FInal Scientific/Technical Report for Clean Energy Trust

Federal Grant Number: DE-SC0005498

Recipient Account Number: SC0005498

DUNS Number: 962651068

A. MANAGEMENT REPORTING

Final Scientific/Technical Report

The Recipient must provide a concise narrative assessment of the status of work and include the following information and any other information identified under Special Instructions on the Federal Assistance Reporting Checklist:

1. The DOE award and report information

a.	The DOE Award Number:	DE-SC0005498
b.	Recipient Name:	Clean Energy Trust
c.	Project Title:	"Illinois Cleantech Ecosystem Consortium (ICE)" for the Department of Energy Innovation Ecosystem Development Initiative
d.	Project Director:	Amy Francetic, CEO, Clean Energy Trust
e.	Name of Submitting Official:	Jason Zielke, SVP and CTO, Clean Energy Trust
f.	Project Period:	October 1, 2010 – September 30, 2013
g.	Report Submission Date:	January 31, 2014
h.	Reporting Period:	October 1, 2010 – September 30, 2013

2. There are not any authorized distribution limitation notices, such as patentable material or protected data.

3. Provide an executive summary, which includes a discussion of: (1) how the research adds to the understanding of the area investigated; (2) the technical effectiveness and economic feasibility of the methods or techniques investigated or demonstrated; or (3) how the project is otherwise of benefit to the public. The discussion should be a minimum of one paragraph and written in terms understandable by an educated layman.

Executive Summary

The DoE Innovation Ecosystem Initiative was a gamechanger for Clean Energy Trust. The grant accelerated our development from a concept to a real company in 2010, seeding us with the capital to begin our mission to "accelerate the growth of clean energy businesses in the Midwest". Now three years later, we have scores and scores of partners which fund us through sponsorship donations to our programs, and we have played a key role in launching several new companies, and helping them acquire funding and reach their milestones.

In three years we have grown from two people to nine, now with an annual budget of over $3M.

We started with the following simple plan (verbatim from our original submission):

"The short-term objective of ICE is to fortify and enhance the platform for collaboration necessary to create a robust ecosystem for clean energy innovation. This includes launching a number of initiatives designed to source, evaluate, and launch new clean energy businesses derived from university research:

- Clean Energy Business Plan Competition – Illinois scientists and entrepreneurs compete for $100,000 in cash prizes and business services
- Clean Energy Boot Camp – New entrepreneurs receive immersion training and develop new networks
- Business Development Support – Sector-specific technical assistance to new entrepreneurs and start-up ventures; namely, market strategy, legal assistance, customer introductions, financial modeling, product strategy, etc.
- Regional Education and Awareness – Promotion of existing and new examples of regional energy innovation. Examples include an index of key actors, promotion of relevant funding sources, and celebration of momentum related to the cleantech ecosystem development."

Today, all of these programs are successful by all measures and these have provided us a growing platform that enables us to "launch, fund and grow" new cleantech companies, assist entrepreneurs and provide the clean energy advocacy support needed by Midwestern companies.

In this final report, we are proud to state this funding from DoE has helped to create over 283 clean energy jobs, and nearly $38M in funding through Q4, 2013, the official close out date of the performance period. When adding in the additional funding raised at the time of the this report, these companies have raised over $40M in follow on funding.

Not only that we exceeded our cost share of this grant with a greater than 100% match.

The jobs and follow in funding presented here through or programs illustrates real economic impact, and we were able to do this while growing our own financial stability.

Clean Energy Trust Jobs Report	Prior to surveys	2011 Q4	2012 Q2	2012 Q4	2013 Q1	2013 Q3	2013 Q4	Grand Total
Company 0	5		1					6
Company 01	15		4	5				24
Company 02	1		0		1			2
Company 03	3		0					3
Company 04	5		2	4	1			12
Company 05	1		0					1
Company 06	5		3	1				9
Company 07	10		3	2				15
Company 09	0		3		8			11
Company 10	3		2					5
Company 12		3	0		2			5
Company 13	3		0					3
Company 14	7		0	4	3		3	17
Company 15	5		2		1		2	10
Company 16					4			4
Company 17	2		0		1			3
Company 18	2		0					2
Company 19							8	10
Company 20	0		2					2
Company 21	0		4		2			6
Company 22	0		5		2		4	11
Company 23	2		0	1				3
Company 24	0		1					1
Company 25	0		2					2
Company 26	5		4	2				11
Company 27	3		2	8				13
Company 28				3				3
Company 29	0		1					1
Company 30	5		2					7
Company 31	3		0					3
Company 33	2		0					2
Company 35	8		4					12
Company 36	3		1	3				7
Company 37					1			1
Company 39				6			4	10
Company 40	1		0					1
Company 43				1				1
Company 44				8				8
Company 45	3						2	5
Company 46						2		2
Company 47	2						2	4
Company 48	5						4	9
Company 49							2	2
Company 52							2	2
Company 54	0		0					0
Company 55							2	2
Company 56	0		0					0
Company 57	4						2	6
Company 58							2	2
Company 59	1						1	2

Metric	FY11	FY12				FY13				GRAND TOTAL
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Commercialization Milesone										
Follow on Funding Raised ($M)	9.355	4.45	4.3523	1.6023	3.424	0	$ 7.27	$ 3.29	4	$ 37.75
Total Number of Ventures Started			5	1	0	0	5	0	0	11
Number of Jobs Created	117		48		48	26	2	2	40	283
Number of technologies licensed, revenues received	1	2	3	0	8	0	0	0	0	14
Number of patents and disclosures filed	1	6	3	0	21	0	10	0	0	41

Metric	FY11	FY12								GRAND TOTAL
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Entrpepreneurial Services Provided										
Total number of applicants to and awardees of competitions, and amounts awarded to each winner.	122	114	4	50	8	155	9	75	35	572
Total number of ventures served. Please enumerate the general business area, and the name of either the venture or the principal individuals.	86	13	40	8	18	25	17	25	30	262
Total number of technologies vetted.					11	2	26	4	30	73
Number of mentors/Executives In Residence (EIRs) placed with clients	100+		60	0	20	75	34	4	6	299

Metric	FY11	FY12								GRAND TOTAL
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Ecosystem Development										
Number, amount, and source of funds raised by ecosystem (diversity also noteworthy) **($M)**	0	3.24	0.51	0.1	0.68	0.63	0.58	0.00	0.20	5.93
Number and diversity of collaborations with other organizations	19	0	21	7	28	64	30	15	15	199
Number of industry partners	20	9	19	40	8	64	10	5	10	185
Number of new outreach activities launched	1	1	1	10	17	12	15	2	4	63
Target audience responses to outreach activities	0	127	68	141	193		855		3387	4771

Clean Energy Trust Funding Report	Cumulative			2011		2012		2013	
				Total		Total		Total	
Alias	Private	Public	TOTAL	Private	Public	Private	Public	Private	Public
Company 01	$ 8,000,000	$ 75,000	$ 8,075,000	$ 7,000,000	$ 75,000	$ 1,000,000	$ -	$ -	$ -
Company 02	$ 50,000	$ 755,000	$ 805,000	$ 30,000	$ 15,000	$ 20,000	$ 500,000	$ -	$ 240,000
Company 03	$ 10,000	$ -	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -
Company 04	$ 1,340,000	$ -	$ 1,340,000	$ 1,300,000	$ -	$ -	$ -	$ 40,000	$ -
Company 05	$ 300,000	$ 25,000	$ 325,000	$ 300,000	$ 25,000	$ -	$ -	$ -	$ -
Company 06	$ 2,050,000	$ -	$ 2,050,000	$ 600,000	$ -	$ 1,450,000	$ -	$ -	$ -
Company 07	$ 1,500,000	$ 183,500	$ 1,683,500	$ -	$ -	$ 1,500,000	$ 183,500	$ -	$ -
Company 08	$ 200,000	$ -	$ 200,000	$ -	$ -	$ 200,000	$ -	$ -	$ -
Company 09	$ 1,315,000	$ -	$ 1,315,000	$ -	$ -	$ 315,000	$ -	$ 1,000,000	$ -
Company 10	$ 1,355,000	$ -	$ 1,355,000	$ -	$ -	$ 1,080,000	$ -	$ 275,000	$ -
Company 11	$ 100,000	$ -	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -
Company 12	$ -	$ 100,000	$ 100,000	$ -	$ -	$ -	$ 100,000	$ -	$ -
Company 14	$ 150,000	$ 5,499,690	$ 5,649,690	$ -	$ -	$ 150,000	$ 100,000	$ -	$ 5,399,690
Company 15	$ 1,981,000	$ 15,000	$ 1,996,000	$ -	$ -	$ 662,000	$ 15,000	$ 1,319,000	$ -
Company 16	$ 9,200	$ -	$ 9,200	$ -	$ -	$ 9,200	$ -	$ -	$ -
Company 17	$ -	$ 400,000	$ 400,000	$ -	$ -	$ -	$ 100,000	$ -	$ 300,000
Company 18	$ 25,000	$ 15,000	$ 40,000	$ -	$ -	$ 25,000	$ 15,000	$ -	$ -
Company 19	$ 100,000	$ 300,000	$ 400,000	$ -	$ -	$ -	$ 300,000	$ 100,000	$ -
Company 20	$ 75,600	$ -	$ 75,600	$ -	$ -	$ 75,600	$ -	$ -	$ -
Company 21	$ 2,053,800	$ 346,200	$ 2,400,000	$ -	$ -	$ 939,000	$ 221,200	$ 1,114,800	$ 125,000
Company 22	$ 808,800	$ 300,000	$ 1,108,800	$ -	$ -	$ 8,800	$ -	$ 800,000	$ 300,000
Company 24	$ 200,000	$ -	$ 200,000	$ -	$ -	$ 200,000	$ -	$ -	$ -
Company 25	$ -	$ 18,000	$ 18,000	$ -	$ -	$ -	$ 18,000	$ -	$ -
Company 26	$ 2,500,000	$ -	$ 2,500,000	$ -	$ -	$ 2,000,000	$ -	$ 500,000	$ -
Company 27	$ 724,000	$ -	$ 724,000	$ -	$ -	$ 724,000	$ -	$ -	$ -
Company 28	$ 25,000	$ -	$ 25,000	$ -	$ -	$ 25,000	$ -	$ -	$ -
Company 29	$ 100,000	$ -	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -
Company 30	$ 3,000	$ -	$ 3,000	$ -	$ -	$ 3,000	$ -	$ -	$ -
Company 31	$ 100,000	$ -	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -
Company 32	$ 50,000	$ -	$ 50,000	$ -	$ -	$ 50,000	$ -	$ -	$ -
Company 33	$ 6,500	$ -	$ 6,500	$ -	$ -	$ 6,500	$ -	$ -	$ -
Company 34	$ 200,000	$ -	$ 200,000	$ -	$ -	$ 200,000	$ -	$ -	$ -
Company 35	$ 2,175,000	$ -	$ 2,175,000	$ -	$ -	$ 175,000	$ -	$ 2,000,000	$ -
Company 36	$ 275,000	$ -	$ 275,000	$ -	$ -	$ 275,000	$ -	$ -	$ -
Company 37	$ 17,500	$ -	$ 17,500	$ -	$ -	$ 10,000	$ -	$ 7,500	$ -
Company 38	$ -	$ 39,800	$ 39,800	$ -	$ -	$ -	$ 39,800	$ -	$ -
Company 39	$ 500,000	$ 920,000	$ 1,420,000	$ -	$ -	$ 250,000	$ 720,000	$ 250,000	$ 200,000
Company 41	$ 70,600	$ -	$ 70,600	$ -	$ -	$ -	$ -	$ 70,600	$ -
Company 45	$ -	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
Company 46	$ 10,000	$ 100,000	$ 110,000	$ -	$ -	$ -	$ -	$ 10,000	$ 100,000
Company 47	$ 85,000	$ -	$ 85,000	$ -	$ -	$ -	$ -	$ 85,000	$ -
Company 48	$ 490,000	$ -	$ 490,000	$ -	$ -	$ -	$ -	$ 490,000	$ -
Company 49	$ 65,000	$ -	$ 65,000	$ -	$ -	$ -	$ -	$ 65,000	$ -
Company 50	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000	$ -
Company 51	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000	$ -
Company 52	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000	$ -
Company 53	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000	$ -
Company 54	$ 500	$ -	$ 500	$ -	$ -	$ 500	$ -	$ -	$ -
Company 55	$ 100,000	$ -	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000	$ -
Company 58	$ 40,000	$ -	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000	$ -
Company 59	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000	$ -
Grand Total	$ 29,210,500	$ 9,192,190	$ 38,402,690	$ 9,240,000	$ 115,000	$ 11,653,600	$ 2,312,500	$ 8,316,900	$ 6,764,690

4. Provide a comparison of the actual accomplishments with the goals and objectives of the project.

The objectives identified in the ICE proposal include the following:

PHASE I OBJECTIVES (6 months): "Establish"

Objective I: Integrate assets, expertise and resources from diverse institutions

- From Q1 FY11 report: Clean Energy Trust created a steering committee with senior representatives from each of the Consortium member universities as well as representatives from key stakeholder groups. The first steering committee meeting was held on February 16th, 2011. The primary theme of the discussion focused on attracting greater corporate participation in the ICE Consortium. Suggestions included leveraging the national Innovation Ecosystem network to source new clean energy innovations for strategic corporate investors.
- From Q1 report FY11: CET identified critical assets that complement the needs of its client companies and accelerate the development of the ecosystem. For example, the Trust and other ICE consortium members including the Illinois Institute of Technology and the Illinois Science and Technology Coalition developed the its Illinois Smart Grid Regional Innovation Cluster program (ISGRIC,) which connects smart grid companies with commercialization opportunities. The Trust has already introduced seven of its client companies to this program. Each of these companies will have the opportunity to utilize space at Illinois Institute of Technology's University Technology Park, receive business development support though IIT's Stuart School of Business, technical support through IIT's Center for Electricity Innovation and commercialization support through Clean Energy Trust and O-H Community Partners.

Objective II: Expand offerings to statewide universities and invite other stakeholders to join the Consortium

- During Q1 and Q2 of FY11, the Trust solidified a relationship with the University of Illinois at Urbana Champaign, which committed to contribute additional cash and in-kind services as well as promote the Clean Energy Challenge throughout its networks. This new relationship significantly increases the breadth of resources available to CET companies, and expands the geographic reach of the organization. ICE also significantly increased private sector participation, including new consortium members, Arcelor Mittal, Acciona Energy, and TechAmerica which committed sponsorship funding for the Clean Energy Challenge.

Objective III: Accelerate the launch of the regional awareness and online education platform

During Phase I, CET began the development of a regional awareness and online education platform. The Trust launched a new version of its website which served as the preliminary version of the regional awareness and online education platform. To support this effort,

Northwestern University sponsored a partnership between Clean Energy Trust and the Medill School of Journalism at Northwestern. The Trust developed original content featuring "Rock Star" scientists from Argonne National Laboratory leveraging these journalism interns from Medill. This Rock Star content will go live on our website in FY 11. Specific content related to the consortium activities which includes written interviews with each of the Clean Energy Challenge finalist companies, was published on our website during this first year http://www.cleanenergytrust.org/blog/. Video and multimedia content celebrating the region's most esteemed clean energy researchers will complement this blog in the coming months.

For the initial development of the regional awareness and online education platform, the Trust created profiles of each of the Clean Energy Challenge Finalists and interviewed six researchers from Argonne National Lab. Clean Energy Challenge profiles include an interview with the company founder(s) and a video of their pitch at the Challenge. These profiles offer an intimate perspective into the entrepreneurial experience and clearly communicate the value provided by participating in the Clean Energy Challenge mentorship program.

The ultimate goal of the regional education and awareness campaign is to engage the broader community in the region's leading clean energy innovators—the Midwest's clean energy "rock stars." To that end, Clean Energy Trust has begun developing profiles of the region's most celebrated researchers, starting with subjects from ICE University Partners and Argonne National Lab. The first five of these profiles have been completed; subjects include Steve Ciatti (Argonne Transportation Research Division), Seth Darling (Argonne Center for Nanoscale Materials), Seth Snyder (Process Technology Division at Argonne), Debrah Clayton (Director of Technology Transfer for Argonne), and Eric Isaacs (Director, Argonne). "Rock star" profiles will be released online after the Challenge finalist profiles have been published, however, these videos can be made available upon request.

In addition to multimedia content the Trust began developing a sophisticated open-source database to track and analyze all of the economic activity across the ecosystem starting with companies, organizations, projects and, eventually, funding and capital sources. The purpose of this initiative is to provide an interactive map of the clean energy innovation ecosystem, with a long-term goal of creating a robust framework for analyzing economic data across the region and enabling social connections among technology buyers and sellers. The Trust formed a partnership with several trade groups, including the Initiative for Sustainability and Energy at Northwestern to populate this database, and also hired a team of 6 interns this summer to work on this tool. The student interns came from Brown University and the University of Chicago Booth School of Business, other interns were recently graduated from George Washington University, University of Vermont and Northwestern University.

This summer the Trust partnered with the University of Illinois at Chicago's Summer Institute of Sustainability and Energy to co-produce the inaugural UIC Summer Institute on Sustainability and Energy (SISE), a week long intensive program from August 7th - 15th 2011, bringing interdisciplinary teams of students together to find innovative solutions to energy and sustainability challenges. Over 50 students were competitively selected from a pool of 70+ applicants to participate in this program. These students, primarily at the graduate level, come from a number of universities in the Chicago area, with backgrounds ranging from engineering, environmental science and business to public policy. They experienced a range of activities during the week, including lectures, panel discussions and tours of energy sites. Applying the scientific, policy, and business knowledge that they acquired during the week from leading experts, each student team worked on a project falling into one of four general categories

- Water management
- Building technologies
- Electric vehicles
- Energy efficiency/smart grid

The teams worked on innovative solutions in technology, policy and entrepreneurship within the category to which they are assigned.

Objective IV: Launch the Business Plan Competition and Boot Camp

From Q1 FY11 Report

The first stage of the ICE Business Plan Competition, now known as the Clean Energy Challenge, was public outreach. The Trust plans to leverage the strong support from the founding ICE consortium members to attract additional financial and in-kind support from new consortium members. These financial contributions will enable the Trust to offer an additional $30,000 in cash prizes to support a new prize for the best business "concept." Since eligibility was restricted to Illinois companies, it was important to attract interest from across the state as to attract the strongest applicants for the $130,000 in cash prizes. In sum 72 companies applied to the Clean Energy Challenge. In January, 2011, 15 finalists will be selected to present at the final event on March 3rd. Soon after selection, each of the teams will meet with Clean Energy Trust staff to assess their unique needs and to prepare for the mentoring process. The mentoring process for the Clean Energy Challenge officially began on February 3rd, 2011, at the Clean Energy Challenge Kickoff Reception. At the Kickoff Reception, each of the companies will provide a fast-pitch. We matched each finalist with two mentors who will helped them craft their final pitch. In sum, 32 mentors and 19 judges volunteered to support the Challenge.

From Q2 FY11 Report

The first stage of the ICE Business Plan Competition, now known as the Clean Energy Challenge, was held on March 3rd, 2011. The Trust leveraged the strong support from the founding ICE consortium members to attract additional financial and in-kind support from new consortium members. These financial contributions enabled the Trust to offer an additional $30,000 cash prize as well as $10,000 for a technology-specific prize. The $10,000 prize was awarded to the best technology in the "renewables" category, while the concept prize was awarded to a student, researcher, or entrepreneur for the creation of a new business based on the most innovative clean energy concept.

A total of 72 applications were submitted to the Clean Energy Challenge. (45) were in the "early stage" track and (27) in the "concept stage" track, including technologies ranging across multiple industry verticals: (14) energy efficiency, (7) Solar, (7) wind, (10) biofuels, (19) smart grid/IT, (9) next-generation transportation, (4) other. More important, there were a significant number of university affiliated applicants. In fact, (26) applications were from ICE consortium universities.

In January 2011, 15 finalists (9 early stage companies & 6 concepts) were selected to present at the final event on March 3rd, 2011 at the Midwest Energy Forum. Once finalists were notified, each of the teams met with Clean Energy Trust staff to assess their unique needs and to prepare for the mentoring process. The table below summarizes the finalists for the

Challenge:

Clean Urban Energy	Smart Grid	"Buildings as batteries" thermal energy storage	$75,000 Clean Energy Challenge Grand Prize
NextGen Solar	Renewables	Organic-inorganic hybrid thin film for improved solar cell efficiency	$25,000 for 2nd place early stage company award
Thermal Conservation Technologies	Energy Efficiency	Ultra-high R-Value vacuum insulated panel for refrigerated trucking	$30,000 for transformational concept award
Lotus Creative Innovations	Wind	Scaled-down utility scale wind turbine for workforce training	$10,000 Invenergy Renewables Prize
Agentis	Smart Grid	Energy consumption analytics platform for C&I customers	Early stage finalist
Energy Recovery Technologies	Energy Efficiency	High efficiency energy recovery HVAC system	Early stage finalist
Intelligent Generation	Smart Grid	Cloud-based platform to optimize use of distributed energy systems	Early stage finalist
Power2Switch	Smart Grid	Web-based electricity cost analytics tool	Early stage finalist
PV Power	Renewables	Web-based PV system design tool	Early stage finalist
Root3 Technologies	Energy Efficiency	Optimization software for district energy systems	Early stage finalist
SolXorce	Renewables	Solar thermal receivers for distributed energy systems	Early stage finalist
General Biomass	Biofuels	Industrial enzymes for biofuels	Concept stage finalist
Orbeon Technologies	Renewables	Novel design for building integrated wind turbine	Concept stage finalist
S2E Solar	Renewables	High-efficiency "window-electrode" for organic thin-film PV	Concept stage finalist
Sun Phocus	Renewables	Holographic concentrating film for building-integrated solar	Concept stage finalist

The mentoring process for the Clean Energy Challenge officially began on February 3rd, 2011, at the Clean Energy Challenge Kickoff Reception, where each of the companies gave a fast-pitch overview of their technology. Early stage finalists were matched with mentors with significant experience fundraising for venture-backed technology companies. Early stage finalists were asked to meet with their mentors at least twice for a total of 6 hours. Similarly, concept stage finalists were paired with two mentors. However, unlike the early stage finalists who focused on fundraising strategy, concept finalists worked with their mentors in an immersive program to vet their business plan and develop a revised go-to-market strategy.

The mentoring process proved extremely valuable for all of the participants in the Clean Energy Challenge. In the initial planning stages for the program, the goal was to have one mentor for each of the 8-10 finalists. However, given the additional $40,000 in prize money,

and strong interest from additional mentors, the Trust was able to recruit an additional 17 mentors and increase the number of companies presenting at the challenge from 8 to 15. In sum, 32 mentors participated in this program, providing over 150 hours of immersive coaching for the finalists. The quality of the presentations increased dramatically, leading to material progress for the majority of the participating companies. With 22 judges from industry leading venture funds and corporate venture groups, each presenting company had to opportunity to pitch to a diverse group of investors.

Overall, the Clean Energy Challenge was an overwhelming success, drawing over $210,000 in revenue from sponsorships and ticket sales. Over 300 people attended, including Chicago's Mayor-Elect, Rahm Emanuel, as well as Illinois Governor, Pat Quinn. Of the 15 finalists: 9 have had follow-up term sheet negotiations with investors who were either judges or attendees at the Challenge; 2 have secured agreements to begin pilot programs with a local investor-owned utility; 2 have joined exclusive technology incubator programs; and 1 concept finalist was selected to present at the National MIT Clean Energy Prize.

Objective V: Expand the level of business development services currently provided by Clean Energy Trust

Prior to the award of the Innovation Ecosystem Grant, Clean Energy Trust's business development support was limited by the availability of its staff and a small group of external advisors. Since September 2010, ICE has recruited over 20 new mentors for their companies--each has deep domain expertise. Clean Energy Trust has leveraged this growing network to accomplish two of its long-term objectives: business development support for clients, and as a trusted source of information for its ongoing regional education and awareness campaign. For example, on November 15th, 2010, Clean Energy Trust and fellow ICE consortium member the Illinois Technology Association organized a clean energy themed "Monday Morning Meeting." For this event, two companies were matched with mentors to prepare a fifteen-minute pitch, which was presented to a panel of industry experts--sourced from the Clean Energy Trust's mentor network—and a public audience of investors, entrepreneurs, and technology

The Trust has also added additional mentoring capacity through its participation in three new programs: (1) the SBA Entrepreneurship Mentoring Corps (EMC); the (2) Northwestern University Venture Labs; and (3) the University of Chicago Entrepreneurship Internship Program (EIP).

- The SBA EMC is a $100,000 grant program to provide 10 months of mentorship to at least 20 different DOE & ARPA-E funded start-ups. To date, the Trust has been assigned 4 companies to participate in the program. Each has been matched with a mentor and will receive 1-2 hours per week of counsel for the duration of the program.
- Northwestern University Venture Labs is an experiential learning program that gives MBA students an opportunity to work directly with entrepreneurs to evaluate fundraising strategies and source investment capital. This program provides the Trust with one MBA intern who has worked to identify financial resources for companies participating in its mentorship programs
- The University of Chicago EIP Program provides financial support for MBA students to work with start-ups. Through this program, the Trust will work with one MBA intern to further develop its mentorship curriculum

These programs have provided additional resources that enable the Trust to expand its mentorship offerings. Furthermore the broad regional scope of the SBA EMC program provides an opportunity for the Trust to increase its geographic reach by accelerating the development relationships with companies and mentors throughout the Midwest.
Lastly, to improve the commercial opportunities for the region's innovators, the Trust has been developing a pipeline of large corporate customers that have demonstrated an interest in retaining the Trust as a emerging technology consultant. These relationships will provide technology providers with greater exposure to large, forward-thinking corporate customers who may invest in or develop pilot programs for new technologies. At this point, the Trust is finalizing an agreement with one large real-estate developer and is negotiating with several other corporate clients

PHASE II OBJECTIVES (30 months): "Grow & Sustain"

Objective I: Raise additional funds from foundations and other private sources to support ICE programs

From Q3 FY 11 Report:
Since the conclusion of Q1 2011, the Clean Energy Trust begun budgetary planning and fundraising efforts to support the Clean Energy Challenge 2012 and other ICE programming.
The inaugural Clean Energy Challenge (2011) offered $140,000 cash to eligible start-ups competing in two tracks: early stage companies and concepts. In the first track, early-stage companies competed for $100,000 in cash. Candidates were young companies that had completed a proof of concept and were ready to raise their first round of institutional investment. Eligibility was restricted to companies that had raised less than $1M in outside investment. The $30,000 concept prize was offered to a researcher, student, or independent entrepreneur with an innovative business concept. Eligibility for this prize was restricted to companies that had not previously received investment capital. The goal for the prize was to highlight a promising new technology, showcase the opportunity to angel investors, and provide the innovator with seed capital to encourage them to pursue the concept further. An additional $10,000 category prize, sponsored by Invenergy, was offered to the best renewable energy innovation in either track.
Given the overwhelming success of this year's event, the Trust has committed to raising the amount of awarded funds to $200,000 (from $140,000). The Clean Energy Challenge 2012 will continue to offer prize money for companies as well as concept applications.

In addition to corporate outreach, the Trust is preparing to submit an application to the Funding Opportunity Announcement that was recently released by the Department of Energy Office of Renewable Energy & Energy Efficiency to lead the development of a National Clean Energy Business Creation Competition. The Trust is currently in advanced discussions for a partnership with Next Energy, a Michigan-based clean energy accelerator, as well as several of the top research universities in the region including: University of Wisconsin at Madison, the Wisconsin University System, University of Minnesota, Notre Dame University, Purdue and Missouri University. University outreach accomplishes two primary goals that support the activities of the Clean Energy Challenge. First, developing strong relationships with engineering & technology entrepreneurship centers helps build a strong communications channel for direct engagement with the student & research communities. This is critical in the early stages of the program during the application solicitation period. The second component

of the University engagement strategy is to build a relationship with the offices of the vice presidents of research. While this requirement increases the complexity of the sales cycle, it brings additional security to the partnership between the Trust and the university, since sponsorship originates at the highest level of the university administration.

In a parallel effort to the recent fundraising activities for the Clean Energy Challenge, the Trust has extended its fundraising outreach to support the development of the regional education and awareness activities as proposed for the DOE 356 program. The most significant funding requirements are associated with the development of the Clean Energy Inventory—an efficient web-based mechanism for measuring the economic and environmental impact of the clean technology industry in the Midwest. Clean Energy Trust is seeking $50,000 from the Illinois Department of Commerce and Economic Opportunity to contribute to the funding of the "Inventory." Furthermore, the Trust has identified several foundations that fund economic and policy research comparable to the inventory exercise. As an example, the Trust has submitted a proposal to the Tellabs Foundation requesting $150,000 to fund the Inventory. The application is currently under review. (We found out in August that we did not receive this grant).

From Q4 FY11 Report:
The Trust has begun to ramp-up fundraising efforts for the Clean Energy Challenge 2012 as well as the Clean Energy Exchange (Formerly the "Inventory"). To date, the Trust has received $37,500 in commitments for Challenge sponsorship (Planet Solar, Invenergy, U.K. Trade Office, & Lime Energy). Another $120,000 is in the pipeline to support the ongoing development of the Clean Energy Exchange (Illinois Institute of Rural Affairs at Western Illinois University, Illinois Department of Commerce & Economic Opportunity, Joyce Foundation and McGladrey

Additionally the Clean Energy Trust recently added a new Board of Directors, Susan Hassan, partner at the law firm, Skadden, Arps, Slate, Meagher & Flom. Each of the 8 directors makes a significant financial donation to the Clean Energy Trust upon joining the board.

Additionally, CET added a number of new advisors this quarter to its Advisory Board. Each of these advisors makes an annual contribution to the Clean Energy Trust and assists CET with company mentoring, industry connections and fund raising. There are now 32 advisory board members.

The Trust was recently selected as one of six regional administrators for the Department of Energy's first-ever National Business Creation Competition for University Students. This exciting new program builds upon last year's Clean Energy Challenge with $100,000 in additional funding awarded to Challenge finalists. Furthermore, the Trust has solidified partnerships with universities and cleantech accelerators throughout the Midwest. This network of partners will dramatically increase the Trust's regional reach, by broadening marketing and outreach activities, and aiding in the development of a regional network of mentors and corporate sponsors. Additionally, the Trust recently concluded the Entrepreneurship Mentoring Corps, a pilot program launched through the Start-up America Initiative, which helped connect 19 companies with mentorship and business coaching. This program has already led to tangible results. As an example, one of the mentors provided financial planning and coaching, which helped the client

company secure a $1.5M loan for a new R&D and manufacturing facility.

The Trust is continuing the development and marketing effort for the Proof of Concept Fund. Initial marketing activities include, meetings with utility executives, high net-worth individuals, foundations & corporations. Final authorization from the Board of Directors has been approved for an initial funding commitment. In total, the Trust has soft-circled $1.5M in contributions.

From FY12 Report:

In total, CET raised $1.29M over the FY2012 reporting period. This includes, but is not limited to:

- $210,000 in private sector sponsorship to support the Clean Energy Challenge 2012
- $170,000 in new sponsorship for the Clean Energy Challenge 2013
- $125,000 from private foundation to support the Trust's policy and advocacy work
- More than $150,000 in consulting and commercialization service revenues
- New commitments for consulting contracts for roughly $100,000
- $100,000 from Western Illinois University to support the development of the Clean Energy Exchange.
- $200,000 in private contributions
- Extension of SBA sub-contract for $30k beyond 2 year performance period to establish Illinois Smart Grid Regional Innovation Cluster

From FY13 Report:

In total, CET raised $1.475M over the FY2013 reporting period. This includes, but is not limited to:

- $550,000 in total sponsorship for Clean Energy Challenge 2013
- $200,000 in total sponsorship for Clean Energy Challenge 2014
- $125,000 awarded through the Joyce Foundation for Policy and Advocacy work
- $600,000 of consulting contracts in the pipeline

These new commitments are helping us to expand and strengthen our core programs affiliated with the DOE 356 Innovation Ecosystem grant, including

- Annual Clean Energy Challenge
- Regional Education and Awareness
- Business development support
- Bootcamp and mentoring

Objective II: Identify additional financial assistance in the form of grants, loans and equity investments to support the new clean energy businesses that result from programming

From FY11 Report:
Through the initial development of the Innovation Ecosystem Development programming, the Trust identified several significant barriers inhibiting further progress: (1) A dearth of information on the actors in the local clean economy; (2) A severe lack of early-stage capital: (3) A communication gap between large corporations and the

region's innovators; (4) And an absence of leadership on critical policy issues from local policy makers.

1. Having applied for multiple government funding opportunities, it became evident that there was no central repository of information identifying the size and scope of the ecosystem. This was a common problem for policymakers, as they had little awareness of the breadth and maturity of the clean energy community in the Midwest. To resolve this deficiency, the Trust began developing the Clean Energy Inventory: an interactive web-based platform that assembles all of the stakeholders of the clean technology cluster. The stakeholders are individuals and organizations that are working to solve environmental challenges through innovation and technology, public policy, or the implementation of environmental best practices into their existing business. The services of this platform will be offered to its users for free.
The vision for this project is to develop the network of stakeholders that are working to solve issues of the environment in Illinois and the Midwest by strengthening economic and social ties for all of the stakeholders and providing an open forum for engagement. Additionally, this platform will promote regional education and awareness of the clean technology industry through interactive news feeds that will allow users to disseminate academic and other educational materials.
There are two approaches CET will take to measure the impact this cluster is having on the economy and the environment. A third approach will address how the platform will promote professional education.

The first approach is to discover the quantity and the quality of individuals and organizations, all of which are working on issues of the environment through innovation of clean technology and/or the implementation of "best practices" for running an environmentally conscious company. The Inventory is intended to measure economic indicators that will assess the vital signs of the clean technology cluster. It will achieve this through the following data products: (1) cluster maps portraying the number and types of companies that comprise the clean energy ecosystem; (2) Revenues; (3) Number of Employees; (4) and Funding Flows.
The second approach is to assess the quantitative impact clean technology installations have on the regional economy and the environment. The physical assets data will allow CET and all other users to monitor: (1) the number of existing renewable energy installations, (2) the quantity of installed capacity to generate electricity from renewable sources, and (3) the estimated amount of savings in both dollars and electricity. Also featured will be a suitability study for each renewable energy source in order to make it easier for the individuals or organizations to evaluate their opportunity to install capacity from renewable energy products. The collection of both quantitative and qualitative data will support a series of reports that CET will make to address the vital signs of the clean technology cluster. Additionally, the interactive platform is seen as an opportunity to raise the regional level of education as it pertains to the clean technology industry and the environment. Keeping the labor force informed of the growing opportunities in renewable energy is imperative if we expect to have a skilled labor force supporting an imminently growing industry. In this third approach, we will create a data product similar to a news- feed; this interactive data product will push relevant clean technology and green economy job postings, articles, webinars, workforce development opportunities, as well as manage the user's connections to other individuals and organizations (pushing any updates of their connections to one comprehensive data product).

The Inventory project is an effort to facilitate connections within the ecosystem, resolving one of the more basic deficiencies within the ecosystem; yet, another substantial barrier remains:

access to early- stage risk capital. Midwest researchers at local universities and labs have been successful at winning federal energy research dollars and, according to the Brookings Institute, have helped make Chicago and Champaign two of the top 20 cities best positioned for energy innovation leadership. Despite these strengths, many inventors have a difficult time attracting the high-risk, pre-seed capital necessary to develop prototypes and prove the commercial potential of their innovations.
In an attempt to alleviate this deficiency of early-stage risk capital, Clean Energy Trust is leading the formation of a new financing vehicle: The Clean Technology Proof of Concept Fund (POC Fund). Managed by Clean Energy Trust, the POC Fund is designed to support inventors and accelerate the commercialization of clean energy technologies in the Midwest by providing pre-seed stage capital and mentorship resources to inventors and entrepreneurs attempting to cross “the valley of death” between the lab and the commercial marketplace. Clean Energy Trust will leverage the expertise of its advisory board to evaluate proposals with the greatest potential impact in the Midwest clean energy community. CET aims to raise $5mm into the fund and $1mm to cover the operating expenses to perform due diligence and to track investments.

Once technologies have been “de-risked” through the POC Fund, they are still challenged by barriers to entry. One of the more common hurdles encountered by local clean energy innovators was the requirement that technologies must be de-risked before investors or potential acquirers can begin to justify the infusion of investment or growth capital. Innovators commonly cited the absence of willing users for novel technologies. This problem is particularly acute with companies that have completed the technology development phase, but have yet to draw revenues from live customers. This dilemma presented an opportunity for the Trust to serve as a neutral intermediary to facilitate dialogue between risk- averse investors and technologies that have inherent value but are dying on the vine. This entails developing a pipeline of consulting projects with local Fortune 500 companies to advise them on market trends in clean technology, connect serve as a connection point to industry experts, and facilitate the development of pilot projects with

Clean Energy Trust’s client companies.
To date the Trust has begun the initial stages of consulting projects with several large corporations including GTL Resources, Commonwealth Edison, General Motors, Skidmore Owings & Meryl, Jones Lang LaSalle, and Kraft Foods. As most of these projects are still in the negotiation stage, most have not contributed additional revenues. However, several projects may result in substantial opportunities for Clean Energy Trust and its client companies. For example, through the engagement with Kraft Foods, the Trust has developed a process for evaluating technologies for pilot deployments.

The process begins with evaluating the client’s technology needs & opportunities, identified through discussions with the client’s senior engineering staff. The resulting feedback serves as the basis for a request for a facilitated proposal process, where the Trust solicits participation from technology providers throughout the ecosystem. These proposals are subsequently collected and packaged into a menu of technology options for the client company. The client is then free to choose among the proposals and would work with the Trust to craft a deployment plan with pre-defined technical and financial milestones. The vision is that these activities will provide two distinct benefits to the ecosystem: (1) accelerate the adoption of clean technologies leveraging the scale of large Fortune 500 companies’ supply chains; and (2) a mechanism for de-risking unproven technologies that prepares young companies for a risk-averse marketplace.

Finally, the Trust has collaborated with key stakeholders to inform the development of a policy framework that would foster the growth of a thriving clean energy economy in the

region. For example, Amy Francetic (committee chair) & Winston Lazar (committee staff) served as consultants to Energy, Environment, & Public Spaces Committee for Mayor-Elect Rahm Emmanuel's Transition Team. For 10- weeks beginning in early March, 2011, Amy & Winston worked with a group of thought leaders from throughout the City to create a strategy for the newly elected Mayor's to recapture Chicago's status as one of the Nation's leading sustainable cities.

In **FY2012**, CET has increased its total commitments to our Innovation Ecosystem Programming according to the following:

- $210,000 in private-sector sponsorship for the Clean Energy Challenge 2012
- Established strong consulting and sponsorship partnership with McCaffery Interests
- Participated as a commercialization partner with Argonne, Johnson Controls, A123 Systems, Dow & Applied Materials in the DOE Energy Storage Hub Application
- Partnered with University of Illinois at Chicago, Northwestern University, University of Chicago, Illinois Institute of Technology, University of Illinois at Urbana-Champaign and Argonne National Laboratory on their IGERT proposal - NSF IGERT (Integrative Graduate Education and Research Traineeship) proposal called Storage for Energy Research Graduate Experience (SERGE), which proposes a multi-university and national laboratory collaborative education and research program.
- Developed strong leadership partnership with United Airlines, Boeing, UOP/Honeywell, City of Chicago Department of Aviation to co-found the creation of MASBI (Midwest Aviation Sustainable Biofuels Initiative): www.masbi.org
- Leveraged Clean Energy Alliance consulting funding to provide commercialization support to three companies
- Active leadership participant to an invitation only Corporate Sustainability roundtable with Executives from United Airlines, Boeing, McDonalds, Edelman,
- The Trust has launched new partnerships with two Chicago-based organizations (Chicago Innovation Mentors & Energy Foundry) to develop a year-round mentorship program, which will support the participants in the Challenge, but will also provide opportunities for mentorship support to non-Challenge participants throughout the remainder of the year.
- Lead grant partner for i6 application
- Designed and launched the Clean Energy Tech Showcase, an annual event, which is intended to feature individual technologies in search of commercialization support.
- Awarded $360,000 from DOE to administer the Midwest regional competition as part of the National Clean Energy Business Plan Competition
- Raised $30,000 from university and private sector sponsors to provide additional funding opportunities for companies participating in the Challenge 2012
- Developed partnerships with 56 universities and technology accelerators to expand the Clean Energy Challenge 2012 into 8 states with an additional focus on university student teams
- $100,000 in new sponsorship for the Clean Energy Exchange and Regional Education and Awareness programs
- New commitments for consulting contracts over $100,000

- New substantial commitments from Advanced Energy Economy and the Energy Foundation to support policy and advocacy activities pertinent to clean energy entrepreneurs
- Launched Clean Energy Trust newsletter and improved campaign tracking

In **FY2013**, CET has increased its total commitments to our Innovation Ecosystem Programming according to the following:

- During Q1, The Trust was announced as a fellow awardee in the $120M DOE Energy Storage Hub, partnering with Argonne, LBNL, PNNL, Sandia, SLAC, University of Michigan, University of Illinois, Northwestern University, University of Chicago and 3 industry partners: Johnson Controls, Dow Chemical and Applied Materials. http://www.jcesr.org/?page_id=1500
- During Q1 and Q2, CET also built a team to pursue a $400,000 federal funding contracting opportunity through the Transportation Research Board. Airport Cooperative Research Program (ACRP) Project 01-24, "Renewable Energy as an Airport Revenue Source." Our partners on this include Delta Aviation, Ohio Aerospace Institute, and Metron Aviation. CET was not awarded this funding opportunity.
- During Q2, CET submitted an EPA STAR grant application, a $2.5M funding opportunity. CET was not awarded this funding opportunity.
- In Q4, CET was announced as an industry participant for the Federal Aviation Administration Alternative Fuels Center of Excellence Program.
- Finalizing an innovation marketplace development opportunity with the DoD ($550,000).
- Funding raising for our Clean Energy Impact Fund, which we plan to launch in 2014.
- Working to develop new revenue opportunities through ongoing innovation consulting, particularly to engage large companies.

Objective III: ***Identify missing pieces of the ecosystem and create new programming to mitigate them***

From FY11 Report:

One of the primary challenges of ecosystem development has been increasing engagement with many of the large corporations in the region that would be important potential strategic investors or first customers for the emerging businesses in the cluster. To that end Clean Energy Trust has been increasing its focus on developing programming to engage this critical set of stakeholders. As an example the Trust recently organized a series of roundtable discussions, bringing together business leaders, entrepreneurs, and policymakers to promote greater connectivity among local clean energy stakeholders. The series began on 8/4/11 with an honored guest, Acting Assistant Secretary Dr. Henry Kelly of the Department of Energy's Office of Energy Efficiency and Renewable Energy. More than 30 business leaders joined for an in depth discussion about government's role in energy regulation, research and deployment. The second roundtable discussion focused specifically on the role of large corporations in the development and deployment of renewable energy and sustainable technologies. The

Trust worked with United Airlines to lead this discussion among more than a dozen senior officers from local Fortune 500 companies. The third and final roundtable in the series featured honored guest, the Secretary of the Department of Energy, Dr. Stephen Chu. Building on the theme of the previous discussions in the series, the purpose of the meeting was to educate the Secretary about the barriers to development and deployment of innovative clean technologies.

While business roundtables provide a valuable forum for discussion, they rarely result in actionable policy initiatives. However, the lessons gathered from these discussions serve as the foundation for CET's future education, awareness, and policy activities. Trust is continuing development of a regional advocacy group that will create a common policy agenda for the clean energy companies large and small throughout the Midwest. To that end, a national network of energy accelerators and policy groups selected the Trust to be one of three organizations in the country to launch a regionally focused policy and advocacy group for cleantech companies.

Clean Energy Trust co-produced the inaugural Summer Institute on Sustainability and Energy (SISE) at University of Illinois at Chicago. The institute was a week-long, intensive program from August 7th – 15th, bringing interdisciplinary teams of students together to find innovative solutions to energy and sustainability challenges. Over 50 students were competitively selected from a pool of more than 70 applicants to participate in this program. These students, primarily at the graduate level, came from a number of universities in the Chicago area, with backgrounds ranging from engineering, environmental science and business to public policy and urban planning.

Students experienced a range of activities during the week, including lectures, panel discussions and tours of energy sites. Guest speakers over the course of the week included Thomas Halsey of ExxonMobil, Mark Peters of Argonne National Lab, and Peter Haas from the Center for Neighborhood Technology, as well as professors from Northwestern University, Illinois Institute of Technology, University of Chicago, Stanford University and Penn State University. George Crabtree of UIC and Argonne National Lab spearheaded the institute.

Applying the scientific, policy, and business knowledge that they acquire during the week from leading experts, each student team also worked on a project falling into one of four general categories: water management, building retrofitting and energy efficiency, smart grid and electric vehicles. Teams were tasked with finding an innovative solution to a problem within their category based on a new technology, policy or entrepreneurial approach.

CET ran a mentoring program for student teams on the afternoon of August 11th. Nineteen industry experts met with the student teams to discuss their proposed solutions and provide feedback and guidance. Mentors came from a variety of organizations, including ComEd, the Center for Neighborhood Technology, Shaw Environmental, the Clinton Climate Initiative, and law firm Sidley Austin. It was a great opportunity for students to make contacts and benefit from the mentors' real-world experience. Both students and mentors were very positive about the program, and student projects were much stronger based on the advice they received.

A networking reception followed the formal mentoring program. Students, mentors and other industry experts had the opportunity to talk further about the challenges and opportunities in energy and sustainability. Guest speaker Karen Weigert, Chief Sustainability Officer of the City of Chicago, also attended the event. She spoke to attendees about the importance of innovation in the areas of sustainability and energy, and the critical need for students to be engaged in this kind of work.

SISE's purpose was to educate students through an interdisciplinary, "big picture" approach to current issues in sustainability and energy. As future decision-makers, students drew important lessons from discussion and mentorship on the breadth of topics affecting our transition from traditional fossil fuels to clean energy and sustainable development.

Beyond regional education and awareness programming, the Trust is also working to develop strategic partnerships with industry partners that could aid in the commercialization of clean energy innovations by providing a venue for testing technologies early on in the development cycle. For example, the Trust was recently awarded a consulting contract with industry leading architects and real estate developers to create a platform for testing and integrating new technologies into a net-energy-positive community development in Chicago.

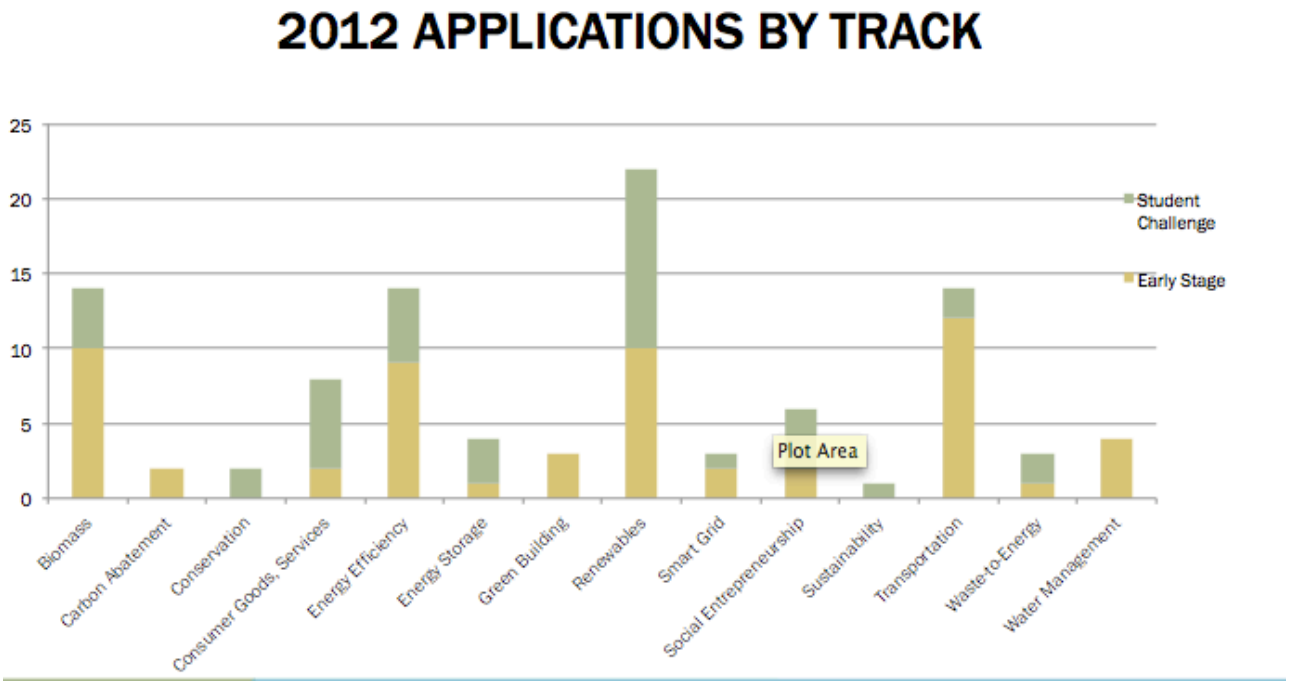
Finally, the Trust is continuing the development of the Clean Energy Exchange (formerly the Clean Energy Inventory) that will serve as a virtual community for clean energy entrepreneurs, businesses, and investors. To date, the Trust has completed the first phase of development for the Exchange. This was made possible by new funding commitments through corporate sponsorship and grants from philanthropic partners. Additionally, the Trust has partnered with the Illinois Department of Commerce and Economic Opportunity and the Ilinois Institute of Rural Affairs at Western Illinois University which have each provided funding to support the development of sophisticated analytical functionality. In total, the Trust has raised $20,000 outside funding for the Clean Energy Exchange with an anticipated additional $120,000 in the pipeline. The Exchange is scheduled to launch on November 1st, 2011.

Clean Energy Challenge

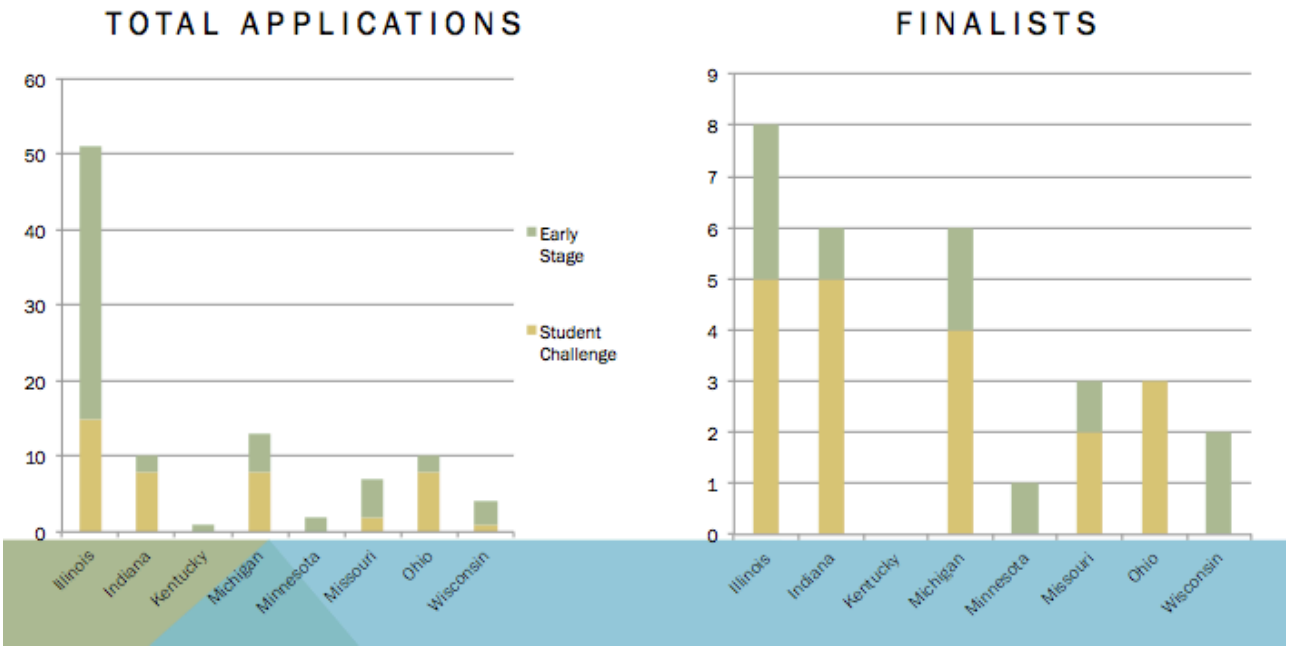
Clean Energy Challenge 2012

The FY2012 marked the second year of the Clean Energy Challenge business competition. This year's program expanded through the Trust's participation in the Department of Energy's National Clean Energy Business Competition program. This program offered an additional $120,000 in funding to support a re-launched competition with an additional track for student-run start-ups. In total, the Clean Energy Challenge offered over $250,000 in cash prizes, plus services to the region's leading clean technology start-ups.

The Clean Energy Challenge was held on February 29th – March 1st, 2012. February 29th was the conclusion of the semifinals. This year there was a **Student Challenge** and an **Early Stage Challenge** - total cash prizes available through these two tracks was $250,000.



Total application breakdown for both tracks was 101 total applications: 59 early stage entries and 42 student challenge entries. Of these student teams 19 were lead by graduate students, 21 by undergraduates.



There were 19 teams initially selected to participate in the Student Challenge, and 18 of these completed the commercialization curriculum, mentorship process and were therefore invited to compete in the semifinals in Chicago on February 29. Of these 18 teams, 8 earned the opportunity to compete for the Grand Prize at the final completion on

March 1st. The top performing team from each state was awarded a $10,000 prize. The winners of the best-in-state prizes were:

- NuMat Technologies (Northwestern University, IL)
- Convolutus (Purdue University, IN)
- Saturnis (Washington University at St. Louis, MO)
- ReGenerate Solutions (University of Michigan, MI)
- Design Flux Technologies (Kent State University, OH)

NuMat Technologies (Northwestern University, IL) was selected to receive the grand prize in the Student Challenge and moved on to represent the Midwest region at the National Clean Energy Business Creation Competition in Washington, D.C. In June, 2012, NuMat was ultimately chosen as the grand prize winner for the first-ever National Clean Energy Business Competition.

CLEAN ENERGY CHALLENGE COMPETITORS
MARCH 1, 2012

STUDENT CHALLENGE

- Convolutus (IN)
- Design Flux Technologies (OH)
- NuMat Technologies (IL)
- PicoSpray (MI)
- ReGenerate USA (MI)
- Root3 Technologies (IL)
- Saturnis (MO)
- SiNode (IL)

EARLY STAGE

- Algaeon (IN)
- Algal Scientific (MI)
- Dioxide Materials (IL)
- Freiezo (MO)
- HEVT (IL)
- Hyrax Energy (WI)
- Phenometrics (MI)
- SheerWind (MN)
- Thermal Conservation Technologies (IL)
- WholeTrees Structures (WI)

DEPT OF ENERGY GRAND PRIZE WINNERS

$100,000 Student Challenge grand prize awarded to NuMat Technologies out of Northwestern University

NuMat developed a tool to identify optimal nanoporous metal-organic frameworks (MOFs) for methane/ hydrogen storage, chemicals separations, and natural gas vehicles.

$100,000 Early Stage grand prize awarded to Hyrax Energy from Wisconsin

Hyrax develops bio-refineries that use ionic liquids to convert corn stover and waste plant materials into fermentable sugars, which are sold to renewable plastics, chemicals and fuel manufacturers.

Over 370 attendees registered to participate in the Challenge, which was held on March 1st, 2012, at Venue Six10 in Chicago. The top 8 performing teams in the semifinals presented to a panel of 50 industry experts, including venture capitalists, corporate strategic investors, and serial entrepreneurs.

This year the competition was expanded in nearly every scope, including regional footprint, size of prizes to be awarded, applications sourced and number of students represented. The Clean Energy Challenge is a single platform that Clean Energy Trust has developed with helps to identify missing pieces and creating the new programming to mitigate them, providing mentorship, skills training and coaching.

Mentorship: Each of the 19 teams that were selected to participate in the Clean Energy Student Challenge was matched with a minimum of two mentors. Mentors were selected with a preference for providing at least 1 generalist and 1 specialist to each team. However, all teams were provided an opportunity to request a change of mentors. In total, 79 mentors participated in the Challenge. Each mentor committed to spending a minimum of five 1-hour meetings over the two-month mentorship period. According to a follow-up survey, Challenge mentors spent an average of 12-hours working with their teams. Further, over 90% of respondents reported that they would like to participate in the Challenge 2013 and over 75% of respondents reported that the quality of interactions with the teams was good-to-great.

Pitch Coaching Weekly scheduling for student teams proved to be far more difficult to execute than anticipated, so we adjusted our strategy to require each team to sign-up for an introductory practice presentations. Each team was assigned a designated point of contact with one team member at the Trust, who served as the liaison for all questions related to preparation for the Challenge. The training period concluded with two-days of office hours to provide each Challenge team with an opportunity to revise their investor

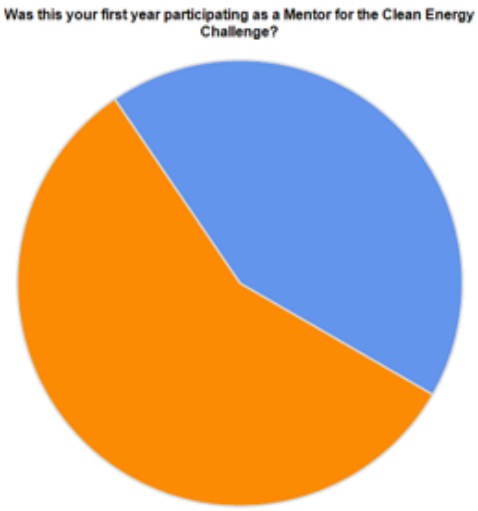
presentation. Teams had an opportunity to present their final pitch materials to the Clean Energy Trust team, as well as several mock-panelists, who consisted of VCs and other industry experts. In total, teams were required to sign-up for a minimum of two practice presentations; however, many teams proved to be substantially more engaged in the preparatory process, and signed-up for multiple additional practice sessions.

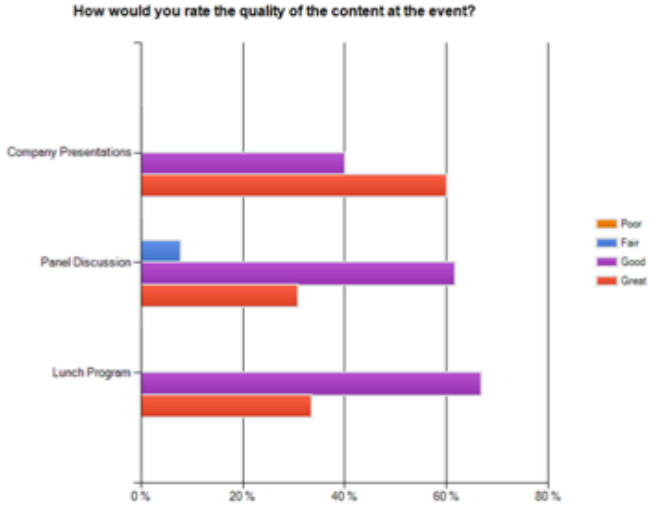
Skills Training: All Clean Energy Challenge teams were given the opportunity to participate in a 5-week commercialization webinar series This program was designed to provide Challenge competitors with a comprehensive overview of the key stakeholders involved in each step of the technology commercialization process including: National Labs & university technology transfer; technology & customer identification; intellectual property protection; incorporation, wealth sharing agreements, fundraising & term sheets. In sum, the webinar series attracted over 300 registrants. The content presented included:

- **1/10/12 | Technology Identification & Incorporation**: technology readiness, market suitability; technology licensing from universities & National Labs, wealth sharing agreements; and intellectual property protection. Presented by Sandra Knox (Counsel, Sidley Austin) and KT Moortgat (Partner, Mohr Davidow Ventures,) this webinar discussed critical issues related to technology and product selection, understanding technology risk, and intellectual property protection.
- **1/17/12 | Customer Discovery:** identifying your target market, customer development, differentiating from competition; and distribution partnerships. Presented by Doug Neal (Director, University of Michigan Center for Entrepreneurship) this webinar provided an overview of the Customer Discovery process championed by successful serial entrepreneur and clinical professor of entrepreneurship at Stanford University, Steve Blank.
- **1/24/12 | Gene Pool Engineering:** Presented by Ryan Kottenstette (Principal, Khosla Ventures). This webinar provided an overview of “gene pool engineering:” a quantifiable, teachable and actionable hiring method successfully practiced by Khosla Ventures for developing the optimal mix of team member backgrounds and maximizing the probability of success. Register here: https://www3.gotomeeting.com/register/310762374
- **1/31/12 | Capital Efficiency:** Presented by David Cruikshank (Associate, ARCH Venture Partners,) and Sarah Jane Maxted (U.S. Department of Energy – Office of Energy Efficiency & Renewable Energy,) this webinar provided an overview of alternative, non dilutive resources to support new clean energy ventures. Topics to be discussed include R&D grants, strategic partnerships, pilot project development, and government commercialization programs.
- **2/7/12 | Financing & Scale-Up:** Presented by Sandra Knox (Counsel, Sidley Austin L.L.P.,) and Alex Tang (Senior Program Manager, Clean Energy Trust,) this webinar provided an overview of the term sheet for venture investments, contracting, & joint venture agreements.

MENTOR FEEDBACK

Mentors spent on average 12 hours with each team
744 Total volunteer hours





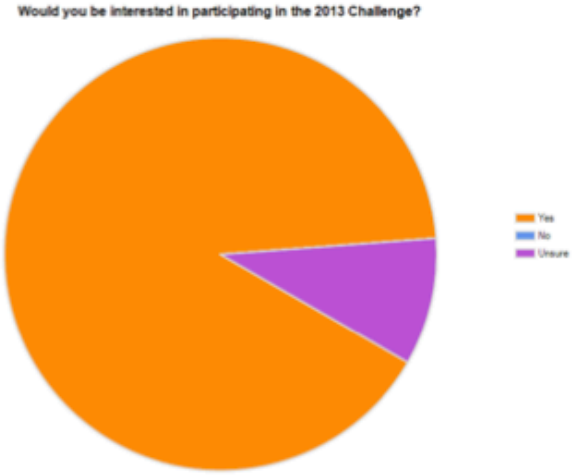
MENTOR FEEDBACK

I enjoyed it. A mentor prep session before we get the teams would be good. A rundown of what the judging criteria will be, important dates and past examples of winners. Also what some of the broad goals of the competition are. Is to create a startup environment, or to increase clean technology companies within the Midwest, or to reduce carbon or.... What is a 60,000 ft. view of what the CEC hopes to accomplish.

I had an overall great experience. might have been better if our engagement was better-defined, but we worked to determine what the scope of work would be.

I really enjoyed the experience, as always. I'm glad I was able to be helpful. An opportunity to meet the team prior to the Challenge itself would have been helpful.

Can't think of how it could be better, and that's a great compliment. Great media coverage, put Chicago and the Midwest in the clean tech spotlight, and got VCs here. Okay one idea, maybe draw more investors from out of state by asking them to be keynote speakers, judges, etc., but that was already done well.



Finally, a few points of differentiation and examples of growth over last year include:

- A prize purse nearly double the previous year (from $140,000 in total cash prizes to $250,000) due to our partnership with the DOE through the National Clean Energy Business Plan Competition and expanded regional partnerships
- Over 100 applications sourced from 8 states (a growth rate of 28%)
- 19 University partnerships (compared to 5 university partnerships last year)
- This year we doubled our National Lab partnership, with the addition of NREL to our current relationship with Argonne National Laboratory

- Established anchor sponsors to coordinate the regional efforts and to introduce and grow new statewide student business plan competitions which feed into the Clean Energy Student Challenge (CESC)
- Expanded mentoring relationship network: CET now has a pool of over 100 mentors, including technical advisors, industry experts, investors, and experienced entrepreneurs.
- Development of a student venture committee
    - 18 MBAs from throughout the region participated in the first-ever Clean Energy Challenge Venture Committee. Each team was provided access to exclusive office hours with a group of five experienced early stage clean energy investors to provide constructive strategic feedback to the finalists in the Clean Energy Student Challenge.
- Development of a 5-week webinar series about clean energy technology commercialization. The Trust and in-kind sponsors partnered to develop content for each week was organized around 5 key themes, including:
    - Mohr Davidow Ventures – Sidley Austin L.L.P. | Technology selection and Intellectual Property Protection
    - University of Michigan Center for Entrepreneurship | Customer
    - Discovery
    - Khosla Ventures | Team Building
    - ARCH Venture Partners and US DOE – EERE | Capital Efficiency
    - Clean Energy Trust – Sidley Austin L.L.P. | Venture Financing and Scale-Up

Growing the Challenge 2013

Year III of the Clean Energy Challenge will once again feature two tracks: (1) the Early Stage Challenge for independent companies, and (2) the Student Challenge, for student-run university spinouts. The Student Challenge leverages a broad network of university partners who have committed to supporting six statewide competitions run by Clean Energy Trust (IL,) Nortech-University Clean Energy Alliance of Ohio (Ohio,) Purdue University (IN,) University of Michigan (MI,) Washington University St. Louis-Missouri Energy Initiative (MO,) and the Wisconsin Energy Research Consortium (WI.) These state-wide programs lead will serve as a feeder program for student teams seeking to participate in the Midwest regional Clean Energy Challenge, which will take place in the winter semester of 2012. State-level competitions will each select one prize-winner, who will receive a minimum award of $10,000 cash, sponsored by the lead partner from each state. The six state-prize winners will compete at the regional competition in Chicago.

To that end, new partners have been engaged to provide additional financial and/or administrative support. In addition to the two new funding and administrative partners (WERC – and the Missouri Energy Initiative,) a multitude of new satellite partners have joined in support of the developing state level competitions. A total of 58 partners have agreed to participate in the second year of the Challenge. These include:

Illinois (8)

- University of Chicago
- University of Illinois at Chicago
- Northwestern University
- Southern Illinois University
- Illinois Institute of Technology
- Argonne National Labs
- Chicago Innovation Mentors
- The Energy Foundry

Indiana (3)

- Purdue University
- Indiana University
- Notre Dame University
- Energy Systems Network
- Indiana Corn & Soybean Marketing Council
- Elevate Ventures

Michigan (12)

- Northwood University
- Oakland University
- Kettering University
- Lawrence Technological University
- Grand Valley State University
- Baker University
- Michigan State
- Western Michigan University
- Wayne State University
- Michigan Tech
- University of Michigan
- Next Energy

Missouri (11)

- Washington University at Saint Louis
- University of Missouri Kansas City
- University of Missouri
- Missouri State
- Saint Louis University
- Missouri Technical College
- Missouri Department of Economic Development
- Missouri Technical Corporation
- St. Louis Chamber of Commerce
- Colombia Chamber of Commerce
- Kansas City Chamber of Commerce

Minnesota (2)

- Cleantech Open
- University of Minnesota

Ohio (16)

- Nortech Ohio
- Bowling Green State University
- Central State University
- Cleveland State
- Ohio University
- The Ohio State University
- University of Cincinnati
- University of Dayton
- Wright State University
- Youngstown State University
- Association of Independent Colleges & Universities of Ohio
- Shawnee State University
- The University of Toledo
- The University of Akron
- Case Western Reserve University
- Stark State College

Wisconsin (6)

- University of Wisconsin at Madison
- University of Wisconsin at Milwaukee
- Milwaukee Area Technical College
- Marquette University
- Milwaukee School of Engineering
- Milwaukee Water Council

This broadened base of support has significantly increased our marketing and outreach capabilities. Per the project timeline, the fall schedule for the annual Clean Energy Challenge focuses primarily on student engagement. This is typically done through a mix of webinars and on campus events. In total, university partners and other Challenge sponsors organized 11 events to promote the Challenge. These events typically feature leaders from university research centers, technology transfer offices, entrepreneurship centers, faculty researchers, as well as undergraduate and graduate students and have drawn more than 600 attendees in total. These promotional efforts have already generated significant interest in the Challenge. With the deadline for applications more than 1 month away, the Challenge has already received over 70 applications—nearly double the total applicant pool from Student Challenge in 2012.

Expanding the Pool of Mentors

Challenge partners have committed to assist in a mentor recruitment campaign, which is scheduled to occur through the fall and winter quarters. At this point, the fall mentor recruitment campaign is just beginning. In addition to support provided The Trust is organizing its annual advisory board meeting, which is intended to generate interest in the mentorship program. To that end, a total of 22 advisor candidates have been identified and have expressed intent to participate in the 2013 Challenge Mentorship program. To date, over 100 mentors have either supported the Challenge directly, or have expressed an interest in supporting the Challenge

Driving Industry Engagement

To date, CET and partners have launched the sponsorship campaign, and have added several new organizations as sponsors for the 2013 Clean Energy Challenge. These include:

- McCaffrey Interests ($75k)
- United Airlines ($20k)
- Ernst & Young ($30k)
- Skadden, Arps, Meagher, Slate, and Flom ($10k)
- True North Venture Partners ($5k)
- SoCore Energy ($2.5k)
- Lincoln Renewable Energy ($2.5k)
- ARCH Venture Partners ($5k)
- Exelon ($2.5k)
- ComEd ($2.5k)
- UK Trade & Investment Counsel ($5k)
- Illinois Ventures ($5k)
- University of Illinois at Chicago ($10k)
- University of Illinois at Urbana Champaign ($10k)
- Northwestern University ($10k)
- University of Missouri ($10k)
- Missouri Technical Corporation ($5k)
- Wisconsin Energy Research Consortium ($10k)
- Purdue University ($10k)
- Washington University at St. Louis ($10k)
- Nortech Ohio ($10k)

In total, the Trust has confirmed a total of $250,000 from 21 sponsors for the 2013 Challenge. While many new sponsors have signed-on for the 2013 Challenge, one sponsorship deserves special recognition. McCaffrey Interests, a local real-estate development firm, has agreed to provide $75,000 to fund a new commercialization fellowship. A total of $50,000 will be awarded to one team with a student or university faculty member that is developing breakthrough energy, water, and waste technologies. The remainder will be used to underwrite the administrative costs of the Challenge.

Clean Energy Challenge 2013

The FY2013 marked the third year of the Clean Energy Challenge business competition. The competition was held on April 4th, 2013. In total, the Clean Energy Challenge offered over $300,000 in cash prizes, plus services to the region's leading clean technology start-ups.

Project Objectives: The Clean Energy Challenge will generate a pipeline of clean energy start-ups**.** The Challenge has two tracks, an early stage track and a student track. In the Student track students from the from the Midwest's premier research institutions will apply for the opportunity to expose the university's most innovative ideas to potential investors, customers, entrepreneurs, media and the general public. In the Early stage track start up companies with less than $2M in total revenues and $1M in institutional investment, can also apply to participate

Background: The Clean Energy Challenge series brings together key stakeholders from throughout the Midwest to form a critical mass of university intellectual property, human capital, and interest from funders. The Trust facilitates the sharing of best practices, leveraging the strengths of each partner organization to develop a robust curriculum that is customized to the issues of commercializing clean energy technologies. In doing so, this consortia will cultivate a clean energy ecosystem that supports student entrepreneurship, job creation, and drives the commercialization of Midwestern university's most innovative clean energy technologies. A similar approach is implemented for the Early Stage Challenge, as well.

Significant Accomplishments this Period:

Deepening Engagement with Current Partners / New Satellite Partners

In addition to the annual regional early stage Clean Energy Challenge, 2014 program featured six-wide competitions that focused specifically on student-led businesses. These state level competitions were led by Clean Energy Trust (IL;) Nortech-University Clean Energy Alliance of Ohio (Ohio;) Purdue University (IN;) University of Michigan (MI;) Washington University St. Louis-Missouri Energy Initiative (MO;) and the Wisconsin Energy Research Consortium (WI.)

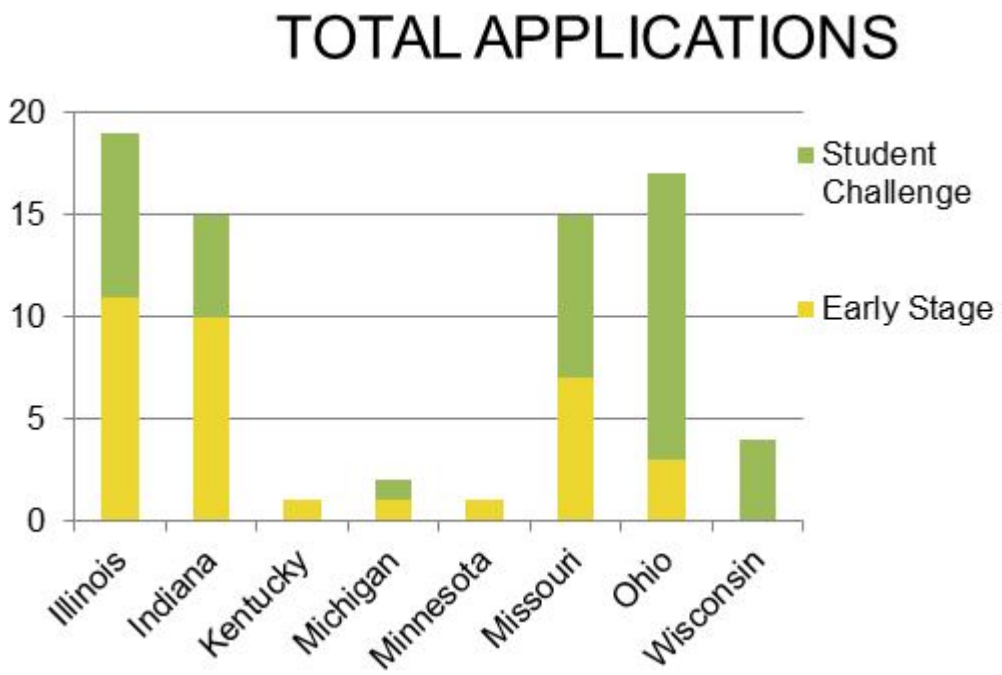
In this reporting period, each partner organized and executed the first-ever Clean Energy Challenge state competitions. Each event had a unique format and program structure. This provided the necessary flexibility for the partners to design their programs around the unique needs and assets of their states. In some cases, partners were able to build upon existing programs, while others created entirely new programs. For example, the Indiana and Wisconsin competitions were organized virtually and did not require participation in an in-person pitch event; others were multi-stage, and required teams to participate in mentorship programs with structured curriculum. While all of the programs produced high-quality teams,

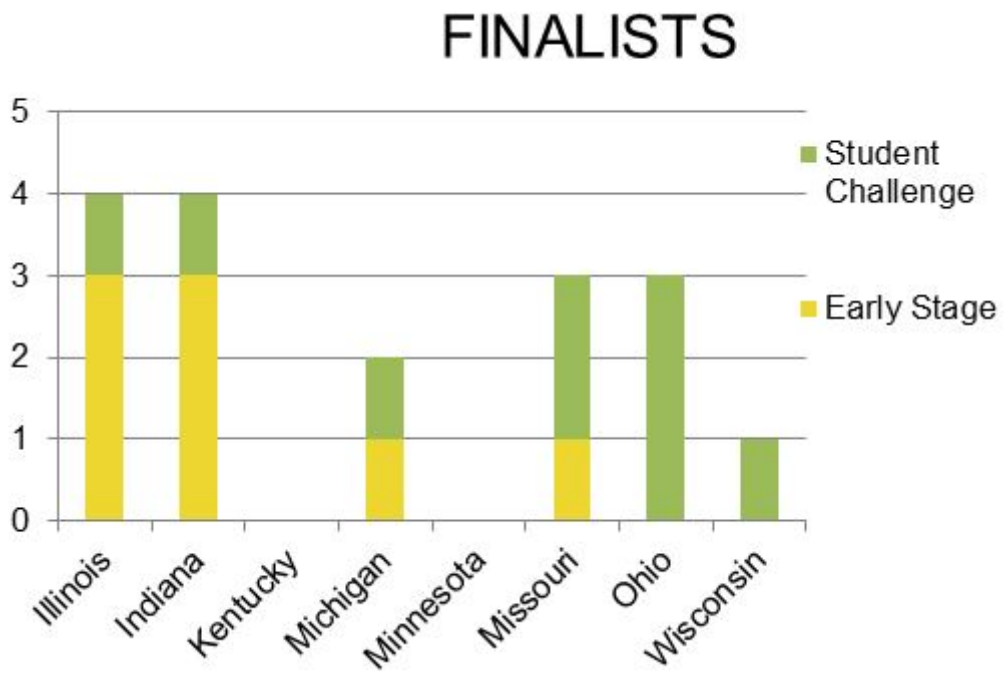
the level of community engagement varied significantly. Despite requiring more substantial time commitments, programs that required greater time commitments to the process had stronger results. Recognizing the key factors that contributed to the success of each sub-competition will help to improve the program for future years. To that end, all of the partners committed to participating in a half-day best practices workshop on the day following the conclusion of the 2013 Clean Energy Challenge.

At the end of each program, state-level competitions each selected one prizewinner, to compete at the regional Clean Energy Challenge on April 4, 2013; each received a minimum $10,000 cash award.

Competition Metrics and Successes

Total application breakdown for both tracks was 77 total applications: 36 early stage entries and 41 student challenge entries.





The top performing Student team from each state was awarded a $10,000 prize. The winners of the best-in-state prizes were:

- Effortless Energy (University of Chicago, IL)
- Bearing Analytics (Purdue University, IN)
- SkySpecs (University of Michigan, MI)
- Aerosol Control Technologies (Washington University at St. Louis, MO)
- Amplified Wind (Cleveland State University, OH)
- Track Gen (University of Wisconsin – Madison, WI)

CLEAN ENERGY CHALLENGE COMPETITORS
APRIL 4, 2014

STUDENT CHALLENGE

- Aerosol Control Technologies (MO)
- Amplified Wind Solutions (OH)
- Bearing Analytics (IN)
- EcoSpinners (OH)
- Effortless Energy (IL)
- NanoHarv Technologies (OH)
- SkySpecs (MI)
- Track Gen (WI)
- Water & Environmental Technologists (MO)

EARLY STAGE

- eCat (IN)
- LuminAID Lab (IL)
- LumenCache (IN)
- Luon Energy (IL)
- Material Mix (MO)
- Ornicept (MI)
- SmarterShade (IN)
- S2E Energy (IL)

Over 350 attendees registered to participate in the Challenge, which was held on April 4th, 2013, at Venue Six10 in Chicago. Eight early-stage and eight student finalists presented their business plans to a distinguished panel of nationally renowned investors, policy makers and entrepreneurs.

Bearing Analytics (Purdue University, IN) was selected to receive the grand prize in the Student Challenge, while LuminAID Lab (IL) was awarded the early-stage grand prize. Additional prizes were awarded to SmarterShade, Amplified Wind Solutions, SkySpecs and Ornicept

SmarterShade, an Indiana-based company that makes an innovative film system to instantly darken windows, received the $50,000 Chicago Lakeside Prize, sponsored by McCaffery Interests.

SkySpecs, a University of Michigan-based firm that uses an unmanned aerial vehicle, or drone, to monitor wind turbines, bridges and other infrastructure, won the $10,000 Invenergy Renewable Ideas prize.

Nicole Zmij, CEO of Amplified Wind Solutions out of Cleveland State University, was awarded the ComEd and Clean Energy Trust-sponsored Breaking Barriers in Cleantech award for her role as an outstanding female entrepreneur. Amplified Wind Solutions harnesses wind energy to self-power cell towers, particularly in remote locations.

The Clean Energy Challenge Judges spontaneously agreed during deliberations to pool together from their own money a special $10,000 prize for Ornicept, an early-stage competitior from Ann Arbor, Michigan that analyzes endangered bird migration patterns to help wind developers comply with siting regulations.

$100,000 DOE Early Stage Challenge grand prize

+ LuminAID Lab
Chicago, IL

$100,000 DOE Student Challenge grand prize

+ Bearing Analytics
Purdue, IN

$50,000 Chicago Lakeside prize

+ SmarterShade
South Bend, IN

$10,000 Breaking Barriers in Cleantech award

+ Amplified Wind Solutions
Cleveland, OH

$10,000 Invenergy Renewable Ideas prize

+ SkySpecs
Michigan

$10,000 Special Early Stage prize

+ Ornicept
Ann Arbor, MI

Expand Pool of Mentors

The Trust and anchor partners collaborated to recruit additional mentors to support the Challenge. In total, there are a total of 236 mentors that have volunteered to participate in the Clean Energy Challenge mentorship program. The Trust is continuing to develop relationships with local small business support centers and other entrepreneurial supporting organizations to further enhance this resource for Clean Energy Challenge participants.

While expanding the total number of mentors has been a key area of focus for the program organizers thus far, the efforts have shifted to provide teams with a more structured, customized experience that suit's each team's unique needs. To that end, the Trust and its state program organizers worked with organizations like the Wisconsin Entrepreneurial Network, Chicago Innovation Mentors, and JumpStart that facilitated introductions to technical and business experts that were active in each local ecosystem. The organizers focused their efforts to: a) help teams identify local resources; and b) assist teams with targeted industry outreach for primary market research.

The process for matching teams with mentors was also different from previous years. The program kicked off with a fast-pitch webinar where each team presented via webinar

to potential mentors. Information on each team was distributed to the full mentor list in advance of the Challenge. Mentors had access to the teams' full application materials, which consisted of short answer executive summary questions and a 3-minute fast-pitch video. The goal of the webinar was to provide teams with an opportunity to pitch the company and to identify for the group key areas of need for the duration of the mentorship program and to provide an efficient means for matching teams with mentors that were interested in working with the teams and offered unique skill-sets that reflected the teams' needs. In total, 48 mentor candidates participated in the webinar. At the end of each pitch, mentors were given an opportunity to volunteer to work with each team. The program organizers paid careful attention to note the needs of each team and the interests of mentor candidates to ensure that the matches were mutually beneficial to the teams and mentors.

At the end of the program, the Trust provided each team with a short list of names for consideration. Each team was matched with two mentors who worked with them throughout the program. In addition to the mentors, the Trust provided targeted introductions to industry contacts to help the teams with their primary market research and refine their value propositions for the final pitch. Ultimately, this matching process proved to be substantially more efficient than matching in previous years. In contrast to previous years, which in some cases took nearly a month to identify the right mentors, nearly all teams were matched within four days of the mentorship kickoff.

Clean Energy Challenge Sustainability Plan

The 2013 Clean Energy Challenge was the second of three years of U.S. DOE funding for the student track, and the third of three years for the early stage track. As such, the program organizers made a substantial effort to ramp-up fundraising activities for both state level programs and the regional competition.

While each of the six participating states had already arranged for the sponsorship of a minimum $10,000 state prize, the Trust encouraged state program organizers to raise additional funding to increase the prize purse and provide additional support for operations and administration. Several states offered substantially more than the minimum $10,000 prize. Michigan raised the most additional funding with $100,000 in sponsorship for the student program from DTE Energy; Missouri was also able to secure an additional $10,000 in prize money for the early stage track.

The fundraising campaign for general sponsorship was substantially more effective this year over previous years. In total, there were 86 program sponsors contributing $764,000 in cash. This was a dramatic improvement (more than 100% year over year) compared with the 2012 Clean Energy Challenge. This includes 76 cash sponsorships and 10 in-kind service sponsorships. Examples of in-kind service sponsorships include media partnerships; legal services for the prizewinners; and direct services to offset the operations and administration of the program. Sponsors of the 2013 Clean Energy Challenge were:

U.S. Department of Energy	GE	GE Ecomagination - Invenergy
McCaffrey Interests	SC Johnson	Invenergy
E&Y	Wells Fargo	Northwestern U
United	Abbott Labs	Skadden
	Ameren	

SOM
UIC
University of Illinois
Wanxiang
AEP
Apex
Applied Ventures
ARCH
BP Alternative Energy
ComEd
Danfoss
DCEO
Dow Ventures
DTE Energy
Exelon
Hyatt
Illinois Ventures
Intellectual Ventures
Johnson Controls
Katten
Lincoln Renewable Energy
Navitas Systems
New World Ventures
NextEnergy
Renergy Capital
Seyfarth and Shaw
Steptoe & Johnson
True North Ventures
Venrock
Walgreens
Watershed Capital
William Blair
UK Trade
Agentis Energy
Baird
EDP
MVC Capital
Shaw Group
Silicon Valley Bank
SoCore
Marathon Capital
Sidley Austin
AEEI
Aileron
BNEF
Bonsai
Burton D. Morgan Foundation
CCEA
Crain's
CWRU Great Lake Energy Institute
Dominion Foundation
E&E
E2
Greentech Media
Joyce Foundation
Khosla Ventures
Kleiner Perkins
Midwest Energy News
Missouri Energy Initiative
Missouri Technology Corporation
University of Missouri
Museum of Science & Industry
Neil Gerber Eisenberg
NOPEC
Nortech - UCEAO
Ohio Development Services Agency
Ohio State University - Office of Energy & Environment
Purdue University
Technology Partners
University of Dayton
Washington University at St. Louis
WERC
IIT

Secure Long-Term Sponsors for the Challenge

Moving forward, several sponsors of the 2013 Clean Energy Challenge have already committed to sponsoring next year's competition. Of note, United, ComEd, and Seyfarth & Shaw have already committed to continue their sponsorship. United offered to provide complementary airfare to the two DOE regional prize winners that came out of the Midwest region—Bearing Analytics and SiNode—to underwrite travel expenses to summer accelerator programs. Finally, a consortium of Chicago-area aviation companies (United, Boeing, and UOP) have committed to creating a new prize to recognize innovation in aviation and alternative fuels.
Finally, CET and state-program administrators have come to an agreement on a plan for long-term program sustainability. Whereas in years past, CET and is state partners have worked through a revenue sharing agreement from sponsorship, the 2014 Clean Energy Challenge fundraising plan requires state partners to committed cost-share of approximately $5,000 per partner in advance of the program start-date (Fall 2013.) In total, partners have committed cost-share of $42,000 to the 2014 Clean Energy Challenge.

Other Key Updates on the Clean Energy Challenge

The final component of the Clean Energy Challenge programming was the boot camp and online curriculum. The competition organizers arranged a comprehensive suite of curriculum that covered a variety of topics and skills related to the commercialization of energy technologies. The complete schedule and topics for the webinar series are described below:

- February 6, 2013 12:00-1:00pm CDT: Identifying your target market, customer development, differentiating from competition; and distribution partnerships. Presented by Doug Neal (Director, University of Michigan's Center for Entrepreneurship) this webinar provided an overview of the Customer Discovery process championed by successful serial entrepreneur and clinical professor of entrepreneurship at Stanford University, Steve Blank. Complete course and preparatory materials are provided here for free.
- February 8, 2013 12-3:00pm: Mentor matching webinar: Challenge finalists pitched to mentor candidates in a fast pitch format. The format began with a 3-minute pitch, followed by 5 minutes of Q&A from mentor candidates.
- February 13, 2013 - 12:00-1:00pm CDT: Value Proposition Mapping and Market Opportunity Assessment
- February 15, 2013: 11:30 – 1:30 CDT: Licensing Basics Day I
    - Module 1: Introduction to IP: Introduction to the different types of IP including patents, trademarks, copyright, trade dress, and trade secrets.
    - Module 2: Basics of IP Commercialization & Licensing: Introduction to licensing, including reasons for licensing, description of licensing agreements, infringement, competition law, and relationship-building.

- February 20, 2013 – 12:00pm-1:00pm: Presentations for business plan competitions: lessons from the trenches

- February 22, 2013: 11:30 – 1:30 CDT: Licensing Basics Day 2

- Module 3: Determining Reasonable License Fees & Royalty: Licensing risks and rewards, different valuation methods (e.g., Market, Financial, Cost) and their pros and cons, and royalty structures.

- Module 4: Managing Risks: Identifying and managing different types of risk, including confidentiality, infringement, liability, collection of royalties and other fees, and unlicensed competition.

- February 27, 2013 12:00-2:00pm CDT: "Understanding the Venture Capital Model:" How do VCs interpret your pitch? What are the key things VCs look to determine their interest in your company? This webinar will start with a brief presentation that provides a rough framework for understanding the way VCs think about investments and returns. The presentation will be followed by a roundtable discussion about the current state of cleantech VC, how different firms approach investing in cleantech, and more. The webinar was be moderated by Alex Tang (Former VP of Operations & Finance at Clean Energy Trust). Panelists included John Krzywicki (True North Venture Partners); David Cruikshank (ARCH Venture Partners); John Banta (Illinois Ventures); and Armando Pauker (Apex Venture Partners.)

- March 1, 2013: 12:00 – 1:00 CDT: Licensing mock negotiation

- Case study exercise will be presented. Teams were assigned a mentoring coach to guide them through the negotiation process.

- March 8 & 15, 2013: 12:00 – 1:00 CDT: Mock negotiations.

- 6 teams (3 members each) will spend 2 weeks working in pairs to negotiate terms on the case study.

- Instructors and webinar facilitators had 1 week (March 15-22) to review each team's submissions to for a plenary debrief on Friday, March 22 from 12-1pm CDT.

- March 22, 2013: 12:00 – 1:00 CDT: Case Study Debrief: Analysis of negotiated deals, best practices and lessons learned.

Other significant accomplishments this period

Over Q3 2013, CET offered approximately $25,000 in in-kind support pro-bono strategy support for each of the Clean Energy Challenge prizewinners Bearing Analytics and LuminAID Labs. This includes up to 3-months of service from CET staff to develop customized recommendations to guide the team's use of funds for the award as well as to refine a near term commercialization strategy. Services provided to the teams included:

- Site visits to meet with research team and develop plan to address commercialization needs;
- CET team conducted over 30 interviews with potential customers to extract primary market research to inform its recommendations;
- Introductions to potential pilot partners and strategic investors;
- Sourced the full Board of Directors for Bearing Analytics
- Secured pro-bono legal assistance for incorporation, licensing, and IP protection;
- Compiled a full report detailing recommendations for venture formation and go to market strategy;

Growing the Clean Energy Challenge 2014

Year IV of the Clean Energy Challenge will once again feature two tracks: (1) the Early Stage Challenge for independent companies, and (2) the Student Challenge, for student-run university spinouts. With Respect to the Student Challenge - Year III of the Clean Energy Challenge will feature six-wide competitions run by Clean Energy Trust (IL,) Nortech-University Clean Energy Alliance of Ohio (Ohio,) Purdue University (IN,) University of Michigan (MI,) Washington University St. Louis-Missouri Energy Initiative (MO,) and the Wisconsin Energy Research Consortium (WI.) Each partner has committed to leading the development of more robust state-wide programs leading into the Midwest regional Clean Energy Challenge, which will take place in the winter semester of 2014. State-level competitions will each select one prize-winner, who will receive a minimum award of $10,000 cash, sponsored by the lead partner from each state. The six state-prize winners will compete at the regional competition in Chicago, scheduled for April 3, 2014

To that end, new partners have been engaged to provide additional financial and/or administrative support. A total of 58 partners have agreed to participate in the third year of the Student Challenge. These include:

Illinois (8)
- University of Chicago
- University of Illinois at Chicago
- Northwestern University
- Southern Illinois University
- Illinois Institute of Technology
- Argonne National Labs
- Chicago Innovation Mentors
- The Energy Foundry

Indiana (3)
- Purdue University
- Indiana University
- Notre Dame University
- Energy Systems Network
- Indiana Corn & Soybean Marketing Council
- Elevate Ventures

Michigan (12)
- Northwood University
- Oakland University
- Kettering University
- Lawrence Technological University
- Grand Valley State University
- Baker University
- Michigan State
- Western Michigan University
- Wayne State University
- Michigan Tech
- University of Michigan
- Next Energy

Missouri (11)
- Washington University at Saint Louis
- University of Missouri Kansas City
- University of Missouri
- Missouri State
- Saint Louis University
- Missouri Technical College
- Missouri Department of Economic Development
- Missouri Technical Corporation
- St. Louis Chamber of Commerce
- Colombia Chamber of Commerce
- Kansas City Chamber of Commerce

Minnesota (2)
- Cleantech Open
- University of Minnesota

Ohio (16)
- Nortech Ohio
- Bowling Green State University
- Central State University
- Cleveland State
- Ohio University
- The Ohio State University
- University of Cincinnati
- University of Dayton
- Wright State University
- Youngstown State University
- Association of Independent Colleges & Universities of Ohio
- Shawnee State University
- The University of Toledo
- The University of Akron
- Case Western Reserve University
- Stark State College

Wisconsin (6)
- University of Wisconsin at Madison
- University of Wisconsin at Milwaukee
- Milwaukee Area Technical College
- Marquette University
- Milwaukee School of Engineering
- Milwaukee Water Council

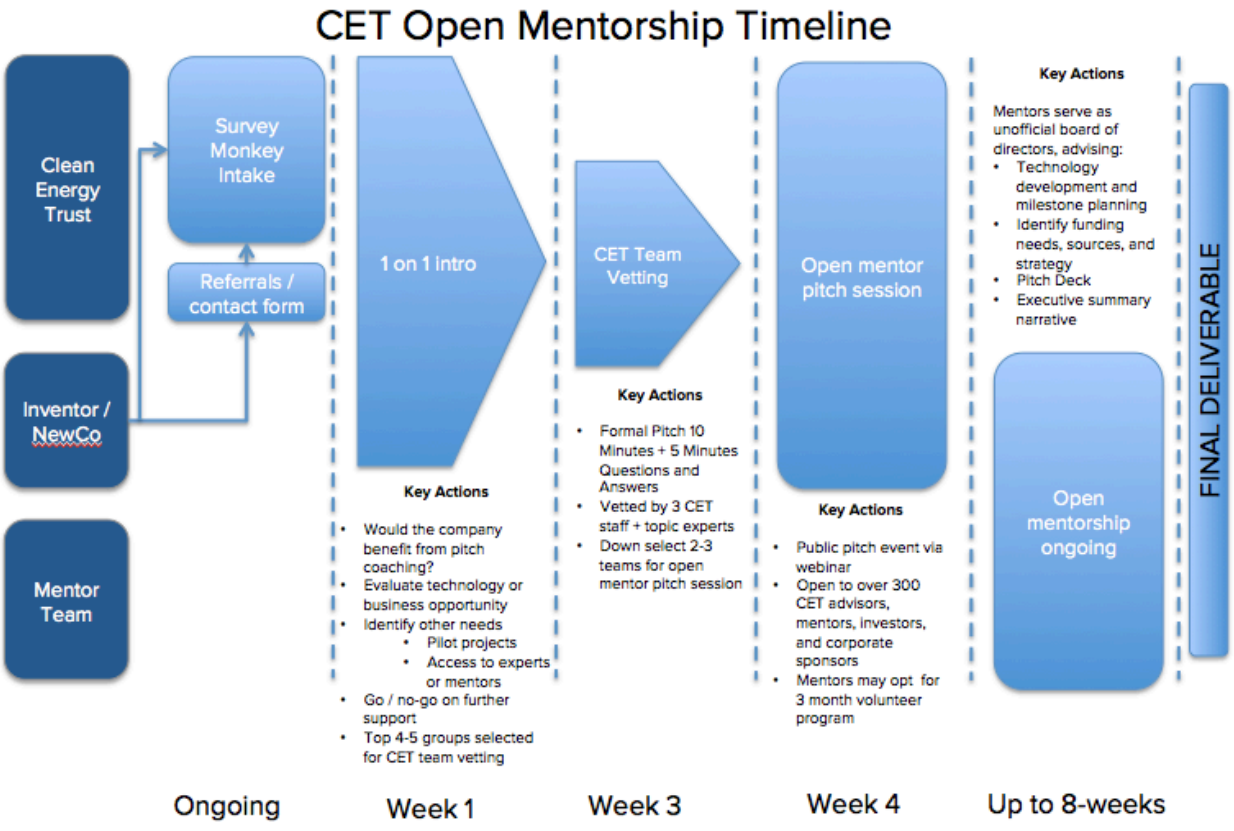
This broadened base of support has significantly increased our marketing and outreach capabilities. The fall schedule for the annual Clean Energy Challenge focuses primarily on student engagement. This is typically done through a mix of webinars and on campus events. The Ohio state organizers hosted a series of skill building webinars to guide potential applicants through the application process and modeled after evaluation criteria. The four webinar series included the following topics: EERE Mission Impact, Solution/Product, Market Validation and Analysis, Industry Attractiveness, Business Model, Risk vs. Talent, and Presentation Quality. The series drew many students and proved helpful in recruiting applicants. Missouri organizers hosted a three part webinar series as well as five in person meet-ups.

In total, university partners and other Challenge sponsors organized 14 events to promote the Challenge. These events typically feature leaders from university research centers, technology transfer offices, entrepreneurship centers, faculty researchers, as well as undergraduate and graduate students and have drawn more than 600 attendees in total. These promotional efforts have already generated significant interest

in the Challenge. With the deadline for applications more than 1 month away, the Challenge has already received many applications.

Also, anchor partners have committed to assist in a mentor recruitment campaign, which is scheduled to occur through the fall and winter quarters. At this point, the fall mentor recruitment campaign is just beginning. In addition to support provided The Trust is organizing its annual advisory board meeting, which is intended to generate interest in the mentorship program. To that end, a total of 22 advisor candidates have been identified and have expressed intent to participate in the 2014 Challenge Mentorship program

Finally, CET also launched its year-round Open Mentorship Program for potential applicants to the Clean Energy Challenge. The first call for applications came in June of 2013 for the summer session, and August 2013 for the fall session. CETs mentorship program will follow the process outlined below:



In the summer, two companies were selected to present (SingleSwitch Systems and Fluid Airfoil), while in the fall, three companies presented (Beacon Power Services, GRNE Solutions, The Straights Lighting Company). The audience included over 20 experienced entrepreneurs and technology experts. CET has provided pitch coaching to both teams thus far. We have now matched all teams with mentors to work together to prepare them for the Clean Energy Challenge 2014.

To date, CET and partners have launched the sponsorship campaign, and have added several new organizations as sponsors for the 2014 Clean Energy Challenge, as well as larger contributions from existing supporters. These include:

- McCaffrey Interests ($50k)
- Wells Fargo ($100k)
- J.P. Morgan Chase ($10k)
- United Airlines ($20k)
- University of Illinois ($10k)
- Purdue University ($20k)
- Boeing ($15k)
- United Airlines ($40k)
- GE ($10k)
- UOP Honeywell ($15k)
- ComEd ($10k)

In total, the Trust has already confirmed a total of $200,000 from several new and returning sponsors for the 2014 Challenge and aims to have $500,000 in prizes. While many new sponsors have signed-on for the 2014 Challenge, one sponsorship deserves special recognition. A consortium of companies including Boeing, United Airlines, and UOP Honeywell have committed to funding a biofuel prize at the 2014 Challenge. A total of $50,000 will be awarded to one team with a significant technology to support the advancement of biofuels. The remainder will be used to underwrite the administrative costs of the Challenge.

In parallel with the application process, CET will continue to develop supporting infrastructure for the long-term sustainability of the program. This includes raising sponsorship funding, developing mentorship programming and educational curriculum, and developing year-round programming to provide ongoing support for companies participating in the Challenge and CET's other programs. To that end, the Trust and its partners are working to launch a re-vamped mentorship program, leveraging its new partners, Chicago Innovation Mentors, and the Energy Foundry.

Finally the Trust will continue to develop the Clean Energy Exchange – an online platform that serves as the main site for coordinating Clean Energy Challenge marketing and communications, team building, mentor recruitment, and application submission. To date, the Trust has developed significant new capabilities for the Exchange. The site is now capable of managing requests for proposals, and other funding opportunities. This provides past and future Challenge teams with a direct link to private and public funding opportunities.

Regional Expansion: Next steps to broaden the program include:

- Increasing access to mentorship by expanding the pool of qualified mentors and providing year-round access to mentors for all Clean Energy Challenge graduates
- Developing new sponsor relationships
- Establishing anchor partnerships in Minnesota and Kentucky

Historically, the commercialization curriculum for Challenge finalists was in the form of a live webinar series leading up to the Challenge. While this proved successful there were a few issues facing the programs structure such as varied requirements and needs of applicants, as well as scheduling conflicts. This year, Clean Energy Trust is producing a full day event focusing on commercialization. The day's discussions will be recorded and edited and will be used in the Challenge commercialization curriculum. See below for the preliminary agenda.

Commercialization Day Agenda

8:00-9:00 Registration and Networking Breakfast

9:00-10:00 The Art of Pitch

Pointers on delivering effective presentations, knowing your audience, and leaving evaluators with a strong and positive impression of your company.

Samir Mayekar, CEO of SiNode Systems

Steve Diabase, startup consultant

10:05-11:05 Understanding the Venture Capital Model

A deep dive into what investors are really looking for before they pull out their check books.

Amy Francetic, CEO, Clean Energy Trust

Armando Pauker General Partner Apex Venture Capital

John Banta, Illinois Ventures

David Cruikshank, ARCH Venture Partners

11:10-12:10 Entrepreneurial Sales

You are an entrepreneur. Use entrepreneurial sales.

Craig Wortmann, Founder and CEO, Sales Engine and Associate Professor at University of Chicago's Booth School of Business.

12:10-1:00 Lunch

1:00-2:00 Lessons Learned

Listen to local entrepreneurs playing in the high-tech space as they discuss their ups and downs

Sharon Feigon, CEO, I-GO Car Sharing

John DiNardi, VP, Norlux

Jake Edie, VP of Business Development, AllCell Technologies

Tim Stojka, CEO Agentis Energy

2:05-3:05 Crowd Funding

Matthew Brown, Partner, Katten Muchin Rosenmen LLP

3:10-4:10 Big Players Playing Nice

Learn how big companies are working with the little guys to source solutions.

Robert Accarino, Senior Director, Global Energy Strategies at Abbott Laboratories

Pin Ni, President, Wanxiang America

GE representative

4:15-6:00 Networking Reception

Regional Education and Advocacy

In **FY2012** and **FY2013**, the Trust devoted substantial resources to develop programs supporting its regional education and awareness goals.

A) The Clean Energy Exchange (**www.thecleanenergyexchange.org**)

The Clean Energy Exchange is a web platform for the clean energy community to share information, access data and explore economic opportunities. Developed by the Clean Energy Trust, the Exchange is the digital convener of the national clean energy ecosystem. The Exchange was also built to document the rate of growth of the clean energy industry, by keeping a database of company profiles.
Our most recent product strategy is being developed to cross promote the Clean Energy Exchange with the Clean Energy Challenge, so that we can capture all of the participants of the Challenge with our system. Through user profiles of the Exchange, the Clean Energy Trust will be able to maintain contact with all of the participants of the 2013 Clean Energy Challenge beyond the program period.

The Clean Energy Trust also launched a geographic information system (GIS) that visualizes the data from the Exchange, and allows the Clean Energy Trust to publish maps that communicate the success of our programs to our partners and to our regional audience. Specifically, Clean Energy Trust produces maps that visualize the supply chains of each clean energy vertical. Further, Clean Energy Trust also produces maps that visualize the start up community separately, so as to communicate the growth of our program from year to year.

The Clean Energy Exchange successfully managed the application process of the 2013 Clean Energy Challenge. Simultaneously, the Clean Energy Exchange launched three new products:

a) The Clean Energy Exchange digest email is designed to present users all of the activity in the Exchange in their email inbox.
b) The Clean Energy Landscape is our map product to visualize the organizations that are documented in the Clean Energy Exchange. We have created a preset map for each industry sector of Cleantech. Also, we have created a preset map for the start-ups identified through the Clean Energy Challenge. In two weeks since launch, we have had 150 unique views.
c) The Clean Energy Exchange home page has been updated to bring more activity within the exchange to the home page.

From FY2012 Report

- We have released new functionality to support content generation and sharing within the Exchange. The main component to this functionality is referred to as Clean Energy Channels.

- Begun work on a $100,000 grant from IL DCEO through Western Illinois University to build cluster mapping capabilities using Exchange data
- Set up Research agreement with the Illinois Solar Energy Association to collect data on clean energy assets in the Midwest
- Applied to EDA i6 Challenge, with the Clean Energy Exchange as the platform for program execution.
- Data Project for the City of Chicago and State of Illinois, to support the sustainability road map that they City and State are working on together.
- Increased Start-ups listed in the exchange to 207 companies
- Increased total users to 525+
- Increased total number of companies in the exchange to 1,000+
- Designing and implementing new functionality to support the Clean Energy Challenge and Department of Energy Metrics gathering. This functionality will give the Clean Energy Exchange survey and application capabilities.
- Uploaded 550+ pieces of news in cleantech to the Exchange, and have tagged it in our Energy Channels, so as to keep a database of what we are reading at the Clean Energy Trust.

From FY2013 Report

- We have released new functionality to support content generation and sharing within the Exchange. The main component to this functionality is referred to as Clean Energy Channels.
- Begun work on a $100,000 grant from IL DCEO through Western Illinois University to build cluster mapping capabilities using Exchange data
- Set up Research agreement with the Illinois Solar Energy Association to collect data on clean energy assets in the Midwest
- Applied to EDA i6 Challenge, with the Clean Energy Exchange as the platform for program execution.
- Ongoing data projects for the City of Chicago and State of Illinois, to support the sustainability road map that they City and State are working on together.
- Increased Start-ups listed in the exchange to 363 companies
- Increased total users to 1000
- Increased total number of companies in the exchange to 1,317
- Ongoing new functionality to support the Clean Energy Challenge and Department of Energy Metrics gathering which has provided the core functionality give the Clean Energy Exchange survey and application capabilities. These survey and application capabilities are now being used to pursue new funding opportunities (through RFP management) as well manage our programs in a more integrated way.
- Uploaded 550+ pieces of news in cleantech to the Exchange, and have tagged it in our Energy Channels, so as to keep a database of what we are reading at the Clean Energy Trust.

B) Advocacy and Stakeholder Engagement

From FY2012 Report
The Trust has collaborated with 17 partners over the last three months promoting external events, raising awareness and increasing attendance. By marketing to our e-mail list of more than 2,200 recipients, nearly 700 Twitter followers, Facebook audience of more than 2,500

fans and utilizing our Clean Energy Exchange we were able to help these organizations garner more attention for their programming. Our promotional partners included nationally recognized organizations such as NREL, South by Southwest, ARPA-E and Cleantech Open, as well as other local and regional groups. We have worked diligently to broaden our reach, both through our internal mailing list, and through social media channels. Our Twitter followers have increased from 345 to 669, our Facebook likes from 174 to 2,539 and our mailing list from 1,800 to over 2,200 (all from the period July 1- September 30).

Some outreach activities to promote partners in region, include the following:
April 2012
Green Drinks- 1,900 recipients & listed on website

May 2012:
Illinois Solar Energy Association (ISEA)- 1,600 recipients
Loyola Biodiesel Program- 1,460 (also included in ISEA e-mail) & listed on website
MIT Enterprise forum- 1,600 (included in ISEA, Loyola e-mails) & listed on website
Argonne OutLoud- 1,600 (included in ISEA, Loyola e-mails) & listed on website
ARPA-E Webinar- listed on website
Techweek 2012 Conference- listed on website
ITA CityLights- 1,460 (included in Loyola e-mail)

June 2012:
Impact Engine- 1,900

NREL IGF- 1,900 (included in Impact e-mail)

From FY2013 Report

Partner promotions through communications platform that we've developed:

- 4,683 Facebook Likes, up from 4,085 at the end of Q2
- 1,078 Twitter followers, up from 992 at last reporting
- 12 e-mail blasts, with an average of:
  - 1,915 recipients up from 1,774 recipients in Q2
  - 422 unique opens (24% open rate) up from 366 opens (an open rate of 23%) in Q2
  - 46 clicks (a click rate of 3%)
- The best performing e-mail blast of FY2013 was our CET Updates announcement
  - 2,339 recipients
  - 685 unique opens (29.4% open rate)
  - 141 total clicks (4.1% click rate)
- External events promoted: 11
- Policy Digest launched
  - 980 recipients
  - Open rate: 41.3%
  - Clicks: 118
  - The open rate was 19% higher than the industry average for an e-mail blast and an average of 15% higher than CET's typical weekly e-mail blast open rate
- Supported 3 legislative issues during Q3:
  - IL RPS
  - Energy Efficiency Benchmarking for city

- MLPs
- Hosted 2 events
  - Challenge VIP Reception
  - Clean Energy Challenge
    - Over 350 attendees
    - 88 sponsors
    - Awarded $290,000 in prizes

Raised $175,000 for Policy and Advocacy work through Foundations ($125k from Joyce, $50k from Energy Foundation). Secured $25,000 in grant funding from Chicago Community Trust to assist in executing the Jobs Census

C) Regional Planning Committee with Executives from the Following Organizations

Boeing, McDonalds, United, Abbott, S&C Electric, City of Chicago, Edelman, Metropolis Strategies, AllState, EcoLab, Arcelor Mittal, US Equities, Merchandise Mart, Sidley Austin

Secured $20,000 in grant funding from ArcelorMittal, Metropolis Strategies to assist in producing the "Building a Sustainable Region" report which is a result of this

D) Other Advocacy and 'Ecosystem' Fertility Work

One of the primary challenges of ecosystem development has been increasing engagement with many of the large corporations in the region that would be important potential strategic investors or first customers for the emerging businesses in the cluster. To that end Clean Energy Trust has been begun offering consulting and advisory services to corporations for a fee. Note: this is distinctly different than the free services that we offer to our ecosystem participants, especially to entrepreneurs. All of our services are free to entrepreneurs and startups.

Large Stakeholder Engagement

From FY2012 Report
One of the primary challenges of ecosystem development has been increasing engagement with many of the large corporations in the region that would be important potential strategic investors or first customers for the emerging businesses in the cluster. To that end Clean Energy Trust has been begun offering consulting and advisory services to corporations for a fee. Note: this is distinctly different than the free services that we offer to our ecosystem participants, especially to entrepreneurs. All of our services are free to entrepreneurs and startups.

- CET continues to advise the leading architecture firm, Skidmore, Owings and Merrill (SOM) and McCaffery Interests, the developer and part owner of Chicago Lakeside concerning the development of a new mixed use community on the storied Chicago lakefront in South Chicago where the US Steel Corporation formerly operated
  - 500 acres of brownfield development located on Lake Michigan: see the following URL: Lakeside Development

  - Developer and architects believe that renewable energy, energy efficiency and a locally innovative neighborhood utility model will drive value into the property and increase the quality of life for the citizens of the site
  - CET is advising on what operating and service models are possible to support the latest energy, water and waste infrastructure
  - As part of this effort, CET is studying the best examples around the world wherein sustainable practices and renewable infrastructure have invigorated a new development leveraging new technologies
  - CET, SOM and the developer believe this site presents a perfect opportunity for the regional alignment of federal dollars and infrastructure funds from the private sector to deploy one of the best examples showcasing clean energy innovation in the United States, creating practical value in the form of new jobs and education opportunities for the nearby citizens
- Midwest Aviation Sustainable Biofuels Initiative (MASBI) www.masbi.org
- Regional planning committee with Executives from the following organizations:

Boeing, McDonalds, United, Abbott, S&C Electric, City of Chicago, Edelman, Metropolis Strategies, AllState, EcoLab, Arcelor Mittal, US Equities, Merchandise Mart, Sidley Austin

IL Job Census

From FY2013

1. IL Jobs Census Launched and Underway
   Clean Energy Trust (CET) has launched the Illinois Clean Energy Jobs Census and work is currently underway to design the survey and to build the database of target respondents. Actual market outreach began in September 2013.

   CET has partnered with Economic Advancement Research Institute (branch of BW Research Partners) and receives further guidance on its efforts from an Advisory Board comprised of individuals from: IL DCEO, Brookings Institute, NC Sustainable Energy Association, IL State University, EPIC (University of Chicago), Environmental Entrepreneurs, MA Clean Energy Council, AR Advanced Energy Association, IL Innovation Council and the Joyce Foundation.

   CET will capture, track and publish the Clean Energy Jobs data using its Clean Energy Exchange data platform. Capturing and publishing accurate jobs data will not only better inform CET's programs, but will also be critical to educating lawmakers about the breadth and depth of employment in clean energy across the Illinois. Such data will drive economic development; bring credibility to advocacy efforts undertaken by any clean energy organization in the state; enhance federal grant applications to fund future programs; and support the development of clear, influential communications materials that can be used to bolster awareness of the state's industry and fuel its continued growth.

2. The first monthly cleantech policy digest was launched in May, 2013. This will be a bi-monthly online newsletter that will be emailed to interested recipients and will also be posted on the Clean Energy Exchange. The Digest will include summaries of relevant news articles, custom analysis of proposed legislation, summaries to pro and con opinions, and links to advocacy opportunities.

A series of 3-4 events in Chicago, Springfield and Washington DC will be produced throughout the year to convene clean energy executives, legislators, government officials, and utility commissioners. The first of which took place May 15 in Springfield.

Ecosystem Growth and Sustainability

Advanced Energy Economy – Policy Engagement

From FY 2012 Report
On August 6, Clean Energy Trust, in partnership with the Advanced Energy Economy and Joyce Foundation, hosted a Summer Policy Roundtable. Over 100 business leaders and industry experts were in attendance. Graham Richard, CEO of AEE and the former mayor of Fort Wayne, Indiana delivered remarks, along with Congressman Mike Quigley. The event was intended to showcase The Trust's progress on the survey we had been conducting with stakeholders in the clean energy community, as well as to formally announce our partnership with AEE. The content we presented was intended to raise awareness and educate key players on the issues facing clean energy companies and advocates today. A panel discussion was the highlight of the event, featuring Mark Pruitt, former director of the IPA; Barry Matchett, co-legislative director at ELPC; Bill McNeil, VP of Energy Acquisition at ComEd; and Pete Kadens, founder of SoCore. The event, and especially the panel discussion, prompted several articles to be written on the Renewable Portfolio Standard and Energy Efficiency including one in a regional publication, Midwest Energy News, which focused on the event itself.

The Trust has leveraged its policy work to apply for grants of $50,000 from the Energy Foundation (which has been informally approved), and $125,000 from the Joyce Foundation.

Chicago Sustainability Working Group

From FY2013 Report
Clean Energy Trust (CET) has helped convene a working group of major Chicagoland corporations. Participants include ArcelorMittal, United Airlines, McDonald's, Abbott, Baxter, Hyatt, NALCO, Boeing, and Allstate, among others. The goal is to "Green Chicago" by creating a high-performing coalition of top Chicagoland companies willing to collaborate to achieve progress on sustainability improvements. Three areas of focus for the Chicago Sustainability Working Group (CSWG) are:

(1) Sharing the best sustainability solutions and best practices that currently within participating companies
(2) Leveraging local start-ups and innovators to provide solutions for intractable sustainability challenges
(3) Collaborating to drive sustainability improvements across shared supply chains

The CSWG is currently prioritizing initiatives and developing plans for operationalizing agreed upon strategies. The expectation that initial implementation efforts will commence in Q1 of 2014.

Chicago Lakeside Development Advisory Work

From FY2013 Report
Clean Energy Trust (CET) continues to serve as an advisor to the Chicago Lakeside Development (Lakeside), partnered with Skidmore Owings and Merrill (SOM) and property

owner McCaffery Interests (MI). CET's primary scope of work is to assess the feasibility of (1) establishing a Neighborhood Utility to provide both dry and wet utility services to the nearly 700 acre brownfield development and (2) creating an Energy Innovation Center.

The vision for the Neighborhood Utility is to create an entity that will invest in, own, manage and operate next-generation infrastructure to deliver basic utility services with greater efficiency than "business-as-usual" technology. These services include the production and delivery of electricity, heating, cooling, water and waste removal.

The vision for the Energy Innovation Center (EIC) is to create a "living laboratory." The EIC will encompass a data center, research laboratories, shared smart workspace, and a test bed infrastructure for researching energy, water and waste innovations.

A RFP seeking proposals from interested, qualified parties to develop, own and operate the Neighborhood Utility (and possibly micro-grid infrastructure) is currently being drafted and is expected to be issued in Q1 or Q2 2014.

MASBI: Midwest Aviation Sustainable Biofuels Initiative – www.masbi.org

MASBI is led by a steering committee that includes United Airlines, Boeing, UOP Honeywell, City of Chicago Department of Aviation and the Clean Energy Trust. Essentially the purpose of MASBI is to engage stakeholders across the value chain of biofuels/bioenergy to determine what the business and economic opportunity is for this emerging industry and to create actionable steps and partnerships to get us there. Additionally, this will be a tremendous opportunity to network with stakeholders across the biofuels value chain and to provide input into the crafting of a new industry. Currently there are over 40 groups that have committed to the MASBI initiative, a number of these are participating with a financial contribution from their firm.

From FY2013 Report
Over the past year, 5 working groups, with participation from experts across the value chain, lead by the 5 steering committee members listed above will work on the following topics:
- feedstock
- technology
- commercialization
- infrastructure/logistics
- policy/economic development

MASBI Results:
- CET was invited to be a participate in the FAA Centers of Excellence, Alternative Fuels Project ($40M from FAA and $40M industry cost-share)
- A $50,000 biofuels/airport energy prize has been announced for Clean Energy Challenge 2014

CET lead the Policy and Economic Development working group.

The MASBI Kickoff was held in Chicago on June 25 with keynotes from Chris Tindall from the Navy, United Airlines Chief Operating Officer, Sarah Bittleman from USDA and over 50 representatives from across the Midwest, including bankers, scientists, economic development folks, fuel companies and the agricultural community.

The Policy & Economic Development working group includes representatives from the following organizations:

Virent, Purdue University, Gevo, Iowa State, Western Illinois University, Illinois Biosciences Institute, Airlines 4 America, Ohio Aviation Institute, Environmental Law & Policy Center, Midwestern Governor's Association.

On April 2, Dr. David Danielson hosted a round table discussion on aviation biofuels with 20 aviation biofuels executives, including from UOP, United Airlines, Boeing, Virent, Joule, CAAFI, Oliver Wyman and several others. Most of these meeting participants are active MASBI members.

Illinois Electric Vehicle Consortium, Kick off July 31, 2013

From FY2013 Report

The development of a robust electric vehicle (EV) market presents a major opportunity for Illinois businesses, communities, and consumers. Illinois is uniquely situated to maximize these benefits and be a national EV market leader by leveraging existing programs and initiatives such as the nation's only hourly electricity pricing programs (Ameren Power Smart Pricing and ComEd Residential Real Time Pricing) and the recently funded Joint Center for Energy Storage Research at Argonne National Lab. Despite these local advantages the state has yet to see widespread EV penetration due in part to consumer misperceptions of the benefits, as well as a lack of supporting infrastructure and enabling technologies to maximize the benefits of off peak charging. The Clean Energy Trust (CET), a Chicago based non-profit clean technology accelerator, in coordination with CNT Energy (CNTe) and the Electrification Coalition (EC) seek to advance the Illinois EV marketplace.

Objectives

This program will accelerate the adoption of EV vehicles through the creation of monetary and nonmonetary incentives and market pull and education, while offerings itself as a pilot for an easily replicable yet powerful plan.

CET, CNTe, and the EC are partnering with leading research centers and industry partners to create a consortium of organizations committed to the development of a robust electric vehicle market and deployment of supporting infrastructure in Chicago and Illinois for commuters. Ultimately this initiative aims to leave Illinois with the highest penetration of EVs in the country by educating consumers, while working with retailers at the point of sale.

Approach

The Consortium will utilize a two-phased, commuter-centric approach. The first phase is centered around research and planning, while the second plan is implementation focused. In the first phase, the consortium will develop and publish a report of recommendations to create a robust EV market—focusing on commuters who travel from home to a corporate campus or designated parking area. The research will focus on identifying infrastructure deployment opportunities and locations as well as effective incentives, such as tollway and parking credits. In addition, the program will leverage innovative technologies from the Joint Center for Energy Storage Research at Argonne National Lab to further its mission. Furthermore, the consortium will create a resource center website that will offer information about the benefits of EV and available incentives to consumers and retailers.

Phase two will focus on market development and coordinated outreach. This phase will see the deployment of charging infrastructure at homes and corporate campuses, the availability

of EV purchasing incentives, as well as the coordinated marketing effort by consortium stakeholders.

Integrys and City of Chicago

From FY2013 Report
CET is working with the City of Chicago and Integrys to identify and potentially fund clean energy projects in city which will have educational, environmental, savings and innovation impacts. These funds are available through the recent Municipal Aggregation that the city embarked upon with Integrys. The total funding is less than $10M. CET has identified 9 potential projects from companies within it's ecosystem that have technologies that could meet these project goals.

FAA – Center of Excellence, Alternative Fuels

From FY2013 Report
Through our MASBI work and leadership in the aviation biofuel sector, CET has been asked to participate in a large funding opportunity through the FAA. The application is being led by Washington State University and MIT, along with 11 other universities. CET is a commercial partner in this grant and will be able to leverage its work in MASBI and it's platforms that it has built to source innovation, bring research to market and manage the facilitations needed to accelerate projects.

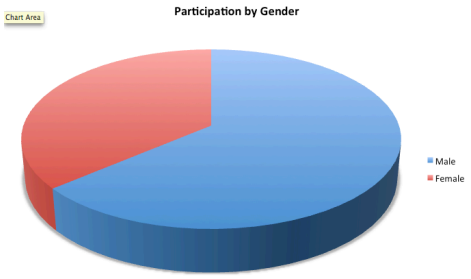
Summer Institute on Sustainability and Energy

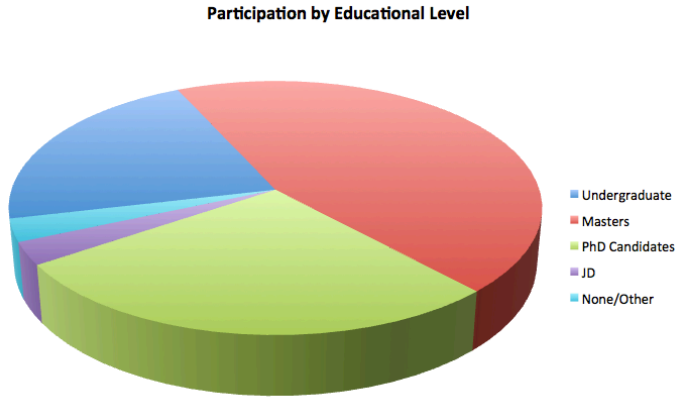
SISE is a two-week intensive workshop and lecture series geared towards individuals interested in the title subjects: sustainability and energy.

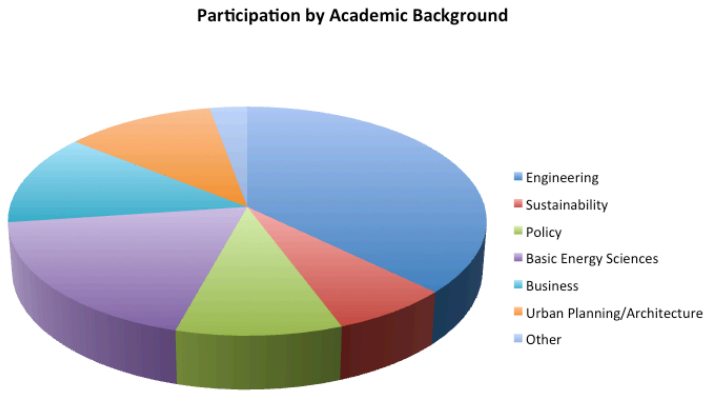
From FY2012 Report
The Trust worked with University of Illinois at Chicago on developing their second annual Summer Institute on Sustainability and Energy. We assisted in crafting project topics including: corporate supply chain sustainability, critical materials, electric vehicles and aviation biofuels. We recruited a majority of the 20-plus mentors who helped coach the students on their projects, as well as lined up a panel of experts to give the students advice on pursuing careers in the energy and sustainability fields. The career panel received excellent reviews from Dr. George Crabtree, who directs the program, and from students and other UIC staff. The Trust also hosted a reception for the SISE students at the newest Chicago incubator, 1871. Approximately 85 people attended the event, including students, professors, mentors and other industry leaders. Students had the opportunity to test out their project ideas by delivering two minute elevator pitches toward the end of the event, allowing them to solicit feedback from the larger audience. The Trust also leveraged the opportunity to promote the Clean Energy Challenge, encouraging the SISE students to take their projects to the next level by developing them into business plans to submit to the Challenge.

There where 69 applicants to 2012 SISE: 37 of these from Illinois Universities including University of Illinois at Chicago, Illinois Institute of Technology, University of Chicago, Northwestern University, University of Illinois at Chicago.
Other Institutions Represented: Florida State U, U of Colorado at Boulder, U of Michigan, U of Cincinnati, U of North Carolina, U of Wisconsin - Madison, U of Pittsburgh, U of Idaho, NYU, U of Oregon, Vanderbilt U, Ball State U, Michigan State U, U of California - Berkley, Harvard U,

Stanford U, East-West U, U of Washington, U of Texas - Austin







CET Responsibilities

- Developing a Mentoring & Career Day:
  - 20 confirmed industry mentors
  - 3 panelists to connect with the students on “Careers in Energy and Sustainability”
- Advising the definition and creation of the projects for students to work
  - Corporate Sustainability
  - Aviation Biofuels
  - Electric Vehicles

- Critical Materials

From FY2013 Report
From August 4-16, a diverse body of participants will converge on the UIC campus and immerse itself in a broad spectrum of sustainability and energy related topics. Issues presented will be of interest to scientists, economists, political scientists, urban planners, engineers, architects, and entrepreneurs. Participants will engage these issues through interactive and interdisciplinary lectures and panel discussions, collaborative research projects that stress scientific innovation and entrepreneurship, networking opportunities with academics and professionals, and tours of sustainability and energy related sites in the Chicago area. This experience leaves graduates of the Summer Institute with a firm foundation for future careers in sustainability and energy, and inspires them to lead the next generation as thoughtful and informed global citizens. For 2013, SISE will look at sustainability and energy through the lens of transportation.

Admission into the program is highly competitive, with only 60 participants from diverse academic backgrounds being accepted from across the country. Participants are primarily graduate students, though some senior-level undergraduates and professionals working in their field of expertise are also accepted.

RESEARCH COMPONENT - A major component of the SISE program is the collaborative research project. Participants are divided into research teams of 4 or 5 members; diversity of academic background, educational level, and institutional affiliation are the primary factors in determining teams. They are given one of four research projects that are specifically written for the SISE program each year and asked to solve an issue using policy, technology, and entrepreneurship. Furthermore, they are asked to solve this issue by creating an innovative solution in one of those three areas. On the final day of the institute, they will present their research before a panel of judges who will critique and comment on the projects. After the SISE program, SISE will help encourage the teams to continue pursuing their idea in the real world.

Projects for 2013 focused primarily on transportation issues.
MENTORING - On Tuesday, August 13, CET supported SISE participants through a mentorship program. Local business leaders and experts in the fields of transportation, energy, and sustainability. From 2:00-5:00PM, participants rotated between mentors at 30-minute intervals, and their ideas were challenged and stretched

Joint Center for Energy Storage Research Hub

Clean Energy Trust is a contracted commercialization partner along with industry partners Johnson Controls, Applied Materials and Dow in the $120MM DOE Energy Storage Hub. Argonne National Laboratory, along with a number of other leading energy storage technical institutions and researchers, lead the grant. Other partners on this grant include MIT, University of Illinois, University of Illinois at Chicago, Northwestern University, PNNL, LBL, Sandia, Stanford and Michigan.

Year-Round Mentorship Programming

From FY2012
The Trust has launched new partnerships with two Chicago-based organizations to develop a year-round mentorship program, which will support the participants in the Challenge, but will

also provide opportunities for mentorship support to non-Challenge participants throughout the remainder of the year. These new partners will provide critical financial and in-kind resources to support program participants. Chicago Innovation Mentors (CIM), modeled after the MIT Venture Mentoring Service, offers a team-based mentor program to support the commercialization of high-tech R&D. To date, CIM has focused primarily on biotech spinouts. The partnership with the trust will expand CIMs technology focus to include an energy track. More specifically, Clean Energy Trust has committed to running a quarterly energy mentorship program for CIM. Finally, this partnership will further expand the Trust's mentorship capabilities by broadening the mentor pool to include CIM's current mentors (over 120 qualified entrepreneurs and technology experts.)

CET has also launched a partnership with the Energy Foundry, a new Illinois-based organization whose mission is to support the development of new energy efficiency and smart-grid technologies. The Energy Foundry offers start-ups a combination of financial support through proof-of-concept grants, and equity investments, along with advisory services for grant sourcing and commercialization planning. The Energy Foundry will work with CET and CIM to offer these additional support services to qualifying start-ups.

Storage for Energy Research Graduate Experience

From FY2012 Report
Clean Energy Trust has partnered with the University of Illinois at Chicago, Northwestern University, University of Chicago, Illinois Institute of Technology, University of Illinois at Urbana-Champaign and Argonne National Laboratory on their IGERT proposal. NSF IGERT (Integrative Graduate Education and Research Traineeship) proposal called Storage for Energy Research Graduate Experience (SERGE), which proposes a multi-university and national laboratory collaborative education and research program.

- Complement the proposed Battery Hub at Argonne.
- Competitive Innovation Incentive Fund.

As a fellow grant participant, CET will receive an annual payment to provide core services through the programming platform and delivery infrastructure that we have built.

We feel the SERGE framework fills a critical need in the energy community, as energy storage innovation is vital to the advancement of renewable and efficient energy alternatives. As an external partner, Clean Energy Trust will support the IGERT program through the following services:

1) Mentorship
Clean Energy Trust has a diverse network of over 100 mentors that we will leverage to provide support and advice to the SERGE students over the course of the IGERT, and continuing after they complete their PhD programs and transition to energy careers. CET's mentorship program has proven immensely successful; we have seen our Challenge companies go on to raise over $19M in funding and win numerous competitions after participating. CET has also partnered with UIC's SISE program to connect students interested in pursuing energy careers with industry experts who can guide them.

2) SERGE Fellows Defense of Research event series
CET proposes hosting an annual event for SERGE students that would take place in conjunction with the Clean Energy Challenge. The linkage to the Challenge would allow us to ensure consistently high visibility and a well-regarded audience across each year. The events would give research teams the opportunity to present to an audience of industry experts, researchers, scientists, academics and

professionals on how their work will advance the energy industry. CET, in collaboration with the SERGE partners, will assemble a panel of judges comprised of representatives from Argonne and other national labs, STEM programs at universities, and leaders in the energy storage space. The judges will award a $10,000 grant to the research team with the most compelling argument. Funding for the $10,000 research award for the duration for the IGERT program will be raised by UIC, in conjunction with SERGE participating institutions, through other funding sources. After the IGERT expires in 5 years, CET will raise outside sponsorship to continue the SERGE prize.

3) The Clean Energy Exchange
The Clean Energy Trust has developed an exciting new online social platform for the clean energy community to share information, access data and explore economic opportunities. This will be a valuable resource to the IGERT program as it has the potential to allow students to bridge geographic boundaries and cross-cut disciplines when collaborating with peers to pursue shared research goals. There are currently more than 120 Battery and Storage companies in the Exchange with whom SERGE students can connect. The Exchange also provides a digital structure for matching students with internship and funding opportunities, as well as for recruiting underrepresented populations to become more active in the STEM fields.
Clean Energy Trust looks forward to supporting the five universities and the national laboratory in their proposal for, and implementation of, the IGERT program

Participation in the Clean Energy Alliance (CEA)

From FY2012 Report
As a member of CEA, Clean Energy Trust has engaged with three clients for in-depth consulting and business development support. The CEA programming has extended our capabilities at CET to develop the core competence and infrastructure to dive deeper with certain clients. We have augmented our staff with outside consultants, sector experts, and interns in order to provide these services. Through the CEA we have been doing in-depth market, industry and strategic analysis for the following companies:

- NuMat Technologies: Student team from Northwestern University, Winner of Clean Energy Challenge and DOE National Student Business Plan Competition
- Applied Thin Films (ATFI): DOE Phase II SBIR winner
  Gas Technology Institute (GTI): With DOE funding and a tenured expertise in R&D and oil and gas applications has developed a novel energy storage system

Tech Showcase

From FY2012 Report
Programs launched through the Innovation Ecosystem Development initiative provided several distinct entry points for student teams and early stage companies seeking commercialization support. However, one clear gap was identified. To date, teams supported through the Challenge are either student-run (as defined by the eligibility criteria for the National Clean Energy Business Competition,) or independent early stage start-ups. Yet one clear gap remains: university and national laboratory faculty. To that end the Trust created a new program, an annual tech showcase, which is intended to feature individual technologies in search of commercialization support.

On October 3rd, 2012, the Trust launched the first annual Tech Showcase—featuring a variety of presentations from leading clean energy researchers and commercialization experts. The Showcase drew more than 100 participants, including many students, university faculty, early

stage companies, and potential mentors to Challenge companies. Participants were encouraged to make connections with potential team members and to develop commercialization plans for technologies featured at the Showcase. The long-term goal of this program is to create a forum to highlight the region's leading cleantech innovations that have yet to be claimed by spinouts or strategic licensors.

Operational Improvements

Organizational Growth and Enhancement Capabilities

From FY2012 Report
During Q3 CET added a new Board of Director's member, 2 advisory board members, 8 interns, 1 subcontractor, and 1 full time employee.

New Advisors & Board Members

From FY2012 Report
New Board Members:

Sunil Garg is the Senior Vice President and Chief Information and Innovation Officer Exelon Corporation

New Advisory Board Members

From FY2012 Report
Matt Haas: Financial transactions and accounting expert (Balasa, Dinverno Foltz, LLC)
John Dinardi – CEO Norlux Corporation (Norlux: designs and manufactures custom light emitting diode lighting solutions

With these additions, CET now has 38 members on its advisory board and 9 members on its Board of Director's

New Hires

From FY 2012 Report

a) Estelle Seals – Office Manager, Full Time Employee
Estelle Seals will be a huge asset to our administrative aspects as our office continues to grow.
b) Jim Griffin – BS Chemical Engineering MIT (intern)
c) Jonas Nwuke – MBA, University of Chicago Booth School of Business (intern)
d) Courtney Collins – MBA, University of Chicago Booth School of Business (intern)
e) Zachary Schreiber – Junior at Syracuse University (intern)
f) Ben Brown – BS Physics, Middlebury College (intern)
g) Rosa Lin – Graduate Student at Medill School of Journalism at Northwestern Univeristy (intern)
h) Alek Uransel – Junior at Loyola University in Chicago and military veteran (intern)
i) Rachel Vana – Junior at Drake University (intern)

From FY2013 Report
Erik Birkerts joined the team as its Executive Vice President and Chief Operating Officer. Erik has over 20 years of operational and general management experience, including project financing and strategy development for energy efficiency and clean technology companies. He will have responsibility for directing the operational processes for Clean Energy Trust and for implementing new strategies and programs to further its growth.

Prior to Clean Energy Trust, Erik was a founding partner of Evergreen Growth Advisors, a Chicago-based strategy consultancy, and led the firm's clean energy practice. Birkerts has been on the senior management teams for two IPOs of venture capital backed companies, including serving as Executive Vice President and Chief Operating Officer of publicly-traded Orion Energy Systems. Erik is the lead author of the recent California

3 New Full Time Employees
- *Patrick Whitty, Director of Programs*
- *Emily Achler, Marketing and Communications Manager*
- *Jonathan Schwieger, Associate*

Summer interns:
- Arland Crandell – Dickinson College (PA), undergraduate
- Daniel Zimney-Schmitt – University of Denver (CO), undergraduate
- Nick Brady – University of Illinois at Urbana-Champaign (IL), graduate
- Rachel Vana – Drake University (IA), undergraduate
- Mark Silberg – Northwestern (IL), undergraduate
- Joe Arnstein – Stanford University (CA), undergraduate

Business Process Improvement

From FY2012 Report
As part of our ability to measure the impact that CET is having on our Ecoystem and to gauge the interaction that entrepreneurs, scientists and companies are having, CET has spent this past quarter enhancing our measurement, metrics and business intelligence capabilities, leveraging our Clean Energy Exchange, previously discussed above.

Sustainability Planning

From FY2013 Report

CET has commenced the fundraising cycle for the Clean Energy Impact Fund (CEIF, formerly the POC Fund).
The purpose of CEIF is threefold:
- To identify and develop a critical mass of new companies in the EERE mission space in the U.S. Midwest;
- To provide pre-seed funding for technology development, prototyping, and beta testing, necessary for crossing the Commercialization Valley of Death; and
- To generate sufficient returns to enable a sustainable, evergreen investment fund to support future generations of innovators and entrepreneurs.

In July and August, 2013 the CET team held a series of internal off-site strategic planning days to continue to refine the existing programs and develop a long-term sustainability strategy. CET has already submitted several proposals for additional funding that have not yet been awarded as well as new funding opportunities that are accretive to the Trust's long-term mission and sustainability plan. These internal strategy sessions are intended to help the team manage its development plans and resource allocation over the next quarter and beyond.

5. Summarize project activities for the entire period of funding, including original hypotheses, approaches used, problems encountered and departure from planned methodology, and an assessment of their impact on the project results. Include, if applicable, facts, figures, analyses, and assumptions used during the life of the project to support the conclusions.

See 4 above for a comprehensive treatment of all activities.

6. Identify products developed under the award and technology transfer activities, such as:

   a. Publications (list journal name, volume, issue), conference papers, or other public releases of results. If not provided previously, attach or send copies of any public releases to the DOE Program Manager identified in Block 15 of the Assistance Agreement Cover page;

      N/A

   b. Web site or other Internet sites that reflect the results of this project;

      www.thecleanenergyexchange.org

c. Networks or collaborations fostered;

   Numerous relations and collaborations were discussed in great detail above

d. Technologies/Techniques;

   N/A

e. Inventions/Patent Applications, licensing agreements; and

N/A

f. Other products, such as data or databases, physical collections, audio or video, software or netware, models, educational aid or curricula, instruments or equipment.

www.thecleanenergyexchange.org

7. For projects involving computer modeling, provide the following information with the final report:

a. Model description, key assumptions, version, source and intended use;

N/A

b. Performance criteria for the model related to the intended use;

N/A

c. Test results to demonstrate the model performance criteria were met (e.g., code verification/validation, sensitivity analyses, history matching with lab or field data, as appropriate);

N/A

d. Theory behind the model, expressed in non-mathematical terms;

N/A

e. Mathematics to be used, including formulas and calculation methods;

N/A

f. Whether or not the theory and mathematical algorithms were peer reviewed, and, if so, include a summary of theoretical strengths and weaknesses;

N/A

g. Hardware requirements; and

N/A

h. Documentation (e.g., users guide, model code).

N/A

Clean Energy Trust Jobs Report	Prior to surveys	2011 Q4	2012 Q2	2012 Q4	2013 Q1	2013 Q3	2013 Q4	Grand Total
Company 0	5		1					6
Company 01	15		4	5				24
Company 02	1		0		1			2
Company 03	3		0					3
Company 04	5		2	4	1			12
Company 05	1		0					1
Company 06	5		3	1				9
Company 07	10		3	2				15
Company 09	0		3		8			11
Company 10	3		2					5
Company 12		3	0		2			5
Company 13	3		0					3
Company 14	7		0	4	3		3	17
Company 15	5		2		1		2	10
Company 16					4			4
Company 17	2		0		1			3
Company 18	2		0					2
Company 19							8	10
Company 20	0		2					2
Company 21	0		4		2			6
Company 22	0		5		2		4	11
Company 23	2		0	1				3
Company 24	0		1					1
Company 25	0		2					2
Company 26	5		4	2				11
Company 27	3		2	8				13
Company 28				3				3
Company 29	0		1					1
Company 30	5		2					7
Company 31	3		0					3
Company 33	2		0					2
Company 35	8		4					12
Company 36	3		1	3				7
Company 37					1			1
Company 39				6			4	10
Company 40	1		0					1
Company 43				1				1
Company 44				8				8
Company 45	3						2	5
Company 46						2		2
Company 47	2						2	4
Company 48	5						4	9
Company 49							2	2
Company 52							2	2
Company 54	0		0					0
Company 55							2	2
Company 56	0		0					0
Company 57	4						2	6
Company 58							2	2
Company 59	1						1	2

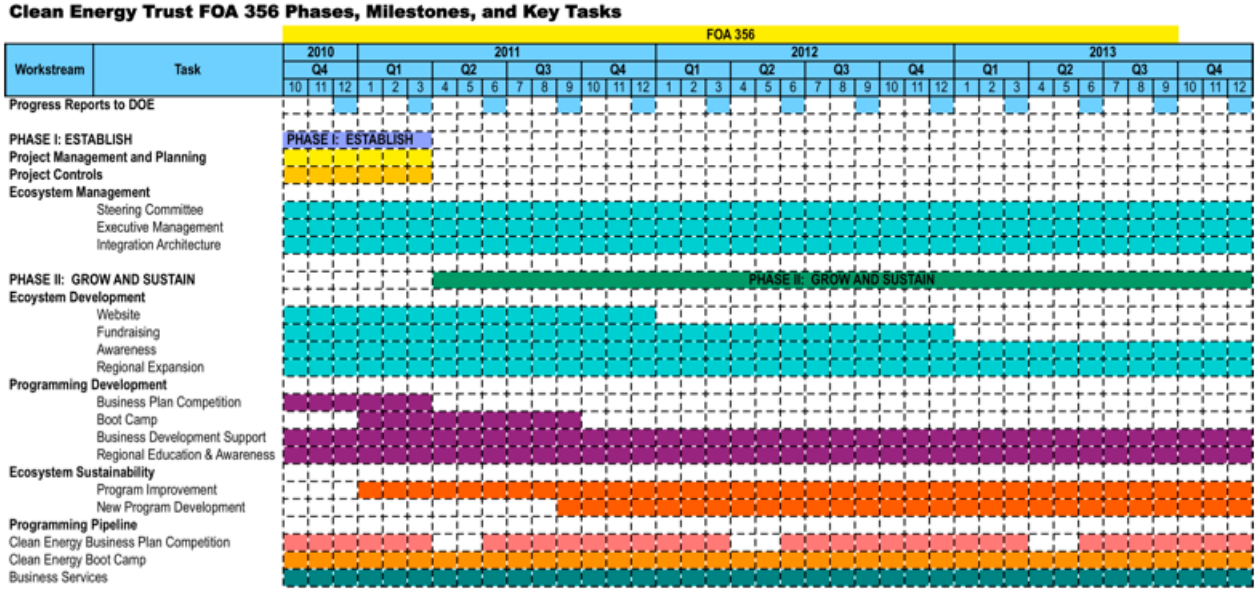
6. Cost Status. A comparison of the approved budget by budget period and the actual costs incurred during the reporting period shall be provided. If cost sharing is required, the cost breakdown shall show the DOE share, recipient share, and total costs

Need updated metric picture!

	FY2013	Q1, Actuals			Q2, Actuals			Q3, Actuals		
	PERIOD 2 (Approved)	Total	DOE Share	Recipient Share	Total	DOE Share	Recipient Share	Total	DOE Share	Recipient Share
A. Senior/Key Persons	340,100	56,656	56,656	0	61,761	61,761	0	33,602	4,117	29,485
B. Other Personnel	41,000	20,250	20,250	0	5,352	5,352	0	26,078	1,500	24,578
C. Equipment	0		0		0	0	0	0	0	0
D. Travel	10,000	1,740	1,740	0	0	0	0	21,464	1,243	20,221
E. Participant/Trainee Support Costs	40,857	4,403	4,403	0	3,303	3,303	0	18,015	0	18,015
F. Other Direct Costs					0	0	0	0	0	0
F.1: Materials and Supplies	16,000	195	195	0	0	0	0	8,114	0	8,114
F.3: Consultant Services	80,000	42,533	42,533	0	7,500	7,500	0	155,551	21,057	134,494
F.6: Equipment or Facility Rental	94,495	14,223	14,223	0	2,084	2,084	0	105,457	2,084	103,373
F.8 Other	124,167	0	0	0	0	0	0	105,972	100,000	5,972
Total F	314,662	56,951	56,951	0	9,584	9,584	0	375,094	123,140	251,954
G. Direct Costs (A-F)	746,619	140,000	140,000	0	80,000	80,000	0	474,253	130,000	344,253
H. Indirect Cost Type	8,850	0	0	0	0	0	0	0	0	0
I. Total Direct and Indirect	755,469	140,000.00	140,000.00	0	80,000	80,000	0	474,253	130,000	344,253

7. Schedule Status. List milestones, anticipated completion dates and actual completion dates. If you submitted a project management plan with your application, you must use this plan to report schedule and budget variances. You may use your own project management system to provide this information.

Clean Energy Trust FOA 356 Phases, Milestones, and Key Tasks



The above Gantt Chart demonstrates the milestones, timing, activities and work breakdown structure of the submitted project plan. Phase I is now complete. We are now in Phase II which is going very well.

8. Describe any changes during the reporting period in project approach and the reasons for these changes. Remember, significant changes to the project objectives and scope require prior approval by the Contracting Officer.

THERE ARE NO CHANGES AT THIS TIME.

9. Describe any actual or anticipated problems or delays and any actions taken or planned to resolve them.

THERE ARE NO CHANGES AT THIS TIME.

10. Describe any absence or changes of key personnel or changes in consortium/teaming arrangement during the reporting period.

THERE ARE NO CHANGES AT THIS TIME.

11. List and describe any product produced or technology transfer activities accomplished during this reporting period, such as:

a. Publications (list journal name, volume, issue); conference papers; or other public releases of results. Attach or send copies of public releases to the DOE Program Manager identified in Block 15 of the Assistance Agreement Cover Page.

NOT APPLICABLE AT THIS TIME.

b. Web site or other Internet sites (list the URL) that reflect the results of this project.

The Clean Energy Exchange was launched on November 1st at our Annual Meeting:www.thecleanenergyexchange.org

As previously described in prior quarterly reports, the Exchange, aims to index the clean technology organizations, assets, projects and physical installations within the Midwest region, build a community around this information and then link these individuals with funding, expertise and other growth resources for their businesses as well as educate citizens of the region on the opportunities in cleantech. This tool will also grow into a platform used to track growth in the cleantech sector.

c. Networks or collaborations fostered.

See the narrative above.

d. Technologies/Techniques (Identify and Describe).

THERE ARE NO CHANGES AT THIS TIME.

e. Inventions/Patent Applications (Identify and Describe with date of application)

THERE ARE NO CHANGES AT THIS TIME.

f. Other products, such as data or databases, physical collections, audio or video, software or NetWare, models, educational aid or curricula, instruments or equipment (Identify and Describe).

See section B above on the Inventory Project.

Special Status Report

The recipient must report the following events by e-mail as possible after they occur.

1. Developments that have a significant favorable impact on the project.

See above discussion for examples of favorable impacts. We have followed the protocol regarding this request by emailing with our Program Manager, Jen Garson and their teams when favorable things have happened under this Federal DOE grant program at Clean Energy Trust.

2. Problems, delays, or adverse conditions which materially impair the recipient's ability to meet the objectives of the award or which may require DOE to respond to questions relating to such events from the public The recipient must report any of the following incidents and include the anticipated impact and remedial action to be taken to correct or resolve the problem/condition:

a. Any single fatality or injuries requiring hospitalization of five or more individuals.

NOT APPLICABLE.

b. Any significant environmental permit violation.

NOT APPLICABLE.

c. Any verbal or written Notice of Violation of any Environmental, Safety, and Health statutes.

NOT APPLICABLE.

d. Any incident which causes a significant process or hazard control system failure.

NOT APPLICABLE.

e. Any event which is anticipated to cause a significant schedule slippage or cost increase.

NOT APPLICABLE.

f. Any damage to Government-owned equipment in excess of $50,000.

NOT APPLICABLE.

g. Any other incident that has the potential for high visibility in the media.

NOT APPLICABLE

B. SCIENTIFIC/TECHNICAL REPORTS

NOT APPLICABLE AT THIS TIME.

C. FINANCIAL REPORTING

Recipients must complete the SF-425 as identified on the Reporting Checklist in accordance with the report instructions. A fillable version of the form is available at

http://www.whitehouse.gov/omb/grants/grantsforms.aspx.

D. CLOSEOUT REPORTING

SF-428 & 428B Final Property Report.

E. OTHER REPORTING

SF- **Annual Indirect Cost Proposal and Reconciliation**

Requirement. In accordance with the applicable cost principles, the Recipient must submit an annual indirect cost proposal, reconciled to its financial statements, within six months after the close of the Recipient's fiscal year, unless the award is based on a predetermined or fixed indirect rate(s), or a fixed amount for indirect or facilities and administration (F&A) costs.

Cognizant Agency. The Recipient must submit its annual indirect cost proposal directly to the cognizant agency for negotiating and approving its indirect costs. If the DOE awarding office is the cognizant agency, the Recipient must submit their annual indirect cost proposal to https://www.eere-pmc.energy.gov/SubmitReports.aspxi