PRE AND POST-WORKSHOP SURVEY RESULTS

Pre and Post Workshop Mean Understanding Ratings					
		N	Mean	Std. Dev.	Std. Error
Renewable Energy	Pre	21	3.10	.70	.15
	Post	21	4.43	.60	.13
Energy Conservation	Pre	21	3.00	.63	.14
	Post	21	4.38	.67	.15
Solar Energy	Pre	21	3.10	.70	.15
	Post	21	4.43	.60	.13
Wind Energy	Pre	21	3.14	.57	.13
	Post	21	4.33	.80	.17
Geothermal Energy	Pre	21	2.10	.89	.19
	Post	21	4.48	.68	.15
Biofuels	Pre	21	2.71	.96	.21
	Post	21	4.38	.80	.18
Hydropower	Pre	21	2.71	.78	.17
	Post	21	3.95	.67	.15
Energy Audit Practices	Pre	21	1.95	.86	.19
	Post	21	2.76	1.30	.28

Pre and Post Workshop Mean Importance Ratings					
		N	Mean	Std. Dev.	Std. Error
Renewable Energy	Pre	21	3.24	1.09	.24
	Post	21	4.24	.70	.15
Energy Conservation	Pre	21	3.33	1.06	.23
	Post	21	4.38	.67	.15
Solar Energy	Pre	21	3.24	1.18	.26
	Post	21	4.10	.83	.18
Wind Energy	Pre	21	3.05	1.12	.24
	Post	21	4.00	.71	.15
Geothermal Energy	Pre	21	2.86	1.11	.24
	Post	21	4.14	.85	.19
Biofuels	Pre	21	2.90	1.30	.28
	Post	21	4.19	.68	.15
Hydropower	Pre	21	2.81	1.17	.25
	Post	21	3.81	.75	.16
Energy Audit Practices	Pre	21	2.33	1.02	.22
	Post	21	3.71	.96	.21

Overall Workshop Rating

	Frequency	Percent
Good	2	9.5%
Excellent	19	90.5%
Total	21	100.0

Training Worth Your Time

	Frequency	Percent
Moderately	1	4.8%
Very	11	52.4%
Extremely	9	42.9%
Total	21	100.0%

Specific Workshop Ratings

	Poor		Fair		Good		Very Good	
	N	%	N	%	N	%	N	%
Content	0	0.0%	0	0.0%	6	28.6%	15	71.4%
Organization	0	0.0%	1	4.8%	9	42.9%	11	52.4%
Use of Instructional Aids	0	0.0%	1	4.8%	9	42.9%	11	52.4%
Creating Interest in Topics	1	4.8%	2	9.5%	10	47.6%	8	38.1%
Involvement of Participants	1	4.8%	1	4.8%	17	81.0%	2	9.5%
Pace of Delivery	0	0.0%	0	0.0%	16	76.2%	5	23.8%
Effectiveness of Training Kits	0	0.0%	0	0.0%	4	19.0%	17	81.0%

How Much Info is Useful

	N	%
0-20%	1	4.8%
21-40%	1	4.8%
41-60%	2	9.5%
61-70%	1	4.8%
71-80%	6	28.6%
81-100%	10	47.6%

Recommend Workshop to Others

	N	%
Yes	21	100.0

Overall Level of Workshop Content

	N	%
Too basic	0	.0
About right	21	100.0
Too advanced	0	.0

Tour Ratings

	Very Poor		Below Average		Average		Above Average		Excellent	
	N	%	N	%	N	%	N	%	N	%
LSC Biotech Institute Tour	0	.0	0	.0	2	9.5%	5	23.8%	14	66.7%
Green Bldg. Resource Center	0	.0	0	.0	1	4.8%	12	57.1%	8	38.1%

Overall Usefulness of Workshop for Prof. Development

	N	%
Not at all	0	.0
Slightly	0	.0%
Moderately	1	4.8%
Very	10	47.6%
Extremely	10	47.6%

How Well Workshop Met Expectations

	N	%
Far below	0	.0%
Below	0	.0%
Met Expectations	3	14.3%
Above	9	42.9%
Far above	9	42.9%

How Much Workshop Increased Knowledge and Skills

	N	%
Not at all	0	.0%
Slightly	0	.0%
Moderately	0	.0%
Very	10	47.6%
Extremely	11	52.4%

Current (Post Workshop) Understanding										
	Very Poor		Poor		Fair		Good		Very Good	
	N	%	N	%	N	%	N	%	N	%
Renewable Energy	0	0.0%	0	0.0%	1	4.8%	10	47.6%	10	47.6%
Energy Conservation	0	0.0%	0	0.0%	2	9.5%	9	42.9%	10	47.6%
Solar Energy	0	0.0%	0	0.0%	1	4.8%	10	47.6%	10	47.6%
Wind Energy	0	0.0%	1	4.8%	1	4.8%	9	42.9%	10	47.6%
Geothermal Energy	0	0.0%	0	0.0%	2	9.5%	7	33.3%	12	57.1%
Biofuels	0	0.0%	1	4.8%	1	4.8%	8	38.1%	11	52.4%
Hydropower	0	0.0%	0	0.0%	5	23.8%	12	57.1%	4	19.0%
Energy Audit Practices	3	14.3%	2	9.5%	10	47.6%	6	28.6%	0	0.0%

Pre-Workshop Importance Placed on Topics										
	Very Low		Low		Average		High		Very High	
	N	%	N	%	N	%	N	%	N	%
Renewable Energy	0	0.0%	6	28.6%	8	38.1%	3	14.3%	4	19.0%
Energy Conservation	0	0.0%	5	23.8%	8	38.1%	4	19.0%	4	19.0%
Solar Energy	1	4.8%	5	23.8%	7	33.3%	4	19.0%	4	19.0%
Wind Energy	2	9.5%	4	19.0%	8	38.1%	5	23.8%	2	9.5%
Geothermal Energy	2	9.5%	6	28.6%	8	38.1%	3	14.3%	2	9.5%
Biofuels	2	9.5%	8	38.1%	5	23.8%	2	9.5%	4	19.0%
Hydropower	2	9.5%	8	38.1%	5	23.8%	4	19.0%	2	9.5%
Energy Audit Practices	5	23.8%	7	33.3%	6	28.6%	3	14.3%	0	0.0%

Post-Workshop Importance Placed on Topics										
	Very Low		Low		Average		High		Very High	
	N	%	N	%	N	%	N	%	N	%
Renewable Energy	0	0.0%	0	0.0%	3	14.3%	10	47.6%	8	38.1%
Energy Conservation	0	0.0%	0	0.0%	2	9.5%	9	42.9%	10	47.6%
Solar Energy	0	0.0%	0	0.0%	6	28.6%	7	33.3%	8	38.1%
Wind Energy	0	0.0%	0	0.0%	5	23.8%	11	52.4%	5	23.8%
Geothermal Energy	0	0.0%	1	4.8%	3	14.3%	9	42.9%	8	38.1%
Biofuels	0	0.0%	0	0.0%	3	14.3%	11	52.4%	7	33.3%
Hydropower	0	0.0%	1	4.8%	5	23.8%	12	57.1%	3	14.3%
Energy Audit Practices	0	0.0%	2	9.5%	7	33.3%	7	33.3%	5	23.8%

General Workshop Outcomes Ratings	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree		No Opinion	
	N	%	N	%	N	%	N	%	N	%	N	%
Helped me better understand the issue	1	4.8%	0	0.0%	0	0.0%	6	28.6%	14	66.7%	0	0.0%
Provided information relevant to my work	0	0.0%	1	4.8%	1	4.8%	7	33.3%	11	52.4%	1	4.8%
Were based on current, up-to-date information	1	4.8%	0	0.0%	1	4.8%	4	19.0%	15	71.4%	0	0.0%
Addressed the topic identified in the title	1	4.8%	0	0.0%	0	0.0%	3	14.3%	17	81.0%	0	0.0%
Were well organized	1	4.8%	1	4.8%	0	0.0%	7	33.3%	12	57.1%	0	0.0%
Were easy to understand	0	0.0%	1	4.8%	0	0.0%	10	47.6%	10	47.6%	0	0.0%
Will be of great use to me	1	4.8%	1	4.8%	2	9.5%	3	14.3%	14	66.7%	0	0.0%

Plan to Use Info From Workshop	N	%
Yes	20	95.2%
No	1	4.8%

To what extent will you be able to teach content due to this workshop	N	%
Not at all	0	.0%
Very little	0	.0%
Somewhat	0	.0%
Quite a bit	13	61.9%
A great deal	8	38.1%

How Well Workshop Motivated	Poor		Fair		Good		Excellent	
	N	%	N	%	N	%	N	%
Motivated me to want to learn more	0	.0	0	0.0%	6	28.6%	15	71.4%
Motivated me to do something different	0	.0	1	4.8%	4	19.0%	16	76.2%

Workshop changed attitude about energy conservation	N	%
Yes	17	81.0%
No	4	19.0%

Stay in Huntsville Satisfactory	N	%
Yes	21	100.0%

Post-Workshop Exam Item Analysis 2015						
	No Resp	A	B	C	D	E
	%	%	%	%	%	%
Item 1	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Item 2	5.0%	0.0%	0.0%	0.0%	95.0%	0.0%
Item 3	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Item 4	5.0%	0.0%	95.0%	0.0%	0.0%	0.0%
Item 5	0.0%	0.0%	15.0%	10.0%	70.0%	5.0%
Item 6	0.0%	95.0%	5.0%	0.0%	0.0%	0.0%
Item 7	0.0%	10.0%	5.0%	85.0%	0.0%	0.0%
Item 8	0.0%	50.0%	45.0%	0.0%	5.0%	0.0%
Item 9	0.0%	55.0%	25.0%	20.0%	0.0%	0.0%
Item 10	0.0%	10.0%	20.0%	55.0%	15.0%	0.0%
Item 11	0.0%	30.0%	45.0%	5.0%	20.0%	0.0%
Item 12	0.0%	15.0%	5.0%	80.0%	0.0%	0.0%
Item 13	0.0%	15.0%	20.0%	25.0%	40.0%	0.0%
Item 14	0.0%	45.0%	55.0%	0.0%	0.0%	0.0%
Item 15	0.0%	5.0%	15.0%	75.0%	5.0%	0.0%

Post-Workshop Exam Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Exam Raw Score 2015	20	6	12	9.65	1.755
Exam Raw Score 2013	21	9	14	12.00	1.581

OPEN-ENDED ITEM RESPONSES

(Listed Verbatim)

Three most helpful things from workshop		
Resources	Speaker knowledge	Kits
All the information was new.	NO RESPONSE	NO RESPONSE
The kits.	The Powerpoints/SHSU edu/ASEEN website.	The tours.
Kits	Content	Access to teaching aids
The content information.	The hands on learning.	Seeing professionals in the field.
Geothermal energy.	Solar energy.	Field trip.
Wind energy.	The kits.	Tours
Kits	Tours	NO RESPONSE
Geothermal talk and information	Various kits	Tours
Kits to take back to students.	LSC Biotechnology Institute tour.	Geothermal talk and information.
All was helpful. I learned way more than I thought I would.	NO RESPONSE	NO RESPONSE
Kits for hands on learning	Tours	Industry professionals
Geothermics	Biofuel	Solar
Powerpoint and presentation availability (I can us them for class).	Kits.	Information (presentations).
Hearing from people working in the field.	Field trips.	Hands on with kits.
The kits	The biodiesel info	The pace
Kits	Tours	Website info
Kits to use in classroom.	Content on geothermal.	Content on solar.
Biofuels lecture.	Geothermal lecture.	Solar lecture from Janet.
Kits	Knowledge of things I never knew!	Field trips
Educational kits	Information on solar power	Information on geothermics

Most Liked About Workshop	Least Liked About Workshop
Geothermal	Biofuel
Tours and kits	Some of the talks were rather long.
Having the kits to back up what we learned and to take back with us to use in our classrooms.	Some of the presentors were a little dry in their delivery. Their info was good, but hard to pay attention.
Learning to make biodiesel	Having the same speaker twice
I enjoyed the geothermal lecture and the solar. Also the learning kits!	Nothing. I got something out of every part of the workshop!
I enjoyed the Geothermal energy presentation the most.	Could have used more hands on - a lot of information to cover.
Winde energy and putting together the kits.	Some of the content is not usable in the classroom.
The tours were great because it allowed us to see the applicability.	Day 4 was a lot of lecture at once.
I enjoyed the demonstrations on biodiesel because it is something I can bring to my school to demonstrate to students.	The fundamentals of electronics talk was of least importance/was the least effective for me personally.
Being able to take hands on kits back to my students to incorporate in everyday instruction.	Fundamentals of electronics.
Learning about the geothermal stuff.	The test!
Tours	Just certain unentertaining speakers. Sitting in a classroom all day.
I liked the geothermics talk. I felt like in a way I can use some of my HVAC skills and what I've learned to build a geoterm model in my class.	The talk on wind was very important but I feel like it could have been done more efficiently if based on the energy and not the school.
The overall knowledge gained. Actually doing hands-on activities.	Straight lectures. Hard to focus for 6 hours straight without hands on activities to apply the new information.
The presentations and the hands on.	I normally do not like to sit and listen, but these presentations were interesting, except for the green building one.
I really enjoyed the talk on biodiesel.	The part on Houston energy.
Tours and kits	The lecture on wind turbines was very boring in delivery.
Field trips.	Lectures were a little long.
The Geothermal was the best workshop/lecture we got.	The lady who was from the Houston something that talked on Thursday.
Field trip	Sitting in one place for LONG periods of time.
Information on solar power	Length of some of the presentations

Suggestions for Workshop Improvement
None, was great.
Have more people come and talk for less time.
For me, I wold have liked to have a copy of the Powerpoints in front of me to be able to take notes when the individuals were speaking.
Move it out one or more weeks. Its too soon after school was out.
More time for hands on during the designated talk times.
More hands on, otherwise great.
More usable content.
I would space the tours out so it breaks up the number of consecutive talks.
The information and speakers were excellent, but to improve, I would like to see more demonstrations and physical involvement throughout the days of participation.
Overall, a very beneficial workshop for me but I would love to see more university tours that are incorporating these topics such as LSC Biotechnology Institute tour.
Speakers who are more lively at this.
Develop a better balance of information delivery so we're not sitting in a classroom all day.
More out of our seat activities. Maybe even taking kits to the shop. Sitting in one chair all morning/afternoon makes a girl sleepy!
Mores hands on activities.
Cannot make any suggestions, well…maybe have Diet Coke available.
Great workshop, do more hands on activiites - have more demonstrations.
The workshop was great, but having examples of how it has been used in a classroom would be good.
More breaks.
Try to get your speakers to bring more examples that can be handled so we can see the product they are talking about.

How will you use information
Introducing renewable resources as Intro Ag Mechanics
Kits, powerpoints.
Will definitely use the Powerpoints and kits in my classes.
To educate my students in an area they normally do not get any exposure.
I plan to use the info in all of my classes because each one has a unit over renewable energy.
Plan to use in my advanced plant and soil and plan to incorporate a way to get solar energy to our greenhouse.
In the classroom, can use some of the winde energy and biofuels information.
Teaching Floral Design how we can use renewable energy for grown/manufacturing of plants and use in our green houses.
I plan to use this information to help introduce the topic, and create awareness for my middle school students. I would like to incorporate the hand's on kits that we received to maximiaze their learning. I also would like to implement a rain water harvest system for a green house in the future.
I plan to incorporate this information within my Intro to Ag, Floral design, and Wildlife classes as well as encourage my teaching partner, who did not attend this workshop, to use the resources and information that I received this week.
Putting in my curriculum if I'm teaching a class that involves this kind of material.
In my class curriculum, I will better be able to set up this unit of instruction because I understand it better. I also intend to try to implement some technologies at my school.
In advanced ag courses, especially mechanics, it would be very beneficial for the students to further understand energy; what it is, and how they use it. Plus, how it can be conserved. Train a preparted public speaker on renewable energy collection.
This all directly applies to my subject matter. Very excited to use these kis, lectures, powerpoints, etc.
Will incorporate into my curriculum.
When I cover renewable resources in my class, I will be able to give valuable, specific information.
All the information gathered this week will help m e to build a PBL project for my Environmental Systems class next year.
Hands on activities with the kits. Information about renewables incorporated into my lessons.
I plan to incorporate some of the kits in class, and use resources such as power points and other materials in my energy lesson plans.
I plan to imcorporate the knowledge of alternative energy methods into my Ecology Unit in Biology, and utilize the Kits by having groups of students put them to use. Plan to coordinate cross curriculum lessons with another teacher and utilize some of the information learned, and kits for project based learning activities.
Use of solar power in a project I plan to initiate in my curriculum.

How attitude has changed
Gives understanding of engineering practices needed
See how important it is.
Will try and look into incorporating some things in my life.
Some of it I felt like di not apply to me before
I will be more aware of my practices.
Think its great - just want to find a more cost effect way.
More knowledge of some stuff I've heard of before.
How can we use renewable energy to benefit us and our programs.
I feel more educated on the topics and more open to them.
Everyday things I can do to conserve energy.
Wanting to do geothermal.
Was already adament on E.C.
Thought I did good conserving energy - not any longer.
I can more easily see the importance/need/real world applications.
Making me place a higher priority to it.
More aware and see more value in it.
Going to push students to really take it seriously.
Even more committed to try and make a difference.
I place more importance on pursuing options for my home.

What you gained that was unexpected
The experience of the (I COULDN'T READ THIS WORD) and engineerin that is behind each subset area.
I didn't know all the resources we were going to gain.
Really gained a much better understanding of how all of the different systems work and can work together.
A new interest in biofuels
I gained an interest in something that I thought I knew something about. Turned out I didn't know as much as I thought. After attending this workshop I have a new drive and push to educate this topic even more.
Wanting to make a push for more communitites, schools, org. to go green and to find a cost effective way.
NO RESPONSE
I was not expecting to learn about so many different forms of renewable energy.
During the geothermal talk and the Sam Houston Electric Co-op talk, I found myself very intersted in what the speakers were saying. I did not expect to take away as much new information as I did from these two topics.
A whole new knowledge and wealth of information about energy as a whole!!
I didn't realize how much different kinds of renewable energy was already being used world wide. Also how many people are switch over to it.
More industrial knowledge from the source.
I not only gained great ideas for my classroom, but now I'm planning deer camp projects to really keep our bunk house green.
Thought it would be generally boring and uninformative. It was exactly the opposite.
I came to this workshop thinking I was going to be surrounded by a bunch of "Good ol' ag boys" and be bombarded with "tree hugger" philosophies. I will be the first to admit that I was wrong. Great job!
I gained a lot of knowledge on the various subjects and it has broadened my horizons to make me see the value of energy conservation.
I had no idea I would walk away with so many kits for my students to use in class next year.
Really, really cool hands on kits that will help students better understand concepts. Information to help with decisions in my personal life/ie: construction of my new home.
NO RESPONSE
Knowledge of methods I knew nothing about! Geothermal.

How was your stay
In my own house.
Huntsville is easy to get to & stay around.
Excited about content, models, and ready to implement in my classroom.
I enjoyed the workshop and its content.
I didn't stay here, I drove back and forth.
Each day was well spent learning and rediscovering ideas on energy.
I took away a lot of positive information. This past year was my first and I am teaching Energy & Natural Resources. I am excited to have new and applicable information.
Great workshop!
Nice hotel. Plenty of time in evenings to absorb information.
Everything was good.
Commuted each day. (not recommended!)
Learned a lot, educational kits are very interesting.