1.4 Renewable/Alternative Energy and Conservation

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V(A). Planned Program (Summary)

1. Name of the Planned Program

1.4 Renewable/Alternative Energy and Conservation

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
401	Structures, Facilities, and General Purpose Farm Supplies	6%		6%	
402	Engineering Systems and Equipment	49%		49%	
404	Instrumentation and Control Systems	45%		45%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	2.5	0.0	3.0	0.0
Actual	16.3	0.0	2.9	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
71434	0	90669	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71434	0	90669	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
769821	0	335524	0

2. Institution Name: NY State Agricultural Experiment Station

1.4 Renewable/Alternative Energy and Conservation

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	2835	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	2835	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	99637	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Agricultural/horticulture/natural resource and supporting businesses are targeted both regarding biofuels production opportunities and information regarding alternative energy sources and conservation. Consumers, property managers, and community leaders are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation needs. Citizens, community agencies and organizations are targeted for energy-related policy education efforts particularly as related to development of alternative energy sources and the interaction between land use and energy conservation.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	17500	200000	1000	0
2007	24220	1249182	3729	48723

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

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	28

1.4 Renewable/Alternative Energy and Conservation

V(F). State Defined Outputs

Output Target
Output #1

Output Measure

non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	386

Output #2

Output Measure

non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	31650

Output #3

Output Measure

funded applied research projects directed to this program.

Year	Target	Actual
2007	6	0

Output #4

Output Measure

agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels. (1.4.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

local and state leaders completing educational programs on the potential for development of biologically-based fuels such as biodiesel, ethanol, methane, recycled vegetable oils, space heating fules etc. (1.4.1b)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for biofuels production. 1.4.1c)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

agricultural/horticulture/ natural resource and supporting business representatives completing educational programs about the availability and pros and cons of alternative energy sources and/or about potential energy savings in operations. (1.4.2a)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy sources and/or about energy conservation strategies and actions especially related to housing and transportation. (1.4.3a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

consumers, property managers, and/or housing officials completing education programs on energy conservation strategies and actions. (1.4.3b)

Year	Target	Actual
2007	0	0

1.4 Renewable/Alternative Energy and Conservation

Output #10

Output Measure

community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs. (1.4.4a)

Year	Target	Actual
2007	0	0

Output #11

Output Measure

refereed publication directed to this program.

Year	Target	Actual
2007	10	28

V(G). State Defined Outcomes

O No.	Outcome Name
1	# agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations. (1.4.2b)
2	# consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or energy conservation strategies and actions especially related to housing and transportation. (1.4.3a)
3	# consumers, property managers, and/or housing officials who demonstrate knowledge or skill gains related to energy conservation strategies and actions. (1.4.3b)
4	# community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.4.4b)
5	# of program participants documented to have taken measures to improve energy efficiency of existing and new buildings. (1.4.3f)
6	# producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.4.1f)
7	# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.4.1g)
8	# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.2c)
9	# of consumers documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3e)
10	# of community agencies/organizations documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3g)
11	# communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.4.4c)
12	# of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of biofuels leads to increased economic returns to their enterprises. (1.4.1h)
13	# of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation. (1.4.2d)
14	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3h)
15	# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3i)
16	# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.4.4d)
17	# agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.4.1d)
18	# forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices. (1.4.1e)
19	Assessment of Climate-variety Interactions of Fast-growing Trees to Maximize Biomass Productivity
20	Productivity and Carbon Accumulation in Central New York Forests: Legacies of Past Agricultural Use
21	Growing Biofuel Crops

1.4 Renewable/Alternative Energy and Conservation
Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

Natural Disasters (drought,weather extremes,etc.)
Economy
Appropriations changes
Public Policy changes
Government Regulations

Brief Explanation

See plan.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

After Only (post program)
Retrospective (post program)
During (during program)
Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

1.4 Renewable/Alternative Energy and Conservation

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements: •

Development of soils input files for the PNM together with establishing a linkage between the Northeast Regional Climate Center's newly developed high resolution climate data and the PNM model. Development of an additional crop module for the PNM model for the growth and nitrogen uptake by SRIC (short-rotation, intensively cultured) willow. •

Measurements indicate that carbon sequestration in central NY forests is accomplished mainly through regrowth of trees, with negligible C accumulation into detrital C pools (soils, dead wood).