

MONTHLY PROGRAM REPORT

JULY 2002

COMMONWEALTH BIOGAS/PV MINI-GRID RENEWABLE RESOURCES
RD & D PROGRAM

*Making Renewables Part of an Affordable and Diverse
Electric System in California*

CONTRACT NO. 500-00-036

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

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(ZECO).

PLANNED ACCOMPLISHMENTS FOR THIS PERIOD:

Project 0: Program Administration

RER expects to begin work on Task 0.2.2, and will be conducting teleconferences collecting requirements and input from Commonwealth Energy (Commonwealth) Team Members and Commission staff regarding the PIER Commonwealth Biogas/PV-Mini-grid Renewable Resources RD&D Program Website.

Program and Project specific administrative tasks will continue, including coordination of the Commonwealth Team Members, Monthly Progress Reports, Monthly Program Highlights and Monthly Program Reports.

Project 1.1: Program Planning and Analysis

The Commonwealth Team plans to begin collecting available facility data under Task 1.1.5. Work will continue on updating the sewage treatment plants and landfill facilities databases,

and work is expected to begin on developing information for the Task 1.1.3 and Task 1.1.4 inventory reports.

Project 2.1: Enhanced Landfill Gas Production Using Bioreactors

Per Program schedule, work will not begin on this project.

Project 2.2: Enhanced Energy Recovery through Optimization of Anaerobic Digestion and Microturbines

Initial work on hold pending scope review.

Project 3.1: Dairy Waste to Energy

Per Program schedule, work will not begin on this project.

Project 3.2: Building Integrated PV Testing and Evaluation Project

Work is expected to begin under Task 3.2.1 as ENDECON prepares for the Kick-Off Meeting, drafts the BI-PV Test and Evaluation Plan. Additionally, candidate selection is expected to begin for the Project 3.2 Technical Advisory Committee.

Project 3.3: Building Integrated PV on Public Facilities

It is expected that that BI-PV database development under Task 3.3.1 will be completed and submitted for review.

WHAT WAS ACCOMPLISHED THIS PERIOD:

Project 0: Program Administration

RER initiated work on the PIER Commonwealth Biogas/PV-Mini-grid Renewable Resources RD&D Program Website. Several teleconferences took place, as the Commonwealth Team Members and Commission Staff reviewed the Program components as well layout design that they wished to have placed on the website. Discussions began regarding which materials would be placed on the public portion of the website, and which would be placed on the password-protected portion of the website. RER's team began incorporating the team's requests onto the Website for future visual reviewing.

Additionally, revisions were completed for *Exhibit A, Work Statement* and *Exhibit B, Deliverables and Due Dates* and passed to the Commonwealth Team and Commission for review prior to final deliverable submission.

Overall Program and Project contract administration tasks continued, as the Commonwealth Team reviewed and confirmed the PIER Contract terms and conditions regarding invoice and

status report structures. Monthly Status Reports were drafted for the following Commonwealth Renewables Affordability Mini-Grid Projects:

- Project 1.1: Program Planning and Analysis
- Project 3.2: Building-Integrated PV Testing and Evaluation
- Project 3.3: Building-Integrated PV on Public Facilities

Project 1.1: Program Planning and Analysis

Work continued on Task 1.1.1 as RER completed researching and reviewing the existing resource assessment reports for California. Recognizing that the number of sites that are suitable for potential projects may be limited, the preliminary definition of the mini-grid was expanded in order to include projects at wastewater treatment plants. The new preliminary map was drafted in a GIS format for review and forwarded to the Commission on July 31, 2002.

The Commonwealth Team continued with data collection under Task 1.1.3, collecting databases and information from facilities. The quantified data was entered into an Excel database. Data collection continues on this task.

At the Kick-Off meeting, held in late June, the Commonwealth Team and Commission it was agreed that, if amenable, Southern California Edison (SCE) should be brought into the Program. Preliminary discussions took place with SCE reviewing the key objectives of the Program, and a meeting was held on July 16th to specifically discuss Project 1.1's data gathering needs for the Chino Basin area. At the conclusion of this meeting, SCE had agreed to participate as a member of the Project 1.1 Technical Advisory Committee.

Project 2.1: Enhanced Landfill Gas Production Using Bioreactors

Work has yet to begin on this project, per Program schedule.

Project 2.2: Enhanced Energy Recovery through Optimization of Anaerobic Digestion and Microturbines

Work has yet to begin on this project, due to the need to re-assess the anaerobic digestion optimization technology implementation options available inside and out of the minigrid and related stakeholder match funding issues.

Project 3.1: Dairy Waste to Energy

Work has yet to begin on this project, per the Commonwealth Program schedule.

Project 3.2: Building Integrated PV Testing and Evaluation Project

The Commonwealth Team along with Commission staff attended a Project Kick-Off Meeting, which was held for both Project 3.2 and Project 3.3 at the Commission on July 15th. Agenda topics included:

- Overview of Draft BI-PV Test and Evaluation Plan,
- Discussion of Near Term Implementation Issues,
- Technical Advisory Committee (TAC) Formation and Critical Program Review Meetings, and
- Coordination of Project 3.2 and Project 3.3 BI-PV integration activities.

Additionally, work was initiated on the first deliverable for the Project, “*Draft Building Integrated Photovoltaics (BI-PV) Testing and Evaluation Plan*” Report. Work began on the selection and submission of potential Project 3.2 TAC members.

Project 3.3: Building Integrated PV on Public Facilities

As highlighted under Project 3.2, a Kick-Off Meeting was held on July 15th. Project 3.3 was addressed primarily in the afternoon session, and addressed the following topics:

- Existing Commission Databases,
- Process for selection of Project 3.3 TAC Members,
- Review of the initial Project 3.3 tasks,
- Critical Project Review Meetings, and
- Coordination with the Renewable Program Advisory (RPAC) and TAC Committees.

At the conclusion of this meeting, REDI initiated Task 3.3.1 and began developing the first two BI-PV databases.

Under Task 3.3.1(a), messages were sent via e-mail, requesting assistance in identifying interested public facilities managers. The Internet and Yellow Pages were utilized for additional searches, and the information received through the various search mechanisms utilized was compiled into the Public Sector database. A filter was utilized to create a selection of qualified records within the Initial Study Area.

Work on Task 3.3.1(b) included entering 508 contacts into an Access database. This database was filtered for valid contact information and updated when there was incomplete information. The following additional fields were entered in the database at the request of the Commission project staff:

- Utility Name
- Energy Efficiency Opportunities, and
- Likelihood for success data, such as “project champion” contact information

Work was initiated ahead of schedule on Task 3.3.2, as REDI searched solar energy industry magazines and the Internet for existing BI-PV evaluation software. Numerous software applications were acquired, and modem capable data loggers were located and priced as well as researched in order to ensure that all required accessories were also purchased.

How we are doing compared to plan:

Of the five projects that are currently active, three are proceeding on schedule and in accordance with the Program’s work plan. Two have exceptions:

- Project 2.2 has yet to begin pending clarification of certain project scoping/implementation issues.
- Project 3.3/Task 3.3.2 was initiated one month early.

SIGNIFICANT PROBLEMS OR CHANGES:

As indicated above, Task 2.2 encountered a delay in planned start-up. Current progress on all other active projects will result in the Program being completed on time and within budget.

EXPECTED ACCOMPLISHMENTS DURING THE NEXT PERIOD:

Project 0: Program Administration

Work will continue on Task 0.2.2, the PIER Commonwealth Biogas/PV-Mini-grid Renewable Resources RD&D Program Website. The Commonwealth Team expects to have a visual presentation by the next reporting period, which will enable the Program Team and Commission staff to provide input based upon site aesthetics and ease-of-use.

Under Task 0.2.3, the Commonwealth Project Director and the CEC will continue to compile and review potential participants for the RPAC. We expect to compile a draft list of names for review and input.

Program and Project specific administrative tasks will continue, including coordination of the Commonwealth Team Members, Monthly Progress Reports, Monthly Program Highlights and Monthly Program Reports. It is anticipated that the invoicing process may begin during the next reporting period.

Project 1.1: Program Planning and Analysis

The Project Team expects to have the Task 1.1.1 Assessment Review Draft Report completed and delivered to the Commission Program Manager for review. Work will continue as the Team refines the preliminary Study Area.

Database development for sewage treatment plants and landfill facilities is expected to near its completion. Additionally, the Team plans to begin developing the information associated with the Task 1.1.3 and Task 1.1.4 inventory reports. Additionally, we plan to initiate the Task 1.1.2 data collection and development work on agricultural facilities and its associated inventory report.

Project 2.1: Enhanced Landfill Gas Production Using Bioreactors

Per Program schedule, work will not begin on this task.

Project 2.2: Enhanced Energy Recovery through Optimization of Anaerobic Digestion and Microturbines

Initial work on this project will be delayed pending resolution of several project implementation issues.

Project 3.1: Dairy Waste to Energy

Per Program schedule, work will not begin on this task.

Project 3.2: Building Integrated PV Testing and Evaluation Project

The Team expects to have further selected its Project 3.2 Technical Advisory Committee (TAC). Additionally, the Commonwealth Team expects to have the Task 3.2.1 BI-PV Test and Evaluation Plan in draft format, submitted to the Commission and the Project 3.2 TAC for their review and comments.

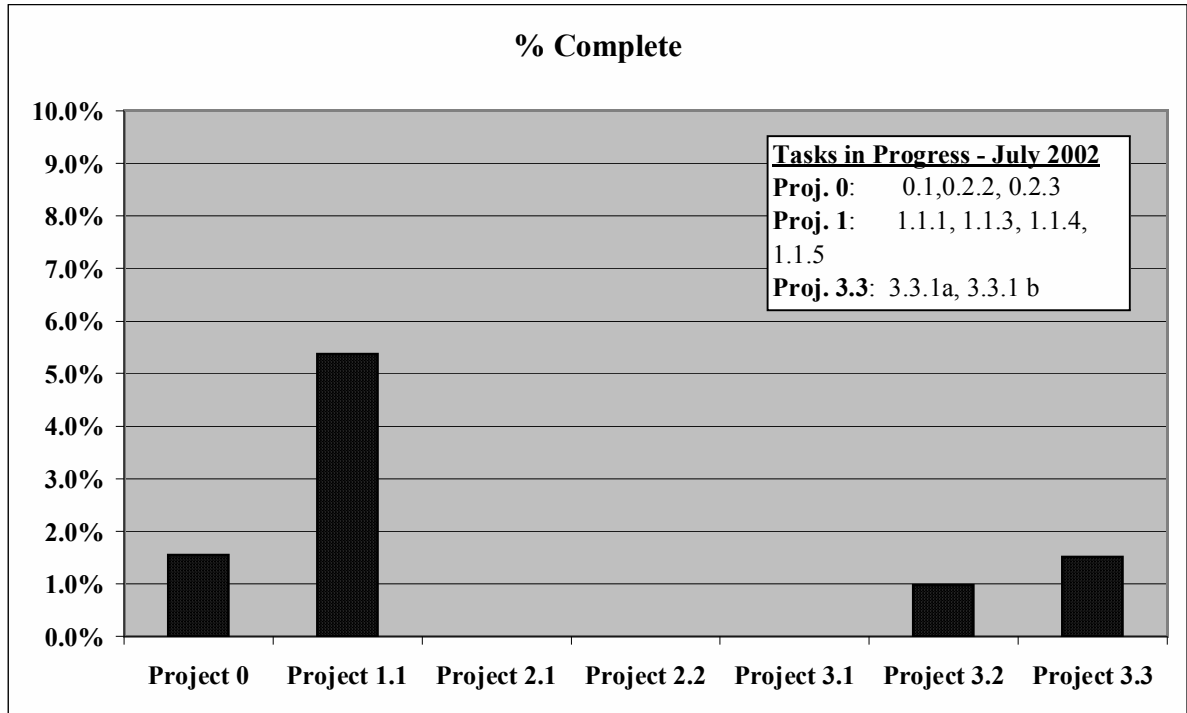
Project 3.3: Building Integrated PV on Public Facilities

Work is expected to continue on refinement of the BI-PV databases in response to the Team's comments, and in acquiring/developing BI-PV Evaluation tools for use in the Program.

OVERVIEW OF PROGRAM STATUS:

Figure 1 below summarizes the overall Commonwealth Program status by project number and task as of the end of the current reporting period.

Figure 1: Summary of Program Status – Project Percentage Complete



Overview of Program Fiscal Status:

Table 1 and Figure 2 below summarize the fiscal status of the Commonwealth Program by Project as of the end of the current reporting period.

Table 1: Program Fiscal Status By Project

Project Number	Project Budget	Invoiced To-Date (\$)	Fiscal Status *
Project 0	\$ 889,771	0	OT
Project 1.1	\$1,336,613	0	OT
Project 2.1	\$2,315,999	0	OT
Project 2.2	\$2,153,740	0	OT
Project 3.1	\$3,274,664	0	OT
Project 3.2	\$ 870,099	0	OT
Project 3.3	\$ 827,686	0	OT

*Fiscal Status = (OT) "On Track", (OB) "OverBudget", (UB) "UnderBudget"

Figure 2: Program Fiscal Status

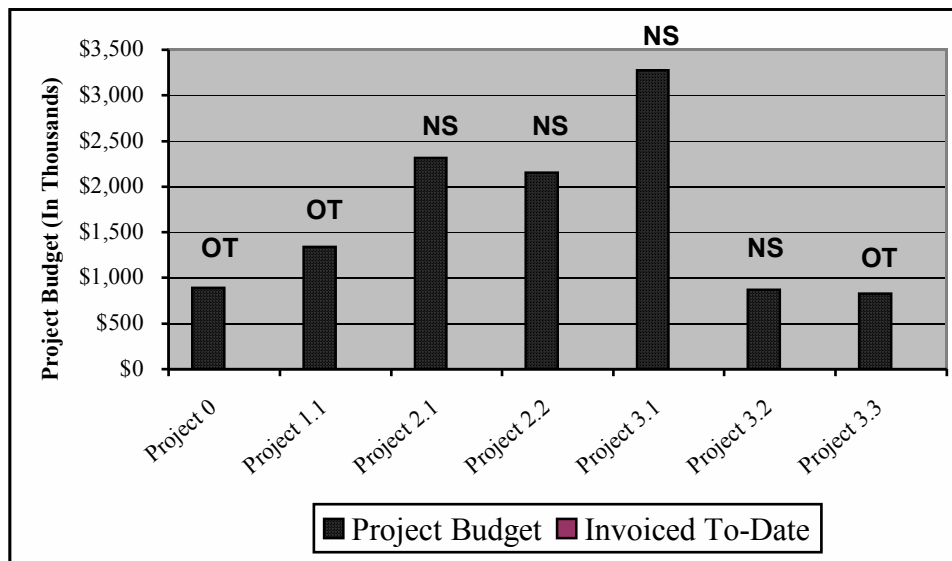
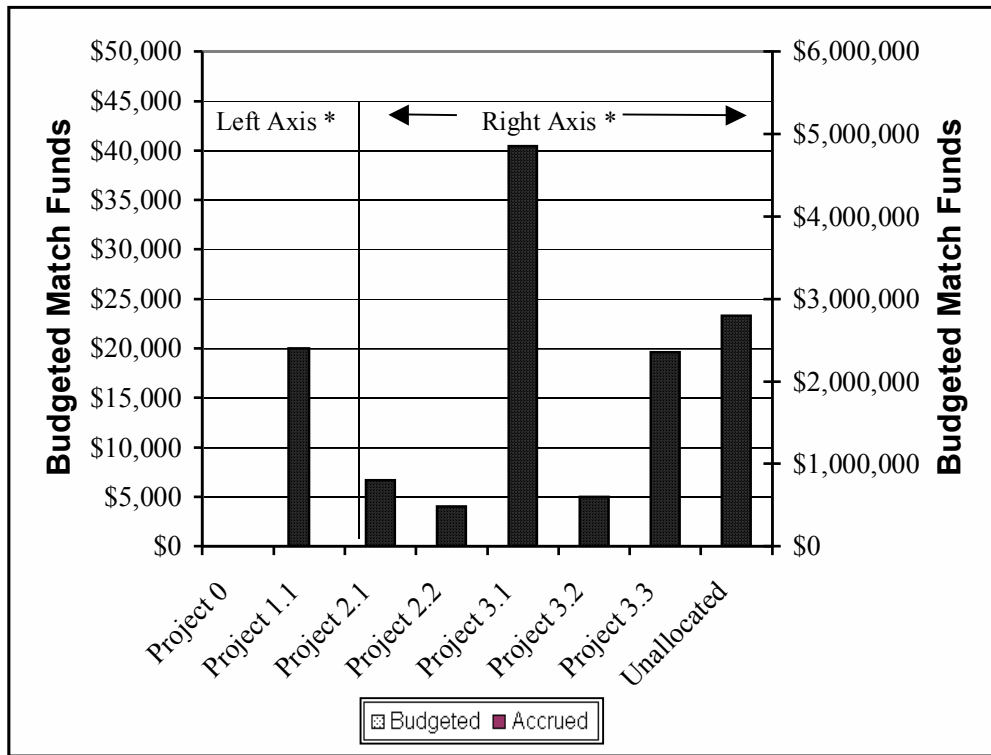


Figure 3: Program Fiscal Status Match Funds



* The Budgeted Match Funds for Project 1.1 are significantly lower than Projects 2.1 through Project 3.3, therefore, we have utilized a left and right axis with differing value levels, which allows us to better highlight the Project Match Funds.