

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Sustainable Energy - Renewable Energy Alternatives for Small Islands

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
402	Engineering Systems and Equipment			50%	
403	Waste Disposal, Recycling, and Reuse			50%	
	Total			100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.8	0.0
Actual Paid Professional	0.0	0.0	0.2	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

p.MsoNormal, li.MsoNormal, div.MsoNormal { margin: 0cm 0cm 0.0001pt; font-size: 10pt; font-

family: "Times New Roman"; }div.Section1 { page: Section1; }ol { margin-bottom: 0cm; }ul { margin-bottom: 0cm; }

Only a few projects were active in this program last year. Their achievements include:

- Raw data was collected on the energy consumption of equipment in 100 dairy milking parlors, a first step in the techno-economical viability study of installing photovoltaic cells as an energy alternative for dairy operations
- A biodigester was designed with the capacity to handle the waste load of 282 pigs
- Project presentations were made to government agency representatives, extension and research faculty, and students.

2. Brief description of the target audience

p.MsoNormal, li.MsoNormal, div.MsoNormal { margin: 0cm 0cm 0.0001pt; font-size: 10pt; font-family: "Times New Roman"; }div.Section1 { page: Section1; }

- (1) Specialists and County Agents of the Agricultural Extension Service of UPR.
- (2) Professional personnel of the Puerto Rican Department of Agriculture and of the USDA.
- (3) Policy makers in the Commonwealth and Federal Governments.
- (4) Personnel of the Farm Credit Service and other financial institutions that make loans to producers.
- (5) Professionals engaged in private enterprises related to renewable energy projects.
- (6) Faculty members and university graduate and undergraduate students.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2012
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of active research projects in the program

Year	Actual
2012	3

Output #2

Output Measure

- Number of new proposals submitted targeting the program's priorities

Year	Actual
2012	1

Output #3

Output Measure

- Number of popular (non-refereed) publications based on research results

Year	Actual
2012	0

Output #4

Output Measure

- Number of meetings held with stakeholders to extend results and technologies

Year	Actual
2012	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants in meetings held with stakeholders to extend project's results and technologies devised
2	Number of government agencies and other type of institutions willing to collaborate in projects promoting energy efficiency and renewable energy technologies
3	Number of farmers or agroindustrial operations becoming more energy efficient and adopting renewable energy alternatives

Outcome #1

1. Outcome Measures

Number of participants in meetings held with stakeholders to extend project's results and technologies devised

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

Outcome #2

1. Outcome Measures

Number of government agencies and other type of institutions willing to collaborate in projects promoting energy efficiency and renewable energy technologies

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

Outcome #3

1. Outcome Measures

Number of farmers or agroindustrial operations becoming more energy efficient and adopting renewable energy alternatives

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (Program is still in its initial years)

Brief Explanation

This program has only been in existence during the last two years. Only a few projects are active in this area and the time commitment of researchers to them is relatively small. Perhaps in the future this type of research activities will be included under our Natural Resources and Environment program.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

No formal evaluation results are yet available for this program.

Key Items of Evaluation