

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

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
131	Alternative Uses of Land	0%		6%	
202	Plant Genetic Resources	0%		50%	
402	Engineering Systems and Equipment	30%		14%	
504	Home and Commercial Food Service	0%		9%	
511	New and Improved Non-Food Products and Processes	30%		13%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	40%		0%	
902	Administration of Projects and Programs	0%		4%	
903	Communication, Education, and Information Delivery	0%		4%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	0.6	0.0	2.3	0.0
Actual Paid Professional	0.8	0.0	1.5	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
1214	0	199131	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
51441	0	163261	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	605492	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Applied Research
 Facilitated Group Meetings and Conferences
 Printed Materials
 Single day workshop, presentation or event

2. Brief description of the target audience

Growers, agricultural businesses, real estate developers, building managers, municipalities, public utilities, homeowners

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1115	45	0	0

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Applied Research Projects
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Facilitated Group Meetings and Conferences
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Printed Materials
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Single day workshop, presentation or event

Year	Actual
2013	3

Output #5

Output Measure

- Websites or Other Computer-based Delivery
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Peer review publications

Year	Actual
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2013 1

Output #7

Output Measure

- Analytic Tools and Techniques

Year	Actual
2013	2

Output #8

Output Measure

- Demonstrations

Year	Actual
2013	2

Output #9

Output Measure

- Diagnostic Services

Year	Actual
2013	5

Output #10

Output Measure

- Individual Consultations and Site Visits

Year	Actual
2013	100

Output #11

Output Measure

- Published Article (News, Professional, Trade)

Year	Actual
2013	9

Output #12

Output Measure

- Workshop series or educational course

Year	Actual
2013	7

Output #13

Output Measure

- Basic and Applied Research Projects

Year	Actual
2013	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants acquire knowledge and skill for energy conservation or efficiency practices for the built environment
2	Participants implement energy conservation or efficiency practices for the built environment
3	Creation and synthesis of knowledge related to environmentally sustainable energy resources
4	Participants acquire knowledge and skill for energy conservation or efficiency practices for agricultural businesses
5	Participants implement energy conservation or efficiency practices for agricultural businesses
6	Target audiences increase knowledge and skill for utilizing renewable energy sources
7	Target audiences increase use of renewable energy sources

Outcome #1

1. Outcome Measures

Participants acquire knowledge and skill for energy conservation or efficiency practices for the built environment

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Citizens, policy makers and businesses share an interest in policies and practices that reduce fuel consumption, enhance conservation practices and limit the cost dedicated to renewable and non-renewable sources of energy. UMass Extension engages in applied research, teaching and outreach to inform practitioners and consumers about building science and energy efficiency strategies and practices.

What has been done

As part of a continuing relationship with Western Massachusetts Electric Company we identified large potential savings and facilitated the implementation of energy savings measures at the utility's largest customers. The largest customer is the University of Massachusetts and in Fall 2012 we recruited students to do a sweep of the entire campus and worked with physical plant officials to place an order for 3.1K LED bulbs. These bulbs are now installed saving 213.8 MWh/yr or about \$21K/yr.

Results

Target audiences learned building and design practices that increase energy efficiency and increased the use of renewable energy sources

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #2

1. Outcome Measures

Participants implement energy conservation or efficiency practices for the built environment

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	175

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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #3

1. Outcome Measures

Creation and synthesis of knowledge related to environmentally sustainable energy resources

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Participants acquire knowledge and skill for energy conservation or efficiency practices for agricultural businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

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

Outcome #5

1. Outcome Measures

Participants implement energy conservation or efficiency practices for agricultural businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

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

Outcome #6

1. Outcome Measures

Target audiences increase knowledge and skill for utilizing renewable energy sources

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	300

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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #7

1. Outcome Measures

Target audiences increase use of renewable energy sources

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	175

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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

No results to report. Assessments in progress

Key Items of Evaluation