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COLOMBIA CLEAN ENERGY PROGRAM

Annual Report:

January 2012 – September 2013

October 15, 2013

This publication was produced for review by the United States Agency for International Development. It was prepared by the Colombia Clean Energy Program (Tetra Tech ES, prime contractor)

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Prepared for:
Office of Environment
USAID/Colombia

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USAID Contract Number Contract AID-514-C-12-00002

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1. SUMMARY OF KEY ACTIVITIES AND ACHIEVEMENTS

1.1 INTRODUCTION

This report covers the period from January 2012 to September 30, 2013 and summarizes the progress and achievements reached by the Colombia Clean Energy Program (CCEP) during its first year of operation. Activities during this first year ranged from the basic initial mobilization and project start-up (local staff recruiting, office set up, equipment procurement, etc.) to identification of key implementing partners, consolidation of project pipeline and implementation of selected renewable energy projects in off-grid areas and energy efficiency projects in priority subsectors. The overall objectives of this annual report are:

- Summarize the activities and report on main outcomes and impacts.
- Highlight relationship developed with key implementing partners
- Report the main hurdles encountered, how CCEP approached them deriving in experience and lessons learned.
- Showcase success stories.

1.2 MAIN ACCOMPLISHMENTS AND RESULTS

This section describes the main results achieved by task and also highlights one of the main achievements of CCEP's first year's work which included establishing strategic relationships with key GOC, state, municipal and community agencies and organizations . This is of particular importance to highlight it upfront because CCEP has being successful thanks to the time and efforts invested to established this relationships from the technical, financing and implementing aspects of the task under execution by CCEP.

During this first year CCEP was able to establish effective working relationships with over 100 public and private agencies and institutions as indicated below, reflecting an important number of agreements with public institutions and a more significant number with private sector companies. Appendix A includes a complete list of CCEP's implementation partners and specific areas or work with each of them. This listing reflects an impressive and diverse spectrum of national, regional, municipal, private companies, NGOs, and community level organizations with which CCEP has agreed to join efforts to achieve CCEP's program goals.

CCEP's First Year Implementing Partners	
Public Institutions	**22**
National Government	13
Regional Institutions	9
Community Organizations and NGOS	**16**
Community Organizations	12
Non-Governmental Organizations	4
Private Sector	**52**
National Business Associations	7

National Banks and Financial Institutions	9
Private Companies	31
Energy Service Companies - ESCOS	5
International Organizations	**10**
Other USAID Projects	4
International / Multilateral Organizations	6
Total implementing partners	**100**

1.2.1 Task 1: RE and EE Enabling Environment and Institutional Capacity Development

During the first year under this component, CCEP provided technical support to enhance institutional capacity of the Ministry of Mines and Energy (MME) and related institutions to formulate and implement RE projects, to promote policies to use public funds for sustainable rural energization and leverage private sector investment, and to strengthen the capacity of GOC to implement a low emissions development strategy (LEDS). This component also entailed raising public awareness on the technical options and socioeconomic benefits of clean energy paths.

The main accomplishments achieved under this task during the first year of implementation are grouped in three thematic areas as follows:

- Creating Energy Efficiency and Renewable Energy (EE/RE) enabling environment
- Providing Institutional Capacity Development
- Supporting Energy Efficiency and Renewable Energy projects transaction

a. Creating Energy (EE/RE) enabling Environment

Supported and completed development and roll-out of National Tax Incentive Regulation (UPME Resolution 0563). One of the most significant CCEP's accomplishments during this first year was its critical involvement in the development and roll-out of the Tax Incentive Resolution 0563 promulgated by UPME[1] in December 2012. CCEP's support also included initial evaluation of EE project specific applications received by UPME up through September 2013, by which time UPME had developed internal capacity and funding procedures to handle additional requests. Additional details are included in the Task 1 project activity table below and in Chapter 4 documenting some of the success stories we have drafted for USAID approval.

Initiated and partially completed technical assistance for CREG in the context of the off-grid (ZNI) Tariff methodology reassessment. CCEP responded to the assistance request from the National Power and Gas Regulatory Authority (CREG) to carry out an independent renewable energy resource assessment and mapping activity including an estimation of associated costs of renewable systems vs. standard diesel or hybrid systems taking into consideration regional differences and market sizes. Results will be used by CREG to verify, modify and issue a new tariff methodology for the ZNI by early

[1] CCEP has found UPME to be one of its strongest GOC partners and acted to push forth this tax incentive for EE/RE investment after over one decade of regulatory entanglement.

2014. Another important partner during the implementation of this activity is the National Geographic/Cartography Institute (IGAC), the national authority on geographic information systems which provides technical standards in the development of the Mines and Energy Sector Geo-Portal which the mapping products will form part of, ensuring that the whole energy sector benefits from the end results, expected in November 2013. Additional details are included in the Task 1 project activity table below.

Structured Clean Energy Project Preparation Facility (PPF): CCEP designed a multi-donor Clean Energy Project Preparation Facility (PPF) aimed at financing detailed engineering designs and financial structuring of private sector energy efficiency and renewable energy investments. CCEP and other national and international financial agents foresee it as a necessary vehicle to assure financial closure ("bankability") and actual use of the numerous credit lines and funds available for clean energy investment in Colombia. Additional details are included in the Task 1 project activity table below.

Designed and agreed to implement educational and demonstrative renewable energy projects. CCEP perceived a project requested from Bogota Botanical Gardens (JBB) as an excellent opportunity to build public awareness of the benefits of RE and through it expects that clean energy solutions will have a huge educational impact within the city of Bogota and the nation, and will contribute towards CCEP's objective of increasing awareness through tangible projects, promoting investment in renewable energy sources and improving energy efficient practices in Colombia. The proposed clean energy solutions would supply approximately 30% of the Garden's total energy demand and include a 40 kW gasifier (using for fuel residual biomass from the Garden´s tree trimmings), a solar water heating system for the greenhouse, and an isolated solar water pump for a small fountain. Additional details are included in the Task 1 project activity table below.

Provided technical support to Ministry of Mines and Energy, National Planning Department and Ministry of Environment NAMAS and LEDS consultants. CCEP has supported the LEDS process in Colombia mainly through support on specific topics requested by the MME's LEDS consultant and the organizers of a series of EC-LEDS seminars and workshops covering clean energy topics. Support has ranged from making presentations and participating in these workshops to contributing to the design, formulation and development of a NAMA for ZNI. As the EC-LEDs process moved ahead, perspectives for specific joint action have been identified with the MADS/USAID's consultancy teams in agriculture (energy efficiency in "trapiches paneleros") and expanding PROURE's actions to the transport sector in conjunction with the Ministry of Transport's EC-LEDS initiatives.

Encouraged Public Private Alliances seeking to overcome barriers to EE/RE by promoting policies and institutional arrangements - As part of year one efforts, CCEP worked closely with USAID's Development Alliances team to spark PPA's among major energy, commercial, industrial and technology suppliers to develop specific joint projects aimed at overcoming barriers to EE/RE investment.[2] On additional fronts, CCEP provided technical and organizational feedback to UPME in the design of a new institutional alliance with the National Business Association (ANDI) to promote EE/RE investment by the private sector, which should be formalized by end of 2013 and operational first quarter of 2014. The design to date contemplates a project preparation unit; UPME and CCEP are

[2] Alliances promoted with USAID's development alliances team involved energy companies such as ISAGEN and EPM; enterprises such as EXITO supermarket chain, Corona ceramics manufacturer and ALPINA dairy plants; and technology suppliers such as SIEMENS and GreenYellow.

discussing whether and how this unit could eventually house the clean energy PPF under development.

b. Institutional Capacity Development

CCEP organized and supported the design of a Sustainable Rural Energization Plan for the Department of Nariño (PERS Nariño). CCEP viewed this as an unparalleled opportunity to bring together resources and further improve capabilities of several national and regional institutions with the objective of creating a sustainable rural energy strategy and project portfolio for the specific needs and renewable resources of the Nariño region. This work included carrying out over 3,000 household, small industrial, commercial and service sector surveys representative of 13 subareas, creating a geographic information system with energy demand and energy resources data, refining methodologies to collect and create such system, including an assessment of local productive activities. Additional details are included in the Task 1 project activity table below.

The success of this approach has led to the formulation of other regional PERS projects to be implemented during CCEP's second annual work plan in the departments of Tolima, La Guajira and possibly others such as Choco.

CCEP initiated creation of an Integrated GIS Database on Renewable Energy in the ZNI. Initial efforts initiated by CCEP to support the creation and unification of a comprehensive GIS database on renewable energy resources, energy demand and socioeconomic attributes between UPME and IPSE for the whole ZNI proved initially unviable due both to lack of specific geo-referenced information on such resources as hydro-energy and bio-energy and to institutional inertias. However, jointly with UPME and IPSE it was decided to refocused the approach and "de-scale" the effort to the specific region of Nariño in order to develop unified criteria and a practical methodology applicable to other regions and later the national level, while at the same time other projects such as the UPME/COLCIENCIAS project on hydro-energy resources produced results. The CCEP/CREG solar and wind resource geographic information system will also feed into this process during the second year work plan. The final objective of this work stream is not merely to establish a unified GIS database but to enhance the capacity of UPME, IPSE, CREG and other energy sector institutions to maintain, update and, above all, utilize geographic information systems in their policy designs and project planning, implementation and monitoring – under the overall coordination of UPME as the newly designated energy sector information authority.

CCEP Initiated technical support on PROURE[3]. . During first year implementation, CCEP strategically supported UPME in policy formulation by designing and drafting key regulation and generating enough momentum to get it approved, published and implemented., such as the tax incentive resolution which was originally enabled 15 years ago but only issued December 2012. CCEP then focused on evaluating the impacts of the 2010-2015 PROURE Action Plan by designing a monitoring and evaluation system for PROURE actions and providing guidance on the focus of the 2015-2020 action plan to be designed in 2014.

[3] PROURE is the national policy framework for energy efficiency and renewable energy instituted by Law 697/2001 and subsequent acts, such as MME Resolution 180919/2010 which adopts PROURE's 2010-2015 Action Plan.

c. Support Renewable Energy and Energy Efficiency projects transaction

Identified and consolidated public entities project co financing and approval. CCEP's persistence and collaborative work with IPSE resulted in the appropriation of its 2014 budget commitments of approx. US $1.2M to CCEP projects by July 30, and did so by adhering to DPS/FONADE US $526,000 contract for the Arusi project, and subscribing a cooperative agreement for the other projects with an NGO operator to be jointly chosen with CCEP through our Incentive Fund procedures (administrative fees being incurred by CCEP). This assured co-finance closure for Arusi, Utria, El Yucal, Palmor (town/rural) and Bunkwimake. Achieving this was a long and difficult process because though IPSE is the national agency most directly involved in rural energization of ZNI communities (by mandate and even official name), it was particularly difficult to work with due to internal regulations and management issues, notwithstanding a formal MOU signed between USAID and IPSE for cooperation on these matters in early 2012. Projects involving various engineering and social development teams from different partners (e.g., DPS/IPSE/FONADE, or simply IPSE/PNN), required more site visits and discussions reaching technical agreement (and, generally, budget increases). What was most difficult was reaching formal, legal, binding commitments, which involve each partner's legal and administrative officials and cumbersome procedures.

CCEP also assured project co-finance or leverage for Task 1 initiatives, as follows:

- PERS Nariño – US $534,000 leverage from UPME, IPSE and UDENAR (94% budget),
- PERS Tolima – US $272,000 leverage from UPME, U.Tolima, Governorship and SENA (94%)
- PERS Guajira – Assured US $388,000 in 2013 investment budget commitments from UPME, Chancellery, CORPOGUAJIRA and SENA (85% budget).
- Bogota Botanical Gardens renewable energy project – Assured US$177,000 contribution by Garden (56% budget).

Identified and consolidated private, regional and other programs' co-financing. CCEP was successful in decreasing dependency on a single GOC agency (IPSE) for co-financing even its T2 rural energy projects. Given that rural communities do not normally have resources to co-finance 50% of projects, CCEP began a partner diversification strategy during the first year. This decision quickly led to the design and implementation of the San Antonio project with the social foundation of the Diocese of Riohacha. Another regional public entity, CVC, also approached CCEP to provide technical assistance in the design and development of renewable energy projects in indigenous communities, having assured US$250,000 per year for this type of investment in off-grid communities of shared interest. EPSA was chosen as a private company – not subject to GOC contract law – with the technical wherewithal and social responsibility commitment to assure sustainability of biomass gasification plants. As large and solvent partners, however, internal administrative procedures at both CVC and EPSA slowed down formalization of MOUs necessary to back their commitments and kick off investments. Nonetheless, two specific indigenous community projects with CVC were designed and ready for implementation by end of first work plan, and other partnerships were being developed for joint T2 project implementation with private sector Cerrejon Foundation in La Guajira and the Coffee Growers' Foundation (Fedecafe) in the Serrania de Perija.

CCEP focused its T1 and T2 co-financing strategy on reaching financial closure and budgetary commitments and contracts from public agencies prior to November 2013, when a 6-month pre-

electoral ban on new investment kicks into place. With other USAID projects, such as BIOREDD and CELI Central, efforts have been made to jointly identify renewable energy applications in communities they work with (e.g., Cajambre and Caqueta) and third party co-financers (restaurant chain for fishery cold chain in Cajambre). The general idea is for CCEP to concentrate only on solid RE technologies whereas USAID implementing partners would handle the community development and ongoing technical assistance through their own local field staffs.

As far as T3 energy efficiency projects in the industrial sector, CCEP focused its first year transaction support to interested companies on training efforts and technical assistance in project identification, structuring and financial facilitation through its own staff and subcontractors, leaving the bulk of investment finance to the private sector (beneficiary industries through specific environmental credit lines and/or UPME tax incentives). Given the existence of a 25% debt remission option for SME investment in clean production and energy efficiency by the Swiss agency SECO for projects channeled through BANCOLOMBIA and BANBOGOTA, tied to emissions reductions achieved vs. baseline indicators, T3 offered assistance to companies interested in this mechanism meeting CCEP sub-sector priority criteria. Nonetheless, progress in project formulation and, above all, implementation was slowed down by insufficient technical designs and/or reluctance to commit company resources and assume new debt by top management. In response to these findings, CCEP has sought MOUs with ESCOS – specialized companies with technical capacity to perform detailed engineering designs and financial muscle to invest in EE projects under energy service contracts. Through these agreements, CCEP will co-finance 50% cost of final engineering and financial structuring designs for T3 pipeline projects requiring this additional transaction support to reach implementation phase.

Reinforced team to carry-out all negotiations concerning financial, legal and administrative matters for project co-finance, including environmental and political permits, licenses and authorizations. CCEP reinforced its capacity to deal with public contract law and administrative procedures, by adding to the team a local lawyer specializing in Colombian contract law and USAID grants and contracts as Incentive Fund Manager. This additional capacity was added to the Bogota team because major national institutions involved in technical, financial, environmental and social consultation processes for rural energy projects are located in Bogota. During year one Task 1 team was increasingly involved in all negotiations concerning financial, legal and administrative matters for project co-finance, formalization and implementation with partner GOC institutions such as IPSE, DPS, FONADE, National Parks System (PNN), UPME, Chancellery, etc. Some key issues in this administrative area are:

- Strained team resources. While the main factor slowing down rural energy project structuring and implementation has been the need to assure solid co-financing from public partner institutions, which require detailed engineering designs in order to channel GOC resources to them, designing to required technical specifications has not been a major issue, though it has strained team resources.
- Unpredictable time required to seek and obtain environmental permits. What has become quite a bottleneck is the unpredictable time required to seek and obtain environmental permits by regional environmental authorities, the PNN (for work within the park system) or even the national environmental authority (ANLA, in one case) as well as assure formal social consultation ("consulta previa") which must be channeled through an understaffed and overwhelmed Ministry of Interior. Despite the good will shown by all partner institutions involved in helping to accelerate or facilitate these procedures, these legal procedures cannot, and should not, be circumvented as they are designed to assure environmental and sociocultural viability of

investment projects involving often vulnerable territories and populations. For projects already in advanced formulation and co-financing agreements, CCEP will continue to seek approvals. New projects in areas with complex environmental or social consultation requirements will be avoided in future.

A summary of Task 1's first year project pipeline, implementation status and pending steps is presented in project activity table shown below.

Task 1 - Project Activity Table – Sep 2013

Project	Description	Main Components	Implementation Stage	Start date	End date
EE/RE Tax Incentive Resolution 563 	CCEP Completed activity to encourage energy efficiency and renewable energy investments in Colombia. CCEP worked closely with UPME for the drafting and promulgation of Resolution 563, granting 16% VAT and 20% income tax deductions for EE/RE investment projects in Colombia.	CCEP jointly organized – with ANLA, MADS, UPME and ANDI, the dissemination workshops in order to explain procedures on how to apply for these incentives. CCEP has provided technical and administrative resources to support implementation of the Resolution.	Ongoing support for this resolution started in mid-2012. Resolution 563 promulgated Dec-12 Workshops April – May -13 Review of proposals – April-Sept -13. M&E Aug-13 to Jul-14	Jun-12	Jul-14
Colombia Clean Energy Project Preparation Facility 	CCEP made significant progress on the design and creation of a Colombia Clean Energy Project Preparation Facility (PPF), a fund that would finance part of the detailed engineering studies necessary for an informed decision-making process regarding investments in energy efficiency and renewable energy projects.	The PPF – in business plan stage, would be ideally co-funded by other sponsors in addition to CCEP and would outlive this Program, ensuring sustainability in time of the effort to promote EE investment.	Three PPF workshops were held in Bogota, with financial institutions, international donors and Colombian companies and ESCOs, to socialize the idea, obtain feedback and measure the degree of interest of the attendees. CCEP continues to move forward with the PPF business plan.	April -13	TBD - before end of the Program.
CREG ZNI Tariff Methodology 	CCEP supported development of a unified and integrated energy sector database to feed into the new off-grid tariff methodology being designed by CREG, and which will be hosted in the geo-portal platform developed by the Instituto Geografico Agustin Codazzi –IGAC, made available to the whole energy sector and Colombian public (with different levels of user access, of course).	In November 2013, CCEP will provide all solar and wind resource mapping for Colombia, including technological cost analysis and the identification of sustainability models in the off-grid zones (ZNI) regions.	Contract with Westeva - Ken Westrick signed on Aug 13. End results expected Nov 13	Aug -13	Nov -13
PERS Nariño 	CCEP supported the design of a Sustainable Rural Energization Plan for the Department of Nariño. The 12 month team analysis involves UPME, IPSE, CCEP, University of Nariño and the Governorship of Nariño.	PERS includes: a 3,200 rural household, commercial and industrial energy survey in 13 sub-regions; a geographic information system on rural energy demand and energy resources; an assessment of rural productive activities and	Ongoing project to be completed by Dec -13. The last milestone associated with the project report and closure is planned to be completed by Dec-13. A workshop to present results is planned for mid-Nov-13	Dec-12	Dec -13

Project	Description	Main Components	Implementation Stage	Start date	End date
		energy needs and options to enhance value-added; the formulation of rural energy development strategies for the period 2013-2030; and, the design of a sustainable rural energy project portfolio.			
Educational & Demonstrative Clean Energy Project for the Bogota Botanical Garden 	CCEP designed RE solutions for the Bogota Botanical Garden (JBB) as an important educational and demonstrative project within the city and to demonstrate importance of a renewable energy.	Project includes a 40 kW gasifier system; a solar water heating system; and an isolated solar water pump.	Agreement signed Oct -13. Implementation to start Nov-13.	Nov-13	Apr-14
Rational and efficient use of energy and alternative energy sources program-PROURE 	CCEP initiated assessment of the achievements and lessons learned from the PROURE 2010-2015 Indicative Action Plan, using a designed monitoring and evaluation scheme; and proposing the evaluation and assessment instruments to monitor impacts of the next Plan of Action.	National survey to determine the goals and objectives of the current National Indicative Plan for the Rational and Efficient Use of Energy (PROURE) is designed for implementation in Oct-13.	Ongoing; national survey has been designed and launched, to be complemented with personal interviews to strategic stakeholders and experts. Final report with PROURE impact assessment, M&E instruments and guidelines for 2015-2020 action plan expected by mid-December.	Sept -13	Dec-13
PERS Tolima 	CCEP initiated structuring of this activity associated with the design of a Sustainable Rural Energization Plan for the Department of Tolima. PERS involves UPME, the University of Tolima, EGETSA (Energy Generating Company from Tolima), ENERTOLIMA (Energy Company from Tolima), DNP (National Planning Department), local NGOs and the Governorship in Ibague, Tolima.	The Government of the Department of Tolima requested UPME to implement the PERS strategy in this Department, using the tools, survey system, field work preparation, analysis of information system, project schemes, manuals and equipment designed and used in the Nariño Plan. The main operator is the University of Tolima.	Project designed and multi-party agreement ready to be signed in October 2013. Project implementation begins Nov-2013 to be completed by October 2014.	Subscribed and approved by USAID Oct -13	Oct-14

Project	Description	Main Components	Implementation Stage	Start date	End date
PERS Guajira 	CCEP initiated structuring of this activity associated the design of a Sustainable Rural Energization Plan for the Department of Guajira. This PERS involves Chancellery, CCEP, UPME, SENA, CorpoGuajira and other local NGOs.	Provide technical, administrative and financial resources and efforts in order to design the PERS Guajira, adapting the tools and methodologies used in the Nariño Plan to regional particularities, in addition to providing an administrative unit with funding. The main operator is to be CORPOGUAJIRA and the SENA renewable energy center will take technical lead for the project.	CEP expects to sign the Associative Agreement before the GOC period of "Ley de Garantías." Start of activities expected for Nov-2013. CCEP assistance will include time put in by its T1 team and consultants, as well as monetary and technical resources.	USAID approved Oct -13 To be subscribed by early Nov- 13	Nov-14
Small commercial businesses 	CCEP initiated structuring of this activity associated with several energy efficiency projects aimed at improving small commercial businesses energy consumption, in cooperation with FENALTIENDAS (small shops chapter of national commerce federation FENALCO).	Replacement of inefficient refrigerators, ice boxes and refrigerated shelves, with new and efficient ones in 20-30% of Bogota's 17,000 stores. Garper Energy Services is the ESCO we would work with on this project.	In stand-by. MoU signed between CCEP and Garper for this and other projects. Project take off pending partnership with FENALTIENDAS and the energy distribution company.	TBD	TBD

1.2.2 Task 2: Expanding access to RE sources in Unserved Areas

During the first year under this component, CCEP promoted and constructed renewable energy applications in rural communities through a participatory process for community development with the aid of a multi-disciplinary team. This team included engineering specialists, economists, environmental and community development specialists familiar in working with community-based organizations. In parallel with the community participatory process, a technical process was undertaken by CCEP for each locality involving RE resource evaluation, analysis of local productive activities, energy demand and supply analyses and forecasts, analysis of energy technology options and costs.

During the first year CCEP worked closely with MME, the Mining and Energy Planning Unit (UPME), the Institute of Planning and Promotion of Energy Solutions in the ZNI (IPSE) and other institutions to derive access and renewable energy targets, implement sustainable renewable energy programs in the ZNI, enable EE/RE investment in industry and other sectors and seek to overcome regulatory barriers to RE for the overall power sector. The main achievements during year one are grouped in two thematic areas:

- Renewable Energy Projects Planning Tools
- Sustainable Renewable Energy Projects Design, Development, and Assessment

a. Renewable Energy Projects Planning Tools

Completed cost analysis of renewable and hybrid options. CCEP developed simple cost analysis models for renewable energy options in the context of its micro-level project portfolio – small-scale biomass gasification (5-100 kW); mini hydro plants (1 to 150 kW); photovoltaic systems; solar refrigeration, distillation and water heating; etc. CCEP worked on different cases analyzing grid extension/diesel/RE/hybrid cost comparison and participated in the evaluation models for rural electrification in the context of the PERS Nariño project. As part of this effort CCEP prepared a list of indicators such as geographic location, population density and system configuration as well as the value in linking productive activities with renewable energy utilization. The testing ground for these activities is encapsulated in the Nariño Rural Energization Plan and results and lessons learned from that activity will provide a reference point for this cost analysis of renewable hybrid options.

CCEP also worked closely with UPME, IPSE and CREG to develop shared methodologies for systematic cost analysis of renewable and hybrid energy sources as part of their standard operating procedures. In developing the shared methodology, CCEP considered testing and evaluating the practicality of using RE planning software such as HOMER or other similar tools to evaluate renewable and hybrid options. CCEP planned and carried out one initial HOMER training session and additional sessions could be considered as necessary to extend the use of such planning instruments in GOC institutions and academia, particularly after finalizing the PERS Nariño and CREG ZNI tariff projects.

Developed baseline rural energy demand and demand projections. Baseline energy demand and projection models by rural communities were also developed, as well as socioeconomic sustainability models, as part of the design of Task 2 project portfolio. The data thus generated was also integrated into the HOMER software for the case studies developed. Also, for each individual project developed by our Task 2 team, with assistance from Task 1 geographic information systems' consultant, we

designed and implemented a GIS-based mapping methodology to register location and attributes of beneficiary households, social infrastructure and energy infrastructure – extensive to any rural community at a micro level. However, more comprehensive modeling exercises and software are being developed with UPME on the basis of the PERS projects under Task 1. Additional planning tools originally considered under Task 2, such as renewable energy resource evaluation and GIS-based mapping tools on a macro level (national or departmental) have also been reassigned to Task 1 as they are being used for policy and tariff designs more consonant with the creation of an enabling environment for clean energy at a national level.

b. Sustainable Renewable Energy Projects Design, Development, and Assessment

Developed methodology for identifying, assessing, formulating and implementing renewable energy projects in off-grid areas. During the first year CCEP developed a methodology for identifying, assessing, formulating and implementing RE projects in off-grid areas. The main steps included in that methodology are illustrated below. Specifically, at each selected locality CCEP's field team worked with the community to determine its geographic and economic boundaries in order to assess its energy resources and needs for both domestic and productive activities. CCEP then introduced the community to the concept of renewable energy applications (appropriate to those needs), gauged their interest in developing an RE project, and assessed the resources both monetary and human that the community was able to contribute or access for the project. The contribution that the CCEP incentive fund could allocate to each project was explained in detail, emphasizing that no more than 50% of the total value of the project was permitted.

Identified a total of 25 projects in four clusters. As a result of the application of this methodology CCEP identified a total of 25 projects in four clusters (Nuqui, Pacific Valle, SNSM, Guajira) with a potential of benefiting about 2217 households (nearly 7,700 people). Out of these 25 projects, one

was finalized and progress was made in structuring and assuring co-financing and permits for 9 projects, as illustrated in Task 2 – September 2013 project activity table below[4].

A quick review of this representative portfolio of CCEP T2 projects indicates that:

- Renewable energy technologies ranging from simple solar photovoltaic systems to small and mid-size micro hydro plants and biomass applications such as gasifiers and efficient coarse sugar mills ("trapiches paneleros") are applicable solutions to rural ZNI communities. Wind energy applications depend on resource availability and will likely only be considered for rural off-grid communities in the Guajira.
- All other projects envision associated productive processes, including cold chains for fisheries, processing of agricultural products (corn and rice milling, coarse sugar production, solar driers), ecotourism facilities and handicrafts production. The only exceptions are the San Antonio and Rio Pepitas projects, which focus primarily on social infrastructure (schools, health clinic).
- While indigenous and Afro Colombian communities have been prioritized, the Palmor micro hydro power plant expansion project located in a non-ethnic coffee-growing area has been identified with IPSE due to its 22 years of continuous community-run management as well as its greater socioeconomic impact (above 650 beneficiary 650 families, wide ranging economic activities). This project is a step towards larger scale municipal seat projects envisioned for 24-hour off-grid power service in the second year work plan.
- Most projects mentioned, except Palmor, should be fully implemented or near conclusion by end of second year work plan.

[4] Projects not nearing final closure by end of September 2013 are excluded from the table, though strong partnerships and additional projects were nearing maturity. For example, two Afro Colombian community projects were fully identified but pending final CVC decision on subscribing an MOU with CCEP, stalled due to differences in interpretation of legal norms governing public private partnerships.

Task 2 - Project Activity Table – Sep 2013

Project	Description	Main Components	Implementation Stage	Start date	End date
San Antonio MHP project (SNSM) 	CCEP refurbished a micro-hydroelectric power plant (MHP) and installed a renewable energy system at Kogui Education and Health Centers at the San Antonio village in the Sierra Nevada de Santa Marta (SNSM) benefiting about 320 children and all school staff	Repairs and expansion for a small MHP (1,5 kW), Improved cook stove, water purification system, small wood plot, 17 solar lamps (LED)	Project M&E – Construction completed and transferred to beneficiaries; follow up focuses on fuel wood plot consolidation	Nov -12	May -13
Arusi, Partado, Termales-Nuqui – MHP project (Choco) 	CCEP designed and completed technical studies for the construction of MHP for towns of Arusi, Partado and Termales in Choco benefiting about 710 people (248 households). The project includes household meters and electrical installations, street lighting, EE measures and a communal ice factory to be run by the local energy serve company to be set up.	Construction of MHP (100 kW), interconnection lines between towns to support cold chain (ice production) for local artisanal fisheries, and for eco-tourism as well.	Project identification & formulation stage - design, studies and budget details completed and approved by GoC and community partners; permits finalized; pending contractual signatures for start up	Dec-13	Dec-14
Utria National Park - Nuqui (Choco) 	CCEP designed and completed technical studies for the installation of solar photovoltaic systems to support the local concessionary activities (NGO Mano Cambiada),	Solar systems installation: - Tourism: 4 bungalows Food refrigeration and freezing facilities - Park facilities: Auditorium, Interpretation Center, Playa Blanca bungalow and telecommunications.	Project identification & formulation stage - All design and studies completed and approved by IPSE and PNN; pending public bidding to solar systems acquisition and installation	Oct-13	Dec-13
Yucal, Nuqui – MHP project (Choco) 	CCEP designed and completed technical studies for the construction of MHP at the village of El Yucal, in Nuqui, Choco benefiting about 450 people (92 Embera indigenous families); includes rice and corn mill, public lighting, household installations and energy efficiency measures	Construction of communal MHP (18kW), mill for corn and rice, and carpentry workshop.	Project identification & formulation stage - All design and studies completed and approved by IPSE; pending last "consulta previa" visit and public bidding for MHP construction	Nov-13	Apr-14

Project	Description	Main Components	Implementation Stage	Start date	End date
Bunkwimake - MHP project (SNSM) 	CCEP designed and completed technical studies for the construction of MHP for the indigenous Arhuaco town and institutional (education, health) facilities in the SNSM benefiting about 1000 people (160 families approx.); solar home lighting for outlying areas (320 families approx.)	Construction of the MHP (10kW), sugar mill (to produce "panela"[5]), Solar dryer (Cacao), Home lighting (LED).	Project identification & formulation stage – all designs and studies completed for MHP, pending approval by IPSE and environmental license	Jan-14	Aug-14
Rio Pepitas Rehabilitation Solar system (Valle del Cauca) 	CCEP completed formulation of this project to rehabilitate of 2 PHP for indigenuos Paez community of Rio Pepitas Department of Valle del Cauca, benefiting 130 people and 30 households	Installation of 2 solar energy systems to power school computers and audiovisual equipment, the cafeteria cooling system, an efficient stove, and individual solar systems for 30 houses.	Project identification & formulation completed. Pending agreement between CCEP and the Asociacion de Cabildos Indigenas del Valle del Cauca - ACIVA and selecting implementing firm.	Nov 13	Jul 14
Santa Rosa de Guayacan - Bajo Calima, CVC (Valle del Cauca) 	CCEP completed formulation of this project to install a solar system for the indigenous community of Santa Rosa de Guayacan, department of Valle del Cauca, benefiting 122 people 32 households	Installation of solar system for the art & crafts workshop, an efficient stove with its biomass/wood plot, a solar refrigerator, and portable solar systems to provide lighting to households.	Project identification & formulation completed. Pending agreement between CCEP and the Asociacion de Cabildos Indigenas del Valle del Cauca – ACIVA	Nov-13	Jul-14
Alto San Jorge Municipality of Dibulla (Guajira) 	CCEP completed formulation of this project to install a 20 kW gasifier to generate of power and restoring the photovoltaic system for the community. Benefiting 150 people and 30 households	Implementation of a 20 kW gasifier to generate energy for sugarcane mill, restoring the photovoltaic system, and providing technical assistance for production of panela	Project identification & formulation stage. Pending final studies and project implementation	Jan-14	Jul-14

[5] "Panela" is unrefined whole cane sugar obtained from the boiling and evaporation of sugarcane juice which is poured in square or round molds where it becomes a solid product. It is a major staple in rural family diets.

1. Summary of Key Activities and Achievements

Project	Description	Main Components	Implementation Stage	Start date	End date
Palmor MHP project (SNSM) 	CCEP selected this expansion project for the implementation of a second 130-150 kW micro hydro turbine to cover town's increasing energy demand. It estimated addition will benefit approx. 800 families in town and outlying areas	Productive uses include meat packing facility, fruit pulp packing facility, as well as "silos" (dryers) and de-pulping motors for coffee	Project identification & formulation stage – Ongoing technical field visits by CCEP and IPSE	Mar-14	Mar-15
Nabusimake Arhuaco indigenous community (Cesar) 	CCEP selected this project for the installation of an efficient biomass stove, a water purification system, and portable solar systems for the Arhuaco Indigenous community of Nabusimake. Department of Cesar, benefiting 60 `households	Installation of an efficient stove and its biomass supply plot, a water purification system, and construction of portable solar systems to provide lighting to households	Ongoing project identification & formulation	Apr-14	Dec-14

1.2.3 Task 3: Renewable Energy and Energy Efficiency Investment Promotion

During the first year under this component, CCEP provided technical assistance and training to enable companies to bring industrial/agro-industrial clean energy projects to financial closure and support project sustainability and replication.

During the first year CCEP focused primarily on small- and medium-size industries, but also considered large facilities that can have replication potential and EE projects in areas of interest to USAID and the GOC. Target industries/companies were identified based on: (i) economic viability of EE/RE investments; (ii) potential impact of EE/RE investments in terms of energy reduction and cost-savings; (iii) potential for a demonstration effect, information-sharing, and replication among similar facilities/companies (e.g., through an industrial association; with industries that are physically clustered); and (iv) complementarity with other donor activities or with specific financial credit lines for EE/RE investments available through national banks and other organizations.

In balance, CCEP made good progress during the first year in identifying and evaluating EE projects, but the process slowed down at the promoting and selling stage where a complementary set of skills was found to be required to reach and convince top management of interested companies to invest and move forward with specific EE projects.

The main accomplishments achieved under this task during the first year of implementation are grouped in three thematic areas as follows:

- Energy Efficiency Facilitation Mechanisms
- Energy Efficiency Projects Design, Development, and Assessment

a. Energy Efficiency Technical and Financial Facilitation Mechanisms

Identified and coordinated technical and financial support for selected projects. CCEP successfully provided technical support and financial coordination to selected projects. During first year CCEP identified technology providers and engineering consultants that were interested in providing equipment and/or services in the priority industrial subsectors. CCEP's team also worked jointly with vendors and technology providers in the identification and selection of technology alternatives according to the needs found in individual projects.

CCEP also identified financial mechanisms and organization that offered services and products related to EE/RE projects, which are applicable to the types of projects under development. Figure 16 illustrates at least five financial mechanisms and institutions available in Colombia, as well as three international sources of financing aid that may provide additional funding and help improve the potential of implementation for not so profitable investments. Because it is still in design phase, this figure excludes the agreement CCEP reached with the IFC to work jointly on the clean energy project preparation facility (PPF).

Financial mechanism Identified

Organization	Financial mechanism offered
SECO –Swiss Cooperation	Green Credit Line
IFC/Bancolombia	Sustainable Credit Line
Banco Agrario	Associative Loans
Bancoldex	Second floor financing
OPIC	Direct loans and loan guarantees
Eximbank	Loans, guarantees, and insurance products
USAID	Innovation Fund for the Americas

Organized, prepared and delivered workshops focused on training, outreach, and advisory services. CCEP organized training and dissemination workshops with sector or subsector associations, professional associations, chambers of commerce, energy service providers or other interested parties. CCEP focused its training efforts at three main target audiences: a) financial institutions with the objective of improving their understanding about EE/RE projects in the identified subsectors, including technological, financial, economic, social and environmental aspects; b) technology centers and specialized consulting groups with the objective of improving their understanding about financial vehicles, bankable project formulation and marketing of EE/RE solutions to industrial customers; and c) technical and management staff of target industries such as brick manufacturers and SMEs with the dual objective of improving their understanding of both the technical aspects and financial mechanisms available to identify, formulate, finance and implement EE/RE investments within their companies. The following table summarizes the training activities carried out.

Training activities carried out

Number of participants attending workshops and capacity building activities as a result of USG assistance					
Number	Name	Audience	Female	Male	Total
13	Training on financial instruments -Environmental Credit Line LCA/SECO	Bancolombia and Banco de Bogota commercial and SME managers	153	115	268
1		Project developers / consultants	4	2	6
5		Target businesses	36	63	99
1	Training on financial instruments -Sustanability Credit Line LSA/Bancolombia	Project developers / consultants	1	10	11
1	Clean Energy and Competitiveness forum	Industrial companies	28	19	47
21	**Total first year**		222	209	431

CCEP's Task 3 team also participated in the development and presentation of the heat recovery case study at the 6 workshops on clean energy incentives organized by Task 1 team in coordination with UPME, ANLA and ANDI in Bogota, Medellin, Cali, Pereira, Barranquilla and Bucaramanga, with registered attendance of 687 participants, distributed in the following table:

Workshops for public roll-out of Tax Incentive Regulation

Workshop	Participants			Costs USD		
	Men	Women	Total	Total	CCEP	Partners
Bogota	104	59	163	2,795	1,795	1,000
Medellin	106	59	165	1,199	875	324
Barranquilla	59	25	84	2,132	1,142	990
Cali	90	50	140	2,055	983	1,072
Pereira	33	40	73	1,957	892	1,065
Bucaramanga	25	37	62	2,037	1,497	540
Total	**417**	**270**	**687**	**12,175**	**7,184**	**4,991**

USD$1 =COP$1,850

b. Energy Efficiency Projects Design, Development, and Assessment

Developed a methodology for identifying key industrial subsectors and/or cross cutting technologies. During the first year CCEP developed a methodology for identifying key industrial subsectors and/or cross cutting technologies within which initial EE/RE projects were identified to serve as models for demonstration and replication. Upon identification of potential projects, based on defined eligibility criteria, CCEP supported selected projects in the identification of and access to appropriate local financial mechanisms. Also, CCEP worked with financial institutions to support the development of financial mechanisms (or adapt existing ones) aimed at implementing EE/RE projects.

First year criteria used for selecting projects

- **Geographic priority:** Antioquia, Atlántico, Bolívar, Córdoba, Boyacá, Cundinamarca, Santander, Eje Cafetero, Valle del Cauca
- **Industrial subsectors priority:** Agroindustry; food & beverages; brick & ceramic. Others included since January 2013: Textile sector (excluding confections) and Metal mechanic (including metallurgy)
- **Technologies priority:** Boilers, thermal systems, refrigeration and cooling, furnaces, drying, cooking, combustion, bio digestion, waste to energy etc.

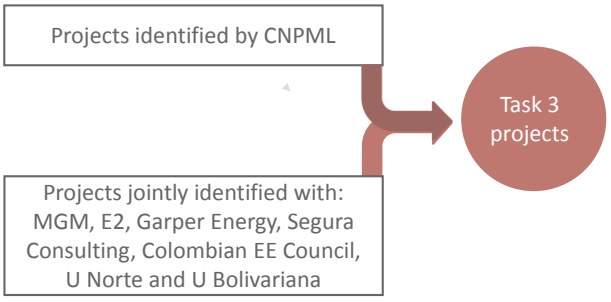
Identified key subsectors and potential EE projects. Based on the results from the subsector and technology assessment carried out during the first year, CCEP identified potential projects by directly contacting subsector associations and/or companies which were interested in project implementation. CCEP carried out meetings and site visits to obtain firsthand information on energy demand, performance, production, costs, technology used, and all the necessary data for project evaluation. Upon demonstration of interest to participate in the project by the companies, CCEP conducted an assessment of the technical and economic potential of each project. It is important to highlight that because CCEP's incentive fund was initially only for grants, CCEP concentrated first on projects which required solely technical assistance (no cash injection) to complete bank feasibility status – primarily those associated with the Swiss-sponsored "Environmental Credit Line" (LCA)

through Bancolombia[6]. Since then, CCEP has announced its willingness to co-finance up to 50% of final engineering studies required for technical and financial closure, regardless of source of funding for the other 50% of the studies (beneficiary companies or ESCOS) or the source of final project finance.

Industrial sector focus	Technical focus
1- Ceramics, glass and brick manufacturing	Thermal energy technologies (heat recovery, cogeneration including combined heat and power (CHP) or combined cooling, heat and power (CCHP))
2- Agro-industrial, food and beverage	

Identified over 30 potential projects in selected subsectors. During the first year in alliance with national business and financial sector, EE and RE projects were structured in two industrial subsectors and one cross-cutting technological area as indicated in the table below. As a result of this approach, by the December 2012, over 30 potential EE/RE investment projects were identified in the strategic subsectors mentioned, about 13 were discarded at the pre-selection or later stage, 2 projects were under implementation, and 3 were moving towards implementation. However despite team efforts, the pace of project development through end of 2012 was low in terms of projects under implementation (only two) and a substantial number had been discarded either because they did not meet CCEP criteria – such as decreasing fossil fuel intensity – or because company management had decided not to go forward. In the first quarter 2013 it was decided to "widen the net" by:

- Adjusting the Incentive Fund Manual to facilitate use of these resources to co-finance necessary additional engineering studies to take projects beyond identification phase;
- Incorporating two more strategic subsectors identified during the industrial sector and technology assessment phase – textiles and metallurgy; and
- Broadening the network of partnerships with additional project developers, ESCOS and CCEP financial consultants (Segura Consulting), as indicated in the following Figure.



[6] This financial product allows eligible SME projects which measurably decrease CO2 emissions per unit output through comparison of baseline versus ex-post energy audits – to have up to 25% of debt incurred through Bancolombia or Banco de Bogotá condoned (and paid for by the Swedish Economic Ministry SECO). The LCA has had slow development since initiated several years ago due to stringent conditions and little promotion – but is the most active EE credit line on the market followed by Bancolombia's Environmental Sustainability Credit line (LSA).

- Focusing on industrial corridors or clusters, beginning with the Yumbo cluster in the metropolitan area of Cali in partnership with the regional environmental authority CVC.

As a result, by end of September 2013:

- Three industrial EE projects were completely installed, in operation and being monitored to determine final energy consumption and CO2 emissions reductions per unit of output: two brick manufacturers (Los Cerros and Santa Rita) and one food and beverage manufacturer (Helados Tonny ice cream factory);
- One agroindustrial producer was constructing a biogas plant base on pig manure to replace fossil fuel consumption (Ganados y Porcinas);
- A Memorandum of Understanding had been signed between CCEP and ESCO MGM Energy Services to jointly finance final detailed engineering and financial structuring studies to provide energy service contract models to Colanta dairy manufacturer (US $300,000 biogas plant) and glass manufacturer Owens-Illinois Peldar plants (investments of US $6.4M in two plants). Segura Consulting facilitated top management decision to accept final project design under this arrangement.
- A Memorandum of Understanding had been jointly developed for signature between CCEP and ESCO Garper Energy to similarly co-finance final engineering and financial structuring of various energy efficiency projects in industrial and commercial establishments.
- CCEP had agreed with CVC to provide Task 3 technical assistance to perform 20 energy audits in the Yumbo industrial corridor over a 6-month period beginning in November 2013, followed by a minimum of 10 detailed engineering and financial structuring designs for EE project implementation to be financed with CVC budget.
- About 15 additional projects were in the pipeline under some stage of development as of September 2013.

At least six projects have passed the identification and formulation stage as illustrated in Task 3 - project activity table below.

Task 3 - Project Activity Table – Sep 2013

Project	Description	Main Components	Implementation Stage	Start date	End date
Los Cerros (Bricks/ Heat recovery) 	CCEP designed and supervised the construction of a system using residual heat from a neighboring incinerator to avoid burning coal and achieving significant reductions in gas emissions, cost savings associated eliminating coal purchase cost, and creating healthier working conditions for workers.	Includes construction of new more spacious brick drying chambers with twelve axial fans to ensure proper hot air flow, as well as three centrifugal fans for injecting and extracting air from the drying rooms and a hot air duct with a total length of 90 meters to bring waste heat from the incinerator to the brick factory.	Ongoing project M&E to be completed by Sep 2013. The last milestone associated with the project report and closure is planned to be completed by Oct 2013	May -12	Oct -13
Helados Tonny (Foods/Refrigeration) 	CCEP designed and monitored installation of a new more efficient refrigeration system for ice-cream factory which reduces 48% of electricity. New equipment was installed in February, 2013.	Installation of new cooling system which includes a centralized system with four screw type Blitzer compressors. The centralized system has the capability of regulating cooling requirements according to production, which results in significant energy savings.	Ongoing project M&E to be completed by Sep 2013. The last milestone associated with the project report and closure is planned to be completed by Oct 2013	Jun -12	Nov-13
Santa Rita (Ceramic/Combustion)) 	CCEP designed and monitored installation of equipment to improving temperature conditions within the furnace, leading to better heat distribution and a more uniform cooking/drying brick process, eliminating the manual feed of coal to the furnace, reducing GHG emissions and reducing emissions of particulate matter and sulfur oxides which also results in healthier working conditions for workers	Installation of an automatic solid fuel combustion system consisting of 4 stockers on each side of the kiln (8 in total). Combustion air is administered by a central fan operated by an electric motor and variable speed drive. The fuel and air delivery system are controlled by a computerized system which relies on kiln temperature readings.	Ongoing project M&E to be completed by Oct 2013. The last milestone associated with the project report and closure is planned to be completed by Nov 2013	Aug -12	Nov-13
Ganados y porcinos (Agro industry/ Bigogas use) 	CCEP identified and formulated this project to reduce operational costs and improve competitiveness by replacing current consumption of liquefied petroleum gas (LPG) with biogas generated from an anaerobic digestion system, which will process pig manure. Main benefits include	Involves design and construction of the anaerobic digestion system including the manure collection system, digester, and gas-handling system.	Ongoing project identification and formulation stage to be completed by Nov. 2013. Project implementation to be completed by Apr 2014. The project monitoring and evaluation stage to be	Jun-13	Aug 14

Project	Description	Main Components	Implementation Stage	Start date	End date
	reduction of GHG emissions; use of the substrate obtained in the digester as fertilizer and cost savings from LPG purchases.		completed in three months by July 2014. Final stage of project report & closure to be completed by Aug. 2014		
Colanta (Foods/Biogas use)	CCEP identified and formulated this project to increase efficiency in a dairy production plant by using biogas produced locally which is currently being flared. The wastewater treatment in that plant is used through a UASB reactor to generate methane, which is flared instead of being used for heat production. The project idea stagnated until MGM Energy Services offered to finalize engineering designs and propose an ESCO business model for project investment, under an MOU signed with CCEP.	Biogas use for steam production. Services will conduct the detailed engineering studies required to determine the best thermal generation alternative and the implementation of such alternative. A preliminary analysis suggests the production of hot water to replace hot water that is currently generated using process steam and which could be used at a temperature of ca. 70°C.	Ongoing project identification and formulation; final engineering and financial structuring stage to be completed by Dec 13 under co-financing between CCEP and ESCO MGM Energy Services. Project implementation to be completed by Jun 2014 with project monitoring and evaluation expected to be completed by Sep 2014. Final milestone of project report & closure expected during the Oct 2014.	May-12	Oct-14
Arcillas de Colombia (Bricks/Heat recovery for drying)	CCEP identified and formulated this project to recover heat from drying process at this brick manufacturing facility. Identified improvements include design and construction of new drying chambers, improving clay mix conditions (particle mix in clay) and improvements to kilns.	Involves the design and construction of waste heat recovery system from kiln to drying chambers, design of new drying chambers and potential replacement of kilns (from Hoffmann and beehive kilns to tunnel kiln). Full scope to be o determined jointly with brick company according with its priorities	Ongoing project opportunity assessment stage to be completed by January 2014. Project identification and formulation stage to be completed by Apr 14. Project implementation to be completed by Sep 2014. The project monitoring and evaluation stage to be completed in five months by February 2015. Final stage of project report & closure expected during the first quarter of 2015	Aug-13	Mar-15

1.3 SUMMARY OF CCEP PROJECT LEVERAGING DURING FIRST YEAR IMPLEMENTATION

Despite setbacks or "slowdowns" mentioned throughout this report for project implementation, CCEP has been strikingly successful in leveraging financial commitments by GOC, private sector partners and beneficiaries. By the end of 2012, when the incentive fund was still limited strictly to grants under contract, 83.5% of CCEP project finance was being committed by national partners, whereas only 15.1% would be eligible for CCEP grants and 1.4% was being committed to projects through in-kind technical assistance by T1 and T3 teams – as detailed below.

Status of CCEP Leveraging as of December 2012

CCEP TASK	Resource Commitments	Leverage – GOC/private counterparts & beneficiaries	CCEP technical assistance – in kind	CCEP grants	Total Cost
Task 1	USD	$530,671	$34,649	$0	$565,320
	PERCENTAGE	93.9%	6.1%	0.0%	100.0%
Task 2	USD	$832,835		$435,137	$1,267,972
	PERCENTAGE	65.7%		34.3%	100.0%
Task 3	USD	$1,045,472	$6,912		$1,052,384
	PERCENTAGE	99.3%	0.7%		100.0%
TOTAL BUDGETS AND LEVERAGING	USD	$2,408,978	$41,561	$435,137	$2,885,676
	PERCENTAGE	83.5%	1.4%	15.1%	100.0%

At the time, CCEP had achieved commitment of slightly over US $2.4 million in public and private funding for specific projects under technical and contractual design. Even Task 2 projects in off-grid ZNI communities were achieving nearly 66% funding from counterparts.

Through the strategies adopted and the perseverance of project teams in confronting and solving each challenge faced to materialize these investments, by September 2013 projects worth US $6.4 million were under implementation or advanced design, co-funding commitment and final contractual arrangements. Assured counterpart funding reached US $4.8 million (see tables).

Status of CCEP Leveraging as of September 2013

CCEP TASK	Final Approval	Leverage – GOC/private counterparts & beneficiaries	CCEP technical assistance – in kind	CCEP grants	Total Cost
Task 1	USD	$1,341,093	$99,185	$233,144	$1,661,959
	PERCENTAGE	80.7%	6.0%	14.0%	100.0%
Task 2	USD	$1,860,241	$0	$1,208,309	$3,068,551
	PERCENTAGE	60.6%		39.4%	100.0%
Task 3	USD	$1,608,787	$11,806	$11,111	$1,631,704
	PERCENTAGE	98.6%	0.7%	0.7%	100.0%
Total Budgets and Leveraging	USD	$4,810,121	$110,991	$1,452,564	$6,362,213
	PERCENTAGE	75.6%	1.7%	22.8%	100.0%

CCEP Project Leverage Status by Task as of September 2013

CCEP TASK	Cluster / Sector	Project	Expected Final Co-Funding Agreements	Leverage – GOC/private counterparts & beneficiaries	CCEP technical assistance – in kind	CCEP Incentive Fund	Total Cost	Expected End date
T1 EE/RE Enabling Environment	Nariño	Sustainable Rural Energization Plan - PERS Nariño	December 2012	**$542,134**	**$23,186**	**$11,463**	**$565,320**	December 2013
	Tolima	Sustainable Rural Energization Plan - PERS Tolima	September 2013	**$284,018**	**$9,047**	**$8,489**	**$301,553**	May 2014
	Guajira	Sustainable Rural Energization Plan - PERS Guajira	September 2013	**$330,237**	**$66,952**	**$66,952**	**$464,142**	July 2014
	Education & Outreach	Renewable Energy for Bogotá Botanical Gardens	September 2013	**$184,704**		**$146,240**	**$330,944**	March 2014
			Subtotal	***$1,341,093***	***$99,185***	***$233,144***	***$1,661,959***	
T2 Renewable Rural Energization Community Projects	Sierra Nevada Santa Marta	San Antonio	November 2012	**$18,818**		**$18,470**	**$37,288**	June 2013
		Palmor	July 2013	**$505,588**		**$425,758**	**$931,346**	December 2014
		Bunkwimake	July 2013	**$111,023**		**$181,142**	**$292,165**	April 2014
	Valle (CVC)	Pepitas	July 2013	**$67,612**		**$60,855**	**$128,467**	February 2014
		Santa Rosa	July 2013	**$62,533**		**$59,519**	**$122,052**	February 2014
	Nuquí, Chocó	Arusí-Partadó-Termales	July 2013	**$922,434**		**$260,174**	**$1,182,608**	June 2014
		El Yucal	July 2013	**$135,703**		**$165,859**	**$301,562**	December 2013
	National Parks	Utría	July 2013	**$36,531**		**$36,531**	**$73,062**	October 2013
	Subtotal			***$1,860,241***	***$0***	***$1,208,309***	***$3,068,551***	
T3 Energy Efficiency & Financial Facilitation	Brick Sector	Ladrillera Los Cerros (Córdoba)	May 2012	**$443,534**	**$3,456**		**$446,990**	September 2013
	Food/Agro-industry Sector	Helados Tonny (Antioquia)	May 2012	**$691,800**	**$3,456**		**$695,256**	September 2013
	Brick Sector	Ladrillera Santa Rita (Antioquia)	March 2013	**$123,285**	**$3,332**		**$126,617**	December 2013
	Food/Agro-industry Sector	Ganados y Porcinos (Antioquia) Biogas	July 2013	**$39,057**	**$1,562**		**$40,619**	December 2013
	Food/Agro-industry Sector	Colanta (Antioquia)	August 2013	**$311,111**		**$11,111**	**$322,222**	October 2014
	Subtotal			***$1,608,787***	***$11,806***	***$11,111***	***$1,631,704***	

2. PROBLEMS ENCOUNTERED, STATUS AND ACTIONS TAKEN

2.1 MAIN PROBLEMS ENCOUNTERED

The purpose of this section is to describe some of the main problems encountered during the first year of operation of CCEP and the manner in which they were addressed in an effort to eliminate them or at least reduce their impact. The following are the most important issues:

- During all of 2012, CCEP's grants manual did not allow pre-investment in the necessary preparatory studies and activities required to mobilize public partner funding, hindering the process and risking the loss of co-financing funds. CCEP developed an Incentive Manual to replace the initial Grants Manual, allowing the use of these funds to finance the necessary preparatory studies and activities required prior to commitment of public counterpart funds by GOC institutions, as well as to enable subcontracts to co-finance engineering and financial designs by private sector investors in EE/RE projects. The Incentive Manual was approved by USAID in February 2013.
- CCEP found that GOC agencies had a very slow response to CCEP's support for rural RE planning methodologies and GIS-based resource assessments. For this reason CCEP, UPME and IPSE joined forces with a regional university (UDENAR) to develop a Sustainable Rural Energization Plan in the department of Nariño as a pilot project to develop these tools, including a battery of methods and planning systems through a specific department-level 1-year project, with close technical support by CCEP in terms of methodologies and tools.
- Identified industrial Energy Efficiency (EE) and Renewable Energy (RE) projects were delayed by the lack of appropriate financing mechanisms and commitment of the private companies' top management. CCEP implemented different strategies to overcome this hurdles: (1) develop the Project Development Facility to provide adequate incentives to project pre-investment needs. (2) complement the case by case approach to energy efficiency project structuring by working in geographic or industrial clusters – starting with the Yumbo industrial corridor (20 energy audits, 10 technical/financial feasibility studies) in alliance with CVC, and partnering with other project structuring groups or companies – such as MGM Energy Services, E2, GARPER, CCEE (Colombian Energy Efficiency Council) and universities (e.g., Universidad del Norte in Barranquilla, Universidad Pontificia Bolivariana in Medellin, Universidad Nacional in Bogota). (3) Intensify the commercial approach to the industry by establishing direct relationships among the top management the firms where pre-feasibility studies have been designed.
- Renewable Energy projects have natural public co-financing partners such as the Institute of Planning and Promotion of the Energy Solutions for the Non Interconnected Zones – IPSE and the Department for Social Prosperity –DPS; however CCEP found a series of difficulties to appropriate and timely commit public agencies development funds. CCEP decided to follow a series of strategies to overcome these difficulties: (1) Take a ''partner cluster" approach to off-grid projects. This mechanism will speed up execution of overall projects as funds become available, instead of co-financing each component individually. The plan has been paying off by assuring over 70% co-financing for the Nuquí projects. (2) Secure public funding commitments before the government investment budget is frozen six months prior to elections next year. CCEP has contracted an executing partner that is receiving IPSE's counterpart funding which will be used to implement projects in the pipeline during the rest of the year and the beginning of 2014. This

mechanism assures implementation of RE projects for communities in Chocó and SNSM. (3) Establish new alliances in off-grid areas such as the Valle del Cauca with the autonomous regional environmental authority and the regional energy company, the Ministry of External Relations - Borders Plan, and other private renewable energy companies and regional private investment funded NGOs such as Fundacion Cerrejon or Coffee Growers Federation.

- Institutional and administrative informality and weakness of community-based organizations are still a risk for project implementation. CCEP followed the USAID directive of refraining grants to infrastructure projects execution and has formulated a training program to strengthen local operational capabilities and organizational skills.
- CCEP year one approach considered that the missing link to clean energy project development was primarily technical and thus focused efforts on energy audits and basic engineering designs, to be followed by financial facilitation. But first year experience showed that technical engineering, financial structuring and company decision-making should be engaged simultaneously, not sequentially. Thus, CCEP has reinforced its Task 3 engineering team with its financial and business management subcontractor (Segura Consulting team) to engage top management in companies in evaluating technical/economic proposals generated for viable EE/RE projects identified. CCEP has also developed alliances with ESCOS with the technical know-how to and financial muscle to design, build and operate EE investment projects for interested industries under energy savings service contracts, thus solving the engineering and financial obstacles impeding EE project closure and implementation.

2.2 OTHER UNRESOLVED PROBLEMS

- The appropriate government authorities fail to provide clear and timely information regarding required environmental processes delaying projects implementation. CCEP is now more active in seeking required information from environmental authorities. CCEP sought and committed help from IPSE, National Natural Parks, and DPS in order to speed up all approval processes regarding "Consulta Previa" (community social consultation) with the Ministry of Interior and environmental permits or licenses with the corresponding environmental authorities. Yet time frames for such actions and authorizations remain uncertain.
- Given the current private and public interest in Colombia to promote EE projects in the commercial sector, CCEP is working with other partners – primarily ESCOS – on studies and project designs for refrigeration, water heating and LEDS lighting in small shops and other commercial installations, in addition to industrial sector projects. These projects would also allow CCEP to obtain extra credit for SLCP reductions, as well as quick wins for garnering private sector partners. However, given current contractual clauses limiting Task 3 interventions to the industrial sector, support for EE actions in other sectors has been limited to transaction support by Task 1 as part of the creation of an enabling environment for clean energy finance and investment in Colombia. CCEP has requested a contract modification to allow more flexibility in responding to changing needs by partner agents.
- UPME, EC-LEDS and the Ministry of Transport have also shown interest in expanding PROURE's next action plan and energy efficiency policy to the transport sector (particularly metropolitan mass transit), responsible for most of Colombia's greenhouse gas emissions. CCEP has not yet been requested specific action or resource commitments towards this objective, but anticipates such requests will be forthcoming by early 2014. CCEP has the internal expertise to tackle the challenge, pending USAID concurrence.

3. PERFORMANCE INDICATOR RESULTS AGAINST TARGETS

In this Chapter we present CCEP's Indicators as detailed in the Performance Management Plan (PMP) and included in MONITOR. The results CCEP achieved for the first program year is shown for the program's 18 indicators. The results show that beginning in second year CCEP is on track to meet its overall goals.

USAID Indicators	Indicator	Unit	Output Target	Advance	Activities 4Q2013	Activities 2Q2013
DO4 007	Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO2 equivalent (CO2e), reduced or sequestered as a result of USG assistance.	Tons of CO2e.	Tons of CO2e reduced or avoided	841	841	Los Cerros 404 tCO2e, Ecofuego 403 tCO2e y Durango 34 tCO2e.
4.8.2-28	Number of laws, policies, agreements and/or regulations addressing clean energy (climate change) drafted as a result of USG assistance	Law, Policy, Agreement	Number of policy initiatives - national level	1	0	
DO4 005a			Number of policy initiatives - national level	1	0	
4.8.2-28	Number of laws, policies, agreements and/or regulations addressing clean energy (climate change) officially presented to the goverment as a result of USG assistance	Law, Policy, Agreement	Number of policy initiatives - national level	1	0	
DO4 005b			Number of policy initiatives - national level	1	0	
4.8.2-28	Number of laws, policies, agreements and/or regulations addressing clean energy (climate change) adopted by the goverment as a result of USG assistance	Law, Policy, Agreement	Number of policy initiatives - national level	1	0	
DO4 005c			Number of policy initiatives - national level	1	0	
4.8.2-28	Number of laws, policies, agreements and/or regulations addressing clean energy (climate change) implemented by the Goverment as a result of USG assistance	Law, Policy, Agreement	Number of policy initiatives - national level	1	0	
DO4 005d			Number of policy initiatives - national level	1	0	
DO4 011	Number of people who now have access to modern energy services as a result of renewable energy technologies through USG assistance.	Person	Number of people	271	0	

USAID Indicators	Indicator	Unit	Output Target	Advance	Activities 4Q2013	Activities 2Q2013
4.8.2-14	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	Institution	Institutions PUBLIC SECTOR		0	
DO4 004			Institutions PRIVATE ENTERPRISES	3	0	
			Institutions COMMUNITY GROUPS	1	0	
DO4 006a	Number of mitigation and/or adaptation tools, technologies and methodologies developed.	Tools	Number of tools, technologies and methodologies	2	0	
DO4 006b	Number of mitigation and/or adaptation tools, technologies and methodologies tested.	Tools	Number of tools, technologies and methodologies	2	0	
DO4 006c	Number of mitigation and/or adaptation tools, technologies and methodologies adopted.	Tools	Number of tools, technologies and methodologies	2	0	
4.8.2-10	Amount of investment leveraged in U.S. dollars, from private and public sources, projected for climate change as a result of USG assistance.	US Dollars	US Dollars	2,529,535	734,730	Convenio Patrimonio Natural US$695673; Ganados y Porcinos US$39057
DO4 010a						
4.8.2-10	Amount of investment leveraged in U.S. dollars, from private and public sources, executed for climate change as a result of USG assistance.	US Dollars	US Dollars	1,604,737	11,687	Convenio Plan de Energización Nariño
DO4 010b						

USAID Indicators	Indicator	Unit	Output Target	Advance	Activities 2Q2013	Activities 2Q2013
Custom	Quantity of operational renewable electricity generation as a result of USG assistance, disaggregated by solar, hydro, wind, biomass and mix	Thousands of KWh	Thousand kilowatt-hours equivalent	3168	0	
Custom	Energy saved due to energy efficiency/conservation projects as a result of USG assistance	Thousands of KWh	Tons of Carbon equivalent	37	37	Helados Tonny ahorro de energía del 37% , del 48% proyectado.
Custom	Number of workshops and capacity building activities for national, regional and local level public and private institutions	Events	Events	25	0	
Custom	Number of participants attending workshops and capacity building activities as a result of USG assistance	Persons	People	943	0	
Custom	Number of CCEP pre-investment activities	Activities	Activities	4	1	Contratación Estudio "Evaluación de Trapiches Paneleros"
Custom	Number of people gaining employment or better employment as a result of the program.	Persons	People	2	0	

4. SUCCESS STORIES

This Chapter illustrates some achievements previously described in each of the main components of the program. The following examples of Success Stories were submitted for USIAD approval and represent only a hand full of Success Stories CCEP is expecting to generate in the short- and medium term as additional projects are completed.

- Task 1 Success Story –Tax Incentive Regulation for Encouraging EE investment
- Task 2 Success Story – San Antonio Indigenous Community
- Task 3 Success Story – Los Cerros Brick Manufacturing Company

Other "Success Stories" and "Before and After" cases that have been drafted or are under consideration for show casing CCEP's achievements include the following ones:

- Sustainable Rural Energy Plan (PERS) Nariño
- Santa Rita – Brick Manufacturing Company
- Helados Tonny - Ice Cream Production Company (after and before photo template)
- Workshops and seminars to structure Project Preparation Facility (PPF) for clean energy projects

4.1 TASK 1 SUCCESS STORY –TAX INCENTIVE REGULATION FOR ENCOURAGING EE

USAID | COLOMBIA
DEL PUEBLO DE LOS ESTADOS UNIDOS DE AMÉRICA

SUCCESS STORY

New Tax Incentive Regulation encourages US $231M in clean energy investments

Investments in energy efficiency and renewable energy equipment can now apply to 16% VAT and 20% income tax reductions in Colombia

Photo: CCEP

Representatives from MADS, ANLA, UPME and ANDI at the EE/RE Tax Incentive Seminar held in Medellin, on April 15th

Photo: CCEP

Attendees at the Barranquilla EE/RE Tax Incentive Seminar, on May 2nd

USAID's CCEP Program is helping the Colombian Industry and Business sectors meet energy efficiency and climate change goals.

Although the Colombian tax law had contemplated tax incentives for investments in systems improving the quality of the environment since 1995, investments in EE or RE equipment were unable to benefit from such deductions until the promulgation of the EE/RE Tax Incentive Resolution 563 in December 2012. USAID's Colombia Clean Energy Program (CCEP) worked together with the Colombian Mining and Energy Planning Unit (UPME), as well as with the Ministry of Environment and Sustainable Development (MADS) and the National Environmental Licensing Agency (ANLA), in drafting the final resolution and defining procedures and roles of each of these bodies in processing and issuing the 16% value added tax (VAT) and 20% income tax reductions for energy efficiency (EE) or renewable energy (RE) investments in Colombia.

CCEP supported the successful public roll-out and dissemination activities through a series of workshops to explain the procedures on how to apply for the EE/RE Tax Incentives. These workshops were delivered during April and May, in Bogota, Medellin, Barranquilla, Cali, Pereira and Bucaramanga. The Seminars were sponsored by UPME, MADS, ANLA, the National Business Association of Colombia (ANDI) and CCEP, reaching a total of 687 attendees.

Sponsoring partners presented appropriate regulatory background and required application processes, and answered questions concerning two case studies. These hypothetical cases addressed some of the common issues faced by applicants and brought together representatives from local public and private sectors. These seminars achieved the objective to inform and encourage businesses, industry and entrepreneurs to take advantage of these incentives and invest in energy efficiency and renewable energy equipment.

As a result of Resolution 563 and the workshops, UPME has received a total of 24 project proposals through August 2013, where the tax incentive amounts vary depending on the size of the project. These projects, which range from wind resource evaluation to clean energy public transportation equipment, involve about $231.3 million in investments and about $37 million in tax breaks. Angela Gómez, Environmental Regulation Director at ANDI, notes that the possibility to apply for tax incentives is a major first step that should be able to tilt the balance towards more frequent and important EE/RE investments, gaining significance in the country's efforts to mitigate climate change and increase competitiveness in the region.

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4.2 TASK 2 SUCCESS STORY – SAN ANTONIO INDIGENOUS COMMUNITY

USAID | COLOMBIA
DEL PUEBLO DE LOS ESTADOS UNIDOS DE AMÉRICA

SUCCESS STORY

Access to Clean Energy for Indigenous Kogui Community in Colombia

Students and staff at the San Antonio boarding school have access to clean energy and water, improved living and working conditions

Photo: CCEP

Beneficiary children from the San Antonio boarding school

Photo: CCEP

San Antonio – Pueblo Nuevo Kogui Indigenous village

USAID's CCEP Program brings clean energy and productive processes to small communities ensuring long term sustainability of solutions.

The San Antonio boarding school is a small facility servicing 243 children from the indigenous Kogui villages of Pueblo Viejo and San Antonio in the Sierra Nevada de Santa Marta. The school used to have a small micro hydroelectric power plant (MHP) that never quite worked to capacity due to mistakes in its installation and lack of servicing and repairs, offering an average of only 4-6 hours of power a day. The school's kitchen, which served food for a total of 271 students and staff, used an old highly inefficient woodstove for cooking and for boiling water. The school's health center also lacked energy most of the time, making it impossible to stock on vaccines or anti venom serum for snake bites, needed in this isolated area.

USAID's Colombia Clean Energy Program (CCEP) visited the town and assessed its energy needs. CCEP designed a solution to include the reparation and optimization of the MHP in order to meet energy demand, as well as the installation of additional renewable energy systems for the Kogui Education and Health Centers. The solution included the installation of a water purification system, an improved cook stove, support for setting up a small fuel-wood plot (3 ha) and installation of 17 solar lamps, benefiting the school children and staff. The Pastoral Social de Riohacha, the religious entity that supports the boarding school, along with the boarding school community of San Antonio, contributed 50% of the funds for this project.

The restoration of the MHP consisted in remodeling and improving the civil and structural works of the intake and installing new electronic equipment, for easy operation and control. A member of the community was trained and given the job as responsible for tending to the MHP and making sure the water intake point remains clear of large leaves or branches that might obstruct the water flow. The 1.5 kW MHP that now runs 24 hours a day, provides lighting for classrooms, the restaurant and boarding rooms at the school. It also powers the new water purification system and runs a grass cutter for feeding the school's cattle and mules; and, provides energy for the health center adjacent to the school, where vaccines and medicines can be kept at adequate temperatures. The new larger efficient woodstove uses less wood, takes less time to cook and is a lot more comfortable to work with. CCEP installed a total of 17 solar lamps which significantly reduce indoor air pollution, and are currently being used by native school teachers at their homes for preparing classes at night. Although the indigenous community was skeptical at first, according to Francisco Sauna Limaco, 1st grade teacher at the school, everything is working and life has become easier for all, "I have no electricity at home, now I can use the solar lamp at night to study more and to write my reports for the school children."

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4.3 TASK 3 SUCCESS STORY – LOS CERROS BRICK MANUFACTURING COMPANY

USAID | COLOMBIA
DEL PUEBLO DE LOS ESTADOS UNIDOS DE AMÉRICA

SUCCESS STORY

Residual heat recovery project eliminates the need to burn coal

New brick drying process now 100% coal and GHG emissions free thanks to heat recovery from neighboring incineration plant

Photo CCEP

Los Cerros Brick Factory and its new clean air duct system for drying bricks using residual heat from neighboring plant

USAID's CCEP Program brings innovative clean alternatives to improve air quality and productive processes to the Colombian brick sector.

Los Cerros brick factory, located in Planeta Rica, Department of Cordoba, is a company dedicated to the processing and marketing of clay bricks, which burned coal to generate heat for its brick drying process. USAID's Colombia Clean Energy Program (CCEP) visited the factory to determine the energy needs and evaluate the GHG impacts of the company's productive process in an effort to promote energy efficiency practices in the region and the sector. CCEP's evaluation determined that the air quality at Los Cerros was highly affected as a result of burning coal. The smoke, ash and particulates generated by this burning process represent a health hazard for the factory workers, and could have triggered sanctions from the local environmental agency for air pollution. Coal consumption costs also represented a significant portion of the company's operating costs, reaching an average of COP $5.7 million per month in coal purchases.

CCEP evaluated the alternatives and proposed using waste heat from the neighboring Ecofuego Company, dedicated to the incineration of hazardous waste. Consequently, the use of the residual heat or hot air from the neighboring incinerator would account for a significant reduction in emissions, operating costs and improved profitability for Los Cerros. Both companies were in agreement and CCEP designed and implemented the project.

CCEP designed and supervised the construction of the new more spacious drying chambers in a plot of land closer to the neighboring plant, where new columns, new flooring and roof where set up. Twelve axial fans were installed to ensure proper hot air flow, as well as three centrifugal fans responsible for injecting and extracting air from the drying rooms. Three hundred drying shelves were constructed, where the clay bricks are lined to dry by a pusher. Finally, a hot air duct – with a total length of 90 linear meters – was built using reinforced concrete and bricks, in order to bring the otherwise wasted heat all the way from the incinerator to the brick factory.

Thus, thanks to this energy efficiency project Los Cerros eliminated the use of coal from its brick drying process, and greenhouse gas emissions have been significantly reduced - estimated at 1,614.5 avoided CO_2 tons per year. This waste-to-energy project represents a replacement of fossil fuel equivalent to 552.5 million kilocalories per month. Thanks to the new installations and shelving system the plant has doubled its production of bricks. Mr. Eduar Duque, Production Coordinator at Los Cerros, expressed the workers' pride since the implementation of the new drying system, as the process has improved and the production augmented, and most importantly, the cero pollution factor has created significantly better working conditions, since there is no dust, no noise and a much better working environment overall.

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APPENDIX A: CCEP's Joint work with Implementation Partners

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
PUBLIC INSTITUTIONS			
National Government			
MME	Ministry of Mines Energy Ministerio de Minas y Energia	Support in development of a Low Carbon Development Strategy; Support in developing a NAMA for renewable energy in off-grid areas (ZNI)	T1
UPME	Mining and Energy Planning Unit Unidad de Planeación Minero Energética	Multiple and ongoing cooperation fronts, including continued technical assistance; support in the design, implementation, dissemination and evaluation of the EE/RE Tax Incentive Resolution 567; partnering institution for the PERS Nariño, Tolima and Guajira; support in the evaluation of PROURE and in the adjustment of an indicative plan for EE in Colombia 2020-2030.	T1, T2
IPSE	Institute for Planning and Promotion of Energy Solutions in the ZNI Instituto de Planificación y Promoción de Soluciones Energéticas para las ZNI	Multiple and ongoing cooperation fronts, including co-financing of sustainable rural renewable energy projects for the ZNI communities of Arusi, Partado and Termales, El Yucal, Bunkwimake and Palmor, and Utria National Park.	T1,T2
CREG	Power and Gas Regulatory Commission Comisión de Regulación de Energía y Gas	Technical assistance to CREG for the formulation of the new ZNI energy tariff, through contract with WESTEVA for a complete and integrated geo-referenced GIS RE analysis (availability of resources and costs of RE kW per region) for ZNI.	T1,T2
CHANCELLERY	Ministry of Foreign Affairs Ministerio de Relaciones Exteriores - Cancilleria	Cooperation with Chancellery´s Plan Fronteras on various border communities, including PERS Guajira and other rural energization projects in Guajira and Nariño.	T1, T2

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
PNN	National Natural Parks of Colombia Parques Nacionales Naturales de Colombia	Cooperation with PNN National Natural for the Utria National Park Project (installation of solar energy systems).	T1, T2
MADS	Ministry of Environment and Sustainable Development Ministerio de Ambiente y Desarrollo Sostenible	Partner in the dissemination workshops for the EE/RE Tax Incentive Resolution, held in 6 major cities of Colombia in April - May 2013.	T1
ANLA	National Environmental Licensing Agency Agencia Nacional de Licenciamiento Ambiental	Partner in the dissemination workshops for the EE/RE Tax Incentive Resolution, held in 6 major cities of Colombia in April - May 2013.	T1
DNP	National Planning Department Departamento de Planeacion Nacional	Partner entity in PERS Tolima providing assistance to Contrato Plan; sought to partner on financial mechanisms for public sector investment in clean energy	T1, T2
DPS	Presidential Department for Social Prosperity Departamento para la Prosperidad Social	Arusi, Partado and Termales co-financing partner and possible co-financing partner for other rural ZNI projects, beginning in the Sierra Nevada de Santa Marta.	T1, T2
FONADE	Financial Fund for Development Projects El Fondo Financiero de Proyectos de Desarrollo	Administers co-financing funds from IPSE and DPS for clean energy project (Arusi, Partado and Termales MHP).	T1, T2
CORPOICA	CORPOICA (Colombian Agricultural Research Corporation)	Discussing possibility of reaching an agreement for mutual technical assistance in RE projects involving agriculture	
BANCOLDEX	Colombian Foreign Trade Bank Banco de Comercio Exterior de Colombia	Have been helpful and part of the PPF discussions; possible local cosponsoring partner for the the PPF.	T1, T3

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
Public Regional Institutions			
CVC	Regional Environmental Authority for Valle del Cauca Corporación Autónoma Regional del Valle del Cauca	Agreement to be signed with CVC for co-partnering in rural clean energy projects for Rio Pepitas y Santa Rosa de Guayacan. Has approved partnership for development of the Yumbo industrial corridor energy efficiency and clean air project (20 EE industrial projects).	T1, T2, T3
CORPOGUAJIRA	Corporación Autónoma Regional de la Guajira Regional Environmental Authority for Guajira	Local operator for the PERS Guajira and possible partner in other rural ZNI clean energy projects.	T1, T2
Gobernación de Nariño	Nariño department governorship	Regional partner for the design and promotion of PERS Nariño policies and projects	T1
Gobernación de Tolima	Tolima department governorship	Regional partner for the implementation of the PERS Tolima project to be signed October 2013	T1
SENA Guajira	National Apprenticeship Service - Guajira Servicio Nacional de Aprendizaje - Guajira	Technical implementer and in kind contributor to the PERS Guajira and possible partner in other rural ZNI clean energy projects.	T1, T2
SENA Tolima	National Apprenticeship Service - Tolima Servicio Nacional de Aprendizaje - Tolima	Regional partner for the design and promotion of PERS Nariño policies and projects	T1
UDENAR	University of Nariño Universidad de Nariño	Main implementer of the PERS Nariño and possible partner in developing the pipeline of 13 rural ZNI clean energy projects identified by PERS.	T1, T2
UNITOLIMA	University of Tolima Universidad de Tolima	Main implementer of the PERS Tolima project.	T1
JBB	Bogota Botanical Garden Jardín Botánico de Bogotá	Partner in the Educational and Demonstrative Clean Energy Project in Bogota.	T1, T2

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
COMMUNITY ORGANIZATIONS AND NGOs			
Community Groups			
ACIVA RP	Indigenous Association for Valle del Cauca Asociación de Cabildos Indígenas del Valle del Cauca - Región Pacifico	Partner in the implementation of the rural clean energy projects for Santa Rosa de Guayacan and Rio Pepitas.	T2
PASTORAL SOCIAL	Faith based Secretariat for Riohacha Secretariado de Pastoral Social de Riohacha	Grantee in the San Antonio Project (SNSM).	T2
Los Riscales	High Community Council los Riscales Consejo Comunitario Mayor de Los Riscales	Partner in the implementation of the rural clean energy project for Arusi, Partado and Termales (Choco)	T2
Mano Cambiada	Mano Cambiada NGO Corporación Mano Cambiada	Grantee in the Utria National Park Project (Choco).	T2
Resguardo Indígena Río Panguí	Indigenous Reserve of Rio Pangui Resguardo Indígena Río Panguí	Partner in the implementation of the rural clean energy project for El Yucal (Choco).	T2
Organización Gonawindua	Indigenous Arhuaco Organization covering community of Bunkwimake Comunidad indígena Arhuaca de Bunkwimake	Designated grantee for the Bunkwimake MHP project (SNSM).	T1, T2
Nabusimake	Indigenous community of Nabusimake Pueblito indígena Arhuaco de Nabusímake	Possible grantee for the possible Nabusimake project (SNSM).	T2

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
Resguardo Indígena Arhuaco de la Sierra	Indigenous Arhuaco Reserve of the Sierra (Nevada de Santa Marta)	Legal authority over 47,000 Arhuaco inhabitants of the SNSM, backing communities working with CCEP towards national authorities	T1, T2
Resguardo Indigena Rio Pepitas	Indigenous Reserve of Rio Pepitas Resguardo Indigena Rio Pepitas (Dagua)	Partner in the implementation for the solar pv systems and efficient stoves project for the Rio Pepitas community (Valle del Cauca).	T2
Resguardo Indigena Santa Rosa de Guayacán	Indigenous Reserve Santa Rosa de Guayacan Resguardo Indigena Santa Rosa de Guayacán (Bajo Calima)	Partner in the implementation for the solar pv systems and efficient stoves project for the Santa Rosa de Guayacan community (Valle del Cauca).	T2
Siapana	Indigenous Boarding School of Siapana Internado Indigena de Siapana	Possible partner for possible project for Siapana (Guajira)	T1,T2
Yu Dxicxkwe Reserve	Yu Dxicxkwe Nasa Indigenous Reserve (Dagua)	Possible partner for possible project Valle del Cauca	T2
Non Governmental Organizations			
Patrimonio Natural	Patrimonio Natural	Administrator of public funds for 4 joint IPSE/CCEP RE projects in Choco and SNSM (Utria, El Yucal, Bunkwimake and Palmor)	T1, T2
Fundacion Cerrejon	Fundacion Cerrejon Guajira Indigena	Possible private sector partner for RE projects with indigenous communities in Guajira	T1
SerSolar	Fundacion SerSolar	Possible SME partner for RE projects in Guajira (solar lighting, efficient cookstoves)	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
CI	Conservation International	CCEP has been interacting with CI and UPME on removal of barriers to RE investments and hydro ecological modeling	T1
PRIVATE SECTOR			
National Business Associations			
ANDI	National Business Association Asociacion Nacional de Empresarios Colombianos	Partner in the dissemination workshops for the EE/RE Tax Incentive Resolution, held in 6 major cities of Colombia in April - May 2013. Possible partner for EE projects for industrial corridors in the country	T1
FENALCO	National Commerce Federation Federación Nacional de Comerciantes	Possible partner in the EE project with Garper Energy for small commercial businesses	T1
CCB	Bogota Chamber of Commerce Cámara de Comercio de Bogotá	Partner in the Tax Incentive workshop, Bogota; led 3 year IADB energy efficiency program for SMEs and quasi-ESCOS	T1
ACOPI	Colombian Micro, Small and Medium Industry Association Asociación Colombiana de Medianas y Pequeñas Industrias	Expressed interest in participating as facilitator within the Yumbo Industrial corridor projects	T1, T3
ANDESCO	National Association of Public Services and Communications Companies	Possible partner for EE workshops with energy providers; CCEP participated in the ANDESCO Congress 2013	T1
CCEE	Colombian Energy Efficiency Council Consejo Colombiano de Eficiencia Energética	CCEP supported their waste to energy workshop in Bogota, Oct-13, and seeks to partner with them on EE/RE project development in the Bogotá/Cundinamarca/Boyaca region	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
FEDECAFE	National Coffee Growers Federation - Guajira Cesar Regional Department Federación Nacional de Cafeteros Regional Guajira Cesar	Fedecafe and Chancellery are requesting CCEP cooperation in adding clean energy technologies to a resettlement program for 450 displaced coffee grower families in Serrania de Perija, Guajira, which counts on royalties budget of of over US $3M as counterpart funding	T1, T2
National Banks and Financial Institutions			
ASOBANCARIA	National Banking Association	Active in banking sector's "Green Protocol". CCEP, IFC and this association designed a joint workshop on financial mechanisms for EE/RE in May 2013, though finally implemented by them without us. Future workshops are pending.	T1
Banco de Bogotá	Banco de Bogotá	Participated in the PPF workshop held in Bogota, April 2013.	T1, T3
Bancolombia	Bancolombia S.A. o Banco de Colombia S.A.	Participated in the PPF workshop, April 2013. Through its Environmental Credit Line co-financed by Swiss agency SECO, this bank is funding several T3 energy efficiency projects	T1, T3
Banco de Occidente	Banco de Occidente S.A.	Participated in the PPF workshop, April 2013. Mid-level management awaiting top management green light to embark on clean energy credit line	T1, T3
Fundacion Social	Fundacion Social	Participated in the PPF workshop, April 2013.	T1, T3
Banco Colpatria	Banco Colpatria Multibanca Colpatria S.A.	Participated in the PPF workshop, April 2013.	T1, T3
Valor y Estrategia	Valor y Estrategia	Participated in the PPF workshop, April 2013.	T1, T3
PROCREDIT	Banco ProCredit Colombia S.A.	Participated in the PPF workshop, April 2013.	T1, T3
Finamerica	Finamerica Finance Company Finamerica Compañía de Financiamiento	Interested in supporting micro-financing schemes for the massification of clean energy products	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
Companies			
Helados Tonny	Durango & CIA - Helados Tonny	EE refrigeration system optimization project implemented with CCEP assistance	T3
Ladrillera Los Cerros	Ladrillera Los Cerros	EE residual heat recovery project for brick drying implemented with CCEP assistance.	T3
Ladrillera Santa Rita	Ladrillera Santa Rita	EE automation of feeding and combustion system project for brick factory under implementation with CCEP assistance.	T3
Ganados y Porcinos	Ganados y Porcinos	EE Biogas project under implementation with CCEP assistance.	T3
Colanta	Cooperativa Lechera de Antioquia	EE Biogas project under final engineering design with CCEP/MGM Energy Services ESCO co-finance.	T1, T3
O-I PELDAR	OWENS - ILLINOIS PELDAR - Cristaleria Peldar S.A -	Large scale EE heat recovery energy generation projects ready for final engineering design and ESCO contract offer through CCEP/MGM MoU.	T1, T3
Colombina	Colombina S.A.	Participated in PPF workshop April 2013. EE/Re use of residual biogas project identified through CCEP assistance; pending management commitment.	T1, T3
ARCILLAS DE COLOMBIA	ARCILLAS DE COLOMBIA	EE system optimization and gasifier project identified as a result of PPF workshop attended in April 2013 and follow up CCEP visits.	T1, T3
Éxito	Almacenes Éxito S.A.	EE biogas project plus replacement of old motors and refrigeration systems.	T3
Centro Comercial Gran Estación	Centro Comercial Gran Estación	Energy diagnosis of the Gran Estacion Mall and of a new entrepreneurial center being designed in Bogota; subject to CCEP/Garper Energy ESCO MoU.	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
EMCOCABLES	EMCOCABLES S.A	Possible installation of efficient electric motors and compressed air networks, as well as thermal efficiency of the steam generation process.	T1, T3
Sucroal	Sucroal S.A	Possible EE and biogas project	T3
Ladrillera Santa Rita Secadero	Ladrillera Santa Rita Secadero	Possible second EE project to improve drying facilities.	T3
Los Cerros horno tunel	Los Cerros horno tunel	Possible second EE project to improve kiln.	T3
Yumbo Industrial Corridor	Companies located within the Yumbo Industrial Corridor	Optimization of combustion in manufacturing firms located in the industrial corridor of Yumbo.	T1,T3
Alpina	Alpina	Biogas use under ESCO arrangement; final engineering and feasibility study subject to CCEP/MGM 50/50 co-finance MoU	T1,T3
ALICO Company	American Life Insurance Company	Assess EE investments and improvements.	T3
American candy	American candy	Assess EE investments and improvements.	T3
Pueblo Viejo	Pueblo Viejo	Changing its ceramic kiln.	T3
PROPLANET	PROPLANET S.A.S	EE in the plastic recycling processes.	T3
ORCO S.A.	ORCO OIL RECOVERY SYSTEMS CO	Replace the inefficient 10 year old furnace of their incineration plant and heat recovery for sludge treatment.	T1,T3
BONEM	BONEM S.S	EE project and heat recovery opportunity identified.	T3
Curtiembre Tecur	Curtiembre Tecur	EE in the finishing processes	T3
EEB	Empresa de Energía de Bogotá	Possible partner for EE and RE projects on a metropolitan scale: energy efficient public lighting; cogeneration from municipal waste plants, solar energy in new construction, electric and hybrid transportation	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
EPSA	Pacific Energy Company	Possible private energy company partner for RE projects in off-grid communities near their power plants and transmission lines	T1
CELSIA	Celsia Energy Company	This major power generation and transmission company holds majority share in EPSA and rekindled its interest in partnering with CCEP on off-grid projects; it is also developing a 20 MW hybrid (wind/solar) generation project for which CCEP has offered technical assistance once resource evaluation finalizes next year	T1
ISAGEN	ISAGEN Energía Productiva Energy Company	Initial contacts for solar energy generation PPP with Éxito and Siemens failed, but discussions on inserting RE generation to the national grid are ongoing	T1
Grupo Proenfar	Grupo Proenfar	Participated in the PPF workshop, April 2013.	T1
Ladrillera Santa Fe	Ladrillera Santa Fe	Participated in the PPF workshop, April 2013. Potential partner for EE projects in their different factory sites, pending business model reassessment	T1
Regeneracion	Regeneracion sustainable engineering company	Participated in the PPF workshop, April 2013. Interested in structuring and implementing bioenergy projects with CCEP cosponsorship	T1
HYBRYTEC	HYBRYTEC	Possible partner for massification of solar lamps in SNSM or Guajira. However, this is one of the major solar equipment suppliers and CCEP has preferred not to undertake joint projects to maintain independence	T1, T2
ESCOS			
Garper Energy	Garper Energy	Agreement to be signed Oct-13 for development of joint EE projects in the commercial and services sectors.	T1

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
E2	E2	This comapny has US $16M invested in EE projects under an ESCO model. CCEP and E2 have discussed partnership in co financing complex engineering designs, but E2 has not yet requested CCEP support	T1
Clean Energy SAS	Clean Energy SAS	Participated in the PPF workshop, April 2013.	T1
Green Yellow	Green Yellow	Participated in the PPF workshop, April 2013.	T1
MGM	MGM INNOVA - MGM Energy Services	In agreement with CCEP for the implementation of EE projects, initially focusing on Colanta, O-I Peldar, Alpina and Cartagena/Mamonal industrial corridor	T1, T3
INTERNATIONAL ORGANIZATIONS			
Other USAID Projects			
ACDI-VOCA	ACDI-VOCA	Possible partner for complementary RE rural projects, still to be identified	T1
BIOREDD+	BIOREDD+	Initiated CCEP intervention in Choco; complementary partnerships for fishery cold chains in the Cajambre and other Pacific coast areas under design	T1
CELI Central	Consolidation and Enhanced Livelihoods Initiative (central departments)	With CELI Central, original focus was on developing solar energy and other RE solutions for schools and cattle raising communities in Caqueta and Macarena. While institutional, financial and security issues impeded fruition, the PERS Tolima project will identify areas of action with CELI Central in southern Tolima	T1

*A:.**CCEP's Joint work with Implementation Partners***

ACRONYM	NAME	SPECIFIC JOINT WORK AREAS	TASK
CELI North/South	Consolidation and Enhanced Livelihoods Initiative (northern southern departments)		T1,T2
International / Multilateral Organizations			
IADB	Inter-American Development Bank (Banco Interamericano de Desarrollo)	Interactions with IADB have been on multiple fronts, primarily EE finance strategies, removal of barriers to RE development, and large-scale wind energy investment initiatives	T1
IFC	Environmental Finance Center	IFC has strongly interacted with CCEP on EE finance strategies and will likely partner on the Clean Energy PPF initiative. Participated in the 3 PPF workshops in April 2013	T1
CAF	Development Bank of Latin America (Banco de Desarrollo de América Latina)	CAF has its own lines of action on EE/RE finance for Latin America, and is analyzing possible partnership with CCEP on the PPF initiative.	T1
SECO	Swiss State Secretariat for Economic Affairs	Participated in the PPF workshop, April 2013. Works closely with T3 Subcontractor CNPML on the implementation of Bancolombias Environmental Credit Line, the main source of finance for SME EE projects in T3's project pipeline	T1, T3
KFW	KFW German Banking Group	Participated in the PPF workshop, April 2013.	T1
OPIC	Overseas Private Investment Corporation	In discussions over the PPF; potential project financer for Garper Energy ESCO projects in Colombia	T1