8. Technology Integration

The Technology Integration subprogram accelerates the adoption and use of alternative fuel and advanced technology vehicles to help meet national energy and environmental goals and accelerate dissemination of advanced vehicle technologies through demonstrations and education. This subprogram's efforts logically follow successful research by industry and government and help to accelerate the commercialization and/or widespread adoption of technologies that are developed in other Vehicle Technologies Office (VTO) program areas. Deployment activities linked to research and development (R&D) also provide early market feedback to emerging R&D.

Subprogram functions include both regulatory and voluntary components. The regulatory elements include legislative, rulemaking, and compliance activities associated with alternative fuel requirements identified within the Energy Policy Acts of 1992 (EPAct 1992) and 2005 (EPAct 2005), as well as the Energy Independence and Security Act of 2007. Voluntary efforts include demonstration of advanced technology vehicles to verify market readiness and public information, education, outreach and technical assistance efforts. VTO works with public/private partnerships between the U.S. Department of Energy (DOE) and local coalitions of key stakeholders across the country (such as through Clean Cities) to implement strategies and projects that displace petroleum. In addition, the annual DOE/U.S. Environmental Protection Agency (EPA) Fuel Economy Guide publication and related data dissemination efforts (required by law) are produced, along with the website www.fueleconomy.gov.

Education aids in overcoming institutional barriers to widespread use of advanced vehicle technologies and alternative fuels, and serves to train the next generation of participants in this technology sector. Activities such as the Advanced Vehicle Competitions (EcoCAR) and Graduate Automotive Technology Education (GATE) encourage the interest of university student engineers and engage their participation in advanced technology development.

EcoCAR 2: Plugging In to the Future: EcoCAR 2 is the successor to EcoCAR: The NeXt Challenge. Established by DOE and General Motors (GM), EcoCAR 2 is a three-year collegiate engineering competition and the only program of its kind. The mission of EcoCAR 2 is to educate the next generation of automotive engineers through an unparalleled hands-on, real-world engineering experience. The competition challenges 16 North American universities to reduce the environmental impact of vehicles without compromising performance, safety and consumer acceptability. EcoCAR 2 requires students to explore a variety of powertrain architectures and follow a real-world engineering regimen modeled after GM's Global Vehicle Development Process. EcoCAR 2 teams will utilize a Chevrolet Malibu, donated by GM, as the integration platform for their advanced vehicle design.

EcoCAR: The NeXt Challenge: EcoCAR is the successor to Challenge X and is also a three-year engineering competition sponsored by VTO and GM. EcoCAR, started in 2008 and ending in 2011, challenges students to reengineer a 2009 Saturn Vue. The Challenge is to engineer a system that reduces fuel consumption and lower emissions by using advanced fueling technologies, such as: hydrogen fuel cells, plug-in hybrid technology, hybrid technology, diesel technology and other advanced fueling technologies. EcoCAR also is introducing hardware-in-the-loop and software-in-the-loop training for its competition students. This is state-of-the-art training and allows students to mirror the real-world development process used by GM and other auto manufacturers from around the world.

Automotive X Prize: DOE has partnered with the Automotive X Prize (AXP) to develop an educational outreach program aimed at engaging students (kindergarten-12) and the public in learning about advanced, energy-efficient vehicles. DOE is providing $3.5 million over 3 years for the outreach effort. The Automotive X Prize is an open competition with the goal of inspiring a new generation of super-efficient vehicles that dramatically reduce oil dependence and greenhouse gas (GHG) emissions. The Automotive X Prize Education Program is comprised of three integrated activities: 1) an on-line knowledge center; 2) development of a vehicle telemetry package and integration of that package with the AXP online knowledge center; and 3) launch of a national contest to harness student creativity.

Graduate Automotive Technology Education: DOE established the GATE Program Centers of Excellence to provide future generations of engineers and scientists with knowledge and skills in advanced automotive technologies. By funding curriculum development and expansion as well as laboratory research, GATE allows higher education institutions to develop multidisciplinary

training. As a result, GATE promotes the development of a skilled workforce of engineering professionals who will overcome technical barriers and help commercialize the next generation of advanced automotive technologies. To that end, 10 GATE Centers were originally established in 1998 at 9 universities. In 2005, DOE held a second competition to form new, or expand, existing GATE Centers of Excellence. Award recipients received funds to support graduate research and/or expand course study and laboratory work. These improvements supported graduate engineering degree programs with a focus or certificate in critical automotive technology areas. Eight universities received awards in 2005 for programs focused on hybrid propulsion systems, fuel cells, advanced computation and simulation, energy storage systems, biofuels, and lightweight materials. In late 2011, the GATE initiative awarded $6.4 million over the course of five years to support Centers of Excellence at American colleges, universities, and university-affiliated institutions. The awardees will focus on three crucial automotive technology areas: hybrid propulsion, energy storage, and lightweight materials.

EPAct Transportation Regulatory Activities: VTO manages several EPAct transportation regulatory activities that aim to reduce U.S. petroleum consumption by building a core market for alternative fuel vehicles (AFVs).

Clean Cities: Clean Cities advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum consumption in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and private sectors to deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies.

In August 2009, DOE announced the selection of projects supporting two program areas under the American Recovery and Reinvestment Act (ARRA): transportation electrification education; and clean fuels, vehicles and infrastructure development. With funding totaling $39 million, the 10 ARRA-funded Advanced Electric Drive Vehicle Education activities support educational programs to substantially reduce petroleum consumption. Activities under this program include engineering degree and certificate programs, emergency responder and safety training, consumer and K-12 educational outreach, developing and providing teaching materials, and training service personnel, vehicle mechanics, and supporting infrastructure.

Additionally, DOE announced the selection of 25 projects totaling nearly $300 million that will speed the transformation of the nation’s fleet. These projects will place more than 8,000 alternative fuel and energy efficient vehicles on the road, and establish hundreds of refueling locations/recharging sites across the country, which are both activities that support efforts to reduce petroleum consumption. Activities include development of alternative fuel infrastructure and alternative fuel corridors; AFV deployment, including deployments of light-duty AFVs and vehicle conversions; upgrades to existing alternative fuel infrastructure; technical training; and education and outreach.

Subprogram Feedback

DOE welcomed optional feedback on the overall technical subprogram areas presented during the 2013 Annual Merit Review (AMR). Each subprogram technical session was introduced with a presentation that provided an overview of subprogram goals and recent progress, followed by a series of detailed topic area project presentations.

The reviewers for a given subprogram area who volunteered to provide subprogram overview comments responded to a series of specific questions regarding the breadth, depth, and appropriateness of that DOE VTO subprogram’s activities. The subprogram overview questions are listed below, and it should be noted that no scoring metrics were applied. These questions were used for all VTO subprogram overviews.

Question 1: Was the subprogram area adequately covered? Were important issues and challenges identified? Was progress clearly presented in comparison to the previous year?

Question 2: Are plans identified for addressing issues and challenges? Are there gaps in the project portfolio?

Question 3: Does the subprogram area appear to be focused, well-managed, and effective in addressing the DOE Vehicle Technologies Office’s needs?

Question 4: Other Comments.

Responses to the subprogram overview questions are summarized in the following pages. Individual reviewer comments for each question are identified under the heading Reviewer 1, Reviewer 2, etc. Note that reviewer comments may be ordered differently; for example, for each specific subprogram overview presentation, the reviewer identified as Reviewer 1 in the first question may not be Reviewer 1 in the second question, etc., as reviewer responses were optional.

Subprogram Overview Comments: Dennis Smith, Connie Bezanson (U.S. Department of Energy) – ti000

Question 1: Was the sub-program area adequately covered? Were important issues and challenges identified? Was progress clearly presented in comparison to the previous year?

Reviewer 1:

The reviewer commented that the program area was adequately covered, and the important issue of achieving petroleum displacement when technology R&D was complete had been identified. Progress in terms of petroleum displacement by the Clean Cities efforts was clearly defined. The reviewer added that new initiatives were discussed appropriately.

Question 2: Are plans identified for addressing issues and challenges? Are there gaps in the project portfolio?

Reviewer 1:

The reviewer stated that Clean Cities covered the broad range of petroleum displacement methods (alternative fuels, fuel efficiency, etc.). There did not appear to be gaps in the project portfolio, but the level of support for individual technology deployments varied from year to year. This reviewer added that the current focus was on electric vehicles (EVs), and encouraged Clean Cities to maintain efforts across that broad range of technologies to ensure DOE had a solution ready no matter what the national need might be.

Question 3: Does the sub-program area appear to be focused, well-managed, and effective in addressing the DOE Vehicle Technologies Program's needs?

Reviewer 1:

The reviewer said that the Technology Integration program did indeed support the needs of the VTO, and appeared to be focused and well-managed by a team of experienced professionals who were very familiar with the needs of the program and VTO.

Question 4: Other Comments

Reviewer 1:

The reviewer hoped that the VTO would maintain its support for these important efforts, adding that, without deployment and outreach efforts, technologies would not be ready when the country needed them.

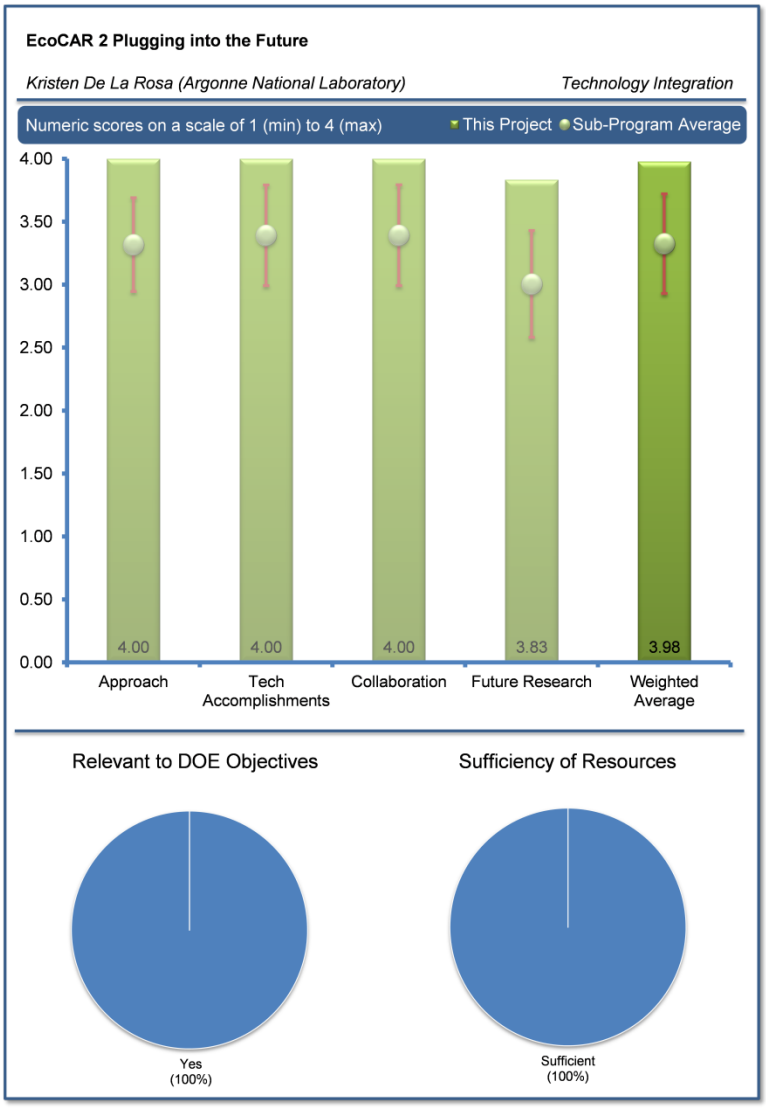
Project Feedback

In this merit review activity, each reviewer was asked to respond to a series of questions, involving multiple-choice responses, expository responses where text comments were requested, as well as numeric scoring responses *(on a scale of 1 to 4)*. In the pages that follow, the reviewer responses to each question for each project will be summarized: the multiple choice and numeric score questions will be presented in graph form for each project, and the expository text responses will be summarized in paragraph form for each question. A summary table presenting the average numeric score for each question for each project is presented below.

Presentation Title	Principal Investigator and Organization	Page Number	Approach	Technical Accomplishments	Collaborations	Future Research	Weighted Average
EcoCAR 2 Plugging into the Future	Kristen De La Rosa (Argonne National Laboratory)	8-6	4.00	4.00	4.00	3.83	3.98
Center for Electric Drive Transportation at the University of Michigan - Dearborn	Chris Mi (Regents University of Michigan)	8-10	3.17	3.67	3.67	2.83	3.44
Innovative Drivetrains in Electric Automotive Technology Education (IDEATE)	Gregory Plett (Regents University of Colorado)	8-14	3.00	2.83	2.83	2.67	2.85
GATE: Energy Efficient Vehicles for Sustainable Mobility	Giorgio Rizzoni (Ohio State University: GATE)	8-18	4.00	4.00	4.00	3.00	3.88
Hoosier Heavy Hybrid Center of Excellence	Gregory Shaver (Purdue University)	8-21	3.00	3.00	3.00	2.80	2.98
GATE Center of Excellence in Sustainable Vehicle Systems	Imtiaz Haque (Clemson University)	8-25	3.80	3.60	3.60	3.40	3.63
IN-VEHICLE, HIGH-POWER ENERGY STORAGE SYSTEMS	Joel Anstrom (Pennsylvania State University)	8-28	3.20	3.00	3.00	3.00	3.05
GATE Center of Excellence in Lightweight Materials and Manufacturing Technologies	Uday Vaidya (The University of Alabama at Birmingham)	8-31	2.80	3.80	3.80	2.00	3.33
EV Community Readiness projects: American Lung Association of the Southwest (CO); Oregon Business Development Department (OR, WA)	Kay Kelly (DOE GFO)	8-34	3.50	3.50	3.50	2.86	3.42
EV Community Readiness projects: New York City and Lower Hudson Valley Clean Communities, Inc. (NY, MA, PA); NYSERDA (ME, NH, VT, MA, RI, CT, NY, NJ, PA, DE, MD, DC)	Mike Scarpino (National Energy Technology Laboratory)	8-44	3.38	3.25	3.25	3.29	3.29
EV Community Readiness projects: SCAQMD (CA); University of Hawaii	Brett Aristigui (National Energy Technology Laboratory)	8-54	3.38	3.63	3.63	3.29	3.52
EV Community Readiness projects: Delaware Valley Regional Planning Commission (PA); Metropolitan Energy Information Center, Inc. (KS, MO)	David Kirschner (National Energy Technology Laboratory)	8-65	2.75	2.88	2.88	2.43	2.79
EV Community Readiness projects: Center for the Commercialization of Electric Technologies (TX); City of Austin, Austin Energy (TX)	Neil Kirschner (National Energy Technology Laboratory)	8-75	3.29	3.29	3.29	3.29	3.29
EV Community Readiness projects: Clean Energy Coalition (MI); Clean Fuels Ohio	Erin Russell-Story (National Energy Technology Laboratory)	8-82	3.57	3.57	3.57	3.43	3.55
EV Community Readiness projects: South Florida Regional Planning Council; Virginia Department of Mines, Minerals	Darren Stevenson (National Energy Technology Laboratory)	8-89	3.00	2.71	2.71	2.86	2.80

and Energy							
EV Community Readiness projects: Center for Transportation and the Environment (GA, AL, SC); Centralina Council of Governments (NC)	Trev Hall (National Energy Technology Laboratory)	8-97	3.29	3.57	3.57	3.14	3.45
Overall Average			3.32	3.39	3.39	3.01	3.33

EcoCAR 2 Plugging into the Future: Kristen De La Rosa (Argonne National Laboratory) - ti013



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer observed that the replication of an auto industry multi-year vehicle development process in a university setting provides students with invaluable real world engineering experience prior to graduation. In addition to automotive engineering experience, teams also gain practical experience in project management, budgeting, risk analysis as well as outreach and public relations. The reviewer noted that overall, the program is an outstanding opportunity for students.

Reviewer 2:

The reviewer stated that the project directly addresses the technical barriers that the project team has identified in the market place. This is a highly valuable project that will provide the participating students the equivalent of a few years of original equipment manufacturer (OEM) work experience.

Reviewer 3:

The reviewer remarked Argonne National Laboratory (ANL) has a very well-managed program and a very dedicated staff that steps in and helps execute business plans for each individual program participant. The outreach program is very effective and number of partners is impressive. The reviewer observed that the program is well-integrated with other OVT programs.

Reviewer 4:

The reviewer remarked that this and the other similar student automotive competitions are propelling the U.S. industry forward. The reviewer recommended to keep refining it, and that no strategy changes were needed.

Reviewer 5:

The reviewer summarized that the project relies upon a time-proven approach, focusing on emphasizing placing students in project development team environments. This approach has been developed in close coordination with industry. Many students have been hired by industry, National Laboratories, or even DOE. In fact, stated the reviewer, auto manufacturers in particular appear to use competition events as opportunities to recruit new engineers. GM has indicated half of its hires from the student competition program have patents within the first two years on the job. According to the reviewer, this project is typically limited in number of teams chosen for competition, which is good, so that the program does not over-reach. The student competition program's strength has been in its ability to follow its well-proven approach, which could be compromised if competition were expanded. The reviewer concluded

that this project also focuses on providing opportunities for a number of advanced vehicle technologies and is explicitly not limited to any specific winner, which expands the opportunities for experience and solutions.

Reviewer 6:
The reviewer commented that promoting an interdisciplinary approach is a key to the success of the competing team.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer commented that the number of students graduating from DOE's Advanced Vehicle Technology Competition Program is impressive and attests to the long-term impact and success of the program.

Reviewer 2:
The reviewer commented that while the process overall was simplified, the focus on safety is being emphasized even more. The reviewer also stressed that there have been no recordable incidents in 25 years. All systems are clearly defined. This reviewer remarked that what is even more impressive is that the program targets not only engineers, but business managers.

Reviewer 3:
The reviewer observed that barriers were being blown through.

Reviewer 4:
The reviewer reported that the year two competition is underway now and that vehicle components are required to be operational, though entire vehicles are not yet required to be. It appeared to this reviewer that the teams have accomplished a great deal, utilizing not only advanced technologies, but also extensive advanced modeling and controls software. The teams have demonstrated truly innovative solutions and approaches. The reviewer concluded that the project also included a strong emphasis on ensuring safety throughout the duration of activities.

Reviewer 5:
According to the reviewer, ensuring that participants are fully-supported by the Principal Investigator (PI) was no trivial task. Having an annual progress evaluation has been an effective audit management process. The reviewer observed a job well done.

Reviewer 6:
This reviewer suggested that the only area for improvement would be to conduct outreach to other technical universities to expand the program.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer commented that the level of collaboration and coordination is outstanding. The EcoCAR 2 program not only involves students from 15 different universities, but also garners support from a network of more than 30 government and industry sponsors.

Reviewer 2:
The reviewer observed that the cost-share was an impressive leveraging of DOE funds. The success of this program is clearly dependent upon the partners to EcoCAR, as it should be, as the engineers who participate have a strong likelihood of continuing in an automotive career after graduation.

Reviewer 3:
The reviewer observed an excellent ability to attract partners and sponsors, and leverage government funding.

Reviewer 4:
The reviewer stated that the project included strong collaboration with a large number of industry and government organizations (approximately 30), resulting in increased opportunities for technology transfer. This also has resulted in substantial financial contributions.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer noted that the milestones are well-defined and challenging.

Reviewer 2:
The reviewer commented that year three of the competition is clearly planned out, as well as the selection process for the EcoCAR 3 competition. During year three of EcoCAR 2, teams will move from integrated components to fully-functional vehicles, resulting in the final competition in Spring 2014.

Reviewer 3:
The reviewer commented that the EcoCAR 3 program is in the initial stages, but appeared to be well-planned and builds on past progress.

Reviewer 4:
According to the reviewer, preparation of EcoCAR 3 appeared to be well-formulated upon a successful model. This reviewer, however, did not recall any description of how this program markets for participation.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer praised the program, as it may be one of the most important investments that DOE makes in future automotive engineers.

Reviewer 2:
The reviewer remarked that this project was highly relevant, as it has resulted in another generation of graduates trained in advanced vehicle technologies as well as providing useful information on, and experience with, these technologies.

Reviewer 3:
The reviewer commented that this program will create an engineering workforce that could immediately contribute at an automotive OEM, which should translate into improved productivity for auto manufacturers, because the project will spend less time training their new engineers.

Reviewer 4:
According to the reviewer, the practical hands-on experience that students gain in the development of advanced vehicle technologies in the EcoCAR program fully supports DOE's petroleum reduction goals.

Reviewer 5:
The reviewer observed that there is an obvious shortfall in the workforce in the field, and that this program was well-designed and effective to overcome this barrier.

Reviewer 6:
The reviewer observed that many, if not all, of the vehicle power systems used reduced or non-petroleum fuels.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:

The reviewer noted that funding seemed adequate, and that leveraging of DOE funding with external industry and academic sources has been very successful.

Reviewer 2:

The reviewer commented that resources appeared sufficient for maintaining the program at its current levels. Funding is being leveraged 90:1 through industry contributions of cash, equipment, and in-kind support.

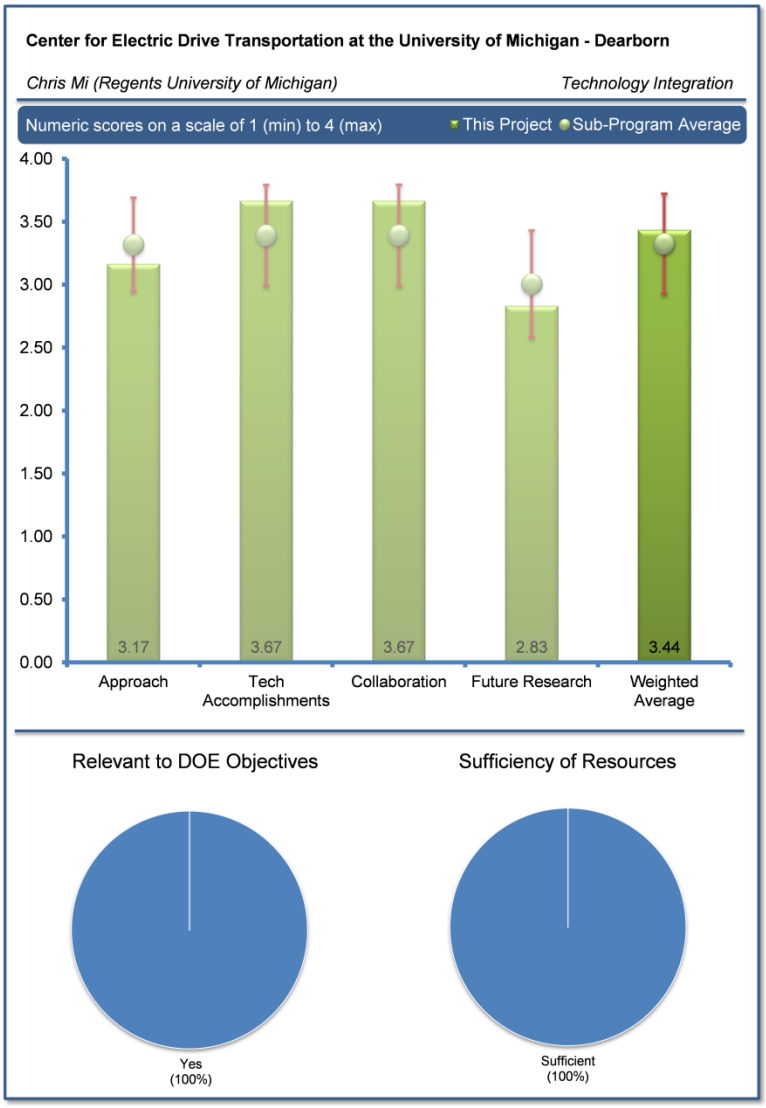
Reviewer 3:

The reviewer remarked that the project appeared to have sufficient resources.

Reviewer 4:

The reviewer suggested that ANL might want to assist other teams in the Technology Integration Program to be more efficient.

Center for Electric Drive Transportation at the University of Michigan - Dearborn: Chris Mi (Regents University of Michigan) - ti020



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer found that working with industry partners to train employees was a great approach to promote DOE objectives.

Reviewer 2:

The reviewer commented that the University of Michigan (UM)-Dearborn GATE Center is a well-designed program and provides good opportunities to involve students in advanced technology research.

Reviewer 3:

According to the reviewer, designing course work directly at what is perceived as a barrier is a good method at developing a skillset to overcoming a deficiency. Also, the ability to have relevant industry partners on the Industry Advisory Board (IAB) should help steer the curriculum over time so that it remains relevant to the constantly evolving needs of this industry. However, according to the reviewer, a laboratory component to the curriculum with physical hardware could also provide an additional level of understanding of the material.

Reviewer 4:

The reviewer commented that the project seems like it has a well-planned-out approach to curricula development. This approach was focused on ramping up quickly in the first two years, but a concern might be that future years appear largely focused on simply implementing/supporting efforts from the first two years, rather than much new. The reviewer noted that the university appears to be hoping to increase research through partnerships with industry, though not much was identified specifically as to how.

According to the reviewer, the recruiting approach, particularly for fellowship candidates, appeared to be a bit weak, as it focused mostly on flyers, a website, and mentioning the program at conferences. The reviewer suggested that the university could use a more active approach to bringing potential candidates in to talk about program, and once more students have been through the program, to utilize them to discuss the benefits of the program.

Reviewer 5:

According to the reviewer, the fundamental approach seemed to be sound. The reviewer noted there was difficulty overcoming the inertia of starting up the program. The project's strategy seemed to be a bit fuzzy from the outside, and the reviewer questioned whether it was the intent to train the working professionals in the vicinity, train full-time students, or both. The reviewer suggested

that it seemed that most full-time students would more likely go to one of the established universities instead. The reviewer suggested the project consider focusing on the working professionals only.

Reviewer 6:
The reviewer observed good effort on development of the academic activities, but noted that the project needed more effort on marketing.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer observed that the university appeared to have met its planned milestones during year one, and had already met most of them for year two. The university appeared to the reviewer to have ramped up activities quickly, to complete most of activities during the first two years.

Reviewer 2:
According to this reviewer, the technical accomplishments were impressive, since the curriculum had been designed and the students were on a path towards graduation. The reviewer stated that the true measure of the program's success will be measured once the students enter the workforce and industry is able to provide feedback on the ability of the graduates of this program to contribute.

Reviewer 3:
The reviewer remarked that the program has a well-formulated structure to keep the GATE program relevant to industry needs.

Reviewer 4:
The reviewer remarked that progress appeared to be good, with curriculum being established and students coming onboard.

Reviewer 5:
The reviewer observed that the UM-Dearborn program had made good progress toward curriculum development and also had shown excellent success in garnering support from industry partners. The program has also been successful in meeting goals to recruit GATE Fellowship graduate students thus far, but according to the reviewer, additional efforts may be required to meet future goals.

Reviewer 6:
The reviewer observed good progress, and suggested that the project needed a more concerted effort in attracting talent. The reviewer suggested that the project might want to have students in the MBA program assist.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer asserted that the collaboration page speaks for itself; the program has covered automotive OEMs, Tier 1 suppliers, and modeling & simulation software companies.

Reviewer 2:
The reviewer observed that there appeared to be significant industry participation in the program.

Reviewer 3:
The reviewer commented that UM-Dearborn had been very successful at developing a wide variety of industry partnerships. These partners serve on the Industrial Advisory Board and also provide funding for student research.

Reviewer 4:
The reviewer commented that the university appeared to have a strong list of collaborators within the industry, including automakers, Tier 1 suppliers, and others. The program included a specific structure including industry partners into activities, including through an IAB. The reviewer noted that the industry partners also provided funding through dues and projects.

Reviewer 5:
The reviewer observed that the project appeared to have good partnerships; however, the cost-share ratio was a little low compared to other more-leveraged GATE programs.

Reviewer 6:
The reviewer remarked that the project had made good efforts, but needed to have a more involved advisory board that actually was active and was helping towards objectives.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer commented that the proposed work was appropriate at this stage in the program. The project would continue collaboration with relevant industry partners which should guide the curriculum to maintain its relevance.

Reviewer 2:
The reviewer commented that future work was focused on growing the program, which was the right focus.

Reviewer 3:
The reviewer noted that future plans seemed to be simply to implement/support year one and year two activities, without much new planned.

Reviewer 4:
According to the reviewer, future work appeared to be business as usual; not necessarily a bad plan, but it did not seem to incorporate fine-tuning for future strategic needs.

Reviewer 5:
The reviewer observed a good understanding of the targets. The reviewer suggested that the project needed to focus more on expanding the target market and maybe involving employees from the participating network (advisory board).

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer indicated that the UM-Dearborn GATE Center was focused on educating future automotive engineers on the development of electric drive technologies, which have the potential to achieve significant petroleum reduction.

Reviewer 2:
The reviewer commented that the focus on electric drive vehicles directly supported DOE's petroleum displacement objectives.

Reviewer 3:
The reviewer commented that electric drive education would enable more of the U.S. fleet to move off of petroleum.

Reviewer 4:
The reviewer remarked that the project could produce a new generation of engineers that have the toolset to actively develop advanced powertrains that will reduce fossil fuel consumption as long as we are using automobiles for transportation.

Reviewer 5:
According to the reviewer, the project is focused on ensuring additional trained engineers in advanced electric powertrains.

Reviewer 6:
The reviewer commented that the success of electromobility is dependent on an educated workforce.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

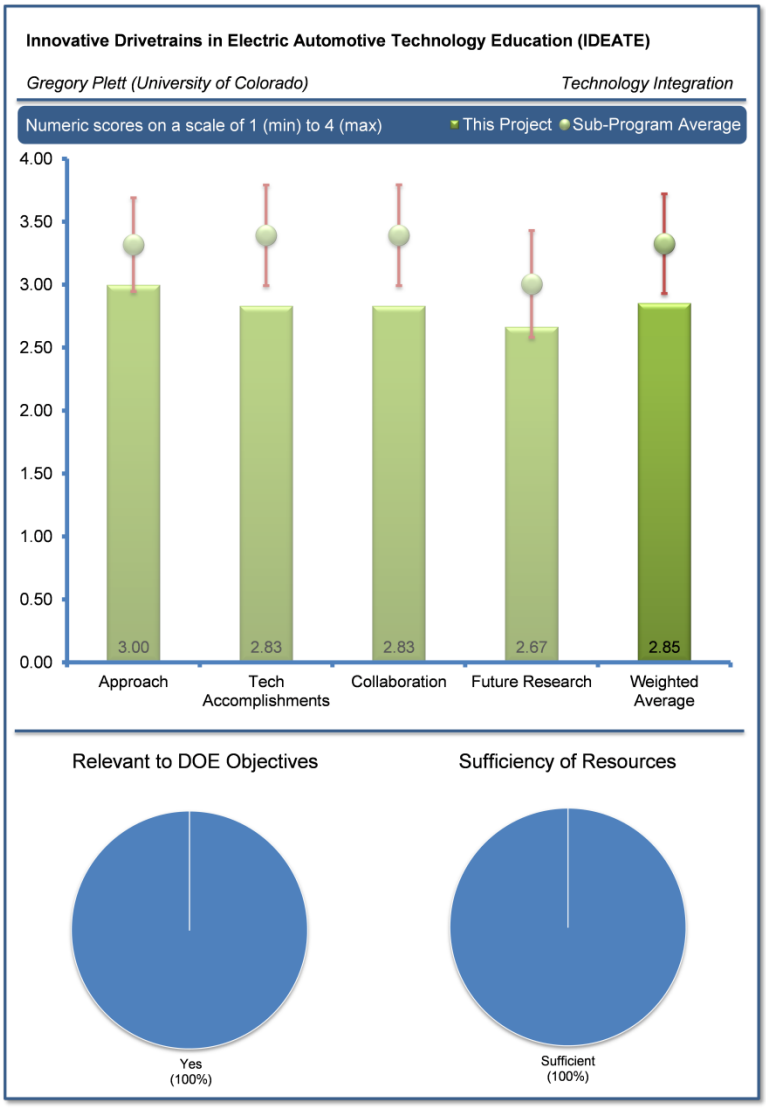
Reviewer 1:
The reviewer commented that the financial resources appeared to be well-spent and that UM has leveraged DOE resources to generate additional funding through industry partnerships.

Reviewer 2:
The reviewer concluded that funding appeared okay, and reported that 70% of funding goes to fellowships, and 25% to professor salaries. There is no budget for equipment, but it appeared to this reviewer that the university felt resources were sufficient.

Reviewer 3:
The reviewer suggested having people with marketing/business development skills assist with deployment.

Reviewer 4:
The reviewer commented that funding seemed sufficient and possibly excessive. The reviewer believed the project should assess the funding level at the project mid-point.

Innovative Drivetrains in Electric Automotive Technology Education (IDEATE): Gregory Plett (University of Colorado) - ti021



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the project's focus was on new certificate programs and the courses supporting certificates. Much of the effort was focused within the Electrical Engineering Department/Degrees.

Reviewer 2:

The reviewer observed that the initiation of the GATE program has been a successful start.

Reviewer 3:

The reviewer observed that the project was geographically well-positioned to train the workforce in electric drive transportation, and observed an excellent strategy varied from short courses to M.S./PhD programs.

Reviewer 4:

The reviewer acknowledged smart partnering by complementary universities. The reviewer suggested that the project needed to develop a more solid connection to the auto industry. The reviewer asked whether there was something unique about Colorado that was important to the auto industry, such as high altitudes and mountainous terrain/roadways, or cold/hot temperatures. The reviewer would like to know if there was a role in vehicle testing that could be fulfilled by the program.

Reviewer 5:

The reviewer noted that the curriculum was well-designed and met a critical need to educate future automotive engineers in electric drive vehicles. However, a more aggressive promotional strategy may be needed in the future to recruit students and generate interest in the program.

Reviewer 6:

The reviewer commented that the structure of the program was squarely aimed at a perceived deficiency to increase the proficiency level of engineers in the realm of electrified transportation. However, there appeared to be some disconnect if the students were not enrolling at the desired rates.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer observed good progress for a new program.

Reviewer 2:
The reviewer acknowledged an excellent start for the University of Colorado-Colorado Springs (UCCS) GATE program. The reviewer advised to keep working on attracting students and fostering and sustaining strong relationships with other GATE schools to compare successes.

Reviewer 3:
The reviewer commented that the university appeared to have met most of the planned accomplishments to date, although there have been delays in establishing the IAB. It appeared to the reviewer as though that would happen this Summer, now that the curricula had been developed. The reviewer noted that it now appeared as though minimum student interest levels will be achieved (which was not the case at the time of preparation of the presentation). The focus of activities to date has been primarily to develop courses and establish certificate programs. The application process for fellowships has been developed, though no candidates have yet been selected.

The reviewer explained that the university has a reasonably active advertising approach, developed using the Society of Automotive Engineers (SAE) websites/documents, as well as at SAE events, other conferences, and within the industry.

Reviewer 4:
The reviewer observed that all of the accomplishments to date were related to the development of the curriculum. While significant progress had been made in this area, it appeared as if demand was somewhat low. According to the reviewer, the speaker noted that the goal of recruiting 30 students in the first two years, which was listed in the presentation as at risk, had been successfully met after the presentation was complete.

Reviewer 5:
According to the reviewer, development of new courses and offering of existing courses are on schedule. The reviewer suggested that the project needs to be more aggressive in working with industry partners on offering more on-site training.

Reviewer 6:
The reviewer remarked that the lack of subscription to the program was concerning, and the inference that the IAB could be better utilized suggests the industry partnerships were not as intertwined as the program planned. If that is the case, better collaboration with industry may attract more students if the project sees a better pathway to employment potential at the end of the program.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer commented that the progress here has been good, and that the industry is getting involved.

Reviewer 2:
The reviewer noted great collaboration with the University of Colorado-Boulder and advised that the project continue to work with others, especially the industry, to leverage expertise and feedback.

Reviewer 3:
The reviewer observed that the university has developed an IAB, though it has not yet convened a meeting to influence decisions early in the program. Industry partners include the Detroit three, suppliers, and a National Laboratory. The reviewer commented that partners have indicated a willingness to provide internships, permanent jobs, and advice. The university has actively recruited industry members to participate.

Reviewer 4:
According to the reviewer, the level of collaboration with institutions outside of the University of Colorado system was not clear from the presentation. The reviewer suggested that improving collaboration with other institutions as well as with industry partners might help generate student interest in the program.

Reviewer 5:
The reviewer commented that the presentation seemed to imply that the industry collaboration could be better. According to this reviewer, it will be interesting to hear how the industry partnerships are intertwined with the program during the presentation.

Reviewer 6:
The reviewer remarked that the structure for the industry partnership could impede broad participation, especially the IP provisions and membership costs.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer remarked that much of the planned efforts are based upon continued implementation of what has been developed to date. The project is wisely including specific reviews of how things go over the early years of program, in order to refine curricula and advertising approaches.

Reviewer 2:
The reviewer acknowledged a good understanding of the future needs, and commented that the project needs to focus more on recruiting talent.

Reviewer 3:
The reviewer suggested that the project needs to focus on incorporating more objectives for attracting partners. The reviewer acknowledged that it was great to respond to internal feedback, but suggested to be sure to incorporate external feedback as well.

Reviewer 4:
The reviewer pointed out that the primary challenge was to boost enrollment in the program. If the program developed a unique niche it could help get some more attention.

Reviewer 5:
The reviewer commented that if the students were not enrolling at the anticipated rate, it seems that there should be additional efforts describing the relevance of the curriculum to industry or outreach efforts to attract more students, if there is indeed a shortfall of engineers in this arena, and the curriculum is well-matched to the need.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer opined that developing programs to educate the next generation of engineers in electric drivetrain technology is critical to meeting DOE's petroleum displacement objectives.

Reviewer 2:
The reviewer commented that electric drive education is fundamental to reducing petroleum use.

Reviewer 3:
The reviewer concluded that focusing academic content to advanced automotive applications was directly aligned with DOE objectives.

Reviewer 4:
The reviewer observed very good efforts were made towards removing the barriers and enabling electromobility.

Reviewer 5:
The reviewer commented that the project was focused on training the next generation of engineers on advanced electric drive technologies.

Reviewer 6:
The reviewer concluded that conceptually the program met the needs of displacing petroleum. However, according to the reviewer, the curriculum needs to match the needs of industry, and the students need to enroll in the program for the benefits to be realized.

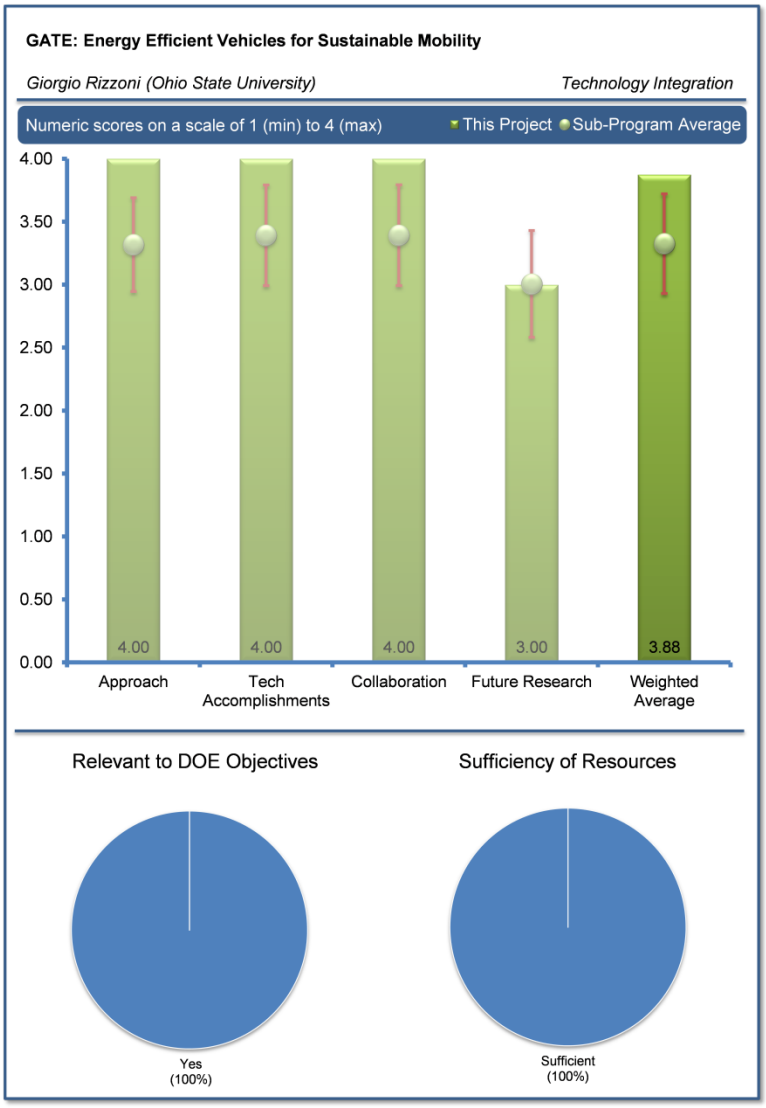
Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer remarked that funding appeared to be adequate.

Reviewer 2:
The reviewer commented that resources appeared sufficient, and no indication was made that resources were not.

Reviewer 3:
The reviewer remarked that as noted, better cost-share was required.

GATE: Energy Efficient Vehicles for Sustainable Mobility: Giorgio Rizzoni (Ohio State University) - ti022



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said wow.

Reviewer 2:

The reviewer observed a very mature approach that leveraged lessons learned over a long period of time. It was clear that this program was well-administered and is dedicated to continuous improvement.

Reviewer 3:

The reviewer commented that the Ohio State University (OSU) GATE program was well-designed and successfully integrated with other education and research activities at OSU.

Reviewer 4:

The reviewer observed an effective realignment of course offerings to support OSU's format change.

Reviewer 5:

The reviewer commented that there was a broad scope of curricula for this project, but that it was probably not unusual given that this was the third round of GATE awards for the university. The focus of this round was specifically to expand to additional technology areas. The reviewer remarked that this allowed for a high level of integration among vehicle systems, though this also required an effort to ensure that a clear focus for the program was maintained. Specifically, the reviewer concluded, this university relied upon a well-proven approach developed under previous GATE efforts.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer said wow.

Reviewer 2:

The reviewer observed that there was a nice replication of industry models and cross-correlation between the research and academic development courses.

Reviewer 3:
The reviewer detailed that the OSU program showed significant progress in three areas: funding for graduate student research and education (excellent record of placing GATE students in industry); many OSU students and industry employees have benefited from the curriculum developed in part using GATE funds; and leveraging of DOE funds to form partnerships with industry provide additional benefits.

Reviewer 4:
The reviewer noted no noticeable barrier to success. The reviewer commented that continued success in education and research was evident.

Reviewer 5:
The reviewer commented that the project team had to adjust course curricula as OSU moved from quarters to semesters. Significant numbers of courses have been developed. Thanks to additional sponsorship funding, the reviewer explained that OSU was able to expand fellowships from 7 to 12. The reviewer also noted that the program has claimed 70 graduates to date, and nearly all are employed in the automotive industry.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer said wow.

Reviewer 2:
The reviewer stated that the project showed excellent leveraging of industry partners.

Reviewer 3:
According to the reviewer, OSU has established several IABs with automakers, suppliers, and electric utility companies. It has also obtained significant funding from other sources. Through Clean Cities, the Program was also working with local fleets to deploy advanced technologies.

Reviewer 4:
The reviewer noted that industry collaborators were both longstanding and dedicated to the program.

Reviewer 5:
The reviewer acknowledged that the OSU GATE Center had established strong partnerships with the industry in terms of funding and research. The distance education program expands the reach and impact of the program to offer courses at the University of Texas (Dallas) and offered a certificate program to the industry.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer said that the future work was focused on the expansion of the automotive systems engineering curriculum and the development of additional graduate level courses. According to this reviewer, the program clearly built on experience gained with the successful implementation of the two prior DOE GATE programs.

Reviewer 2:
The reviewer commented that future activities were built on the successes achieved.

Reviewer 3:
The reviewer commented that the future efforts were mostly focused upon implementing efforts that had already been developed. According to the reviewer, there was no real mention of any significant new activities planned.

Reviewer 4:
The reviewer noted that no future work information was offered in the review charts.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer stated that the primary objective of the OSU GATE project was to educate the next generation of engineers in the development of energy efficient vehicles, which was critical to meeting DOE's petroleum reduction goals.

Reviewer 2:
According to the reviewer, electric drive education was fundamental to petroleum displacement.

Reviewer 3:
The reviewer stated that this project was an education program and achieved its objective of providing new technical talent and research to the industry.

Reviewer 4:
The reviewer commented that this project addressed providing trained engineers in advanced vehicle technologies.

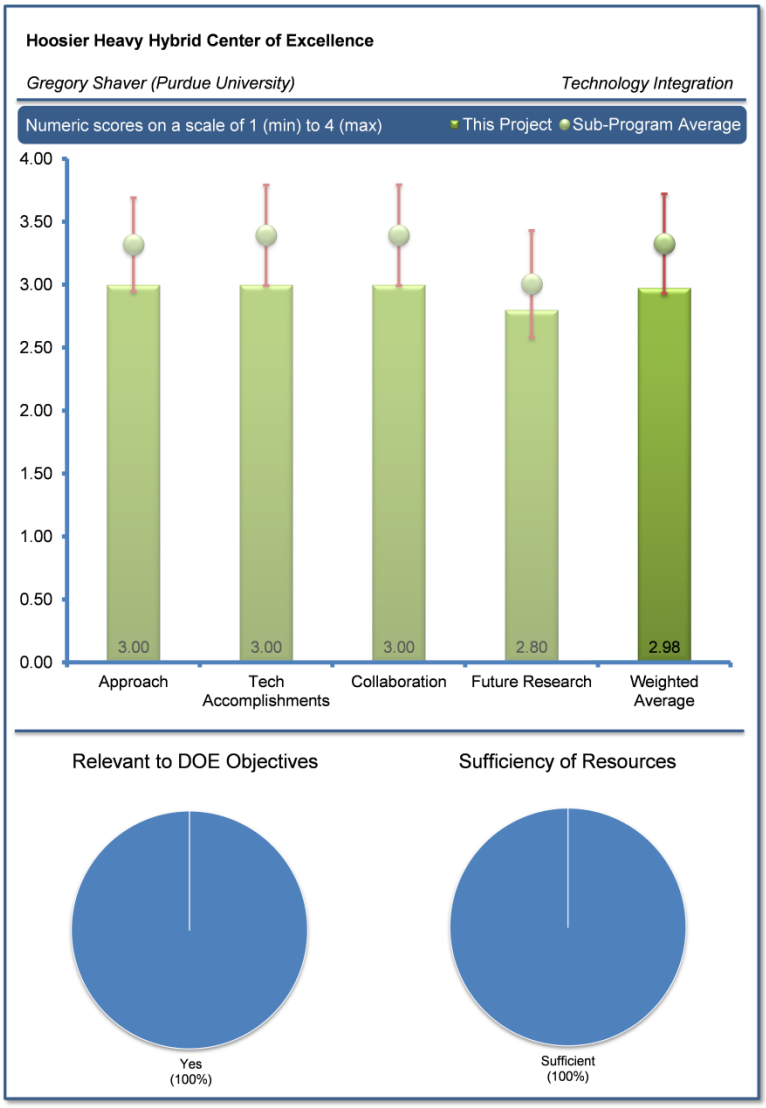
Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer commented that the administration and collaborator input exemplifies that adequate resources were engaged in the program, and that student recruitment and successful graduation rates were fully in line with program objectives.

Reviewer 2:
The reviewer noted that the DOE funds seemed to have been well-spent and that OSU had done an excellent job leveraging DOE funds to secure funds from external sources and partners. All of the funds go to graduate fellowships.

Reviewer 3:
The reviewer observed that OSU had obtained a substantial cost-share on the order of 75% of total; thus, the funding appeared to be sufficient.

Hoosier Heavy Hybrid Center of Excellence: Gregory Shaver (Purdue University) - ti023



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer noted that good feedback was received from other GATE programs as well as those with industry perspective.

Reviewer 2:

The reviewer commented that the university's focus was on establishing fellowships, developing courses, forming partnerships with industry, and conducting technology transfer. The approach appeared to take a reasoned, rational approach to accomplish the desired goals. The reviewer observed that Purdue was still developing some elements of its approach: a new facility provided opportunities for expanding coursework (still to be determined), and Purdue University (Purdue) did not appear sure yet about how to fully utilize the industry (such as through an IAB).

Reviewer 3:

The reviewer noted that the Purdue University GATE Center was building on existing core competencies and supplementing DOE funding with partnerships with industry to provide graduate student research opportunities. In order to reach additional students, the Center launched a Hybrid Vehicle Systems Certificate program. The reviewer felt that the strategy was sound, but suggested that additional industry funding would be required to fund additional research fellowships.

Reviewer 4:

The reviewer remarked that the approach was well thought out, but had not been implemented according to the schedule. The reviewer advised to keep working at it, as the strategy would work over time.

Reviewer 5:

The reviewer concluded that the project appeared to be a solid program, and that the project needed to get the heavy vehicle industry involved. According to the reviewer, this was hard, as investment in hybrid technology is tepid right now. Performance of heavy hybrids in field service has been underwhelming in several applications. The reviewer stated that increased fuel efficiency would help the business case which in turn would increase the interest in the research.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer observed that progress towards building the foundation of the program has been really good. The reviewer also described Purdue's commitment as outstanding.

Reviewer 2:
The reviewer acknowledged that this was a relatively new project, but most of the milestones have been met. According to this reviewer there appeared to be notable accomplishments, including the following: Purdue University GATE Program has recently initiated their first research effort co-funded by the DOE (25%); Cummins and Purdue University (1 student funded); development of a hybrid electric vehicle (HEV) course; and the establishment of a certificate program in hybrid vehicle systems (12 students).

Reviewer 3:
The reviewer commented that there have been delays in getting fellowship candidates, as well as receiving support through industry research projects. This is not unexpected for a new GATE program, but things have moved slower than Purdue anticipated or planned. The reviewer noted that Purdue has also struggled with the economy in Indiana impacting the ability of industry members to participate. Purdue did develop an initial course, and worked to market its certificate program which also includes existing courses. The reviewer commented that Purdue's first project with industry was established, with Cummins providing nearly half the funding (with DOE only supplying around 25%). The reviewer acknowledged that significant efforts were required to establish this GATE program as the first interdisciplinary program at Purdue.

Reviewer 4:
The reviewer advised that the project continue to seek ways to attract leveraging industry funds as well as students into the program.

Reviewer 5:
The reviewer commented that the project needed more successful student participation in the program before a higher rating could be given.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer noted that the Purdue University GATE Center has a successful partnership with Cummins diesel and is working to establish additional partnerships in the industry.

Reviewer 2:
The reviewer noted that funding, facility support, and expertise was being provided through a strong partnership with Cummins. Efforts with other industry members have developed slowly, but Purdue was in discussions with several key members.

Reviewer 3:
The reviewer said that this GATE program offered a unique perspective into the medium and heavy vehicle markets. The reviewer suggested that better outreach to stakeholder industry partners might yield greater leverage of DOE funds, and inclusion of military applications/research might be beneficial the GATE program.

Reviewer 4:
The reviewer commented that the collaboration with the initial industrial partners, namely Cummins, needed additional refinement to become as effective to the program as it needed to be. The reviewer noted that expanding to other partners was desirable and was encouraged. The reviewer suggested the project should review the ways that the industrial partners were recruited and to make sure the partners were fully committed to the full goals and responsibilities of the program.

Reviewer 5:
The reviewer noted that Cummins was the main player in heavy vehicles, and that the project needed to secure one or more drive system and energy storage partners. The reviewer assumed that Allison and Parker-Hannifin have been pursued.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer remarked that it was clear that the barriers are understood and that actions were in place to overcome them.

Reviewer 2:
The reviewer acknowledged that the plans were to strengthen and expand participation in the GATE program, particularly through increased industry research projects, though not necessarily through the development of additional courses. The primary near-term focus was on moving into a new jointly-funded laboratory facility, and getting it up and running. The reviewer noted that later efforts appeared focused on how best to make use of the facility for the purposes of this program.

Reviewer 3:
The reviewer commented that having adequate facilities was important and appropriate future work activity. The reviewer suggested that additional future work should include development of a strategic plan for inclusion of industry interests and guidance.

Reviewer 4:
The reviewer suggested that the project needed to get additional power systems or vehicles for the students to work with. The reviewer questioned whether there were other completed government projects from which the GATE project could get these assets.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer stated that heavy vehicle powertrain research was important to petroleum displacement.

Reviewer 2:
The reviewer said that the project was focused on heavy-duty hybrid vehicle systems, which have the potential to significantly reduce petroleum consumption.

Reviewer 3:
The reviewer opined that expanding higher-level science, technology, engineering, and math (STEM) education even for just a few students would help to achieve DOE objectives.

Reviewer 4:
The reviewer commented that this project was providing trained engineers in heavy hybrid technologies.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

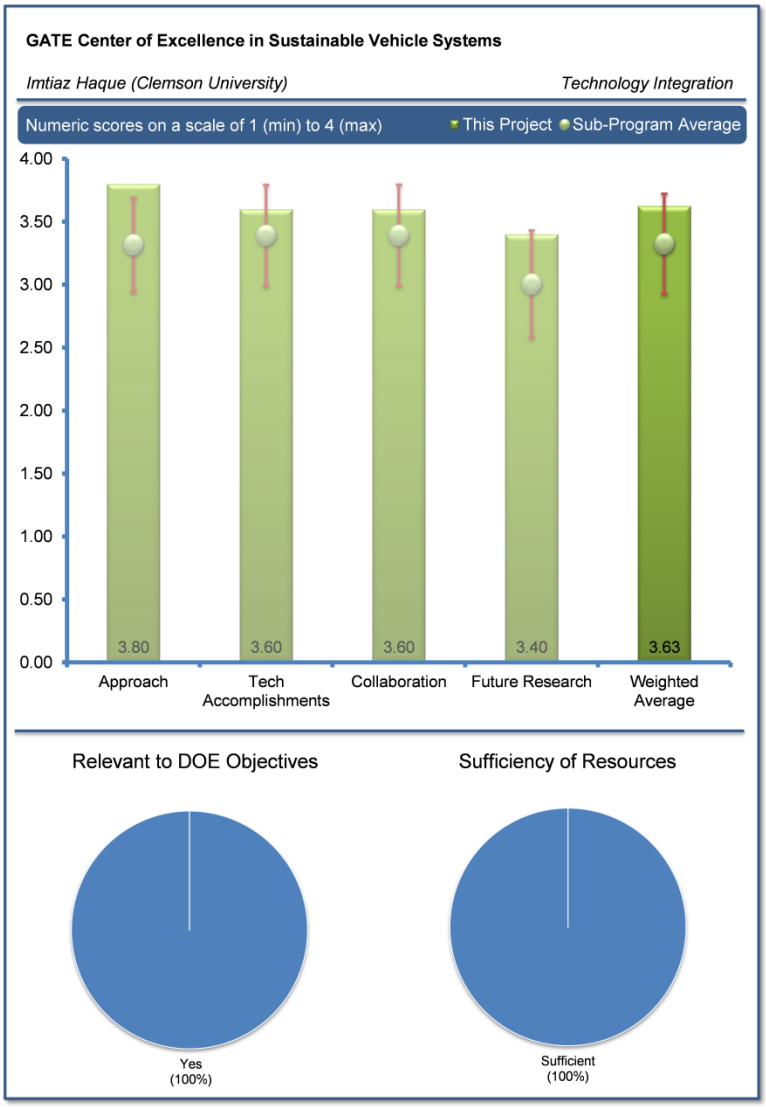
Reviewer 1:
The reviewer concluded that funding seemed sufficient.

Reviewer 2:
The reviewer commented that the approach was that 80-90% of DOE funding goes to fellowships. The University also stepped up and provided additional funding. According to the reviewer, resources seemed sufficient, since DOE funding was only being used for fellowships.

Reviewer 3:

The reviewer suggested that the project keep working to increase participation of new students.

GATE Center of Excellence in Sustainable Vehicle Systems: Imtiaz Haque (Clemson University) - ti024



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the Clemson University (Clemson) GATE Center project was well-designed and had a good strategy for addressing technology barriers in the development of sustainable vehicles through an integrated education and research program for graduate students. Clemson had successfully integrated a number of related activities (e.g., Deep Orange) to provide an impressive array of opportunities for graduate students.

Reviewer 2:

The reviewer stated that Clemson seemed to have a fairly specific coursework plan for candidates. The identified approach was to follow vehicle development processes seen in the industry, developed through Clemson's relationship with industry partners.

Reviewer 3:

The reviewer acknowledged developing the GATE as an integral extension of the Clemson University International Center for Automotive Research (CUICAR) programs. The program is designed to enhance the ongoing development and quality of CUICAR.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer commented that all the milestones for 2012 and 2013 had been met. The reviewer noted that the Clemson GATE project had made excellent initial progress in terms of establishment of the GATE Center and curriculum development; recruitment and support of graduate students, and elaborated that the project appeared to be well on the way to meeting enrollment goals, and development of the GATE powertrain laboratory.

Reviewer 2:

The reviewer noted that as measured by participation, this was an outstanding application of GATE funding. The coursework was very applicable to the industry needs of the future. The reviewer acknowledged that these were very well-structured graduate programs.

Reviewer 3:
The reviewer noted that significant capability had been assembled in the lab, and this should be a key enabler for the types of studies performed by the students.

Reviewer 4:
The reviewer commented that over the past year or so, Clemson completed the development of multiple courses and a vehicle integration laboratory. Clemson has 37 students to date in its GATE program, plus many other students taking selected courses within the GATE offerings. The reviewer noted that the original goal was to have 25 students in GATE. The expansion was largely made possible through industry funding, although many students are currently self-funded.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer commented that numerous seminar speakers are obtained from outside the program, particularly from the automotive industry. Clemson obtained additional GATE fellowships from the industry (Mazda and FEV), plus significant funding from the industry. The reviewer noted that the university also obtained related government or industry research project funding of over $4 million. The reviewer noted that Clemson specifically coordinates with other universities. The reviewer stated that the IAB provides feedback on program, as was specifically utilized to conduct an internal program assessment. Board membership includes automakers, suppliers, and others. In addition, according to the reviewer, Clemson also established employer evaluations (for internships and employment) to guide program improvements.

Reviewer 2:
The reviewer observed excellent interaction with industry partners.

Reviewer 3:
The reviewer observed that a number of partnerships with the industry (OEMs and suppliers) and other universities had been established.

Reviewer 4:
The reviewer noted good collaboration with industry and other universities.

Reviewer 5:
The reviewer stated that the project was integrated to the collaboration partners (over 15) that support the CUICAR graduate programs and its specialized project agendas.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer noted that Clemson provided a relatively specific list of proposed activities, including additional curricula development/upgrades, the utilization of a new laboratory facility, adding faculty members, and increasing students in the program.

Reviewer 2:
The reviewer found that the future work seemed logical and builds on the accomplishments of the first two years.

Reviewer 3:
The reviewer acknowledged that there was a good path forward for future efforts.

Reviewer 4:
The reviewer noted that the project was using funding across a broad area of the program and getting a lot for the resources provided by DOE.

Reviewer 5:
The reviewer commented simply as achieving.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer commented excellent use of funds to increase STEM graduates at the advanced levels.

Reviewer 2:
The reviewer determined that education of future engineers in the design and development of sustainable vehicle systems supported the DOE objective of petroleum displacement.

Reviewer 3:
The reviewer found that Clemson was clearly promoting the development of automotive engineering graduates with a focus on current and future energy efficient vehicle systems.

Reviewer 4:
The reviewer commented that Clemson's GATE Program is aimed at providing engineers who are trained in sustainable vehicle technologies.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer observed excellent leveraging of DOE funds.

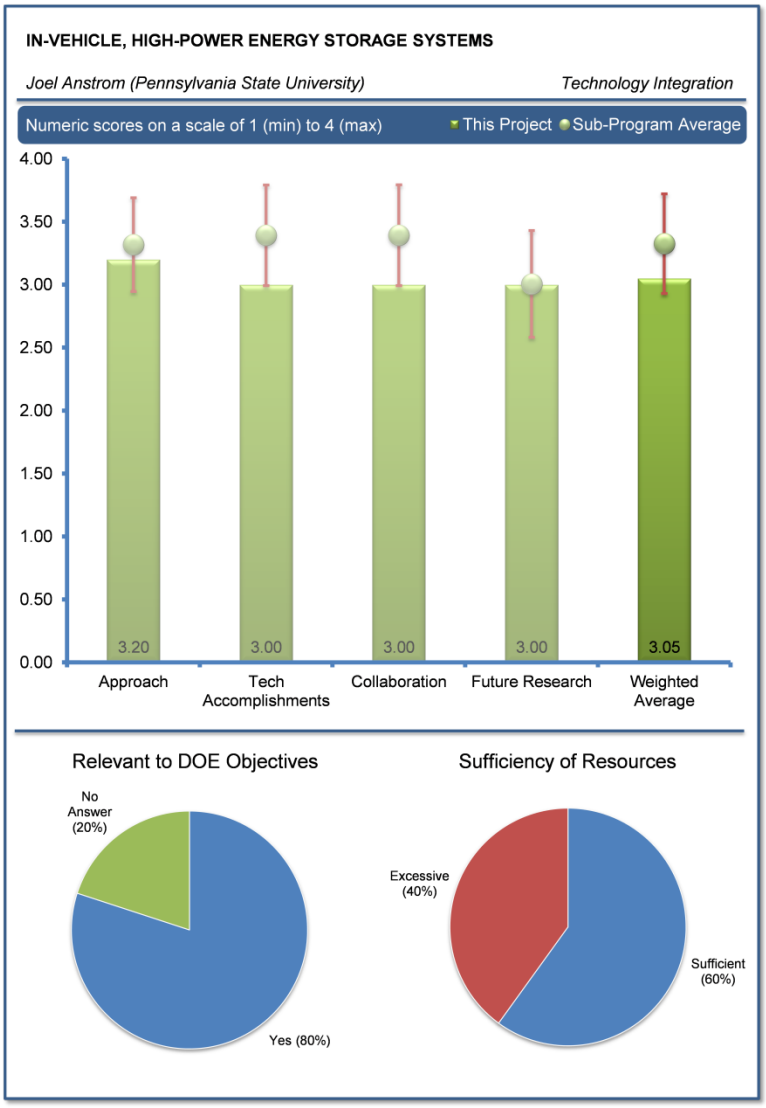
Reviewer 2:
The reviewer affirmed that clearly, this was a well-run and well-administered program.

Reviewer 3:
The reviewer commented that the resources appeared to be used effectively in the establishment of this new center. The project team has made good progress in leveraging DOE funds for additional fellowships and internships.

Reviewer 4:
The reviewer commented that resources appeared to be sufficient. Clemson received funding from the industry for the program and additional fellowships. The reviewer noted that Clemson also received significant funding for related research projects. DOE funding goes to equipment, facilities, and curriculum development, rather than the fellowships.

Reviewer 5:
The reviewer commented that funding appeared to be sufficient.

IN-VEHICLE, HIGH-POWER ENERGY STORAGE SYSTEMS: Joel Anstrom (Pennsylvania State University) - ti025



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer observed an excellent focus on core competencies in energy storage, and fantastic outreach to promote advanced vehicle design at multiple academic levels.

Reviewer 2:

The reviewer commented that the Pennsylvania State University's (Penn State) approach focused on curriculum development and developing relationships between students, faculty, researchers, and employers. The program included three major areas: composites manufacturing; dielectric studies; and batteries, including efforts on flywheels and capacitors. These efforts were integrated with Penn State's EcoCAR2 team. The reviewer noted that often students from the EcoCAR team graduate, and become candidates for GATE. Also, after the student competitions end, EcoCAR vehicles are then used for the GATE program. For this reviewer, a potential concern is that this program does cover so much territory that care must be taken to maintain focus to ensure progress.

The reviewer noted that this was a third-time GATE program, so the approach is relatively well-established. The list of specific faculty in the program is now up to nine, with four tracks to pursue. This includes team-teaching across disciplines. The reviewer acknowledged that Penn State has included a specific focus on outreach, including adoption of the American Tour de Sol, which has been useful as a recruiting tool.

Reviewer 3:

The reviewer noted that the project's focus was on educational courses and on recruiting students into the long-standing program, and that not much new was presented. According to this reviewer, the project team is just continuing to do what the project was doing with current collaborators.

Reviewer 4:

The reviewer expressed that responding good to this question may be generous. The reviewer did not see evidence of a well-defined academic program above and beyond those of similar institutions that the reviewer has worked with, and that received no federal funding.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer noted that over 90 GATE students had been funded to date, though there are only three fellows currently. Over 500 students had been impacted overall by Penn State's GATE program, including students taking individual or multiple courses. The reviewer noted that many have obtained jobs in the industry and National Laboratories, and that there was an extensive list of Penn State GATE-related research projects funded by the government and the industry.

Reviewer 2:
The reviewer noted an interesting approach to redesign the GATE tracks.

Reviewer 3:
The reviewer remarked that all progress was based on individual focus areas as the project team was not a systems curriculum, so the progress was compartmentalized. The reviewer advised that it may be useful to get advisory input from the systems perspective to help guide the individual focus areas.

Reviewer 4:
The reviewer commented that it was hard to identify the progress achieved on this project, and that most of the discussion was on past efforts.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer noted important collaboration with industry and National Laboratories.

Reviewer 2:
The reviewer acknowledged lots of longstanding collaborators that covered a broad band of the vehicle space.

Reviewer 3:
The reviewer stated to reach outside of Pennsylvania (e.g., University of Michigan, Virginia Tech, Purdue, and others).

Reviewer 4:
The reviewer commented that Penn State was collaborating with GM through EcoCAR2, and also with Clemson, as well as the Pennsylvania College of Technology. The reviewer observed that additional GATE research and projects were being funded by the government and industry, including vehicle and heavy-duty engine original equipment manufacturers. Penn State identifies itself as the preferred academic partner for Volvo (truck, construction, and marine), and also does a lot of work with General Electric. The reviewer noted that Penn State tried to develop an IAB, but indicated that the industry representatives were not necessarily interested in talking with each other. The reviewer advised that it still might be useful to try to resurrect some form of this idea, to assist in monitoring and improving Penn State's program.

Reviewer 5:
The reviewer observed limited industry partnering, and cautioned that the program appeared to be too academic focused.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer noted that the future work addressed important next activities and offered a clear timeline.

Reviewer 2:
The reviewer noted that most of Penn State's plan focused on more of the same, although it was looking to expand online courses; the reviewer noted that the first course online was this semester. Several of the courses were considered in flux, meaning Penn State was looking at revising or re-tooling courses.

Reviewer 3:
The reviewer noted that the future work seemed to be maintaining the status quo.

Reviewer 4:
According to the reviewer, the project team reported that future work would be continuing to recruit students, and that the individual areas were evolving their course content as the project team deemed appropriate.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer responded that yes, elaborating energy storage research capability is a prime enabler of petroleum displacement.

Reviewer 2:
The reviewer commented that focus on battery technology offered a key correlation to DOE technology development objectives.

Reviewer 3:
The reviewer stated that energy storage technology and education are important to petroleum displacement.

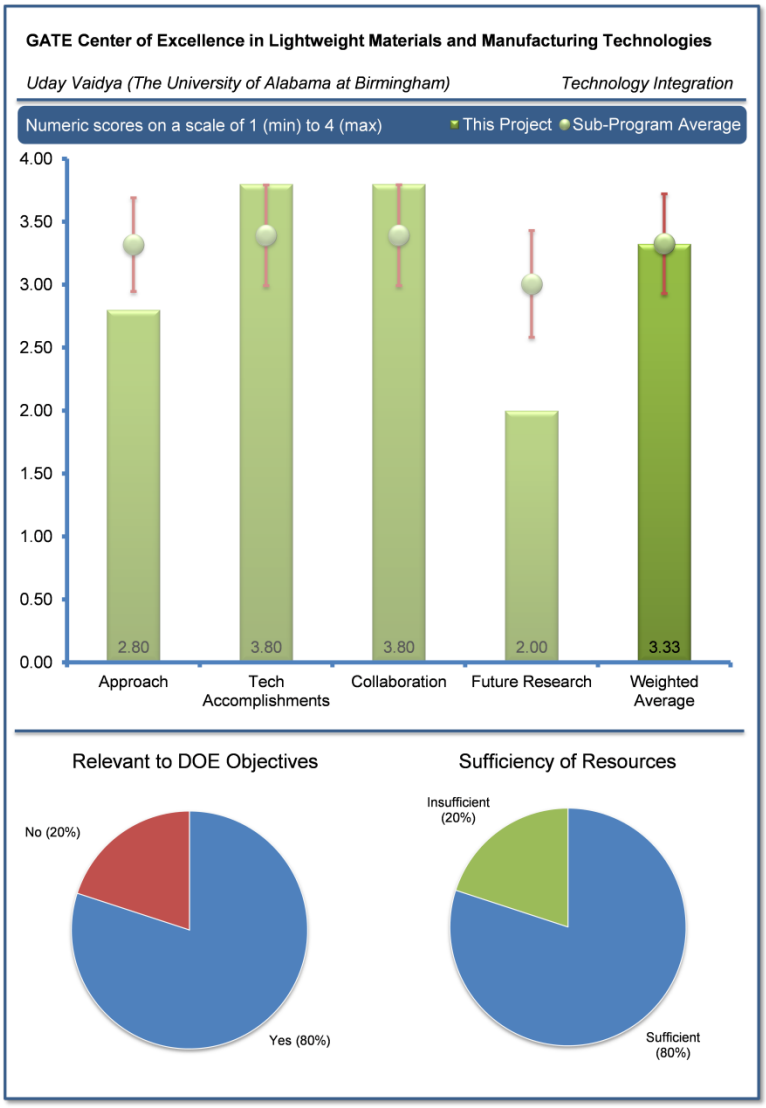
Reviewer 4:
According to the reviewer, this project is focused on providing trained engineers in the area of advanced vehicle technologies (emphasizing high-power energy storage).

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer indicated that the resources seemed fine and noted that no shortcomings were identified. Most of the DOE funding goes to fellowships. The reviewer noted that the rest of the funding comes from projects and industry.

Reviewer 2:
The reviewer indicated that resources appeared to be more than adequate for the scope of effort that was planned.

GATE Center of Excellence in Lightweight Materials and Manufacturing Technologies: Uday Vaidya (University of Alabama at Birmingham) - ti026



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer applauded the exciting work, and added that lightweighting was greatly needed.

Reviewer 2:

The reviewer commented that the project funded six GATE fellows and an undergraduate group to encourage graduate school progression. According to the reviewer, students seemed to be working in the areas of expertise the students had studied when working in the industry.

Reviewer 3:

The reviewer indicated that the university's program was focused on a technology area not emphasized under other GATE programs, and was designed to take advantage of the growing automotive industry in the Southeast. The reviewer noted that the university appeared to have a strong grasp of materials development efforts needed, and coordinated with the industry on projects. The reviewer also noted that the presentation was somewhat unclear on future plans.

Reviewer 4:

The reviewer believed that the presentation was searching for material by showing student placement by individual. The reviewer pointed out that CAFÉ is a place where you eat, whereas CAFE is corporate average fuel economy.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer acknowledged that the goals for the number of students and the amount of participation had been exceeded.

Reviewer 2:

The reviewer noted that to date, 23 graduate students and 25 undergraduates have been funded. Many had gone on to work for manufacturers, engineering firms, and laboratories. The reviewer noted that a number stayed on to extend their education (higher studies). There are six graduate GATE and four undergraduate students (in the pipeline doing GATE research) at this time, with another 21 undergraduates under consideration for the future. The previously-identified goals were for three graduate and four undergraduate GATE-supported students, so these levels were exceeded. The reviewer observed that seven new courses have been

developed under this phase of GATE, and that the university held the previous round, too. The reviewer concluded that projects have focused on a large number of materials compounds and products. The reviewer highlighted that a significant number of materials investigations have either been completed or were underway, though some may have been under the previous phase of the GATE award – it was unclear from the presentation.

Reviewer 3:
The reviewer commented that the graduate program was performing work in the automotive area while part of the GATE research; however, that the post-graduation employment did not appear to correlate to automotive engineering careers. The undergraduate pipeline appeared to have a stronger connection to the automotive industry.

Reviewer 4:
The reviewer commented that many new courses have been developed and taught over the two GATE grant periods, and that the project team was working well in long fiber thermoplastics toward new manufacturing processes to cost- effectively produce near net shape parts. However, according to this reviewer, the presentation did not include any normal report of progress or adherence to the schedule. The reviewer commented that the presentation did not follow the prescribed format.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer commented that the university was working with the industry and government organizations, and has established an advisory board with membership primarily from light/heavy-duty vehicle manufacturers and materials suppliers. A number of projects appeared to be coordinated closely with industry to meet industry needs, which has also resulted in significant leverage for activities. According to the reviewer, an example in addition to coordinated research efforts is a student who is now interning at a materials supplier. The university was also working with closely with Oak Ridge National Laboratory (ORNL).

Reviewer 2:
The reviewer noted solid and diverse collaboration with various industries.

Reviewer 3:
The reviewer observed strong and diverse interaction between student research and industry needs.

Reviewer 4:
The reviewer noted a very large list of broad-based collaboration partners across the entire value stream, from raw material to end-use of products.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer commented that the presentation focused primarily on the breadth of projects to date or underway, with no specific mention of significant efforts planned, perhaps beyond more of the same, including recruiting the next wave of GATE students.

Reviewer 2:
The reviewer commented just doing projects with the industrial collaborators. The reviewer noted that there was no mention of educational changes or additions for the future.

Reviewer 3:
The reviewer indicated that future work was not presented.

Reviewer 4:
The reviewer commented that new courses had been created for the future, but it was unclear what other activities have been planned.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer determined that materials were clearly an important technical area that directly supported DOE objectives.

Reviewer 2:
The reviewer observed that the project was focused on training engineers in advanced materials and manufacturing, areas critical to the implementation of advanced vehicle technologies.

Reviewer 3:
The reviewer remarked that the project was researching cost-effective lightweight materials that enabled energy use reduction in vehicles.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

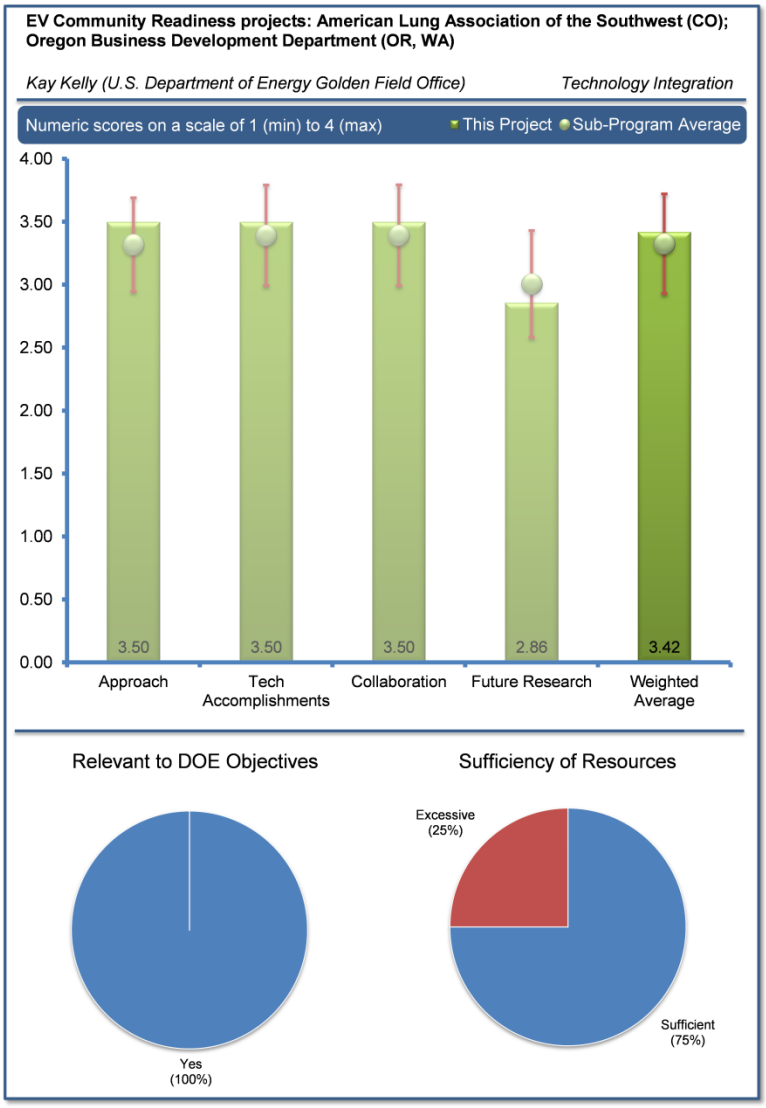
Reviewer 1:
The reviewer commented that resources appeared to be sufficient.

Reviewer 2:
The reviewer indicated that there was no indication of a concern.

Reviewer 3:
The reviewer commented that support to promote graduate studies toward automotive needs was necessary, and that this presentation did not offer a clear breakdown of resource usage.

Reviewer 4:
The reviewer was not really sure because no information on the persons involved in the program was given.

EV Community Readiness projects: American Lung Association of the Southwest (CO); Oregon Business Development Department (OR, WA): Kay Kelly (DOE GFO) - ti027



Reviewer Sample Size

A total of eight reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the projects seemed well-conceived, designed, and organized.

Reviewer 2:

According to the reviewer, for Project Fostering Electric Vehicle Expansion to the Rockies (FEVER)/American Lung Association, tasks to address technical barriers were very comprehensive, specific and logically sequenced. For Energizing Oregon/Oregon Business Development, tasks to address technical barriers were more general, but were relevant and adequate. The reviewer added that the strategy to integrate numerous existing elective vehicle (EV) initiatives was sound.

Reviewer 3:

The reviewer commented that the strategy for both initiatives addressed all four barriers cited by the Clean Cities EV Community Readiness projects. Project FEVER's strategy has done a particularly good job of addressing the barrier to EV infrastructure availability. The reviewer noted that the approach has included: developing streamlined permitting and inspection guidelines, developing recommendations on building codes and zoning ordinances, assessing potential grid impacts of EV penetration, and assessing state and local policies relevant to infrastructure. The reviewer also explained that Energizing Oregon established four work groups to address different issues related to EV and electric vehicle supply equipment (EVSE) adoption: deployment, utilities, outreach, and policy. The strategy includes a strong public outreach component, which addresses barriers to consumer acceptance.

Reviewer 4:

The reviewer detailed that Project FEVER's strategy was to reach out to multiple communities, state agencies and EVSE industry/manufacturers and utilities. Many fleets were public or utility-based. The reviewer commented that the plan did focus on many key areas or barriers, grid impacts, streamlining permitting, etc. Partners met twice during the process for each working group. The reviewer commented that air quality and energy benefits and the impacts of plug-in electric vehicles (PEVs) was a unique focus and led to a separate report.

The reviewer commented that the Energizing Oregon deployment strategy was to get a grasp on individual community activities to date and build consensus on best practices. The reviewer concluded that the project strategy led to some unique training, such as with the Oregon Automobile Dealerships Association.

Reviewer 5:

The reviewer commented that, generally, as with the other EV Community Readiness grants, these grants were well-integrated with DOE's other efforts to promote the use of PEVs, including the ARRA grants for EVSE and PEVs, Clean Cities efforts, the Workplace Charging Initiative, etc. The reviewer commented that following the grant completion, the efforts to bring together grant recipients to share ideas in Tennessee, as well as the planned summary report, show the emphasis on integrating all of the individual grants.

The reviewer explained that for Project FEVER, the initial design of the project, specifically the initial subject matter assessment and the barrier mitigation, allowed for a readiness plan that is feasible and relevant.

For Energizing Oregon, the reviewer explained that the initial design of the project, specifically the efforts to develop key elements of the plan and collectively define a roadmap, allowed for a readiness plan that is feasible and relevant.

Reviewer 6:

The reviewer first addressed Colorado Project FEVER. According to the reviewer, this project outlined that the project was going to: develop best practices; assess state policies; evaluate local codes and regulations, zoning allowing EVs; and evaluate the impacts on the grid, and more. The reviewer commented that this plan appeared to be an outstanding use of federal funds. The reviewer believed this because it looked at the building blocks to implementing a new technology and the policies needed to get it off the ground. The reviewer also liked the working groups/survey work to collect feedback early to help guide this group. The surveys could also be helpful to measure the plan's long-term success. The reviewer also noted that this state did not have any prior experience with EVs and was starting from scratch – given that, this appeared to be an effective approach; however, the 105 partners may have been challenging to manage. The reviewer liked that the project team included first responders early on in the development process. According to the reviewer, this had been a proven barrier in the past.

Regarding Oregon's project, the reviewer elaborated that this state appeared to already be EV-ready and already had EVs and stations in the works. The reviewer detailed that this project helped to harmonize the large number of entities in Oregon already working on EVs. Because Oregon was experienced in EV technologies, the reviewer was pleased to see the plan included identifying initiatives that had already been done to date. The reviewer stated that reviewers were to assume that coding and zoning issues had already been addressed. The project looked at the consumer and myth busting. The reviewer was unsure how the funds were used. The reviewer liked that this project used surveys, but noted that it would have been helpful to have more detail on those survey results and how this data was used. This project did have matching resources but the reviewer did not know who it was from and how the resources may have influenced the plan. If the reviewer were rating this strategy alone, it would have received a fair rating.

Reviewer 7:

The reviewer remarked that the American Lung Association of the Southwest and the Oregon Business Development Department EV Readiness grants represented two awardees at the opposite side of the spectrum in EV penetration in the respective states. Project FEVER, the Colorado project, was funding for an early stage initiative, whereas the Energizing Oregon was funding for the State's efforts to streamline and coordinate best practices in a state with significant EV owner penetration.

The reviewer commented that the Colorado plans appeared to be very comprehensive and well-designed. The project team's strategy proved to be an excellent approach for this grant. This reviewer explained that the working groups established early on with 105 partners enabled the project team to work both at the local and state level; and evaluate the EV Grid Impact Assessment, Electric Permit Evaluations, and Methods and Best Practices adopted by participating municipalities including ordinances, zoning, building codes, etc. The reviewer believed these efforts were useful for the project team to create and compile. The reviewer concluded by noting that if scored alone the American Lung Association of Southwest Colorado would have received an outstanding score on Strategy for Deployment.

The reviewer was sure that the Energizing Oregon Readiness Plan was helpful for the project team's impressive stakeholder group, but given the presentation materials supplied, this reviewer was unable to determine if this plan will be pertinent, relevant or useful to other states, industry and academia. The reviewer commented that it was fantastic that the Governor included the Oregon Readiness Plan in his Energy Plan, and the reviewer applauded all the creative efforts made with the State's EcoTourism industry. Because

Oregon is alleged to be one of the more mature states with EV penetration, it would be helpful for this reviewer if the presentations highlighted for other states what data Oregon collected from their surveys to better understand lessons learned. User-friendly EV industry data and information on how many EV owners, vehicles and charging stations are in the state would also have been helpful to the reviewer. The reviewer pointed out that it was not clear why the Portland International Auto Show was highlighted and wished the materials explained more clearly how the grant served to overcome barriers for consumer's availability of vehicles and charging stations. The reviewer acknowledged that Oregon received an almost $90,000 cost-share, but the reviewer expressed uncertainty where those funds for the total project funding of $574,000 came from and how the cost-share entity may have benefitted from the Energizing Oregon initiative.

Reviewer 8:

The reviewer explained that both projects (FEVER and Energize Oregon) met the three technical barriers of availability of charging stations, consumer reluctance to buy EVs and the lack of technical experience. The reviewer noted that the remaining technical barrier of vehicle availability was not directly addressed. According to the reviewer, the approach seemed to be that vehicle availability would follow by building market demand.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer commented that the technical accomplishments of both projects were outstanding. Projects both delivered on their Readiness Plan, and performed marketing, education and outreach per their Statement of Work.

Reviewer 2:

According to the reviewer, Project FEVER made excellent progress toward the DOE VTO goal of easing market introduction of electric drive vehicle technologies. The presenter noted that several outside groups were using recommendations from Project FEVER for independently-funded Colorado EV and EVSE deployment projects. The reviewer elaborated that the extensive collaboration of the project coordinators with states agencies, local governments, utilities, and other stakeholders suggests that further implementation of the project recommendations is likely. The project also successfully addressed the DOE goal of providing technical and educational assistance to local communities through the aforementioned collaborations, by developing infrastructure permitting and regulatory guidelines, as well as through first responder training. The reviewer said that Energizing Oregon also made excellent progress toward facilitating EVs & EVSE infrastructure deployment. The presenter noted that the Governor's office had already adopted the EV Readiness plan and that the first steps have been taken toward a PEV fleet financing program and a workplace charging initiative. Energizing Oregon also developed an innovative public outreach strategy that included EV tourist routes and itineraries.

Reviewer 3:

For Project FEVER, the reviewer commented that this project was over 98% complete with a month remaining in the grant. Significant technical accomplishments include PEV grid impact minimization efforts; streamlining permitting and inspection; developing best management practices for ordinances, building codes, and other efforts; producing a comprehensive readiness plan; and marketing, educating, and communicating with stakeholders. The reviewer noted that particularly impressive work products included household EVSE volume maps, model permits, and an interactive online resource that will be maintained after the grant is over.

For Energizing Oregon, the reviewer noted that this project was over 95% complete with a month remaining in the grant. Significant technical accomplishments included prioritized action items, reports, an interactive website, presentations, outreach events, and training for electricians and auto dealers. For the reviewer, particularly interesting were the PEV itineraries to be used by the state's tourism agency. The reviewer enthusiastically commented that this was a creative way to address the consumer reluctance barrier. In addition, the workplace charging program is in line with DOE's efforts at the national level in this area.

Reviewer 4:

Regarding Project FEVER/American Lung Association, the reviewer indicated that the project released a well-documented plan, including several nice pieces, e.g., the developed model permit flow chart was particularly good; conducted extensive outreach, and launched a project website.

The reviewer commented that Energizing Oregon/Oregon Business Development released a plan/roadmap; developed and released a separate marketing plan; and launched a project website.

Reviewer 5:

The reviewer commented that readiness plans were completed with good elements. The reviewer enthusiastically explained that the model permit process was great. The reviewer also liked that the Colorado project looked at air quality, which none of the others this reviewer evaluated appeared to address. According to the reviewer, the Colorado website was informative, easy to navigate, and fun. While also informative, the reviewer thought that the Oregon website seemed to lack information that an employer, property owner, or EVSE installer might want.

Reviewer 6:

For Colorado Project FEVER, the reviewer indicated that the goal was to develop a state-wide EV Readiness implementation plan. This project achieved this overarching goal. The plan included the following: best practices and smart grid strategies for residential and buildings, codes; developed a website and newsletter that accomplished significant consumer awareness; and trained 83 first responders, etc. The reviewer noted that this project included the Governor's Energy Office and a number of other state agencies; all of whom adopted the plan. According to the reviewer, although not an indicator of success, the plan had already received awards, both merit and financial. The reviewer concluded that from having limited EV charging to approximately 100 shows the success of this plan. The reviewer also learned during the question and answer session (Q&A) that the state extended a $6,000 tax credit for EV purchases. The reviewer detailed that $1 million in Congestion Mitigation and Air Quality Improvement (CMAQ) funding would be used to build infrastructure and vehicles as a result of this plan, which the reviewer remarked was nice. The reviewer identified that one of the outstanding accomplishments to this plan was the installation of a number of EV charging stations.

The reviewer detailed that Oregon's EV readiness project accomplished several dozen surveys and public opinion polling. It released its plan in December 2012; however, this reviewer noted that the final plan and educational materials developed were difficult to find online. The reviewer mentioned that according to the PI, the state is more or less done building out infrastructure, and is now focused on consumer outreach. The project had an exhibit at the Portland International Auto Show to increase consumer awareness. The reviewer commented that the project highlighted that it focused on the EV tourism plan and EV trip guide. The reviewer noted that the working group held a series of webinars in the Summer/Fall of 2012, but was unsure of the audience for those webinars. The reviewer liked that the project included technician training for auto dealers, especially if it was already built out. The reviewers did not know how many workshops were held and how many were educated. The reviewer noted that the project began to develop a fleet financing effort, but did not complete it. It was unclear to the reviewer why the project resulted in educational materials, but the reviewers were not told what they were and the reviewer did not see them on the project’s website. The project was not able to complete work-place charging information and a financing charging program. The reviewer will have to rate this project's technical accomplishments at fair.

Reviewer 7:

The reviewer commented that Project FEVER looked at the subject area assessment: grid impact, electrical permitting and inspection, ordinances, building codes and new construction, EV demand and energy benefits, and air quality impacts using demand models across the state. The reviewer detailed that Phase 3 looked at implementing a pilot Smart Grid, enabled strategies for early adopters, streamlined processes for permitting and inspection, best practices for local EVSE ordinances and building codes, reports assessing air quality and energy based on penetration scenarios and state and local policies and best practices, and a dedicated website.

The reviewer commented that Project Oregon coalesced the efforts of multiple players to determine the needs and to share lessons learned. Progress was made in the key area of deployment including working more closely with the tourism industry and dealerships.

Reviewer 8:

The reviewer stated that Colorado developed a robust state-wide EV Readiness Plan with local input. Additionally, many aspects of the Plan and Best Practices ultimately ended up being incorporated at the local level with the participating partners, which were key in a state that had little to no EV owner penetration prior to the EV Readiness Plan. The reviewer remarked that Project FEVER undertook an aggressive scope and appears to have accomplished all the tasks and metrics, which ended up actually being used and implemented; so in other words, stated the reviewer, the work did not just sit on a shelf.

The reviewer detailed that on April 23, 2013 partners in Project FEVER launched Charge Ahead Colorado, a program formed in partnership by the Regional Air Quality Council (RAQC) and the Colorado Energy Office (CEO) to improve air quality and encourage the deployment of EVs. This program has awarded 13 public entities and two not-for-profit organizations with grant funding, to support the purchase of EVs and the expansion of EV infrastructure. The reviewer commented that overall, the program would provide financial support for the purchase of 10 EV fleet vehicles and the construction of 41 new EV charging stations across the state. The reviewer stated that the new charging stations supported by the Charge Ahead Colorado Program would increase the total public charging stations in the state from 79 to 116. The reviewer commented that also worth noting was that in 2013, the Governor signed legislation that extended the $6,000 state tax credit for EV vehicle purchases through 2021. The reviewer noted that if scored alone, the American Lung Association of Southwest Colorado would have received an outstanding score on Technical Accomplishments and Progress.

The reviewer thought the Oregon presentations of their Energizing Oregon Readiness Plan were not very well done. According to the reviewer, it seemed to take into consideration that the reviewer had a previous working knowledge of what has been accomplished in the state to date. The presentation indicated that two of the four work groups were outreach and deployment, but the presentation materials did not indicate what was accomplished in this regard. The reviewer was surprised to see that only initial steps were taken with these funds to educate employers on fleet financing benefits and/ or workplace charging initiative, as the reviewer would have expected that Oregon's early stage involvement in this sector would have already empowered the state to conduct outreach and education advocacy to at least the largest employers on these very basic deployment matters.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:

The reviewer found that the number of collaborations of both projects were outstanding, and noted that Project FEVER had 105 collaborations.

Reviewer 2:

For Project FEVER/American Lung Association, the reviewer commented that the project included a wide array of relevant project partners, including state and local governments; electricity generators/distributors; utility authorities; departments of public works (DPWs) and Departments of Transportation (DOTs); owners/operators of properties essential to EVSE deployment; plug-in electric drive vehicle manufacturers and retailers; third-party vendors/installers of EVSE; participating fleets; and all three Clean Cities Coalitions from the State of Colorado. The reviewer enthusiastically commented that the project has over 100 collaborative partners in all.

Regarding Energizing Oregon/Oregon Business Development, the reviewer remarked that similar to Project FEVER above, this project also included participation/collaboration from a large number (over 50) of key partners representing virtually every type of stakeholder suited to this kind of project.

Reviewer 3:

For Project FEVER, the reviewer noted that the grant recipients included a collaboration of 3 Clean Cities coalitions, 6 state agencies, 27 local governments, 6 utilities, PEV/EVSE manufacturers, and fleets. These groups appeared to be well-coordinated.

For Energizing Oregon, the reviewer noted that the grant recipients included a collaboration of two Clean Cities coalitions, the Governor's Office, five state agencies, six local governments, the public utilities commission (PUC), five utilities, private partners, and others. According to the reviewer, these groups appeared to be well-coordinated.

Reviewer 4:

The reviewer commented that project FEVER collaborated with over 100 state agencies, local governments, utilities, EVSE providers and other stakeholders. Energizing Oregon also collaborated with a long list of state and local governments and other local stakeholders.

Reviewer 5:

Regarding Colorado Project FEVER, the reviewer reiterated that this project had 105 active partners, many of whom had influence over state/local policies and funding sources. Several academic and industry partners brought a high level of technical expertise to this project and, ultimately, the plan. According to the reviewer, the only lacking major partner were the major OEMs , which would be critical to the long-term success and consumer acceptance of this plan. As this project moves into implementation, the reviewer highly encourages the Project FEVER partners to include the OEM dealers. Also, it was unclear to the reviewer whether or not the partners included fleet managers.

For Oregon, the reviewer commented that this project has a large number of partners, including the Governor's Office, five state offices and the auto dealers/OEMs. The project team has a large number of cities, and one county. The plan was incorporated into the Governor's Energy Plan and the state continued its support after the plan was released. The reviewer was unsure what the plan included or whether any private funding was identified for implementation of the plan. The reviewer remarked that this would have been helpful to spell out. The reviewer liked that the Oregon dealers were involved in the auto EV education.

Reviewer 6:

The reviewer liked the involvement of so many local governments in the Colorado project. The reviewer wished the Colorado DOR were part of this, since the handling of the Colorado tax incentive was making it difficult for consumers to determine their respected tax return; the reviewer commented this was impacting purchase decisions. Perhaps this group could have helped expedite this process. Likewise, according to the reviewer, there was good non-government participation in the Oregon project.

Reviewer 7:

According to the reviewer, collaboration for Project FEVER seemed limited with only two meetings, although the project team did keep these groups informed of the progress and ultimately, received the buy-in that was needed.

The reviewer noted that Energize Oregon had an impressive number of meetings and focus groups and working groups, which led to the plan being adopted by the Governor's Office.

Reviewer 8:

The reviewer praised that the collaboration and coordination for Project FEVER was excellent. The project team's 105 active partners included all relevant entities at that table from universities, state and local government, utility companies, EV charging manufacturers and local refueling stations. While it is understandable that the OEMs have not been active in Colorado given the range limitations of the battery, mountains and weather, going forward it is imperative that the OEMs become more involved if EV adoption is to become a reality. Additionally, the reviewer advised that going forward large employers with fleets should also be engaged.

As stated previously, the reviewer was unsure what was accomplished in the Energizing Oregon Readiness Plan. That being said, for the reviewer it appeared from the materials, that there was coordination with the tourism industry and state and local government. The list of partners was impressive but the reviewer was not really sure what all the results were of a coordinated effort.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer commented that Energize Oregon worked successfully to harmonize the efforts of multiple communities and agencies already working in the PEV space to develop a plan adopted by the Governor's Office and the Transportation Electrification Executive Council. This group held multiple meetings and focus groups to identify current activity and barriers. The reviewer commented that this led to the Governor's Office creating a Memorandum of Understanding (MOU) for continued collaboration with key partners.

The reviewer noted that Project FEVER's report was presented to multiple players that would benefit from clean air, and economic development of a large introduction of PEVs. Subject area assessments were multiple in nature, covering many barriers, and it led to additional state funding for EVSE incentives. The project team developed a model permitting process. The reviewer concluded by stating that education will continue in both projects into 2014.

Reviewer 2:
The reviewer commented that the Project FEVER EV Readiness Plan appeared to be successful in that Colorado had no EV owners and charging stations prior to the Plan and that Colorado is on target to have 116 stations in 2013. Additionally, the Colorado legislature voted to extend the $6,000 tax credit for EV car purchasers until 2021. The reviewer is hopeful the Working Groups and Best Practices for zoning, permitting, ordinances and charging station installations were helpful for this deployment effort.

Reviewer 3:
The reviewer commented that both projects are scheduled to be completed in June 2013. Follow-up activities are outside the scope of this review.

Reviewer 4:
For Project FEVER, the reviewer indicated that the remaining project activities under the grant were minimal, but the grantees will continue efforts beyond the grant funding for implementation.

Regarding Energizing Oregon, the reviewer commented that remaining project activities under the grant were minimal, and it was unclear how implementation efforts would proceed [DOE Program Clarification: It should be noted that implementation activities were outside the scope of the grant.].

Reviewer 5:
Regarding Project FEVER/American Lung Association, the reviewer commented that the FEVER project has been/will continue to be leveraged by other funded deployment initiatives both in Colorado and in other states/regions.

For Energizing Oregon/Oregon Business Development, the reviewer commented that the future work is rather vague and described in general terms (e.g., continue outreach, etc.).

Reviewer 6:
For the Colorado Project FEVER, the reviewer commented that this plan was completed in December 2012. The project has already led major policy incentives for EVs in Colorado. This is a strong indication this plan was effective and would ultimately lead to the successful implementation of EVs in Colorado. The reviewer concluded that the Project FEVER team and DOE Clean Cities should be pleased with the overall success of its efforts. As a side bar, the reviewer commented that it would be helpful if DOE/Project FEVER followed-up with another survey to assess the impact of this plan down the road. The reviewer also complimented that Denver did an outstanding job laying the groundwork for future success and expansion.

For the Oregon Project, the reviewer indicated that this project was nearly complete. However, the presenters did not indicate how it was going to achieve its long-term success (i.e., where funds could come from to continue the educational ideas presented in the plan). The presenter commented that there were areas that needed additional funding to continue including fleet financing, and work-place

education/outreach, but again, no indication of how the funds would be raised. The reviewer commented that, from what the reviewer could tell, the plan did not outline mechanisms to measure its success. The reviewer would like to know if there would be any additional surveys conducted.

Reviewer 7:

The reviewer generally would have liked to have seen more thought put into communicating results to key stakeholders from all of the EV readiness projects. Plans, websites, and fact sheets were a great start, but the reviewer felt that just as important was getting that information in front of the important stakeholders including from policy officials, to property owners, and to consumers. According to the reviewer, more detail on this, even in the Future Work section, would have been nice.

Reviewer 8:

The reviewer commented that both projects were near completion and had minimal proposed future work. Estimates on how these projects would have a positive impact on EV market acceptance would have been useful to this reviewer.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:

The reviewer remarked that the EV Readiness Grants for both Colorado and Oregon were relevant as they introduce, educate, and ultimately encourage consumers to replace combustion engine vehicles with vehicles that use less or no petroleum and reduce carbon emitting pollutants.

Reviewer 2:

The reviewer commented that these grants addressed barriers, including the availability of PEVs and EVSE, consumer reluctance to purchase new technologies, and the lack of technical experience with new technologies. Addressing these barriers will help support VTOs deployment goals, specifically petroleum reduction objectives, partnership efforts to ease market introduction of PEVs, and technical and educational assistance to support local communities and partnerships.

Reviewer 3:

The reviewer remarked that both projects would serve to meet the Clean Cities petroleum reduction goals of 2.5 billion gallons per year by 2020 by building and strengthening community efforts in PEV deployment.

Reviewer 4:

The reviewer stated that the adoption of EVs and plug-in hybrid electric vehicles (PHEVs) has the potential to significantly reduce petroleum use. These community readiness initiatives help facilitate the adoption of EVs and EV infrastructure, as described above.

Reviewer 5:

The reviewer commented that both projects supported grassroots EV market development at the community and state level.

Reviewer 6:

The reviewer remarked that the EV readiness plans for both Colorado and Oregon are relevant to petroleum reduction goals. These plans lay a roadmap for developing EVs in their respective states. As has already been witnessed, these plans were already making an impact through EV charging installations and public incentives.

Reviewer 7:

The reviewer commented that the benefits of EVs were well-known.

Reviewer 8:

The reviewer remarked that EV usage reduced petroleum dependency. The reviewer also commented that neither project estimated how much petroleum would be displaced.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer commented that both projects had already used most of the funding allocated and made significant progress toward project objectives.

Reviewer 2:
For Project FEVER, the reviewer noted that the project funding of $500,000 was sufficient to complete the work, though these were not cost-share.

For Energizing Oregon, the reviewer commented that the project funding of $573,923 was sufficient to complete the work, and this included an $88,923 cost-share.

Reviewer 3:
The reviewer observed that Project FEVER had spent 98% of $500,000. The project resources seemed adequate for the multiple tasks at hand, bringing together multiple stakeholders to engage in the plan development; development of a website for consumers; training courses for first responders.

The reviewer noted that Energize Oregon was 95% compliant and had numerous tasks, including harmonizing on-going efforts of multiple communities throughout Oregon to develop the plan, educational brochures and events, and training for auto dealers and electricians.

Reviewer 4:
For Energizing Oregon/Oregon Business Development, the reviewer noted that over $200,000 in project funds remained while the project was 95% complete. The reviewer questioned whether the project appeared to be over-funded [DOE Program Clarification: It is important to note that final invoicing had not taken place at the time this presentation was submitted.].

For Project FEVER/American Lung Association, the reviewer commented that this project appeared to be appropriately-/sufficiently-funded.

Reviewer 5:
First, the reviewer recommended to DOE to have the PIs present their project summaries instead of DOE project managers. It was difficult for DOE project managers to provide the level of detail needed for reviewers to do a thorough evaluation.

Second, according to the reviewer, it was difficult to assess the resources. No budget or spending plan was provided for either project. As to the use of resources, the reviewer's initial reaction was that the reviewer could not believe that DOE spent this much money on an implementation plan. The reviewer thought about how much more could have been done with these resources to actually obtain petroleum displacement. The reviewer stated that it was too early to tell whether or not these funds were used appropriately – time would tell.

Third, according to the reviewer, DOE did not require any cost-share to develop these plans. The reviewer thought DOE should require some level of investment on the industry or state's part in the future to help secure their buy-in and long-term investment, and because the industry or state was going to benefit from the plan. Although Oregon was not required to, this project had almost 20% cost-share. The reviewer remarked, kudos; but the project also had a more established EV infrastructure and industry in place.

Fourth, with such substantial funding going into the development of these implementation plans, the reviewer expects DOE to require the plan include a discussion about the sustainability of the plan's proposed activities (i.e., identify possible funding partners to carry out the plan). If this was a requirement, it was not made clear to this reviewer.

In Project FEVER's case, the project team had already begun to implement the plan. The reviewer questioned how those resources were obtained, and asked whether it was through another DOE or other federal agency grant or industry/state sources. If so, stating this during the presentation would have been helpful to the reviewer.

Reviewer 6:

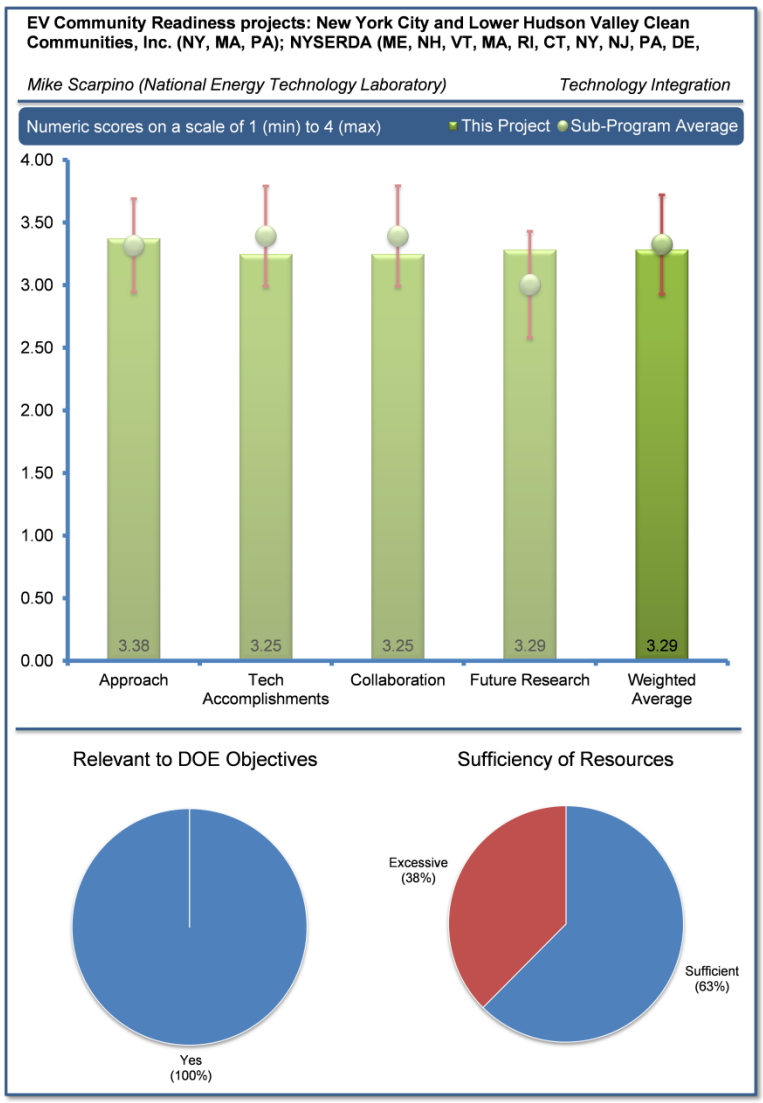
It was difficult for the reviewer to evaluate how the resources were used in either the Colorado or Oregon project. While the reviewer knew that working groups, website and printed materials were organized and produced, the reviewer was unable to evaluate the expenses for the project from the information and presentations provided. In the past, the DOE has had the PI that received the grants make the presentations for the reviewers, and this year the respective DOE project manager gave the reviewers the presentations. It would be more effective in determining some of the local and regional impacts and long-term benefits of the grants if the person responsible for implementation provided the reviewers the uniqueness and highlights of the project presentation. Also, according to the reviewer, the cookie-cutter hardcopy presentation format used for these reviewer presentations prevented the individuality and exceptionality of each grant to stand on its own.

The reviewer notes that Oregon secured a cost-share while Colorado did not. The reviewer recommended that DOE should require in this tight federal budget funding environment, a cost-share from all recipients of federal government funds.

Reviewer 7:

The reviewer commented that the FEVER project had sufficient funds to complete the work in a timely manner. Energize Oregon has reported $326,990 funds spent from a budget of $573,923, yet the project team reported 95% completion. The project may have received excess funding necessary to complete the work [DOE Program Clarification: It is important to note that final invoicing had not taken place at the time this presentation was submitted.].

EV Community Readiness projects: New York City and Lower Hudson Valley Clean Communities, Inc. (NY, MA, PA); NYSERDA (ME, NH, VT, MA, RI, CT, NY, NJ, PA, DE, MD, DC): Mike Scarpino (National Energy Technology Laboratory) - ti028



Reviewer Sample Size

A total of eight reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer first provided general comments. As with the other EV Community Readiness grants, these grants were well-integrated with DOE's other efforts to promote the use of PEVs, including the ARRA grants for EVSE and PEVs, Clean Cities efforts, the Workplace Charging Initiative, etc. The reviewer commented that following the grant completion, the efforts to bring together grant recipients to share ideas in Tennessee, as well as the planned summary report showed the emphasis on integrating all of the individual grants.

Regarding the Northeast Electric Vehicle Network, the reviewer commented that the initial design of the project, specifically the stakeholder advisory group, literature review, and data collection, allowed for a readiness plan that is feasible and relevant.

For the New York City and Lower Hudson Valley Clean Communities, Inc. (NYCLHVCC), the reviewer commented that the initial design of the project, specifically the efforts to collect data and analyze information, allowed for a readiness plan that is feasible and relevant.

Reviewer 2:

The projects seemed well-conceived, designed, and organized. For the NYCLHVCC project, the reviewer liked that the team identified the unique characteristics and needs of New York City and proceeded accordingly; specifically car share, garage issues, etc.

Reviewer 3:

The reviewer remarked that the two projects being reviewed were the New York State Energy Research and Development Authority (NYSERDA) Northeast Region and the New York City/Lower Hudson Valley. The reviewer elaborated that both projects got a good rating for addressing the technical barriers. The NYSERDA work identified the four standard barriers and addressed three of these barriers: availability of charging stations, consumer reluctance, and technical experience. The NYCLHVCC project identified three slightly different barriers of public awareness, increased access to charging, and improving vehicle economics.

Reviewer 4:

The reviewer commented that the Northeast Regional Electric Vehicle Network Planning Project was approximately $1.5 million, funded with $1 million from DOE and a $500,000 cost-share from NYSERDA. The partners included 11 states in the northeast from Maine to Washington, DC. The reviewer commented that other partners included Transportation Climate Initiative (TCI), which took the lead, Georgetown Climate Center, 16 Clean Cities coalitions, numerous local governments and the National Association of State Energy Officials (NASEO). The reviewer noted that TCI and Georgetown Climate Center have worked on the Regional Greenhouse Gas Initiative (RGGI) with many of these same partners for years and have a strong track of working on complicated emissions reductions projects. The reviewer noted that this group set out to form a Stakeholder Advisory Group, compile and review literature to better understand regional siting, building and electrical code models, case studies, education and ultimately would present their findings in a plan and best practice documents for EV readiness.

The reviewer noted that it was important to remember that the New York City project already had an EV initiative underway and this $420,000 from DOE and $150,000 from New York City is intended to be used to build on those efforts. The reviewer commented that this project was intended to be used to evaluate fast charging station potential, access to EV charging in general, EV taxis, friendlier zoning and building education materials, and overall connectivity issues. This initiative would be using advanced communication outreach including social media to educate businesses and consumers. The reviewer added that data collection and analysis was used to evaluate car sharing and fast charging potential. The reviewer found that extensive parking garage attendant training was another key approach to New York City's implementation strategy.

Reviewer 5:

For NYSERDA, the reviewer commented that the tasks to address technical barriers were suitable and adequate but rather general and not specific. Key stakeholder advisory groups needed to be assembled during the project rather than in advance of the effort. The reviewer found that the cluster approach was a good way to equalize approach to issues across a very wide and diverse geographical project range, including 11 Northeast & Mid-Atlantic States and Washington, DC.

For NYCLHVCC, the reviewer commented that the project addressed several New York City-relevant barriers and opportunities, such as analyzing potential for EVSE for taxi fleets, EVSE installations in parking garages and garage attendant training, EV integration with car-share programs, etc.

Reviewer 6:

Concerning the NYSERDA EV Project, the reviewer remarked that this project received $1 million in federal funding and $500,000 in state support. It covered 11 states in the Northeast from Maine to Washington, DC. This project had a tough road to hoe with 11 states. TCI managed the group, which was good because TCI already had a working relationship with these states through the RGGI. The reviewer commented that project tasks were to form an advisory group; conduct literature reviews to better understand current issues and develop its regional siting and design guidelines; building code/permitting/zoning models; education plan; and then writing the actual plan. The presenter shared that one of the primary objectives was to develop a suite of planning documents and best practices guidelines to help implement EV readiness communities throughout the Northeast. In general, according to the reviewer this appeared to be a strong approach.

For NYCLHVCC's EV project, the reviewer commented that this project had $420,000 from DOE and $150,000 from New York City. This project targeted fast charging stations, increasing greater access to EV charging, integrating taxis, improving vehicle economics, developing friendly zoning educational materials, addressing connectivity issues, and utilizing social media to promote EVs. The reviewer found that the approach used data collection and analysis to assess car-sharing and fast-EV charging potential. The reviewer commented that the project also developed parking garage attendant training to increase acceptance.

Reviewer 7:

For the NYSERDA project, the reviewer commented that the project worked with a consortium of states, non-governmental organizations (NGOs), NASEO, and Clean Cities coalitions to form a stakeholder advisory group. A literature review helped determine practices already underway. The reviewer commented that local stakeholders were clued into the progress through monthly

webinars as TCI wrote the plan. The strategy was to focus on areas that were common to everyone, whether you lived in Vermont or New York City and developed clusters of focus areas for EVSE deployment.

For NYCLHVCC, the reviewer commented that this project had a few targeted audiences, such as taxis, garage attendants, car sharing public, food truck entrepreneurs and their patrons, and education of the general public and analyzed these markets and developed tools or actual deployment of EVSE. Due to the project being of smaller scope, according to the reviewer, the strategy was focused.

Reviewer 8:

The reviewer commented that the strategy for both initiatives addressed the four barriers cited by the Clean Cities EV Community Readiness projects.

The reviewer noted that NYSERDA's strategy did a particularly good job of addressing the barrier to EV infrastructure availability through the development of region-wide siting guidelines as well as recommendations for building codes, permitting, and zoning ordinances that states and local partners across the region can use. These steps also helped address another barrier, the lack of technical experience with new vehicle technologies.

The reviewer remarked that NYCLHVCC's strategy more directly addressed the barriers to vehicle availability by assessing the possibility of incorporating EVs into the taxi fleet and a city car-sharing program. The reviewer remarked that the strategy also included a public outreach component to address barriers to consumer acceptance; however, nearly all of the project efforts focused on New York City. It was unclear to the reviewer to what extent the project addressed barriers in either Boston or Philadelphia, which were both within the scope of the project's stated goals.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

For the Northeast Electric Vehicle Network, the reviewer noted that this project was over 95% complete with a month remaining in the grant. Significant technical accomplishments included developing planning documents, model building codes, model permitting rules, model zoning ordinances, and education and outreach. The reviewer found that the site design for EVSE, particularly with the Americans with Disabilities Act (ADA)-compliance addressed, would be extremely helpful for the industry. In addition, the analysis related to trends in EV ownership and charging station locations would be useful in that region. The reviewer remarked that in particular, it was interesting to see that the project team identified specific land use clusters that could be considered strong candidates for EVSE deployment regardless of the geography and demographics. This model can be replicated in other areas of the country that are as diverse as the northeast. The reviewer concluded by remarking that the educational materials were creative.

For the New York City Electric Vehicle Readiness project, the reviewer noted that this project was 100% complete with a month remaining in the grant. Significant technical accomplishments included analysis, education and outreach, website and social media engagement, and the completion of the final plan. The reviewer commented in particular, that many of the efforts could be replicated in other cities, including EV CarShare, time-of-use EV metering, building codes, curbside charging, fast charging, and parking attendant training. The reviewer found that the initiative's website was extremely well-executed.

Reviewer 2:

The reviewer noted that NYCLHVCC did an outstanding job of recognizing the unique problems associated with EV charging in the city. The reviewer specified that New York City was not ready for on-street EV charging, so the project spent time and funds on developing public garage charging. The reviewer remarked that NYSERDA also did an outstanding job in meeting their objectives when one looked at the size of the project.

Reviewer 3:

Concerning NYSERDA's EV Readiness Project, the reviewer commented that this project produce and published its plan in October 2012. The project accomplished its objectives: formed a stakeholder advisory group, completed the literature review, collected data for work products, collected feedback on its draft report, finalized guidance documents, and completed outreach events. The reviewer

commented the project also resulted in the development of a college course on EVs. The project generated 14 different products, including the proposed guidance documents, and held more than 100 meetings to educate stakeholders about its plan and the generated documents. The reviewer loved the hang-tag too. The project also identified nine cluster areas that might be good locations for EVs. In the reviewer's opinion, the project team accomplished what was proposed.

For NYCLHVCC, the reviewer remarked that the plan was completed and had been announced by Mayor Bloomberg. The project research concluded that car-sharing could meet 98% of individual trips using the Nissan LEAF based on the 580 trips analyzed. The reviewer remarked that the utilities removed codes, enabling customers to install additional meters and allowed preferred rates. As a result of this plan, the Mayor committed to creating 2,000-10,000 parking spots for EVs throughout the city by 2020. The reviewer also noted that the plan determined that food service trucks should be targeted for conversion to EV or replaced by EVs, improving emissions and consumer awareness while reducing petroleum. The reviewer remarked that the Mayor embraced this concept and was considering how to lend support. The plan identified three direct current (DC) fast-charging sites for a taxis pilot program, and one site had already been installed. The reviewer commented that the plan included a public awareness campaign, allowing voters to determine the location of future EVs, and that Smith was an EV OEM. The reviewer liked this creative outreach effort. The project had already resulted in the training of more than 100 garage attendants. According to the reviewer, it would be interesting to learn if there were questionnaires done along with these trainings. The reviewer questioned if the trainings were effective. Also, the reviewer liked that the presenters listed the publications generated out of this plan in the PowerPoint slides. The reviewer wished that all the presenters did this.

Reviewer 4:

The reviewer remarked that the Northeast Regional Electric Vehicle Network Planning Project accomplished what the project set out to do, including forming a stakeholder advisory group that was engaged, completed literature review, completed guides and disseminated stakeholder outreach to public, fleets, employers, retailers, governments, and utilities. The reviewer remarked that the project team identified nine land use clusters most likely to be early EV adopters that included: medical campus, downtown dwellers and workers, higher education institutions, retail, commercial office, multi-family, leisure destination, regional transportation, fleet, and freight.

The reviewer noted that 14 products were generated including: Site Design for Electric Vehicle Charging Stations; Assessment of Current Electric Vehicle Supply Equipment and EV Deployment; Electric Vehicle Supply Equipment Cluster Analysis; Electric Vehicle Siting and Design Guidelines; EV-Ready Codes for the Built Environment; Creating EV-Ready Towns and Cities: A Guide to Planning and Policy Tools; Plug-In Electric Vehicle Deployment in the Northeast: A Market Overview and Literature Review; and a brochure: Learn About Electric Vehicles and Their Use in the Northeastern United States.

The reviewer noted that in addition to the project team's partners, the project worked with local stakeholders to assess the state of EVs in their jurisdictions and have held over 100 meetings to educate stakeholders about the documents developed. In the New York City EV project, the New York City Mayor's office used New York City Department of Transportation usage data from the first quarter of 2010 for their car share pilot and created a tool to simulate EV usage for the same type of car-share scenario. The reviewer remarked that this per-trip analysis showed that 98% of all individual trips would fit within the electric range of a Nissan LEAF. Since the New York City EV Readiness Plan was finalized, New York City's Mayor Bloomberg announced that the City is committed to ensuring that 2,000 of the 10,000 new parking spots will be EV ready by 2020. The reviewer noted that the New York City Mayor's office worked with the New York City Department of Buildings to amend codes in order to enable customers to install a second meter that would allow Con-Edison customers to take advantage of time of use rates. The analysis also illustrated that the value of the savings for New York City vehicles may not be substantial enough for further demonstration at this time. The reviewer explained that the New York City Mayor's office worked with the local utility, Con Edison, and Nissan to identify three DC fast-charging sites that could be used for the EV taxi pilot program. To date, two of the three sites have been identified, and one DC fast-charger was already installed. The reviewer noted that over 100 parking attendants have been trained. The reviewer concluded that Slide 37 would provide a complete list of all the documents New York City wrote and made available.

Reviewer 5:

Regarding the NYSERDA project, the reviewer commented that there were a number of goals that were met, and the progress included a number of guides on site design, assessment of EVSE placement and cluster analysis, and its impact on the grid; guide on codes; ADA compliance; and a planning guide for communities. The reviewer noted that products were developed to educate the public.

For the NYCLHVCC project, the reviewer remarked that again, the strategy was focused and progress was made in the key areas. Some barriers still remained, but the analysis and outreach to these targeted groups could yield future results. The reviewer commented that vehicle to grid (V2G) was analyzed, but the project team decided to delay work in these areas. The reviewer concluded that it seems a thoughtful process was developed to determine next steps at key decision points.

Reviewer 6:

The reviewer remarked that the readiness plans were completed with good elements. The reviewer added that it was good that the team chose to find common elements to investigate, given the diverse demographics and needs (e.g., Vermont versus New York City). The reviewer liked the examples and graphics for EVSE installations in the document, and observed good content on website as well. Overall, the reviewer observed good communications elements in the NYSERDA project.

The reviewer noted that the NYCLHVCC communications products seemed to be lacking this detail.

Reviewer 7:

The reviewer commented that the NYSERDA project made excellent progress toward the DOE VTO goal to ease the market introduction of electric drive vehicles through voluntary partnerships with local communities as well as the goal of providing technical and educational assistance to local communities. The team created an extensive suite of recommendations for local EV and EVSE deployment, covering siting, codes, and permitting guidelines as well as supporting analyses and market research.

The reviewer suggested that in order for the NYSERDA project to successfully address the DOE goal of reducing petroleum use through EV adoption, these recommendations must be adopted by local and state governments within the Northeast region. While that is outside of the scope of this initiative, it appears that the NYSERDA team successfully engaged the relevant stakeholders and local governments throughout the project. The presenter did note that some partners were installing EVSE based on the guidelines developed under this project.

The reviewer noted that NYCLHVCC also made significant progress toward easing market introduction of EVs and EV infrastructure in New York City through coordinated efforts with the local government and stakeholders. The project provided technical and educational assistance, including training parking garage attendants. The reviewer noted that the project also developed the public outreach platform Mission Electric, which targets both car owners and non-car owners.

Reviewer 8:

For the NYSERDA project, the reviewer noted that a very large suite of guides and documents have been produced and that a project website was launched. This reviewer observed no actual EV/EVSE Community Readiness Plan, though pulling it together has been completed.

For NYCLHVCC, the project resulted in several moderate-modest accomplishments. It is unclear to the reviewer whether a full New York City EV/EVSE Readiness Plan was actually produced through the effort.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:

The reviewer noted that New York City was engaging citizens in EV deployment. The reviewer thought this was great.

Reviewer 2:

For the Northeast Electric Vehicle Network, the reviewer commented that the grant recipients included a collaboration of state agencies, non-profits, local governments, 16 Clean Cities coalitions, and NASEO. These groups appeared to be well-coordinated. The reviewer remarked that EVSE/EV providers and fleets were not included as initial partners, but they were tapped during stakeholder outreach and research.

For NYCLHVCC, the reviewer noted that the grant recipients included a collaboration of a Clean Cities coalition, the Mayor's Office, city agencies, a local utility, PEV/EVSE OEMs, and other cities. These groups appeared to be well-coordinated.

Reviewer 3:

Concerning the NYSERDA project, the reviewer commented that the collaboration and coordination appeared to be most remarkable. The reviewer summarized that collaboration included 16 Clean Cities coalitions, 11 states from Maine to Washington, DC, TCI, Georgetown Climate Center, NYSERDA, NASEO and numerous state and local governments. The reviewer commented that compared to other projects that were mostly a part of or an entire state, the level of local and state government coordination and collaboration was extensive. The reviewer believed that TCI, Georgetown Climate and many of these states have worked on the RGGI with many of these same partners for years and have a strong track of working on complicated emissions reductions projects.

The reviewer commented that the New York City project had few partners because the scope of the project was very limited and defined, and not necessarily a fit for too many. The reviewer identified that partners included New York City government, Empire Clean Cities, New York Power Authority (NYPA), Consolidated Edison, and Beam Charging.

Reviewer 4:

The reviewer commented that the Northeast NYSERDA project consisted of 10 states, numerous Clean Cities members, and seven private sector companies. Because the NYCLHVCC project addressed only New York City and the outlying region, the project had far fewer collaborations, but the project did have the most important collaborators, such as the Mayor's Office, local utilities and the New York City Department of Transportation.

Reviewer 5:

The reviewer noted that the NYSERDA project coordinated with state governments, Clean Cities coalitions, and other stakeholders across the region.

The reviewer commented that the NYCLHVCC project seemed to have strong collaborations with New York City partners, including the local government and industry. According to the reviewer, the level of coordination with Boston and Philadelphia was less clear.

Reviewer 6:

The reviewer commented that TCI managed the activity but kept the stakeholders engaged through monthly webinars. It appeared to the reviewer that this will continue into the future.

For NYCLHVCC, the reviewer observed that collaboration was with city departments and the Empire Clean Cities coalition, but was broadened as the target audiences were engaged in the discussion. The reviewer observed that coordination did occur with Philadelphia.

Reviewer 7:

For the NYSERDA project, the reviewer indicated that this project had 16 Clean Cities coalitions, 11 different states and several state offices, local government organizations, Georgetown's Climate Center, NASEO, and more. The reviewer observed that this project had a large number of organizations; however, the project appeared to be lacking in private partnerships and industry organizations. The reviewer recognized that this may be a limitation of the way the project was presented. The reviewer observed that future solicitations may encourage partnering with a variety of industry members, and this will help ease the plan's transition into action.

The reviewer observed that the NYCLHVCC project had fewer collaborators than other projects. Nevertheless, implementing EVs in New York City has high visibility and sensitive risks and a lot of room for failure. The reviewer was pleased that the Mayor's office,

the New York State DOT, Consolidated Edison, and NYPA took such active leadership roles to ensure this project's success. The reviewer questioned whether Nissan was a partner. If not, the reviewer suggested trying to include an OEM in the next round for future grants.

Reviewer 8:

For the NYSERDA project, the reviewer commented that the project included a large number of Clean Cities coalitions and state partners across a very wide Northeast territory. NYSERDA and Georgetown/TCI appeared to have been effective main coordinating project leads. However, according to the reviewer, there were not many direct private/industry partners involved in the project, such as EVSE/EV OEMs, utilities, EVSE site owners, etc., other than indirectly through Clean Cities coalitions.

For the NYCLHVCC, the reviewer noted that the project had heavy involvement of the New York City Mayor's Office, which was positive. The reviewer thought that the range of other involved stakeholders was rather light. The reviewer found that the Cities of Boston and Philadelphia were purportedly to have a project role; however, no significant role for these other cities materialized.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

For NYSERDA's project, the reviewer commented that according to the information presented, several states have begun to implement the plan and use the guidelines. NYSERDA is committed to continuing to support EV communities and amending zoning, permitting and building codes to advance EV deployment. The reviewer noted that the Clean Cities coalitions will continue to share the materials generated out of this project. The reviewer commented that this plan seemed to already be taking hold, and partnerships would continue to explore barriers beyond this project. The reviewer concluded by stating great job.

The reviewer remarked that as a result of this plan, New York City's Mayor has committed to ensuring 2,000-10,000 new parking spots for EVs by 2020. This showed a high level of commitment from the Mayor's office. The reviewer remarked that it was unclear whether additional resources were committed to carrying out this plan. However, Empire Clean Cities stated that it would continue to work with partners and to push this plan forward. The reviewer expressed confidence about how the EV car-sharing program finds funding, and that it sounded like a great fit.

Reviewer 2:

The reviewer concluded that there appeared to be good momentum on both projects.

Reviewer 3:

The reviewer commented that EV and EVSE deployment is continuing rapidly in the region and the guidance documents will play a major role in shaping future deployment efforts. Partners are doing EVSE installations across the region based on the guidelines developed under this project. The reviewer noted that TCI will work with its Northeast EV Network partners to advance the spread of EVs in the Northeast, and that NYSERDA is continuing to work with communities in New York State to amend zoning, permitting, and building code rules to advance EV deployment. Clean Cities Coalitions are continuing their outreach to stakeholders using the materials developed in this project. The reviewer commented that other states will continue to press for adoption of better local rules and regulations for EV infrastructure. The reviewer noted that the TCI has completed a wide range of guidance documents and stakeholder outreach and education to advance EV deployment across the Northeast and Mid-Atlantic states. Best practices and guidelines documents are relevant to both the public and private sectors in this region and, often, nationwide. The reviewer explained that stakeholder outreach and engagement will continue even past the end of the grant period, and that partnerships formed under this project will continue to push for adoption of these best practices in the region, and will look for new ways to work together on tackling additional challenges to EV deployment.

The reviewer noted that both New York City and Empire Clean Cities remained committed to execute and build on this plan, and all their EV initiatives. Since the New York City EV Readiness Plan was finalized, New York City Mayor Bloomberg announced that the

City was committed to ensuring that 2,000 of the 10,000 new parking spots would be EV ready by 2020. The reviewer commented that by looking at providing electricity to food trucks, the New York City Mayor's office hopes to help reduce overall emissions created by food trucks and to also lay the groundwork for EV-ready curb-side infrastructure. The reviewer suggested keeping an eye on the New York City car share fleet to see if there is a conversion in cars from combustion engines to EVs because the grants analysis illustrated that 98% of current trips could be taken in an EV vehicle.

Reviewer 4:

For the NYSERDA project, the reviewer remarked that the plan development looked at past progress in various states and communities, and built a set of best practices guides, which will be useful to all communities in the 11 states. Some incentive packages such as in New York developed as a result of the project; some incentives were already in place.

Regarding the NYCLHVCC project, the reviewer commented that this project had key decision points through analysis, which then led to the tools and education of the targeted audiences. The reviewer noted that this project also led to the Mayor providing leadership in setting a goal for new parking spots being EV-ready by 2020 and EV taxi deployment with the placement of DC fast charging.

Reviewer 5:

The reviewer commented that both projects are scheduled to be completed in June 2013. Follow-up activities were outside the scope of this review.

Reviewer 6:

For the NYSERDA project, the reviewer commented that the future work described was fairly general and non-specific. However, all continued future efforts would be carried out by a large network of capable or relevant project leads and participants.

For NYCLHVCC and Empire Clean Cities, the reviewer noted that the project established a well-branded outreach initiative, with the reviewer citing Mission Electric; and laid the groundwork for significant future initiatives through the Mayor's office.

Reviewer 7:

For the Northeast Electric Vehicle Network, the reviewer commented that the remaining project activities under the grant were minimal, but grantees would continue efforts beyond the grant funding for implementation.

For the NYCLHVCC project, the reviewer remarked that there were no remaining activities under this grant, though there were a number of proposed follow-on opportunities.

Reviewer 8:

The reviewer commented that both projects that were completed were nearly complete so there was limited information on future work. The NYCLHVCC project identified the project team's intention to continue working with the Mayor's Office in reaching the City's 2020 EV goal of one out of three taxis being an EV.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:

The reviewer remarked that yes, both projects would help DOE meet its 2020 goal of 2.5 billion gallons of petroleum displaced annually.

Reviewer 2:

The reviewer commented that the adoption of EVs and PHEVs has the potential to significantly reduce petroleum use. These community readiness initiatives help facilitate the adoption of EVs and charging infrastructure, as described previously.

Reviewer 3:

The reviewer found that these grants addressed barriers, including the availability of PEVs and EVSE, consumer reluctance to purchase new technologies, and lack of technical experience with new technologies. Addressing these barriers would help support

VTO's deployment goals, specifically petroleum reduction objectives, partnership efforts to ease market introduction of PEVs, and technical and educational assistance to support local communities and partnerships.

Reviewer 4:
The reviewer commented that both projects supported grassroots EV market development at the community, state and regional levels.

Reviewer 5:
The reviewer remarked that the benefits of EVs were well-known.

Reviewer 6:
The reviewer commented these projects were relevant to reducing petroleum because these EV Readiness Plans served to educate, encourage, and motivate businesses and consumers to transition to vehicles that do not use combustion engines and run on battery powered vehicles.

Reviewer 7:
The reviewer found that these EV readiness projects were relevant to reducing petroleum if they moved beyond the planning stage and into the implementation phase. NYSERDA's project resulted in guidance documents that will accelerate acceptance of EVs throughout the Northeast region.

Reviewer 8:
The reviewer commented that it was difficult to assess how much these two projects directly contributed towards displacing petroleum. However, both projects made positive contributions towards developing the EV market in the Northeast Region and New York City.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer commented that for the NYSERDA project, funding was high, but commensurate with the ambitious geographical scope and level of the total effort.

Reviewer 2:
The reviewer commented that while the NYSERDA project had a higher level of funding, it covered a significantly larger region. Both projects used all or nearly all of the funding allocated and made significant progress toward objectives.

Reviewer 3:
The reviewer noted that it was a large project of $1.4 million covering 11 states, with cost-share and that there was only 77% completion at the time of submission of presentation.

For the NYCLHVCC project, the reviewer stated that the project had spent all funding at the time of submission.

Reviewer 4:
For the Northeast Electric Vehicle Network, the reviewer noted that the project funding of $1,494,500 was sufficient to complete the work; this included a $500,000 cost-share.

The reviewer remarked that for the NYCLHVCC Electric Vehicle Readiness, the project funding of $567,336 was sufficient to complete the work; this included a $148,724 cost-share.

Reviewer 5:
The reviewer determined that it was difficult to assess the budget without seeing how the funds were spent. This reviewer also noted to DOE that it would be helpful for future reviewers if the presentations included a slide detailing on how the funds were spent. In general, $1.5 million seemed excessive for a readiness plan. That said, for the NYSERDA project, the reviewer was encouraged by

New York State providing a $500,000 initial investment. Likewise, New York City also provided about a 20% match in funding. To this reviewer, this showed a high level of commitment from the state/local government entities driving these plans.

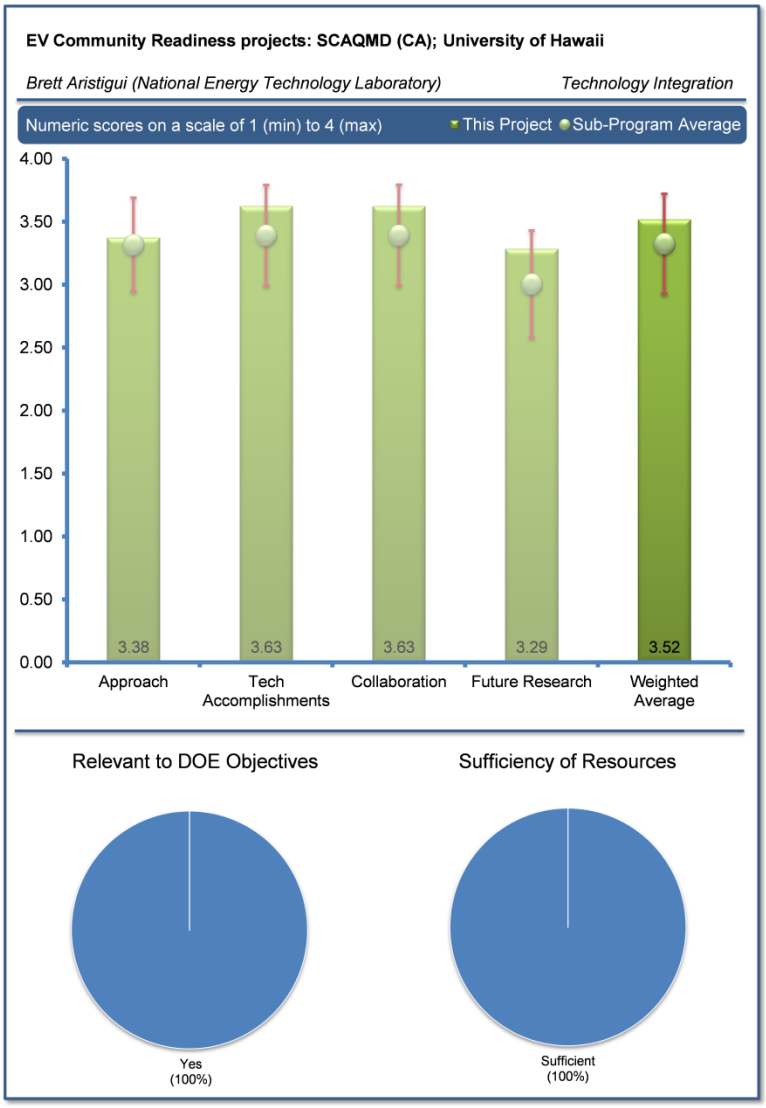
Reviewer 6:

For the reviewer, it was difficult to evaluate how the resources were used in either the Northeast Regional Electric Vehicle Network Planning Project or the New York City project. While the reviewer knew that working groups, websites, printed materials, etc. were organized and produced, the reviewer voiced concerns about being unable to evaluate the expenses for the project from the information and presentations provided. In the past DOE has had the PI that received the grants make the presentations for the reviewers, and this year the respective DOE project manager gave the reviewers the presentations. The reviewer explained that it would be more effective in determining some of the local and regional impacts and long-term benefits of the grants if the person responsible for implementation provided the reviewers the uniqueness and highlights of the project presentation. Also, the cookie cutter hard copy presentation format used for these reviewer presentations prevented the individuality and exceptionality of each grant to stand on its own.

Reviewer 7:

The reviewer stated that both projects reported being near completion, as the NYSERDA project was 95% complete, or completed (in the case of NYCLHVCC, 100% completed), yet both projects reported significant unspent funds. The reviewer did not know whether these unspent funds have been spent but not billed, or if they were in excess.

EV Community Readiness projects: SCAQMD (CA); University of Hawaii: Brett Aristigui (National Energy Technology Laboratory) - ti029



Reviewer Sample Size

A total of eight reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

As a general comment, this reviewer stated that as with the other EV Community Readiness grants, these grants were well-integrated with DOE's other efforts to promote the use of PEVs, including the ARRA grants for EVSE and PEVs, Clean Cities efforts, the Workplace Charging Initiative, etc. Following the grant completion, the efforts to bring to together grant recipients to share ideas in Tennessee, as well as the planned summary report show the emphasis on integrating all of the individual grants.

Regarding the South Coast Air Quality Management District (SCAQMD) project, the reviewer detailed that the initial design of the project, specifically the establishment of coordinating councils, the online survey of community PEV readiness, and compilation of PEV readiness guidelines, allowed for a readiness plan that is feasible and relevant.

For the Hawai'i project, the reviewer detailed that the initial design of the project, specifically the project assessment and information gathering and research, allowed for a readiness plan that is feasible and relevant.

Reviewer 2:

Regarding SCAQMD, the reviewer found that the project's main strategy, which was to develop a central EV/EVSE planning effort that coordinated, harmonized and standardized approaches across all six major regions in California, was excellent.

For the University of Hawai'i project, the reviewer found that the tasks to address technical barriers were quite comprehensive, specific, and relevant.

Reviewer 3:

The reviewer acknowledged that the strategy for both projects addressed the four barriers cited by the Clean Cities EV Community Readiness Projects.

The reviewer described that SCAQMD's approach included developing readiness plans for six areas in California, along with some statewide initiatives. This allowed the project to address barriers to PEV and infrastructure availability by building on existing local efforts and tailoring recommendations to local needs. The reviewer found that the approach also included the development of readiness toolkits for local governments, which helped address another barrier: lack of technical experience with EVs and EVSE.

The reviewer explained that the Maui project's strategy included a strong focus on public outreach to increase consumer acceptance. The project also directly addressed the barrier related to the lack of technical expertise with new technologies through workforce training initiatives. The reviewer found that the project established five working groups to address issues related to EV and EVSE deployment.

Reviewer 4:

The reviewer remarked that the projects seemed well-conceived, designed, and organized.

Reviewer 5:

Regarding SCAQMD, the reviewer detailed that the project team's strategy was to develop six focus areas and six separate plans that would eventually feed into a larger state-wide plan funded by the California Energy Commission (CEC) and to develop a toolkit of best practices around five core issues. The six targeted areas had regional monthly calls and an educational workshop. The reviewer stated that with so much already happening in California, the reviewer was not sure why there were not more stakeholders brought into the process, like the OEMs and larger workplaces and fleets. The reviewer expressed uncertainty about whether much coordination between the six areas occurred since each plan was different. Maybe in the initial meeting all of the stakeholders discussed best practices but this was not clear. The reviewer was unsure how this readiness addressed barrier of reluctance to purchase new technologies.

For the Maui project, the reviewer detailed that the project developed and led a successful strategy focusing on education of ecotourism trade, public, and technical colleges EV, with multiple partners. This led to the first EV101 course and to future International Brotherhood of Electrical Workers (IBEW) collaboration for the technical trades.

Reviewer 6:

The reviewer stated that the SCAQMD received a $1 million EV Readiness grant from DOE and $200,000 matching funds identified to be used for six large regions in California including Los Angeles, San Diego, San Joaquin, Central Coast, Bay Area, and Greater Sacramento region to identify the status of current EV inventory, rules, regulations and overall readiness. SCAQMD established councils of representatives from the six regions, forming the Coordinating and Technology Working groups. The reviewer stated that these working groups provided a forum environment for the six regions to share best practices amongst themselves and the state. The project team then surveyed the six areas on their EV readiness and based on the results, identified five core actions to get EV ready: zoning and parking policies, local business codes, streamline permitting and inspection process, participate in training and education for local officials, and outreach to local businesses and residents.

The reviewer described that the EV's in Paradise project received approximately $300,000 from DOE and raised another approximately $170,000 in cost-share from fourteen organizations. The lead organizations were University of Hawai'i Maui College, Maui Honolulu Clean Cities Coalition, State of Hawai'i Department of Business, Economic Development and Tourism, and the University of California San Diego. The reviewer commented that Hawai'i as a state has or had legislation and tax credits in place to advance EV purchases and charging station installations. The legislation requires that institutions that have over 100 parking spots install charging stations, which are anticipated to be installed in the next 5 years. The reviewer detailed that the Readiness Grant undertook to identify a plan for educating consumers and businesses about EV and charging stations in a community that did not see its first EV until February 2011. The reviewer expressed that the Readiness Plan was robust and aggressive and outlined how Maui would have mass adoption of EVs. The project team set out to recruit stakeholders and establish working groups, and the stakeholders involved were very extensive; the number of stakeholders appeared to be over 70 entities and even included a broad group from the media. The reviewer noted that the Readiness Plan also included identifying Barriers to EV Readiness, Benefits and Incentives, EV Deployment, Deploying Charging Infrastructure, Analysis of Utility Grid, Local Ordinances and Outreach and Education.

Reviewer 7:

The reviewer described that both projects – SCAQMD and Hawai'i – claimed to address the same four technical barriers. From the presentation these projects addressed the three technical barriers of available charging infrastructure, consumer reluctance and lack of technical experience. The reviewer stated there were no data on directly improving EV purchases even through Hawai'i had several car dealers as partners. Overall the strategy for deployment remained good.

Reviewer 8:

For the California Plug-In Project, the reviewer noted that SCAQMD received $1 million in federal funding and $201,209 in collaborative support to implement this project. The reviewer remarked this showed good investment by either the state or the project's industry partners. The project also had unpaid industry partners such as EV suppliers and OEMs.

The reviewer detailed that the project approach was to establish a council that would guide the activities. Council members and technology workgroups had representatives from each city involved in the project. The project partners also conducted an online survey to assess regional EV readiness. The reviewer explained that the council identified five core PEV issues that needed to be addressed in their toolkit: update zoning; update local building codes; streamline permitting and inspection process; participate in training and education; and reach out to local businesses and residents. This approach appeared to be straight-forward. However, the reviewer voiced that it would be helpful to see more assessment of past activities (lessons learned) because this state was quite knowledgeable in EV technologies and their potential problems. This feedback might have proved to be beneficial to other regions of the country. Additionally, the reviewer expressed preference for seeing more promotion of the plan, and acknowledged that this may be a limitation of the slide presentation and not the project.

For the Hawai'i EV Plan, the reviewer noted that the project received $469,000 from DOE and $169,000 in cost-share, which was approximately a 20% cost-share. The strong cost-share indicated the partners were committed to the plan's success. The reviewer detailed that this project's approach included a survey to evaluate existing policies, research lessons learned and to assist in the formation of the plan. The reviewer explained that the plan also included developing workforce training, developing key EV policies, identifying barriers, and developing an infrastructure plan. The reviewer noted that the project also incorporated social media as a tool to target the general population.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer noted that the readiness plans for both projects were compiled in an outstanding manner. Outreach and educational tasks were also completed in an outstanding manner.

Reviewer 2:

The reviewer commented that the overall Readiness Grant Plan was robust and appeared to accomplish what SCAQMD set out to do. The end product included a toolkit, 6 regional plans, 6 surveys, 5 PEV readiness documents, 12 councils created (1 on Technology and Coordinating), and findings from all of the analysis conducted. The reviewer noted that San Diego was identified as the leading edge, and that a principal finding out this effort was large difference in readiness between regions and within regions. SCAQMD's plan concluded that there needed to be continued, coordinated regional planning for PEVs and related infrastructure validating that taking the time and effort to create the councils at the outset and conducting workshops in each of the six regions served as a strong foundation going forward. The reviewer commented that each region's plan included workforce charging, multi-unit dwelling issues, utility policy recommendations, and current and potential PEV owners' assessments.

The reviewer commented that the EVs in Paradise Plan accomplished its goals. This report was very user-friendly and set out to be the first island focused EV Readiness Report that other islands could use on an isolated utility grid.

The reviewer remarked that surely there must have been a challenge to include input from the large stakeholder group of over 60 entities, including media partners. This reviewer wagered that this was a really fun project for the stakeholders to work on because there were so many diverse groups involved. The project team created a Maui EV Alliance for all the stakeholders and set up five working groups that had two co-chairs for each group. The reviewer detailed that the five groups were Infrastructure, Policy, Visitor Industry, Residential and Local Business, and Education. The project team took surveys. The reviewer noted that the Alliance met 4 times and the working groups met 17 times.

The reviewer remarked that the Readiness Plan was robust and aggressive, and outlined how Maui would have mass adoption of EVs. The Readiness Plan also identified Barriers to EV Readiness, Benefits and Incentives, EV Deployment, Deploying Charging Infrastructure, Analysis of Utility Grid, Local Ordinances, and Outreach and Education. The reviewer acknowledged that the project team conducted 2 surveys on 8 different occasions and had almost 600 respondents. The reviewer also noted that the project team did mailing campaigns and extensive traditional and new social media communications, and received very good participation and coverage. The project team also surveyed available EV training opportunities in Hawai'i and identified training needs on Maui. The reviewer detailed how the project team developed contact lists and a database containing EV related training information such as facilities, instructors and programs. The reviewer acknowledged that the first EV101 workshop (3 hours) course description was developed and that the course was advertised in the University continuing education catalog in Spring 2013.

The reviewer detailed that the Alliance launched both a website and web portal that contained all of the project team's work product, and in addition to their Readiness Plan the project team evaluated the EV history for the whole state that included the history of early adopters in the state; the evaluation included such critical items as legislation, case studies, best practices and recommendations. The reviewer detailed that the Alliance also does an informative monthly newsletter, weekly columns and 12 episodes of Maui EV. The more than 25 outreach events the project team participated in seemed well-attended and looked like fun. The reviewer remarked that the Alliance also did extensive outreach with the other Hawai'i islands to help promote this ecotourism travel concept. For instance, on the Alliance's website the project team advertised EVs that were available for rental and testimonials for EV owners.

Lastly, the reviewer noted that the first EV was available for purchase in May 2012 and that now over five different EVs were available on Maui for purchase. The reviewer applauded that this too was available on the Alliances informative website.

Reviewer 3:

Regarding SCAQMD, the reviewer explained that this project is over 95% complete with a month remaining in the grant. Significant technical accomplishments include the development of a toolkit, the report publication, and regional workshops. The reviewer stated that the model of PEV coordinating councils, coupled with technology workgroups, seemed to work well. In addition, assessments of municipal readiness and PEV atlas maps provided useful information for moving forward. The reviewer acknowledged that this project also tackled the issue of multi-unit dwellings, which is a key barrier in the industry right now.

Regarding Hawai'i, the reviewer indicated that this project is over 95% complete with a month remaining in the grant. Significant technical accomplishments include website development, stakeholder meetings, and other communications and outreach. The final readiness plan and case study will be valuable documents; in addition, the survey results are useful for the development of a path forward. The reviewer noted that workforce training is valuable, but the value may be in replicating this model elsewhere, since the concentration of PEVs on Maui may not warrant a significant number of trained technicians. The reviewer stated that it was clear that more entities and individuals on Maui were engaged as a result of this project.

Reviewer 4:

The reviewer stated that the SCAQMD project made excellent progress toward its objectives, finalizing all six regional readiness plans and the toolkit for local governments. The plans covered multiple infrastructure types, including workplace charging, multi-dwelling units, and siting for public stations. The fact that the plans were tailored to individual regions with local stakeholders engaged in the process increased the likelihood that the recommendations would be adopted. The reviewer voiced that it also fulfilled the DOE VTO goal of easing market introduction of new electric drive vehicles through voluntary partnerships with local communities as well as the goal of providing technical and educational assistance to local communities. The presenter noted that implementation efforts and follow-up planning initiatives were going forward with funding outside of this project.

The reviewer commented that the Maui project also made significant progress toward its objectives. In particular, the project launched a successful communications campaign that included public events, a TV and radio presence, and social media. The project also made significant progress towards identifying and addressing gaps in EV-related workforce training.

Reviewer 5:
Regarding SCAQMD, the reviewer noted that six very well-documented California regional plans were released; a toolkit was developed; and that workshops were held.

For the University of Hawai'i project, the reviewer commented that a Readiness Plan and two additional plans were released; a website was launched; and significant outreach was conducted.

Reviewer 6:
Regarding the California project, the reviewer expressed a liking for the Readiness Toolkit, and explained that it was simply built around five core actions. The project also addressed multi-unit challenges, while many of the other EV readiness projects did not. The reviewer indicated that aside from the reports and workshops, it was hard to see that much outreach work was done on this project.

For the Hawai'i project, the reviewer expressed a liking for the outreach effort, including social media, TV spots, weekly column, and website, though the latter was merely a front-end to the report.

Reviewer 7:
Regarding the SCAQMD project, the reviewer detailed that the project team performed the tasks as stated by the Statement of Work (SOW) to develop six councils, six readiness plans and six educational workshops and have nearly completed the project.

Regarding the Maui project, the reviewer elaborated that progress was made on all areas except for the consumer behavior survey. Low market penetration will make it difficult to overcome barriers if there is no product to sell and does not overcome the main barrier of sufficient product. The reviewer noted that the project was nearly complete.

The reviewer stated that both projects seemed to accomplish what they set out to do.

Reviewer 8:
For the California PEV Plan, the reviewer stated that this plan seemed to have been developed according to its approach. The coordinating council worked effectively to streamline communications within each region. The reviewer stated that the end result was a list of best practices and lessons learned based on the six regional surveys. The council also learned that the cities varied greatly in their EV readiness, which needed to be accommodated in the plan. The reviewer detailed that the PEV Readiness Toolkit included five core actions to address everything from zoning, parking policies to streamlining permitting and inspection processes. The plan provided a detailed approach for each of the six cities. The reviewer observed that each region's EV readiness report (plan) addressed different levels of readiness, including multi-unit dwelling issues, workplace charging, utility policy recommendation and maps for city planners identifying where growth was expected to occur. The project also resulted in six regional workshops, one in each city/region. The reviewer noted that in addition to this DOE grant, the project resulted in seven additional support documents for the toolkit.

The reviewer expressed concern about not seeing a presented method for measuring the plan's overall success if implemented. Also, the reviewer would like to know if the plan identified potential funding sources, besides DOE, to carry-on the implementation. CEC and DOE were mentioned as potential funders. The reviewer suggested more industry or private funding support, and would have liked to see more discussion about the education and outreach plans laid out in the plan. The reviewer affirmed seeing a discussion only about the six regional workshops, and asked if there were more educational events.

Regarding the Hawai'i Project, the reviewer detailed that this project appeared to be straightforward and accomplished its objectives. The plan was published in December, 2012. The reviewer summarized that the project identified and developed stakeholder working groups. The focus of the effort was on Maui, not the main island. The reviewer identified that outcomes included several educational efforts: a 3-hour training course (EV101) already advertised in the University's continuing education catalog; educating stakeholders about current EV laws; several published reports highlighting results from the plan, such as best practices, case study, performance and cost analysis, and more; numerous outreach events; and media outreach via blogs, YouTube, radio, and TV programs and newsletters. The reviewer acknowledged that the project also used two surveys to gauge public EV awareness, and in all, 71 surveys were completed. The reviewer complimented that the project had a lot of education as part of the project.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer noted that both projects seemed to have strong collaborations with state and local governments, industry, and relevant stakeholders.

Reviewer 2:
Regarding SCAQMD, the reviewer indicated that the project included a substantial coalition of project partners, including state and local governments, 3 regional Air Quality Management districts, 13 Clean Cities Coalitions from the state of California, and many other unfunded relevant key private and non-profit stakeholders.

For the University of Hawai'i project, the reviewer noted that the project included participation/collaboration from a substantial number of key partners representing virtually every type of stakeholder suited to this kind of project.

Reviewer 3:
In addressing the California Plug-in Project, the reviewer noted that this project had 13 Clean Cities coalitions, a state air resources board, regional and local governments and non-profit groups. According to the slides, the project also had a number of unfunded partners that included OEMS, EV suppliers and utilities. The reviewer acknowledged that this appeared to be a well-rounded group of participants, and it bode well for this project that the state has agreed to complete 10 more regions/city reports.

For the Hawai'i Project, the reviewer noted that this project had 60 industry partners. Those partners were assigned to one or more of the five working groups.

The reviewer expressed belief that this was the only EV readiness project to incorporate a major oil company, and praised the individual who secured them as a partner. The reviewer hopes they were constructive and not destructive to the overall plan development. The reviewer also noticed the project included several automotive organizations, and liked the diversity of project collaborators: local government, state agencies, coalitions, university of Hawai'i and University of California-San Diego, OEMs, dealers, rental car companies, utilities and EVSE suppliers. The reviewer commented nice group.

The reviewer liked that the project team did surveys to measure project success. The reviewer noted that the project established 5 working groups with more than 60 industry members. The reviewer acknowledged that the level of increased knowledge among stakeholders was significant. The reviewer noted that the project surveyed training stakeholders, and held an EV101 workshop. The reviewer also noted that the project ran an outreach campaign highlighting the state's EV experiences and best practices.

The project performed a survey on public awareness (71) and EV readiness (464). The reviewer noted that the results were that there was a great deal of work that needed to be done to increase consumer awareness, about which the reviewer commented was a big surprise. The reviewer commented that the potential for flooding could be a barrier to EV readiness. Eco-tourism was highlighted as a potential market to embrace EVs. The reviewer noted that the project did a number of outreach events, including 12 episodes, though the reviewer expressed uncertainty pertaining to what kind of episodes. The reviewer stated admiration for the number of collaborators, while also acknowledging the need for continued outreach. The reviewer understood that neighboring islands wanted to have their own plan.

The reviewer noted that the project identified that OEM training was an issue in Hawai'i because drivers might have to take their vehicle to a different island, which according to the reviewer was an interesting challenge.

Reviewer 4:
The reviewer noted that California listed 13 Clean Cities Coalitions, California Air Resources Board (CARB), eight non-profits, and regional/local governments as partners. The reviewer noted that Hawai'i had cost-share partners such as Enterprise Rent-a-Car and the IBEW electrical trade union. The reviewer indicated that both projects showed outstanding collaboration and coordination with others.

Reviewer 5:
Regarding the California project, the reviewer observed good participation in this project.

Regarding the Hawai'i project, the reviewer noted that fewer potential partners were in Hawai'i, but that it was obvious that the team worked through the challenge of coordinating efforts.

Reviewer 6:
The reviewer detailed that the extensive collaboration and coordination in this project was remarkable. The reviewer included a reminder that California is the largest state in the country, so for SCAQMD to embark on such a large project is to be applauded and further for executing at the level SCAQMD were able to achieve in this grant is very impressive. There were many partners in this project that include the six large regions of: Los Angeles, San Diego, San Joaquin, Central Coast, Bay Area, and Greater Sacramento. The reviewer detailed that additional partners include 13 California Clean Cities Coalitions, Bay Area Air Quality Management District (BAAQMD), CEC, Sacramento Area Council of Governments, San Joaquin Valley Air Pollution Control District, CA PEV Collaborative, EV Communities Alliance, California Center for Sustainable Energy, ICF International, Better World, UCLA Luskin, utilities, EVSE suppliers, and OEMs.

The reviewer noted that EV's in Paradise had an extensive list of partners consisting of over 60 entities illustrating to the reviewer how much pent-up enthusiasm in Maui there must have been for this Readiness Plan grant. In addition to the main partners of the University of Hawai'i Maui College, Hawai'i Department of Business, Economic Development and Tourism, Maui Honolulu Clean Cities Coalition, and the University of California San Diego, these partners were active and many contributed to the matching funds. The reviewer noted other partners, including Chevron Energy Solutions, Enterprise Rent A Car, Grand Wailea Resort and Spa, Hawai'i Auto Dealers Association (HADA), Hawaiian Electric Vehicle Network (HEVN), HNU Energy Honua Kai Resort and Spa, Jim Falk Automotive Group, Maui County Office of Economic Development, Maui Economic Opportunity, Inc. (MEO), Rising Sun Solar, AeroVironment, Better Place Hawai'i, General Electric Digital Energy, The Hertz Corporation, Hawai'i Renewable Energy Development Venture (HREDV), High Technology Development Corporation, Manufacturing Extension Partner (now INNOVATE Hawai'i), Maui Hotel and Lodging Association (MHLA), National Renewable Energy Laboratory (NREL), San Diego Regional Clean Fuels Coalition, University of Hawai'i (UH) Mānoa's Hawai'i Natural Energy Institute (HNEI), and UH Mānoa Hawai'i Energy Policy Forum (HEPF). According to the reviewer, the project team created a Maui EV Alliance for all the stakeholders and set-up five working groups that had two co-chairs for each group. The five groups were Infrastructure, Policy, Visitor Industry, Residential and Local Business, and Education. The reviewer noted that if the Alliances website is reviewed, it is possible to see that a whole community has developed around this initiative.

Reviewer 7:
Regarding SCAQMD, the reviewer noted that closer collaboration with private sector stakeholders (OEMs, larger workplaces) seemed like a lost opportunity as well as more coordination amongst the six regions.

Regarding the Hawai'i project, the reviewer acknowledged the project had good collaboration with some key partners that would continue to strive toward PEV deployment. The reviewer also recognized good private sector collaboration and partnership with the Hawai'i Dealership Association.

Reviewer 8:
Regarding SCAQMD, the reviewer noted that the grant recipients included a collaboration of 13 Clean Cities coalitions, state agencies, local governments, non-profits, and consultants. The project capitalized on previous experience in California with collaboration efforts. The reviewer detailed that EV/EVSE OEMs and fleets were not included as partners. The reviewer suggested that more active engagement with these groups may have been beneficial.

Regarding the Hawai'i project, the reviewer detailed that the grant recipients included a collaboration of a Clean Cities coalition, the energy office, and a local university. According to the reviewer, the collaboration for this project was not as strong as the other projects.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

The reviewer commented that both projects are scheduled to be completed by June 30, 2013. Follow-up activities were outside the scope of this review.

Reviewer 2:

The reviewer noted that going forward, SCAQMD stated that future activities include 10 additional regional PEV readiness projects for other regions in California to be funded by the CEC; and statewide PEV readiness plan to be funded by CEC. California PEV Collaborative and regions to work on PEV challenge areas identified in the plans including multi-unit dwellings, workplace charging, consider funding pilot demonstration projects, develop additional planning strategies, distribution of charging with inter-regional corridor plans or sub-regional planning studies, and follow up with actions identified in Governor's Zero Emissions Vehicle (ZEV) Action Plan.

The reviewer noted that the Maui project planned on continuing neighbor island outreach and stakeholder follow-up activities that include facilitating discussion and information sharing. The reviewer remarked that Maui would continue monthly EV newsletters and build a distribution list; present on EV deployment progress at local community and sustainability associations, i.e., Rotary and Kiwanis; and encourage local auto dealers and rental car agencies to publicize EV arrivals and lease options via social media. The reviewer summarized that Maui planned to develop a directory of vacation accommodations with charging station access and would encourage stakeholders to support the introduction of local policies such as EV parking ordinances, enforcement of State EV laws, and education and outreach regarding State EV laws. Maui wants to research financing mechanisms and strategies to lower costs of EV and EVSEs, partner with Visitor Industry to promote EVs, increase user familiarity, and introduce EV car sharing and EV carpooling.

Reviewer 3:

Regarding the SCAQMD project, the reviewer recognized that California has had a substantial amount of slated future EV/EVSE readiness work to follow this project. Several efforts carried out under this project will continue through leveraged state funding.

Regarding the University of Hawai'i project, the reviewer noted that the project intends to continue a number of relevant although general EV/EVSE readiness activities.

Reviewer 4:

Regarding SCAQMD, the reviewer noted that the work would feed into the CEC overall state plan for EV readiness; next steps included matching initiatives with the ZEV program. The reviewer expressed uncertainty as to why this did not happen as part of the program to begin with. The work will lead to an additional 10 areas of the state and targeted work in multi-unit dwelling (MUD) and the workplace. The reviewer noted that there is also state incentive funding for infrastructure.

Regarding the Maui project, the reviewer commented that the project would lead to work on the other islands and sharing lessons learned which may help with the automakers making the state a higher priority. Additional outreach is part of the continuation of the project and working with more dealerships. The reviewer noted that the project has decided that car sharing may be a better approach. The project team will continue working on vacation destinations for EVSE placements to correspond with the project's car sharing and rental agency programs.

Reviewer 5:

Regarding the SCAQMD project, the reviewer noted that this project's plan was complete. DOE's funds helped to not only develop this plan, but also spurred 10 additional regional PEV readiness reports/subprojects. The reviewer acknowledged that CEC, as a result of this project, was developing a statewide PEV readiness plan.

Regarding the Hawai'i Project, the reviewer noted that the project completed its plan last year. Now, all that was left is implementation, which technically was not part of this project. The reviewer commented that the plan has already attracted attention.

Several neighboring islands want to develop their own plans. The project planners want to develop vacation accommodations with charging stations, and are working on encouraging stakeholders to support local policy changes, such as EV parking ordinances, etc. The reviewer would have liked to see what entities were ponying up additional resources to carry out this plan.

Reviewer 6:

The reviewer indicated that both projects seemed to have adequate plans for continued work. As a general note, the reviewer indicated that in all of the EV readiness projects, the reviewer would have liked to see more thought put into communicating results to key stakeholders. Plans, websites, and fact sheets were a great start, but just as important is getting that information in front of the important stakeholders, from policy officials, to property owners, to consumers. According to the reviewer, more detail on this, possibly in the Future Work section, would have been nice.

Reviewer 7:

Regarding SCAQMD, the reviewer noted that the project team's remaining project activities under the grant were minimal, but grantees would continue efforts beyond the grant funding for implementation.

Regarding the Hawai'i project, the reviewer noted that the remaining project activities under the grant were minimal, but grantees would continue efforts beyond the grant funding for implementation.

Reviewer 8:

Regarding SCAQMD, the reviewer noted that the project identified a good future research plan. The reviewer commented that Hawai'i had a more limited future plan. This had to do more with California's long standing interest in EVs, and Hawai'i's first endeavor into EV charging.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:

The reviewer affirmed yes, these projects were relevant in so much as they prepare a pathway to achieving increased EV infrastructure and, ultimately, their use. This use is expected to lead to greater petroleum reduction.

Reviewer 2:

The reviewer indicated that the adoption of EVs and PHEVs has the potential to significantly reduce petroleum use. These community readiness initiatives help facilitate the adoption of EVs and charging infrastructure, as described above.

Reviewer 3:

The reviewer stated that these projects were relevant to reducing petroleum because EV readiness plans served to educate, encourage, and motivate businesses, government and consumers to transition to vehicles that do not use combustion engines, emit less pollutants and use battery powered vehicles.

Reviewer 4:

The reviewer commented that both projects support grassroots EV market development at the community and state-level.

Reviewer 5:

The reviewer remarked that both projects would help DOE with its 2020 goal of 2.5 billion gallons of petroleum reduced annually as the projects prepare their communities for greater market penetration, with California being the largest contributor to this effort. The reviewer commented that it was explained during the Hawai'i presentation that the large Island of Hawai'i is the biggest auto market and it is difficult to get EVs on the island of Maui.

Reviewer 6:

The reviewer commented that these grants addressed barriers, including the availability of PEVs and EVSE, consumer reluctance to purchase new technologies, and the lack of technical experience with new technologies. Addressing these barriers would help support

VTOs deployment goals, specifically petroleum reduction objectives, partnership efforts to ease market introduction of PEVs, and technical and educational assistance to support local communities and partnerships.

Reviewer 7:
The reviewer commented that the benefits of EVs were well-known.

Reviewer 8:
The reviewer commented that it was not possible to calculate actual petroleum displacement, but that these projects reduced the timeline for accepting EVs both in Hawai'i and California.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer commented that while the SCAQMD project had a significantly higher level of funding, it covered six regions and developed six regional readiness reports. The reviewer concluded that both projects made significant progress toward objectives.

Reviewer 2:
Regarding SCAQMD, the reviewer noted that the project funding consisting of $1,201,209 was sufficient to complete the work; this included a $201,209 cost-share.

Regarding Hawai'i, the reviewer noted that the project funding, consisting of $469,063, was sufficient to complete the work; this included a $169,370 cost-share.

Reviewer 3:
The reviewer noted that both projects stated being at 95% completion and the total project budget, specifically $1,201,209 for SCAQMD, and $469,063 for Hawai'i, but did not list the funds that had been spent. Therefore the reviewer assumed the funding was sufficient.

Reviewer 4:
Regarding SCAQMD, the reviewer noted that resources had been nearly drawn down.

Regarding Hawai'i, the reviewer noted that resources were sufficient although the reviewer was not sure what would be done with the funding that was redirected from the study of consumer behavior; but, the project team was able to complete tasks as laid out in the SOW with the amount of funding allocated.

Reviewer 5:
The reviewer stated that both projects accomplished a lot of work for the funding. So from that standpoint, the allocated funding was commensurate with project accomplishments.

The reviewer noted that in both cases, California and Hawai'i were states where an immense amount of EV/EVSE promotion, development, and deployment work had already occurred and was continuing to occur with the support of various public and private funding sources.

The reviewer noted that from a knowledge-sharing and program policy standpoint, it made sense for DOE to partner with these states; however, according to the reviewer it was not entirely clear that either state absolutely needed this funding to continue to make progress on EV readiness.

Reviewer 6:
The reviewer commented that as stated in other evaluations, this reviewer did not have sufficient information to assess the resources and budget for these projects. The reviewer suggested to DOE to include a slide on how the project funds were spent in future presentations. Generally, the reviewer found it excessive to spend between $500,000 and $1.2 million to develop these plans. If DOE

continues to fund readiness plans, the reviewer suggested that the agency include a designated percentage of funds to provide education for the plan, beyond one or two workshops.

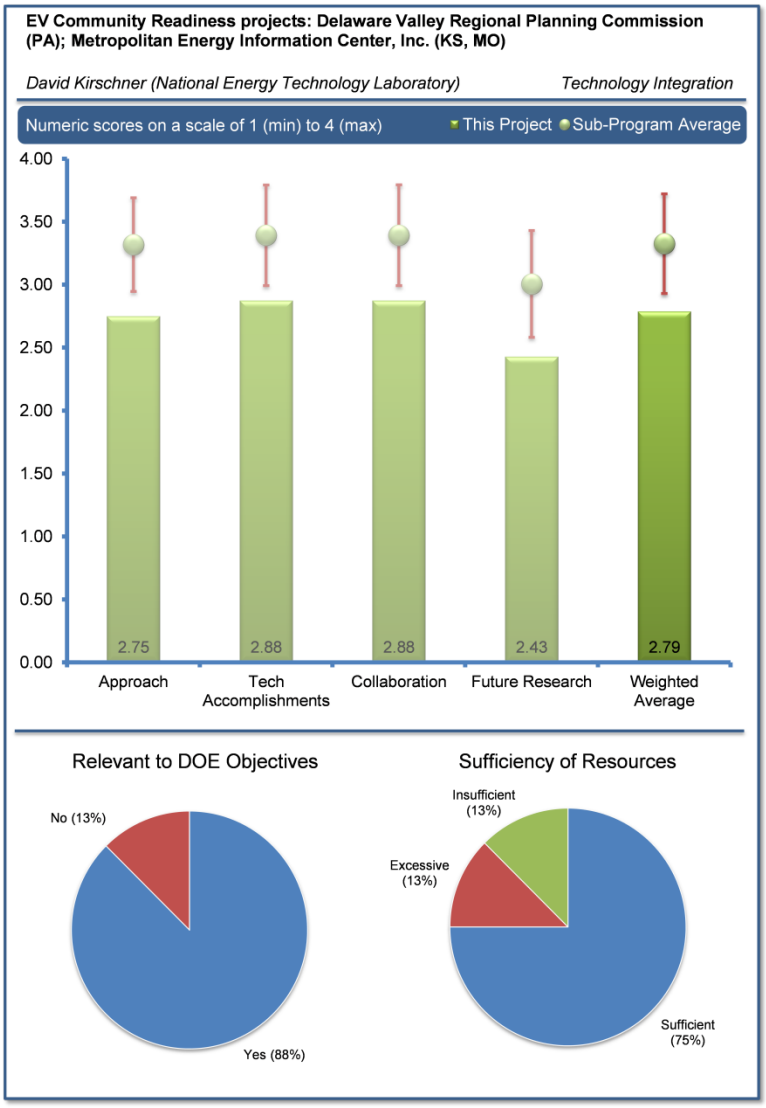
The reviewer reiterated to please use the PIs instead of the DOE project managers. On several occasions, the manager was not able to answer the level of detail requested. Nevertheless, the reviewer thought it was probably a good exercise for the project managers.

Reviewer 7:

The reviewer noted that both the SCAQMD and Maui projects secured cost-shares for their projects, and not many of these readiness grants chose to leverage the federal dollars in this manner, so these two groups should be recognized for their leadership in this regard. The reviewer detailed that Maui listed over 14 high-profile groups that donated to the matching funds, and in general the reviewer believed that the Maui enthusiasm for participating in the cost-share was symbolic of the overall enthusiasm for use of the Readiness grant.

The reviewer expressed difficulty in evaluating how the resources were used in either the SCAQMD project or the University of Hawai'i Maui College project. While the reviewer acknowledged that that working groups, websites, printed materials, surveys, etc. were organized and produced, the reviewer voiced the inability to evaluate the expenses for the project from the information and presentations provided. In the past, DOE has had the PI that received the grants make the presentations for the reviewers, and this year the respective DOE project manager gave the reviewers the presentations. This reviewer expressed that it would be more effective in determining some of the local and regional impacts and long-term benefits of the grants if the local person responsible for implementation of the grant provided the reviewers the uniqueness and highlights of the project presentation. Also, the reviewer expressed belief that the cookie cutter hard copy presentation format used for these reviewer presentations prevented the individuality and exceptionality of each grant to stand out on its own.

EV Community Readiness projects: Delaware Valley Regional Planning Commission (PA); Metropolitan Energy Information Center, Inc. (KS, MO): David Kirschner (National Energy Technology Laboratory) - ti030



Reviewer Sample Size

A total of eight reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the projects seemed well-conceived, designed, and organized.

Reviewer 2:

The reviewer detailed that the strategy for deployment for the two projects (Kansas/Missouri and Delaware Valley) listed the four standard barriers of vehicle/fuel availability, charging station availability, consumer reluctance and lack of technical experience. The Kansas/Missouri project addressed a fifth technical barrier of uncertainty of electricity distribution.

Reviewer 3:

As a general comment, the reviewer noted that as with the other EV Community Readiness grants, these grants were well-integrated with DOE's other efforts to promote the use of PEVs, including the ARRA grants for EVSE and PEVs, Clean Cities efforts, the Workplace Charging Initiative, etc. Following the grant completion, the efforts to bring to together grant recipients to share ideas in Tennessee, as well as the planned summary report showed the emphasis on integrating all of the individual grants.

Regarding the Kansas – Missouri project, the reviewer detailed that the initial design of the project, specifically the stakeholder steering committee and task teams, allowed for a readiness plan that was feasible and relevant.

Regarding the Delaware Valley Regional Planning Commission (DVRPC) project, the reviewer detailed that the initial design of the project, specifically the white paper outlining opportunities and barriers and the Garage-Free Summit, allowed for a readiness plan that was feasible and relevant.

Reviewer 4:

Regarding the EV Community Readiness project in Metropolitan Energy Information Center, Inc. Kansas, the reviewer detailed that the project received almost $442,000 of funding from DOE. The project team's strategy stated that its objectives included developing a plan with accompanying guidance documents, and wherever possible, executing planning elements to accelerate the adoption of PEVs and charging infrastructure in the metropolitan areas of Kansas City, Missouri-Kansas; Wichita; Topeka and Lawrence/Douglas County, Kansas. The Plan called for working with regional stakeholders to inform the planning process and adapt planning documents

to local audiences. The reviewer detailed that the plan also intended to coordinate region-wide stakeholder outreach, conduct necessary research, and recommend model policy and planning approaches. The reviewer described that another objective was to develop infrastructure deployment plans for light- and heavy-duty PEVs for both fleet and public use. The Plan stated it would establish a stakeholder steering committee and task teams to evaluate Greater Kansas City Plug-in Readiness strategy for completeness and establish planning goals and a schedule to achieve success. The reviewer detailed that the Plan also stated that it would analyze data, assemble information from the task teams and submit documents for peer review. The reviewer commented that the training and outreach objectives seemed limited in scope to training for electricians, and to create a project website for consumer and municipal information, to create a consumer/operator EV and EVSE educational program, establish fleet outreach tactics and perform on-going identification of additional outreach and training needs.

The reviewer described that the DVRPC project received almost $390,000 from DOE for the Southeastern Pennsylvania Regional Electric Vehicle Infrastructure Planning. The grantee said that the objective of this project was to create a community based electric vehicle infrastructure readiness plan and to implement activities in anticipation of larger electric vehicle deployment efforts in the future. The reviewer detailed that the strategy included gathering, evaluating and compiling data on EV charging infrastructure, EV demand, early adopters, fleets, vehicle and charging station financings, zoning, permitting, and all other relevant info needed to launch an EV community. Once the project team gathered the data, the team will use it to write a Plan for the region. The reviewer also indicated that the strategy also included forming a Stakeholder Advisory Group.

Reviewer 5:

The reviewer stated that the strategy for both projects addressed the four barriers cited by the Clean Cities EV Community Readiness projects.

The reviewer described that the Metropolitan Energy Center (MEC) strategy focused on addressing barriers to EV infrastructure deployment by assessing the potential for a regional corridor of public charging stations and assessing potential grid impacts. It also included a well-developed workforce training component and outreach to local communities and the public.

The reviewer detailed that the DVRPC strategy addressed barriers to EV and EVSE availability through research and analysis on potential EV demand, EV infrastructure demand, and potential grid impacts. The reviewer commented that there did not seem to be a significant component on public outreach that would address the barrier related to consumer acceptance.

Reviewer 6:

Regarding the MEC project, the reviewer noted that the project tasks to address technical barriers were suitable and relevant. Incorporation of analysis tasks, such as the EV corridor analysis and utility grid assessment, was particularly good.

Regarding the DVRPC project, the reviewer commented that the tasks to address technical barriers were mainly analysis-based; however, the tasks were relevant, fairly comprehensive and specific.

Reviewer 7:

Regarding the MEC project, the reviewer noted that the Kansas City Regional Clean Cities received $441,478 from DOE with no cost-share. This project was expected to develop a plan with accompanying guidance documents and execute planning elements to accelerate the adoption of PEVs/charging infrastructure near Kansas City, Wichita, Topeka and Lawrence/Douglas County, Kansas. The reviewer detailed that the project was expected to work with regional stakeholders to inform the planning process and adapt planning documents to local audiences, and was expected to coordinate region-wide stakeholder outreach, conduct necessary research, and recommend model policy and planning approaches. The plans were supposed to include infrastructure deployment plans for light- and heavy-duty PEVs for both fleet and public use.

Regarding Delaware's plan, the reviewer detailed that this project received $390,000 in federal funding with no recognized matching support to develop an EV readiness plan for the state. As with other plans, this team proposed to collect data on barriers prior to developing its strategy. The reviewer described that the project included an evaluation of household EV demand and potential early adopters in residential markets. The plan analyzed charging infrastructure requirements and potential approaches for providing EVSE. The reviewer stated that the project also evaluated grid impacts and regulatory issues such as zoning, permitting, connectivity, etc.

Reviewer 8:

Regarding the Kansas City project, the reviewer noted that standard barriers and one additional barrier of the impact on regional transformers were addressed with products developed, such as the grid assessment work, education of technicians, and promotion to dealers through the use of hang tags.

Regarding the Delaware project, the reviewer commented that some of the barriers would be overcome with the EV assessment of likely EV owners, and that key areas for EVSE deployment would be helpful to bring about availability of vehicles and EVSEs, but that the consumer reluctance to purchase vehicles or technical expertise developed were not addressed. The reviewer noted that no tools/materials were mentioned other than that an outreach plan was developed. The Garage Free Summit would potentially be helpful to those who do not have access to off-street parking. The reviewer concluded that the assessment looked thorough.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer commented that both projects prepared very thorough readiness plans targeted towards accelerating EV adoption in their area.

Reviewer 2:

Regarding the Kansas City project, the reviewer noted that the project was 92% completed at the time of presentation submissions. The project completed a number of tasks, such as working with stakeholders in four communities, a corridor analysis of flat versus hilly terrain, grid impacts, creation of training curriculum, and marketing materials for consumers.

Regarding the Delaware project, the reviewer commented that 83% spent in February 2013 was less complete than other projects reviewed by this reviewer. The reviewer noted that a literature review, Garage Free Summit, and preliminary assessment of EV home and work locations penetration was completed for the EV Project, and that a guidance plan for municipalities was conducted and finalized.

Reviewer 3:

Regarding MEC, the reviewer liked the corridor analysis and EV/EVSE concentration maps. The reviewer thought that the grid assessment was also good. The reviewer noted that the website was informational, and that the Plan contents were easily accessible.

For the DVRPC project, the reviewer noted that a good analysis and information was gathered. The reviewer commented that education/outreach to stakeholders was not as far along as other projects.

Reviewer 4:

Regarding the MEC Kansas City Project, according to the reviewer, the project accomplished what was planned. The partners have already begun to implement their plan. The reviewer complimented great job. Similar to other plans, this project collected stakeholder feedback/input as part of a data collection phase, including a grid assessment. The reviewer explained that the project resulted in presentations to seven municipalities and three Clean Cities coalitions, including a discussion of benefits and recommended steps. The project generated a website and several publications available through the website. This project embraced a number of outreach and educational activities, including distributing hang tags. The reviewer noted that the project also developed two videos and numerous documents (approximately eight), which could be found on the website. The project developed certificates for businesses and communities that reach certain accomplishments with a score on how EV ready they were. The reviewer applauded this concept, which helps cities brag about their EV ready status. This model is available to share, which the reviewer commented was nice. In addition, the project management posts updates and events on its social media outlets and website. The project also developed an automotive and electrical technicians training with the help of Kansas City Community College.

Regarding the DVRPC project, the reviewer noted that the project team completed surveys and a literature review as part of data collection prior to drafting its plan. This team also explored NYSERDA and New York City as they developed their plans. The project team generated several documents and placed them online along with the plan. The reviewer noted that DVRPC completed its plan in

November 2012 and addressed the proposed concerns with recommendations for zoning, planning and potential incentives. The project also included educational outreach activities, including hosting a Garage-Free Summit to train parking garage attendants. The reviewer detailed that the plan also identified a need to educate home owners associations (HOAs) and targeted home owners. The project developed guidance specific to municipalities to help them prepare for EVs. The reviewer opined that the slides provided too much detail on the data analysis and not enough with how the team used that information.

Reviewer 5:

The reviewer concluded that the MEC project made significant progress toward the DOE VTO goal of providing technical and educational assistance to local communities. The project conducted outreach to local municipalities on the benefits of EVs, developed implementation recommendations and guidance documents for different audiences, and developed electric vehicle-related curricula and workforce training. The reviewer noted that the project also took some practical steps to educate consumers, including developing vehicle hangtags describing the benefits of EVs.

The reviewer found that the DVRPC made good progress on assessing the potential deployment of EVs in the region, which could inform strategies to ease market introduction. DVRPC also conducted stakeholder outreach, including hosting the Garage-Free Summit with cities and regional stakeholders to discuss charging infrastructure for consumers without dedicated off-street parking. The reviewer noted that the presenter stated that further outreach and coordination with other regional EV projects was planned, but it was unclear to what extent the readiness plan recommendations would be implemented. The reviewer thought it was unfortunate that the readiness plan were not available to review.

Reviewer 6:

Regarding the MEC project, the reviewer detailed that the EV/EVSE readiness plan touching on several key/relevant areas was released (some plan sections were more detailed than others); outreach initiatives were conducted and a project website was launched.

Regarding the DVRPC project, the reviewer indicated that the project produced a range of valuable analysis products and an outreach plan. However, according to the reviewer, it was not clear if a comprehensive EV/EVSE readiness plan had been completed, if the website had been launched, etc. The reviewer forgot to ask for this during the review session and did not see document links in the presentation slides.

Reviewer 7:

Regarding the Kansas – Missouri project, the reviewer noted that this project was over 92% complete with a month remaining in the grant. Significant technical accomplishments include outreach, development of the readiness plan, an EV corridor analysis, EV technician training curriculum, which can be replicated in other areas of the country, EV/EVSE concentration maps, utility grid assessment, and a website. In addition, the reviewer remarked that the grantees launched the Electrify Heartland EV Coalition and EV Business Coalition, which provides unique opportunities for stakeholder and community engagement. Moving forward, the grantees will capitalize on these coalitions and the partnerships formed during the project.

Regarding the DVRPC project, the reviewer noted that the project was over 90% complete with a month remaining in the grant; the reviewer commented that it seemed that this project was a bit behind the other grantees, but that plans were in place to complete the project on time. The reviewer detailed that significant technical accomplishments included an analysis of EV demand, EVSE requirements, and issues with grid integration, as well as the development of the readiness plan. In addition, the development of a regional regulatory scheme and incentive structure would allow for consistent actions throughout the region. The reviewer detailed that the group also conducted an analysis on PEVs ability to meet mobility needs, which will assist in the consumer reluctance issues.

Reviewer 8:

The reviewer described that the EV Community Readiness project in Metropolitan Energy Information Center, Inc. Kansas, Missouri seemed to achieve very few of its objectives outlined in the Strategy question. The one objective the project team did seem to execute on was auto and electrical technicians from four regional colleges; attended SAE training on Hybrid Electric and Battery Technology. However, there was no indication as to how many actual people attended the course and were able to utilize the training they received. Furthermore, the reviewer stated that there were so much U.S. Department of Labor (DOL) funds available for this type of curriculum

that it seemed like U.S. DOL funds would be a better fit for this activity than U.S. DOE funds. While the reviewer agreed that the technicians needed to understand a new technology as an essential component when launching new and innovative technologies, the reviewer expressed that there was a failure to see other more pressing and critical components that were first needed to implement a successful and comprehensive EV Readiness Plan. Therefore the reviewer did not understand the value of the training provided.

The reviewer pointed out that the stakeholder group seemed small and insufficient to support a grant of this size. So when the Plan talked about doing activities with the stakeholder group to seek input, perform outreach, etc., it really was just a handful of entities ultimately included. The reviewer listed these entities as the MEC, IBEW, University of Missouri Kansas City, Kansas City Community College, Black & Veatch, LilyPad EV, and Polsinelli Shughart, which is a law firm. The reviewer noted that this was an unusual stakeholder group to assemble to accomplish the aggressive goals established in the project team's Strategy [DOE Program Clarification: It is important to note that the entities mentioned comprise a smaller "Steering Committee," which is part of a much larger Kansas City stakeholder group that interacts through meetings and outreach, and to the general public via media and other communications.].

The reviewer provided an example of what appeared to be a misrepresentation, noting that the website was just created in March 2013 – the grant was awarded in October 2011 and is over in June 2013. The reviewer described that if an entity was serious about involving and recruiting stakeholders, community outreach, EV and charging station awareness and availability, garnering media, etc., a website would be created at the front end of this type of effort, not three months before the project ends. The reviewer believed that another item DOE should review further is which entities did what under this grant as it appeared that other similar efforts by the MEC may have been a duplication of work product and partners. Even the Readiness report that the MEC stated was available on the website was really not available in its entirety, as the reviewer asserted not having the ability to even find a cover page to the report. The reviewer considered that maybe the MEC was trying to make the report user-friendly but there was no place to go to access the full report. The reviewer commented that there were a bunch of sections available but the reviewer did not have the time to evaluate each section available to see if in fact there was a complete report available. When the reviewer tried to look for one section, it was not in the link indicated where it would be available, so the reviewer encourages DOE to review the report in its entirety to make sure it includes what is represented in the Table of Contents. The reviewer noted that another item DOE may want to look at was whether or not any outreach was done in any meaningful way to educate businesses, consumers and the government about EVs, fleets, and light- and heavy-duty PEVs for both fleet and public use, as that was a main objective identified in the project team's strategy. Regarding the website, the reviewer detailed that many of the items represented that would be included in the website were not really there, so DOE may want to evaluate the effectiveness and completeness of one of the very few items the MEC did accomplish very late in the process.

The reviewer did not believe the DVRPC readiness plan was executed or accomplished very much of what the plan stated it would do. The reviewer indicated an inability to find any report or white paper that indicated that the Stakeholder Advisory Group the project team said it would create or any documentation to illustrate that the project team compiled, analyzed EV and charging station and early adopter data, planning and zoning codes, fleets, or anything the project team said it would research to form a regional plan.

The reviewer explained that maybe the project team wrote a plan or white paper but the reviewer could not locate it. The reviewer elaborated that there were some random slides and statistics in the presentation provided, but the reviewer really did not know what all the data meant. The reviewer referenced Slide 26, which said, April 2012: Receive address and vehicle type information for 2,225,595 passenger vehicles registered in 5 counties of southeastern Pennsylvania. The reviewer would like to know what this meant and how it was pertinent. The reviewer asked what this number represented; perhaps how many cars there were in five counties in southeastern Pennsylvania. The reviewer would like to know what Slide 30 was. The reviewer explained that it would be helpful if somehow this data was explained as to what purpose it served, especially as the reviewer was not a self-proclaimed statistics whiz. The reviewer believed that DOE should evaluate what was really accomplished in this grant as the reviewer could not tell from the information provided or what was available on the Internet.

The reviewer expressed an understanding that the project team participated in a few TCI EV events, and hosted a TCI event about garage charging, but other than that, the reviewer was hard-pressed to elaborate from the materials supplied and available on the web what all was accomplished with these grant funds.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer observed good collaboration apparent on both projects.

Reviewer 2:
The reviewer stated that both projects seemed to have collaborated with the appropriate stakeholders, local governments, and the industry.

Reviewer 3:
Regarding the MEC project, the reviewer stated that the project includes a good cross-section of relevant participants and stakeholders.

For the DVRPC project, the reviewer stated that the project has a similarly good mix of key/relevant stakeholders; however, participation from OEMs and EVSE providers is fairly light.

Reviewer 4:
Regarding the MEC project, the reviewer stated that this team was comprised of a number of state and local governments, educational institutions and one Clean Cities Coalition. A few industry partners were involved. The reviewer suggested more OEM participation, and the reviewer reported not seeing a utility listed as a partner either. The reviewer questioned if this was just missed or were these stakeholders not involved. The reviewer indicated that future DOE projects should require a utility partnership at some level.

Regarding the Delaware project, the reviewer indicated that this project had relatively few partners comparably. Nevertheless, the reviewer identified as two major partners NYCLHVCC and NYSERDA/TCI. The reviewer expressed curiosity if NYSERDA and TCI received additional funds to develop the same resources for Delaware as for the other 11 states under the NYSERDA project. The reviewer suggested that this might be something DOE should investigate. According to the reviewer, understanding how the funds were used would have been helpful to the reviewers. The reviewer noted that the Delaware partners also included state agencies, several counties and local metropolitan planning organizations (MPOs). The reviewer was pleased to see PECO as a partner. The reviewer would have liked to see more involvement with the OEMs and other EV industry members.

Reviewer 5:
The reviewer noted that the collaborations of both projects were good, but not outstanding, as some of the other Technology Integration Projects reviewed.

Reviewer 6:
Regarding the Kansas –Missouri project, the reviewer indicated that the grant recipients included a collaboration of a Clean Cities coalition, community colleges, a law practice, utilities, state agencies, an MPO, municipalities, PEV/EVSE manufacturers, and the Electric Power Research Institute (EPRI). This project also collaborated with the electrician training center of the IBEW Local Union, which was unique and proved to be beneficial to the success of the project. The reviewer noted that these groups appeared to be well-coordinated.

Regarding the DVRPC project, the reviewer stated that the grant recipients included a collaboration of a Clean Cities coalition, utility, city government, county governments, state agencies, and others. The reviewer noted that these groups appeared to be well-coordinated.

Reviewer 7:
Regarding the Kansas City project, the reviewer indicated that there appears to have been close collaboration with communities and the project plans to launch a business coalition. The reviewer stated uncertainty about why some of the larger businesses were not part of the initial briefings. The reviewer pointed out that only two dealerships (and only one mainstream dealership) were part of the collaboration. Community colleges seemed to be an active participant and four communities, but one slide indicated seven communities were given the plan. The reviewer stated that due to the nature of the presentations given by the contract manager versus

the PI of the project, it was difficult to get the level of detail of the breadth of the partnerships and number of people reached during meetings.

Regarding the Delaware project, the reviewer observed good collaboration with neighboring states and cities on the Garage Free Summit. The reviewer noted that the project interviewed fleets but it was hard to understand the extent of the partnership. The reviewer expressed uncertainty about the ongoing work to facilitate the current partnerships or future partnerships.

Reviewer 8:

The reviewer remarked that the MEC, IBEW, University of Missouri-Kansas City, Kansas City Community College, Black & Veatch, LilyPad EV, and Polsinelli Shughart, which is a law firm, were the Steering Committee Partners listed on the ElectrifyHeartland.org website. The reviewer notes that Clean Cities was not listed as a partner on the Steering Committee. While the reviewer understands that the MEC is associated with Clean Cities, for the reviewer, this seemed strange. While other stakeholders/partners were referenced in the presentation materials it did not really seem like they had any involvement. That being said, the reviewer hardly thought the Steering Committee members represented a very broad and or diverse group of stakeholders, so the reviewer did not believe there was much collaboration and coordination with other institutions. The reviewer suggested that DOE compare the documents submitted to secure this grant and which groups were represented as stakeholders/partners/steering committee because it did not look right to this reviewer that DOE would choose this group and plan on its collaboration, coordination and contributions made to date on this grant. The reviewer acknowledged that mention of the Greater Kansas City Plug-in Readiness Strategy, and while the reviewer understands it was separate from this effort it was referenced in the Electrify Heartland Plan and was confusing. The reviewer wondered if work was done once, and paid for by the federal government more than one time. As a last example, the reviewer noted that the EV Business Coalition was misleading as there was no mention of any companies as a part of a Business Coalition; and when the reviewer tried to review that part of the Readiness Plan report, the reviewer was unable to locate it. While listed in the Table of Contents, the reviewer could not find the section on the website. Even if the reviewer was missing it, and it was present, it was not in a user-friendly fashion and the reviewer spent a lot of time trying to find it. The reviewer said that something appeared wrong with the project team not making their entire report available [DOE Program Clarification: It should be noted that the Kansas City Plug-in Readiness Strategy was completed in April 2011 by in-kind volunteer efforts (not a deliverable under this project).].

As the reviewer previously stated, the DVRPC Readiness hosted a TCI conference and participated in a few other TCI/NYSERDA events. Other than that, the reviewer expressed an inability to tell from the materials supplied, who besides TCI/NYSERDA the project team partnered with, as the reviewer was unsure who the project collaborated with on anything because no documentation was supplied to the reviewer nor were available on the website illustrating any findings [DOE Program Clarification: The plan can be found on the following website: http://www.dvrpc.org/asp/pubs/publicationabstract.asp?pub_id=12055A.].

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

Regarding the MEC project, the reviewer indicated that the project description of future work was fairly general; however, the project had laid a sizable amount of groundwork for further efforts to build on.

Regarding the DVRPC project, the reviewer indicated that the project's envisioned future work tasks were pretty specific, analysis products would be expanded on, leveraging other DOE-funded EV initiatives. Completed analysis products would also be drawn on in future outreach efforts.

Reviewer 2:

The reviewer indicated that the Kansas/Missouri project planned to continue launching and engaging the community with the readiness plan. The reviewer said that the Delaware Valley planned to continue building the momentum for EVs and their outreach activities.

Reviewer 3:
The reviewer indicated that both projects were scheduled to be completed in June 2013. Follow-up activities were outside the scope of this review.

Reviewer 4:
Regarding the MEC project, the reviewer said that this project was completed and published. The slides indicated that the outreach and education would continue; according to the reviewer this was a good sign that the plan had support. The partnerships indicated a continued push for greater adoption and deployment, but no specific continued funding support was mentioned. The reviewer said the project laid the groundwork and would be presented to State officials.

Regarding Delaware's project, the reviewer stated that the project plan was now complete and that the partners were looking for ways to use the materials generated, and to encourage EV readiness adoption throughout the region. The reviewer commented that no discussion was provided as to where additional funds might be derived to implement this plan. The reviewer suggested that DOE should request that this be a part of future plans.

The reviewer also strongly recommended to DOE to please not have two projects in one form next year. The reviewer stated it was unnecessary; reviewers could have filled out two evaluation forms instead of one. The reviewer thought it was fine having two projects in one PowerPoint presentation, just not the forms.

Reviewer 5:
Regarding the MEC project, the reviewer stated that the remaining project activities under the grant were minimal, but grantees would continue efforts beyond the grant funding for implementation.

Regarding the DVRPC project, the reviewer stated that remaining project activities under the grant were minimal, but grantees would continue efforts beyond the grant funding for implementation.

Reviewer 6:
Regarding the DVRPC project, the reviewer stated that it was hard to tell how well thought-out the plans going forward were for this project. To date, the plan had not been posted on the Clean Cities website.

As a general note, the reviewer stated that in all of the EV readiness projects, the reviewer would have liked to see more thought put into communicating results to key stakeholders. Plans, websites, and fact sheets are a great start, but just as important was getting that information in front of important stakeholders, from policy officials, to property owners, to consumers. The reviewer indicated that more detail on this, even in the Future Work section, would have been nice.

Reviewer 7:
Regarding the Kansas City project, the reviewer stated that future work would include the launch of the communities and business coalition and Heartland Electrify EV coalition. The reviewer expressed uncertainty on what the differences were between the coalitions but continued emphasis in the area of EV deployment to a broader audience is planned. The project team will continue to work with state officials in EVSE placement. The reviewer said that nothing was mentioned about broadening the education or outreach with dealerships, unless this was part of the business coalition work.

Regarding the Delaware project, the reviewer stated that the project plan builds on the work of surrounding states/cities, which was important, and the reviewer thinks the contractor will continue to press for PEV-friendly regulations in southeastern Pennsylvania. The reviewer expressed uncertainty if the contractor will use additional data to improve workplace charging and who the lead would be for continuing the build-up of the effort.

Reviewer 8:
The reviewer stated that the MEC represented that next steps would be for them to launch EV Ready Communities and an EV Business Coalition, engage community to implement recommendations through regional energy events, MPOs and small group meetings, engage state officials with EVSE corridor recommendations, and continue outreach to stakeholders via exhibits, media

releases and a website. As the reviewer stated, either these activities to date had not really occurred, or if so, no information was provided to illustrate that it had occurred, so the reviewer expressed skepticism, that if the MEC has not executed in the past with the EV Readiness program, then DOE should not count on the project executing on future planned activities.

The reviewer noted that DVRPC Readiness said the project team would use other Clean Cities data, research and materials and TCI/NYSERDA data, research and materials to build EV momentum in the relevant area. The reviewer said that because it did not appear that the project team accomplished what their Strategy set out to do, or if the project did, it was too hard to find, the reviewer encouraged DOE to really evaluate whether the DVRPC had the capacity to execute and advance EV Readiness work in their region.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer stated that as with all of these EV readiness projects, these projects support the implementation and deployment of EVs. If the plans are implemented, the projects will lead to petroleum reductions.

Reviewer 2:
The reviewer indicated that both projects would serve to meet the Clean Cities petroleum reduction goals of 2.5 billion gallons per year by 2020, by building and strengthening community efforts in PEV deployment.

Reviewer 3:
The reviewer indicated that the adoption of EVs and PHEVs vehicles has the potential to significantly reduce petroleum use. These community readiness initiatives help facilitate the adoption of EVs and charging infrastructure, as described previously.

Reviewer 4:
The reviewer indicated that these grants addressed barriers, including the availability of PEVs and EVSE, consumer reluctance to purchase new technologies, and lack of technical experience with new technologies. Addressing these barriers will help support VTO's deployment goals, specifically petroleum reduction objectives, partnership efforts to ease market introduction of PEVs, and technical and educational assistance to support local communities and partnerships.

Reviewer 5:
The reviewer stated that both projects supported grassroots EV market development at the community and state-level.

Reviewer 6:
The reviewer indicated that the benefits of EVs were well-known.

Reviewer 7:
The reviewer stated that the Kansas/Missouri project estimates that 0.4% of future vehicle purchase will be an EV in part due to adopting the readiness plan.

Reviewer 8:
The reviewer stated that it was hard to see how these two projects ultimately supported the DOE objectives of petroleum displacement. The reviewer understood that both of these projects tried to achieve this goal; however, the reviewer expressed an inability to tell from the documents submitted and/or available online illustrate how either the MEC and/or DVRPC Readiness grants achieved anything towards petroleum reduction.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer indicated that both projects used all or nearly all of the funding allocated and made significant progress toward objectives.

Reviewer 2:

Regarding the Kansas City project, the reviewer stated that 92% of funding had been spent. The reviewer indicated that some good relevant studies were deliverables, as well as a number of outreach products to suggest that sufficient funding was allocated.

Regarding the Delaware project, the reviewer noted that 82% of funding was spent as of February 2013. The reviewer stated that an extensive study of PEV potential households and concentration matched with employment density, high volume interchange, and key public venues with longer than average visits seemed quite comprehensive and a good use of funding.

Reviewer 3:

Regarding the Kansas – Missouri project, the reviewer indicated that the project funding of $441,478 was sufficient to complete the work, though there was no cost-share.

For DVRPC, the reviewer stated that the project funding of $387,698 was sufficient to complete the work, though there was no cost-share.

Reviewer 4:

The reviewer indicated that resources were sufficient for both projects. Delaware Valley was 90% complete with funds spent of $321,944 from a total budget of $387,698. Kansas/Missouri was 92% complete, spending $406,132 from a total budget of $441,478.

Reviewer 5:

The reviewer would have liked to see more documentation, information/outreach on the Pennsylvania project.

Reviewer 6:

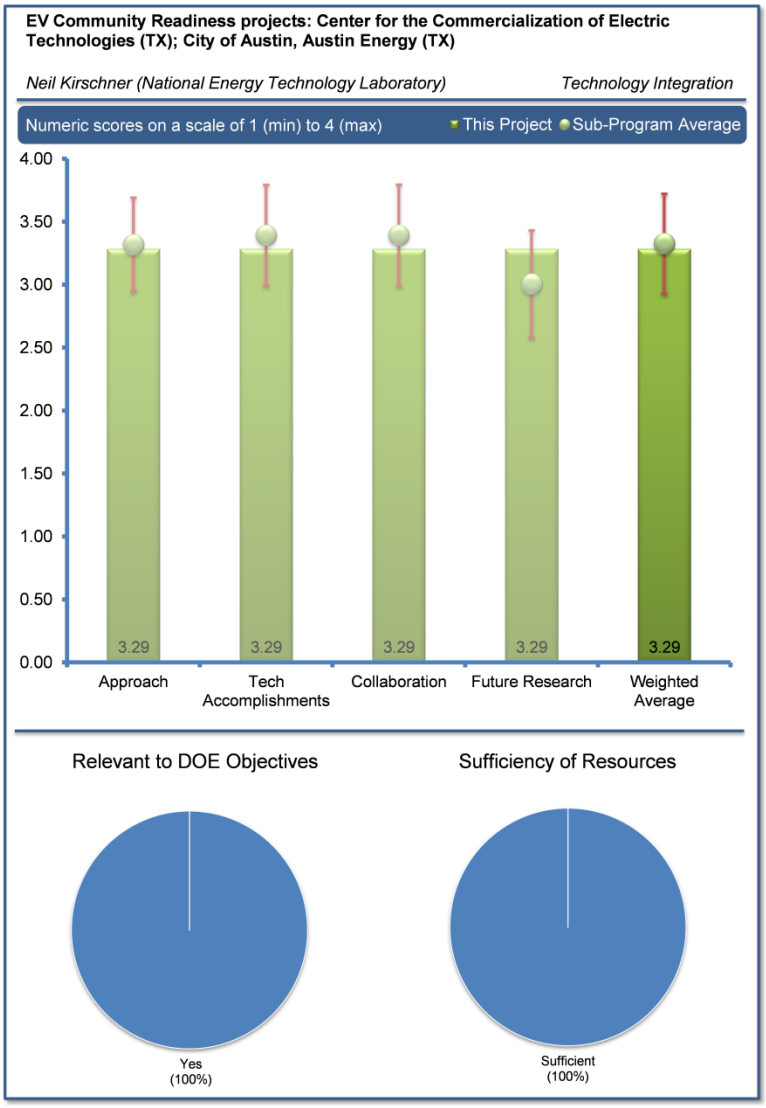
The reviewer noted that the MEC was granted $441,478, and Delaware was given $387,698, and neither had nor were required to have a cost-share. Both plans were accomplished within the granted budgets. The reviewer expressed that it was difficult to assess if the funds were sufficient because reviewers were not provided a budget to evaluate. In the future, the reviewer recommended to please dedicate at least one slide to how the funds were spent. In other words, the reviewer asked how much each deliverable cost. The reviewer stated that if these readiness plans were going to continue, the reviewer would expect DOE to require some level of industry or government support, even if it was in-kind. The reviewer indicated that the local stakeholders need to show they are invested in the long-term success of these plans.

The reviewer stated that with Delaware specifically, it appeared NYSERDA and TCI were involved in this project separately from its own project. The reviewer encouraged DOE to investigate how the funds were used and if the funds were spent appropriately. The reviewer felt that it would not be good use of federal funds to have two grants pay for the creation of the same materials unless they were substantially different. The reviewer referenced Slide 34 (i.e., Make use of TCI/NYSERDA research and materials) and commented that DOE should be clear on how these funds were put to use if these two partners were not given additional funding.

Reviewer 7:

The reviewer expressed skepticism that the resources for either the MEC or DVRPC Readiness grants were utilized efficiently because the reviewer could not tell what if anything these two grants accomplished. In general, it was difficult for this reviewer to evaluate how the resources were used in either the MEC or DVRPC Readiness grants because the presentations provided did not indicate what really was done. The reviewer stated that the information and presentations provided and available on the web did not provide any transparency on the expenses or final product deliverables. In the past, DOE has had the PI that received the grants make the presentations for the reviewers and this year the respective DOE project manager gave the reviewers the presentations. The reviewer recommended that it would be more effective in determining some of the local and regional impacts and long-term benefits of the grants if the person responsible for implementation provided the reviewers the uniqueness and highlights of the project presentation. Also, the cookie cutter hard copy presentation format used for these reviewer Readiness Grant presentations this time prevented the individuality and exceptionality of each grant to stand on its own merits, and the reviewer believed these two grants presented at first blush like the projects had accomplished more than what is available.

EV Community Readiness projects: Center for the Commercialization of Electric Technologies (TX); City of Austin, Austin Energy (TX): Neil Kirschner (National Energy Technology Laboratory) - ti031



Reviewer Sample Size

A total of seven reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer stated that the Texas Triangle project had a comprehensive list of 10 tasks in their approach to help provide input needed to develop the reports required by this effort. The milestones completed in this project in year one included the data gathering, feedback and outreach of the project helped them to be successful in completing the required reports.

The reviewer commented that the City of Austin also had a very comprehensive list of tasks to accomplish, to provide input for the development of the readiness report. The stakeholder engagement, including stakeholder meetings and surveys, were essential to the success of the project.

Reviewer 2:

Regarding the Center for Commercialization of Electric Technologies (CCET) Texas Triangle EV Ready Project, the reviewer was impressed with the overall proposed plan to form an EV corridor than ran between Dallas, Houston and San Antonio. The reviewer did not notice a multi-city installation and implementation plan, such as permitting, codes, etc. The only city that was identified as a participant was the City of San Antonio. Second, the reviewer said that CCET identified the high cost of PEVs but did not offer a discussion on the impact to the plan or the EV market in those regions.

Regarding the City of Austin project, the reviewer stated an excellent project because the project team took a few extra steps by proving a roadmap, discussed a business model, building codes, marketing, and conducted a survey.

Reviewer 3:

Regarding the CCET Project, the reviewer stated that the team made a good move to expand their work to a statewide program, as this would extend results beyond the Texas Triangle area. The reviewer commented that another positive aspect of the strategy is the work on PEVs, grid connection, and ancillary services with the Electric Reliability Council of Texas (ERCOT), which was quite forward looking given the state of V2G at this time. This will be implemented in an electric truck fleet, and the team is working on identifying the fleet now. The reviewer remarked that it would have been useful to discuss how the project team was handling (or will handle) billing issues with corridor charging (i.e., multiple suppliers of EVSE services do not yet have compatible billing and payment

systems). The reviewer elaborated that the appropriate next step in the strategy was being pursued; CCET is working to put their information in front of those who can implement the recommendations.

Regarding the Austin project, the reviewer commented that the project covered the cities of Austin and San Antonio. The reviewer noted some overlap of regional coverage with the other Texas project, and asked whether this project team collaborated with the other Texas project, or if the activities were separate. The reviewer found that the strategy was reasonable to accomplish the development of the plan. Good approach to use sub-teams to work on various aspects of the plan (likely allowed for more focused efforts). Surveys of EV owners, multi-family owners and residents, employers, and employees were valuable. The reviewer remarked that it should be useful to the region to have captured this information to assist with planning now and in the future.

Reviewer 4:

Regarding Texas Triangle, the reviewer indicated that the project was focused on doing the necessary planning, development of model ordinances/permitting, and conducting the needed outreach. Near the end of the project, there was a look toward initial implementation of recommendations, some of which would occur after the project ends.

Regarding the City of Austin, the reviewer commented that the project was focused on conducting necessary analyses and planning, developing model codes/ordinances, and preparing a marketing plan.

Reviewer 5:

The reviewer commented that the overall rating was between good and outstanding. The reviewer found that the Austin/Austin Energy project included utilities from the project's beginning, and had OEM involvement (i.e., GM, Ford, and Nissan). The reviewer also noted that a local Toyota dealer was also involved.

This reviewer observed that engagement with a utility never occurred in the CCET project. The reviewer noted that ERCOT, engaged at the end, is a regional systems operator, not a utility. CCET planning proved to be top-down. The reviewer remarked that the engagement of GM at the beginning by CCET was a plus.

Reviewer 6:

The reviewer commented that their plan was ambitious considering the budget and well-thought out. The project leveraged the Plug-in Conference to promote the project's work. The reviewer added that involving a technical advisory group was a good way to make sure the developed plan was feasible.

Reviewer 7:

The reviewer commented that both EV readiness plans addressed barriers to EV deployment, such as vehicle and charging infrastructure, and appeared to be feasible for implementation. The reviewer found that it appeared there could have been more coordination between the projects. For example, the reviewer would like to know how the corridor approach highlighted in the Triangle plan will be integrated with the vehicle/charging infrastructure deployed in Austin.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

Regarding CCET, the reviewer thought that the three-volume plan to develop an interlink travel corridor plan along the Texas triangle with the intent to create a state-wide program PEV Community was an excellent deliverable. It opens the possibility for other cities in the State to join and expand the corridor beyond Houston, Dallas and San Antonio. The reviewer suggested it would be a good idea to engage a representative from the State.

Regarding the Austin project, the reviewer commented that the three documents (i.e., a communication plan, an ordinance toolkit, and a workplace and multi-family housing issue identification) showed that the project team has a strong understanding of its audience and is clearly addressing its needs by dividing the reports by subject.

Reviewer 2:
Regarding the Texas Triangle project, the reviewer commented that the team completed extensive documentation for regional planning activities, and prepared both private and utility business case models. The team also conducted several outreach events and convened a technical advisory committee. The reviewer concluded that the project team appeared to have pretty much accomplished what was planned on time.

Regarding the City of Austin, the reviewer remarked that the team conducted extensive surveys to inform planning and analysis needs. The team also completed planning and conducted four stakeholder meetings, plus conducted additional outreach efforts including surveys. In particular, the team also worked to identify workplace and multi-unit issues. The reviewer found that the project appeared to have completed planned activities in a timely manner.

Reviewer 3:
Regarding the CCET Project, the reviewer found that the project had completed an extensive three-volume plan that was now available on a dedicated webpage. The project had completed the plan for a V2G demonstration for ancillary services with the Texas ISO, which was a unique aspect of this work. The reviewer remarked that the project had also performed several outreach activities that were useful, and that public feedback on Plan recommended actions should be useful.

Regarding the Austin project, the reviewer commented that the survey work was a major highlight of the project: much information was collected on EV and EVSE attitudes among key near-term users (current EV owners, employers, etc.). Survey results should be valuable qualitatively beyond the Austin/San Antonio region for EVSE planning. The reviewer found that the recommendation roadmap was also a valuable output – it was quite detailed and thorough. The flow chart graphic provided in the PI's presentation was very useful in outlining the key recommendations in a single page. The reviewer commented that other valuable accomplishments include the set of customizable ordinances in a toolkit, and the initial issue identification for workplace and multifamily housing cases. The reviewer remarked that the report included a unique interoperability roadmap showing how devices, systems, and applications interconnect in a widespread EV/EVSE deployment scenario. The reviewer noted that this could be applicable outside of this project.

Reviewer 4:
The reviewer commented that both the City of Austin and the Texas triangle projects completed reports as required by this effort.

The reviewer remarked that the Texas Triangle plan provided both a PEV infrastructure readiness plan as well as a detailed plan for multi-phase demonstration of PEV fleets.

The reviewer noted that the City of Austin also completed a very thorough PEV initiative regional plan, which included a best practices guide and a communications plan, in addition to a private and utility business case model.

The reviewer found that these plans would help both communities in their follow-on efforts.

Reviewer 5:
Both plans demonstrated progress toward DOE goals with the Austin plan being quantitative in nature, which may help demonstrate petroleum replacement and other goals.

Reviewer 6:
The reviewer remarked that the fact that the project had led to a follow-on project related to ancillary services and PEVs was a testament to the project's technical accomplishments. V2G and similar technologies are an important enabler for PEVs.

Reviewer 7:
The reviewer commented that taken together, the results for CCET and Austin/Austin Energy were good in the sense that it helps illustrate what works and what does not. The CCET project focused on infrastructure installation along highways, but had fairly limited success in getting actual infrastructure installed. The reviewer remarked that the problems with demand charged limiting DC fast charger installations were discovered and noted by CCET. Though it was unfortunate that CCET had such limited success, it was also informative.

The reviewer commented that Austin/Austin Energy focused on residential and commercial locations within the metro areas of Austin and San Antonio and implemented an intra-urban charging network. Austin/Austin Energy gained many partners and had sold a significant numbers of vehicles. The reviewer commented that Austin/Austin Energy started with a small number of partners, but very effectively executed a plan. From the reviewer's perspective, the sum was greater than the parts. A focused study in a limited region with a pair of relatively close metro areas did far better than a more diffused study of a large region attempting to focus on linking large cities considerably further apart, than for Austin and San Antonio [DOE Program Clarification: Please note that the purchase of vehicles and the installation of charging equipment were outside the scope of these Clean Cities community readiness projects. Although some communities may have chosen to implement those steps in parallel with these projects, no DOE funding was used to support the purchase or installation of vehicles or hardware.].

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:
The reviewer commented that both the Texas Triangle project and the City of Austin effort have a very strong list of collaborators.

The reviewer found that it was very good to hear that these two projects each built on the other and avoided duplication of efforts.

Reviewer 2:
Regarding the Texas Triangle project, the reviewer commented that the team coordinated with local planning organizations, particularly through outreach efforts. Partners included laboratories, EVSE providers, a vehicle manufacturer, and others.

Regarding the City of Austin project, the team worked with EVSE organizations, universities, utilities, and local governments primarily, but also worked with an extensive list of organizations overall, adding manufacturers, dealers, Councils of Governments (COGs), chambers of commerce, and associations. So, while operating in a smaller geographic area than the Texas Triangle project, this team appears to have at least exposed a far larger number of organizations to EV issues.

Reviewer 3:
Regarding the CCET Project, the reviewer commented that there was a reasonably balanced list of partners (Clean Cities Coalitions, one vehicle OEM, two EVSE suppliers, and other supporting organizations). The reviewer said that there was not much direct engagement from local municipalities based on the collaborations list (their contribution may have been through the public feedback sessions or through the local Clean Cities coalitions).

Regarding the Austin project, the reviewer commented that this project included a great list of collaborators, including major vehicle OEMs, EVSE providers, the Texas electricity ISO, several local planning organizations, and the leader of the other Texas EV planning project. According to the reviewer, the inclusion of a local apartment association was a good idea and thought that this might be a good partner for other Clean Cities areas to consider.

Reviewer 4:
The reviewer commented that the project team worked with a large number of relevant groups.

Reviewer 5:
The reviewer commented that both had good collaborators. The reviewer recommended that both consider working with the U.S. Green Building Council (USGBC) and the EPA–ENERGY STAR® to ensure that the these efforts were not only supported but encouraged through incentives in the Leadership in Energy and Environmental Design (LEED) rating system and Energy Use Guide. The EERE Building Technologies Office may be able to offer additional guidance.

Reviewer 6:
The reviewer commented that Austin/Austin Energy was outstanding in the end, with multiple OEMs, utilities, EVSE suppliers, NGOs and EVSE suppliers.

The reviewer remarked that CCET was only fair. The project did not indicate any growth in partners from beginning to end. A poor rating would be attached to a project admitting a loss of original partners.

Reviewer 7:

The reviewer commented that the Texas Triangle EV Readiness Plan could have benefited from including various metropolitan planning organizations and a representative from the Texas Department of Transportation as partners in the project.

The reviewer commented that the Austin Plan had an extensive number of partners, including the State DOTs and MPOs.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

The reviewer commented that both projects planned on continuing the work in this area. One project would perform follow-on work on their own, which showed great initiative, while the other project has received a follow-on award from the DOE.

Reviewer 2:

Regarding the CCET Project, the reviewer indicated that given that the project would be completed this year, the wrap-up activities appeared reasonable: final refinement of the plan with Clean Cities, and implementation of activities through the distribution of the plan to appropriate authorities.

Regarding the Austin project, the reviewer commented that efforts outlined were appropriate to wrap up the current project. The City of Austin and Austin Energy received an award to perform some follow-on work as part of the 2012 Clean Cities alternative fuel market project awards.

Reviewer 3:

Regarding the Texas Triangle project, the reviewer noted that efforts were virtually complete. The plan was to move forward with full implementation of recommendations, and to look at establishing a deployment fleet.

The reviewer indicated that for the City of Austin, efforts were nearly complete. This team received a follow-on grant from DOE to conduct implementation.

Reviewer 4:

The reviewer clarified that the outstanding rating applied only to Austin/Austin Energy. A follow-on proposal was submitted into a competitive solicitation by DOE and Austin/Austin Energy won the support for follow-on work. The reviewer commented that the high cost-share at the outset of the initial project demonstrated local commitment to the introduction of PEVs.

Reviewer 5:

The reviewer recommended that the two Texas projects work together to avoid duplicative efforts and to talk about opportunities where both projects can effectively collaborate. Both projects should continue to refine plans as necessary and distribute the plan to a government implementation authority. As mentioned previously, the reviewer suggested also working with ENERGY STAR and LEED for effective incentives.

Reviewer 6:

The reviewer suggested that the Triangle plan needed to focus on how to further develop the corridor approach undertaken in the readiness plan, and that both plans needed to coordinate and collaborate on how the two plans would intersect. The reviewer explained that this would help to ensure that EV owners could operate their vehicles within and around Austin as well as intra-regional travel along Texas interstates without range anxiety.

Reviewer 7:
The reviewer commented that the project did not just propose future work; it has undertaken a follow-on project related to V2G.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer asserted that the project was elaborating that displacement of petroleum fuel by installing EV plugs strategically and easing the path to EVs.

Reviewer 2:
The reviewer pointed out that electrical energy (i.e., kilowatt-hours [kWh]) from utilities use almost no oil, so the implementation of PEVs serves DOE goals of petroleum displacement.

Reviewer 3:
The reviewer commented that the development of an EV Community Readiness Plan definitely supports the overall objective of DOE to promote petroleum displacement. By having a plan ready, the community will be poised to implement the use of EVs when future projects and funding are available for the deployment of EVs.

Reviewer 4:
For the CCET Project, the reviewer commented that the project addressed DOE petroleum reduction goals, as it connects to three major Texas cities with coordinated electric vehicle plans. The reviewer also commented that the project addresses identified barriers to more widespread EV/EVSE deployment in this region.

Regarding the Austin project, the reviewer commented that this project was relevant to the goals and objectives of Clean Cities, and addressed the barriers outlined in the presentation. The project covered a large geographic area within Texas.

Reviewer 5:
Regarding the Texas Triangle project, the reviewer commented that the project was designed to address multiple needs for PEVs, including data and information for consumers, costs, multi-unit dwellings, charging along corridors, and streamlining EVSE permitting.

Regarding the City of Austin project, the reviewer commented that the project was designed to prepare an EV readiness plan and address information for consumers, availability of vehicles, and technical information for technicians.

Reviewer 6:
The reviewer responded yes. The reviewer elaborated that although planning activities were not typically funded by DOE, that planning activities were incredibly important to the success of PEVs and the vehicle's ability to displace petroleum. PEVs require the coordination of a number of stakeholders in an area, and this project helped address some of the most important barriers to consumer adoption.

Reviewer 7:
The reviewer responded yes, and clarified that both plans supported the goal of petroleum displacement.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
Regarding the CCET Project, the reviewer commented that the project was funded adequately, and included a cost-share. Not all projects in this series included a cost-share, (and it was not a requirement), so the CCET inclusion of cost-share was a plus.

Regarding the Austin project, the reviewer commented that this project was funded adequately, and included a cost-share.

Reviewer 2:
The reviewer commented that resources were sufficient and appeared to be on track to use all of the funds to complete the project.

Reviewer 3:
Regarding the Texas Triangle project, the reviewer commented that resources appeared sufficient, particularly since efforts were nearly complete and the budget nearly spent.

Regarding the City of Austin project, the reviewer indicated that the project was nearly complete, but may have funds left.

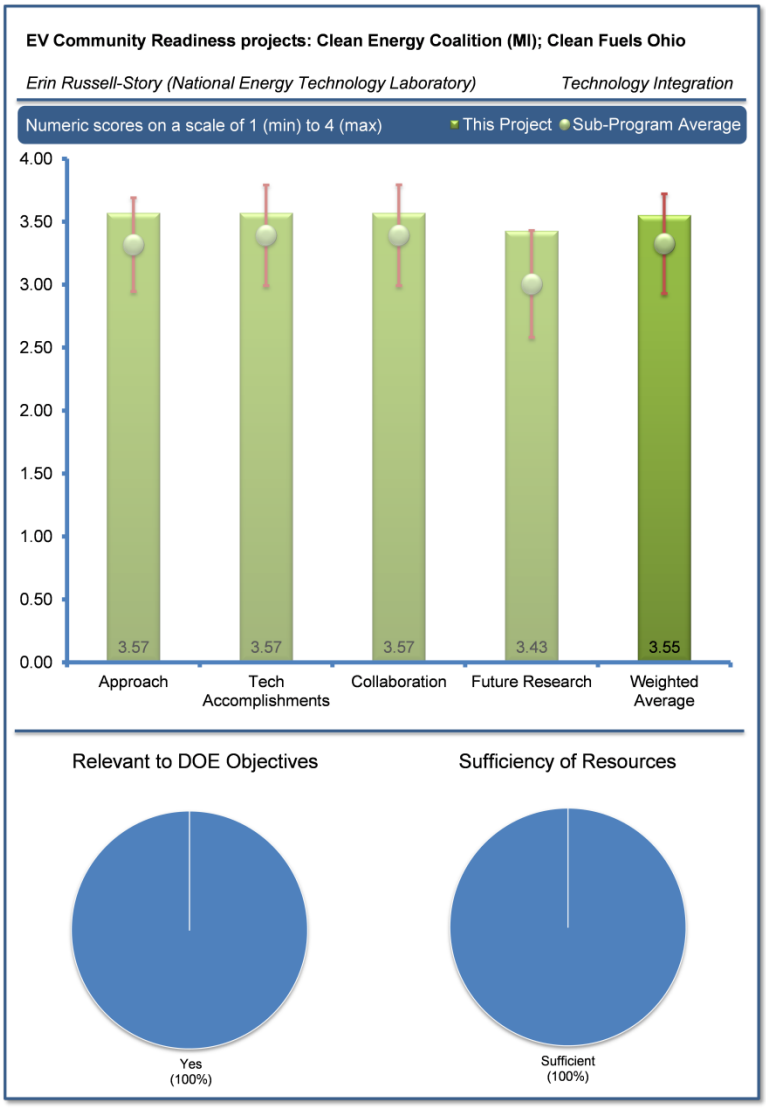
Reviewer 4:
The reviewer stated that it seemed that Austin was able to do much more; however, the City of Austin did have a larger budget. The reviewer suggested considering collaborative projects in areas that are close to leverage the resources.

Reviewer 5:
The reviewer commented that it appeared that the funds were used efficiently and effectively.

Reviewer 6:
The reviewer commented that Austin Energy still listed hundreds of thousands of dollars of project funds available to be spent, so it may have had more funds than needed, though the reviewer pointed out that the remaining funds may largely be cost-share funds.

The reviewer stated that there was insufficient money for CCET to succeed because installing infrastructure to support intercity travel of PEVs was not a cost-effective starting point, particularly since two of the three cities at the corners of the Texas Triangle were not committed to helping CCET [DOE Program Clarification: Please note that the purchase of vehicles and the installation of charging equipment were outside the scope of these Clean Cities community readiness projects. Although some communities may have chosen to implement those steps in parallel with these projects, no DOE funding was used to support the purchase or installation of vehicles or hardware.].

EV Community Readiness projects: Clean Energy Coalition (MI); Clean Fuels Ohio: Erin Russell-Story (National Energy Technology Laboratory) - ti032



Reviewer Sample Size

A total of seven reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

Regarding the Michigan project, the reviewers said that the strategy for achieving the goals of the project was appropriate. The team established project management practices in developing a stakeholder register early on in the process, and ensuring stakeholder involvement in the work. The reviewer indicated that it was good to see the project team's flexibility in adjusting to changing conditions (shift to direct stakeholder engagement from wiki push communications based on feedback). The team conducted a number of data collection activities to support their planning efforts; this was very important to ensure that plans would be based on the best information available. The reviewer believed that the model regulations and incentives were also valuable as it helped municipalities address this issue quickly, and made it more likely that PEV issues would be addressed. The team performed outreach to many of the right people, including the key municipalities in Michigan. The Team put their tools in the hands of those who were renovating existing buildings or constructing new buildings, to expand the PEV readiness to as many buildings as possible.

Regarding the Ohio project, the reviewer said that the project focused on three cities (Columbus, Cleveland, and Akron) along the state's Northeast/Southwest corridor. This included two of the largest cities in Ohio (Columbus and Cleveland) along a key travel corridor. The reviewer noted that planning efforts included a marketing strategy for collecting information for the plan, developing a brand identity for the planning efforts, and distributing the materials upon project completion; this sort of planned outreach would help ensure success for this effort.

Reviewer 2:

The reviewer stated that the approach used by the Clean Energy Coalition in Michigan to create a stakeholder database, perform research and data collection was instrumental in being able to successfully publish their readiness plan and to develop and implement model regulations and incentives.

The reviewer stated that the Clean Fuels Ohio project identified tasks of data collection, market analysis and modeling as well as the development of a strategy for updating building codes, permits and zoning information, and the development of a marketing strategy, which provided the required input for finalizing the project's Readiness Plan.

Both projects successfully completed the tasks to allow for a successful Plan to be finalized.

Reviewer 3:

Regarding Michigan, the reviewer remarked that the project framed a plan with research and stakeholder input, conducted one-on-one meetings, and shifted from Wiki to direct stakeholder meetings because it proved more effective. The project team was shopping the plan to key players in Michigan.

The reviewer stated that the Ohio project identified key areas of focus that addressed consumer concerns and technical engineering experience. Both projects are looking at state-wide implementation with roughly equal funding and excellent collaborations.

Reviewer 4:

The reviewer stated that the Michigan project was focused on developing a community plan, based upon research and stakeholder input. The project also focused on related outreach and development of implementation planning elements. The project included on-going activities to get the word out on the plan and to move stakeholders along on implementation, even after completion of the project. The reviewer indicated that the team was also trying to get the plan in the hands of builders/developers to incorporate necessary changes into new construction early.

Regarding the Ohio project, the reviewer stated that the project had a similar focus (to Michigan) on developing a community plan to assist implementation, including grid modeling, locating stations, local government input, consumer research and fleet studies, and ADA compliance/model design for siting. The project includes a specific emphasis on using the Drive Electric Ohio website as a key element of on-going outreach.

Reviewer 5:

The reviewer noted that this review covered two projects: Clean Energy Coalition (CEC): Plug-In Ready Michigan; and Clean Fuels Ohio: Charging Forward with Electric Vehicles in Ohio.

The reviewer commented that both of these projects were well-designed and executed, though it would have been good to have information on how stakeholders were identified. Specific comments on each project are below.

Regarding the Michigan project, the reviewer commented that the main objective of this work was to develop an electric vehicle preparedness plan for the State of Michigan. The plan was developed through a combination of research, data collection and stakeholder input. The approach included stakeholder workshops, outreach to municipalities, and collaborations with the industry. The reviewer noted that in addition to the community readiness plan, signage recommendations were made for the state of Michigan. The project was well-designed and executed and noted that a wide variety of stakeholders were engaged in the creation of the plan.

Regarding the Ohio project, the reviewer commented that the main objective of this work was to develop an electric vehicle preparedness plan for the state of Ohio. The work included detailed infrastructure studies, development of a marketing strategy, stakeholder outreach and other collaborations. The project targeted a specific corridor within the state of Ohio. The reviewer noted that while the rationale for limiting the readiness plan to a single corridor (rather than the entire state) was not articulated in the presentation, the approach to the project was in line with this objective. The reviewer summarized that throughout the course of the project, six large stakeholder meetings were held in the target cities (Cleveland and Columbus); the final plan and other information are posted on the Drive Electric Ohio website.

Reviewer 6:

The reviewer stated that technical barriers were addressed in both readiness plans. Michigan did a very good job at addressing EV signage and zoning issues.

Reviewer 7:

The reviewer stated that CECs Michigan plan benefitted from prior organization and development before obtaining project funding (Michigan Plug-in Electric Vehicle Task Force). The project had an excellent organizational structure, with well-selected topics and appropriate participants in each topic. The reviewer noted that in this case, though cost-share was not officially listed, the reality is that

DOE funds were able to extend and expand an on-going effort. The reviewer found that the presentation on Slide 7 was a very nice illustration of work flow and organization. CEC developed a very good strategy for serving the needs of the whole state, taking into account important differences in level of commitment and interest by different communities. The reviewer concluded that being able to have a project plan that scheduled early production of a PEV plan for dissemination during the project time frame was an excellent feature.

The reviewer found that the Ohio project plan was good, though not outstanding, indicating that Ohio was not as far along as Michigan. The reviewer concluded that the plan was sound, but compared to Michigan, some key steps (like plan completion) had to be scheduled for later.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer found that the Clean Fuel Ohio Project completed several milestones including EV research and studies, obtained stakeholder feedback and project outreach, which ultimately allowed the project to develop their final output of the Ohio EV Readiness Plan as well as the model permitting and code templates, and a consumer marketing strategy.

The reviewer commented that the Clean Energy Coalition in Michigan completed milestones of data gathering and obtained direct stakeholder feedback through project outreach efforts to help develop the final plan, Plug-in Ready Michigan: An Electric Vehicle Readiness Plan.

The reviewer concluded that both projects were very successful in preparing and publishing the required EV Readiness Plans.

Reviewer 2:

Regarding the Michigan project, the reviewer found that the team has developed a thorough and extensive plan with a toolkit that contains important resources that municipalities will be able to reuse. One useful addition this project has made to the EV planning community is characterizing levels of community enthusiasm/interest for being EV ready (particularly for planning and zoning), with specific tailored strategies to address these three types of interest levels in the toolkit plan. The reviewer noted that considerable data collection contributed to the plan development (including Pike Research forecast for PEV sales in Michigan). The reviewer found that signage recommendations would be useful. This reviewer further commented that it was good to see a sign reserving charging spots for EV use only, with potential for citation for violators. The reviewer also noted a well-done and easy to locate web page for the plan resources, media releases, and videos.

Regarding the Ohio project, the reviewer complimented several accomplishments were notable in this project. Ohio State completed grid modeling for PEVs (optimizing the location of EVSE in the Columbus metro area). The reviewer noted that the University of Akron completed a study of PEV demand in the Cleveland/Akron area relative to consumer behavior and purchasing habits: this included estimating PEV demand in the region, and developing a methodology for locating DC fast chargers based on travel time, grid readiness, and vehicle distributions. The reviewer noted that a document on ADA compliance was also developed (this can be a useful resource beyond this project area). Model zoning and building codes were also developed and templates included in the final plan. The reviewer also noted that an extensive planning document with appendices was the final result of this work. Information will go on a dedicated website, which will serve as the key distribution point for information.

Reviewer 3:

The reviewer commented that Michigan produced case studies as part of its plan and provided tool kits. Notably, Michigan also created recommended signage and a three-tiered approach to planning and zoning language. The reviewer strongly emphasized that the ideas were excellent. The reviewer observed that Ohio looked at a corridor approach for its plan, which addressed marketing strategies, policy, and education. The reviewer found that both have very good plans but Michigan showed more innovation to their approach. However, Ohio presented well on addressing permitting and code issues.

Reviewer 4:

Regarding the Michigan project, the reviewer commented that the project completed all planned activities, even including quarterly working group meetings. The team also held numerous meetings with local governments to assist with continuing implementation. The reviewer found that the readiness plan was the primary accomplishment, an item that would be used extensively moving forward. The plan as completed provided a clear focus on addressing the existing process and solutions for planning and zoning issues.

Regarding the Ohio project, the reviewer found that the project completed all activities to date, including the readiness plan to form the basis for future implementation. Ohio completed a significant amount of research and studies, held six large stakeholder meetings, and conducted a number of other outreach efforts.

Reviewer 5:

The reviewer detailed that Michigan regards their toolkit as the heart of the project. The project's desire was to get the toolkit in the hands of those institutions and organizations that can make good use of it. Michigan's plan was completed earlier than other projects, put on the web, and had a record of 173 downloads in 2 months. The reviewer complimented that given that it was not intended as consumer information, but for institutions doing all of the necessary work to enable PEVs, that the result was impressive. The reviewer also complimented the fact that Michigan could get the plan done early enough to provide a report on its downloads was a notable accomplishment.

The reviewer stated that although Ohio's project is nominally a corridor plan for Columbus, Cleveland and Akron, multiple products were of statewide interest and value (EPRI's fast charge siting study, the consumer survey). In contrast to Michigan, where a plan was complete in November, Ohio stated that the plan was done in March and that there were plans for a website, but that none had been implemented yet.

The reviewer concluded that based on the presentation, both studies were productive in generating publications and presentations and both were very effective in linking to the broad range of stakeholder groups necessary to support PEV market introduction. OEMs, EVSE suppliers, utilities, governments, NGOs, Clean Cities programs, and planning organizations were study collaborators.

Reviewer 6:

The reviewer commented that both plans indicate that the technical accomplishments outlined in the plans demonstrated progress towards DOE goals and provided a solid foundation for implementation activities to begin.

Reviewer 7:

The reviewer detailed that both of the projects have been completed, and that the completed EV readiness plans have been released to the public.

Regarding the Michigan project, the reviewer noted that this project had a clear deliverable and implementation plan. The final plan has been completed and submitted to DOE and posted on the CEC website. The plan has been downloaded 173 times since March 2013.

Regarding the Ohio project, the reviewer noted that the final plan for this project had been completed, but there was less clarity on other activities.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:

The reviewer commented that the Michigan project team worked with 40 partners in this activity (i.e., all of the Clean Cities Coalitions in Michigan, key local governments (Detroit, Ann Arbor, Dearborn, Warren, and others), many institutions (University of Michigan Transportation Research Institute [UMTRI], Michigan Public Service Commission [(PSC], and all three Detroit OEMs). The reviewer concluded that this represented a good list of collaborators who have a stake in implementing EVSE projects in Michigan.

The reviewer commented that the Ohio project's collaborators included several Ohio universities, all major Ohio utilities, and the industry (OEMs, EVSE providers). Collaboration with important state agencies was a positive aspect of this project, as was the collaboration with local governments. The project team gathered stakeholder feedback through six meetings. The reviewer noted a good use of partner expertise to complete focused tasking (e.g., universities for modeling and analysis, communication firm for market strategy).

Reviewer 2:

The reviewer commented that the collaboration and coordination of both projects had a very complete list of Clean Cities coalitions, other agencies and institutions, utilities, local governments and industry partners that were involved in the effort.

Reviewer 3:

The reviewer noted that the Michigan project worked with as many as 40 organizational partners. The project had clear efforts to focus on local government decision-makers in particular. Participants included a number of industry members (vehicle manufacturers, EVSE, utilities), governments, Clean Cities coalitions, and others.

Regarding the Ohio project, the reviewer noted that the project worked with a large list of organizations, including utilities, local governments, industry partners, and others. Stakeholder input was critical to development of the plan, and was obtained through numerous meetings.

Reviewer 4:

The reviewer commented that both the Michigan and Ohio projects have collaborated with a broad range of other institutions including Clean Cities coalitions, municipalities, utilities, and industry (including OEMs).

Reviewer 5:

The reviewer stated that both studies were very effective in linking to the broad range of stakeholder groups necessary to support PEV market introduction. OEMs, EVSE suppliers, utilities, governments, NGOs, Clean Cities programs, and planning organizations were study collaborators.

Reviewer 6:

The reviewer commented that both project had invited many key partners but it would be useful to talk to the USGBC (LEED rating system) and ENERGY STAR representatives.

Reviewer 7:

The reviewer found that collaboration was good on both projects. However, according to the reviewer it would have been beneficial to include representatives from the respective State DOTs to participate in the working groups.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

The reviewer noted that both the Michigan and Ohio projects received follow on funding from DOE to implement EV initiatives in the community. The projects will be able to utilize the plans developed in this current project.

Reviewer 2:

Regarding the Michigan project, the reviewer noted that the project was complete, though the team was continuing some implementation steps. Michigan received a follow-on award from Clean Cities, though those efforts were not under this project.

Regarding the Ohio project, the reviewer noted that the project was complete. The team will continue efforts to conduct outreach, including workshops, and received a follow-on award from Clean Cities for implementation.

Reviewer 3:
Regarding the Michigan project, the reviewer commented that current work was completed, so no future work was planned under this funding. The team received a follow-on project in the 2012 Clean Cities alternative fuel market project awards.

Regarding the Ohio project, the reviewer commented that the outlined future work was reasonable given the budget remaining as of the publication date of the presentation. Statewide local government workshops should be useful in reaching key implementers for this initiative. The team received a follow-on project from the 2012 Clean Cities market project awards.

Reviewer 4:
The reviewer commented that both the Michigan and Ohio plans were completed and portions of their plans are being implemented under a new award.

The reviewer remarked that the Michigan project is complete as of November 2012. The proposed future work included building on completed effort through the Michigan Fuel Forward Program.

The reviewer noted that the Ohio project was complete as of March 2013. The proposed future work included maintaining the Drive Ohio website and conducting local government workshops. The planned workshops would clearly build on completed work.

Reviewer 5:
The reviewer commented that both projects developed good plans that could be used to solicit additional funding partners to execute implementation steps. Both have new funding to continue work on alternative fuels readiness.

Reviewer 6:
The reviewer remarked that most of the planning had been completed; therefore the only task left was to be able to present it to decision-makers at the local level for implementation.

Reviewer 7:
The reviewer encouraged Ohio in its next steps or implementation to pursue the corridor perspective of this project by gathering information/data on EV usage and travel patterns for the corridor between Columbus and Cleveland.

The reviewer commented that the readiness plan for Michigan provided a foundation for the statewide deployment of EVs and associated infrastructure. The reviewer encouraged the project to continue outreach and education activities as actual deployment takes place throughout the state.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:
The reviewer remarked that the projects fully supported petroleum displacement, and what was really nice about electric vehicle projects were that the projects supported more than one area of sustainability. It addressed vehicles and buildings.

Reviewer 2:
The reviewer commented that the development of an EV Community Readiness Plan definitely supported the overall objective of DOE to promote petroleum displacement. By having a plan ready, the community would be poised to implement the use of EVs when future projects and funding were available for the deployment of EVs.

Reviewer 3:
The reviewer commented that the Michigan project was relevant to VTO deployment goals and would reduce barriers to electric drive deployment.

The reviewer found that the Ohio project is relevant to achieving VTO deployment goals and removing barriers identified in the presentation.

Reviewer 4:
The reviewer commented that the Michigan project was designed to address the availability of information on plug-in vehicles, as well as to develop technical experience with new vehicle technologies.

The reviewer found that the Ohio project had the same objectives as the Michigan project.

Reviewer 5:
The reviewer commented that both of these projects indirectly supported the DOE objectives of petroleum displacement through creating community readiness plans for EVs. The adoption of EVs in these states would lead to displacement of internal combustion engine vehicles that run on petroleum.

The reviewer also noted that for the Michigan project, the EV readiness plan has already been downloaded 173 times as of March 2013.

Reviewer 6:
The reviewer noted that electricity uses essentially no oil, so selling kWh to provide transportation services meets DOE objectives.

Reviewer 7:
The reviewer agreed that both projects supported DOE's petroleum displacement goal.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
Regarding the Michigan project, resources provided for the project were adequate to meet project needs.

Regarding the Ohio project, resources provided were adequate to meet project needs: commitment of cost-share (not required) was a positive contribution to the project.

Reviewer 2:
The reviewer commented that both budgets were about the same and the plans appeared to be well-thought out.

Reviewer 3:
The reviewer found that funding levels on both projects were sufficient and will be all costed by the completion of the efforts.

Reviewer 4:
The reviewer found that it appeared that funds were used in an efficient and effective manner.

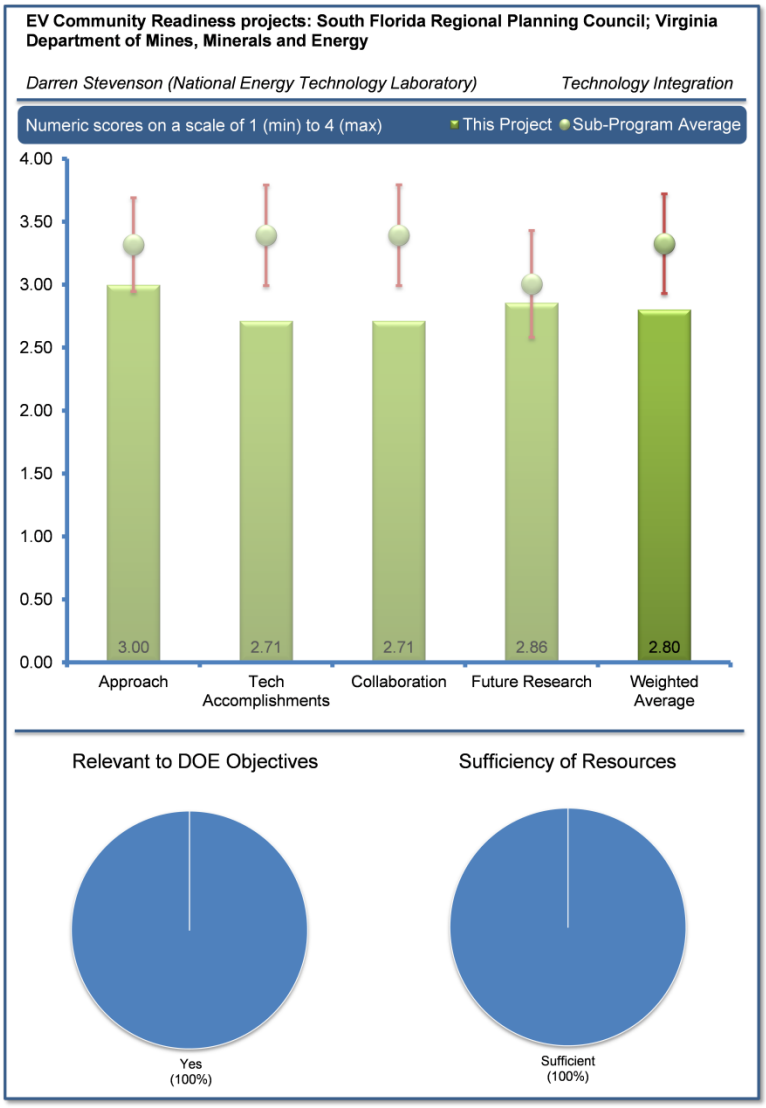
Reviewer 5:
The reviewer commented that the projects were complete.

Reviewer 6:
The reviewer commented that Michigan's accomplishments were timely.

Reviewer 7:
The reviewer remarked that the Michigan project was complete, with about 5% of funds left, so resources seemed sufficient.

The reviewer concluded that the Ohio project was complete, with as much as 25% of funds left (as of March), so resources seemed sufficient. The reviewer expressed concern as to whether all the funding would be spent, though due to the cost-share, it is possible that the funds remaining will be the non-DOE funds [DOE Program Clarification: It is important to note that final invoicing had not taken place at the time this presentation was submitted.].

EV Community Readiness projects: South Florida Regional Planning Council; Virginia Department of Mines, Minerals and Energy: Darren Stevenson (National Energy Technology Laboratory) - ti033



Reviewer Sample Size

A total of seven reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer found that both projects provided a solid foundation for EV deployment activities in Southeast Florida and Richmond. The reviewer found that technical barriers were addressed in both plans. The reviewer really liked the Southeast Florida plan because it combined a plan for the Southeastern part of the state and a specific corridor.

Reviewer 2:

The reviewer commented that the Richmond Electric Vehicle Initiative (REVi) developed a successful four-phase program to gather information in support of the development of their Electric Vehicle Readiness Plan. A major component of the work that was done in this effort was related to public outreach, including creating an electric vehicle information hotline, developing marketing material, and educating the stakeholders and public. The reviewer found that these activities were important to the success of an EV program.

The reviewer detailed that a comprehensive approach was developed by the Drive Electric Florida project. The seven tasks outlined in the effort provided an excellent basis to develop the final output of the REVi Readiness Plan and the development of a U.S. Route 1 Clean Transportation Corridor Project.

The reviewer concluded that both plans identified and addressed the barriers to the EVs in their communities.

Reviewer 3:

Regarding the Florida project, the reviewer commented that the emphasis of the project was to develop a community readiness plan, as well as to develop a specific mass transit corridor plan. A key focus was to work with fleets on EV adoption and infrastructure siting. The reviewer commented that the project also addressed codes/permitting/policies. In particular, the team attempted to take advantage of their natural advantages for the project, such as large numbers of tourists, in order to expose a greater population to EV technologies (such as through rental car companies and mass transit). The reviewer noted that the Florida climate was considered by many to be favorable for EVs, so projections under the project were for significant potential for market penetrations.

The reviewer commented that the Virginia project was focused on planning and implementation, with a significant emphasis on outreach. The team worked to develop siting and ADA guides.

Reviewer 4:

Regarding the Florida project, the reviewer commented that the overall strategy in the statement of project objectives was reasonable. The project team was addressing fleet users (PI noted that the team conducted a survey of about 200 fleets and 20 responded, with 11 being interested in exploring EVs for their fleets). Codes and permitting are addressed as well; these were particularly important. The reviewer noted that as with other projects in this series, the team performed an analysis of the local EV landscape, but this strategy included a scorecard of the number of EVs in each area for now and the future (seemed to be a unique aspect of this project). The reviewer found that the project was also setting the groundwork for a future U.S. Route 1 EV demonstration project, which is useful.

Regarding Virginia, the reviewer commented that this project focused only on the Richmond area of Virginia. The strategy outlined in the presentation appeared logical, and addressed the basic needs of an EV/EVSE plan, including materials for charging station site design (a useful addition). The reviewer noted that the formal conference to share the plan results is a good idea for disseminating project information.

Reviewer 5:

The reviewer noted that this review covered two projects: Florida Gold Coast Sustainable Community planning for EV and Charging Infrastructure; and REVi.

Regarding the Florida project, the reviewer commented that the project's objective was to create a community-based electric vehicle infrastructure readiness plan. The two-part plan included a plan for Southeastern Florida and a future demonstration project along U.S. Route 1 mass transit corridor in Miami-Dade County. The reviewer noted that the approach included outreach to fleet managers, a review of local government codes and permitting, and an infrastructure selection and siting analysis. Recommendations were made for updates to local government regulations. The project drew upon an existing network of stakeholders and included plans for outreach and education.

Regarding REVi, the reviewer noted that the project's objective was to develop an EV readiness plan for the city of Richmond, Virginia. The reviewer noted that this project targeted a much smaller geographic area than some of the other projects funded under the same solicitation.

Reviewer 6:

Regarding the Florida Gold Coast Community Planning, the reviewer remarked that the project was 100% complete, with $18,000 left to be spent on outreach. The main partners included Florida Power and Light (FPL), Hertz, and CALSTART.

Regarding the REVi, the reviewer commented that the project was 90% complete. The reviewer noted a total plan and recommendation that was available on both the Richmond and Clean Cities websites. The reviewer also noted $70,000 was left for the project to draw down. The project team could continue work until June 30 and have 90 days from then to draw funds.

The reviewer commented that both projects would pursue additional funding for implementation. Richmond was selected as a roll-out for the Ford Focus.

The reviewer concluded that both have generated interest from wide variety of partners but may also benefit from reaching out to the USGBC for LEED rating and ENERGY STAR for inclusion and incentives in the energy use guide.

Reviewer 7:

The reviewer noted that the two projects were disparate in location, separated by several states. The Florida project was very unique with respect to its focus on a high density of multi-family high rise buildings on a corridor close to an ocean bay. The reviewer commented that the project did not integrate well with other efforts. The only comparable location might be Honolulu. The reviewer commented that the Virginia project focused on only one metro area. There was limited evidence of a desire to make the work applicable to other areas in the state. The reviewer remarked that both were good in the sense that utilities were partners from the start.

The reviewer noted that one OEM and one major rental fleet was a partner at the start in the Florida project, while Richmond did not have either. The reviewer concluded that neither project had EVSE or EVSE installers involved as initial partners.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:

The reviewer found that the Drive Electric Florida project successfully completed a variety of milestones over the duration of the project. The data gathering and project outreach in year one provided necessary information to help with the development of their plan. The reviewer determined that the eight fact sheets and the Fleet Manual Toolkit in addition to two published volumes of the Getting Southeast Florida Plug-in Ready were very good accomplishments.

The reviewer remarked that in addition to the REVi Readiness Plan that was completed in this project, the effort specifically included planning zoning and development guidelines, information regarding sitting electric vehicle charging stations, signage guidelines and policy recommendations.

The reviewer concluded that both projects included new construction, workplace and housing requirements for electric charging through building codes, which was a very important issue.

Reviewer 2:

Regarding the Florida project, the reviewer noted that this project employed a five-phase approach to the completion of an EV readiness plan. The final deliverable was a two-volume plan covering: the summary of recommendations and strategies for southeast Florida; and the U.S. Route1 corridor project. Numerous fact sheets were developed in addition to the plan, which will help magnify the impact of the project. Other deliverables included a template for model zoning code and a fleet manual toolkit. The project was more than 90% complete as of the date of the review.

Regarding REVi, the reviewer commented that this project was more than 90% complete as of the date of the review. The project included planning, zoning and development guidelines. The reviewer noted that the PI worked with partners to develop signage guidelines. In addition to the plan, the project employed a variety of other outreach tools (e.g., website video, outreach at vehicle shows, and news articles). The reviewer complimented that the effort to get information into the public domain was a strength of the project.

Reviewer 3:

For the Florida project, the reviewer described that the project's plan is for future demonstration along the U.S. Route 1 mass transit corridor in Miami-Dade County.

The reviewer detailed that the approach is to promote fleets' EV adoption. The project surveyed 200 fleets with only 20 respondents. The project team needs to continue to reach out to fleets. The project reviewed local government codes and made recommendations. The reviewer detailed that the project identified opportunities for smart grids, and the total plan is in two volumes. First is the recommendations and strategies for the area. The reviewer noted that Volume Two looks closer at the U.S. Route 1 corridor project, which has a high tourist traffic and local population. The reviewer detailed that by the year 2022, can have 200,000 EVs on the road. The project prepared fact sheets to hand out (myths and facts, siting PEV charging, etc.) and prepared a template for model zoning code and a fleet manual toolkit. The reviewer noted that the project is also working with a rental car company.

Regarding the Richmond project, the reviewer detailed that the project convened an advisory board and workgroup to integrate EV policy and incentives, and to advise state and local governments.

The reviewer found that both projects have done an outstanding job in identifying approaches that would yield the highest success for each given region. The reviewer noted that Virginia has also addressed charging for people with disabilities. This could be useful to other planners in other regions as well.

Reviewer 4:

Regarding the Florida project, the reviewer noted that the team appears to have completed all planned activities, including the report (plan) at the end of March 2013. The report included recommendations (Volume One) and corridor planning (Volume Two). The reviewer noted that recommendations specifically included policy changes, including zoning/permitting, government procurement, and others. The reviewer noted that the project also developed key outreach materials to influence consumers and decision-makers, including assembling a fleet manual toolkit (including standard Clean Cities materials plus fact sheets developed for this project).

Regarding the Virginia project, the reviewer commented that the team appears to have completed all planned activities. In particular, the team developed key technical documents to assist in installing/siting EVSE. The project also conducted numerous outreach activities, as well as development of policy recommendations.

Reviewer 5:

The reviewer found that the development of fact sheets for the Southeast Florida project was very effective and helped communicate the information to stakeholders and the public.

The reviewer found that the Business Case Forum related to the Richmond project was a very innovative way to convince potential EV buyers that it made economic sense to own/lease an EV.

Reviewer 6:

Regarding the Florida project, the reviewer noted that a two-volume plan was developed: Volume One included both statewide recommendations and regional discussion for Southeast Florida. The Southeast Florida discussion included good infographics and maps, along with forecasts of PEV implementation. The reviewer noted that these infographic resources were repeated for each county in the region as well. The reviewer commented that among the useful information collected as part of the planning efforts is that Florida residents typically travel less than 40 miles/day, which is good for PEVs. A series of fact sheets (two to four pages) are also available to the public: these address important issues related to PEV deployment (such as EV myths, EV readiness for multi-unit dwellings, workplace charging). The reviewer found that the project team also described a specific fleet toolkit and further opined that this is good for addressing fleet concerns about EVs. The reviewer commented that the U.S. Route1 corridor plan is a positive aspect of this proposal and that it outlines specific activities to develop an electric vehicle car-sharing system near mass transit.

Regarding the Virginia project, the reviewer cautioned that based on funding used as of March 1, the project appeared to be somewhat behind in the completion of tasks. The project team's meeting about business case for EVSE included the Mayor of Richmond, who participated in the ceremony for the first official plug-in of a downtown station. The reviewer commented that the outreach appeared to be a major part of this project. The reviewer detailed that the project also addressed electric vehicle charging station siting and EV charging for persons with disabilities (both in collaboration with Clean Fuels Ohio's EV project), and that these would be useful shared documents.

Reviewer 7:

The reviewer commented that a major goal of the Florida project was to engage up to seven fleets. One fleet was listed as a partner at the beginning, but in the collaborations slide, that no fleets were mentioned. The reviewer pointed out that no fleet installations were highlighted in the presentation. The reviewer commented that for a project that intended to focus on fleets, the consumer survey information in the presentation was misplaced because it characterized individuals and households rather than fleets owned by businesses. In the presentation it was stated that fleets had been surveyed and some had responded. The reviewer commented that unfortunately, none were described as collaborators. Similarly, there was no mention of collaboration with either developers or operators of any multi-family apartment or condo complexes.

The reviewer commented that according to the presentation, Richmond similarly did not appear to have engaged enough stakeholders. However, the plan did provide a long list of partners that was suitably diverse. The reviewer stated that the plan was relatively short with considerably less detail per dollar of expenditure than many other projects. The reviewer noted that it appeared that the project

manager was not familiar with PEVs at the outset and had to attend functions at locations outside Richmond in order to learn and obtain information.

The reviewer noted that the plan was brief, and it covered desirable topics. The reviewer found that it might merit a good rating if it had listed many web links to sources that would assist communities, EVSE installers, code designers, architects PEV purchase intenders and so forth. However, it did not do so. The reviewer observed that Ford did choose to release its first Focus electric in Richmond, according to the presentation. The reviewer complimented that the subcontract on ADA compliance and needs of disabled persons is to be commended, and is a good contribution to the state of knowledge. The reviewer noted that it was unfortunate that the presentation did not list Richmond's collaboration with Clean Fuels Ohio and NYSERDA on the two charge point facility design documents. The Richmond plan did dig further into spatial detail than other projects concerning the probable evolution of the Richmond metro area, including an examination of the most probable locations for charge point installations in new growth areas, where it is much less expensive to install charge points (compared to retrofits).

The reviewer observed that the Florida plan was considerably more lengthy and detailed than the Richmond plan. It does include a much more extensive use of web links, so it has greater potential to lead readers in the right direction regarding specifics. The reviewer explained that whereas other projects include survey results, the absence of a discussion or presentation of the fleet survey results and implications was unfortunate. While seven counties are listed as collaborators, it seemed inappropriate that a corridor plan for a short segment of highway in only one of the seven counties was a highlight of the plan. The reviewer cautioned that if this corridor plan does end up as a failure (too early to draw that conclusion), the finding may be a significant contribution in a negative sense, by illustrating that this was not a good strategy for introducing PEVs.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:

The reviewer noted that the Drive Electric Florida project has a very comprehensive list of collaborators, including Clean Cities Coalitions and other state and local government agencies.

The reviewer commented that the Richmond Electric Vehicle Initiative is collaborating with a variety of state and local governments as well the local Clean Cities coalition and over 50 additional institutions.

Reviewer 2:

Regarding the Florida project, the reviewer noted that partners primarily included utilities, a rental car company, an automaker, and local governments.

Regarding the Virginia project, the reviewer noted that primary partners included a utility, a university, and local planning organizations. Overall, the project included over 50 collaborators.

Reviewer 3:

The reviewer noted that the Florida project is working with rental car companies, utilities, and fleets.

Regarding the Richmond project, the reviewer noted that the project partnered with the Richmond Mayor, and local Michael Phillips (Virginia Clean Cities) to promote EVs. Outreach is a big part of the work in addition to developing zoning guidelines. The reviewer also noted EV charging for people with disabilities handbook.

The reviewer found that both projects had very good partners, but the reviewer recommended that the projects work with buildings to ensure the correct education, rating system, and incentives were in place. This could be part of the education and outreach but has to start through collaboration.

Reviewer 4:

The reviewer commented that the Florida plan had district DOTs and MPO involved in the project, but would have benefited from having a state DOT representative as well.

The reviewer noted that the Richmond plan had the MPO involved, but could have also benefited from having a representative from the state DOT.

The reviewer complimented that the Richmond project did an excellent job of attracting interest from local politicians and the media.

Reviewer 5:

Regarding the Florida project, the reviewer found that partners and collaborators were adequate, and included a rental car company (very pertinent given the large tourism industry in South Florida). The local utility worked closely with the coalition to administer the project. The reviewer noted that the collaborators included many local municipalities in South Florida, but not many private organizations or state agencies (with the exception of DOT). Project collaborators also included the Central Florida Clean Cities Coalition.

The reviewer found that the Virginia project partners included the Department of Mines, Minerals and Energy (DMME), the local electric utility, several local governments (covering the major cities and counties in the region), and a local community college – reasonable partners for this effort. The reviewer noted that the collaboration list was a bit sparse on private companies (at least as listed in the presentation).

Reviewer 6:

Regarding the Florida project, the reviewer noted that the project included collaboration with Clean Cities coalitions, Florida DOT, and local governments and agencies. The reviewer voiced uncertainty about the degree of collaboration with listed partners, including OEMs.

Regarding REVi, the reviewer commented that the project includes collaborations with a broad range of other institutions including Clean Cities coalitions, municipalities, utilities, and other institutions. The reviewer noted that the project did not seem to have included OEMs in the project, but did include a major utility (Dominion Virginia Power).

Reviewer 7:

The reviewer commented that these two projects show little productive collaboration with industry partners, universities, or laboratories.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:

The reviewer commented that although these projects did not receive any follow-on funding from DOE to implement EVs, both projects still had plans to do future work. It is a very positive sign from both communities that these projects will still have activities in this area even without additional funding.

Reviewer 2:

Regarding the Florida project, the reviewer noted that the project is nearly complete. The team will continue activities through its Clean Cities efforts, and look for additional funding.

Regarding the Virginia project, the reviewer noted that the project is nearly complete. The team is planning to continue implementation, even though it received no follow-on award from Clean Cities. The project is planning to continue through its normal Clean Cities activities.

Reviewer 3:

The reviewer found that both of these projects are near completion. Proposed future work is an appropriate build on to existing activities.

Regarding the Florida project, the reviewer commented that the future work proposed includes continued collaboration with Clean Cities coalitions and implementation of the U.S. Route 1 corridor master plan.

Reviewer 4:

The reviewer commented that both projects were the right to get things rolling toward implementation. The reviewer suggested boosting incentive programs a little more (see previous comment).

Reviewer 5:

The reviewer encouraged Southeast Florida to pursue the U.S. Route 1 Clean Transportation Corridor deployment approach if future funding is secured. Also, the reviewer encouraged research on smart grid and solar deployment opportunities.

The reviewer encouraged Richmond to collaborate with the I-95 Corridor coalition to expand EV charging infrastructure to the Interstate.

Reviewer 6:

The reviewer commented that the Florida project's proposed future research is appropriate, but did not seem to match the considerable funding remaining (25% remaining as of March). The reviewer pointed out that the U.S. Route 1 corridor project implementation will depend on additional funding, which is being sought but has not been secured as yet.

Regarding the Virginia project, the reviewer noted that future work to complete the project is appropriate and noted a focus on outreach and implementation. The reviewer commented that the Team is seeking other sources of funding, but nothing has been located yet.

Reviewer 7:

The reviewer commented that in the case of Richmond, the pathway problem is that production was too slow and too much remained to be done on codes and standards, working with the state and localities. This is recognized, but the reviewer cautioned that the project may not have the time to do it effectively. Working on signage also seemed reasonable.

The reviewer commented that in the case of South Florida, the same needs as in Richmond appeared to exist. However, there may not be an alternate pathway to promotion of PEV ownership in the region, given the strong need to find fleet and multi-family stakeholders and partners willing to commit to PEVs. The reviewer stated that this seemed to be a dead end, perhaps because this was not a financially viable location to promote PEVs. The project leader had pointed out that the share of PEV sales in Florida as a whole was relatively high on a percentage basis, but was is no comparison in the presentation of PEV success rates in this region relative to the rest of Florida, and no discussion of why. The reviewer commented that the image chosen for the plan cover was ironic – a speeding car on a limited access highway with trees beside the highway. The reviewer indicated that the plan was full of will do statements rather than have done examples and lessons.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:

The reviewer found that both projects supported the DOE goal of petroleum displacement.

Reviewer 2:

The reviewer commented that these projects lead to petroleum displacement and can be coupled with energy use for buildings. Because electricity can come from renewable sources such as wind and solar these projects have long-term potential and were highly sustainable.

Reviewer 3:

The reviewer commented that the development of an EV Readiness Plan definitely supported the overall objective of DOE to promote petroleum displacement. By having a plan ready, the community would be ready to implement the use of EVs when future projects and funding are available for deployments of EVs.

Reviewer 4:
The reviewer stated that the Florida project is relevant to the Clean Cities petroleum displacement goals and barriers identified within the presentation.

The reviewer stated that the Virginia project addresses Clean Cities goals and barriers related to petroleum displacement and electric vehicle technologies.

Reviewer 5:
The reviewer commented that the Florida project is addressing plug-in vehicle availability, information, and technical experience.

Regarding the Virginia project, the reviewer stated the project addressed the same goals as Florida.

Reviewer 6:
The reviewer remarked that electricity does not use oil.

Reviewer 7:
The reviewer commented that both of these projects indirectly supported the DOE objectives of petroleum displacement through creating community readiness plans for EVs. The adoption of EVs in these states would lead to displacement of internal combustion engine vehicles that run on petroleum.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer found that resources were enough to produce quality work that would yield results.

Reviewer 2:
Regarding the Florida project, the reviewer commented that resources appeared adequate to complete the work outlined for the project.

Regarding the Virginia project, the reviewer remarked that resources appeared adequate to complete the statement of work; the cost-share contribution was a positive for this project.

Reviewer 3:
The reviewer remarked that both projects seemed to have sufficient funding and although the projects had not spent all of their funding to date, by the end of the project the projects anticipated all funds would be spent.

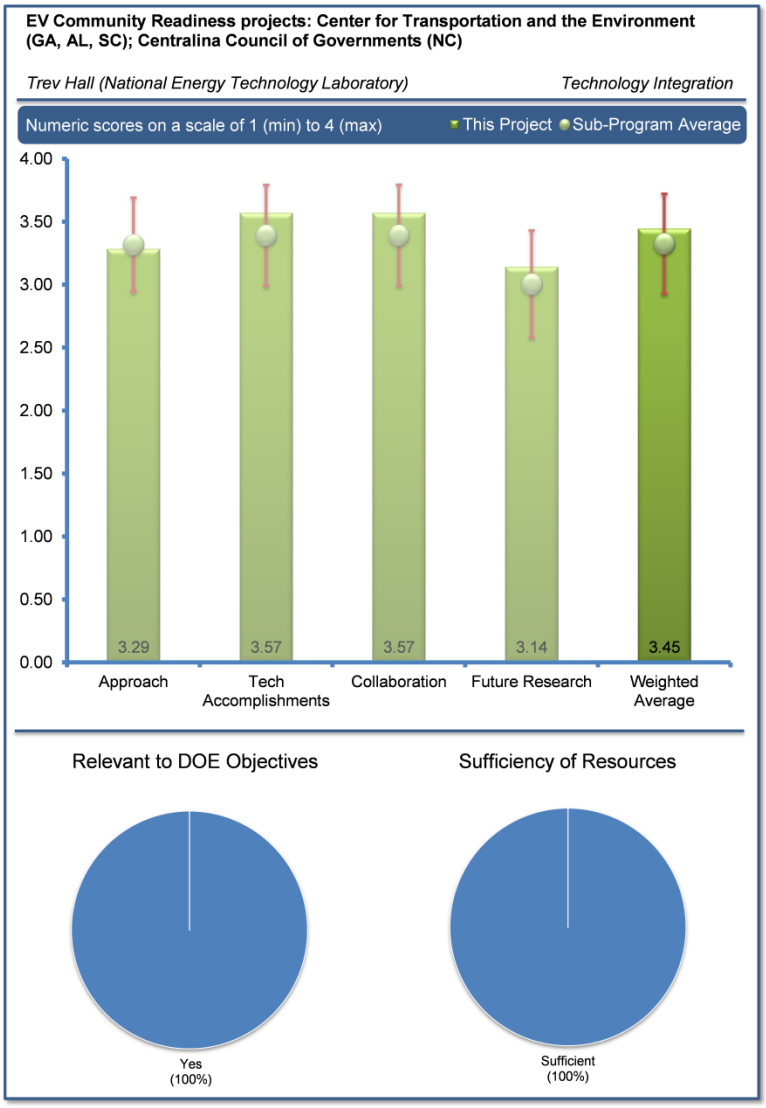
Reviewer 4:
The reviewer commented that the Florida project was nearly complete, with nearly all funding spent, so resources appeared sufficient.

The reviewer remarked that the Virginia project was nearly complete with 80% spent, so resources appeared sufficient (but there were concerns on all DOE funds getting spent by the end).

Reviewer 5:
The reviewer commented that it appeared that funding was sufficient and was used efficiently and effectively.

Reviewer 6:
Regarding REVi, the reviewer remarked that this project was 90% complete as of the review date, but had only drawn down 50-60% of available funds. The reviewer noted that this may have been indicative of delayed invoicing or that resources were excessive for the work completed [DOE Program Clarification: It is important to note that final invoicing had not taken place at the time this presentation was submitted.].

EV Community Readiness projects: Center for Transportation and the Environment (GA, AL, SC); Centralina Council of Governments (NC): Trev Hall (National Energy Technology Laboratory) - ti034



Reviewer Sample Size

A total of seven reviewers evaluated this project.

Question 1: Approach to performing the work – the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

Regarding the Center for Transportation and the Environment (CTE) project, the reviewer noted that the project covered three states (i.e., South Carolina, Georgia, and Alabama). There was appropriate focus on stakeholder awareness through workshops and outreach efforts. The reviewer commented that conferences, legislative updates, and pilot program outreach were key stakeholder interactions. EV demographic analysis with demand forecast, demand analysis, and EVSE/geographic information system (GIS) analysis assisted with planning efforts. The reviewer found that it was valuable to include grid impacts and smart grid in the analysis efforts. Pilot implementation of plans was good (i.e., test plans, see how well they work, and gather feedback to improve final products). The reviewer commented that the communications plan and templates were included in planning efforts, which is important in a multi-state project. The reviewer noted that the team conducted a prioritization of outreach activities because of a large number of participants.

For the North Carolina statewide project, the reviewer observed a good use of DOE funds to cover a broad area, and a very detailed and organized list of barriers to PEV readiness, identified through a symposium with stakeholders (good way to collect a comprehensive list of barriers to address at start of project). The reviewer noted the project recruited community stakeholders – get local perspective and participation in implementation efforts. The community planning matrix that was customized to specific community needs was good, and also focused the task force on topics of most relevance. The reviewer commented that an EV driver cannot do the mountains to sea trip right now, but the state was working on it. This reviewer pointed out that there are 540 miles between mountains and sea across the state.

Reviewer 2:

The reviewer indicated that the Southeast Regional program developed a five-phase approach with a variety of tasks to obtain information to allow the project to develop their readiness plan. EV demand and impact analysis and analysis of deployment barriers were an essential part of the approach in this project. The reviewer identified that stakeholder workshops were another very important part of the approach to developing the readiness plan.

The reviewer remarked that the North Carolina PEV readiness initiative's approach was a very well-planned effort. The effort included recruiting and coordinating stakeholder meeting and developing a North Carolina taskforce. The reviewer added that the information gathered from the outreach activities helped in the finalizing of the required output.

Reviewer 3:

The reviewer found that both study plans were appropriate for their respective region when considering the level of enthusiasm for and knowledge about PEV implementation in the Southeast. The reviewer noted that CTE's focus was more on the early development of knowledge and enthusiasm for state level planning, while Centralina was able to focus on three regions and the government and business organizations serving those regions, which represented 60% of the North Carolina population. The reviewer remarked that CTE was more top-down covering a wider region, while Centralina was middle-up (to the state level) and down (to the consumer).

Reviewer 4:

The reviewer commented that both plans addressed technical barriers and appeared to provide the necessary information/foundation for actual deployment activities in North Carolina and the Southeast. Both projects seemed to be well-defined and feasible for implementation.

Reviewer 5:

The reviewer noted that this review covered two projects: the Southeast EV readiness planning program; and the North Carolina PEV Readiness Initiative: Plugging in from Mountains to Sea.

Regarding the Southeast project, the reviewer commented that the project implemented a five-phase approach that included project initiation, analysis (EV demand and impact), analysis (deployment barriers and solutions), completion of the EV Readiness Plan, and communications and outreach. The reviewer noted that there was a focus on stakeholder awareness including consumers, fleet managers, facility managers, local governments, and utilities. Stakeholder engagement activities included workshops, conferences, etc.

The reviewer commented that the North Carolina project included the development of five separate plans for EV readiness – one statewide and four regional – and had a large focus on community stakeholder involvement. The reviewer detailed that there were three levels of stakeholder involvement: statewide, locally through community planning efforts, and topically through working groups. The project collaborated with a utility company to gather data on grid impact/considerations and developed a complete list of barriers to EV penetration.

Reviewer 6:

Regarding the Southeast project, the reviewer noted that the primary focus was on stakeholder awareness, including consumers, fleets, local governments, property/facility managers. Additional key elements emphasized were EVSE availability/accessibility/awareness, market potential, grid impacts, and permitting/zoning/signage. The reviewer noted that the plan was designed to address readiness, but also incorporated best practices for use by implementers. The reviewer noted that after the development of the plan, the project focused on outreach and communications, to continue engaging stakeholders.

The reviewer commented that the North Carolina project was focused on developing a state-wide plan as well as four regional plans. The team explicitly focused on recruiting stakeholders, with a key element of the project focused on outreach.

Reviewer 7:

Regarding the Southeast Regional EV Readiness planning program, the reviewer noted that the project is 90% complete and spent $629,000 out of $740,000 (as of 12/31/12). Further, this reviewer reported that mostly administrative costs remain.

The reviewer commented that the North Carolina project is 97% complete, and noted similar partners as the Southeastern project.

The reviewer indicated that both projects had a good approach for their locations. It would have been stronger if the projects had included USGBC and ENERGY STAR as well as more education on safety with first responders. Southeast included electrical contractors, which is very useful. The reviewer added that other regions may want to consider this as a good approach as they move forward.

Question 2: Technical accomplishments and progress toward overall project and DOE goals – the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals.

Reviewer 1:
The reviewer detailed that milestones met in the North Carolina PEV readiness initiative included stakeholder meetings in 15 communities and multiple statewide meetings provided the necessary input for the development of their readiness plan. The reviewer complimented that the project successfully created five PEV readiness planning documents.

The reviewer noted that the Southeast regional PEV readiness plan project successfully created and published the EV Deployment Readiness Plan and workbook.

Reviewer 2:
Regarding the CTE project, the reviewer noted that the EV Adoption in the Southeast study included grid impact analysis, EV sales forecasts, and EVSE placement, and described it as a significant accomplishment to feed EV planning work. The reviewer noted that the team also developed a three-volume EV Readiness Workbook, which includes a thorough examination of EV readiness, checklists for stakeholder groups, and other resources. The reviewer observed that a conference series was held with 200 attendees to present the Workbook in each of the three participating states (helpful to get the word out about resources available). The reviewer noted that project materials do not seem to be available on a central website: rather, each state provided the materials separately.

Regarding the North Carolina project, the reviewer commented a great value in having statewide plans as well as regional plans covering major metro areas. The reviewer noted that events and workshops reached more than 2,000 people (35 events), which was a good outreach effort.

Reviewer 3:
The reviewer commented that the Southeast project team completed all planned activities, including the plan in late March (in the form of a workbook). The team included several key findings while conducting research to support the plan. The reviewer commented that these findings influenced the development of plans for implementation, particularly as they impacted awareness issues. The team also developed detailed best practices. The reviewer identified that the team also conducted 10 outreach workshops, an EV Readiness Conference Series, and multiple Ride-and-Drives.

The reviewer commented that the North Carolina team appeared to have completed all planned efforts, although there were some efforts to continue revising the plan. Under this project, the team set up a multi-piece task force to address individual issue areas. The reviewer commented that the project activities completed included an extensive list of outreach events (35 in total).

Reviewer 4:
The reviewer commented that the Southeast plan included a task for smart grid analysis, which is very important when considering future electricity needs.

The reviewer liked the idea of the state-wide and regional components to the North Carolina plan. This provides a more comprehensive approach towards EV deployment within the state and from a regional perspective.

Reviewer 5:
Regarding the Southeast project, the reviewer noted that barriers addressed included awareness and education, EVSE availability, keys to reducing range anxiety, market potential, grid impact potential, and permitting and zoning. The reviewer noted that there was a good list of partners.

For the North Carolina project, the reviewer noted that safety, range, etc., were addressed.

The reviewer commented that the project supported local initiatives, that the community readiness plan was the biggest deliverable, and that the project developed a roadmap. The project took a multilateral approach – a regional as well as state-wide approach.

Reviewer 6:

The reviewer found that CTE's products included some excellent research on target markets. The reviewer noted that interesting real world examples of EVSE installation experience were included. Predictions of the most probable markets for the largest cities in Georgia and South Carolina were developed analytically. The reviewer observed that a plan evaluation was conducted with two smaller pilot cities in each state implemented. Conferences, workshops and ride and drives took place in each of the participating states. The reviewer noted that publications were readily accessed from the Atlanta Clean Cities website. The reviewer commented that CTE made good use of academic researchers for the assessment of barriers and markets, helping lay a foundation assuring that PEVs can be workable in the Southeast.

The reviewer commented that Centralina's project was very strong in engaging businesses to participate in workplace charging. Separate plans for four different regions were completed, as well as a state plan. The reviewer observed that while the logo emphasized intercity driving of PEVs across the state, this was not an emphasis of the project. The reviewer acknowledged that installation of EVSE at residences and businesses were emphasized. From a list of 10 initial partners, Centralina expanded involvement to 250 stakeholders, 25 of which received awards for their participation. The reviewer noted that technical community colleges were involved to implement training, and numerous stakeholder meetings were held (many dozens). The reviewer concluded that this was a grassroots effort.

Reviewer 7:

The reviewer noted that the Southeast project is 90% complete. Deliverables included a demand impact study and an EV readiness workbook. According to the reviewer, the PI noted that the demand impact study was a challenging task as demand was difficult to forecast. The reviewer commented that the project team looked at hybrid adoption rates and other innovative technology to help forecast EV demand. The study included a baseline and accelerated demand scenario and the associated impact on the grid, which included input from a utility (i.e., power company). The reviewer remarked that the EV Readiness Workbook was completed in 2012.

The reviewer noted that the North Carolina project is 97% complete. Five individual readiness plans were completed. The reviewer noted several outreach events, including trainings and workshops that were held over the course of the project. The reviewer noted that it was unclear from the presentation whether or how the other technical accomplishments highlighted were directly linked to the present study.

Question 3: Collaboration and coordination with other institutions.

Reviewer 1:

The reviewer remarked that the CTE presentation (Georgia, South Carolina, and Alabama) initial slide indicated 67 partners and ended with a list of 67 collaborators. The reviewer commented that this was an impressive number and its composition was excellent. The reviewer elaborated that Clean Cities coalitions, local and state agencies, NGOs, utilities, universities, EVSE suppliers and installers, automotive OEMs, and fleets were involved.

The reviewer noted that Centralina (North Carolina) started with only 10 partners, but ended working with 250 stakeholders. The reviewer observed that the extent and composition of the stakeholders, as listed in the plan, was even more impressive than for the CTE project.

Reviewer 2:

The reviewer commented that the CTE project’s list of collaborators was quite extensive, and included all Clean Cities coalitions in the region, plus local utilities and regional planning boards, local municipalities, and several universities. The reviewer noted that the list of businesses included relevant vehicle OEMs and EVSE suppliers, along with several fleets. The reviewer concluded that this was a good list of organizations to support this project.

Regarding the North Carolina project, the reviewer noted a large list of more than 250 partners included in development of plan documents, including vehicle OEMs, universities, local planning organizations, municipalities, and others. The reviewer commented that it appeared the right people were involved in the work.

Reviewer 3:
The reviewer noted that both the Southeast Regional EV Readiness Planning Program and the Centralina Council of governments North Carolina PEV Readiness Initiative had an extensive list of partners and collaborators, which have helped to make their projects successful.

Reviewer 4:
The reviewer commented that for the Southeast project the collaboration list included a large list of coalitions, local/state governments, institutions, utilities, and businesses (approximately 65 in total).

The reviewer commented that for the North Carolina project, partners focused primarily upon local governments/planning organizations, as well as utilities and industry members. In particular, the task force included over 250 members.

Reviewer 5:
The reviewer commented that the Southeast project had collaboration/partnerships with Clean Cities coalitions. The reviewer found that the project included an impressive list of collaborators including a major utility company (Dominion).

The reviewer commented that the North Carolina project included a great list of collaborators, but that it was unclear whether there was any partnership with OEMs.

Reviewer 6:
The reviewer noted that the Southeast project's goal is to achieve a 2.5 billion gallon reduction of petroleum by 2020. The reviewer noted that the project conducted workshops and pilot programs to see if the proposed plan was viable and worth expanding on through a larger platform.

The reviewer commented that sharing the draft plan with experts early in the development phase was a really good approach to ensuring success later.

Reviewer 7:
The reviewer commented that the Southeast Regional Plan could have benefited from having expanded participation from the three state DOTs and multiple MPOs.

The reviewer commented that the North Carolina plan could have benefited from participation from the state DOT.

Question 4: Proposed future research – the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways.

Reviewer 1:
The reviewer commented that the CTE project's closeout work to finish the project is reasonable (i.e., update workbook and complete outreach). The reviewer noted that the slides indicate that the project efforts will continue through May 2014 as part of regular Clean Cities activities under that funding source.

Regarding the North Carolina project, the reviewer commented that the future work continued with the activities already started under the project appeared appropriate. The reviewer stated good plans for statewide webinars and PEV scorecard implementation, as well as workplace challenge activity.

Reviewer 2:
The reviewer commented that the activities for both projects will continue until May 2014, including updating the EV readiness workbook and to continue the on-going outreach and marketing programs for the Southeast Region EV readiness program.

The reviewer commented that the North Carolina PEV Readiness initiative will continue to work with over 250 stakeholders and host a series of webinars focused on implementation strategies recommended in the PEV roadmap.

The reviewer affirmed that it is very good that these communities will continue to work on their initiative without additional funding.

Reviewer 3:

The reviewer noted that the Southeast project is nearly complete. Some outreach is ongoing, and that the team is revising the Readiness Workbook. The team will continue efforts as part of coalition activities.

The reviewer noted that for the North Carolina project, activities were nearly complete. The team will continue outreach activities on their own (as part of Clean Cities). The task force will also continue to operate.

Reviewer 4:

The reviewer noted that the presentation indicated that both projects would continue to May 14, 2014, focusing on implementation and outreach, and taking advantage of the technical and organizational knowledge developed during the respective projects. The reviewer observed that continued involvement of most, if not all, stakeholders/collaborators is anticipated.

Reviewer 5:

The reviewer encouraged North Carolina to pursue the Mountains to Sea corridor approach for EV charging infrastructure deployment in any future research/implementation effort, and to coordinate with current and future EV deployment efforts in the Raleigh area.

Reviewer 6:

The reviewer remarked that both projects had identified that they would like to continue work after the project completion, and that plans build on the past progress.

For the Southeast project, the reviewer commented that future plans included continued work on the EV readiness workbook, continued ongoing outreach and marketing activities.

Reviewer 7:

The reviewer commented that the Southeast project's deliverables included a forecast of EV sales demand, placement analysis, and impact analysis. The reviewer noted a readiness workbook, which includes a checklist and a description of actions that each stakeholder should take in preparation for EVs. Lastly, the reviewer noted case studies, installation guides, model ordinances, and external resources availability to support EV readiness. The reviewer also noted that studies showed that charging during off-peak hours had no impact on the grid.

Regarding the North Carolina project, the reviewer noted that the project would like to continue the North Carolina PEV taskforce. The reviewer also commented recruit businesses through a charging outreach effort.

The reviewer remarked that both as part of their Clean Cities effort (no additional funding/grants awarded) that it may be useful to talk with city officials and construction companies to encourage and incentivize this project as part of the LEED rating system and energy use guides to generate more interest.

Question 5: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Reviewer 1:

The reviewer remarked that the development of an EV Community Readiness Plan definitely supported the overall objective of DOE to promote petroleum displacement. By developing a plan, the community would be ready to implement the use of EVs when future projects and funding became available for the deployment of EVs.

Reviewer 2:

The reviewer commented that both of these projects indirectly supported the DOE objectives of petroleum displacement through creating community readiness plans for EVs. The adoption of EVs in these states would lead to displacement of internal combustion engine vehicles that run on petroleum.

Reviewer 3:
The reviewer noted that the CTE project is addressing the petroleum displacement goals of Clean Cities, and barriers outlined by the project team.

The reviewer commented that the North Carolina project addressed the barriers and petroleum displacement goals of Clean Cities.

Reviewer 4:
The reviewer noted that electricity generation used almost no oil, so substitution of electricity for gasoline met DOE objectives.

Reviewer 5:
The reviewer remarked that Southeast focused on availability/information on EVSE, stakeholder education, market penetration, grid impacts, and permitting/zoning.

The reviewer noted that the North Carolina project focused on incentives, education/outreach, infrastructure, and policies/codes/standards.

Reviewer 6:
The reviewer commented that both projects supported DOE's petroleum displacement goal.

Reviewer 7:
The reviewer commented that the projects reduced GHG, petroleum, noise pollution, and could also lead to further innovation and self-reliance through on site electricity generation or rebates for clean energy.

Question 6: Resources: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Reviewer 1:
The reviewer commented that both projects brought co-funding and made use of it. The reviewer observed that the Southeast Region project had spent 85% of total available funds, but more than DOE provided. The reviewer found that the North Carolina project also had spent more than the funds that DOE provided and had spent 97% of the available funds. The reviewer pointed out that both projects were to be commended for obtaining and making use of funds beyond those provided by DOE.

Reviewer 2:
The reviewer indicated that the funding was at the right level to create plans that have very good potential in accelerating EV adoption.

Reviewer 3:
The reviewer commented that resources appeared sufficient to address the tasks outlined for the CTE project and that inclusion of cost-share was a positive aspect for the project.

The reviewer noted that for the North Carolina project, resources were sufficient to complete project tasks, and it was good to have cost-share included (not required by funding opportunity).

Reviewer 4:
The reviewer commented that the funds are sufficient for this project and should all be spent by the conclusion of the project.

Reviewer 5:
The reviewer commented that for the Southeast project, resources appeared sufficient.

The reviewer commented that for the North Carolina project, the activities were largely complete, with funding largely spent out, so resources were probably fine.

Reviewer 6:

The reviewer commented that it appeared that funding was sufficient and used effectively and efficiently.

Acronyms and Abbreviations

Acronym	Definition
ADA	Americans with Disabilities Act
AFV	Alternative Fuel Vehicle
AMR	Annual Merit Review
ANL	Argonne National Laboratory
ARRA	American Recovery and Reinvestment Act
AXP	Automotive X-Prize
BAAQMD	Bay Area Air Quality Management District
CAFE	Corporate Average Fuel Economy
CARB	California Air Resources Board
CCET	Center for Commercialization of Electric Technologies
CEC	California Energy Commission
CEC	Clean Energy Coalition
CEO	Colorado Energy Office
CMAQ	Congestion Mitigation and Air Quality Program
COG	Councils of Government
CTE	Center for Transportation and the Environment
CUICAR	Clemson University International Center for Automotive Research
DC	Direct Current
DMME	Department of Mines, Minerals and Energy (Virginia)
DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
DOT	Department of Transportation
DPWs	Department of Public Works
DVRPC	Delaware Valley Regional Planning Commission
EPA	Environmental Protection Agency
EPAct	Energy Policy Act
EPRI	Electric Power Research Institute
ERCOT	Electric Reliability Council of Texas
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
FEVER	Fostering Electric Vehicle Expansion to the Rockies
FPL	Florida Power and Light
GATE	Graduate Automotive Technology Education
GHG	Greenhouse Gases
GIS	Geographic Information Systems
GM	General Motors Corporation
HADA	Hawai'i Auto Dealers Association

Acronym	Definition
HEPF	Hawai'i Energy Policy Forum
HERDV	Hawai'i Renewable Energy Development Venture
HEV	Hybrid Electric Vehicle
HEVN	Hawaiian Electric Vehicle Network
HNEI	Hawai'i Natural Energy Institute
HOA	Home Owners Associations
IAB	Industry Advisory Board
IBEW	International Brotherhood of Electrical Workers
kWh	Kilowatt-hours
LEED	Leadership in Energy and Environmental Design
MEC	Metropolitan Energy Center
MEO	Maui Economic Opportunity, Inc.
MHLA	Maui Hotel and Lodging Association
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MUD	Multi-Unit Dwelling
NASEO	National Association of State Energy Officials
NGOs	Non-Government Organizations
NREL	National Renewable Energy Laboratory
NYCLHVCC	New York City and Lower Hudson Valley Clean Communities, Inc.
NYPA	New York Power Authority
NYSERDA	New York State Energy Research and Development Authority
OEM	Original Equipment Manufacturer
ORNL	Oak Ridge National Laboratory
OSU	Ohio State University
PEV	Plug-in electric vehicle
PI	Principal Investigator
PSC	Public Service Commission
PUC	Public Utilities Commission
Q&A	Question and Answer
R&D	Research and Development
RAQC	Regional Air Quality Council
REVi	Richmond Electric Vehicle Initiative
RGGI	Regional Greenhouse Gas Initiative
SCAQMD	South Coast Air Quality Management District
SAE	Society of Automotive Engineers
SOW	Statement of Work
STEM	Science, Technology, Engineering, and Math
TCI	Transportation Climate Initiative
UH	University of Hawai'i

Acronym	Definition
UM	University of Michigan
UMTRI	University of Michigan Transportation Research Institute
USGBC	U.S. Green Building Council
UCCS	University of Colorado-Colorado Springs
V2G	Vehicle-to-grid
VTO	Vehicle Technologies Office
ZEV	Zero-Emissions Vehicle

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