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. EPAct transportation regulatory activities aim to reduce U.S. petroleum consumption by building a core market for alternative fuel vehicles (AFVs).

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. Clean Cities helps to advance 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. These stakeholders come together to share information and resources, educate the public, help craft public policy, and collaborate on projects that reduce petroleum use. Clean Cities' primary goal is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020. Since the program's inception in 1993, Clean Cities coalitions and stakeholders have saved more than 5 billion gallons of petroleum.

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 and are discussed more below.

- *Student Competitions:* VTO has hosted student competitions (such as EcoCAR-the NeXt Challenge, EcoCAR 2, the Automotive X Prize, etc.) in advanced vehicle technologies for more than 25 years to educate the next generation of automotive engineers and accelerate the development of vehicle technologies. The latest competition, EcoCAR 2, required students to explore a variety of powertrain architectures and follow a real-world engineering regimen modeled after GM's Global Vehicle Development Process using a Chevrolet Malibu as the integration platform for their advanced vehicle design.
- *Graduate Education:* VTO's graduate education program (GATE) supports efforts at top universities to train a future workforce of automotive engineering professionals in developing and commercializing advanced automotive technologies. These universities' multidisciplinary curriculums and unique laboratory facilities will prepare students to overcome technology barriers preventing the development and production of cost-effective, high-efficiency vehicles for the U.S. market.
- *Workforce Development and Professional Education:* Through its workforce development programs, VTO partners with non-profit organizations that offer training on a variety of alternative vehicle technologies. This training builds a strong workforce that can develop, build, repair, and respond to these vehicles. In addition to formal instruction, DOE and its partners host several events and conferences each year to gather automotive experts and foster information sharing and innovations such as the Directions in Engine-Efficiency and Emissions Research Conference (DEER) and the Vehicle Technologies Office Annual Merit Review and Peer Evaluation meetings. Also, the Green Racing partnership between DOE, EPA, and SAE provides outreach to the public on alternative fuels and advanced vehicles being used in automobile racing. Other resources that may be useful to student researchers include VTO's Annual Reports describing the results of our research, vehicle modeling software, transportation system analysis software tools, or the Fact of the Week featuring the latest information about energy and automotive markets.

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.

Subprogram Feedback

The U.S. Department of Energy (DOE) received feedback on the overall technical subprogram areas presented during the 2014 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 responded to a series of specific questions regarding the breadth, depth, and appropriateness of that DOE Vehicles Technologies Office (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 program area, including overall strategy, adequately covered?

Question 2: Is there an appropriate balance between near- mid- and long-term research and development?

Question 3: Were important issues and challenges identified?

Question 4: Are plans identified for addressing issues and challenges?

Question 5: Was progress clearly benchmarked against the previous year?

Question 6: Are the projects in this technology area addressing the broad problems and barriers that the Vehicle Technologies Office (VTO) is trying to solve?

Question 7: Does the program area appear to be focused, well-managed, and effective in addressing VTO's needs?

Question 8: What are the key strengths and weaknesses of the projects in this program area? Do any of the projects stand out on either end of the spectrum?

Question 9: Do these projects represent novel and/or innovative ways to approach these barriers as appropriate?

Question 10: Has the program area engaged appropriate partners?

Question 11: Is the program area collaborating with them effectively?

Question 12: Are there any gaps in the portfolio for this technology area?

Question 13: Are there topics that are not being adequately addressed?

Question 14: Are there other areas that this program area should consider funding to meet overall programmatic goals?

Question 15: Can you recommend new ways to approach the barriers addressed by this program area?

Question 16: Are there any other suggestions to improve the effectiveness of this program area?

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.

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

Question 1: Was the program area, including overall strategy, adequately covered?

Reviewer 1:
The reviewer exclaimed that there was absolutely adequate coverage.

Reviewer 2:
The reviewer said that the overall program area, including all of the activities worked on such as Clean Cities, legislative and rulemaking, advanced vehicle competition and educational programs, were described very well. The strategy for deployment, which is to implement national policies and initiatives facilitating change on a local and national basis, was presented.

Question 2: Is there an appropriate balance between near-, mid- and long-term research and development?

Reviewer 1:
The reviewer responded yes, and stated that the program has the right balance. The reviewer observed that the local vehicle technologies demos/deployments address near-term technology, the vehicle competitions experiment with mid-term technologies, and the education programs prepare the industry for the long-term.

Reviewer 2:
The reviewer pointed out that since this program area is related to deployment, it does not contain a research and development component.

Question 3: Were important issues and challenges identified?

Reviewer 1:
The reviewer commented that issues and challenges were identified, including the lack of public awareness and consumer acceptance of new vehicle technologies, and that consumers need to change their related driving and purchasing habits.

Reviewer 2:
The reviewer said important issues were not directly identified. The reviewer explained that the issues and challenges are mostly assumed and understood by those in the industry. It would be worthwhile to articulate the specific challenges that new vehicle technologies face and how each program element addresses the challenges. The reviewer acknowledged that the persistent challenge is that introducing new technologies to consumers and fleets is always difficult; this part is assumed. However, according to the reviewer, the specific challenges of various technologies change over time as the technology matures and the landscape of regulations, fuel availability, consumer preference, and politics changes. The program will have to be agile to be effective. Seeing a multi-year strategic plan would be very helpful.

Question 4: Are plans identified for addressing issues and challenges?

Reviewer 1:
The reviewer remarked that these challenges are being addressed through the Clean Cities deployment efforts in this program.

Reviewer 2:
The reviewer said yes, and explained that the briefing is mostly focused on the planned programs to address the issues.

Question 5: Was progress clearly benchmarked against the previous year?

Reviewer 1:
The reviewer observed that progress continues to be excellent in this program area. The reviewer noted over 6 billion gallons in petroleum reduction since 1993. In addition, Clean Cities continues to make great progress by adding more coalitions and expanding

the National Clean Fleets Partners program. The reviewer commented that training the next generation of engineers continues to make progress and has been a very important part of the program for over 26 years. EcoCAR2 and 3, and the next advanced vehicle technology competition series, give students excellent real word experience.

Reviewer 2:
The reviewer said yes, but only for petroleum reduction.

Question 6: Are the projects in this technology area addressing the broad problems and barriers that the Vehicle Technologies Office (VTO) is trying to solve?

Reviewer 1:
The reviewer pointed out that through the success of this deployment activity, this program can point to actual gallons of petroleum that have been displaced, which of course is the ultimate goal of the VTO.

Reviewer 2:
The reviewer responded mostly. The reviewer indicated that the program works best for vehicle fleets. For individual passenger car consumers, this reviewer thought the program is largely invisible. To achieve acceptance of new passenger car fuel technologies by the general public, there needs to be a large outreach campaign to educate and dispel myths about the new technologies. The reviewer noted that the level of misinformation published by the press and available on the internet needs to be countered by a credible source, such as DOE. For instance, the reviewer pointed out there was a press release posted for a new "zero-emission" transit bus delivery when the bus was just a new "clean" diesel bus. There is also a misunderstanding about compressed natural gas (CNG) and propane as being zero-emission.

Question 7: Does the program area appear to be focused, well-managed, and effective in addressing VTO's needs?

Reviewer 1:
The reviewer responded yes, this project continues to be well managed and as evidenced by the progress made in all areas is a very effective program.

Reviewer 2:
The reviewer commented that the program is great overall. The reviewer recommended that additional focus could help bring the best solutions forward faster. It seems like the program's focus is to bring all technologies forward, which helps create a greater number of mediocre solutions. The reviewer commented that mediocre solutions can hurt the adoption rate and make consumers wary of trying new technology in the future.

Question 8: What are the key strengths and weaknesses of the projects in this program area? Do any of the projects stand out on either end of the spectrum?

Reviewer 1:
The reviewer commented that the Clean Cities project, which now has 100 coalitions and covers 80% of the U.S. population, has been an outstanding effort for over 20 years and will continue to provide an excellent way to get alternative fuel vehicles introduced to the public.

Reviewer 2:
The reviewer commented that the fleet deployments and the EcoCAR challenges are great strengths. The reviewer observed that the passenger vehicle information and outreach, and the education program, need a boost to get visibility with the general public.

Question 9: Do these projects represent novel and/or innovative ways to approach these barriers as appropriate?

Reviewer 1:
The reviewer commented that providing opportunities for students to work on vehicles through the student competitions is a very unique way to both educate future engineers and to move them into the workforce with real world experience on advanced technology vehicles.

Reviewer 2:
The reviewer remarked that the EcoCAR challenge series is very innovative and seems like a win-win scenario for all involved.

Question 10: Has the program area engaged appropriate partners?

Reviewer 1:
The reviewer noted that partnering is one of the key elements of this program. The reviewer commented that working with all of the Clean Cities coordinators, as well as the colleges and universities through vehicle competitions, make this program a real success.

Reviewer 2:
The reviewer said yes, and elaborated that the program has many great partners.

Question 11: Is the program area collaborating with them effectively?

Reviewer 1:
The reviewer commented that as evidenced by the amount of petroleum displaced, and the number of students that have been prepared to enter into the workforce to continue their work on alternative fuel vehicles, this program is very effective at collaborating with its partners.

Reviewer 2:
The reviewer said that without having any specific working knowledge, it would appear that the collaboration is adequate.

Question 12: Are there any gaps in the portfolio for this technology area?

Reviewer 1:
The reviewer said that the portfolio of technologies that are evaluated in this program is very comprehensive.

Reviewer 2:
The reviewer commented that the full range of technologies was not identified, but this reviewer assumed that all have access for entry when and where appropriate.

Question 13: Are there topics that are not being adequately addressed?

Reviewer 1:
The reviewer said no.

Reviewer 2:
The reviewer was unaware of topics that are not adequately addressed.

Question 14: Are there other areas that this program area should consider funding to meet overall programmatic goals?

Reviewer 1:
The reviewer said no.

Reviewer 2:
The reviewer commented no.

Question 15: Can you recommend new ways to approach the barriers addressed by this program area?

Reviewer 1:
The reviewer remarked no, the current approach seems to be a very effective way to approach the barriers.

Reviewer 2:
The reviewer recommended promoting other metrics for the program overall and for the individual vehicle technology deployments. The reviewer suggested focusing on life-cycle cost estimates and emission reductions.

Question 16: Are there any other suggestions to improve the effectiveness of this program area?

Reviewer 1:
The reviewer commented that if DOE provided more funding in this area, the program may be able to reduce petroleum consumption more rapidly than currently planned.

Reviewer 2:
The reviewer suggested adding or reformulating the outreach component for passenger cars. The reviewer suggested that the program establish methods for the general public to get the truth out about the state of new technology and what is being done to alleviate consumer concerns about range anxiety, safety, and fuel availability. The reviewer also suggested providing a fuel station forecast by locality so that people could see what was planned for their area, a means for consumers to express interest in certain types of fuel, and stimulating more interest in alternative fuels to create more technology pull. As a consumer, this reviewer may have a technical interest in natural gas, but would quickly lose interest if it could not be readily determined whether it will be available in the reviewer's operating area. The reviewer opined that electricity will likely be the primary future passenger car fuel, but expressed some doubt.

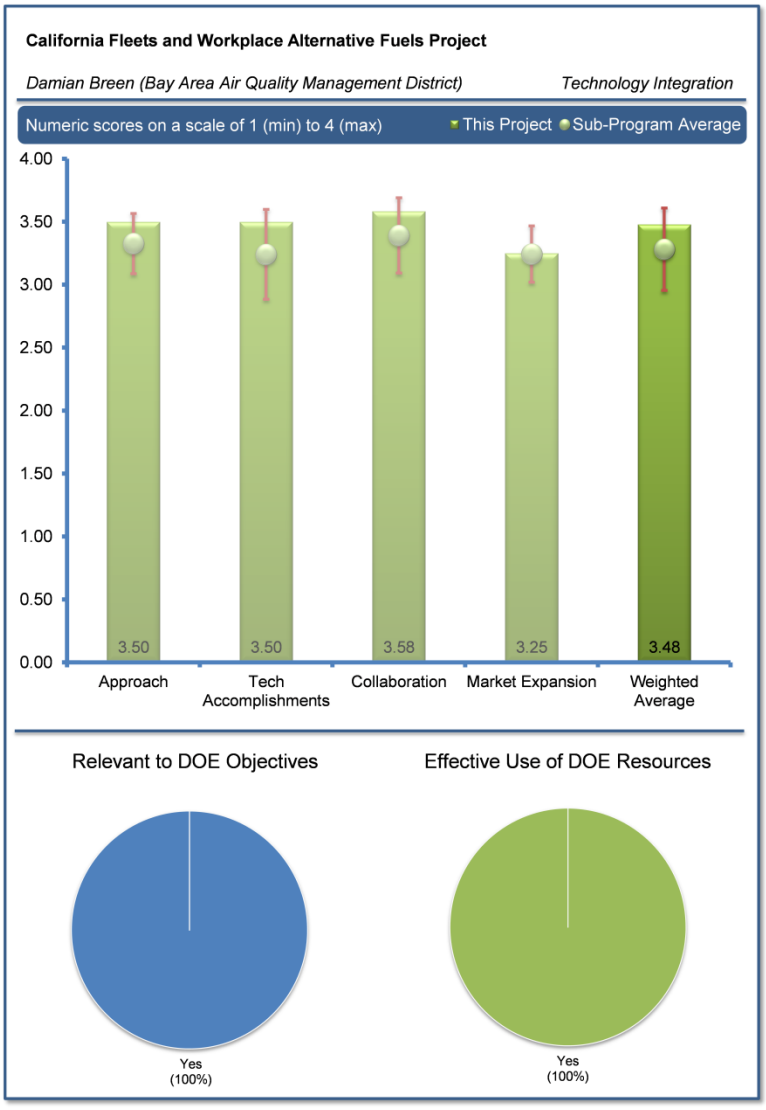
Project Feedback

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, and numeric score responses *(on a scale of 1.0 to 4.0)*. 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 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
California Fleets and Workplace Alternative Fuels Project	Damian Breen (Bay Area Air Quality Management District)	8-9	3.50	3.50	3.58	3.25	3.48
Fast Track to Ohio AFV Adoption	Sam Spofforth (Clean Fuels Ohio)	8-14	3.58	3.58	3.50	3.33	3.54
Advancing Alternative Fuel Markets Adoption and Growth	Ron Flowers (Greater Washington Region Clean Cities Coalition)	8-19	2.88	2.75	3.25	3.13	2.89
Unlocking Private Sector Financing for Alternative Fuel Vehicles and Fueling Infrastructure	Kate Marks (National Association of State Energy Officials)	8-23	3.25	3.25	3.25	2.92	3.21
Pennsylvania Partnership for Promoting Natural Gas Vehicles	Robert Graff (Delaware Valley Regional Planning Commission)	8-28	3.30	3.10	3.40	3.00	3.18
I-40 Collaboration of Clean Cities	Adriane Jaynes (Tulsa Area Clean Cities)	8-33	3.30	3.30	3.50	3.40	3.34
Accelerating Alternatives for Minnesota Drivers	Lisa Thurstin (American Lung Association of the Upper Midwest)	8-37	3.40	3.40	3.40	3.40	3.40
Advancing Alternative Fuel Markets Adoption and Growth	Kelly Gilbert (Metropolitan Energy Center, Inc.)	8-41	3.25	2.75	3.38	3.13	3.00
Michigan Fuel Forward	Sean Reed (Clean Energy Coalition)	8-44	3.50	3.50	3.50	3.50	3.50
Lake Michigan Corridor Alternative Fuel Implementation Initiative	Ted Barnes (Institute of Gas Technology)	8-48	3.25	3.25	3.38	3.13	3.25
Removing Barriers, Implementing Policies and Advancing Alternative Fuels Markets in New England	Jennifer Puser (Greater Portland Council of Governments)	8-52	3.38	3.25	3.63	3.13	3.31
Alternative Fuel Market Development Program - Forwarding Wisconsin's Fuel Choice	Maria Redmond (Wisconsin Department of Administration)	8-55	3.13	2.88	3.25	3.25	3.03
Refuel Colorado	Cabell Hodge (Colorado Energy Office)	8-59	3.25	3.38	3.25	3.50	3.34
Advancing New Mexico's Alternative Fuels	Louise Martinez (New Mexico Department of Energy, Minerals & Natural Resources)	8-62	3.25	3.38	3.38	3.38	3.34
Central Texas Fuel Independence Project	Andrew Johnston (City of Austin)	8-65	3.75	3.58	3.92	3.75	3.69
A Recipe for Fueling Diversity in the Energy Capital of the World	Allison Carr (Houston-Galveston Area Council)	8-69	2.90	2.20	2.30	2.80	2.46
Southeast Regional Alternative Fuels Market Initiatives Program	Steve Clermont (Center for Transportation and the Environment, Inc.)	8-73	3.20	3.20	3.60	3.10	3.24
Advancing Alternative Fuel Markets in Florida	Colleen Kettles (University of Central Florida)	8-77	3.10	3.30	3.50	3.10	3.25

Presentation Title	Principal Investigator and Organization	Page Number	Approach	Technical Accomplishments	Collaborations	Future Research	Weighted Average
Alternative Fuels Implementation Team (AFIT) for North Carolina	Anne Tazewell (North Carolina State University)	8-80	3.80	3.80	3.60	3.50	3.74
Moving North Texas Forward by Addressing Alternative Fuel Barriers	Mindy Mize (North Central Texas Council of Governments)	8-84	3.60	3.50	3.30	3.20	3.46
Overall Average			**3.33**	**3.24**	**3.39**	**3.25**	**3.28**

California Fleets and Workplace Alternative Fuels Project: Damian Breen (Bay Area Air Quality Management District) - ti035



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer noted that the approach of developing safety and training initiatives, and holding best practices workshops for fleets and local governments, in addition to the statewide forums and workshops, should allow the project to meet its objectives. The market development and outreach initiative tasks would also be useful to the project's success.

Reviewer 2:

The reviewer commented that the project's approach was well organized and addressed the following: safety and training; identification and reduction of barriers to electric vehicles (EVs), natural gas (NG) and hydrogen (H_2) vehicle adoption; policy initiatives; and promoting awareness and market development.

The reviewer noted the scope of work focuses primarily on EVs, plug-in electric (PEV), NG, and H_2 vehicles. The reviewer also noted that the primary focus is on workplace fleets, with less focus on the general public. The reviewer observed there is a significant emphasis on identifying needs for training and developing training to fulfill the needs. The development of best practices and cost of ownership tools is a strength of the project. The reviewer noted that the project also targets Chief Executive Officers (CEOs) of companies through workshops. Overall, the reviewer remarked the project had a strong approach.

Reviewer 3:

The reviewer stated that compiling a best practices tool kit for H_2, compressed natural gas (CNG), and EV safety is important to the fleets, and recommended that the information be searchable so that users can find the information relevant to their areas of interest easily.

Reviewer 4:

The reviewer observed that training is a vital element in the successful introduction of alternative fuels. Conducting an assessment of training in California, as a prelude to developing new courses and materials, is appropriate and prudent.

By focusing on and getting buy-in from CEOs, the reviewer observed that the project was going after the right audience. The reviewer also noted there seemed to be significant attention to developing best practices. The reviewer would like to know more about the extent to which the project uses previous work documenting best practices and toolkits, to be assured that the project is not duplicating material

already developed. The reviewer noted that the presenter stated that the project is coordinating with DOE's H_2 program and using materials developed by other DOE efforts.

Reviewer 5:

The reviewer liked how this project targets CEOs and first responders and seems to be reaching a large audience. The reviewer was not sure why the project only targets EVs, H_2, and NG, and posed that question to the presenter. The presenter responded that there is funding for H_2 in California that the project team tapped into, and that when the project team asked California Clean Cities coalitions about other fuels they should target, NG was mentioned. Additionally, the presenter noted that the Bay area has more propane stations than CNG already.

The reviewer also applauded the best practices documents generated, and the plans to expand the best practices guides to other fuels, despite not receiving funding for this. The reviewer noted that all the presentations appeared to target firefighters and first responders. The reviewer noted that DOE may want to pursue this issue nationally, because grant funds were already being used to develop programs regionally. There would be overall savings if DOE worked with fuel advocacy groups, such as the Propane Education and Research Council (PERC), to develop one best practices document that could be distributed nationally. The reviewer offered that PERC and the NG industry both have the knowledge and the funding to implement this.

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

Reviewer 1:

The reviewer stated that the safety and fire marshal best practices are applicable to the entire state because the project team is partnering with 13 Clean Cities coalitions throughout California. The reviewer explained that this information is useful to ensure the ease of transition to these alternative fuels, and particularly H_2, which is not as prevalent as CNG and EV in most markets.

Reviewer 2:

The reviewer remarked that accomplishments to date have been very good. The reviewer thought it was excellent that at the CEO-level workshop, 40 Fortune 500 executives committed to obtaining chargers and PEVs by September 2014. The reviewer noted that the published safety and training report that provided recommendations for fleets, fleet training organizations, and Clean Cities coalitions would be very useful for California and may be used across the county.

Reviewer 3:

The reviewer indicated that a highlight of the project's accomplishments was the commitment of corporate leaders to EV chargers and over 1,500 PEVs. It also seemed to the reviewer that the Drive the Dream workshop, attended by California's Governor and industry executives, was a factor in gaining private sector commitment to investment.

The reviewer highlighted that another tangible, positive project result is the publication, "Needs Assessment for Alternative Fuel Vehicle Training in California." The reviewer would like to know more about the value added and benefits of best practices, as well as the PEV and H_2 websites.

Reviewer 4:

The reviewer concluded that the project made substantial progress toward achieving its goals and objectives. The reviewer noted a training assessment report identified first responder training as a challenge, due to emergency response agency time and funding constraints. The reviewer also noted that the report also summarized recommendations to fleets, training organizations, and Clean Cities coalitions, and that several workshops were held to address barriers and increase awareness (including a CEO workshop which attracted 40 Fortune 500 executives).

The reviewer remarked that everyplace.com was launched to promote the adoption of EV fleets and is a well-organized website. The reviewer pointed out that the PEV cost of ownership calculator being developed was not yet finished. The reviewer also pointed out that significant work has been done to develop best practice guidelines for PEVs and H_2, CNG, liquefied natural gas (LNG) vehicles.

Reviewer 5:
The reviewer emphasized that the project was very sharply focused on deliverables and on providing more bang for the buck. The reviewer observed that the project was leveraging outside funds to provide deliverables that were not in the original scope of work.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer noted that the presentation on the project included an excellent diagram which displayed the responsibilities and coordination among the various project participants.

The reviewer commented that the project partners were widely and deservedly recognized for their expertise and contributions to the advancement of alternative fuels. It was also a big plus to include all California Clean Cities coalitions and Advanced Transportation Technology and Energy Initiative Centers.

Reviewer 2:
The reviewer mentioned that major collaborators include CALSTART, the South Coast Air Quality Management District (SCAQMD), the California Energy Commission (CEC), three Clean Cities coalitions, and several community colleges to deliver training.

Reviewer 3:
The reviewer observed that the Bay Area project team was collaborating with all the California Clean Cities coalitions as well as a host of other partners to ensure that all issues of safety and adoption are addressed.

Reviewer 4:
The reviewer commented that the project was working with outside funding sources to deliver more products (training and case studies) for other fuels that were not originally targeted. Additionally, the project involved major California players like the California Air Resources Board (CARB) and the CEC. The reviewer also noted that this project involved all 13 California Clean Cities Coordinators, and that the cost calculator could be used for other projects outside the scope of this project.

Reviewer 5:
The reviewer stated that this project coordinates and collaborates with groups and organizations throughout California that are necessary to make the project a success. These groups include 13 Clean Cities coalitions, CALSTART, SCAQMD, and the CEC.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer affirmed that this project has the potential to help expand the alternative fuel market. The reviewer gave the example that one-on-one assistance for fleets from the Clean Cities coalition would be ongoing through the end of the project, and in the future, designated trainers would use best practices guidelines to train technicians and first responders in their regions.

Reviewer 2:
The reviewer acknowledged that a plan was developed for using the results of work done on Best Practices Guidelines for H_2, CNG/LNG and PEVs. Also, Clean Cities coalitions and Advanced Transportation Technology and Energy programs would use the materials from the project to conduct fleet workshops and alternative fuel vehicle (AFV) training.

The reviewer indicated that the Best Practices documents should be reviewed by DOE and considered for dissemination to Clean Cities coalitions and others committed to alternative fuels throughout the country.

Reviewer 3:
The reviewer emphasized that the project made significant strides to increase awareness that alternative fuel and propulsion technologies are commercial and ready for deployment. The reviewer noted that the project identified weaknesses in existing training, and worked to fill those gaps. The reviewer indicated that the best practices documents would help decrease anxiety associated with adopting new technologies.

Reviewer 4:
The reviewer noted that safety is important to successfully transition to an alternative fuel market. Also, the West Coast may have issues that do not pertain to the Mid-West. If so, the report should specify those aspects.

Reviewer 5:
The reviewer said California is a unique market that really pushes EVs and provides incentives to do so. While the reviewer thought this project would help deploy EVs in California, the reviewer did not think it would spread to other states.

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

Reviewer 1:
The reviewer stated that among the states, California is at the leading edge in terms of initiatives to promote the use of alternative clean fuels. The reviewer commented that this project draws on and takes advantage of the expertise, experience, and commitment of major alternative fuels proponents within California. Also, products resulting from the project should have value for other organizations throughout the country that are engaged in commercialization of alternative fuels, and that are considering investing in AFVs and associated infrastructure.

Reviewer 2:
The reviewer observed that the project would reach a lot of fleets, and the development of a best practices toolkit would reach others long after the funding is gone.

Reviewer 3:
The reviewer commented that the project is relevant to the DOE goal of petroleum displacement. The reviewer said that by eliminating barriers to deployment of AFVs and infrastructure in California, this project would allow the use of AFVs and thus reduce petroleum use.

Reviewer 4:
The reviewer acknowledged that the project addresses all of the DOE program goals.

Reviewer 5:
The reviewer noted that the safety aspect is very important. However, since most of the projects are addressing first responders, fire marshals, codes, and safety, it would be useful to understand these in terms of region of the country in the final Clean Cities National Report roll up.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer observed that this project accounts for more DOE funds than any other of the seven projects reviewed. In the reviewer's opinion, the funds for forums, workshops and training were being used wisely and properly. The same goes for work on preparing the training assessment report. The reviewer noted that when questioned about which organizations accounted for the bulk of the effort, the presenter had the information readily available.

The reviewer stated that DOE should undertake a critical review of the project's work on best practices guidelines and website development. The reviewer suggested that it is possible that the resulting products set a new standard and should be widely disseminated.

The reviewer said it may be more efficient for such products to be developed "centrally" with periodic updates, rather than produced as part of any single regional project portfolio. The reviewer's impression was that such products are being procured under multiple DOE-funded projects and if this is accurate, then alternative approaches should be considered.

Reviewer 2:

The reviewer commented that the use and distribution of resources appear to be directed toward meeting the DOE objectives, and are well allocated among the project objectives.

Reviewer 3:

The reviewer asserted that the project was a good use of DOE funds because it is necessary to address the barriers of consumer reluctance to purchasing new technologies, and the project addresses the lack of technical expertise with new fuels and vehicle technologies. The reviewer said similar efforts could be funded in the future, but DOE should wait to see the results from this effort.

Reviewer 4:

The reviewer reiterated that since many of the projects focus on the safety and first responder aspects of preparation for an alternative fuel market, it would be helpful to have a larger report that breaks down these individual reports by regions (for example, West Coast, East Coast, Mid-West, etc.)

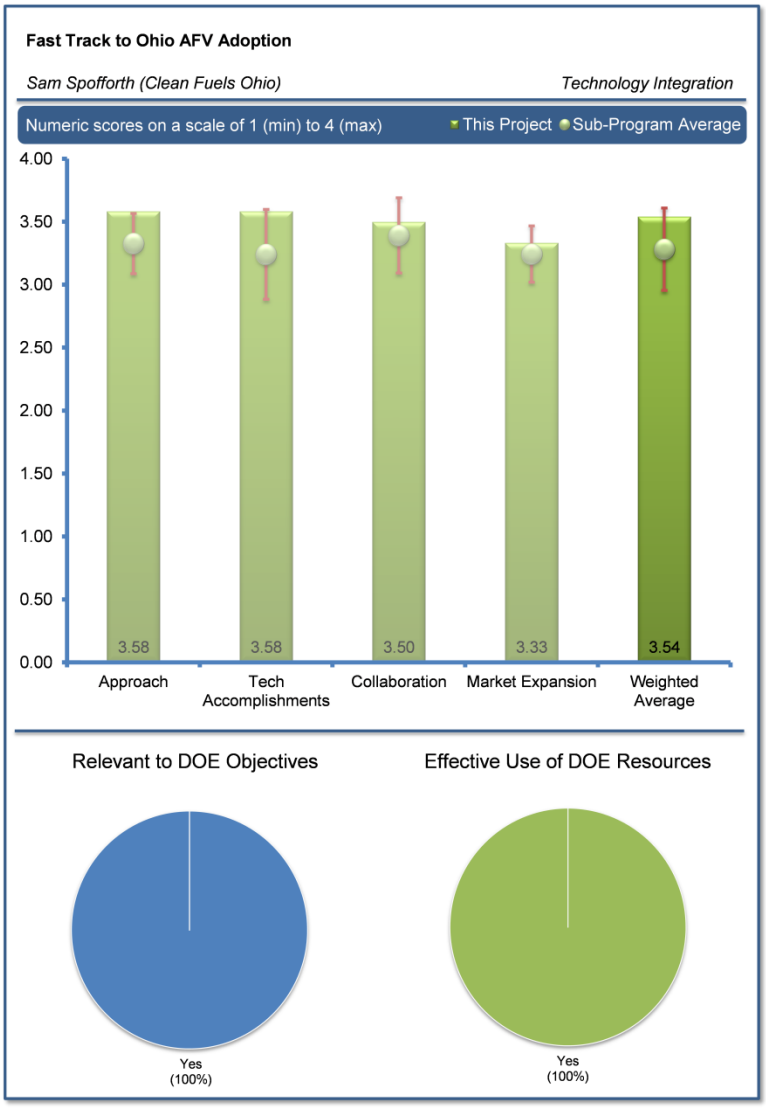
Reviewer 5:

The reviewer commented that this project involves all 13 California Clean Cities coalitions and the entire state of California. Also, the project has incorporated funding from other organizations and appears to be self-sustaining after funds go away.

Reviewer 6:

The reviewer noted that the project received more funds than the other projects reviewed.

Fast Track to Ohio AFV Adoption: Sam Spofforth (Clean Fuels Ohio) - ti036



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the project's approach to developing activities related to policy, barrier reduction, safety and training, and market development and outreach initiatives, is very good and will help the project meet its objectives.

Reviewer 2:

The reviewer commented that Clean Fuels Ohio has taken an interesting approach with its Green Fleet Model because it allows the adopters to apply critical thinking. The Model is a framework adopters could use to consider how to achieve fleet goals, and to see which options are economically feasible. The reviewer said this model could be used by other Clean Cities coalitions.

Reviewer 3:

The reviewer stated that unlike California and New York, Ohio does not have policy initiatives that are well developed and aimed at increasing AFV deployment. Therefore, the project included a significant effort to reach out to policymakers in the state government. Specific project objectives are to develop model language for inclusion in Transportation Improvement Plans, and study and develop options for financial incentives, including tax incentives for AFVs and encouraging AFV options in procurement specifications. The reviewer observed that these were all good approaches.

The reviewer commented that to address barriers, the project develops outreach through Ohio Green Fleets and brings policymakers, public utilities and fleets together. Specifically, the project seeks to develop five green action plans with cities and major organizations within the state. The reviewer noted that the project is also addressing training needs for gaseous fuels and EVs, and market development is being addressed through workshops, media and advertising, social media and online websites and resource center. The reviewer found that the project approach is well organized and adequately addresses the DOE program objectives and the project goals.

Reviewer 4:

The reviewer pointed out that the project supports multiple alternative fuels; CNG, propane, and PEVs. The reviewer affirmed that the project included a great mix of events that target specific fuels. The reviewer said the coalition realized that agencies cannot dictate what alternative fuel a fleet should use, and agencies should provide information on all of the fuels and let the fleet decide what fuel is best for them based on their fleet profile.

Reviewer 5:
The reviewer noted that the project has many activities that address multiple alternative fuels (i.e., NG, propane, electricity, and biodiesel). The presentation slide titled "Milestones" is a summary of activities rather than a list of milestones. The three presentation slides on "Approach" (Slides 5 - 7) provide a more extensive list of project activities, segregated by the four initiatives (i.e., policy, barrier reduction, safety and training, and market development/outreach), which are common to the Technology Integration (TI) projects.

While this reviewer acknowledged a sense that a lot was going on in the project, the result seemed information overloaded. The reviewer remarked that the presentation lacked a concise, focused approach that articulates the major project elements, tasks, and milestones. The reviewer indicated that the oral presentation did provide some confidence that there is a plan which defines and guides the numerous project activities.

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

Reviewer 1:
The reviewer commented that progress and accomplishments have been excellent and demonstrate that the project is moving towards a successful completion. Several workshops have been hosted for local governments and public utilities, and the project completed three of five planned green fleet action plans and identified fleets near alternative fuel stations.

In addition, the reviewer noted that training on gaseous fuels and EVs has taken place or is planned in the near future. Social media content focusing on EVs and Ohio Green Fleet successes was developed and the team hosted a workplace charging workshop which included participation from Google, Disney, and General Motors. The reviewer said that these accomplishments help address the barriers of availability of charging stations, consumer reluctance to purchase new technology vehicles, and lack of experience with new vehicle technology.

Reviewer 2:
The reviewer said that Ohio has identified barriers to adoption, and the project team demonstrated through their progress that they have successfully addressed them by providing the right information and tools to the adopters. There are remaining barriers, but their approach is targeted through correct education, which includes safety. The reviewer was most impressed by the social media utilization to advance alternative fuel and electric vehicle adoption.

Reviewer 3:
The reviewer stated that many excellent products are resulting from the project, including model policy documents, workshops, fleet action plans, alternative fuel station maps, AFV training activities, and a variety of information and education materials. The reviewer commented that there seems to be significant attention to training activities and would like to know more about the extent to which the project utilizes work accomplished through other projects (for example, development of training curricula). The reviewer pointed out that the oral presentation noted coordination with other projects, and would like assurance that the project is not duplicating other available materials.

The reviewer commented that evidently NG fueling infrastructure is growing nicely in Ohio, and it is likely that Clean Fuels Ohio and this project are contributing. The Drive Electric Ohio initiative and the Workplace Charging Workshop should help with increased investment in EVs and infrastructure. The reviewer brought to light that there was no indication in the presentation that there were quantitative results such as number of AFVs and alternative fuel infrastructure investment which could be linked to the project.

Reviewer 4:
The reviewer noted that significant progress had been made toward achieving the project objectives. The project developed the cleanfuelsohio.org web page and a model Green Fleet policy for municipalities that gives guidance on how to structure policies and action plans. The project also completed three green fleet action plans with the City of Cincinnati, City of Green and Tipp City. The project team developed substantial promotional material with 15 press releases to date and hosted many workshops to educate policymakers, public utilities, municipalities and fleets. The reviewer thought the approach to identify and target fleets that are in close

proximity to refueling infrastructure was an excellent idea. The reviewer noted that the project hosted several alternative fuel station training workshops as well as EV safety training, and had a broad outreach campaign. Overall, the reviewer asserted that good progress had been made in the project.

The reviewer identified several remaining challenges and barriers, including lack of technical and educational experience with new fuels and vehicle technologies among fleets; lack of industry coordination; inadequate availability of training; and lack of state government focus on alternative fuels.

Reviewer 5:
The reviewer commented that the project had made significant strides and was over 75% complete. The reviewer remarked that the project team had really increased the number of CNG stations and has helped notify fleets close to these new stations through direct outreach and events. The reviewer noted great outreach to fire marshals, operators, and technicians, and noted that this step is often overlooked and can be a huge barrier to infrastructure development. The presenter felt that the project's biggest accomplishment was using education to leverage new additions to AFV infrastructure.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer said that the project partners are recognized for their expertise and contributions to the advancement of alternative fuels. Collaboration with organizations such as the Earth Day Coalition, CALSTART, state and local governments, and the National Fire Protection Association (NFPA), is a big plus. The reviewer commented that Clean Fuels Ohio is doing outstanding work in establishing cooperation with many other organizations, and enlisting their assistance in pursuing DOE goals.

Reviewer 2:
The reviewer said that there was good collaboration with government and municipal fleets and organizations. Also, the reviewer exclaimed that the number of quality events is a great accomplishment.

Reviewer 3:
The reviewer noted that the project team partnered with the local cities successfully, in addition to a host of private corporate partners and the NFPA. The project team also did a great job in using social media, and the reviewer believed this has really helped to reach folks that traditional outreach efforts might not.

Reviewer 4:
The reviewer commented that this project has very good coordination. There are many organizations involved in the project including city governments, trainers, and state and local agencies. In addition, sub-recipients involved in the project provide the opportunity for more coordination, including outside the state of Ohio.

Reviewer 5:
The reviewer remarked that there was good coverage among project collaborators, including training organizations, state and local government, the Mid-Ohio Regional Planning Commission, and communications and technical subject matter experts.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer said that through increased fleet educational outlets and consumer education, the project developed partnerships and training programs throughout the state and established programs to educate state and local officials about AFVs. The reviewer said that this project has the potential to aid with alternative fuel market expansion.

Reviewer 2:
The reviewer noted that Ohio has a number of educational workshops planned and the project team is working on further sharing success stories. The reviewer commented that the project team is on the right track.

Reviewer 3:
The reviewer said that by educating fire marshals, the project team has eliminated some of the barriers that exist to the installation of any gaseous fuel stations. The reviewer would like to compare the various training programs the different projects have put together to see how the industry as a whole could use them as building blocks for future projects. The reviewer noted great use of social media to educate the general public.

Reviewer 4:
The reviewer said that the project was making good strides toward increasing awareness, encouraging policymaking to leverage alternative fuels and vehicle technologies, and addressing training needs. However, a lot of work remains to be done beyond the scope of the current project in the state of Ohio to further address these barriers.

The reviewer acknowledged that the completion of this project would result in improved identification of needs and potential pathways to overcome the remaining barriers to AFV and EV acceptance. The reviewer said the project has done a good job of leveraging other related efforts in the state of Ohio, as well as nationally.

Reviewer 5:
The reviewer stated that there are five packed presentation slides on "Alternative Fuel Market Expansion Potential" and half of the content is on efforts not funded by the project. In the reviewer's opinion, there is an issue of information overload with insufficient focused communication of key points. For example, it would be helpful to identify what specific products resulting from the project should have priority consideration for replication nationwide. The reviewer commented that lots of future activities are listed which will contribute to achieving project objectives and DOE goals. The reviewer's preference would be to select a few high priority ones for the presentation, and articulate their contributions to AFV market expansion.

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

Reviewer 1:
The reviewer said the project directly addresses the DOE program objectives.

Reviewer 2:
The reviewer noted that there is great potential to expand AFV and fuel adoption in Ohio. A great deal of progress has been made, but there is room for much more. The reviewer also noted that the framework established in Ohio could easily be transferred to other states (particularly those in the Midwest).

Reviewer 3:
The reviewer commented that this project is very relevant to the DOE objective of petroleum displacement. By meeting the objectives of the project, such as educating and informing fleets and government regulators about AFVs, and educating consumers about PEVs, this effort will help with the introduction of advanced technology vehicles and thus reduce petroleum use.

Reviewer 4:
The reviewer commented that products resulting from this project should have significant value in increasing the use of alternative transportation fuels in Ohio. The project should also benefit other organizations throughout the country that are engaged in commercialization of alternative fuels, and that are considering investing in AFVs and associated infrastructure.

Reviewer 5:
The reviewer said that the project team was focusing on the bigger picture by developing tools that would help them long after the funding is gone. For example, the project team has developed a Green Fleet Model that assists fleets when they are deciding on whether or not to use AFVs. Additionally, the project has secured $10.7 million for Ohio fleets.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer emphasized that this project leveraged about $500,000 of DOE funds with $109,000 of partner contributions.

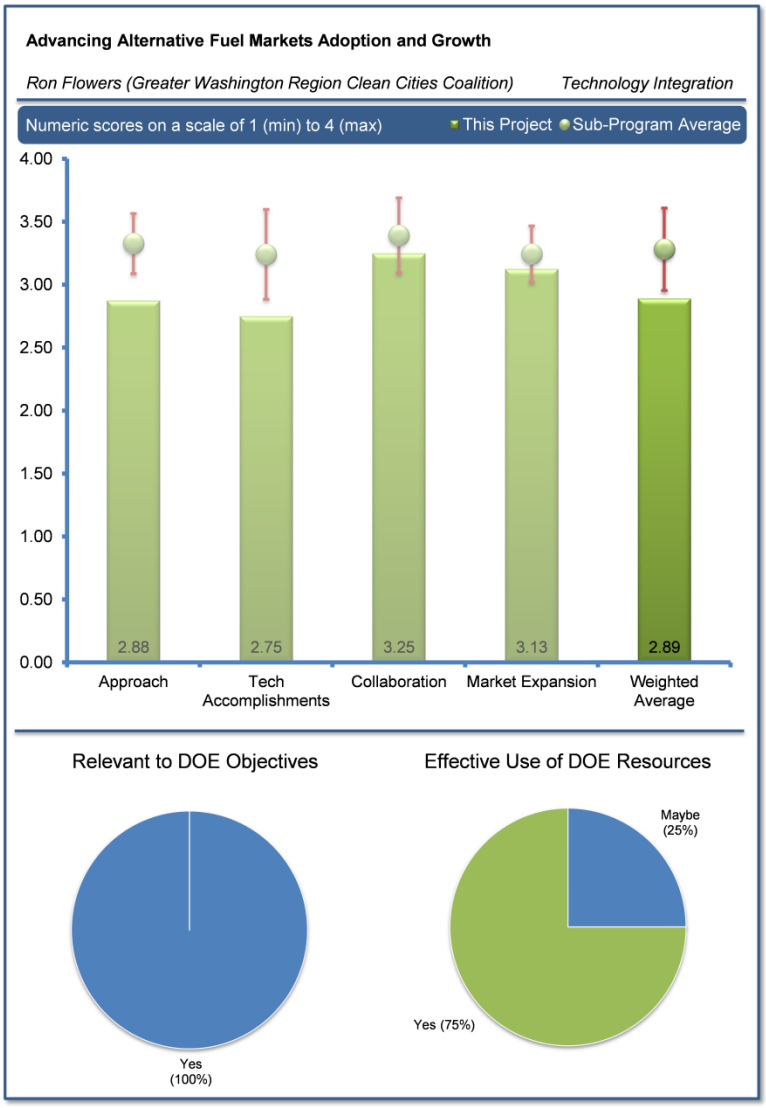
Reviewer 2:
The reviewer commented that the funds are being used wisely because the model and framework developed to help the adopters is easily transferable to other states. The Green Fleet Model helps adopters plan and evaluate the right approach and the social media aspect helps further the outreach in addition to the traditional outreach approach (workshops, flyers, etc.).

Reviewer 3:
The reviewer said that this is a good use of DOE resources. Future similar projects could be funded, but it may be good to wait for the outcome of this project and develop new projects to enhance the results.

Reviewer 4:
The reviewer commented that this project is providing a variety of products that are very important to alternative fuel progress in Ohio. Such work should continue to be a high priority for the VTO. The reviewer is concerned that there is not a "critical mass" of project funds being devoted to fuels or activities considered high priority for petroleum displacement in Ohio. Mr. Spofforth stated that it is important to be "fuel neutral" and cover all the bases. The reviewer remarked that whether there are sufficient funds available to do that in Ohio, taking into account this and other related alternative fuel projects is an important consideration. When this round of TI projects is completed, DOE should conduct an analysis to determine which projects have achieved better results for the resources expended – those addressing multiple fuels or those that focus the bulk of the funds on advancing one or two fuels.

Reviewer 5:
The reviewer noted good use of the resources that were available through the grant, but the work revealed that further investment was needed in the state of Ohio in order for AFVs to gain significant deployment.

Advancing Alternative Fuel Markets Adoption and Growth: Ron Flowers (Greater Washington Region Clean Cities Coalition) - ti037



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer noted collaborative local efforts to further education and update infrastructure on all alternative fuels. The Washington metropolitan area is in a unique position because of the federal government presence. The fleets are required to purchase AFVs, but not all are using the fuels due to a lack of coordination or accessible infrastructure. This project identifies and attempts to address those barriers directly.

Reviewer 2:

The reviewer commented that this project appeared to be mainly focused on the early stages of developing working groups, identifying barriers and ways to overcome them and developing pathways to encourage the adoption and development of alternative fuels. The reviewer noted that this is the first grant that the group has received, so the project is in an earlier stage than other programs that have been active for a longer period of time.

The reviewer noted that the approach has been to establish working groups for each alternative fuel that is of interest to the Washington D.C. metropolitan area. The working groups are then tasked with identifying barriers for each specific fuel and organizing workshops to increase awareness and interest in the alternative fuels. The reviewer thought the approach was adequate to establish early stage awareness and interest in alternative fuels and to establish working groups that will address each alternative fuel option. The reviewer indicated that this is a good starting point for a first time award recipient.

Reviewer 3:

The reviewer commented that the only information provided concerning the approach was that working group teams were formed for each alternative fuel being discussed. It would be useful to know the team members and what type of agenda is used for working group meetings.

Reviewer 4:

The reviewer commented that this project has many activities that address multiple alternative fuels (i.e., NG, propane, electricity, H_2, biodiesel, and ethanol). With the resources available, making desired progress on all these fronts could be unrealistic. However, the project approach has aspects that reduce concerns about dealing with multiple fuel-related barriers simultaneously. The basic approach is to establish teams, each one of which is focused on a specific fuel. The reviewer acknowledged that conscious decisions have been made about the fuels (CNG and propane, which have priority) and those of secondary importance for project purposes.

The reviewer noted that the project's target and objectives (presentation Slides 5 – 7) were very general and qualitative. Specific, quantitative objectives and milestones for each of the various work groups would improve the project plan and increase the likelihood of substantive project results.

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

Reviewer 1:
The reviewer commented that the Greater Washington Region Clean Cities Coalition has been effective in bringing the region's fleet professionals together to increase education and was successful in getting the local airports to install alternative fuel stations. The reviewer recommended that the project continue the collaboration to ensure that those stations are better promoted and use more outreach via social media.

Reviewer 2:
The reviewer commented that there are a number of accomplishments associated with the project, including working group meetings, CNG and propane technical training, educational workshops, webinars and presentations to students. Project partners are also contributing to a variety of policy and regulatory initiatives. The reviewer commented that the presentation cites alternative fuel station openings, and access to existing stations by additional fleets. The reviewer did not know if there is a specific, direct linkage between the project and these actions. In the reviewer's opinion, there is a question about whether new stations would still have opened in the absence of this DOE-funded project. Similarly, the reviewer asked if the project can take credit for repeal of the Virginia hybrid electric vehicle (HEV) tax. The reviewer commented that the accomplishments include some training activities. Mr. Flowers stated that the project has drawn on training materials that were produced by other projects, which the reviewer noted is positive.

Reviewer 3:
The reviewer said it was not clear if the accomplishments such as the opening of several alternative fuel fueling stations, including E85, CNG, propane, and biodiesel, is really attributable to this project. The reviewer commented that one of the main accomplishments was that four working group meetings were held. The reviewer added that it would be useful if the agenda and a summary report of the meetings were provided at least to DOE to see what was discussed.

Reviewer 4:
The reviewer commented that the program had organized and hosted four working group meetings, bringing over 125 professionals from industry and government together. The coalition had hosted seven of the eight planned events. The reviewer also commented that the coalition hosted a webinar presenting a case study of propane use for school buses, and organized workshops held at the Washington D.C. Auto Show. The reviewer noted that the group disseminated information related to taxes on HEVs in the state of Virginia, which was later repealed, and is organizing alternative fuel technician and first responder training.

The reviewer remarked that the presentation listed several accomplishments in terms of new fueling stations, providing public information related to incentives and tax credits on equipment and labor costs for vehicle conversions. However, the role that the coalition played in those accomplishments was not apparent. The investigators might consider providing more specific details about accomplishments in the next project review.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that this project brings together three Clean Cities coalitions (i.e., Greater Washington Region, Virginia, and Maryland). A strong partnership and collaboration among these organizations bodes well for advancement of alternative fuels in the region. The reviewer said the project partners are well recognized for their commitment to and initiatives for overcoming barriers to investment in alternative fuels. The reviewer emphasized that the project has an excellent understanding of the barriers and challenges.

The reviewer commented that the Clean Cities coalitions' well-established relationships with local utilities, government agencies, and alternative fuels proponents (PERC, NGVAmerica, Clean Energy) will be a key to project success and results. During the oral presentation, the reviewer thought that Mr. Flowers made a valid point that it is more productive to have fewer, really committed partners, than to have many that are not completely committed.

Reviewer 2:
The reviewer observed a good deal of coordination on this project because there are over 20 groups in Washington, Virginia, and Maryland that participate in this effort.

Reviewer 3:
The reviewer noted that the project has a wide range of local partners from Virginia, Maryland, Washington DC, and the federal community.

Reviewer 4:
The reviewer acknowledged good representation among project collaborators and partners. The respective roles of the collaborators were not particularly clear in the presentation and reviewer materials. It would be helpful to include some more specific information on the roles of collaborators in the next review.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer commented that the potential for the area is good. There are a number of federal and state vehicles in the area that are required to purchase and use AFVs and alternative fuels, which can act as an anchor to bring in private adopters. The challenge is to make the alternative fuels more accessible and increase public knowledge to ease transition.

Reviewer 2:
The reviewer noted that the success of the CNG tariff started by Washington Gas would guide discussions on policy and infrastructure barriers that may be faced by other utilities on tariff matters, and this could have a positive effect on alternative fuel market expansion. The reviewer also noted that the tax credit for vehicles and infrastructure in Washington D.C. could provide for alternative fuel market expansion.

Reviewer 3:
The reviewer observed three presentation slides on "Alternative Fuel Market Expansion Potential". The first one lists some important, potentially high-payoff initiatives to be undertaken in the months ahead. The reviewer said it would be helpful to know which fuels these initiatives will focus on, and which working groups will be responsible for them. The reviewer said one future initiative would be to review and develop best practice models for conversion of diesel and gasoline engines. The reviewer would like to know more about the extent to which the project leaders plan to use work done previously on documentation of best practices and toolkits, to be assured that the effort is not duplicating material already developed.

Reviewer 4:
The reviewer thought this project was a good first start for a coalition that has not had previous DOE funding. The focus of this particular project is to establish working groups with expertise, as well as to develop and encourage greater penetration of alternative fuels into the regional fleets and market.

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

Reviewer 1:
The reviewer noted that this project supports the DOE goal of petroleum displacement. Specifically, the project meets the objective to develop policies, initiatives, and programs to positively impact growth and expansion of alternative fuel usage and the development of barrier reduction initiatives. This would eliminate impediments to the adoption of alternative fuels.

Reviewer 2:
The reviewer commented that products resulting from this project should have a significant value in increasing the use of alternative transportation fuels in Washington, DC, Virginia, and Maryland. The reviewer noted that the project should also benefit other organizations throughout the country that are engaged in commercialization of alternative fuels, and considering investing in AFVs and associated infrastructure.

Reviewer 3:
The reviewer commented that this region already has early AFV adopters that provide a base to build on to increase AFV/EV purchases by private companies and the public. The refueling locations and ease of access are important to the success of this project.

Reviewer 4:
The reviewer commented that the project does focus on the DOE program goals and objectives.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

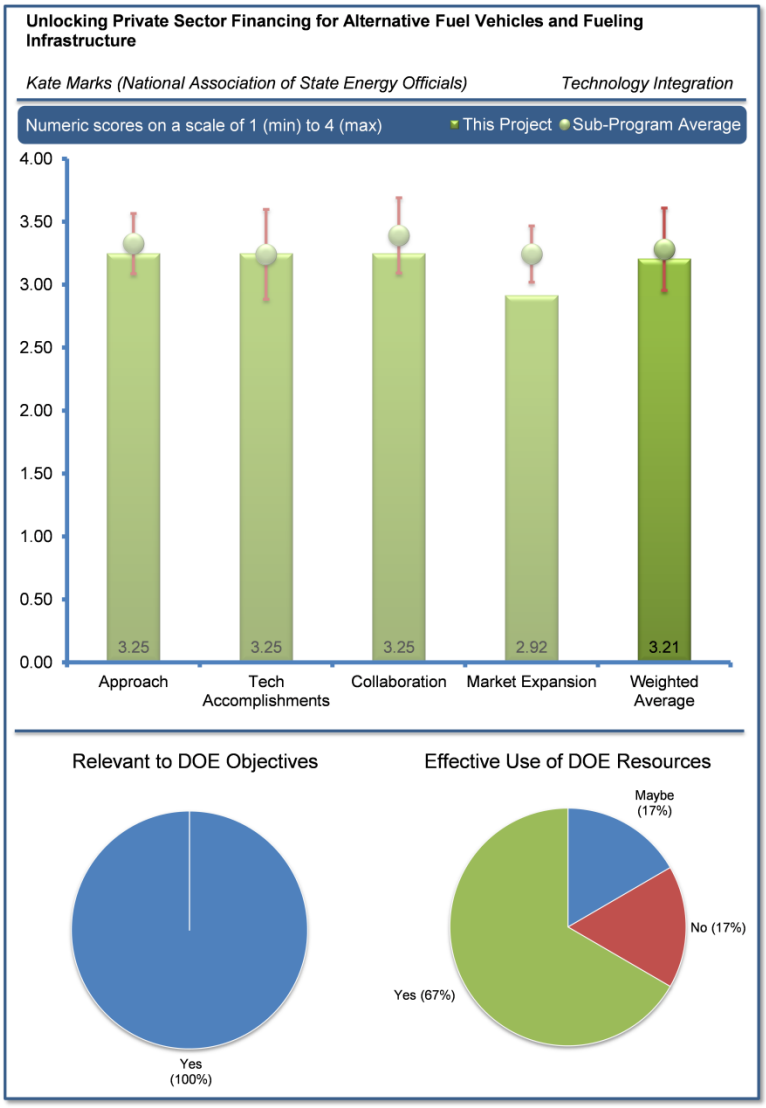
Reviewer 1:
The reviewer commented that the use of resources is appropriate to meet the project objectives.

Reviewer 2:
The reviewer stated that the success of alternative fuel adoption in the nation's capital is viewed by other states and the world. Having a successful AFV/alternative fuels infrastructure system is important in moving the nation toward these technologies.

Reviewer 3:
The reviewer commented that it was not clear if funds have been used wisely in this project. The reviewer said it is not clear if all of the accomplishments listed could be attributed to the work done by this project.

Reviewer 4:
This project is providing a variety of products that are important to alternative fuel progress in Washington, D.C., Virginia, and Maryland. The reviewer commented that such work should continue to be a high priority for the VTO. The reviewer was concerned, however, that there was not a “critical mass” of project funds being devoted to fuels and activities which are considered the highest priority for petroleum displacement in the region. The project is attempting to be fuel neutral and cover all the bases. The reviewer said whether there are sufficient funds available to do that, taking into account this and other related alternative fuel projects is an important consideration. The reviewer suggested when this round of TI projects is completed that DOE should conduct an analysis to determine which projects have achieved better results for the resources expended (i.e., those addressing multiple fuels, or those that focus the bulk of the funds on advancing one or two fuels).

Unlocking Private Sector Financing for Alternative Fuel Vehicles and Fueling Infrastructure: Kate Marks (National Association of State Energy Officials) - ti038



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

In addition to identifying the key tasks of policy, barrier reduction, safety and training, outreach, and market development initiatives, the reviewer noted that the project also identified specific barrier mitigation strategies. These include easing consumer reluctance, increasing experience with alternative fuels, leveraging public funds with ratepayer and private activity, and leveraging and expanding the Clean Cities network. The reviewer asserted these strategies, and the associated approach and related milestones and status are an excellent description of the overall approach.

Reviewer 2:

The reviewer commented that the approach of harmonizing policies and objectives of states with the Clean Cities programs is an important factor in successfully moving the nation toward AFVs and alternative fuel use. The reviewer said that the approach to work through the states to address consumer reluctance and other barriers is important. States can be highly effective in moving the private and public fleets toward newer technologies.

Reviewer 3:

The reviewer noted that this project focuses on identifying unique and innovative funding options for AFVs and infrastructure. The reviewer stated that the financing focus is a unique aspect compared to the other funded projects. The reviewer also stated that the approach aims to ease consumer reluctance by doing the following: developing and disseminating information about barriers, risks, and financing options for infrastructure development; improving coordination between Clean Cities, State Energy Offices (SEOs) and fleets; and developing an innovative way to finance infrastructure development.

The reviewer commented that the plan included establishing a regional transportation committee to promote peer-to-peer learning and information sharing on best practices, challenges, opportunities, and priorities. The reviewer noted that workshops developed in this project would emphasize financing options, strategies, and mechanisms, whereas other projects are focused more on safety and technician training. The reviewer said that this focus makes this project unique.

Reviewer 4:
The reviewer said that the financing model has been a critical and missing piece of the AFV puzzle for quite a while. The reviewer said having this model available to all Clean Cities coordinators would be helpful. However, there was not much mention of this.

Reviewer 5:
The reviewer commented that the project objectives, shown in presentation slide three, are important. However, they are stated generally and the reviewer would have preferred something more specific. The reviewer said it was nice to see a list of milestones with the month scheduled for completion of each. (Some of the projects reviewed do not include completion dates associated with milestones in their presentations).

The reviewer commented that presentation Slides 5 - 9 provide a thorough treatment of the project approach. The reviewer said it seems that significant thought has been devoted to development of an approach. However, the reviewer thought the combination of tasks, milestones, barrier mitigation strategies, and approach elements is somewhat difficult to grasp with limited exposure to the project. The reviewer found the "Related Milestones and Status" section in Slides 6 - 9 to be helpful, but the connection between "Barrier Mitigation Strategies" and the tasks listed on Slide 5 was not obvious. The reviewer commented that the approach seemed to emphasize plans, reports, development of tools and establishing committees, and had some concern about that.

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

Reviewer 1:
The reviewer said that the project's accomplishments and progress had been excellent. The scan of the Integrated Resource Plan is the only report completed, but most other activities have started, including work by the Transportation and Finance Advisory Committees, a Technical Reference Manual draft and an energy security planning data template, and training for Clean Cities stakeholders.

Reviewer 2:
The reviewer commented that the Technical Reference Manual is interesting because it is looking at the policy angle feasibility perspective. This is a tool that can encourage those states that are reluctant to lead in this area to take a more proactive approach. The reviewer said the approach to data collection through the plug-and-play template is very good because it can be used by other Clean Cities coalitions.

Reviewer 3:
The reviewer commented that a number of project accomplishments are cited, including the following: creation of a National Association of State Energy Officials (NASEO) Transportation Committee; review of utility Integrated Resource Plans; a Technical Reference Manual with information related to electric vehicle investments; an energy security planning template for Clean Cities coordinators, SEOs, and other users; establishment of a Financing Advisory Committee; case studies, with the associated development of innovative business models; and training for Clean Cities stakeholders.

Despite concerns about too many initiatives, and insufficient focus on a few priorities, the reviewer's conclusion was that the project is delivering some results and organizational links, which can add value. The reviewer noted that there was no indication in the presentation that there are quantitative results (for example, more AFVs and alternative fuel infrastructure investment) that can be linked to the project.

Reviewer 4:
The reviewer noted excellent cooperation.

Reviewer 5:
The reviewer said that the project had made good progress toward completing its planned tasks. The project completed and published a survey of 31 utilities nationwide to determine how utility planners and regulators were accounting for the impact of electric vehicles on the grid. The reviewer noted that the project also created a Technical Reference Manual that characterizes energy savings, environmental benefits, and financial costs; developed a plug-and-play data template for Clean Cities and transportation agencies to use for data

collection; established a Financing Advisory Committee and conducted and published several case studies; and is planning several regional training workshops. The reviewer commented that this is a strong list of accomplishments so far and that the project is making good progress.

Reviewer 6:
The reviewer commented that there was nothing presented on innovative financing except the formation of a committee [DOE Program Clarification: Private investment tools were discussed on Slide 4 and Slide 6 of the project presentation].

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that there is an excellent team of partners brought together on this project. In addition, the reviewer stated that the number and type of participants in the Financing Advisory Committee was impressive.

Reviewer 2:
The reviewer commented that NASEO, the project leader, primary partners, and project advisors, are well recognized for their expertise and contributions to the advancement of alternative fuels. The reviewer found that Slide 18 of the presentation provided an excellent diagram on the responsibilities and coordination among the various project participants.

The reviewer commented that throughout the presentation there is evidence of collaboration with Clean Cities coalitions and SEOs, as well as efforts to establish more communication and partnership among those organizations. Slide 10, for example, indicates participation from Clean Cities coalitions in five states and the District of Columbia, and Slide 15 cites a partnership with the Harvard Business School.

Reviewer 3:
The reviewer commented on the exemplary Transit Effectiveness Project outreach.

Reviewer 4:
The reviewer noted that project collaborators have good coverage of expertise. Advisory board members represent major vehicle producers and environmental and energy organizations.

Reviewer 5:
The reviewer noted good collaborations, but would like to see more SEOs such as Colorado's become active participants.

Reviewer 6:
The reviewer said it was a very nice group of partners, but was surprised there were no matching funds especially with the New York State Energy Research and Development Authority (NYSERDA) being involved, and that there are no Clean Cities coalitions involved.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer commented that targeting private sector investors is a good approach that may help the states that are less active become more proactive in response to this added interest.

Reviewer 2:
The reviewer said that if private sector companies implement the innovative financing mechanisms identified in this project, then there is a high potential for this work to aid in the alternative fuel market expansion. In addition, the reviewer stated that state and utility

decision-makers would be able to more accurately assess the costs and benefits of investments in transportation efficiency measures, and this would also allow for alternative fuel market expansion.

Reviewer 3:
The reviewer commented that the project is delivering results, such as case studies and innovative business models, which can add value. The reviewer said the project is also building important organizational links, which could influence private sector investments. Whether the desired positive results are achieved would depend on accomplishments during the last half of the project and follow-on after the project by DOE and others. The reviewer said DOE should critically review materials and actions resulting from the project, and work with NASEO to assure that they are used by organizations that make decisions affecting alternative fuels.

Reviewer 4:
The reviewer commented that the project has good potential to raise awareness of the benefits of AFV and EV technologies and identify mechanisms for financing the necessary infrastructure, by increasing cooperation between SEOs, and by developing guidance documents and templates for developing infrastructure plans and financing plans.

Reviewer 5:
The reviewer remarked that the goals of this project mimic the goals of the Clean Cities program in general.

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

Reviewer 1:
The reviewer commented that the results of this project have the potential to provide significant value in increasing the use of alternative transportation fuels throughout the country. With proper use and continued development, they should benefit organizations that are engaged in commercialization of alternative fuels, those that are considering investing in AFV and associated infrastructure, and those that should be, but are not yet, interested.

Reviewer 2:
The reviewer commented that having the States as active partners is important to the continued success of the Clean Cities Program. Also, NASEO is a natural partner to help move AFV/alternative fuels adoption across the country.

Reviewer 3:
The reviewer noted that the project objectives support the DOE goal of petroleum reduction, including stimulating private sector investment in AFVs and associated infrastructure projects, and developing innovative vehicle and infrastructure financing models to make AFVs more accessible to potential users.

Reviewer 4:
The reviewer remarked that the project was well aligned with DOE program objectives.

Reviewer 5:
The reviewer noted that SEOs were paramount to the success of the project.

Reviewer 6:
The reviewer commented that the project had similar goals, but the reviewer did not see any hard numbers of fleets or vehicles that would be using AFVs because of this program.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer commented that partnering with NASEO is important in increasing the role of the states in furthering petroleum reduction efforts though alternative fuels use.

Reviewer 2:

The reviewer noted that for the amount of resources put into this project, DOE would be getting a lot of very good information, and DOE funds were definitely being used wisely.

Reviewer 3:

The reviewer noted that in the presentation package, states have a critical role in establishing an environment that is conducive to investment in alternative fuels. The reviewer noted that some states have had success in serving as catalysts for deployment and commercialization of energy technologies, and states are the primary audience for NASEO and the products of this project. The reviewer said it seems appropriate for DOE to support activities that assist states in achieving emissions reduction from vehicles and fuel diversification.

The reviewer commented that DOE should undertake a critical review of the project's work to assure that its results are disseminated widely to relevant State agencies, fleet managers, regulators, and legislators. The reviewer stated that an assessment should be done to confirm that SEOs find the reports and other products to be usable and useful. Consistent with the project objectives, the reviewer thought that if the states and Clean Cities coalitions take advantage of this work to influence greater private sector investment, then DOE can justify funding periodic updates. Given the widespread use of project results by states, the reviewer also thought that DOE should consider funding development of case studies and success stories that can be shared with both public and private decision-makers.

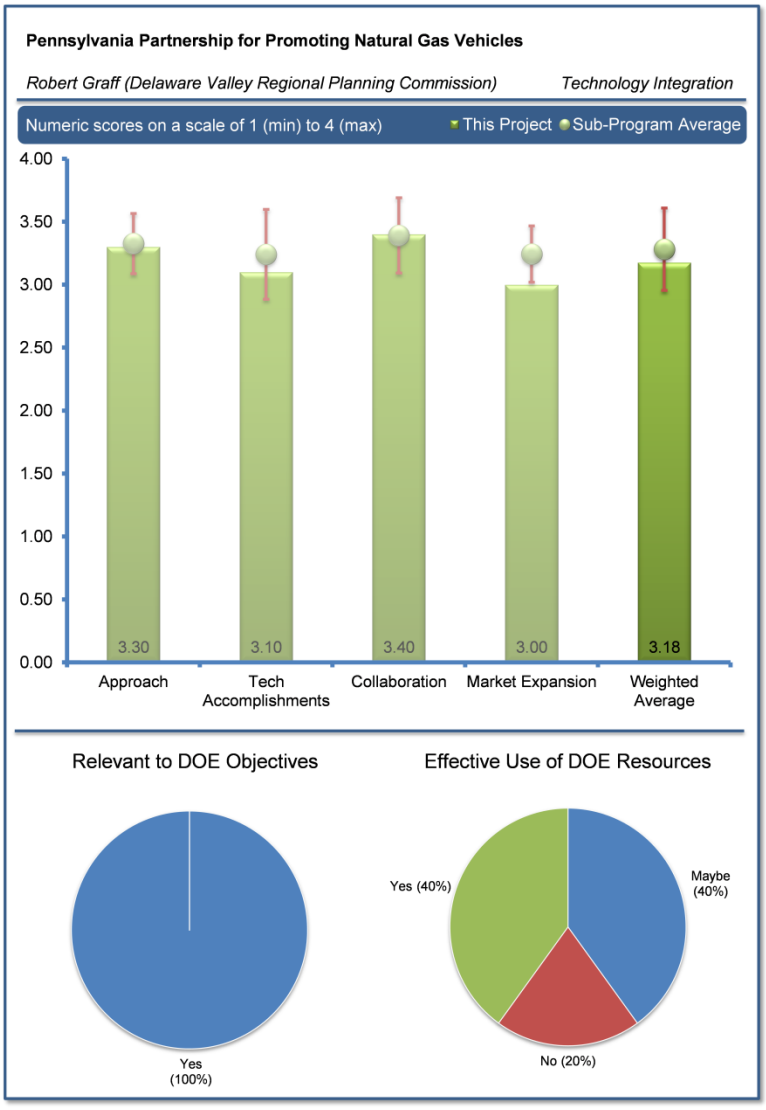
Reviewer 4:

The reviewer commented that this project takes a unique approach of addressing the financing aspect of AFV investment and infrastructure. The reviewer said financing is often a substantial barrier that has not been a focus of other programs aimed at increasing AFV adoption, and projects that address the financing aspect should be funded in the future.

Reviewer 5:

The reviewer stated that the funds would have been better off going to a Clean Cities coalition. The reviewer thought NASEO should already be doing these tasks as part of their normal duties.

Pennsylvania Partnership for Promoting Natural Gas Vehicles: Robert Graff (Delaware Valley Regional Planning Commission) - ti039



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer noted that the Pennsylvania Partnership to Promote Natural Gas Vehicles (P3NGV) is taking a niche approach by targeting refuse haulers and school buses, and the lesson learned is the important factor in this approach. While the refuse haulers are transitioning successfully, the reviewer noted that there are economic and refueling issues with the school buses. The reviewer also remarked that this approach could help identify opportunities for other cities interested in niche market approaches.

Reviewer 2:

The reviewer noted that this project is primarily focused on increasing NGV adoption in municipal refuse vehicles and school buses. The reviewer also noted the scope of work includes providing information to potential NGV fleet operators, addressing code enforcement and permitting issues to enable NGV operation and infrastructure, and providing technician/mechanic and first responder training. The reviewer said no regulatory mandates exist to encourage alternative fuels and technologies in this area, and the alternative fuels initiative must make sense from a business case/economics perspective.

The reviewer commented that the approach would target procurement guidelines and code enforcement officials to make the process of permitting alternative fuel stations and infrastructure more efficient by educating fleets and code enforcement offices. Training for maintenance personnel and first responders is also being developed and delivered, and workshops have been held for school district officials, municipal officials, and small private refuse haulers. The reviewer thought the approach seemed well-designed to accomplish the goals and objectives.

The reviewer noted that it is very difficult to make a business case for NG school buses due to low vehicle turnover, bus leasing instead of purchasing and contracting bus services to outside vendors, and asked whether it was really advantageous to target CNG as a fuel for school buses. The reviewer said maybe the resources going to this target fleet could be more effectively applied to fleets where it is easier to make a business case for CNG. The reviewer also said that the project would develop easy and accurate tools to assess maintenance facility conversion costs, which could be significant for CNG.

Reviewer 3:

The reviewer remarked that the project covers the four major areas well (policy, barriers, education, and market outreach). The reviewer said education of public officials, whether it is fire marshals or code officials, is critical to the long-term success of any AFV project.

The reviewer said that there are some overlapping training classes being developed that may be better organized at a national level with national partners.

The reviewer also added that DOE should include national fuel partners in their national meetings or perhaps during the project review phase so that they can step up when there is an obvious need for a national curriculum.

Reviewer 4:

The reviewer commented that given the resources available for this project, focusing the effort on a single alternative fuel, CNG, is prudent. The reviewer said that concentration of the work on limited vehicle classes and fleets (refuse haulers and school buses) should increase the probability of success in achieving project objectives and contributing to DOE's alternative fuel deployment goals.

The reviewer stated that workshops and training are major elements in the project approach, and that both are important to the successful introduction of alternative fuels. The reviewer thought it was nice to see a list of milestones with the month scheduled for completion of some. For others, however, the reviewer noted the "milestone" is actually an activity that extends over a period of months (and more than a year for one entry).

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

Reviewer 1:

The reviewer commented that accomplishments included formalizing a partners group, creating a stakeholder and expert advisory group, deploying five workshops for municipal officials, presenting to the Delaware Valley Association of School Business Officials, and contracting with the National Alternative Fuels Training Consortium (NAFTC) to provide mechanic and first responder training. The reviewer said good progress had been made toward completing the proposed tasks.

Reviewer 2:

The reviewer commented that the lessons learned, particularly with the school buses, are useful because they may point to an opportunity to encourage school buses to go toward another alternative fuel with lower cost, such as propane. The reviewer noted that refuse haulers, on the other hand, are successfully switching to NG. The reviewer commented that the first responder training and maintenance training workshops are very useful, and recommended that the materials and training be made available on the web for those that need refresher courses.

Reviewer 3:

The reviewer commented that there are a number of accomplishments associated with the project, including the following: a well-defined management structure; establishment of a stakeholder and expert advisory group; workshops for municipal officials with the focus on using NG for refuse vehicles; preparation for workshops devoted to using NG in school buses; and selection of a contractor to provide training for first responders. Project partners are also analyzing municipal and school district procurement processes.

A solicitation was issued seeking a contractor to conduct training and the NAFTC was selected. The reviewer commented that this is an organization that developed training curricula and materials through a prior DOE funded project, and that utilizing materials produced by other projects is appropriate and cost-effective. The reviewer noted that there was no indication in the presentation that there are quantitative results, such as increased AFV use and alternative fuel infrastructure investment, which can be linked to the project.

Reviewer 4:

The reviewer is concerned that the "failure" to promote CNG buses would set back the Pennsylvania AFV program. Focusing on one fuel, in this case CNG, would close the door for other more viable options. While CNG is capturing the refuse hauler market, propane is capturing the school bus market and operators are saving money by using propane. The reviewer asked what provisions were in this program to hold propane or biodiesel school bus workshops. The reviewer said perhaps this is an opportunity for a TIGER Team deployment.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that P3NGV has put together good collaborations, including the Pittsburgh Clean Cities, which is advising. The reviewer noted working locally was as important as working regionally.

Reviewer 2:
The reviewer acknowledged that the collaborators seemed appropriate to accomplish the objective of the project. Collaborators include the following: Delaware Valley Regional Planning Commission and lead partner, Greater Philadelphia Clean Cities; Pittsburgh Regional Clean Cities; Pennsylvania Department of Environmental Protection; PECO Energy Company; and Philadelphia Gas Works.

Reviewer 3:
The reviewer observed good coordination with the local Clean Cities and NG and electric utilities.

Reviewer 4:
The reviewer said broad outreach.

Reviewer 5:
The reviewer commented that with the leadership of the Delaware Valley Regional Planning Commission, there are relatively few partners associated with this project. However, collaboration among two Clean Cities coalitions, two public utilities, and the Pennsylvania Department of Environmental Protection bodes well for advancement of NGVs in Pennsylvania. The reviewer said Slide 11 of the project presentation clearly describes the role of each project partner. In his oral presentation, Mr. Graff noted that project partners have also reached out to other organizations for assistance. He mentioned a NYSERDA-developed model for decision-makers and the National Renewable Energy Laboratory.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer commented that because of the barriers identified with the school buses converting to NG buses, the expansion is limited.

Reviewer 2:
The reviewer said a number of activities are listed for accomplishment during the remainder of the project and all activities included on Slide 12 of the presentation should contribute to achieving project objectives and DOE goals. Also, DOE could inquire about which activities the project partners believe would have the greatest impact on those whose decisions would affect growth in the use of NGVs. Slide 13 and Mr. Graff's oral presentation indicate that there is a good understanding of the barriers to market acceptance of NG trucks and buses and what is needed to overcome those barriers.

Reviewer 3:
The reviewer commented that the project has the potential to increase CNG use in refuse fleets. Some issues such as inability of fleets that use refuse trucks for snow removal to use slow fill fueling stations need to be addressed. New York City Sanitation uses refuse trucks for snow removal and has CNG trucks in their fleets. Some lessons may be learned from their experience. The reviewer remarked that the project is exploring the potential to share fueling facilities. There are hurdles to overcome with shared facilities due to locations of school bus depots and refuse fleets, and traffic that would increase in residential areas. The reviewer pointed out that the potential to expand CNG use in school bus fleets may present a greater challenge because it is hard to make a business case. This case may need to rely more heavily on the health effects of particulate emissions from diesel fuel buses on children.

Reviewer 4:
The reviewer pointed out that it was mentioned that school bus fleets are not experiencing any savings and it has been determined that CNG without incentives will not fly. It appears that the expansion of CNG school buses would not move forward without incentive funding in Pennsylvania, so according to the reviewer, this will not be something we would want to replicate nationally.

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

Reviewer 1:
The reviewer found that the lessons learned are the most important aspect of this approach. Economics is a major factor in converting the niche market vehicles and it would be good to see what solutions P3NGV recommends based on their experience on this project.

Reviewer 2:
The reviewer concluded that results of this project have significant potential for increasing the use of alternative transportation fuels, specifically NG, in Pennsylvania. The reviewer observed that follow-up analyses and case studies may also benefit other organizations throughout the country that are engaged in commercialization of alternative fuels, and are considering investing in AFVs and associated infrastructure.

Reviewer 3:
The reviewer noted that this project seeks to increase CNG use in certain fleets in the Philadelphia metropolitan area, and found that the project is aligned with the DOE program goals.

Reviewer 4:
The reviewer observed that CNG and EV do displace petroleum, but in this case the reviewer did not think this project would displace much.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer opined that the funds for workshops, training, information dissemination, procurement analysis and other project activities are being used wisely and properly. As the reviewer noted previously, this project is providing products important to alternative fuel progress in Pennsylvania. The reviewer suggested that work on deployment initiatives such as this should continue to be a high priority for the VTO. When this round of TI projects is completed, DOE should conduct an analysis to determine which projects have achieved better results for the resources expended – those addressing multiple fuels or those that focus the bulk of the funds on advancing one or two fuels.

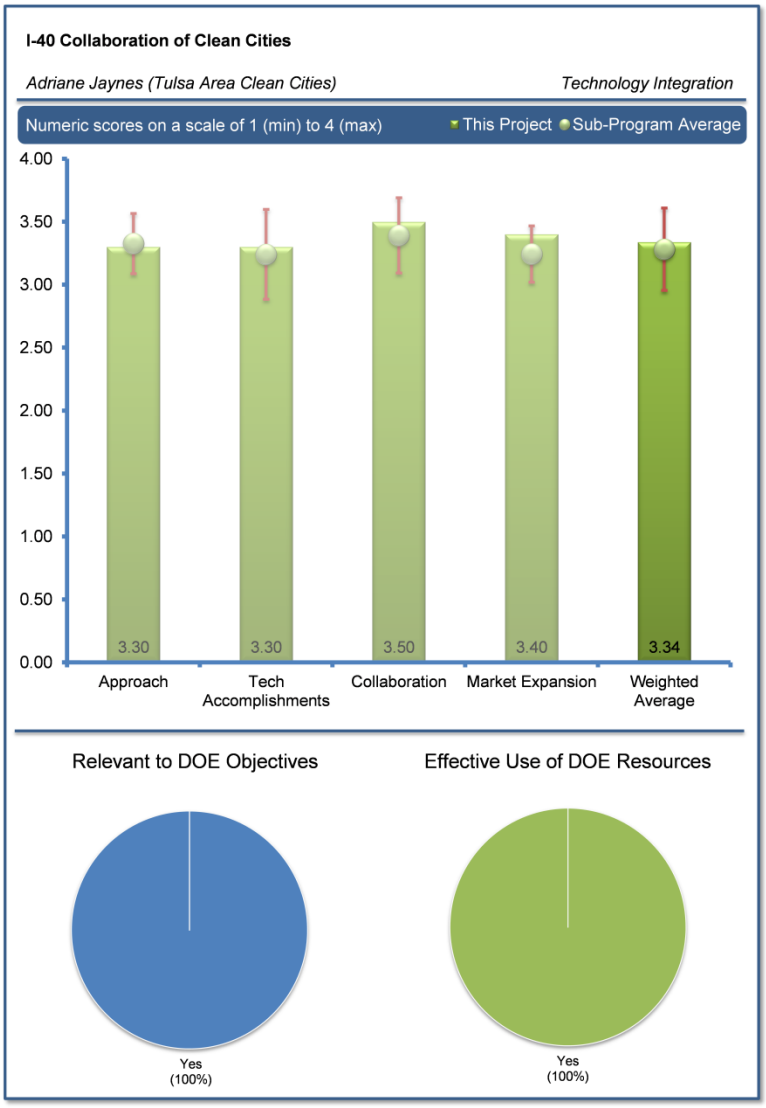
Reviewer 2:
The reviewer concluded that if it is determined that it is very difficult to make a business case for CNG in school bus fleets, funds directed at that objective may be redirected to fleets for which a better economic case can be made, or toward focusing on the health related benefits of converting diesel bus fleets to CNG. Market outreach and mechanic/first responder training may not be adequate to convince school districts to invest in CNG as a fuel [DOE Program Clarification: The reviewer's comment was recognized as a general observation because training is not included as part of this project].

Reviewer 3:
The reviewer commented that the niche market approach with only one fuel in mind is too limiting. The reviewer suggested that it might have been better to look at municipal buses and delivery trucks operated by private companies, with a variety of fuel options.

Reviewer 4:
The reviewer did not think DOE should fund a NG school bus project, but rather a generic Alternative Fuel school bus project where all of the viable options are explored. The reviewer commented that this project pretty much proves that [DOE Program Clarification: This

project was selected from a fuel neutral solicitation process. The project team selected the alternative fuel and/or technology options on which the project would focus.].

I-40 Collaboration of Clean Cities: Adriane Jaynes (Tulsa Area Clean Cities) - ti040



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the zoning code updates, highway signage, and step by step guide for alternative fuel developers were particularly interesting. These are all useful approaches that can be transferred to other cities.

Reviewer 2:

The reviewer observed a very good approach to education of fire marshals, code officials and fleets. Once again, this project is developing its own training materials; that should be done on a national level and then tweaked locally. The reviewer concluded that this project has a great mix of partners, especially the Oklahoma State University Fire Service Training folks.

Reviewer 3:

The reviewer noted that the project approach is clearly and succinctly communicated in Slide 8 of the presentation. Tasks are defined by the four elements that are common to the TI projects being reviewed (policy, barrier reduction, safety and training, and market development/outreach). The reviewer observed that topics or key activities associated with each task are included on the "Approach" slide. Slides 4 through 7 convey expanded information on activities linked with each of the four program elements.

The reviewer commented that this project has a variety of activities that address multiple alternative fuels – NG, propane and electricity. The reviewer pointed out that there could be a concern about trying to cover too many bases. However, according to the reviewer, this project is different than others that were reviewed, given its focus on more utilization of existing NG and propane infrastructure, and steps to ensure that vehicles using gaseous alternative fuels, and the fueling infrastructure, are safe. The reviewer gathered that evidently Oklahoma has a relatively robust NG and propane vehicle fueling infrastructure; conversion and original equipment manufacturer (OEM) vehicles are needed. The reviewer pointed out that presentation slides titled "Milestones" are actually statements of project activities rather than a list of milestones that link deliverables and completion dates. The reviewer indicated that Ms. Jaynes' oral presentation provided additional confidence that there is a plan that defines and guides the diverse project activities. The reviewer offered that the statement of objectives (Slide 3) adds no value or content to the presentation.

Reviewer 4:

The reviewer detailed that this project addresses policy barriers, safety and training availability and market development/outreach to increase alternative fuel and electric vehicle market penetration along I-40 in Oklahoma and Arkansas. Policy initiatives include

investigating policy changes in other municipalities and developing a best practices report on the findings, and hosting meetings of code enforcement officials, fire marshals and alternative fuel station designers to streamline the permitting processes.

The reviewer pointed out that the project addresses a unique requirement in Oklahoma for licensure of mechanics that repair CNG vehicles, and policies and resale restrictions that prevent owners of electric vehicle charging stations from charging a fee for the charging service. The reviewer detailed that marketing and awareness efforts include a campaign to identify alternative fuel stations on road signage along major highway routes. Many people are not aware of the existence and location of alternative fuel stations. The reviewer concluded that these are solid approaches to improve adoption of alternative fuels and technologies.

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

Reviewer 1:
The reviewer noted that progress includes developing the Ozone Advance Program and getting it included in the State Implementation Plan. The reviewer pointed out that the project researched highway signage to identify alternative fuel stations. The project developed a course syllabus for AFV mechanic training in Arkansas that mimics the program in Oklahoma, developed a safety training curriculum and delivered 10 training sessions in Oklahoma. The reviewer noted that a contract for 10 additional training sessions in Oklahoma and 10 in Arkansas has been awarded, that footage for a public outreach video has been shot, and that the project has helped get AFV recommendations into the zoning code update process in Tulsa. The reviewer concluded that significant progress has been made toward accomplishing the scope of work.

Reviewer 2:
The reviewer acknowledged that the policy initiatives are helpful because other cities can also benefit from the lessons learned and the process. Another important factor the reviewer pointed out was that the education videos were useful to both public and private entities. Linking this work with the ozone alert is also very important in terms of educating the public on the benefits of alternative fuels.

Reviewer 3:
The reviewer found that the most significant aspects of this program appeared to be code official training and the station installation guides. The reviewer noted that the CNG guide had been completed using the grant funds and the liquefied petroleum gas (LPG) station guide appeared to be a bonus.

Reviewer 4:
The reviewer pointed out that there are a number of accomplishments associated with the project, including the following: preparation of zoning recommendations for alternative fuel infrastructure; research on policies for licensing and oversight of mechanics working on AFV and alternative fuel infrastructure; a case study on signage that will provide greater visibility for alternative fuel stations; a video on conversion of vehicles for CNG use; training for mechanics, inspectors and fire marshals; and outreach workshops. The reviewer found that the partners in this project are making sound decisions to take advantage of available products and materials resulting from other projects and initiatives. For example, partners have researched legislation, regulations and codes of municipalities within their region, as well as other states; decided to use a CNG guide published by the American Natural Gas Alliance rather than writing a new one; and worked with the National Alternative Fuels Training Consortium to adjust its curriculum to suit project objectives for training of emergency response systems and law enforcement personnel. The reviewer commented that as a result of the project, materials that have been developed for use in Oklahoma will be made available for training in Arkansas. That is all positive. The reviewer remarked that several activities have been completed for a lower budget than planned, allowing more work, including training classes, to be added. The reviewer noted that there was no indication in the presentation that there are quantitative results – for example, increased AFV use – that can be linked to the project.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer applauded a wonderful mix of organizations that have been pulled into this program, and although there was no match in the original grant, it appears this program has been able to get others to contribute funding.

Reviewer 2:
The reviewer remarked on the excellent partnerships, because the project team also includes academia and air quality organizations.

Reviewer 3:
The reviewer pointed out that the project has a broad coverage of collaborators including two Clean Cities coalitions, state agencies and energy offices, several universities and other industry constituents.

Reviewer 4:
The reviewer observed that this project brings together the Tulsa Area and Arkansas Clean Cities coalitions. A strong partnership and collaboration between these organizations bodes well for advancement of alternative fuels in the region. The reviewer found that the project is further strengthened by the participation of state agencies in Oklahoma and Arkansas, as well as area colleges. Slide 15 indicated that there is also collaboration with a number of other organizations. The Clean Cities coalitions' relationships with local utilities, government agencies, fleet managers and alternative fuels proponents will be a key to project success and results. The reviewer pointed out that the project presentation does not describe the respective roles and responsibilities of each project partner.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer found that the training is very good because it is heavily focused on safety. Training for mechanics, code inspectors and fire marshals is needed and can be easily transferred to other cities across the country.

Reviewer 2:
The reviewer pointed out that Slides 16 and 17 provide, for each of the four major tasks, a summary of project activities to be completed. A statement suggesting how selected project results could be used is also included for each task. The reviewer noted, for example, that the Policy task will provide case studies that states and municipalities can use to update zoning codes, utility regulations and licensing of AFV mechanics.

The reviewer concluded that the project is delivering results that can add value. The reviewer suggested that DOE should review the materials produced, such as case studies, developer guides and videos. The reviewer expressed that these materials should be considered for replication, and disseminated as appropriate to Clean Cities coalitions and others committed to alternative fuels. The reviewer suggested that DOE could inquire about which materials the project partners believe will have the greatest impact on those whose decisions will affect growth in the use of NGVs.

Reviewer 3:
The reviewer commented that the mechanic licensure process in Oklahoma has potential for replication in other localities and states. The reviewer found that the program should increase awareness of the availability of alternative fuels in the region through a highway signage campaign and public outreach efforts, and that some progress was being made on utility resale restrictions.

Reviewer 4:
The reviewer pointed out that the lack of AFV signage has been a barrier to AFV commercialization for a long time. The reviewer emphasized that if this project gets signage in place perhaps it will spread to other states and provide key consumer awareness.

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

Reviewer 1:
The reviewer concluded that the project is aligned with DOE program goals.

Reviewer 2:
The reviewer pointed out that this project focuses heavily on zoning and safety with an important educational component in successfully transitioning to newer technology. The process and the outcome can be shared with other cities.

Reviewer 3:
The reviewer found that project results have excellent potential for increasing the use of alternative transportation fuels, particularly NG and propane, in Oklahoma and Arkansas. The reviewer noted that follow-up analyses and case studies may also benefit other organizations throughout the country that are engaged in commercialization of alternative fuels, and are considering investing in AFVs and associated infrastructure.

Reviewer 4:
The reviewer remarked that every deliverable supports this goal.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer remarked that the accomplishments from this project are transferrable and are needed to successfully transition to an alternative fuel market and petroleum reduction.

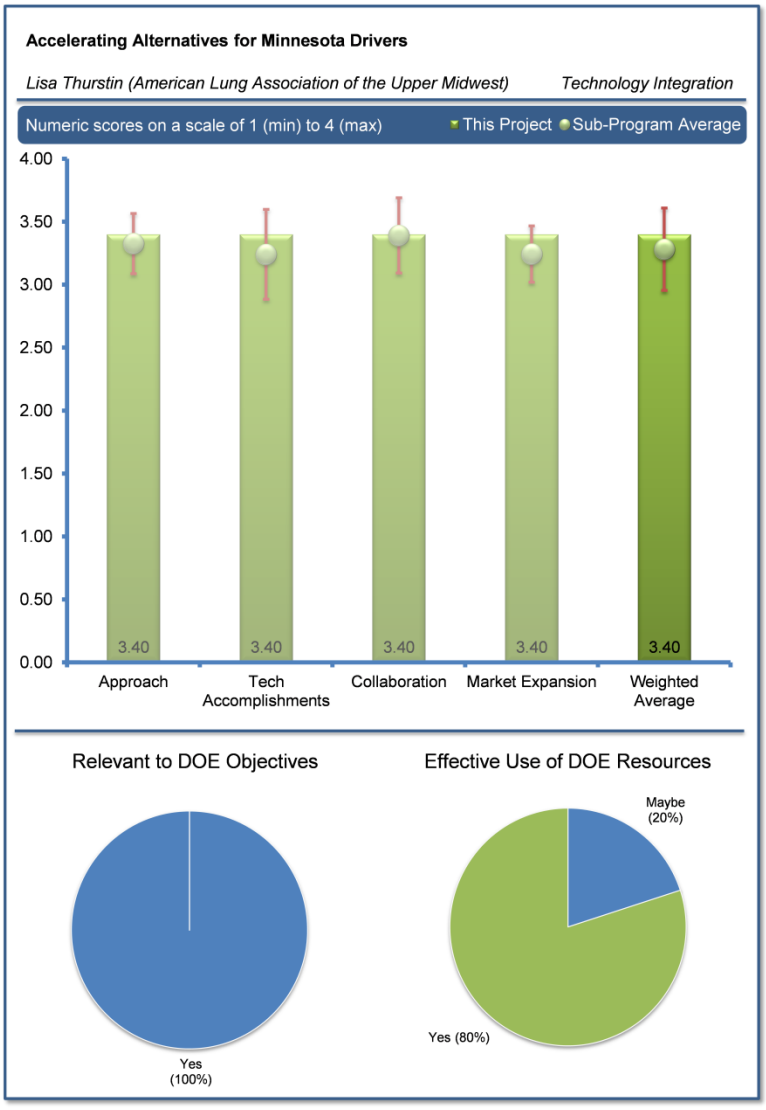
Reviewer 2:
The reviewer said that this project has higher funding than most others reviewed. While the reviewer applied a bit higher standard, this reviewer's opinion is that the funds are being used well and prudent decisions are being made.

As noted previously, the project is providing products important for alternative fuel progress in Oklahoma and Arkansas. The reviewer remarked that work on deployment initiatives such as this should continue to be a high priority for the VTO. The reviewer said that when this round of TI projects is completed, DOE should undertake a critical review of materials such as case studies, guides, training curricula and information videos. It is possible that these products set a new standard and should be widely disseminated. The reviewer remarked that it is also possible that it would be more efficient for such products to be developed "centrally", with periodic updates, rather than produced as part of any single regional project portfolio. The reviewer suggested that DOE should also conduct an analysis to determine which projects have achieved better results for the resources expended – those addressing multiple fuels or those that focus the bulk of the funds on advancing one or two fuels.

Reviewer 3:
The reviewer indicated that use and allocation of resources seems appropriate.

Reviewer 4:
The reviewer is sure that Oklahoma has a unique code of regulations for AFV station development, so spending funds to educate code officials and Fire Marshals is well spent. The reviewer commented that more funds could go to this task if there was already a national DOE funded program in place, as this reviewer mentioned ad nauseam on other project reviews.

Accelerating Alternatives for Minnesota Drivers: Lisa Thurstin (American Lung Association of the Upper Midwest) - ti041



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that this project addresses safety trainings not only on alternative fuels but also multi-unit buildings for EV charging. The reviewer pointed out that this is a barrier that is shared across the country. The availability of EV chargers in multi-unit housing will have a large positive impact on the EV market.

Reviewer 2:

The reviewer liked the fact that the project involved the multi-unit housing group. The reviewer exclaimed that this seemed to be some outside of the box thinking. Additionally, this project has already delivered quite a few deliverables with the smallest budget of the projects reviewed.

Reviewer 3:

The reviewer commented that this project has a diverse, wide-ranging set of objectives, which are included on Slide 3 of the presentation. Primary targets of opportunity for the project are PEVs and NGVs. The reviewer found that some objectives are good (i.e., specific); others are too general.

On Slide 4, most of the "milestones" are activity descriptions rather than deliverables with completion dates. One milestone is nearly a year beyond the scheduled project end date.

The reviewer observed that the project approach is described in Slide 5. Project tasks are defined by the four elements that are common to the TI projects being reviewed (policy, barrier reduction, safety and training, and market development/outreach). Topics or activities associated with each task are included on the "Approach" slide. The reviewer cautioned that given the relatively small amount of funding for the project, there could be a concern about trying to cover too many bases.

The reviewer suggested that spelling out the most important, specific, quantitative objectives and milestones – for each project task – would improve the project plan and increase the likelihood of substantive results.

Reviewer 4:

The reviewer commented that the project's intent is to reduce obstacles to alternative fuel, NGV and PEV adoption in Minnesota. The reviewer detailed that the approach includes providing safety and technical training opportunities for first responders and fleet personnel, delivering outreach at the state fair and through other educational events to increase awareness and address policy barriers, and

mechanisms to encourage NGV and PEV adoption. The reviewer observed that a particular objective is to increase access to charging infrastructure at multi-unit housing complexes by developing a database of information about providing charging infrastructure.

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

Reviewer 1:
The reviewer indicated that there is a need for concrete tools and good examples of multi-unit housing EV chargers. This project is looking at 19 sites and has made the information available online. The reviewer observed that the sites include worksheets, a cost analysis tool, and billing option guidelines, as well as 12 case studies. This area is new to most cities and having this information can really boost the EV market. The reviewer noted that the project team is also actively addressing CNG issues in Minnesota and working with dealerships to further educate them on alternative fuels.

Reviewer 2:
The reviewer observed that multiple outreach and educational events have been delivered. A website to deliver information about PEV charging station access has been developed. The reviewer noted that a Drive Electric Minnesota partnership comprised of government, utilities and private businesses has been launched with 49 public and private partners. The emphasis of the group is on promoting the establishment of additional charging infrastructure, investigating financial incentives, and promoting education and technical support and public policy. The Minnesota Natural Gas Vehicle Coalition was also created and was formed to accelerate the deployment of NGVs in public and private fleets and to expand infrastructure. The reviewer pointed out that a total of 47 training and outreach exhibits had been held. According to the reviewer, progress seems reasonable.

Reviewer 3:
The reviewer pointed out that there were noteworthy accomplishments associated with the project. A highlight seemed to be development of decision tools for potential PEV owners and multi-unit housing owners who are considering investments in charging stations. Another accomplishment cited is the formation of the Minnesota Natural Gas Vehicle Coalition (Slide 10).

The reviewer noted that the Drive Electric Minnesota initiative has attracted nearly 50 public and private partners who meet quarterly. In the presentation, the initiative is linked to installation of more than 120 EV charging stations. The reviewer observed that during the oral presentation, Mr. Kukkonen indicated that the project has increased the number of EV-related case studies nationwide from 3 to 12. This initiative is supported in part by funds from this project.

The reviewer commented that the connection between specific accomplishments – for example, case studies, workshops and first responder training – and the project are difficult to ascertain from the presentation. The reviewer pointed out that bullets on Slide 7 are not stated as accomplishments, but are more like a "To-Do" list. One, for example, says "Further the deployment of electric and NG vehicles". Despite concerns about too many initiatives for the funds available, and insufficient focus on a few priorities, the reviewer's conclusion is that the project is delivering some results and organizational links that can add value.

Reviewer 4:
The reviewer exclaimed that progress seems to have exceeded the project goals by a large amount. The reviewer would like to see more inclusion of all alternative fuels though.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer observed more than 40 active partners, and pointed out that this level of partnership helps increase awareness.

Reviewer 2:
The reviewer observed a great partner list that has generated additional in-kind support and contributed to this project, exceeding its goals and objectives. The reviewer concluded that the multi-unit housing charging initiative will make a great case study for others.

Reviewer 3:
The reviewer noted that this project is led by the Twin Cities Clean Cities coalition. Slide 2 identifies seven partners, including Xcel Energy, the Minnesota Pollution Control Agency, the City of Duluth and the University of Minnesota. A strong partnership and collaboration among these organizations bodes well for advancement of alternative fuels in the region. The reviewer observed that Slide 11 indicates that there is also collaboration with additional local governments, fleet owners and other organizations. The relationships with local utilities, government agencies, fleet managers and alternative fuels proponents will be a key to project success and future endeavors.

The reviewer pointed out that the project presentation does not describe the respective roles and responsibilities of each project partner, nor does it provide information about their commitment to alternative fuels and to the project.

Reviewer 4:
The reviewer noted that the collaborations included multiple county and city government agencies, fleets and light duty vehicle manufacturers, utilities and other constituents. Collaborators represent appropriate constituents with the potential to contribute to the project goals.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer noted that the work being done on the multi-unit housing EV charging could be transferred across the country, which would have a major impact on the EV market.

Reviewer 2:
The reviewer concluded that by tackling the multi-unit housing charging issue this project can pave the way for other coalitions to adopt similar projects.

Reviewer 3:
The reviewer concluded that there is potential to improve alternative fuel and electric vehicle acceptance through the work being done in this project. The reviewer pointed out that there is some leveraging of other related efforts in the state.

Reviewer 4:
The reviewer noted that most of the information in Slide 12, "Future Work", was about related efforts not funded by this project. The three bullets about the project are, again, very general, with no information on specific events, plans or milestones.

The project, in conjunction with other alternative fuel initiatives in Minnesota, should deliver some results that can add value. The reviewer suggested that DOE review materials produced, such as case studies, websites and training programs. These materials should be considered for replication, and disseminated as appropriate to Clean Cities coalitions and others committed to alternative fuels. The reviewer suggested that DOE could inquire about which materials the project partners believe will have the greatest impact on those whose decisions will affect growth in the use of EVs and NGVs.

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

Reviewer 1:
The reviewer complimented the project for setting itself apart by addressing a newer area for EV recharging, as well as addressing fleet needs and the CNG market.

Reviewer 2:
The reviewer concluded that results of this project have some potential for increasing the use of alternative transportation fuels, particularly electricity and NG, in Minnesota. Follow-up analyses and case studies may also benefit other organizations throughout the country that are engaged in commercialization of alternative fuels, and are considering investing in AFVs and associated infrastructure.

Reviewer 3:
The reviewer commented that the project supports DOE program goals.

Reviewer 4:
The reviewer found that all of the deliverables will help displace petroleum.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer said that the use and allocation of resources seemed appropriate.

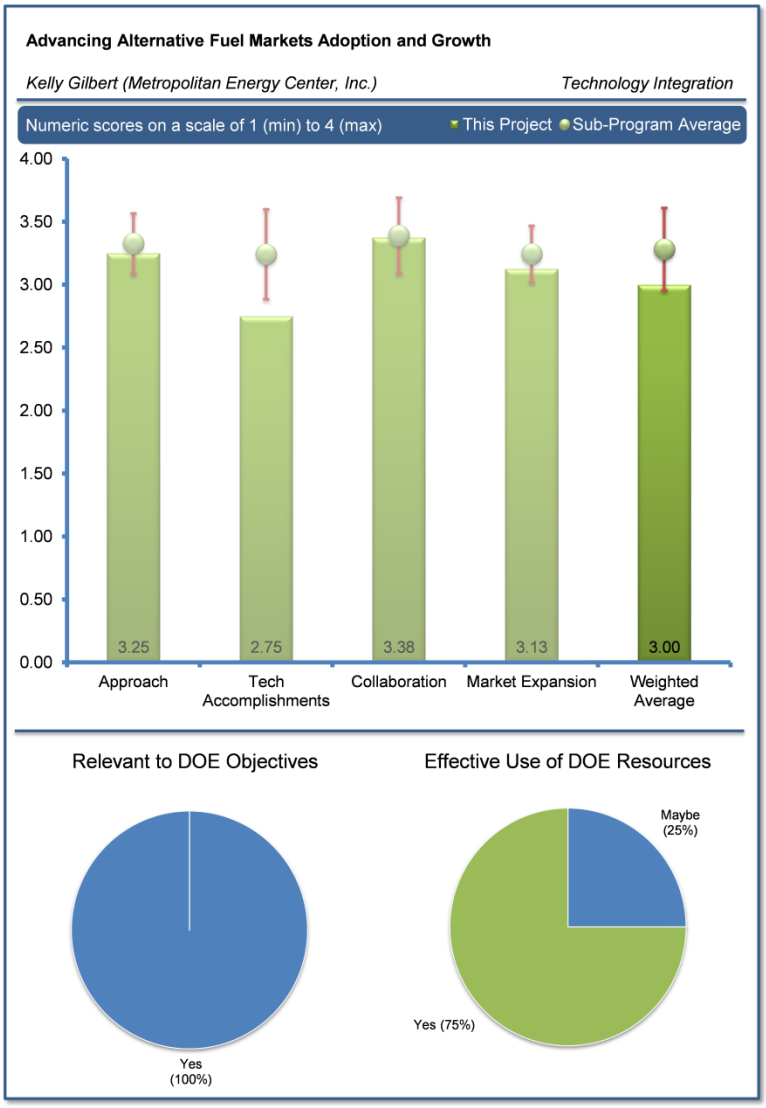
Reviewer 2:
The reviewer exclaimed that this was a very efficient use of funds.

Reviewer 3:
The reviewer commented that the educational material that will result from this project can be transferred to other Clean Cities coalitions.

Reviewer 4:
The reviewer pointed out that this project has less funding than all others reviewed. Despite limitations in information provided by the presentation materials, the reviewer believed the funds were providing sufficient value and were enabling accomplishment of initiatives that will contribute to advancing the cause of alternative fuels. This reviewer expressed a bit of concern that there is not a "critical mass" of project funds being devoted to fuels and activities considered to be the highest priority for petroleum displacement in Minnesota. Whether there are sufficient funds available, taking into account this and other related alternative fuel projects, is an important consideration.

The reviewer commented that work on deployment initiatives such as this should continue to be a high priority for the VTO. When this round of TI projects is completed, the reviewer suggested that DOE should undertake a critical review of materials such as case studies, workshop reports, training curricula and websites. The reviewer said that it is possible that some products set a new standard and should be widely disseminated. It is also possible that it would be more efficient for selected products to be developed "centrally", with periodic updates, rather than produced as part of any single regional project portfolio. The reviewer suggested that DOE should also conduct an analysis to determine which projects have achieved better results for the resources expended – those addressing multiple fuels or those that focus the bulk of the funds on advancing one or two fuels.

Advancing Alternative Fuel Markets Adoption and Growth: Kelly Gilbert (Metropolitan Energy Center, Inc.) - ti042



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that this project clearly laid out its approach. It was inclusive of multiple fuels. The reviewer liked that the project managers found a creative way to work with the state air quality agency using an EPA tool to promote AFV benefits. This project also used a variety of trainings to address barriers, such as technician training. The reviewer liked the consumer outreach component. The reviewer pointed out that oftentimes Clean Cities coordinators only focus on fleets, understandably so, but it was refreshing to see this project exploring consumer education. The reviewer concluded nice project.

Reviewer 2:

The reviewer said that the air quality marketing tool looks to be helpful to municipal planners to sell the air quality benefits of AFVs to policy makers. The reviewer pointed out that the approach seems to be fairly heavily biased toward gaseous fuels. While these fuels are a staple for current fleets, the rapid influx of OEM-produced EVs and HEVs should be anticipated and perhaps more efforts to stimulate the necessary infrastructure would be desirable. Such infrastructure would benefit both the fleet operators as well as the general public. The reviewer suggested that training for first responders needs to incorporate the latest NFPA guidance on fighting lithium-ion battery thermal events. Also, while possibly out of scope for this project, the project team should consider outreach to the salvage and holding yard operators to inform them of the potential re-ignition tendencies of such batteries.

Reviewer 3:

The reviewer commented that the air quality and green fleet tools will be very useful for this project as well as others across the country that are looking to estimate/measure the air quality benefits of alternative fuel projects, especially for accessing Congestion Mitigation and Air Quality (CMAQ) funding. The reviewer encouraged the project partners to share the tool with the Association of Metropolitan Planning Organizations (AMPO) so that other metropolitan planning organizations (MPOs) across the country could utilize the tool.

Reviewer 4:

The reviewer said that the air quality modeling tool is an interesting and distinctive part of the project/approach. However, plans for deploying and distributing the tool are not well developed, and the tool is targeted for deployment within only one of the three states involved in the project.

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

Reviewer 1:
The reviewer said that progress seemed to be good. Once the tools are up and running, accomplishments from the project can be quantified.

Reviewer 2:
The reviewer said that this project seemed to be headed in the right direction. The reviewer expressed concern that only a small fraction of the overall project funds had been spent, and it was more than halfway through. DOE will need to ensure the work gets done. The reviewer was not sure why there was a big lag in spending because it appears much work has been done.

Regarding policy, the reviewer commented that so far the project has designed the air quality tool and its methodology and a procurement policy model, though this reviewer is still not sure what this is. These might be good resources to share with other coalitions depending on their outcomes and impacts. Regarding barrier reduction, the reviewer commented that as a result of DOE funding, this coalition was able to develop a Green Fleets Technical Assistance and Certification program. This reviewer was curious to see how this was working. Again, it might be a good model for other coalitions. DOE needs to ensure it is providing objective and verified technical information and that the coalition is balanced in its approach. Regarding safety and training, the reviewer commented that both first responder training and diesel technician training was offered, which was nice. Regarding the marketplace, the reviewer said that the project resulted in an interstate corridor planning meeting. The reviewer noted that this had been delayed and the reviewer was unsure why. The reviewer liked that the coalition did a survey to identify reasons for consumer reluctance to purchase new technologies. It seems that only a few of the questions were presented. The reviewer would be interested in the overall report. The reviewer hoped the project included a discussion about fuels too, as 14 million flex-fuel vehicles (FFVs) are on the road but getting folks to buy the fuel is the challenge. The reviewer was not surprised that a lack of infrastructure is the number one barrier. The reviewer hoped that DOE plans to assist with that in the coming years. The reviewer would have liked to learn more about the Green Fleet program.

Reviewer 3:
The reviewer expressed disappointment that staffing issues have delayed/precluded completion of some of the outreach tasks in the specified timeframe. However, it was helpful to note that the project team still intended to complete the tasks as part of their Clean Cities activities.

Reviewer 4:
The reviewer pointed out that progress on portions of the project appeared to be notably delayed. Milestones were barely skimmed, and not thoroughly reviewed, during the presentation. The presenter did not thoroughly discuss reasons for task delays, and was not decisive about how the project schedule would be put back on track. The reviewer said that there was satisfactory to good progress for some project tasks.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer said that the project draws on the expertise and network of three active Clean Cities coalitions.

Reviewer 2:
The reviewer liked the multiple coalitions working together and the diversity of the collaborators. It seemed manageable and targeted.

Reviewer 3:
The reviewer observed good collaboration and coordination with local MPOs and the state air quality agency.

Reviewer 4:
The reviewer commented that the depth and breadth of collaboration among the partners seemed appropriate for this type of project. However, the reviewer noted that the collaborating partners did not bring any of their own funds to the table.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer remarked that there seems to be great potential for expansion. The interstate fuel demand study will provide a very good foundation to build out the refueling infrastructure.

Reviewer 2:
The reviewer commented that the Green Fleet Technical Assistance and Certification could have long lasting impacts, as could the air quality tool. The training should also help reduce barriers. In general, the reviewer found that this project has a lot of merit and that it will be successful when it is fully complete.

Reviewer 3:
The reviewer commented that the project team had conducted activities that will facilitate the expansion of AFVs. However, as this reviewer noted in previous comments, additional work on EV infrastructure might lay the groundwork for both fleet and general consumer adoption of the wide range of EVs coming onto the market by the OEMs.

Reviewer 4:
The reviewer commented that the project's potential to advance alternative fuels is dependent on the completion of delayed deliverables, about which there seems to be uncertainty at the time of review (e.g., GreenFleets certification program, Interstate Corridor planning activity, etc.).

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

Reviewer 1:
The reviewer commented that the main project objective, to identify and remedy obstacles to alternative fuel vehicle adoption in regional and statewide markets, is directly relevant to both DOE and Clean Cities program petroleum displacement objectives.

Reviewer 2:
The reviewer concluded that this project is relevant. As the reviewer mentioned previously, the scope of work is appropriately aimed at DOE goals.

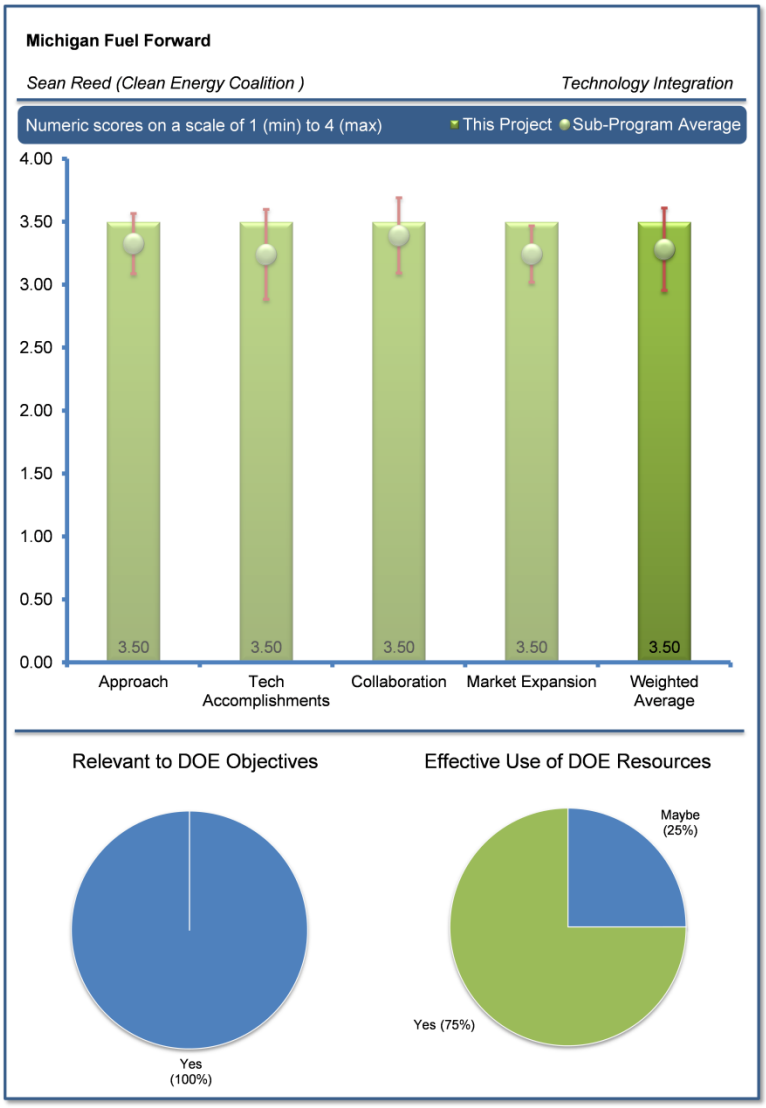
Reviewer 3:
The reviewer remarked that project accomplishments should result in measurable petroleum displacement.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer commented that the project activities represented a good use of DOE funding (as long as the tasks/activities are completed, naturally).

Reviewer 2:
The reviewer commented in general, yes. The reviewer emphasized that DOE needs to make sure the project tasks are completed on budget. Also, there is a lot of overlap on these projects. The reviewer hoped that DOE identifies outstanding tools developed under each of these projects and shares them so other coalitions are not duplicating efforts, but rather learning from one another.

Michigan Fuel Forward: Sean Reed (Clean Energy Coalition) - ti043



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that the project approach is very integrated and comprehensive and includes a breadth of well-designed activities.

Reviewer 2:

The reviewer observed a very organized and well thought out approach to the project. Focus on integrating alternative fuels into the long-range transportation plans is a very good strategy/approach.

Reviewer 3:

The reviewer remarked that this project included a well-balanced and developed set of activities that promoted a wide range of AFV technologies. While the training did seem to be biased toward EVs, during the question/answer session, the presenter indicated that that was in response to customer demand.

The reviewer noted a strong emphasis on working with fleets, and liked the idea of including a few "veteran fleets" into the mix to act as advisors/mentors to the new fleets.

Reviewer 4:

The reviewer remarked that this project's objective is to address barriers to AFVs. It outlines a number of good pathways to addressing AFV barriers. But when the reviewer looked at the slides and heard the presentation, it appeared that this project only supports EVs and HEVs, and some CNG training. When asked about it, the presenter said he let the market determine the training and activities. With more than 15 million FFVs on the road and more than 1.7 billion gallons of biodiesel being moved in this industry, there seemed to be sufficient market opportunities, but little public outreach and training on biofuels. The reviewer commented that it may be that the coordinator did not know how to promote or advocate for biofuels, propane and idle reduction. DOE could help coordinators know what tools or resources are available to help promote other alternative fuels in addition to EVs and HEVs. The reviewer said that it would be nice to see a better-rounded project, especially if the project was expected to promote a variety of fuels.

The reviewer remarked that this project established a policy task force, and the presenter mentioned that the state was lacking incentives for AFVs. While this was a good approach in general, it appeared that the task force only met once, according to the slides. The reviewer encouraged the grantor to host more than one policy planning event. The reviewer liked hearing that the one way the project was going to share the results was by sending a white paper to the MPOs and other decision makers. The reviewer expressed hope that there was an additional one-on-one follow up too. Meetings were planned, but the reviewer just did not have a sense of how many.

The reviewer liked the concept of doing very in-depth fleet assessments, as long as the results were objective and the coalition understood the benefits of all the fuels/technologies.

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

Reviewer 1:
The reviewer remarked that the project progress was very good, and that all completed work was well-substantiated by the presenter.

Reviewer 2:
The reviewer said that overall the project appeared to be well managed and making excellent progress in achieving its many subtasks.

Reviewer 3:
The reviewer remarked that the combination of quantitative and qualitative data will be useful in highlighting project accomplishments. The reviewer opined that the planned 2014 release of white papers, guides, and case studies indicated good progress on the project.

Reviewer 4:
According to the reviewer, the presenter indicated that the project resulted in safety training, mechanic training, first responders and vehicle sales staff training, largely related to EVs. The slides indicated CNG training would take place later in the year.

The project resulted in planning meetings and meetings with state officials. The reviewer recommended that DOE ensures these meetings take place.

The reviewer detailed that the project collected fleet data on 16 fleets (typical fuel use, miles driven by vehicle type, etc.). The project team discussed individual fleet goals with each fleet. The reviewer pointed out that with the help of the grant, the project would give each one a set of scenarios showing which AFVs would have the best payback for their fleets. The coalition claimed it would track the fleets' implementation and fuel procurement progress. The reviewer commented that these were fresh fleets, new to Clean Cities for the most part but had a few that were leaders that were experienced with AFVs. This reviewer expressed concern that propane, biofuels and idle reduction would be excluded from this coalition's evaluation based on perceived biases. The reviewer hoped that DOE does an in-depth review of how this coalition is making recommendations to their fleets. The potential for long-term success is very high.

The reviewer said to present best practices and lessons learned with what other states were doing, and reported having made recommendations to Michigan. The reviewer noted that training seemed to be heavy on HEVs, EV inspector and first responders. The reviewer recommended that DOE needed to make sure that other fuels were being included in this training effort.

The reviewer noted that the project put out a bi-monthly newsletter to promote accomplishments and highlight new events that were coming up. The reviewer hoped this was an effective outreach tool; it sounds like a good resource. The reviewer pointed out that this project is expected to develop case studies, and that DOE needs to ensure these are completed and shared.

The reviewer liked the idea of doing a dealer training webinar. The reviewer did not hear any discussion as to how to attract these folks to this webinar. The reviewer questioned if it will be posted online afterward. It would be valuable to share.

Under the policy task, the reviewer expected to learn more about the outcomes of that task force. DOE might help this coordinator learn about what other coalitions are doing to identify policies and to educate about these policy barriers. This reviewer liked that and recommended incentives without influencing public policies through MP education.

The reviewer remarked that under the infrastructure task, the only tasks observed were signage, outreach, and training. The reviewer asked if there were more tasks.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer noted good coordination with MPOs (attendance at MPO state meeting), and state agencies. The reviewer observed a very good variety of stakeholders.

Reviewer 2:
The reviewer said that the project had an impressive list of project collaborators. While the project team did not list contractor cost-share, there are a number of tasks that are being conducted without project funds.

Reviewer 3:
The reviewer commented that the project includes outstanding direct work with fleets (16 in total to date) on deployment/implementation, planning and analysis. The project also includes great work with MPOs, state officials on alternative fuels highway signage, and very close work with other important stakeholders/groups.

Reviewer 4:
The reviewer reported meeting with MPOs and getting their feedback on how AFVs and infrastructure would be incorporated into long range plans. The reviewer would like to know what specifically was recommended. This information would be valuable to share. The reviewer acknowledged that the project had a wide range of organizations and diverse expertise, but it was limited in terms of the technologies included. The partners did not seem to include all the fuel groups (again, propane and biofuels were missing).

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer said that it appeared that by hitting all of the correct bases in a fairly balanced manner, the project should result in real progress toward the market expansion of the many alternative fuels available.

Reviewer 2:
The reviewer noted that there were no AFV incentives in Michigan, so the project activities on policymaker engagement were important and very valuable.

Reviewer 3:
The reviewer concluded that the market for alternative fuel expansion–especially for EVs–seemed to be very promising. The reviewer commented that lessons learned and case studies as a result of this project would be extremely useful to other coalitions and stakeholders.

Reviewer 4:
The reviewer found that for the technologies that were promoted under this project, there is the potential to have positive impacts on technician and safety training, especially for HEVs and EVs. The fleet analysis, if done well, could lead to a long-term transition to AFVs. It might also be a good model for other coalitions. The reviewer was curious how the project team attracted fleets to do the analysis.

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

Reviewer 1:
The reviewer remarked that the main project objective, to target and remedy obstacles to alternative fuel vehicle adoption and use in regional and/or statewide sectors and niche markets in Michigan, is directly relevant to both DOE and Clean Cities program petroleum displacement objectives.

Reviewer 2:
The reviewer said that the stated accomplishments and goals of this project will definitely help with petroleum reduction goals.

Reviewer 3:
The reviewer commented that the project approach and deliverables are relevant to AFV market development, although the reviewer would like to see it be more fuel diverse in its approach. See Approach and Accomplishment to understand why.

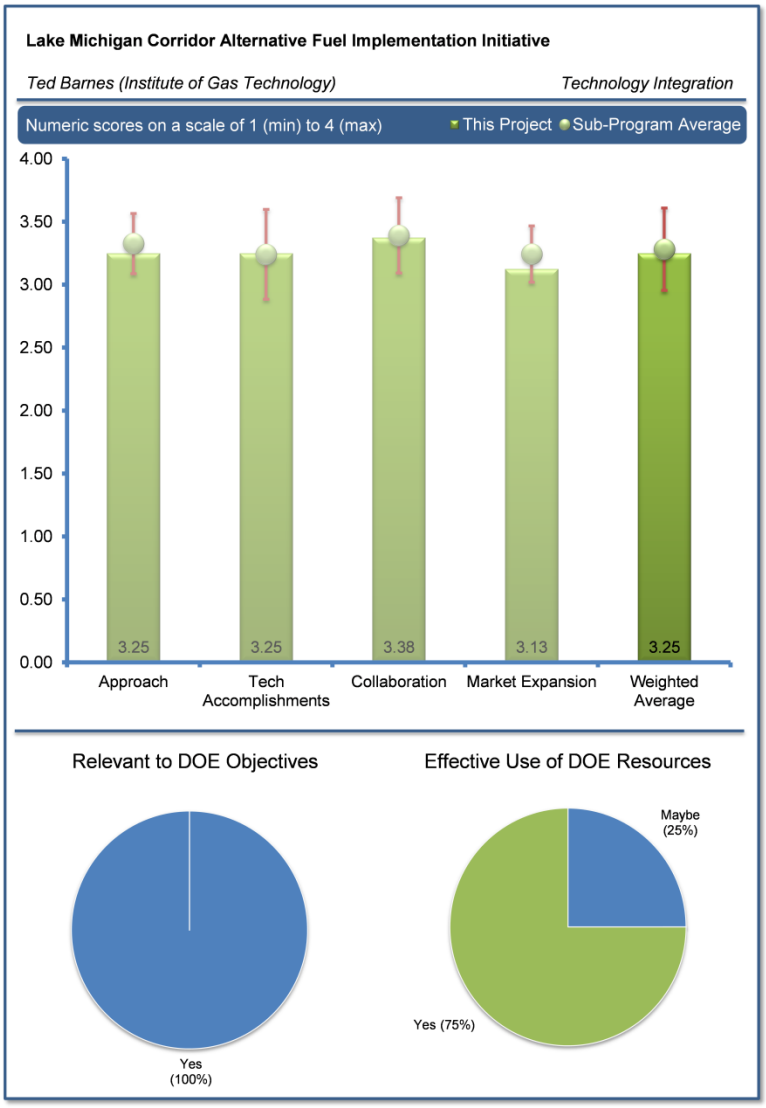
Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer found that the project activities represented a very good use of DOE funding.

Reviewer 2:
The reviewer noted in-kind cost share.

Reviewer 3:
The reviewer acknowledged that the approach was strong, but the reviewer was led to believe that it was going to promote all the fuel types. This project had significant biases toward one or two fuel types. If we expect to see a diverse project and it only promotes one or two, this reviewer considered the use of resources to be insufficient. The reviewer supported DOE funding fuel specific projects if that was how the project is pitched and identified from the proposal and review. The reviewer offered as an example how Minneapolis probably does not need to promote more FFV infrastructure but really needs more gaseous fuel support; that is okay. The reviewer guessed that Michigan could use help on all of them, so wanted to know why the project was only focused on one. The reviewer asked if DOE approved that approach. The reviewer further noted that although DOE had funded some great educational tools, the agency would still need to assist with infrastructure funding in the future. The industry and fleets would be motivated to do more with leveraged funding for infrastructure.

Lake Michigan Corridor Alternative Fuel Implementation Initiative: Ted Barnes (Institute of Gas Technology) - ti044



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that the project approach was well-rounded, and included some interesting subtasks such as CNG weights and measured training, maintenance facility (CNG safety) modification guidance, etc.

Reviewer 2:

The reviewer observed a good project approach. Stakeholder feedback on barriers would be very useful as the project progresses. The reviewer noted that a focus on the transit and taxi industries would potentially result in significant interest.

Reviewer 3:

The reviewer said that the project seemed well designed to address the gaseous alternative fuels, but appeared to be lacking with respect to the emerging EV/HEV markets.

Reviewer 4:

The reviewer liked the nice layout of the tasks to be accomplished. The tasks were clearly defined and easy to follow, and were not too broad or generic. This reviewer noted that broad and generic can be okay if the project team defines how they determine their deliverables. The reviewer noted that this project clearly laid out how it was going to develop new policy efforts (i.e., Green Fleet program, Smart Purchasing Policy, inspection criteria, and shared access to municipal stations). There is some good potential for models for other coalitions. The reviewer asked what DOE was doing to share successful projects with other coalitions.

The reviewer liked that this project did a survey to collect feedback to set project direction. It was used to confirm the coalition's/project's direction and the reviewer thought this was nice, but asked if the project had a well-rounded review. This reviewer recommended that DOE needs to observe whether or not these coalition projects are including a sufficient spread of industry/technology representation. The reviewer noted that one barrier identified was that there were a lot of private stations and limited public access stations. Further, municipalities were not experienced in the inspection of these technologies. The reviewer liked that these were targeted barriers under this project. But again, the reviewer suggested helping the coalitions understand what additional training resources were out there that did not need to be redesigned for each coalition (CNG, HEV, propane, biodiesel).

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

Reviewer 1:
The reviewer remarked that the project progress and accomplishments were very well documented and articulated by the presenter.

Reviewer 2:
The reviewer said that the educational and outreach components of this project seemed to be progressing very well, and that the webinar series seemed to be very successful.

Reviewer 3:
Regarding the Policy task, the reviewer liked that one goal of this project was to learn how to open municipal stations to the public. As a result of this project, one of the stations is now open and others were surveyed to determine their potential and interest in opening to public fleets. The reviewer noted that the project team developed a green fleet recognition program and obtained endorsements. This project also developed a safety checklist, which was vetted for vehicle inspections, which the reviewer commented was nice.

Regarding Barrier Reduction Initiatives, the reviewer said that this project resulted in weights and measures guidelines, and lessons learned to help identify problems, specific to CNG. The project team developed Vehicle Deployment Toolkits and offered webinars to educate about vehicles and station safety issues for CNG, EV, and propane. This is what the project said it was going to do and did it; it was clearly defined.

Regarding the Safety and Training Initiatives, the reviewer emphasized that this project resulted in hosting 18 Auto Tech Training Courses based on NAFTC's training. The project also held fueling station workshops for code officials (dealing with inspection awareness barrier). This reviewer expressed curiosity about what the comments were after that training. Also, the materials were developed for CNG and propane to simplify codes and provide guidance so that a code official could see it was similar to gasoline.

Regarding the Market Development task, the reviewer said that this project resulted in several education and market outreach events to attract niche market users. Those included taxi fleets, transit and heavy industry applications like cement mixers, and webinars to a variety of others. The reviewer asked what the outcome was of those workshops. According to the presenter, the five total webinars have had 3,000 views to date. The reviewer pointed out that the webinars, if updated regularly, would have longevity after the grant period.

The reviewer thought the Maintenance Garage Upgrade Guidelines were valuable to other coalitions. The reviewer would like to know what DOE was doing to vet and share these tools. The reviewer asked how it compares to other deliverables that DOE has received along the same topic.

Reviewer 4:
The reviewer said that the project accomplishments aimed at gaseous fuels were substantial; however, very little appeared to be accomplished to support the expansion of the EV and HEV markets. The reviewer said that the program needed more balance.

The reviewer said that the project needed to include recent NFPA lithium-ion battery fire suppression information in the first responder training. The reviewer suggested considering including outreach to salvage and holding yard operators on the re-ignition tendencies of that technology.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer found that the project's engagement of and collaboration with special niche heavy-duty fleets (e.g., cement mixers) is very interesting.

Reviewer 2:
The reviewer said that this project had a nice mix of training officials, industry members, fleets, planning commissions, and, of course, three coalitions. The reviewer would like to see more coalitions teaming up. The reviewer enthusiastically exclaimed that the project appeared to be getting results and was not encumbered by too many partners.

Reviewer 3:
The reviewer said that partnerships appeared to be adequate. The reviewer suggested that a bit more emphasis on EV partnerships would have strengthened the project. However, on the plus side, the reviewer noted the $55,000 recipient funding.

Reviewer 4:
The reviewer observed good coordination and collaboration with other coalitions, but they may need to expand to state agencies, MPO's and other stakeholders.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer noted that the project produced online webinars on CNG/propane conversion, infrastructure installation, and maintenance, and seemed to have had some enduring impact on the local and nationwide AFV community.

Reviewer 2:
The reviewer said that the fact that three coalitions were working together and there were tools that were getting a lot of use (webinars received 5,000 hits) said a lot about the products of this project. The reviewer liked that the project included some local community colleges so that the project had rising students interested in alternative energy. The reviewer would have liked to hear a little more about the outcomes of the trainings and their impact. The reviewer also liked that the first responder training was just filling gaps in information, not creating a whole new training. The reviewer pointed out that many of the safety trainings were already out there and just needed to be updated to stay current. The first responders need a reason to go back and look at updated materials periodically, not just once.

Reviewer 3:
The reviewer said that information obtained from surveys would be helpful to other alternative fuel projects across the country.

Reviewer 4:
The reviewer thought that it would help with expanding the gaseous fuel market, but was lacking on the EV side.

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

Reviewer 1:
The reviewer remarked that project accomplishments to date seemed to support petroleum displacement goals.

Reviewer 2:
The reviewer remarked that the main project objective, to target and remedy identified obstacles to AFV adoption and use in key regional area - Lake Michigan corridor, is directly relevant to both the DOE and Clean Cities program petroleum displacement objectives.

Reviewer 3:
The reviewer noted that the five webinars (installations, vehicle survey, codes, etc.) seemed very relevant and received a lot of feedback and use. The reviewer expressed hope that the project team will share the information gaps on the first responder training with the right safety organizations. DOE could help to get this out to other organizations.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

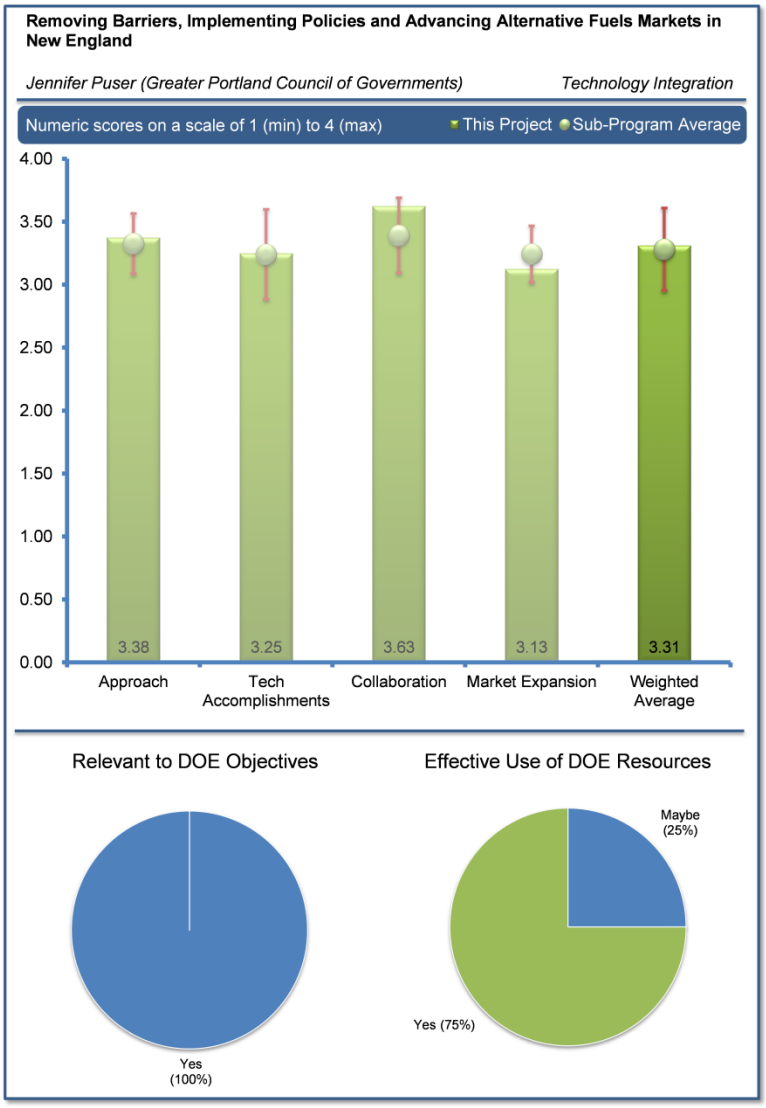
Reviewer 1:

The reviewer noted that the $55,000 recipient's funding was a positive.

Reviewer 2:

The reviewer said that it was hard to tell because reviewers were not reviewing budgets. In general, this project team was on track to complete its tasks on budget. However, the reviewer suggested that DOE needed to evaluate if educational projects were the only forum for future grants. Many of these coalitions are seeking support for infrastructure and vehicles. Education only gets us so far. The reviewer concluded that there needed to be better incentives/grants.

Removing Barriers, Implementing Policies and Advancing Alternative Fuels Markets in New England: Jennifer Puser (Greater Portland Council of Governments) - ti045



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer observed a good project approach. Once again, the focus on integrating alternative fuel projects into the MPOs' transportation planning process was a very good strategy and would be very useful in the long-run.

Reviewer 2:

The reviewer liked the overall approach of this project, which planned to work with MPOs to address policy initiatives, survey fleets to address barrier reduction initiatives, and planned safety training for first responders, CNG and EV inspectors and diesel technicians (for biodiesel). The tasks were clearly outlined in the approach section. The reviewer liked that this coalition was meeting the folks with the perceived barrier on their own turf. For example, the project team planned to integrate AFV technology materials into existing MPO documents – in their "language." The reviewer believed that many of the outcomes would have longevity after the project is done (i.e., the technician, safety and inspector trainings). Also this coalition developed a biodiesel working group with the producers to increase biodiesel development in the region. The reviewer thought that this is a good model for other coalitions to follow. This reviewer liked the Nissan LEAF Loaner Program. This is an innovative approach that could be modeled in other coalitions. The reviewer concluded, nice.

Reviewer 3:

The reviewer remarked that the project approach included numerous relevant and well-conceived activities. The "Clean Fleets Designation Program" activity is interesting; however, the extent to which this effort would be developed and deployed under the project was unclear through the presentation. The reviewer noted that the expansion of project scope to include EVs was good.

Reviewer 4:

The reviewer noted that the original project was very light on promotion of EV/HEV technology; however, a recent project modification had corrected this deficiency. The reviewer said that this was the only project with a strong biodiesel emphasis. The reviewer was unsure if this was a positive or a negative.

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

Reviewer 1:
The reviewer found that substantial progress had been made in Year 1 of this project, and that the addition of the EV component to the project would help ensure success.

Reviewer 2:
The reviewer commented that the project had made good progress overall, with many milestones met to date. The only question this reviewer had was what the extent of progress would be with the Green Fleets activity.

Reviewer 3:
The reviewer pointed out that the original intention to develop a "certification" program for fleets was not accomplished, and the project changed the deliverable to a "designation" program. The reviewer noted that the project was just adding EVs; as a result, the project was playing "catch-up" in this area.

Reviewer 4:
The reviewer commented that the project developed the biodiesel working group and held three meetings. The intent was to identify the barriers in the region. The reviewer noted that it was mostly comprised of small producers, and would continue afterward. The reviewer noted that fuel quality was an issue, and that there was a problem with folks stealing feedstock. The reviewer observed that BQ9000 was expensive for small producers, and that this group would continue to work collectively. The reviewer noted that the project held five first responder trainings to date, held three CNG tank inspection and fleet workshops, and held one workshop for biodiesel. The reviewer liked the fuel diversity of this region, and pointed out that the project team was working to be fuel neutral. The reviewer noted that the project drafted fleet manager training, and went back and added MPO outreach and worked with EVs. The reviewer would have liked to see a few of the outcomes placed online to add even more longevity to the project.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that the project included solid stakeholder collaborations; four other Clean Cities coalitions were actively involved with Maine and project tasks had been divided among coalitions for completion. The New England Biofuel Producer collaboration activity was an especially interesting part of the project.

Reviewer 2:
The reviewer complimented this project team on working with four coalitions plus collaborators wow! The reviewer asked if it was hard work to have so many coalitions and collaborators. The project team seemed to play nicely in the sandbox. The reviewer would caution coordinators not to add too many collaborators if it meant the project could not get the work done in a timely fashion. In this case, the project team seemed to be on track to get the work done on time and on budget.

Reviewer 3:
The reviewer observed that a wide variety and range of stakeholders were involved in the project.

Reviewer 4:
The reviewer noted a good range of collaborating partners; however, the reviewer did not observe a contractor/partner share of the funding.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer noted that CNG deployment in the project's host state of Maine continues to remain challenging. The project leverages other successful alternative fuel activities in Maine (EV Loan Program, biodiesel ferry service project, etc.).

Reviewer 2:
The reviewer commented that it appears that the effort, in coordination with the Transportation Climate Initiative, will help to expand the use of alternative fuels in the Northeast.

Reviewer 3:
The reviewer observed that the training would have longevity, and that the biodiesel working group would have longevity. The reviewer believed that lending out EVs to MPOs to expose them to the newer technologies like EVs would create market acceptance and awareness. The reviewer liked that this coalition included biodiesel use by ferries in this project. The reviewer encouraged DOE Clean Cities to think about markets beyond transportation that promote similar infrastructure development, such as the B20 in ferries or heating oil markets. The reviewer suggested that the Clean Fleet designation should be ongoing. The coalitions nominate fleets. Those that meet at least 30% use of alternative fuel in their fleets would receive recognition. The reviewer looked forward to seeing this come to fruition and what learning what reaction there is to the recognition.

Reviewer 4:
The reviewer was not sure if the focus on the biofuels would add or detract from the overall AFV market expansion potential. However, according to the reviewer, the addition of EVs would likely add to it, even when considering the range issues at extreme cold temperatures.

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

Reviewer 1:
The reviewer commented that the main project objective, to target and remedy obstacles to alternative fuel vehicle and fuel adoption and use in regional and/or statewide sectors and niche markets, was directly relevant to both the DOE and Clean Cities program petroleum displacement objectives.

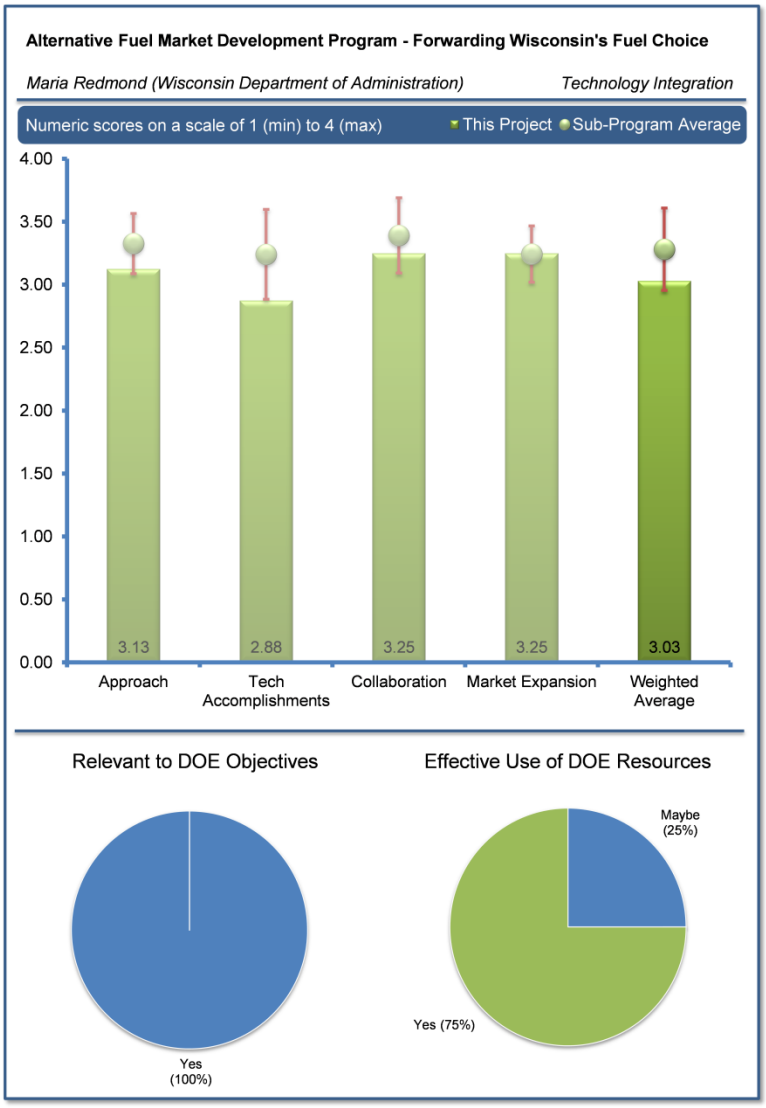
Reviewer 2:
The reviewer said that, as with other projects reviewed, this had merit and was designed to meet DOE goals.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer said that the project activities represented a good use of DOE funding.

Reviewer 2:
The reviewer liked this project and its outcomes overall, but stated that DOE needed to be aware that all the education in the world would not place infrastructure on the ground or purchase vehicles. The reviewer pointed out that each technology had different needs, but infrastructure is one of them (terminals for biodiesel, refueling stations for the others).

Alternative Fuel Market Development Program - Forwarding Wisconsin's Fuel Choice: Maria Redmond (Wisconsin Department of Administration) - ti046



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer commented that fleet data validation and standardization would provide consistency and credibility to the project. The development of the Smart Fleet Assessment Tool would enable stakeholders to gauge the potential for alternative fuel use in their fleets.

Reviewer 2:

The reviewer said that, in general, the project approach was in line with DOE goals. The deployment is similar to other projects (training, surveys, education, and state agency outreach). The reviewer liked the idea of completing 20 fleet assessments. Several other projects were doing something similar. The reviewer would like DOE to compare some of these fleets' survey tools and find out which ones were highly effective at transitioning fleets to AFVs.

Regarding the policy task, the reviewer said that this project also aimed resources at improving road signage. The reviewer expressed curiosity regarding whether this was a big problem compared to other barriers. The other task was to create an inventory of statewide laws and incentive programs. The reviewer thought that the Alternative Fuels Data Center (AFDC) already did this. The reviewer was unsure how the project was going to improve on this. In the future, this coalition might benefit from a policy working group to identify policy barriers.

The reviewer noted that based on the overview, this project was expected to address barriers for a variety of alternative fuels, but the outcomes were all focused largely on one or two fuels. The reviewer would like to know what DOE was doing to make sure the fleet evaluations were going to be unbiased toward each fuel type, not that there was not a specific fuel or two recommended. The reviewer would like to make sure that the project makes information available on the merits of each of the alternative fuels and that the coalition is not favoring a limited few.

Reviewer 3:

The reviewer was impressed that the project team had a waiting list for fleets and that this program would continue post contract. The program balance seemed reasonable but the reviewer suggested that the project could include some efforts to stimulate more EV charging infrastructure. The reviewer pointed out that the project team should ensure that training for first responders incorporates the latest NFPA guidance on fighting lithium-ion battery thermal events. Also, while possibly out of scope for this project, the project team should

also consider outreach to salvage and holding yard operators to inform them of the potential re-ignition tendencies such batteries could exhibit.

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

Reviewer 1:
The reviewer commented that a good amount of outreach, education and training had already occurred. Accomplishments and progress to date had been very positive.

Reviewer 2:
The reviewer found that in general, the project appeared to be on track to complete tasks and deliverables (i.e., signage throughout the state, fleet assessment program, safety training, etc.). The project is expected to over deliver on its 20 fleet assessments, and will end up doing about 27. The reviewer remarked that this was great, if the reviews were truly objective and not biased toward one or two fuels. DOE may have to be engaged with the coalition to understand how this assessment is discussed with the fleets, to ensure there are not prejudices for or against one or more alternative fuels. The reviewer remarked that it was hard to tell from the brief presentation. Keep in mind that benefits are not always financial; they could include a cheap octane or GHG reduction strategy.

The reviewer liked that this project surveyed fleet retailers. This should have been outlined in the project team's approach. It is very innovative and may address a lot of barriers during the survey. The reviewer suggested that the project share the survey with other coalitions. The reviewer commented that the project would provide a tool on incentives available for them. The reviewer thought this was okay, but asked if the AFDC was not already doing this.

The reviewer commented that safety training with the local college is done and will have longevity, and thought this was nice. The reviewer was not sure how helpful an inventory of policies would be. It would be nice to see policy recommendations that would further reduce barriers.

The reviewer liked the Smart Fleet Program, and reported that fleets applied for and received a stipend for participating. The reviewer pointed out a valuable lesson learned was that they did not need that stipend. The reviewer thought that the contract mechanism was a barrier and another good lesson. The fleets get personal feedback after doing the survey. The reviewer pointed out that there are more fleets interested in doing this than can be assisted under the grant. The fleets get a lot of feedback and coaching from the coalition. Again, this may be a good model for other coalitions. The reviewer noted that this project also resulted in five webinars, which were also on the coalition website and that this promoted longevity. The reviewer also noted that the project not only offered CNG safety training but did a train-the-trainer too. Cummins developed the curriculum and it was used by more than just this coalition.

Reviewer 3:
The reviewer said that the program's progress appeared to be on schedule. While some delays were encountered associated with the development of fleet stipends, it appeared that the project still had an impressive number of fleets in place and that the project intended to continue this activity post contract.

Reviewer 4:
The reviewer said that based on the presentation, it appeared that approximately 70% of the project budget was unspent but only approximately 30% of the project timeframe remained. The reviewer commented that the project seemed very behind, and it was not entirely clear how it would be completed without an extension. The reviewer observed that the presenter noted complications with data collection, and the fleet assessments were approximately 75% complete.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer said that the Wisconsin Smart Fleet Program was a well-designed strategy for engaging fleets; the program currently has a fleet waiting list. Overall, project stakeholders seemed enthusiastic and fairly involved in project activities.

Reviewer 2:
The reviewer observed a wide variety of collaboration and coordination with stakeholders, and good coordination with the State Department of Transportation on signage issues. The reviewer believed that development of a white paper would be very informative and useful.

Reviewer 3:
The reviewer liked the curriculum and training development with Cummins and the local college. The train-the-trainer would have longevity. The reviewer observed that the Wisconsin SEO and coalition worked well together and that their partners had effective roles, and thought this was nice. The reviewer wondered if the collaboration might have been more fuel neutral with broader stakeholder involvement. Most of the partners appeared to be related to CNG and EV technologies.

The reviewer asked if other fuel groups provided input into the project survey or responses. According to the presenter, the project just used DOE resources to provide guidance. The reviewer was not sure what this meant. DOE would need to check into this first hand. The reviewer noted that the outcomes were likely to link industry partners with fleets after the survey and assessment, and that each fleet would receive an assessment. Again, it was an interesting concept, but the reviewer asked if it was objective enough, and how much flexibility was built into the guidance.

Reviewer 4:
The reviewer noted some cost share (i.e., $10,000). Partners appeared to be fleets and Clean Cities coalition members only. The reviewer suggested that the project could use more partners that were specific to the various alternative fuel technologies.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer observed that the project had good activities to build alternative fuel market expansion potential (assuming slow/delayed project tasks are actually completed). The reviewer noted that the project would result in key recommendations across a wide range of areas to help future efforts.

Reviewer 2:
The reviewer commented that there appeared to be a very good market for expansion and replicability for similar efforts across the country. The Smart Fleet Assessment Tool would be useful to other organizations looking to expand the use of alternative fuels.

Reviewer 3:
The reviewer found that this project had the potential to have long-term impacts. It was focused largely on the fleet survey and tech training. The reviewer would have liked to see more about what the impacts of these surveys are telling the coalition, but it is probably too early to tell. The survey will result in direct interaction with fleets and is expected to have an impact on those fleets. The reviewer found that this was a good approach, and it was nice to see a pathway to transition the fleets to alternative fuel. The reviewer concluded that this is a good model for other coalitions to implement, if it is objective.

Reviewer 4:
The reviewer commented that the strong fleet work was a definite positive. However, more could be accomplished regarding stimulation of the EV charging infrastructure in anticipation of the expected increase in availability of OEM-produced EVs and HEVs.

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

Reviewer 1:
The reviewer commented that the main project objective, to target and remedy obstacles to alternative fuel vehicle adoption and use by identifying, developing, updating, and modifying local/regional/state, was directly relevant to both DOE and Clean Cities program petroleum displacement objectives.

Reviewer 2:
The reviewer concluded that it appeared that this project would definitely support DOE's overall petroleum reduction goals.

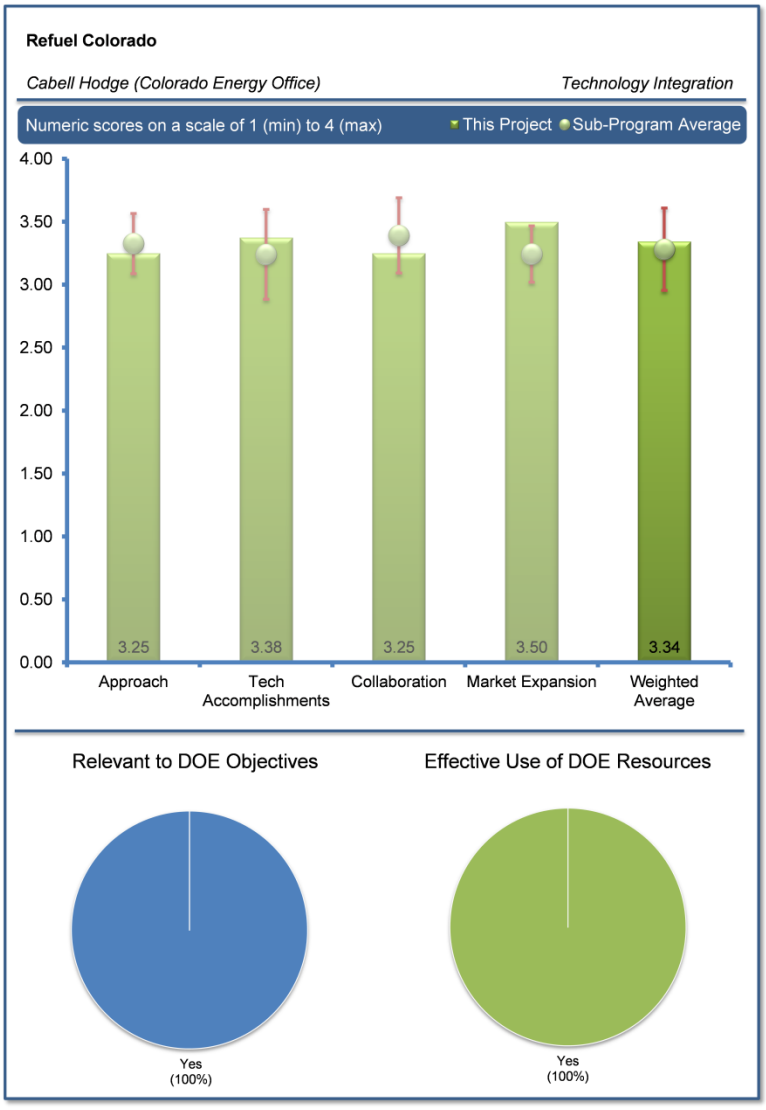
Reviewer 3:
The reviewer commented that the task aligned with the program goals. The reviewer wondered if this was really the question DOE should be asking. All the projects were relevant or they would not have been funded. The reviewer asked if DOE was interested in what should be funded down the road. Infrastructure continues to be the biggest barrier.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer concluded that the project activities represented a good use of DOE funding, as long as the tasks/activities were completed.

Reviewer 2:
The reviewer remarked that the tasks seemed appropriate, but wondered if the implementation of these tasks, where relevant, was unbiased. If so, then yes.

Refuel Colorado: Cabell Hodge (Colorado Energy Office) - ti047



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer remarked that the inclusion of a Hydrogen Coalition in this project was a good addition. Examining the utilization of idle reduction and aerodynamic technologies in the state fleet complimented the project and will help to meet the petroleum reduction goals.

Reviewer 2:

The reviewer found that the project activities supported a well-rounded approach, though leaning more towards a road-mapping approach. The reviewer pointed out that biofuels were practically excluded from the project's scope.

Reviewer 3:

The reviewer liked the inclusion of a wide variety of AFV technologies, including the emergence of H_2. The project website was very informative and well laid-out.

A lot of information was provided that was relevant to both consumers as well as fleet operators. According to the reviewer, the only deficiency was a lack of technician and first responder training. The reviewer thought the significant contractor cost-share was a definite plus, as well as non-project funded grants for EV charging stations.

Reviewer 4:

The reviewer commented in general, that this project's approach was strong. The reviewer liked the concept of fleet coaching, and noted that it was similar to other projects. This appeared to be an effective approach to integrate AFVs into their fleets.

The reviewer noted that the project appeared to have a fuel neutral approach. However, the project only included four fuel specific industry partners. The reviewer would have liked to have seen a better-rounded team. Biofuel partners were missing, and consequently the project did not include them. The reviewer suggested that DOE could have given the project feedback on this and on how to include biofuels in their region.

The reviewer liked that this project included idle mitigation. This was a great way to show payback and the effectiveness of idle reduction. The reviewer liked the development of stakeholder groups, and believed that this was an effective approach to sharing information. The reviewer liked that the coalition worked with Colorado state offices to create safety regulations for CNG. This would impact codes in the state. The reviewer identified that one task was to complete a state audit. The reviewer asked how DOE was ensuring

this was fuel neutral or technology neutral, although this does not mean the outcomes are neutral. The reviewer liked the website tool for fleets, and hoped the project and DOE helped to make sure the materials are current.

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

Reviewer 1:
The reviewer found that the project had excellent progress and task accomplishments.

Reviewer 2:
The reviewer observed that progress and project accomplishments seemed to be moving along. The reviewer noted that studying the potential for CNG use in the state provides an excellent foundation to define and build out the needed refueling infrastructure.

Reviewer 3:
The reviewer remarked that an impressive amount of work has been accomplished, with no significant delays noted.

Reviewer 4:
The reviewer said that the roadmap was intended to share information with stakeholders. The project "developed" the Refuel Colorado website, a fleet information resource. The reviewer loved the layout and the links, but there was very dated material on this website, especially for the biofuels. The reviewer gave as an example that the only performance characteristic listed for FFVs was a negative feature. According to the reviewer, there were a large number of additional positive characteristics such as high octane and engine performance.

The reviewer noted that this project seemed to limit alternative fuel success to economic benefits only. The reviewer encouraged DOE to work with this coalition to make sure the coalition was promoting other non-economic benefits, such as GHG reductions, domestic energy production, local jobs, etc. The reviewer again noted that idle reduction was a nice addition to the project. The reviewer expressed hope that this project motivates other fleets to incorporate this concept. The reviewer liked the concept of fleet coaching, but would like to see DOE review this process.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer liked the wide range of collaborating partners that spanned the range of AFV technologies, including H_2.

Reviewer 2:
The reviewer remarked that the fleet coaching activity, which has directly assisted 72 fleet managers, is excellent. The project has good overall stakeholder coordination, and leverages/incorporates expertise at a mix of organizations/groups with specialization in different fuels.

Reviewer 3:
The reviewer commented that the collaboration and coordination with various stakeholders appeared to be helping to move the project along. The reviewer suggested making sure that there was close coordination with the Colorado Department of Transportation on any signage issues.

Reviewer 4:
The reviewer expressed concern that this coalition only worked with limited fuel groups. Within those fuel groups chosen, the reviewer said the project team did a good job. The project reached 2,000 consumers through outreach efforts, which the reviewer remarked was nice. The reviewer liked that the project had 72 fleets impacted by this grant so long as the evaluation has the potential to be fuel neutral and not biased toward one or two fuels or technologies.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer found that the program would likely result in real-world AFV market expansions, especially considering the wide range of AFV technologies emphasized. The website also provided an impressive amount of information that was relevant both to fleets as well as general consumers.

Reviewer 2:
The reviewer said that the project activities such as the CNG marketing plan, fleet conversion assessments, and state fleet audit should have an enduring impact on alternative fuel market potential in Colorado.

Reviewer 3:
The reviewer said that this project has a great deal of potential through the fleet coaching effort and web resources.

Reviewer 4:
The reviewer remarked that the expansion potential of this project looked promising for the state.

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

Reviewer 1:
The reviewer found that the main project objectives, to reduce barriers to fleet incorporation of alternative fuels and efficiency technologies, disperse information to consumers and fleets, and develop a roadmap for alternative fuels, were directly relevant to both DOE and Clean Cities program petroleum displacement objectives.

Reviewer 2:
The reviewer remarked that it appeared that this project was in line with and would help to achieve DOE's petroleum displacement goals.

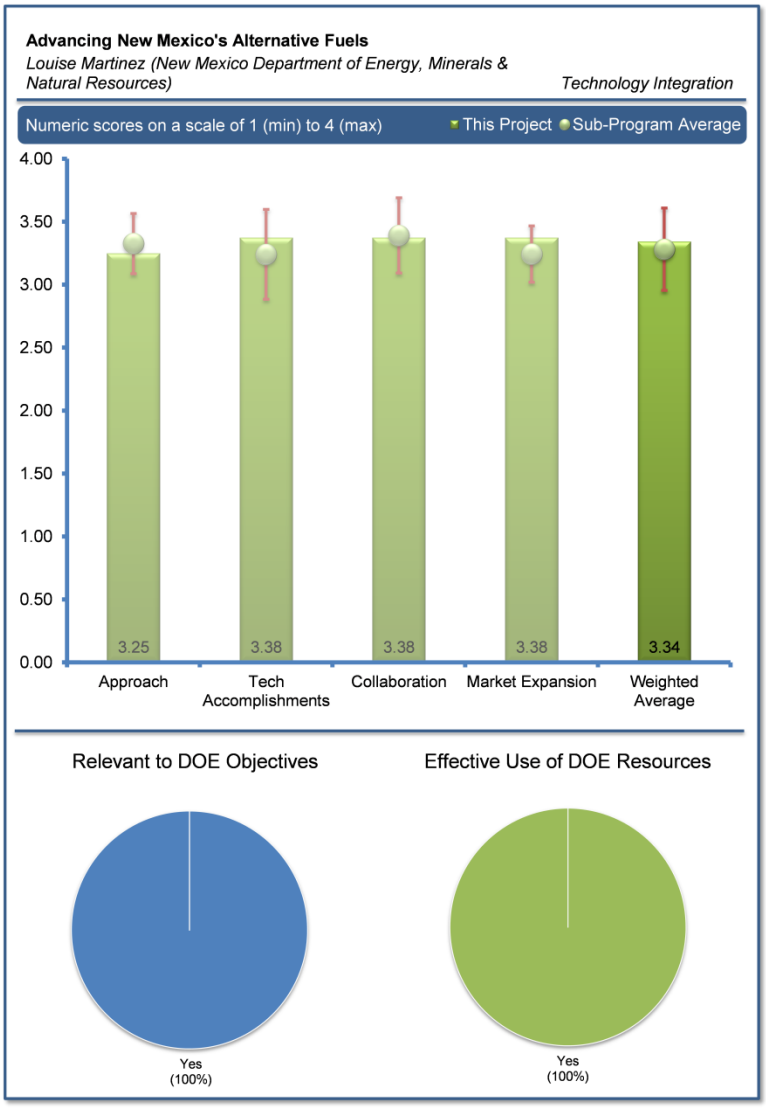
Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer said that the project activities represented a very good use of DOE funding.

Reviewer 2:
The reviewer pointed out that DOE funds were leveraged with a substantial contractor cost share ($107,000).

Reviewer 3:
The reviewer said that this appeared to be a good use of resources, but the products needed to be fully vetted by DOE.

Advancing New Mexico's Alternative Fuels: Louise Martinez (New Mexico Department of Energy, Minerals & Natural Resources) - ti048



Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that the project takes a strong approach to addressing key task areas, although the scope of the project is almost exclusively on NG. The reviewer also pointed out that private fleets were not a focus at all.

Reviewer 2:

The reviewer noted that this project had a large number of partners. The project seemed focused on CNG and propane, which was understandable for the region. The reviewer noted that this project was geared towards workforce training to expand CNG and LPG use, and that the grant would pay for training. The project also assessed current and planned policies, addressed AFV road signs, and addressed issues with weights and measured folks.

Reviewer 3:

Originally, the reviewer was concerned about the emphasis on CNG/propane infrastructure as the expense of fleet coaching. However, in the Q&A period, it was revealed that the fleets had to travel considerable distances and that the infrastructure was a necessary first step. The reviewer also pointed out that because the fleets in the state seemed to be smaller than fleets based in the Midwest, a lot of funds could be consumed to coach these fleets with minimal real world results. As a result, the reviewer tended to agree with the program's emphasis on the development of the CNG/propane infrastructure. The reviewer's only real criticism was the lack of EV charging infrastructure and inclusion of NFPA research for first responders fighting Lithium-ion thermal events.

Reviewer 4:

The reviewer observed that given that New Mexico had no incentives for alternative fuels, this project would help encourage the use of alternative fuels and vehicles. The focus on the I-10 and I-40 corridors for the installation of refueling infrastructure is a good approach. However, the location/placement of infrastructure would be key to the success of this project, so careful examination should be given to where the optimal locations would be along the corridors, in order to maximize utilization.

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

Reviewer 1:

The reviewer said that the project had a solid delivery of milestone tasks. There was an impressive amount of activity in New Mexico, including infrastructure development, for a state with no alternative fuel incentives and an overall lack of state wealth.

Reviewer 2:
The reviewer remarked that so far the project have been able to show tangible results in getting CNG and propane infrastructure designed and on track for completion by the end of the project period.

Reviewer 3:
The reviewer found that project accomplishments seemed to be good, especially in the training area. It appeared there was a lack of awareness of alternative fuel use in general in the state, so it seemed that a major focus area for further progress was in the outreach and education area.

Reviewer 4:
The reviewer found that overall this project was doing what was proposed, but was a little concerned that the project was not farther along with the funds that were expended. This reviewer suggested that this will need to be monitored by DOE. The reviewer then noted that this project held a large number of trainings, and did CNG Cummins training. The project did bi-fuel conversion tech classes and a Roush LPG overview and training. The principle investigator (PI) indicated that this was one of the successes of this project and that it was eliminating a barrier.

The reviewer observed that, to date, the project had resulted in 76 students being trained, with more planned, and that this was a good accomplishment. The reviewer noted that this project would identify legislation that taxes CNG and LNG on a gasoline gallon equivalent (GGE) and diesel gallon equivalent (DGE) basis, respectively, and educate decision-makers as to how it would work. This project helped with infrastructure planning, which was much needed. The project team helped partners meet each other (suppliers or technical assistance). The reviewer observed that in addition to tech training, the project also focused on first responder training and signage development.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that the project had an exceedingly strong team of partners.

Reviewer 2:
The reviewer found that it appeared that the project was on track to get the work done. It seems the partners and collaborators are appropriate and not too many.

Reviewer 3:
The reviewer noted that the contractor/partner cost-share was an impressive $363,000. The reviewer believed that the partnerships seemed sufficient to achieve the increases in CNG and propane infrastructure emphasized in the program. The reviewer suggested that the project could use partners to bolster the development of EV charging infrastructure.

Reviewer 4:
The reviewer noted that there was good collaboration and coordination with both public and private stakeholders. The reviewer suggested making sure that the New Mexico State Department of Transportation is involved or stays involved in any signage issues.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer identified that the project is getting results in training (72+ students), and it has the potential to develop its CNG and propane markets. This project is likely to increase use of these fuels in the region. The reviewer remarked that the project identified many additional activities that the coalition will build on after the grant, including expanded CNG, establishing testing for weights and

measures inspection, curricula development, etc. The project team is finding better and safer ways to do gaseous fuel inspections. The reviewer liked the fact that several stations were being designed or built because of the assistance of this project, and remarked nice.

Reviewer 2:
The reviewer remarked that the expansion of CNG and propane refueling infrastructure is a necessary first step. According to the reviewer, once adequate infrastructure is in place, fleet coaching could be fruitful. The reviewer thought that the next point of emphasis should be on the development of EV charging infrastructure. This would have benefits for both fleets (non-truck based) as well as general consumers who may be interested in the new EVs and HEVs coming onto the market.

Reviewer 3:
The reviewer remarked that there seemed to be a fairly good opportunity within the region and throughout the State of New Mexico for the expansion of the alternative fuels market. However, it is important that there are a sufficient number of vehicles in the fleets to utilize the refueling stations being constructed. As this reviewer mentioned above, outreach and education will be an important focus area for this project to succeed.

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

Reviewer 1:
The reviewer found that given the objectives stated, it appeared that this project would support DOE's petroleum displacement goals.

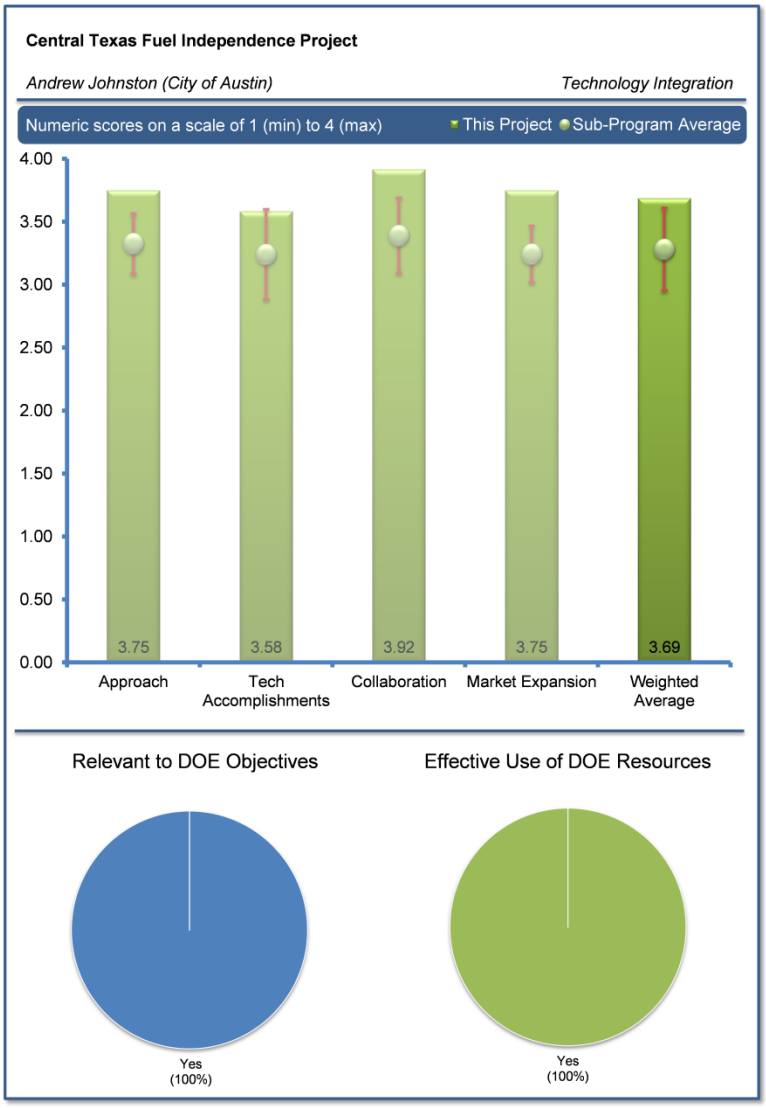
Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer found that the main project objectives were directly relevant to both DOE and Clean Cities program petroleum displacement objectives. The project activities represented a good use of DOE funding. The reviewer commented that the strong project cost share from private stakeholders helped justify DOE's investment in the project.

Reviewer 2:
The reviewer remarked that the $363,000 contractor/partners cost-share significantly leveraged the DOE project resources.

Reviewer 3:
The reviewer noted that this project was designed to promote CNG and LPG, and that the project appeared to be doing that.

Central Texas Fuel Independence Project: Andrew Johnston (City of Austin) - ti049



Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer found that the Central Texas Fuel Independence Project (CTFIP) had developed innovative, performance-based initiatives and successfully engaged the participation of a diverse cross-section of stakeholders.

Reviewer 2:

The reviewer commented that the project is comprehensive and integrated with efforts initiated by partners.

Reviewer 3:

The reviewer commented that this project showed that the linkage of electric and CNG infrastructure was not exclusive. The project planners had also carefully linked today's expenditures to projects with the potential of succeeding in the future without this project's funds.

Reviewer 4:

The reviewer remarked that the project approach provided significant details, between the Approach slides and the individual Initiatives description pages, and included numerous specific numeric goals, such as the number of new electric vehicle supply equipment (EVSE) and CNG fueling sites developed, that could be easily tracked to measure progress and project success.

Reviewer 5:

The reviewer noted a rational and thorough approach, using working groups to first get stakeholders on the same page. The project focused on several key barriers to greater market penetration, particularly concerning infrastructure. The reviewer noted that the project included reliance upon a key organization (i.e., Austin Energy), to bring together the right parties as well as to help define the key issues, based upon its experience. At the same time, the reviewer observed that given the location in a state with significant alternative fuel activities, at least for NG, it was surprising that the scope of this project was somewhat limited geographically, at least compared to some of the other awarded projects, although that may have contributed to the collaboration's success by providing a focused opportunity.

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

Reviewer 1:
The reviewer concluded that the program appeared to have met or exceeded the overall project and DOE goals. The accomplishments and progress have been well documented.

Reviewer 2:
The reviewer found that significant progress had been made towards achieving project goals. All initiatives and activities appeared to be on track for completion by the project end date. The reviewer had identified no concerns.

Reviewer 3:
The reviewer noted that the project was halfway through the grant period. This person reported a training initiative, significant outreach that had already been conducted, materials that had been produced, and infrastructure that had been deployed. The reviewer concluded that the project was well positioned to complete actions by the end of the grant period.

Reviewer 4:
The reviewer found that the project appeared to definitely be succeeding in expanding refueling and recharging infrastructure. In particular, the project had involved local utilities, and gotten their support and commitment. The reviewer noted that the project had also gotten the necessary organizations on the same page concerning key implementation needs, such as rates, incentives, etc.

Reviewer 5:
The reviewer was impressed by the project's objectives of working on EV infrastructure in both existing multi-family housing and also in the plans for future developments. The reviewer will be interested to see if the project objective of placing EV infrastructure in rural locations is accomplished and how that infrastructure will be used.

Reviewer 6:
The reviewer commented that the project got off to a slow start but otherwise appears to be on track.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer remarked that the collaboration and coordination with project partners has been a complex undertaking, due to the large number of participants. Nonetheless, it appears that the project partners had been sufficiently engaged to produce excellent collaboration and to produce tangible results.

Reviewer 2:
The reviewer commented that the partners listed in the project were extensive.

Reviewer 3:
The reviewer commented that the project was coordinating with numerous organizations, including most of the regional implementation entities. Coordination includes governments, industry, and fleet users. The reviewer applauded that the project even included the local grid organization and the Electric Power Research Institute EPRI). The project seems to have gotten all organizations clearly committed and working together, even across fuel types. For this reviewer, it seemed like the central role of Austin Energy was the key element from which to start.

Reviewer 4:
The reviewer observed good coordination with university and public sector partners, and noted that coordination between NAFTC and a community college was apparent.

Reviewer 5:
The reviewer said that there was an extensive list of partners for this project, more than any other this reviewer had seen. This presented its own challenges because of the need to keep a large organization with many participants and many objectives going in the same direction.

Reviewer 6:
The reviewer commented that an excellent project team had been assembled to carry out this project, with numerous public and private entities involved. According to this reviewer, the only notable absence appeared to be the Austin-based Lone Star Clean Cities coalition, which was not identified as having any particular role.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer commented that the deployment of alternative fuel infrastructure and training programs would help to advance the market for alternative fuel vehicles.

Reviewer 2:
This reviewer was especially impressed with the work to provide web-based tools for fleets to evaluate vehicle performance and establish a business case for the expanded use of alternative fuels.

Reviewer 3:
The reviewer commented that 80 EV charging sites and the expansion of CNG infrastructure is, in planning, outstanding.

Reviewer 4:
The reviewer said that the project would clearly contribute to local/regional alternative fuel market expansion, with a predicted significant increase in EVSE installations, PEV sales, fleets converting to CNG, and CNG fueling sites development. The reviewer observed that numerous specific numeric goals could be easily tracked to measure progress and project success. Also noteworthy were the dedicated efforts of one individual working specifically on multi-unit and workplace EVSE development efforts.

Reviewer 5:
The reviewer expressed some small concerns that this project was not a bit broader in geographic scope or in taking on more than just two fuel types (electricity and NG). In general, the project's approach seemed to make sense to expand utilization of NG and electric technologies, and may include some approaches that could be replicated elsewhere. The reviewer noted that at the same time, some elements of the project were dependent upon a unique commitment of the partners in this geographic area.

Reviewer 6:
The reviewer observed excellent potential and noted that the project meets requirements under this funding opportunity. For this reviewer, one major barrier that still needs to be addressed is basic consumer education.

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

Reviewer 1:
The reviewer found that this project strongly supported the DOE objectives of petroleum displacement by reducing barriers to facilitate the widespread adoption of electric and CNG vehicle technologies in the target areas of Texas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Reviewer 2:
The reviewer said that the tools and resources being developed would help fleets objectively weigh the benefits of alternative fuel use and accelerate their acceptance.

Reviewer 3:
The reviewer observed that the project was clearly focused on increasing market penetration of NG and PEVs, through expansion of infrastructure and training for maintenance and first responder personnel.

Reviewer 4:
The reviewer commented that the project expanded AFV infrastructure; obtained commitments and actions for partners to install AFV infrastructure; and provided back-end training to enable AFV use.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer found that many of the program elements are new, creative and capable of being replicated for use elsewhere.

Reviewer 2:
The reviewer remarked that in lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to lay the groundwork for such purchases is critically important. These projects that support implementation strategies and activities, such as barrier removal, should assist with market transformation in the local and regional target areas. The reviewer suggested that if a more significant level of funding were to become available in the future, these activities, combined with funding for hardware, would be the preferred strategy for targeted market expansion.

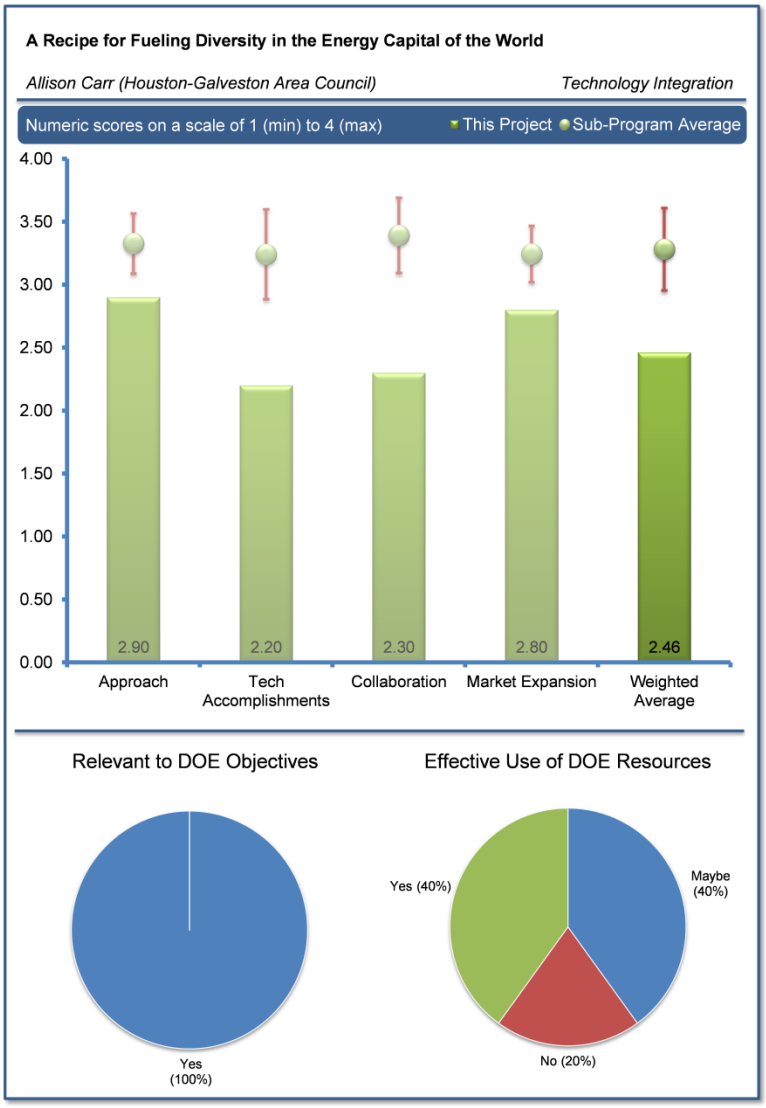
Reviewer 3:
The reviewer stated that, where possible, DOE funds should be deployed in ways that benefit regions across the country, so development of common training materials and information should be a priority. That being said, according to this reviewer, hands-on training at the local levels is still critical, as is working with local code officials to develop strategies for alternative fuel deployment, because different areas of the country follow different code requirements and different versions of the same code requirements.

Reviewer 4:
The reviewer observed that the funds have supported over 30 events and have utilities working together for development of infrastructure.

Reviewer 5:
The reviewer stated that the activities make sense for the desired outcomes. This type of project does make sense, but should be in addition to targeted efforts to assist in funding infrastructure, as was done in the past.

Reviewer 6:
The reviewer said yes, but would like to see more focus on consumer education.

A Recipe for Fueling Diversity in the Energy Capital of the World: Allison Carr (Houston-Galveston Area Council) - ti050



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer found that some elements, particularly the mapping tools, will be valuable in accelerating the deployment of alternative fuels to local fleets. Other program elements are less original and could have utilized existing programs and materials developed elsewhere and preserved resources for other tasks.

Reviewer 2:

The reviewer concluded that the major policy area seemed a little basic, and pointed out understanding the existing refueling infrastructure and communicating this to decision-makers. It seems as if that is something that would normally have already occurred, at least the understanding portion, if not the communication part. The reviewer thought that this was particularly surprising given that the project was in Texas, which largely has a relatively developed infrastructure, at least for gaseous fuels. This project is focused upon NG, and perhaps to some extent propane and electricity, the first two of which (NG and propane) would not appear to have great needs in Texas, though there was really not much mention by the PI concerning details beyond NG.

Reviewer 3:

The reviewer commented that the project approach and associated tasks/activities should contribute to the project objectives in the areas of policy, barrier reduction, safety and training and market development/outreach. The project appeared to only contain 1-2 activities associated with each barrier initiative, so it was unclear to this reviewer if the limited number of activities will have an effect on the overall goal of increased vehicle adoption.

Reviewer 4:

The reviewer remarked that the presenter did not have a convincing case that this program was contributing to the construction of CNG infrastructure that is experiencing “exponential growth” in the Houston-Galveston region. The reviewer observed that there was some anecdotal information that different jurisdictions in the region were using different interpretations of regulations and that the project team was addressing these differences. A better case could have been made by identifying the competing interpretations.

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

Reviewer 1:
The reviewer observed that due to delays associated with community college partners and a revision in the scope of the geographic information system (GIS) mapping tool, the project's rate of progress is behind schedule with much of the activities being moved to the second year of the two year project.

Reviewer 2:
The reviewer noted that the project had a late start due to using community colleges, but that there has also been turnover that delayed the project.

Reviewer 3:
The reviewer noted that the PI indicated the level of spending was not indicative of status, but that the PI also stated that concerns with one key participant (a community college) had held back progress a bit. The project did not appear to have the training kickoff meeting with the community colleges until November. The reviewer commented that due to delays, it appeared that the appropriate curricula may be developed during this project, but much of the training would not appear to be done until after the project is completed. The reviewer detailed that to get done on time, the project needed to ensure that training gets underway shortly, and also that the mapping effort has to get focused (NG and electricity first) and get done, so it can be a key element of outreach. Given that the mapping tool is not scheduled for completion until November, it may not necessarily allow sufficient time for the appropriate outreach.

Reviewer 4:
The reviewer stated that the project is over a year behind on expenditures. This was because of the need to re-negotiate an agreement with a community college. The reviewer said that the project team did not present any evidence that the project team adjusted their project plans to bring some second year items into the first year. The reviewer had the feeling that the Clean Cities coordinator was not getting the necessary support of the Houston-Galveston Area Council or the project partners.

Reviewer 5:
The reviewer observed that progress descriptors included "back on board" and "will be developing", indicating late-developing progress. In fact, by the presenter's own admission, the project accomplishments and progress were significantly behind schedule, raising questions about the ability of the organization to meet its final deadlines.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The project has gotten off to a slow start, due to delays associated with community college partners. These issues appear to be resolved, but appeared to have negatively impacted the effectiveness of the collaboration as the project started. It was reported that these problems had been resolved. The reviewer observed that the remaining collaborations appeared to be generally effective.

Reviewer 2:
The reviewer summarized that the project was working with the local Area Council, NAFTC, the Gas Technologies Institute (GTI), and community colleges. The project had some issues with one of the key community colleges, which has delayed the overall project progress. The reviewer noted that NAFTC, GTI, and the community colleges will develop the curriculum. The reviewer said that it was unclear if the project had explicitly partnered with some of the organizations that would really be needed to ensure success – it sounded more like the project was planning to involve fleets, infrastructure providers, etc., but it has not appeared to have explicitly pulled them in yet.

Reviewer 3:
As stated above, the reviewer got the feeling that the Clean Cities coordinator was not getting the necessary support of the Houston-Galveston Area Council or the project partners.

Reviewer 4:
The reviewer was not left with the impression that collaboration and coordination have been progressing at the anticipated pace. The group is reliant on paid contractors to complete many of the work tasks.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer said that the project had the potential to contribute to a rapidly-expanding alternative fuel market in a major metropolitan area, where much of the progress appeared to be occurring external to the group's efforts. Whatever the group can do to contribute to the region's burgeoning interest in the alternative fuels market will undoubtedly be welcomed.

Reviewer 2:
The reviewer observed that indications are that the CNG market is expanding quickly. This seemed to be a process that pre-dates this effort because it takes a long period of time to develop CNG infrastructure from idea to funding, permitting, equipment purchase, installation, and commissioning.

Reviewer 3:
The reviewer commented that the project may help to expand opportunities for EVs, but it was unclear how much this project would increase utilization of NG and propane. The reviewer provided as an example how many incentives already existed in Texas, and that infrastructure in most areas had already been growing. This project seemed to be focused on ensuring that infrastructure was not stranded (underutilized). The reviewer noted that the project was also trying to assist in speeding permitting NG stations, which currently took approximately a year, so that could be a major benefit if successful.

Reviewer 4:
The reviewer agreed that the project may contribute to some market improvements, but the project's limited number of activities will in turn limit the overall market transformation potential of the project.

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

Reviewer 1:
The reviewer found that this project supported the DOE objectives of petroleum displacement by reducing barriers associated with the adoption of alternative and advance vehicle technologies in the project target areas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Reviewer 2:
The reviewer remarked that the project was working to expand the utilization of alternative fuels through infrastructure, awareness, and tools.

Reviewer 3:
The reviewer commented that if the program goals and objectives could be met, it has the capability to accelerate petroleum displacement.

Reviewer 4:
The reviewer said that there was an ongoing effort that had the intent of moving the market forward.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

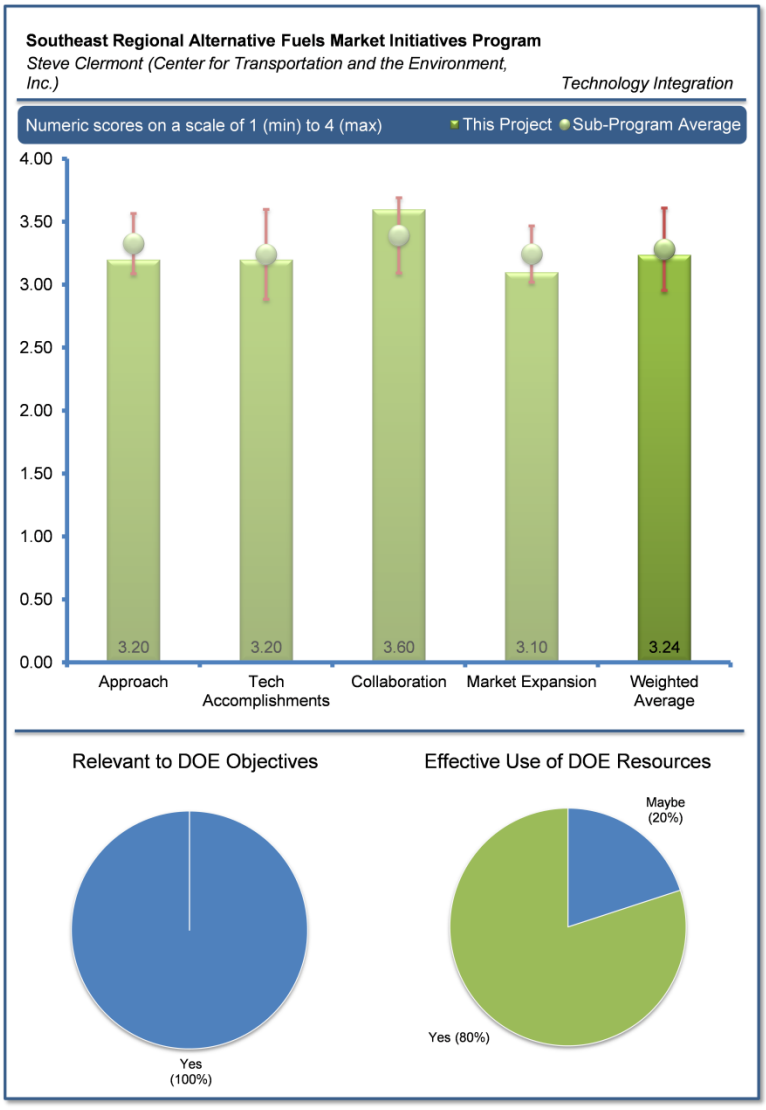
Reviewer 1:
The reviewer expressed concern that there seemed to be much duplication of efforts among similar organizations. Resources can be preserved by identifying elements that are common to many geographic areas, thereby conserving resources to develop program elements that are unique to the local jurisdiction.

Reviewer 2:
The reviewer remarked that some pieces of this project may develop useful products, such as the training and perhaps the mapping, if successful, but some parts of the project appeared pretty basic, as if they already should have been done. Plus, it seemed to this reviewer, that major efforts in Texas may not necessarily be needed to expand the use of NG and propane technologies.

Reviewer 3:
In lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to lay the groundwork for such purchases is critically important. These projects that support implementation strategies and activities, such as barrier removal, should assist with market transformation in the local/regional target area. If a more significant level of funding were to become available in the future, these activities, combined with funding for hardware, would be the preferred strategy for targeted market expansion.

Reviewer 4:
The reviewer noted that this project was a year into a two-year program but had only expended about 1% of the available funds. This was reported as an issue because partners at one of the community colleges changed. The reviewer remarked that the team did not re-assess their program and accelerate second-year projects into the first year. As a result, the program now had eight months to complete a two-year project. The reviewer commented that it would be very challenging to meet the program objectives in the remaining time.

Southeast Regional Alternative Fuels Market Initiatives Program: Steve Clermont (Center for Transportation and the Environment, Inc.) - ti051



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that the focus of seeking input initially and defining the problems and issues with market development earned this project high marks.

Reviewer 2:

The reviewer found that there seemed to be good coordination between organizations and stakeholders within its four-state focus.

Reviewer 3:

The reviewer said that this team was working hard on policy and regulatory issues that result in implementation barriers. Of particular interest was the barrier presented by fire marshals and their inconsistent interpretation of common language from jurisdiction to jurisdiction. The reviewer commented that a larger outreach to this group nationally should prove valuable in getting fire marshals to not treat CNG, propane, electricity or alternative fuels the same way as gasoline and diesel. In some respects these fuels are safer than petroleum-based fuels and yet have higher standards for permitting.

Reviewer 4:

The reviewer said that the project was focused on overcoming barriers through a four-state partnership. The project has a straightforward approach, focused on first identifying regional barriers/solutions, and then developing a regional outreach plan. The reviewer identified that the project also included a need for testimonials/success stories, and setting up opportunities for "Peer to Peer" discussions, such as fleet manager-to-fleet manager. The reviewer noted that the project was also offering "Train-the-Trainer" courses, which include materials for each student for 10 additional students. The project anticipated reaching as many as 2,000 technicians eventually. It is trying to also include a focus on developing return on investment for fleets, even without incentives. The reviewer noted that the development of a workbook is really aimed at putting all information in one place, which should be a highly useful product that can serve as a model.

Reviewer 5:

The reviewer observed a satisfactory approach to accomplishing the project objectives. Not much detail is actually provided on the two approach slides to describe all of the project activities (and the first slide could be a generic description of any of the 16 funded projects). The reviewer suggested that for a project spread across four states, more detail on activities and how these are spread across the project area would have been beneficial.

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

Reviewer 1:
The reviewer commented that the project appeared to be on schedule. Several activities had been completed, including an assessment of regulations and policies, and barrier workshop identification/discussions.

Reviewer 2:
The reviewer thought that the Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was valuable and jurisdiction specific. The reviewer found that the barriers analysis was comprehensive but quite generic—the barriers identified here were quite common to most of the country.

Reviewer 3:
The reviewer said that the project was making decent progress, but appeared a bit behind in some areas. It had completed analysis of regional, state and local policies, and identified areas of key barriers/areas for work. The reviewer noted that the project held eight workshops with government, fleet managers, infrastructure providers, and OEMs. In order to ensure forthcoming responses, the project also held interviews with key industry members who might not be as willing to provide input with competitors in the room. The reviewer noted that, overall, the project had reached 50 organizations, and had developed a detailed list of barriers requiring action, or to be addressed in workbooks.

Reviewer 4:
The reviewer remarked that this team expended a lot of effort identifying 30 barriers to deployment of AFVs and infrastructure. Many of these barriers existed across jurisdictions, and most were well understood on a national level. The reviewer recommended that the project should examine in detail those barriers that exist locally and develop plans to address those local issues.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer remarked on the excellent project team assembled to carry out this project, with numerous public and private entities involved. Communication among project partners appeared to be appropriate for the project of this scope.

Reviewer 2:
The reviewer found that there seemed to be good coordination and collaboration among project partners.

Reviewer 3:
The reviewer noted that six Clean Cities coalitions were involved. The project originally included Lawson State University to provide training, but it turned out that NAFTC would do the training themselves, so Lawson State was dropped. The project involved numerous local stakeholders, though not explicitly as partners on the project. The reviewer observed that the project included 50 organizations in efforts to identify barriers. The Approach was focused on utilizing the coordinators as the key bridge to stakeholders and ultimately outreach. The reviewer found that, overall, the list of organizations involved was impressive, and included many of the key organizations critical to implementation.

Reviewer 4:
The reviewer commented that the organizers of this project were to be congratulated for bringing together six Clean Cities coalitions. There is an extensive list of "stakeholders" that had participated. It was unclear to this reviewer the extent to which these stakeholders were contributing to the program objectives, beyond the fact that they were contacted and participated in the effort to identify barriers. The reviewer asked if any of them were planning to install infrastructure or procure vehicles.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer commented that what had been developed, especially in the barriers analysis, was a good template for nationwide use.

Reviewer 2:
The reviewer said that this was a good presentation. The project had the potential to bring more vehicles and infrastructure to the region.

Reviewer 3:
The reviewer noted that the project was looking to expand utilization of multiple alternative fuels across a four-state area by addressing key market/regulatory barriers.

Reviewer 4:
The reviewer found that the project should contribute to local/regional alternative fuel market expansion, through the completion of the remaining barrier reduction activities. However, according to this reviewer, the project appeared to be dependent on the use of the workbook for many of the barrier solutions and it was not clear how effective that strategy would be in achieving those results.

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

Reviewer 1:
The reviewer agreed that this project supported the DOE objectives of petroleum displacement by reducing barriers associated with the adoption of alternative and advanced vehicle technologies in the project target areas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Reviewer 2:
The reviewer said that the project could have an impact on petroleum displacement and can provide stakeholders with useful information.

Reviewer 3:
The reviewer commented that the project is aimed at expanding utilization of multiple alternative fuels in a four-state area.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer commented that this is the kind of project a number of regions need. The key will be to take the results of this and similar projects to create a model approach for other regions to utilize. The reviewer noted that at the same time, this type of project will also likely identify a continuing need for funding for infrastructure, in particular, and possibly vehicles.

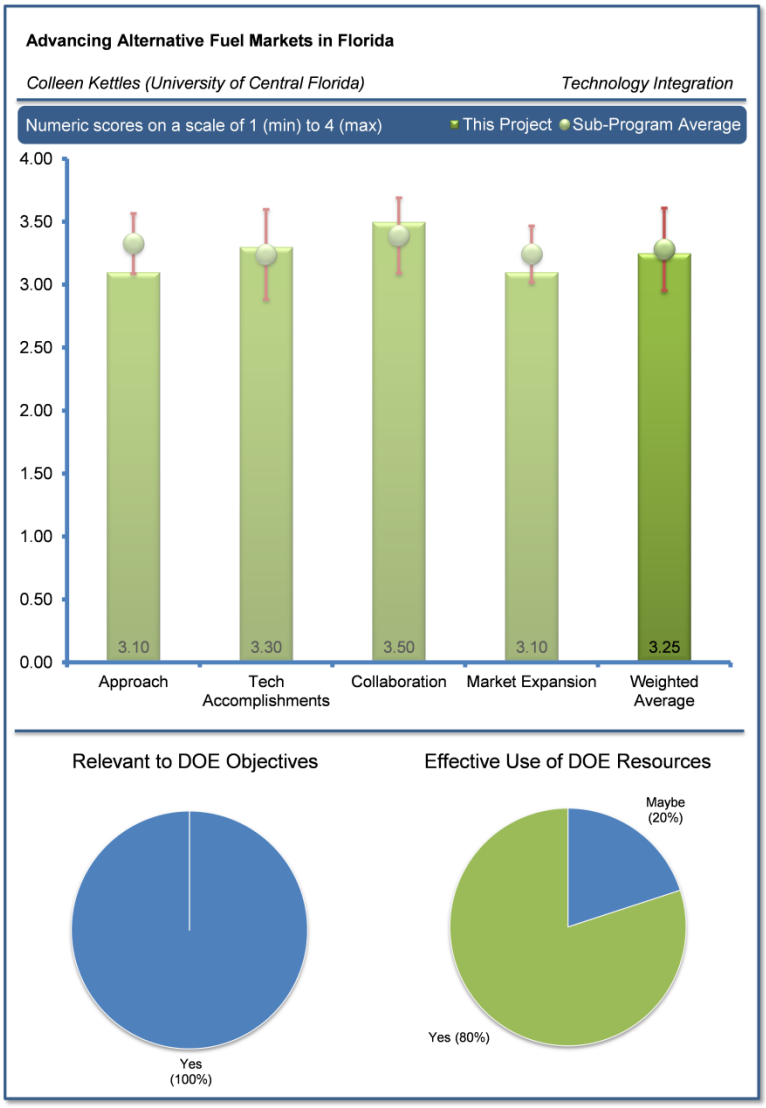
Reviewer 2:
The reviewer said that resources had been used wisely but much of what had been identified here, especially in the barriers analysis, was duplicative of similar efforts elsewhere. Nevertheless, this analysis may prove to be among the more comprehensive attempts to document this and should be made available to other regions.

Reviewer 3:
The reviewer commented that in lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to lay the groundwork for such purchases is critically important. These projects that support implementation strategies and activities, such as barrier removal, should assist with market transformation in the local/regional target area. The reviewer commented that if a more significant level of funding were to become available in the future, these activities, combined with funding for hardware, would be the preferred strategy for targeted market expansion.

Reviewer 4:

The reviewer remarked that the program was behind on expenditures and could have difficulty in bringing the project plans to completion by the end of the grant period.

Advancing Alternative Fuel Markets in Florida: Colleen Kettles (University of Central Florida) - ti052



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer remarked that it was advantageous to create stronger bonds with all of the Clean Cities coalitions and other collaborators throughout the state.

Reviewer 2:

The reviewer observed a generally effective approach to accomplishing the project objectives. Bringing various state stakeholders together under the Florida Clean Cities consortium should be an effective approach to accomplishing statewide activities. The reviewer found that Policy, Barrier Reduction, Safety/Training and Market Development/Outreach initiatives appeared to be appropriate for a statewide approach/focus.

Reviewer 3:

The reviewer commented that the project looked like it was timed to assist in re-invigorating the Central Florida coalition, and assisting several "fledgling" coalitions. The approach appeared relatively straightforward and thorough, and the reviewer highlighted the following activities: establish relationships; do the literature search; convene working groups; conduct surveys and outreach events; and hold training. The reviewer noted that the project also developed a fleet recognition program.

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

Reviewer 1:

The reviewer said that the greatest accomplishment was to bring together all the collaborators. Many of the program objectives had already been accomplished.

Reviewer 2:

The reviewer found that the project appeared to have been making steady progress. It had conducted training sessions, finalized a best practices document, and conducted stakeholder focus groups. The project also obtained Department of Labor funding for first responder training, which may serve as a particularly useful model for other coalitions. The reviewer noted that the expos succeeded in bringing in new organizations, so outreach expanded significantly.

Reviewer 3:
The reviewer observed that the project was getting visibility in the general population through the statewide AFV Expositions. There was no information on how many sales were generated from these efforts or if the expositions would result in infrastructure development. The reviewer noted that all of these projects should be measured by deployed vehicles, and planned or installed infrastructure.

Reviewer 4:
The reviewer found that the project appeared to be on schedule. Several activities had been completed, including the development of statewide AFV assessment tools, literature reviews and a series of statewide AFV Expos and training sessions.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer noted that an excellent project team was assembled to carry out this project, with numerous public and private entities involved. The reviewer identified communication among project partners across the state as one of the major long-term benefits of this project (i.e., they should continue to work together after the completion of the project).

Reviewer 2:
The reviewer commented that collaboration and coordination among program participants appeared to be strong.

Reviewer 3:
The reviewer noted that while not listed as members of the project, the project had worked closely with local industry stakeholders, such as utilities, who ultimately provided in-kind contributions and additional funding. The project was working closely with the other designated coalitions in the state, and several organizations hoping to move toward coalition status. The reviewer remarked that through all of these, the project brought together a number of key state/local stakeholders, including local government/administrative organizations and organizations, such as the League of Cities, that were opening doors to important ultimate stakeholders. The reviewer observed how the project capitalized on an opportunity working with the local Work Force Board to use Department of Labor funds, available locally due to layoffs from the Space Shuttle Program, for first responders training. The reviewer pointed out that the PI suggested that similar Department of Labor funding may be available in other areas.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer pointed out that Florida seemed to be an area of the country primed for rapid expansion of the alternative fuels market. The reviewer noted that many external factors, including large amounts of state funding, had accelerated this process, but the involvement of the local collaborators was essential to its statewide success.

Reviewer 2:
The reviewer noted that the project was working to expand the market potential for multiple alternative fuels throughout the state of Florida, a state that perhaps has not had as much success to date as might have been anticipated. It is hoped that this project might really help Florida move forward, and the reviewer noted that this could be a sizeable contribution, if successful.

Reviewer 3:
The reviewer said that the project should contribute to local/regional alternative fuel market expansion, through the activities accomplished to date and the completion of the remaining project activities.

Reviewer 4:
The reviewer commented that there did not seem to be any information on how this project was going to expand ownership of AFVs or the development of infrastructure.

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

Reviewer 1:
The reviewer stated that this project supported the DOE objectives of petroleum displacement by reducing barriers associated with the adoption of alternative and advance vehicle technologies in the project target areas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Reviewer 2:
The reviewer commented that the project was focused on expanding the use of multiple alternative fuels throughout the state.

Reviewer 3:
The reviewer said that the project supported the overall DOE objectives although many of the program elements, most notably the barriers analysis, and demonstrated that those barriers identified were not unique to Florida and could be just as well addressed on a broader regional basis.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

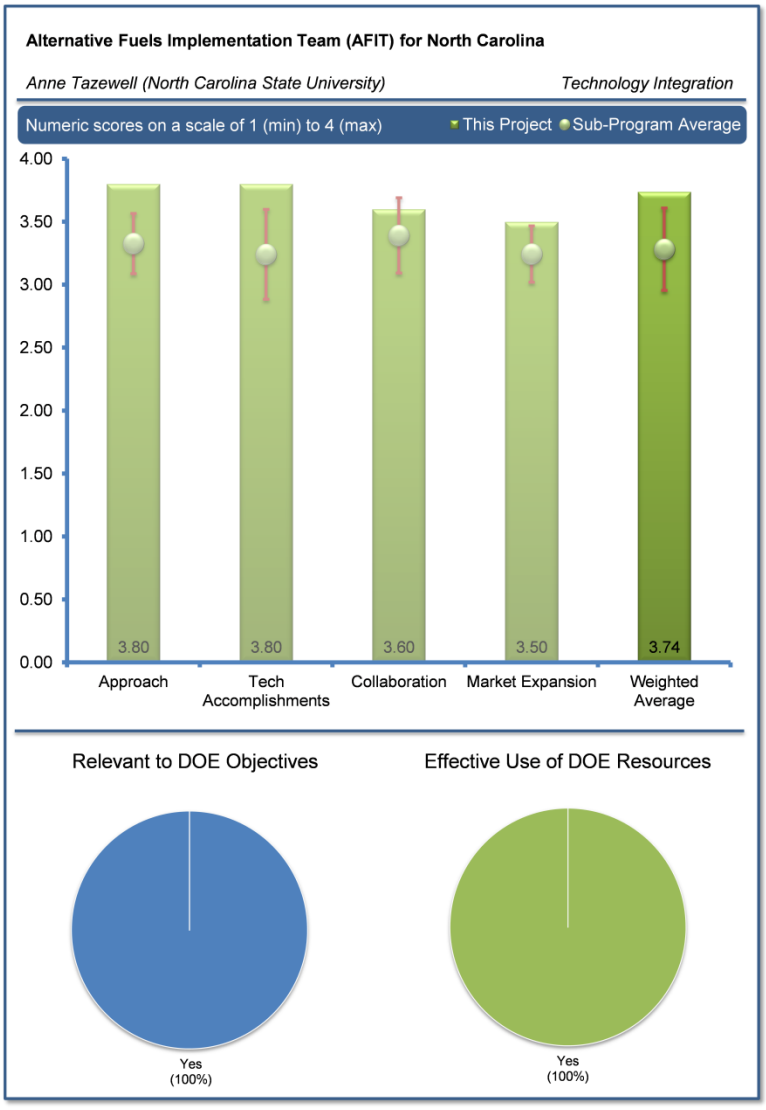
Reviewer 1:
The reviewer said that this was the type of project that many regions needed, and is best done on a regional basis. Results, however, would still likely point to a need for funding for infrastructure.

Reviewer 2:
The reviewer pointed out that many of the program elements were not unique to Florida and could effectively be developed for a broader region. However, according to the reviewer, it was critical that the local collaborators be actively involved in the program deployment to assure success.

Reviewer 3:
The reviewer stated that one area reviewers should have asked questions about was the fleet recognition program. This should be coordinated with DOE's fleet outreach program to ensure that the project is not duplicating efforts. The reviewer recommended that the recognition of fleets was something that all the Clean Cities should do under the same umbrella, with similar or the same criteria for evaluating success.

Reviewer 4:
The reviewer said that in lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to lay the groundwork for such purchases was critically important. The reviewer commented that these projects that supported implementation strategies and activities, such as barrier removal, should assist with market transformation in the local/regional target area. If a more significant level of funding were to become available in the future, these activities, combined with funding for hardware, would be the preferred strategy for targeted market expansion.

Alternative Fuels Implementation Team (AFIT) for North Carolina: Anne Tazewell (North Carolina State University) - ti053



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that the project provided an effective approach to accomplishing the project objectives. Good detail is provided on the Approach and Milestone slides with regard to the planned tasks and activities. The reviewer found that the Policy, Barrier Reduction, Safety/Training and Market Development/Outreach initiatives appear to be appropriate for the project scope.

Reviewer 2:

The reviewer said that this was a comprehensive program with creative elements and customization not found in the program elements of the other projects.

Reviewer 3:

The reviewer said that the project had a straightforward and thorough approach, evaluated the existing landscape, worked with stakeholders to develop barrier reduction strategies, and conducted both broad and one-on-one outreach. To conduct training, the project consolidated the opportunity by holding a low-cost conference (Southeast Alternative Fuel Conference and Expo). The reviewer noted that the project includes an alternative fuels users database, and was also focused on getting AFVs on the state purchase schedule, a key step to greater utilization of alternative fuels in North Carolina, and an approach that needed to be replicated elsewhere.

Reviewer 4:

The reviewer noted that the examination of state signage policies undertaken by this team was a new initiative. The reviewer expressed disappointment that the focus was on North Carolina when the partners in the project included several other states. The project was able to demonstrate that the efforts of the partners had resulted in more AFVs being covered by state contracts and that sellers of vehicles had reported increased interest and sales as a result. The reviewer noted that the state contracts also included infrastructure. The reviewer said that this was a positive step forward.

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

Reviewer 1:

The reviewer observed that significant progress had been made towards achieving project goals. All initiatives and activities appeared to be on track for completion by the project end date. The reviewer did not identify any concerns.

Reviewer 2:
The reviewer said that the signage program and petroleum displacement toolkits showed originality, creativity and impressive results in a broad geographic area. The reviewer remarked that the project provided a good template for others to follow and replicate.

Reviewer 3:
The reviewer noted that the project established quarterly meetings and monthly coordination calls, and published a relatively thorough survey of relevant state policies/incentives across six states. The reviewer noted that the project had already achieved expansion of state contracts both for AFVs and alternative fuels, and had worked on signage policies and worked with state organizations to change approaches. In North Carolina, through the efforts of the project, the state Department of Transportation established a "scarce fuel" policy to address alternative fuel signage, a potential model approach for application elsewhere. The reviewer noted that the project is also working with national fuel industry organizations to move things forward with the Federal Highway Administration concerning signage. The reviewer observed that a North Carolina alternative fuel user database had been developed, including 53 fleets. Overall, the reviewer found that the project had already developed many of the tools promised under the task.

Reviewer 4:
The reviewer said that the experiment with the purchase of mailing addresses for households with FFVs from the North Carolina Department of Motor Vehicles is a great initiative. The plan is to mail those households within a short driving distance of three E85 stations a postcard coupon to be used at the stations. The reviewer suggested that the project team needed to track the initial response and find a way to determine if the initial customers using the coupon returned for future purchases. The reviewer said that these metrics should determine the long-term value of the postcard campaign to retailers and – if successful in creating repeat business – should be exportable to other programs in the country.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer observed that an excellent project team was assembled to carry out this project, with numerous public and private entities involved. Communication among project partners appeared to be appropriate for a project of this scope.

Reviewer 2:
The reviewer said that the broad reach of this program was well organized and coordinated with collaborators in multiple states.

Reviewer 3:
The reviewer noted that this project brought together eight Clean Cities Coalitions, the largest utility in America, industry, and government agencies. The project had already hosted 116 representatives at planning charrettes. The reviewer noted that the project surveyed biofuel suppliers/distributors, and got responses from 55. The project was collaborating with retailers/distributors on biofuel promotion events. The reviewer found that the project appeared to be bringing together the key organizations needed to identify barriers/solutions and to implement suggestions.

Reviewer 4:
The reviewer pointed out that the development of a Southeast Regional Alternative Fuels Conference was a large endeavor. Fortunately, this conference appeared to have the support of the partners in the project and external sponsors. The reviewer suggested that this program team needed to find a clear way of documenting how this conference achieved more vehicle sales and more alternative fuel infrastructure.

Reviewer 5:
The reviewer was a little unclear about how the other coalitions were tied into the project or whether this was mostly a North Carolina project.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer remarked that the project should contribute to local/regional alternative fuel market expansion, through the activities accomplished to date and the completion of the remaining project activities. The reviewer said that noteworthy activities that should continue are the continued work with the North Carolina Department of Transportation on signage and CMAQ funded initiatives, as well as the work on the state bid process to include alternative fuel offerings.

Reviewer 2:
The reviewer said that getting vehicles and fueling infrastructure on the state services bid was an important step, and sharing lessons learned with other areas will help advance the use of alternative fuels.

Reviewer 3:
The reviewer found that the programs developed, toolkits developed and events planned will provide the region with invaluable assets for growing its alternative fuels market.

Reviewer 4:
The reviewer said that some of the project was regional, and some was North Carolina-specific. Overall, according to this reviewer, the project should help to expand the use of alternative fuels regionally through specific focus on overcoming key barriers, though levels of effort for surrounding states are clearly less and, thus, direct results outside of North Carolina would not be as high. The project would create models for use elsewhere, however, and the policies/incentives and outreach (conference) were regional in nature.

Reviewer 5:
The reviewer said that it was too early to tell how this project would support new infrastructure, but, according to the reviewer, the team was laying a good foundation for expansion.

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

Reviewer 1:
The reviewer concluded that every program element had the potential to positively impact DOE's objectives.

Reviewer 2:
The reviewer noted that the project was focused on increasing the use of multiple alternative fuels, both within North Carolina, and ultimately, the region.

Reviewer 3:
The reviewer noted that this project supported the DOE objectives of petroleum displacement by reducing the barriers associated with the adoption of alternative and advanced vehicle technologies in the project target areas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer remarked that it was an excellent utilization of resources and worthy of future support.

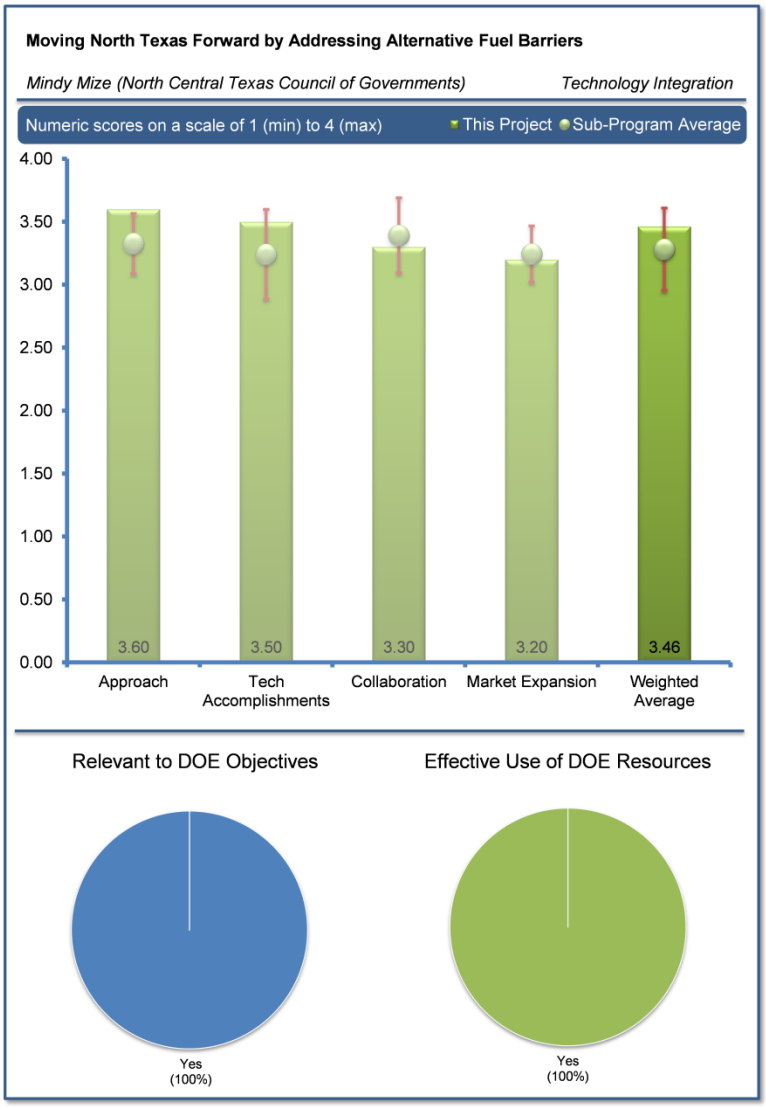
Reviewer 2:
The reviewer said that this appeared to be a relatively well-run example of this type of project, largely due to the expertise and dedication of the PI, but the project should provide particularly useful examples of what many regions need to do, and the cooperation among the

states/coalitions seemed to be a model of how to do it. The reviewer remarked that clear, targeted tasking appeared to be the key in getting coordinators, including those working on other similar projects, working together appropriately.

Reviewer 3:

The reviewer commented that in lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to lay the groundwork for such purchases is critically important. These projects that support implementation strategies and activities, such as barrier removal, should assist with market transformation in the local/regional target area. The reviewer remarked that if a more significant level of funding were to become available in the future, these activities combined with funding for hardware would be the preferred strategy for targeted market expansion.

Moving North Texas Forward by Addressing Alternative Fuel Barriers: Mindy Mize (North Central Texas Council of Governments) - ti054



Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project approach to deployment of alternative fuel vehicles, infrastructure, and related efforts - the degree to which the project is well-designed, feasible, and integrated with other efforts.

Reviewer 1:

The reviewer said that the use of CMAQ funding and the inclusion of the programs in the State Implementation Plan (SIP) are excellent ideas. Providing more information to other areas on how to take advantage of alternative fuel programs in SIPs will help advance alternative fuel deployment.

Reviewer 2:

The reviewer said that the project provides an effective approach to accomplishing the project objectives. Excellent detail is provided on the Approach and Milestone slides with regards to the planned tasks and activities. Policy, Barrier Reduction, Safety/Training and Market Development/Outreach initiatives appeared to be appropriate for the project scope.

Reviewer 3:

The reviewer said that this team was looking at the inclusion of AFVs and infrastructure within the SIP, under the Clean Air Act, as a potential reason for greater deployment of AFVs. The reviewer acknowledged that this was a new approach and it would be interesting to see how this initiative will play out over the next few years.

Reviewer 4:

The reviewer concluded that this seemed to be a well-organized effort to address alternative fuel vehicle deployment issues within the framework of the local jurisdictions, state regulators, collaborators, educators and fleets.

Reviewer 5:

The reviewer noted that the project included a thorough and straightforward approach, with a key emphasis on training, to address the needs of a large number of local jurisdictions (234 in total). Unlike some of the other similar projects, this one had a relatively broad scope of alternative fuels, including emphasis on propane and biodiesel, in addition to NG and electricity.

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

Reviewer 1:

The reviewer said that significant progress had been made towards achieving project goals. All initiatives and activities appeared to be on track for completion by the project end date. The reviewer identified no concerns.

Reviewer 2:
The reviewer found that the project had made a great deal of progress. The project had completed evaluations of policies, etc., and drafted policies/strategies. The reviewer noted that the project was in the process of gathering public input on strategies. The project ran into a few snags along the way in the SIP area, though that seems to be back on track, if somewhat delayed. The reviewer observed that the project had completed a Propane Engine Summit, with (80 attendees on-site and 750 on-line, as well as most of the promised training. The project saw some surprises on training in that CNG was lightly attended, while biodiesel was heavily attended. The project developed an AFV parking program, including policies, signs, and a phone application contest.

Reviewer 3:
The reviewer commented that tangible results had been accomplished in policy initiatives, barrier reduction, safety/training and market development. Especially appealing was the customization of materials to address local needs.

Reviewer 4:
The reviewer found that the project team was hitting its milestones effectively.

Question 3: Collaboration and coordination with Project Partners - the degree to which the appropriate partners are involved in the project work and the effectiveness of collaboration between and among partners.

Reviewer 1:
The reviewer commented that success in collaboration and coordination with broad coalitions seems to have been achieved.

Reviewer 2:
The reviewer observed that there were 234 governments within the region covered by this grant. Just getting a few to agree on the same fire marshal standards to installation of infrastructure would be a major accomplishment. The reviewer acknowledged that some of this had actually occurred.

Reviewer 3:
The reviewer noted that in addition to sub-recipient partners, the project was teaming with a number of the necessary implementers, including vehicle providers, local governments, and technical colleges. Those identified in the presentation formed a possibly shorter list than anticipated, especially with regard to vehicle providers, particularly given the progress the project has made. At the same time, a particular beneficial approach was relying upon fleet champions to explain successes and needs to other fleets. The reviewer said that this was seen as critical with so many different governmental jurisdictions with widely varying levels of understanding and policies.

Reviewer 4:
The reviewer observed that an effective project team was assembled to carry out this project, with numerous public and private entities involved. Communication among project partners appeared to be appropriate for a project of this scope.

Question 4: Alternative fuel market expansion potential - the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and the potential to be successfully replicated in other geographic areas.

Reviewer 1:
The reviewer said that there seemed to be strong possibilities with a host of alternative fuels in this market.

Reviewer 2:
The reviewer commented that the project was working to expand the use of multiple alternative fuels, including several fuels not as widely used in Texas (electric and biodiesel). The reviewer suggested that several of the products developed should serve as models for other regions.

Reviewer 3:
The reviewer said that the project should contribute to local/regional alternative fuel market expansion, through the activities accomplished to date and the completion of the remaining project activities. The reviewer remarked that noteworthy activities that should contribute are the work related to incorporating alternative fuel measures into the SIP, as well as the work on EV regulatory barriers.

Reviewer 4:
The reviewer remarked that the project team had put forth the effort necessary to educate more policy and regulatory developers and fuel users about alternative fuels. The reviewer commented that it was not clear that this effort had paid off in new infrastructure or vehicle purchases.

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

Reviewer 1:
The reviewer said that program elements in electric, propane and NG had broad appeal among stakeholders; the program elements were indicative of a rapid expansion of the infrastructure necessary to support greater fleet utilization.

Reviewer 2:
The reviewer said that the project was expanding the use of multiple alternative fuels to reduce petroleum use.

Reviewer 3:
The reviewer found that this project supported the DOE objectives of petroleum displacement by reducing barriers associated with the adoption of alternative and advanced vehicle technologies in the project target areas, as well as providing for adequate supporting fueling infrastructure for these vehicles.

Question 6: Use of Resources - are DOE funds being used wisely? Should DOE fund similar efforts in the future? If not, what would be a better use of DOE resources to achieve alternative fuel vehicle and infrastructure expansion?

Reviewer 1:
The reviewer concluded that this seemed to be a successful program worthy of continued support.

Reviewer 2:
The reviewer commented that many of the steps in this project were what regions/coalitions needed to do. The next need was for DOE to take the results of this and similar projects and provide the best examples for use by other coalitions. According to the reviewer, infrastructure would also likely still need funding in many areas of the country, in addition to funding projects focused on training, outreach, planning, etc., like the subject project.

Reviewer 3:
The reviewer commented that in lieu of funding for hardware, i.e., vehicles and fueling sites, the use of DOE funding to lay the groundwork for such purchases was critically important. These projects that support implementation strategies and activities, such as barrier removal, should assist with market transformation in the local/regional target area. The reviewer remarked that if a more significant level of funding were to become available in the future, these activities, combined with funding for hardware, would be the preferred strategy for targeted market expansion.

Acronyms and Abbreviations

Acronym	Definition
AFDC	Alternative Fuels Data Center
AFV	Alternative Fuel Vehicle
AMPO	Association of Metropolitan Planning Organizations
AMR	Annual Merit Review
B20	Biodiesel blend of 20% neat biodiesel
CALSTART	
CARB	California Air Resources Board
CEC	California Energy Commission
CEO	Chief executive officer
CMAQ	Congestion Mitigation and Air Quality Program
CNG	Compressed natural gas
CTFIP	Central Texas Fuel Independence Project
DEER	Directions in Engine-Efficiency and Emissions Research Conference
DGE	Diesel gallon equivalent
DOE	Department of Energy
EPRI	Electric Power Research Institute
EV	Electric Vehicle
FFV	Flex-fuel vehicles
GATE	Graduate Automotive Technology Education
GHG	Greenhouse Gases
GGE	Gasoline gallon equivalent
GIS	Geographic Information Systems
GTI	Gas Technologies Institute
H_2	Hydrogen
HEV	Hybrid Electric Vehicle
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
MPO	Metropolitan Planning Organization
NAFTC	National Alternative Fuels Training Consortium
NASEO	National Association of State Energy Officials
NFPA	National Fire Protection Association
NG	Natural gas
NGV	Natural gas vehicles
NYSERDA	New York State Energy Research and Development Authority
OEM	Original Equipment Manufacturer
P3NGV	Pennsylvania Partnership to Promote Natural Gas Vehicles
PERC	Propane Education and Research Council
PEV	Plug-in electric vehicle
PI	Principal Investigator
R&D	Research and development
SCAQMD	South Coast Air Quality Management District

SEO	State Energy Office
SIP	State Implementation Plan
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TIGER	
VTO	Vehicle Technologies Office