Green Markets International</i>)	Brazil and the Caribbean region	Build knowledge about and advance models for innovative financial mechanisms to boost solar water heating
10304001	Regional Program on Electrical Energy Efficiency in Industrial and Commercial Service Sectors in Mexico and Central America (<i>Biomass Users Network for Central America (BUN-CA)</i>)	Mexico and Central America	To remove the main financial barriers that inhibit the implementation of energy efficiency investments in the industrial and commercial sectors in Central America and Mexico.
10304027	Establishment of an RE/EE Financing Facility for Brazil (<i>Fiorello H. LaGuardia Foundation</i>)	Brazil	Establish a dedicated private equity investment fund for renewable energy and energy efficiency.
10307023	Develop a financial model for renewable energy upgrade interventions in urban low-income housing, South Africa (<i>SouthSouthNorth</i>)	South Africa	To develop a financial model appropriate to the South African context that will enable the national replication of the 'low-income urban housing energy upgrade project', currently being piloted in Kuyasa, Cape Town. This development process will consider both CDM and TREC financing mechanisms, for which the energy upgrade project is eligible.
10307002	Creating Energy Efficiency Financial Models for the South African Urban Water Sector (<i>Alliance to Save Energy</i>)	South Africa	Development of municipal energy efficiency financial models for implementation of energy and water efficiency projects within municipal water supply systems in South Africa.

Ref	Project Title (Implementer)	Country	Description
10303002	Developing a National Implementation Roadmap for Wind in China (Centre for Renewable Energy Development (CREED))	China, European and American countries	Develop a National Roadmap for Wind Development in China with supporting documentation that provides a detailed planning framework to enable China to achieve its intermediate and long-term strategic wind development and policy goals for 2010 and 2020
10303046	Dissemination of Best Practice of Village Power to East Asian Countries (Beijing Jike Energy New Tech Development Co.)	Mongolia, China, North Korea, Korea, Japan	The purpose of this project is to transfer China's and international best practices of village power to East Asian countries including Mongolia, North Korea, Korea, Japan etc., especially to set up a demonstration village power mechanism in Mongolia.
10308042	MP street lighting ESCOs (Econoler International)	India	Development of a sustainable financing mechanism for the implementation of energy efficiency street lighting projects in India (State of Madhya Pradesh)
10302039	Removing Barriers to Residential Energy Efficiency in Central and Eastern Europe (Alliance to Save Energy)	Moldova, Armenia, Ukraine, Russia, Bosnia & Herzegovina, Serbia & Montenegro	Improve the institutional capacity of local and national governments to formulate policies that promote the development and implementation of residential energy efficiency projects, especially for multi-family buildings where there is a high concentration of vulnerable (low income) households.
10302033	E5 Sustainable Energy Accelerator (e5-SEA)	Bulgaria and Czech Republic	Identify, network and assist qualified new and existing sustainable energy SMEs to achieve sustained profitability in developing markets.
10301073	Market Development for Clean Energy in North America (Western Governors Association)	US, Mexico, Canada	Directory of policy and regulatory experience, regional and international standards, and market development policy and incentive measures.
REEEP Projects 2006/7:			
10401003	Expanding and Globalizing the APEC Energy Standards Information System (CLASP)	Multi-Regional	Expand and internationalize the Energy Standards Information System (ESIS) for energy-efficient appliances and equipment beyond its current APEC focus; and in doing so, strengthen the REEEP Information Clearinghouse.
10401004	The International Sustainable Energy Assessment—Implementation and Impact Phase (to view initiation phase see Project No. 1) (University of Colorado School of Law)	Global, with focus on Brazil, China, India, Mexico, Russia, South Africa etc.	The first and primary objective of this project will be to supply the unmet global need for a comprehensive, systematic & empirical treaty implementation database. Second, the project will expand the ISEA x database to include international energy agreements from Brazil, Mexico, Russia and South Africa; and integrate this information with the treaties encompassed by the ISEA database. Third, the project created an innovative global open-network evaluation system enabling selected experts around the world to contribute to this treaty implementation database.

Ref	Project Title (Implementer)	Country	Description
0401006	RETSscreen Version 4 – Multilingual Energy Efficiency Models (CANMET Energy Technology Centre)	All countries	Translate into 21 languages that cover 2/3 of the world's population and disseminate the new RETScreen energy efficiency models for buildings, industry and communities.
10403023	Harmonization roadmap development on government procurement for energy-efficient products among APEC economies (CSC-China Standard Certification)	APEC economies	Development of a harmonization roadmap for government procurement of EE products through market and policy research and international workshops.
10404004	Development of an Energy Efficiency Fund in Brazil (Econoler International)	Brazil	Development of a structured Energy Efficiency financing mechanism for the implementation of projects in the industrial sector of Brazil.
10404008	Legal Framework of Renewable Energy in the State of Guanajuato - Council of Science and Technology of the State of Guanajuato (CONCyTEG)	Mexico	Implement and promote a legal framework in the State of Guanajuato to improve and support the use of renewable energy and energy efficiency in all economic sectors.
10404016	Regional Standards and Labelling Program in Central America (Biomass User's Network – Central America in collaboration with Collaborative Labelling and Appliance Standards Program)	Mexico, Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama	Accelerate the market transformation towards energy efficient products in Central America by supporting the development of Standards and Labelling programs at a regional level.
10404018	Amazonia Energy Initiative (Energia da Amazonia) (Winrock International Institute for Agricultural Development – Brazil Office)	Brazil	Design and start the Amazonia Energy Initiative aimed at increasing energy access for isolated communities in the Amazon region while promoting productive and efficient energy use.
10407029	E+Co-Commercialisation of Large scale Solar Water Heating Systems (Energyhouse Africa)	South Africa	Create a dedicated facility to provide fit for purpose financing for SWH users and to engage local financial institutions to develop an Investment Fund to scale-up investment levels.
10407030	RE and EE policy and action plan of Liberia (Center for Sustainable Energy Technology (CSET))	Liberia	Formulation of a policy framework and action plan to promote and stimulate investment in renewable energy and energy efficiency in Liberia.
10409003	Utilization of forest biomass for replacement of fossil fuels in the Volga River Region (Environmental Projects Consulting Institute)	Russia	Provide supporting argumentation which documents benefits of infrastructure development for forest biomass utilization for heating in the Volga river basin from economic, social and environmental standpoints as a viable alternative to fossil fuel combustion.
10409005	Compiling RES Legislation for Kazakhstan (UNDP Kazakhstan)	Kazakhstan	The project will build on the work of the GEF-funded, Kazakhstan Wind Power Market Development Initiative that has compiled a framework for future regulation and legislation for wind power in Kazakhstan to develop detailed draft regulation for adoption.
10409019	Energy Efficient Building Codes in Russia and Kazakhstan (Institute for Market Transformation (IMT))	Russia, Kazakhstan	Improve compliance with new building codes and provide training and resources to enable designers to go beyond compliance.

Ref	Project Title (Implementer)	Country	Description
10301072	Financing Municipal Energy Efficiency (<i>Alliance to Save Energy</i>)	CIS	Conduct a stakeholder forum, publish and disseminate results to benefit to EE project beneficiary municipalities.
10301039	Increasing the Supply of CDM Gold Standard Projects (<i>IT Power and WWF</i>)	Brazil, China and the Philippines	Pilot development of a CDM Gold Standard Project, training program and information dissemination.
10303007	Promoting low energy use (or low emission) building program in China (<i>China National Engineering Research Center for Human Settlements (CNERCHS)</i>)	China, Netherlands, Germany, Austria	Increase energy efficiency and reduce GHG emissions in China's building sector.
10303028	Innovative market mechanisms and regulatory frameworks to develop biomass co-firing potential in China (<i>Energy for Sustainable Development, ESD</i>)	China	Identify the market mechanisms and institutional and legal frameworks necessary to enable the strategic development of biomass co-firing in China and to develop these mechanisms as a means to achieve renewable energy targets and reduce the global impact of GHG emissions from coal-fired electricity generation.
10307020	Promoting Renewable Energy and Energy Efficiency through City Energy Strategies in South Africa (<i>Sustainable Energy Africa (SEA)</i>)	South Africa	Promotion of renewable energy (RE) and energy efficiency (EE) as practical means of assisting social and economic development, especially in poor urban communities in South African cities, while restricting growth in carbon dioxide (CO ₂) emissions by synthesising, sharing and replicating established best practices.
10308020	More Private Pro-poor Small-scale RE/EE Investments in South Asia (<i>The Small-Scale Sustainable Infrastructure Development Fund, Inc.</i>)	India (selected states), Bhutan and Nepal	Expansion of investment portfolio and incorporation of additional financing mechanisms — new to S3IDF's portfolio — into the S3IDF model that facilitates local finance and enterprise development for small REES projects with large, pro-poor impacts, global and local environmental benefits, and the continued dissemination of the model's successes and lessons.
10308021	Creating a link between energy services and income generation, using innovative financing as a catalyst (<i>SELCO</i>)	India, Sri Lanka and Bhutan	To create sustainable links between energy services, microfinance and income generation — leading to direct impact on the poor. The aim is to experiment in two areas — rural areas of North Karnataka, urban/rural areas in Gujarat (the areas of operation of SEWA Bank) and to transfer the learning from these areas to institutions/financers/entrepreneurs in Sri Lanka and Bhutan so that similar RE projects can be replicated in these areas.
10402005	Finance – Market-based Innovative Sources of Finance (<i>National Energy Conservation Agency – NAPE</i>)	Poland (with additional regional relevance)	To develop a model for implementation of ESCO EPC contracts in Polish hospitals, which may be replicated in other CEE country environments.
10401020	Capacity-Building Support for the Implementation of the Renewable Energy Law in China (<i>Chinese Renewable Energy Industries Association (CREIA), REEEP's RS for East Asia</i>)	China	Support the Government of China in implementing the Renewable Energy Law, which came into force in January 2006. Training sessions for central and local government stakeholders so they can understand the law and accelerate its implementation.

Ref	Project Title (Implementer)	Country	Description
10401021	Latin American Regional Sustainable Energy (RE/EE) Policy Development Forum (OAS, RS for LAC)	Brazil, Mexico, Chile, Guatemala, Argentina, Colombia, Ecuador, El Salvador, Nicaragua	Developing policy and regulatory summary templates for key countries in the region. These summaries will serve as an important input for the SERN global policy review. Similarly, regional activities (outlined below) will further highlight the needs/gaps for sustainable energy policy reform.
10401026	Development of a Sustainable Energy Policy Framework for Guatemala (Fundacion Solar and GVEP)	Guatemala	Development of a National Energy Policy for Guatemala
10401027	Renewable Energy Cooperation Certificates (ISES Italy/MEDREP)	Mediterranean Regions: North Africa, Middle East, and countries bordering the Mediterranean and Red Sea	Implementation of the rules for an innovative economic tool: RECC for local development of power generation with renewable sources of energy and EE projects in the Mediterranean Region
10501005	Securing financing for RE/EE projects in Southern Africa through Gold Standard CDM (SouthSouthNorth)	Tanzania, Mozambique	Secure the financial close of at least two GS RE/EE CDM case study projects in Tanzania and Mozambique; specifically, carbon financing will be incorporated into the financing structure.
10501011	Financing Cogeneration and Small-Hydro projects in the Sugar and Tea Industry in East and Southern Africa (AFREPREN/FWD)	Ethiopia, Mozambique, Tanzania, Uganda and Zambia	Analyse, understand and build capacity for addressing the challenges associated with lending to the tea and sugar industry for sustainable energy investments, and enhance networking among financial institutions interested in financing these sectors.
10501013	Facilitating access to finance for the biodiesel industry in Southern Africa (African Sustainable Fuels Centre (ASFC))	Zambia, Lesotho, Tanzania	Help small and medium enterprises (SMEs) gain access to institutional funding for biodiesel production in SADC countries with a focus on Zambia, Lesotho and Tanzania.
10505003	Establishing TREC Trading between Tunisia and Italy (Inergia)	Tunisia	Establish the institutional framework for a national TREC system in Tunisia, establishing links to potential TREC buyers in Italy and piloting the trade in TRECs between the two countries.

ANNEX C: PROJECT MATRIX

Question	Indicators	Source of Information	Data Collection Method
What are the contributions that REEEP has made in the four areas of Policy, Regulation, Business and Finance to develop the markets for RE and EE?			
What was REEEP's contribution to policy for developing markets in RE and EE? How have they been used or applied?	<ul style="list-style-type: none"> • New policies • Changes in old policies • Policies currently being negotiated • Level of influence on the above as a result of REEEP activities • Level of application 	<ul style="list-style-type: none"> Project documents Project beneficiaries Project staff REEEP staff Project stakeholders 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit
What was REEEP's contribution to regulation for developing markets in RE and EE?	<ul style="list-style-type: none"> • New regulations • Changes in old regulations • Regulations currently being negotiated • Level of influence on the above as a result of REEEP activities • Level of usefulness and application of regulations 	<ul style="list-style-type: none"> Project documents Project beneficiaries Project staff REEEP staff Project stakeholders 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit
What was REEEP's contribution to business and finance for developing markets in RE and EE?	<ul style="list-style-type: none"> • New business and finance opportunities • Changes in business and financing of RE and EE • Level of involvement of current and new stakeholders • Level of influence on the above as a result of REEEP activities 	<ul style="list-style-type: none"> Project documents Project beneficiaries Project staff REEEP staff Project stakeholders 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit
Which of the efforts have succeeded and which have failed? What are the lessons to be learned from these experiences for market development of RE and EE?			
Which of the efforts have succeeded and which have failed for market development of RE?	<ul style="list-style-type: none"> • Successful efforts/initiatives for market development in RE • Failed efforts/initiatives for market development in RE 	<ul style="list-style-type: none"> Project documents Project staff REEEP staff 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit Case Studies (5)
What are the lessons to be learned from these experiences in RE? What has been their application?	<ul style="list-style-type: none"> • Lessons learned in RE • Application of lessons learned in EE 	<ul style="list-style-type: none"> Project documents Project staff REEEP staff 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit Case Studies (5)
Which of the efforts have succeeded and which have failed, in EE market development?	<ul style="list-style-type: none"> • Successful efforts/initiatives for market development in EE • Failed efforts/initiatives for market development in EE 	<ul style="list-style-type: none"> Project documents Project staff REEEP staff 	<ul style="list-style-type: none"> Document review Interviews Surveys Field visit Case Studies (5)

Question	Indicators	Source of Information	Data Collection Method
What are the lessons to be learned from these experiences in EE? How have they been applied?	<ul style="list-style-type: none"> Lessons learned in EE Application of lessons learned in EE 	Project documents Project staff REEEP staff Field visit	Document review Interviews Surveys Case Studies (5)
What have been the catalytic and follow-on effects of REEEP project outcomes, if any, in the RE and EE markets?			
What have been the catalytic and follow-on effects of REEEP project outcomes on RE markets?	<ul style="list-style-type: none"> Level of changes in RE markets Level of direct contribution of REEEP project outcomes Level of sustainability of REEEP project outcomes 	Project documents Project beneficiaries Project staff REEEP staff Project stakeholders	Document review Interviews Surveys Field visit
What have been the catalytic and follow-on effects of REEEP project outcomes on EE markets?	<ul style="list-style-type: none"> Level of changes in RE markets Level of direct contribution of REEEP project outcomes Level of sustainability of REEEP project outcomes 	Project documents Project beneficiaries Project staff REEEP staff Project stakeholders	Document review Interviews Surveys Field visit
What are the existing and emerging best practices, if any, from the projects that REEEP has supported?			
What are the existing best technological practices in RE and EE projects?	<ul style="list-style-type: none"> Successful technological practices in EE Unsuccessful technological practices in EE Successful technological practices in RE Unsuccessful technological practices in RE 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit
What are the emerging technological practices in RE and EE projects?	<ul style="list-style-type: none"> Emerging technological practices in EE Emerging technological practices in RE 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit
What are the existing best management practices in RE and EE projects?	<ul style="list-style-type: none"> Successful management practices in EE Unsuccessful management practices in EE Successful management practices in RE Unsuccessful management practices in RE 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit
What are the emerging management practices in RE and EE projects?	<ul style="list-style-type: none"> Emerging management practices in EE Emerging management practices in RE 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit

Question	Indicators	Source of Information	Data Collection Method
What are the lessons that are particularly relevant to renewable energy sector and energy efficiency sector respectively?			
What are the key lessons that are particularly relevant to the RE sector?	<ul style="list-style-type: none"> Key lessons 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit
What are the key lessons that are particularly relevant to the EE sector?	<ul style="list-style-type: none"> Key lessons 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit
What has been the contribution qualitatively and quantitatively of the project outcomes towards the REEEP goals?			
REEEP Goal 1: Reduce greenhouse gas emissions	<ul style="list-style-type: none"> Percentage or fixed amount (per tonne) of reduction of GHG emissions per project 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit Case Studies (5)
REEEP Goal 2: Deliver social improvements to developing countries and countries in transition, by improving the access to reliable clean energy services, and by making REES more affordable.	<ul style="list-style-type: none"> New clean energy services available Level of access Level of affordability Level of use Social changes in developing countries and countries in transition Level of social change 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit Case Studies (5)
REEEP Goal 3: Bring economic benefits to nations that use energy in a more efficient way and increase the share of indigenous renewable resources within their energy mix.	<ul style="list-style-type: none"> Share of indigenous renewable resources in the energy mix per country New efficient energy methods Level of use of energy efficiency Level of access Changes in cost of energy 	Project documents Project beneficiaries Project staff REEEP staff	Document review Interviews Surveys Field visit Case Studies (5)

ANNEX D: LIST OF DOCUMENTS

Project Title (Implementer)	Documents
International Sustainable Energy Assessment (<i>University of Colorado</i>)	01-10301059_Univ of Colorado-Full Proposal.doc 01-10301059_Univ of Colorado-Progress Report-1.doc 01-10301059_Univ of Colorado-Progress Report-2.doc 01-10301059_Univ of Colorado-Progress Report-3.doc 01-10301059_Univ of Colorado-Progress Report-4.doc 01-10301059_Univ of Colorado-Project Evaluation Report.doc
PEMF2 – Asia Sustainable Energy Fund (<i>Emerging Power Partners (EPP)</i>)	02-10301030_EPP-Full Proposal.doc 02-10301030_EPP-Progress Report-1.doc 02-10301030_EPP-Progress Report-2.doc 02-10301030_EPP-Project Evaluation Report.doc
District Heating Systems in the Russian Federation: Developing new sources of finance for RE and EE options (<i>Winrock International</i>)	Note: This project has experienced a considerable delay in implementation with no progress reports to date.
Capacity building for state regulators and policy makers in mainstreaming RETs in a reformed electricity sector (<i>TERI</i>)	04-10301078_TERI-Full Proposal.doc 04-10301078_TERI-Progress Report-1.doc 04-10301078_TERI-Progress Report-2.doc 04-10301078_TERI-Project Evaluation Report.doc 04-10301078_TERI-REEEP-Annex I International practices.doc 04-10301078_TERI-REEEP-Annex II Agenda.doc 04-10301078_TERI-REEEP-Annex III Issue Paper.doc 04-10301078_TERI-REEEP-Hyderabad Workshop Proceedings.pdf 04-10301078_TERI-REEEP-RE_Regulation_framework.pdf 04-10301078_TERI-REEEP-REEEP RE Conference_Proceedings.pdf 04-10301078_TERI-REEEP-Renewable Energy Certificates.pdf
Renewable Energy Services for Developing Countries (<i>IT Power and IEA</i>)	05-10301052_IT Power-Full Proposal.doc 05-10301052_IT Power-Progress Report-1.pdf 05-10301052_IT Power-Progress Report-2.doc 05-10301052_IT Power-Progress Report-3.doc 05-10301052_IT Power-Progress Report-4.doc 05-10301052_IT Power-Progress Report-5.doc 05-10301052_IT Power-REEEP-0900 IEA-REEEP RESDC MDGs v5.1.pdf 05-10301052_IT Power-REEEP-4_Progress Report-Annex 1.ppt 05-10301052_IT Power-REEEP-4_Progress Report-Annex 2.pdf 05-10301052_IT Power-REEEP-4_Progress Report-Annex 3.DOC 05-10301052_IT Power-REEEP-BMcN HK Paper v3.0 Final hdr.doc
6th Inter-parliamentary meeting on RE and EE (<i>PRASEG/ EUFORES</i>)	06-1030169_EUFORES-Full Proposal.doc 06-1030169_EUFORES-Progress Report-1.doc 06-1030169_EUFORES-Progress Report-2.doc 06-1030169_EUFORES-Project Evaluation Report.DOC 06-1030169_EUFORES-REEEP-Conference_Programme_2005.pdf 06-1030169_EUFORES-REEEP-Declaration_Edinburgh_6-8_oct_2005.pdf
Regulation Methodologies for Renewable Energy (<i>Comision Reguladora de Energia Mexico</i>)	Note: This project has experienced a considerable delay in implementation with no progress reports to date.
Innovative financing to accelerate solar water heating (<i>Green Markets International</i>)	08-10304040_Green Markets Int-Full Proposal.doc 08-10304040_Green Markets Int-Progress Report-1.doc 08-10304040_Green Markets Int-Progress Report-2.doc 08-10304040_Green Markets Int-Progress Report-3.doc 08-10304040_Green Markets Int-Progress Report-4.doc 08-10304040_Green Markets Int-Project Evaluation Report.doc

Project Title (Implementer)**Documents**

	<p>08-10304040_Green Markets Int-REEEP-Briefing on CARILEC Kyoto Eligibility.doc 08-10304040_Green Markets Int-REEEP-Briefing on International RECs Trading.doc 08-10304040_Green Markets Int-REEEP-CARBON SWH Tiempo.doc 08-10304040_Green Markets Int-REEEP-Carbon Trading & RE in the Caribbean.ppt 08-10304040_Green Markets Int-REEEP-Caribbean Solar Water Heating PIN.doc 08-10304040_Green Markets Int-REEEP-Draft REEEP Press Release 300 word.doc 08-10304040_Green Markets Int-REEEP-Refocus Article on Caribbean SWH FFS Guide.mht 08-10304040_Green Markets Int-REEEP-Revista SOLBRASIL - Escos Solares.pdf 08-10304040_Green Markets Int-REEEP-Solar Water Heating Brazil - Generic PIN.doc 08-10304040_Green Markets Int-REEEP-SWH_FFS_Brasil.pdf 08-10304040_Green Markets Int-REEEP-SWH_FFS_Brazil.pdf 08-10304040_Green Markets Int-REEEP-SWH_FFS_Guide_Caribbean.pdf</p>
Regional Program on Electrical Energy Efficiency in Industrial and Commercial Service Sectors in Mexico and Central America (<i>Biomass Users Network for Central America (BUN-CA)</i>)	<p>09-10304001_BUN-CA-Full Proposal.doc 09-10304001_BUN-CA-Progress Report-1.doc 09-10304001_BUN-CA-Progress Report-2.doc 09-10304001_BUN-CA-Progress Report-3.doc 09-10304001_BUN-CA-Progress Report-4.doc 09-10304001_BUN-CA-Project Evaluation Report.doc 09-10304001_BUN-CA-REEEP-Financiamiento 09 feb 07.pdf</p>
Establishment of a RE/EE Financing Facility for Brazil (<i>Fiorello H. LaGuardia Foundation</i>)	<p>10-10304027_LaGuardia-Full Proposal.doc 10-10304027_LaGuardia-Progress Report-1.doc 10-10304027_LaGuardia-Progress Report-2.doc 10-10304027_LaGuardia-Progress Report-3.doc 10-10304027_LaGuardia-Progress Report-4.doc 10-10304027_LaGuardia-Project Evaluation Report.doc</p>
Developing a financial model for renewable energy upgrade interventions in urban low-income housing, South Africa (<i>SouthSouthNorth</i>)	<p>11-10307023_SSN-Full Proposal.doc 11-10307023_SSN-Progress Report-1.doc 11-10307023_SSN-Progress Report-2.doc 11-10307023_SSN-Progress Report-3.doc 11-10307023_SSN-Progress Report-4.doc 11-10307023_SSN-REEEP-ESCO paper_JVolschenk_Jan 07.doc 11-10307023_SSN-REEEP-Financial Sector Involvement_JVolschenk.doc 11-10307023_SSN-REEEP-Programmatic CDM_Ownership Implications_SSN 2007.doc 11-10307023_SSN-REEEP-RECC and Carbon Credits from Projects_Emily Tyler_2007v1.doc 11-10307023_SSN-REEEP-Sustainable Financing Model Project_BackgroundPaper.doc</p>
Creating Energy Efficiency Financial Models for the South African Urban Water Sector (<i>Alliance to Save Energy</i>)	<p>12-10307002_ASE-Full Proposal.doc 12-10307002_ASE-Progress Report-1.doc 12-10307002_ASE-Progress Report-2.doc 12-10307002_ASE-Project Evaluation Report.doc 12-10307002_ASE-REEEP-ASE Financial Models-FINAL.xls 12-10307002_ASE-REEEP-Case Study-SoAfrica-Mogale-FINAL.pdf 12-10307002_ASE-REEEP-CaseStudy-Emfuleni-FINAL.pdf 12-10307002_ASE-REEEP-Creating EE Financial Models-FINAL.pdf</p>
Developing a National Implementation Roadmap for Wind in China (Centre for Renewable Energy Development (<i>CRED</i>))	<p>13-10303002_CRED-Full Proposal.doc 13-10303002_CRED-Progress Report-1.doc 13-10303002_CRED-Progress Report-2.doc 13-10303002_CRED-Progress Report-3.doc 13-10303002_CRED-Progress Report-4.doc 13-10303002_CRED-Project Evaluation Report.doc 13-10303002_CRED-REEEP-brochure 1st.pdf 13-10303002_CRED-REEEP-Wind Roadmap-final report-english.pdf</p>

Project Title (Implementer)**Documents**

Dissemination of Best Practices of Village Power to East Asian Countries (*Beijing Jike Energy New Tech Development Co.*)

14-10303046_Beijing Jike-Full Proposal.doc
 14-10303046_Beijing Jike-Progress Report-1.doc
 14-10303046_Beijing Jike-Progress Report-2.doc
 14-10303046_Beijing Jike-Progress Report-3.doc
 14-10303046_Beijing Jike-Progress Report-4.doc
 14-10303046_Beijing Jike-Project Evaluation Form.doc
 14-10303046_Beijing Jike-REEEP-Mongolia VP Questionnaire.doc
 14-10303046_Beijing Jike-REEEP-PV in Rural in China.doc
 14-10303046_Beijing Jike-REEEP-Rural Electrification I2.DOC
 14-10303046_Beijing Jike-REEEP-Rural Energy in Mongolia.pdf

MP street lighting ESCOs (*Econoler International*)

15-10308042_Econoler Int-Full Proposal.pdf
 15-10308042_Econoler Int-Progress Report-1.doc
 15-10308042_Econoler Int-Progress Report-2.doc
 15-10308042_Econoler Int-Project Evaluation Report.doc
 15-10308042_Econoler Int-REEEP-051125 RFT Annex G REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFP Annex H REEEP.doc
 15-10308042_Econoler Int-REEEP-051228 RFP Annex H REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex A REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex B REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex C REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex D REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex E Annexures A-C REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT Annex E REEEP.pdf
 15-10308042_Econoler Int-REEEP-051228 RFT REEEP.pdf

Removing Barriers to Residential Energy Efficiency in Central and Eastern Europe (*Alliance to Save Energy*)

16-10302039_ASE-Full Proposal.doc
 16-10302039_ASE-Progress Report-1.doc
 16-10302039_ASE-Progress Report-2.doc
 16-10302039_ASE-Project Evaluation Report.doc
 16-10302039_ASE-REEEP Tentative List of Speakers_Oct_19_2005.doc
 16-10302039_ASE-REEEP-Armenia_Case_Study.pdf
 16-10302039_ASE-REEEP-Bulgaria_Pleven_Case_Study.pdf
 16-10302039_ASE-REEEP-Discussion Paper_FINAL.pdf
 16-10302039_ASE-REEEP-Latvia_Valmiera_Case Study.pdf
 16-10302039_ASE-REEEP-Poland_Warsaw_Residential_Case Study.pdf
 16-10302039_ASE-REEEP-Ukraine_Lviv_Case_Study.pdf
 16-10302039_ASE-REEEP-Ukraine_Lviv_Case_Study_Heating.pdf
 16-10302039_ASE-REEEP-Ukraine_Uzhgorod_Case_Study.pdf

E5 Sustainable Energy Accelerator (e5-SEA)

Note: This project has come to a standstill and we are currently negotiating repayment of disbursed funds to REEEP.

Market Development for Clean Energy in North America (*Western Governors Association*)

18-10301073_WGA-Full Proposal.doc
 18-10301073_WGA-Progress Report-1.doc
 18-10301073_WGA-Progress Report-2.doc
 18-10301073_WGA-Project Evaluation Report.doc
 18-10301073_WGA-REEEP-CDEAC Report FINAL.pdf

REEEP Projects 2006/7:

Expanding and Globalizing the APEC Energy Standards Information System (*CLASP*)

Note: This project has experienced a considerable delay in implementation and is an early stage of implementation.

Project Title (Implementer)	Documents
The International Sustainable Energy Assessment—Implementation and Impact Phase (to view initiation phase see Project No. 1) (<i>University of Colorado School of Law</i>)	20-10401004_ Univ of Colorado II-Full Proposal.doc 20-10401004_ Univ of Colorado II-Progress Report-1.doc 20-10401004_ Univ of Colorado II-Progress Report-2.doc 20-10401004_ Univ of Colorado II-Progress Report-3.doc 20-10401004_ Univ of Colorado II-REEEP-Effect of Int E Treaties.pdf 20-10401004_ Univ of Colorado II-REEEP-IPECC_Graphic.pdf
RETSscreen Version 4 – Multilingual Energy Efficiency Models (<i>CANMET Energy Technology Centre</i>)	21-10401006_CANMET-Full Proposal.doc 21-10401006_CANMET-Progress Report-1.doc 21-10401006_CANMET-Progress Report-2.doc 21-10401006_CANMET-Progress Report-3.doc
Harmonization roadmap development on government procurement for energy-efficient products among APEC economies (<i>CSC-China Standard Certification</i>)	22-10403023_CSC-Full Proposal.doc 22-10403023_CSC-Progress Report-1.doc 22-10403023_CSC-REEEP-GPEP Questionnaire Cover Letter.doc 22-10403023_CSC-REEEP-Questionnaire.doc
Development of an Energy Efficiency Fund in Brazil (<i>Econoler International</i>)	23-10404004_Econoler Int-Full Proposal.doc 23-10404004_Econoler Int-Progress Report-1.doc 23-10404004_Econoler Int-Progress Report-2.doc 23-10404004_Econoler Int-Progress Report-3.doc 23-10404004_Econoler Int-Progress Report-4.doc 23-10404004_Econoler Int-Project Evaluation Report.doc
Legal Framework for Renewable Energy in the State of Guanajuato (<i>Council of Science and Technology of the State of Guanajuato (CONCyTEG)</i>)	24-10404008_CONCyTEG-Full Proposal.doc 24-10404008_CONCyTEG-Progress Report-1.doc 24-10404008_CONCyTEG-Progress Report-2.doc 24-10404008_CONCyTEG-Progress Report-3.doc 24-10404008_CONCyTEG-Progress Report-4.doc 24-10404008_CONCyTEG-Project Evaluation Report.doc 24-10404008_CONCyTEG-REEEP-DERECHO COMPARADO.pdf 24-10404008_CONCyTEG-REEEP-EOLICOS.pdf 24-10404008_CONCyTEG-REEEP-FRACCIONAMIENTO.pdf 24-10404008_CONCyTEG-REEEP-introduccion.pdf 24-10404008_CONCyTEG-REEEP-LAW MODEL.pdf 24-10404008_CONCyTEG-REEEP-MODELO LEY.pdf 24-10404008_CONCyTEG-REEEP-RESIDUOS SOLIDOS.pdf 24-10404008_CONCyTEG-REEEP-SOLID WASTE.pdf 24-10404008_CONCyTEG-REEEP-URBAN DEVELOPMENT.pdf 24-10404008_CONCyTEG-REEEP-WIND.pdf
Regional Standards and Labelling Program in Central America (<i>Biomass User's Network – Central America in Collaboration with Collaborative Labelling and Appliance Standards Program</i>)	25-10404016_BUN-CA-Full Proposal.doc 25-10404016_BUN-CA-Progress Report-1.doc 25-10404016_BUN-CA-Progress Report-2.doc 25-10404016_BUN-CA-Progress Report-3.doc 25-10404016_BUN-CA-Project Evaluation Report.doc 25-10404016_BUN-CA-REEEP-CA-MarketStudy-Final.pdf 25-10404016_BUN-CA-REEEP-Informe Misión 1.doc 25-10404016_BUN-CA-REEEP-Informe Misión 2.doc 25-10404016_BUN-CA-REEEP-Monitoring and Evaluation final.doc 25-10404016_BUN-CA-REEEP-Reference Document Junio 22 2007.doc 25-10404016_BUN-CA-REEEP-report_nicaragua.pdf
Amazonia Energy Initiative (Energia da Amazonia) (<i>Winrock International Institute for Agricultural Development – Brazil Office</i>)	26-10404018_Winrock Brazil-Full Proposal.doc 26-10404018_Winrock Brazil-Progress Report-1.doc 26-10404018_Winrock Brazil-Progress Report-2.doc 26-10404018_Winrock Brazil-Progress Report-3.doc

Project Title (Implementer)**Documents**

E+Co-Commercialisation of Large scale Solar Water Heating Systems (Energyhouse Africa)	27-10407029_ECo-Full Proposal.doc 27-10407029_ECo-Progress Report-1.doc 27-10407029_ECo-Progress Report-2.doc
RE and EE policy and action plan of Liberia (Center for Sustainable Energy Technology (CSET))	28-10407030_CSET-Full Proposal.doc 28-10407030_CSET-Progress Report-1.doc 28-10407030_CSET-Progress Report-2.doc 28-10407030_CSET-Progress Report-3.doc 28-10407030_CSET-Progress Report-4.doc 28-10407030_CSET-REEEP-Draft_RE EE_Policy_Liberia.pdf 28-10407030_CSET-REEEP-Interim Report.doc 28-10407030_CSET-REEEP-Liberia EPP White Paper.doc
Utilization of forest biomass for substitution of fossil fuels in the Volga River Region (Environmental Projects Consulting Institute)	29-10409003_EPCI-Full Proposal.doc 29-10409003_EPCI-Progress Report-1.doc 29-10409003_EPCI-Progress Report-2.doc 29-10409003_EPCI-Progress Report-3.doc 29-10409003_EPCI-Progress Report-4.doc 29-10409003_EPCI-Project Evaluation Report.doc 29-10409003_EPCI-REEEP-Booklet.pdf 29-10409003_EPCI-REEEP-Climate seminar SPB_2007_Front page.doc 29-10409003_EPCI-REEEP-Climate seminar SPB_2007_infoletter.doc 29-10409003_EPCI-REEEP-Climate seminar SPB_2007_program_Final.doc 29-10409003_EPCI-REEEP-Cover.pdf 29-10409003_EPCI-REEEP-Eng_210x240.pdf 29-10409003_EPCI-REEEP-Eng_Cover-210_240.pdf 29-10409003_EPCI-REEEP-Journal_Cover-210x240.pdf 29-10409003_EPCI-REEEP-Journal_Block-210x240.pdf 29-10409003_EPCI-REEEP-Publication.doc 29-10409003_EPCI-REEEP-Round_Table_Recommendations.doc
Compiling RES Legislation for Kazakhstan (UNDP Kazakhstan)	30-10409005_UNDP-Full Proposal.doc 30-10409005_UNDP-Progress Report-1.doc 30-10409005_UNDP-Progress Report-2.doc 30-10409005_UNDP-Progress Report-3.doc 30-10409005_UNDP-Progress Report-4.doc 30-10409005_UNDP-REEEP-Final_report.doc 30-10409005_UNDP-REEEP-Report on RES potential.doc
Energy Efficiency Building Codes in Russia and Kazakhstan (Institute for Market Transformation (IMT))	31-10409019_IMT-Full Proposal.doc 31-10409019_IMT-Progress Report-1.doc 31-10409019_IMT-Progress Report-2.doc 31-10409019_IMT-Progress Report-3.doc 31-10409019_IMT-Progress Report-4.doc 31-10409019_IMT-Progress Report-5.doc 31-10409019_IMT-REEEP-b-e-codes Gantt through 6-2008.doc 31-10409019_IMT-REEEP-High-rise_bld2.doc 31-10409019_IMT-REEEP-MGSN 4.19-2005 volume 1 pages20-25.pdf 31-10409019_IMT-REEEP-MGSN 4.19-2005 volume 1 Title page.pdf 31-10409019_IMT-REEEP-MGSN 4.19-2005 volume 2 pages 39-55.pdf 31-10409019_IMT-REEEP-MGSN 4.19-2005-1.pdf 31-10409019_IMT-REEEP-NIS-to-US tour description.doc 31-10409019_IMT-REEEP-paper136r.pdf 31-10409019_IMT-REEEP-Uralsk RK design.doc 31-10409019_IMT-REEEP-Uralsk RK translated.doc
Financing Municipal Energy Efficiency (Alliance to Save Energy)	32-10301072_ASE-Full Proposal.doc 32-10301072_ASE-Progress Report-1.doc 32-10301072_ASE-Progress Report-2.doc

Project Title (Implementer)	Documents
	32-10301072_ASE-Progress Report-3.doc 32-10301072_ASE-Progress Report-4.doc 32-10301072_ASE-Project Evaluation Report.doc 32-10301072_ASE-REEEP-Agenda_Financing Forum_EN.pdf 32-10301072_ASE-REEEP-Financing Guidelines_FINAL_Eng.pdf 32-10301072_ASE-REEEP-Forum Summary II_en.doc 32-10301072_ASE-REEEP-List of Participants.pdf
Increasing the Supply of CDM Gold Standard Projects (<i>IT Power and WWF</i>)	33-10301039_IT Power-Full Proposal.doc 33-10301039_IT Power-Progress Report-1.doc 33-10301039_IT Power-Progress Report-2.doc
Promoting low energy use (or low emission) building programme in China (<i>China National Engineering Research Center for Human Settlements (CNERCHS)</i>)	34-10303007_CNERCHS-Full Proposal.doc 34-10303007_CNERCHS-Progress Report-1.doc 34-10303007_CNERCHS-Progress Report-2.doc 34-10303007_CNERCHS-Progress Report-3.doc 34-10303007_CNERCHS-Progress Report-4.doc 34-10303007_CNERCHS-Project Evaluation Report.doc 34-10303007_CNERCHS-REEEP-Analysis Report of Low Energy Buildings in China.pdf 34-10303007_CNERCHS-REEEP-China-01 Tsinghua University.pdf 34-10303007_CNERCHS-REEEP-China-02 Beijing MoST.pdf 34-10303007_CNERCHS-REEEP-China-03 Tianpu.pdf 34-10303007_CNERCHS-REEEP-China-04 Shanghai Eco-Building.pdf 34-10303007_CNERCHS-REEEP-China-05 Shandong Meiyuan.pdf 34-10303007_CNERCHS-REEEP-China-06 Beijing MOMA.pdf 34-10303007_CNERCHS-REEEP-China-07 Vanke lang rui.pdf 34-10303007_CNERCHS-REEEP-China-08 Taige Apartment.pdf 34-10303007_CNERCHS-REEEP-China-09 Nanjingjufuyuan.pdf 34-10303007_CNERCHS-REEEP-China-10 Nanjing Langshi.pdf 34-10303007_CNERCHS-REEEP-CTE_solar_thermal_sections_ENGLISH.pdf 34-10303007_CNERCHS-REEEP-EnEV_2004.pdf 34-10303007_CNERCHS-REEEP-EPBD directive 4 January 2003_en.pdf 34-10303007_CNERCHS-REEEP-Eur-01 Zwaagwesteinde case study_vs2.pdf 34-10303007_CNERCHS-REEEP-Eur-02 Palmtorens case study_jte.pdf 34-10303007_CNERCHS-REEEP-Eur-03 Barcelona case study.pdf 34-10303007_CNERCHS-REEEP-Eur-04 Lummerlund casestudy_incl pictures.pdf 34-10303007_CNERCHS-REEEP-Eur-05 Viladecans casestudy.pdf 34-10303007_CNERCHS-REEEP-Eur-06 Solar XXI Building_vs2.pdf 34-10303007_CNERCHS-REEEP-Eur-07 ETEK_case_study_revised_ab_final_vs2.pdf 34-10303007_CNERCHS-REEEP-Eur-08 Grenoble casestudy.pdf 34-10303007_CNERCHS-REEEP-Eur-09 Gneis-Moos case study.pdf 34-10303007_CNERCHS-REEEP-Eur-10 Goteborg casestudy_incl pictures.pdf 34-10303007_CNERCHS-REEEP-European Experience on Promoting Low-Energy Buildings.pdf 34-10303007_CNERCHS-REEEP-Proposal for Construction of Low E Buildings.pdf 34-10303007_CNERCHS-REEEP-summary and Analysis of European standards.pdf 34-10303007_CNERCHS-REEEP-Summary of case studies in Europe.pdf 34-10303007_CNERCHS-REEEP-Summary of case study in China.pdf
Innovative market mechanisms and regulatory frameworks to develop biomass co-firing potential in China (<i>Energy for Sustainable Development, ESD</i>)	35-10303028_ESD-Full Proposal.doc 35-10303028_ESD-Progress Report-1.doc 35-10303028_ESD-Progress Report-2.doc 35-10303028_ESD-Progress Report-3.doc 35-10303028_ESD-Progress Report-4.doc 35-10303028_ESD-Project Evaluation Report.doc 35-10303028_ESD-REEEP-P01203_Final Report_071008.pdf 35-10303028_ESD-REEEP-P01203_Final Report_071008_CN.pdf

Project Title (Implementer)**Documents**

Promoting Renewable Energy and Energy Efficiency through City Energy Strategies in South Africa (<i>Sustainable Energy Africa (SEA)</i>)	36-10307020_SEA-Full Proposal.doc 36-10307020_SEA-Progress Report-1.doc 36-10307020_SEA-Progress Report-2.doc 36-10307020_SEA-Progress Report-3.doc 36-10307020_SEA-Progress Report-4.doc 36-10307020_SEA-Project Evaluation Report.doc 36-10307020_SEA-REEEP-1.Success through sustainability .pdf 36-10307020_SEA-REEEP-2.Cities as energy leaders.pdf 36-10307020_SEA-REEEP-3.City action towards a sustainable path.pdf 36-10307020_SEA-REEEP-4.Solar water heater implementation.pdf 36-10307020_SEA-REEEP-5.Energy efficient lighting implementation.pdf 36-10307020_SEA-REEEP-6.Energy efficient building implementation.pdf 36-10307020_SEA-REEEP-7.Public transport.pdf 36-10307020_SEA-REEEP-8.Some useful resources.pdf
More Private Pro-poor Small-scale RE/EE Investments in South Asia (<i>The Small-Scale Sustainable Infrastructure Development Fund, Inc.</i>)	37-10308020_S3IDF-Full Proposal.doc 37-10308020_S3IDF-Progress Report-1.doc 37-10308020_S3IDF-Progress Report-2.doc 37-10308020_S3IDF-Progress Report-3.doc
Creating a link between energy services and income generation, using innovative financing as a catalyst (<i>SELCO</i>)	38-10308021_SELCO-Full Proposal.doc 38-10308021_SELCO-Progress Report-1.doc
Finance – Market based Innovative Sources of Finance (<i>National Energy Conservation Agency – NAPE</i>)	39-10402005_NAPE-Full Proposal.doc 39-10402005_NAPE-Progress Report-1.doc 39-10402005_NAPE-Progress Report-2.doc 39-10402005_NAPE-Progress Report-3.doc 39-10402005_NAPE-Progress Report-4.doc 39-10402005_NAPE-REEEP-Audyt -SZPITAL-Piaseczno.doc 39-10402005_NAPE-REEEP-NAPE-June30.pdf
Capacity Building Support for the Implementation of the Renewable Energy Law in China (<i>Chinese Renewable Energy Industries Association (CREIA) - REEEP's RS for East Asia</i>)	40-10401020_CREIA-Full Proposal.doc 40-10401020_CREIA-Progress Report-1.doc 40-10401020_CREIA-Progress Report-2.doc 40-10401020_CREIA-Progress Report-3.doc 40-10401020_CREIA-REEEP-Final RELaw Assist Proposal.pdf 40-10401020_CREIA-REEEP-SYDDMS-587216-v1-RELaw_Assist__issues_paper:PDF
Latin American Regional Sustainable Energy (RE/EE) Policy Development Forum (<i>OAS- RS for LAC</i>)	41-10401021_OAS-Full Proposal.doc 41-10401021_OAS-Progress Report-1.doc 41-10401021_OAS-Progress Report-2.doc 41-10401021_OAS-Progress Report-3.doc 41-10401021_OAS-Progress Report-3-ADDENDUM.doc 41-10401021_OAS-Progress Report-4.doc 41-10401021_OAS-Progress Report-5.doc 41-10401021_OAS-Project Evaluation Report.doc 41-10401021_OAS-REEEP-consulta_ee_brasil.pdf 41-10401021_OAS-REEEP-Policy Analysis Report-ESG inception report.doc 41-10401021_OAS-REEEP-proceedings_las_vegas.pdf 41-10401021_OAS-REEEP-SEPI report FINAL_eng.pdf 41-10401021_OAS-REEEP-SEPI report FINAL_spanish.pdf
Development of a Sustainable Energy Policy Framework for Guatemala (<i>Fundacion Solar and GVEP</i>)	42-010401026_Fundacion Solar-Full Proposal.doc 42-010401026_Fundacion Solar-Progress Report-1.doc 42-010401026_Fundacion Solar-Progress Report-2.doc 42-010401026_Fundacion Solar-Progress Report-3.doc 42-010401026_Fundacion Solar-Progress Report-4.doc 42-010401026_Fundacion Solar-REEEP-PARTICIPACION CIUDADANA.pdf 42-010401026_Fundacion Solar-REEEP-Policy vision.pdf

Project Title (Implementer)	Documents
	<p>42-010401026_Fundacion Solar-REEEP-Politica E. vision.pdf 42-010401026_Fundacion Solar-REEEP-REPORTE RRPP.pdf 42-010401026_Fundacion Solar-Summary Soc Part Plan.pdf</p>
Renewable Energy Cooperation Certificates (<i>ISES Italy/MEDREP</i>)	<p>43-10401027_ISES Italy-Full Proposal.doc 43-10401027_ISES Italy-Progress Report-1.doc 43-10401027_ISES Italy-Progress Report-2.doc 43-10401027_ISES Italy-REEEP-LEGAL ANALYSIS.pdf 43-10401027_ISES Italy-REEEP-RECS SURVEY.pdf</p>
Securing financing for RE/EE projects in Southern Africa through Gold Standard CDM (<i>SouthSouthNorth</i>)	<p>44-10501005_SSN-Full Proposal.doc 44-10501005_SSN-Progress Report-1.doc 44-10501005_SSN-Progress Report-2.doc 44-10501005_SSN-Progress Report-3.doc 44-10501005_SSN-Progress Report-4.doc 44-10501005_SSN-Progress Report-5.doc 44-10501005_SSN-Project Evaluation Report.doc 44-10501005_SSN-REEEP-Biodiesel Project Carbon Transaction Strategy_June 07.doc 44-10501005_SSN-REEEP-BIODIESEL BP_June 07.doc 44-10501005_SSN-REEEP-Biogas Project Business Plan.doc 44-10501005_SSN-REEEP-Biogas Project Carbon Transaction Strategy_June 07.doc 44-10501005_SSN-REEEP-Clean Energy and Water (PVP) Carbon Transaction Strategy_May 07.doc 44-10501005_SSN-REEEP-Clean Energy and Water (PVP) Project Business Plan.doc 44-10501005_SSN-REEEP-Financing Transaction Guide.doc 44-10501005_SSN-REEEP-Lessons and Guidance for using GS Carbon Finance in RE EE projects.doc 44-10501005_SSN-REEEP-Lessons Learnt.doc 44-10501005_SSN-REEEP-MICRO HYDRO BP_July07.doc 44-10501005_SSN-REEEP-Microhydro Project Carbon Transaction Strategy_June 07.doc 44-10501005_SSN-REEEP-Moz REEEP Financing Report July 07.doc 44-10501005_SSN-REEEP-PIN Biodiesel.doc 44-10501005_SSN-REEEP-PIN Biogas.doc 44-10501005_SSN-REEEP-PIN Clean Energy and Water.doc 44-10501005_SSN-REEEP-PIN Microhydro.doc 44-10501005_SSN-REEEP-Tanz REEEP Financing report July 07.doc</p>
Financing Cogeneration and Small-Hydro projects in the Sugar and Tea Industry in East and Southern Africa (<i>AFREPREN/FWD</i>)	<p>45-10501011_AFREPREN-Full Proposal.doc 45-10501011_AFREPREN-Progress Report-1.doc 45-10501011_AFREPREN-Progress Report-2.doc 45-10501011_AFREPREN-REEEP-Financing REEES report outline.doc 45-10501011_AFREPREN-REEEP-Mailing List summary draft.doc 45-10501011_AFREPREN-REEEP-Programme for Projects' Launch.doc 45-10501011_AFREPREN-REEEP-Proposed Structure_REEEP training workshop.doc 45-10501011_AFREPREN-REEEP-REEEP funding ideas for Africa.doc 45-10501011_AFREPREN-REEEP-Training Programme.doc</p>
Facilitating access to finance for the biodiesel industry in Southern Africa (<i>African Sustainable Fuels Centre (ASFC)</i>)	<p>46-10501013_ASFC-Full Proposal.doc 46-10501013_ASFC-Progress Report-1.doc 46-10501013_ASFC-Progress Report-2.doc 46-10501013_ASFC-REEEP_Financing Guidebook (draft contents).doc 46-10501013_ASFC-REEEP-45_122_Summit Programme.pdf</p>
Establishing TREC Trading between Tunisia and Italy (<i>Inergia</i>)	<p>Note: this project has experienced a considerable delay in implementation with no progress reports to date</p>

ANNEX E: TERMS OF REFERENCE

Analytical and Synthesis Study of REEEP Programmes

Objective

Carry out an analysis of the outputs and outcomes of the REEEP projects, capture the learning and gauge the contribution of these projects towards RE and EE market development.

Projects to be covered

All the REEEP projects that have been supported by REEEP in the third, fourth and fifth project cycles and the strategic activities/projects that have been supported. REEEP will provide a list of all projects after the pre-qualification stage.

Approach of the Study

The study based on an analysis of the outputs and outcomes from REEEP supported projects will develop a synthesis study to develop the 'Big-picture' from REEEP projects, examining the following aspects:

- 1) What are the contributions that REEEP has made in the four areas of Policy, Regulation, Business and Finance to develop the markets for RE and EE;
- 2) Which of the efforts have succeeded and which have failed, what are the lessons to be learned from these experiences for market development of RE and EE;
- 3) Develop five case studies based on selected examples of successes and failures and the lessons from a RE and EE market development perspective;
- 4) What have been the catalytic and follow-on effects of REEEP project outcomes, if any, in the RE and EE markets?
- 5) What are the existing and emerging best practices, if any from the projects that REEEP has supported?
- 6) What are the lessons that are particularly relevant to renewable energy sector and energy efficiency sector respectively?
- 7) What has been the contribution qualitatively and quantitatively of the project outcomes towards the REEEP goals?

Report and layout

The study report should be given an appropriate title and should be of about 25 pages, including a 2 page executive summary. REEEP would have full rights of reproduction of the report. The report should use graphs, graphics and photographs to make the report easy and interesting to read. The report should quote project implementing organisations and beneficiaries and will also feature a foreword from REEEP donors. The study report should be professionally visualised and laid out. 500 hard copies printed in recycled paper should be delivered to REEEP along with an electronic version.



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