8. Technology Integration

Our nation's energy security depends on the efficiency of our transportation system and on which fuels we use. Transportation in the United States already consumes much more oil than we produce here at home and the situation is getting worse. The U.S. Department of Energy's (DOE's) Vehicle Technologies Office (VTO) supports research and development (R&D) that will lead to new technologies that reduce our nation's dependence on imported oil, further decrease vehicle emissions, and serve as a bridge from today's conventional powertrains and fuels to tomorrow's hydrogen-powered hybrid fuel cell vehicles. VTO also supports implementation programs that help to transition alternative fuels and vehicles into the marketplace, as well as collegiate educational activities to help encourage engineering and science students to pursue careers in the transportation sector. Following are some of the activities that complement the VTO's mission.

Energy Policy Act of 1992

VTO administers programs in support of the Energy Policy Act of 1992 (EPAct), which was passed to reduce our nation's reliance on foreign petroleum and improve air quality. Officially known as Public Law 102-486, EPAct includes provisions that address all aspects of energy supply and demand. EPAct's regulatory fleet programs require federal, state, and alternative fuel provider fleets to annually acquire a certain percentage of alternative fuel vehicles (AFVs), which are capable of operating on nonpetroleum fuels.

EPAct further requires covered fuel providers to use alternative fuels in their AFVs. Since 1992, regulated fleets have helped build a core market for AFVs and have displaced more than 100 million gasoline gallon equivalents (GGE) of conventional fuels.

Clean Cities

Clean Cities supports the voluntary side of EPAct. Clean Cities was created in 1993 to provide technical, informational, and financial resources to both regulated fleets and voluntary adopters of alternative fuels.

As the primary deployment arm of VTO, Clean Cities' mission is to advance the nation's economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities carries out this mission by working with more than 90 coalitions throughout the United States. Among its 4,800 stakeholders are local, state, and federal government agencies; commercial fleets; automakers; fuel suppliers; utility companies; and professional associations. Since its inception, Clean Cities has displaced more than 1 billion GGE of petroleum through the use of alternative fuels and AFVs, idle reduction technologies, fuel economy measures, and fuel blends.

Educational Activities

In addition to research, the VTO supports post-secondary educational activities, such as competitions and technology development programs for engineering students interested in advanced transportation research.

Subprogram Feedback

DOE received feedback on the overall technical subprogram areas presented during the 2015 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 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: Linda Bluestein (U.S. Department of Energy) – ti000

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

Reviewer 1:
The reviewer said yes, the overall strategy to implement policies and initiatives by facilitating change on a local and national level was described.

Reviewer 2:
The reviewer said yes, program area and overall strategy of program was covered well in the overview presentation.

Reviewer 3:
The reviewer said that the Technology Integration (TI) program was more than adequately covered. This program includes a number of moving parts, which were all clearly addressed in the Overview. While many may focus solely on the Clean Cities element of TI, the overview also addressed the other critical pieces including regulatory/legislative projects, student competitions, and Graduate Automotive Technology Education (GATE). This program, being something other than a research & development (R&D) program, is often difficult for people to understand, and the overview clearly laid out all these pieces, their rationale, and how they fit in with the rest of VTO.

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

Reviewer 1:
The reviewer agreed that the program in the near-term currently saved 1 billion gallons of petroleum in a single year. In the mid- and long-term there is a goal to reduce petroleum by 2.5 billion gallons per year.

Reviewer 2:
The reviewer said that given that this area is largely about deployment, the primary focus is appropriately on near-term elements. It includes some longer-term focus on educating the next generation of experts.

Reviewer 3:
The reviewer said yes, program management does a great job balancing the immediate needs, as well as visionary and planning requirements to meet mid- and long-term research and development.

Question 3: Were important issues and challenges identified?

Reviewer 1:
The reviewer said yes, the challenge of increasing public awareness and consumer acceptance as well as the need to implement next steps when R&D is completed were identified.

Reviewer 2:
The reviewer said that barriers and needs were clearly identified in the presentation.

Reviewer 3:
The reviewer noted that the biggest issue/challenge that the program faces is the need for more alternative fuel vehicles in service to reduce petroleum usage.

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

Reviewer 1:
The reviewer remarked that through the deployment efforts to accelerate market transformation and the Clean Cities effort to reduce petroleum use these challenges are addressed. The reviewer detailed that the portfolio of

alternative fuel use technologies, idle reduction, and the use of hybrid vehicles to help improve fuel economy are all ways to address identified issues and challenges.

Reviewer 2:
The reviewer said that more than most areas within VTO, this area is fully focused on approaches to address issues and challenges. This is necessary because of its primarily near-term focus on moving technologies into the hands of users, or in addressing regulatory requirements. The reviewer noted that the student programs (competitions and GATE) are also well-planned efforts meeting somewhat longer-term needs.

Reviewer 3:
The reviewer said yes, the program conducts five-year strategic planning sessions, allowing stakeholders and other industry partners to participate, in order to set goals and objectives to move the program forward. In addition, new tools and resources, continued technical assistance, and funding opportunities/assistance are provided to continue to move the industry and program activities forward.

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

Reviewer 1:
The reviewer said that there continues to be very good progress in this program annually. Clean Cities saved 1 billion gallons of petroleum, the National Clean Fleet Partners has grown to 26 companies, and the electric vehicle supply equipment (EVSE) station locator program has been a success with over 200,000 users. The reviewer commented that these are very good accomplishments.

Reviewer 2:
The reviewer said that continued progress against key metrics was clearly identified, focused primarily on petroleum displacement from Clean Cities. In addition, accomplishments of the other activities within TI were also provided, particularly compliance level for regulatory activities and specific accomplishments for student programs.

Reviewer 3:
The reviewer said yes, the 2014 program overview was provided to allow for clearly benchmarked progress 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?

Reviewer 1:
The reviewer said that the overall activities of Clean Cities, legislative development and rulemaking, advanced vehicle competitions, and the GATE program all help address the barriers that VTO is working on.

Reviewer 2:
The reviewer said that this area absolutely addresses the overall problems and barriers facing VTO. This area, with its focus on deployment, is the final step necessary for VTO technologies to actually make a difference. The reviewer noted that if technologies are not used, no petroleum is displaced or reduced, and that is exactly what TI focuses on. In addition, VTO and the technologies that it focuses on will have continuing needs for new experts to contribute in the future, the primary focus of the student programs.

Reviewer 3:
The reviewer said that each of the projects in this technology area addresses the broad problems/barriers of the VTO and contributes to the quest to move our nation away from petroleum-based fuel. This includes forming and managing the nationwide coalition network of coordinators; developing and supporting the development of consumer information, outreach, and education; providing technical and problem solving assistance; and funding the development of numerous projects that align with the program mission and goals.

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

Reviewer 1:
The reviewer said that as shown through the accomplishments over the past year, this program is very well-managed and definitely addresses VTO needs.

Reviewer 2:
The reviewer pointed out that TI, because of its nature, has to address a number of needs for VTO. Given this, however, the TI program has focused on the key areas of contribution to meet overall VTO goals. Thus, it focuses on education/outreach and easing deployment (Clean Cities), working with regulated fleets (regulatory activities), and developing the next generation of experts (student competitions and GATE). The reviewer pointed out that in addition, this program clearly leverages relatively meager resources to accomplish a great deal on a national basis.

Reviewer 3:
The reviewer said yes, the program area appears to be focused, well-managed, and effective in addressing VTO's needs. Through the development of a franchise model, the Clean Cities program is able to be on the ground in nearly 100 local areas delivering a consistent message to reduce dependence on petroleum.

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 said that a key strength of the overall program continues to be the Clean Cities activity. The number of partners across the country and the amount of fuel displaced makes it stand out as a top program in VTO.

Reviewer 2:
The reviewer said that the Clean Cities program, with its management team and coalition network, is an extremely important program responsible for a huge amount of the success and deployment of alternative fuel vehicles nationwide. This program operates like veins in a body – instrumental to the blood flow – necessary for the success of the alternative fuels industry. The reviewer identified that a weakness is the structure of the coalition network, limiting the financial support of the coalitions and therefore limiting the impact of some of the coalitions who seem to struggle financially to survive.

Reviewer 3:
The reviewer said that the real strength of the program is having highly experienced personnel and partners who have together developed successful approaches over the years - Clean Cities coalitions, the student competitions, the regulatory implementation activities, and GATE. The success of these approaches has clearly been demonstrated over the years. In particular, Clean Cities' focus on mobilizing stakeholders at the local level has been critical to significant petroleum displacement. The reviewer noted that, in addition, the use of the national laboratories has also been key, and has included development of projects, programs, and tools useful not only within the TI program, but also to the general public (such as the Fuel Economy Guide and its website, as well as the Alternative Fuel Data Center). The reviewer identified that the key weakness is the lack of a stronger bridge to VTO's R&D programs, so that TI can more fully function as the demonstration and deployment arm of VTO.

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

Reviewer 1:
The reviewer noted that EcoCar3 and the GATE programs are instrumental in the development of future engineers and scientists.

Reviewer 2:
The reviewer detailed that the design of Clean Cities, the regulatory activities, and the student programs (competitions and GATE) is highly innovative. In most cases, these activities likely represent the only examples of these types of approaches anywhere.

Reviewer 3:
The reviewer said yes, especially through competitive awards, the project barriers are dealt with in novel and innovative ways, with each proposal bringing new thoughts, talents, and experiences that together better contribute to the breakdown of barriers.

Question 10: Has the program area engaged appropriate partners?

Reviewer 1:
The reviewer said that there is a very good set of partners developed through the Clean Cities program that is a major reason for the success of that activity. The EcoCar 3 and GATE programs also have developed good relationships with original equipment manufacturers (OEMs), suppliers, and colleges and universities.

Reviewer 2:
The reviewer pointed out that collaboration has been the key implementing method for the TI program. This has included nearly 100 Clean Cities coalitions made up of thousands of stakeholders, as well as manufacturers, fuels industry representatives, national fleets, and numerous university programs. The reviewer pointed out that this is in addition to working with over 300 regulated fleets. Similarly, the regulatory and student programs also include a very high level of engagement with partners, as evidenced by their successes.

The reviewer detailed that a key need, however, is building a stronger bridge between the deployment opportunities under TI and the demonstration needs for technologies developed under VTO's R&D programs. More R&D projects need to include specific actions regarding demonstration in the hands of knowledgeable users, such as identified through Clean Cities (such as either individual coalition stakeholders or National Clean Fleet Partners).

Reviewer 3:
The reviewer said yes, and detailed that partners are engaged in many ways – on a local and statewide basis by coalitions and on a national basis by the program headquarters. There is always opportunity for new partnerships and the program appears to always be looking for those opportunities.

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

Reviewer 1:
The reviewer said yes, the program seems to be collaborating with the partners very effectively.

Reviewer 2:
The reviewer said that the TI programs focus continuously on collaborating with stakeholders/partners, even to the point of bringing hundreds in to participate in a recent Clean Cities Strategic Planning Workshop, aimed at developing the next five-year strategic plan. The regulatory activities also regularly interact with stakeholders (regulated fleets), resulting in the 100% compliance level identified in the presentation. The reviewer said that the successes of the student programs also are due to high levels of effective collaboration.

Reviewer 3:
The reviewer said yes. The program members are expert collaborators as that is the way they conduct their business. It is a necessity. The reviewer noted that program members cannot do the work without effective collaboration.

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

Reviewer 1:
The reviewer said no, there do not appear to be any gaps in this area.

Reviewer 2:
The reviewer said that the only potential gap is aggressively being closed through the recruitment of additional Clean Cities coalitions in areas not yet represented. There are very few states that do not have such representation at this time.

Reviewer 3:
The reviewer said that if greater funding were provided, more deployment grants under Clean Cities could be useful. The reviewer noted that in addition, there is a need for a stronger link between the deployment and R&D programs as identified in question 10 above. However, funding for demonstration efforts would need to come from the R&D side, and not out of TI's relatively meager budget.

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

Reviewer 1:
The reviewer said that all topics are being addressed sufficiently.

Reviewer 2:
The reviewer said that the alternative fuel vehicle industry is constantly moving and therefore there are always new topics to be addressed. The program does a very good job staying on top of the needs of the changing industry.

Reviewer 3:
The reviewer emphasized there is a need to take advantage of the opportunities to put R&D technologies ready for demonstration in the hands of appropriate users identified by the TI programs. Greater coordination is needed with other agencies, many of which are much better sources of funding for deployment programs than DOE.

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

Reviewer 1:
The reviewer suggested that consideration should be given to increasing the level of funding for this overall activity. This is one area that shows real near-term benefits instead of potential long-term benefits after R&D is complete.

Reviewer 2:
The reviewer suggested additional training, professional development, and creative funding (outreach support, etc.) for the coordinators.

Reviewer 3:
The reviewer noted that there are several areas that could use additional funding, if it were made available. The reviewer suggested: joint VTO TI/R&D demonstrations; more deployment funding opportunities under Clean Cities; stronger coalition support under Clean Cities; and more outreach under regulatory activities (including jointly with Clean Cities).

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

Reviewer 1:
The reviewer said no, the barriers are being adequately addressed for the funding level of the program.

Reviewer 2:
The reviewer pointed out that the program has a very strong reputation. The fleet partnership project is hugely successful. The reviewer suggested that perhaps an OEM partnership project similar to this would bring added support for getting AFVs deployed.

Reviewer 3:
As previously indicated, the reviewer recommended a stronger tie between deployment efforts and R&D technology demonstrations, relying upon the network of appropriate users already developed. Student programs are also critical, leading to the next generation of experts, and must be continued. The reviewer suggested that regulatory activities could also be a greater catalyst for alternative fuel efforts if even greater outreach were conducted (with additional funds), much in coordination with Clean Cities.

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

Reviewer 1:
The reviewer said that the effectiveness of the program could be improved with the addition of increased funding.

Reviewer 2:
The reviewer noted that some of the Clean Cities coalitions are prospering, while others are struggling. Each coalition is such a vital part of the success of the program mission. The reviewer suggested that perhaps there could be jobs that coalitions in need could bid on to support the national efforts of the program (or even local efforts - coalitions helping coalitions) that would help them keep the local coalition in need afloat.

Reviewer 3:
The reviewer had no suggestions.

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
Fuel Economy Guide and fueleconomy.gov Website	Saulsbury, Bo (ORNL)	8-11	3.40	3.80	3.20	3.60	3.60
Fuel Economy Information Project - Research, Data Validation, and Technical Assistance Related to Collecting, Analyzing, and Disseminating Accurate Fuel Economy Information	Saulsbury, Bo (ORNL)	8-16	3.40	4.00	3.40	3.20	3.68
Alternative Fuel Station Locator	Hudgins, Andrew (NREL)	8-21	3.40	3.60	3.80	4.00	3.63
Alternative Fuels Data Center and API	Levene, Johanna (NREL)	8-25	3.60	3.60	3.60	3.60	3.60
Clean Cities Coordinator Resource Building and National Networking Activities	Dafoe, Wendy (NREL)	8-29	3.00	2.80	3.80	3.60	3.08

Presentation Title	Principal Investigator and Organization	Page Number	Approach	Technical Accomplishments	Collaborations	Future Research	Weighted Average
Clean Cities "Tiger Team" Technical and Problem Solving Assistance	Gonzales, John (NREL)	8-32	3.60	3.80	3.80	3.80	3.75
Collegiate Programs: Advanced Vehicle Technology Competitions (AVTC), Graduate Research Assistants (GRCs), and Clean Cities University Workforce Development Program (CCUWDP)	Rood , Marcy (ANL)	8-35	3.50	3.75	3.25	3.00	3.53
Alternative Fuel Tools and Technical Assistance Activities	Rood, Marcy (ANL)	8-38	3.50	3.75	3.50	3.75	3.66
Overall Average			**3.43**	**3.64**	**3.54**	**3.57**	**3.57**

Fuel Economy Guide and fueleconomy.gov Website: Bo Saulsbury (Oak Ridge National Laboratory) - ti056

Presenter

Bo Saulsbury, Oak Ridge National Laboratory.

Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 asserted that this is a very valuable guide for both consumers and the automotive industry. The reviewer characterized as important the fact that the guide is being shipped to dealers. The reviewer stated that the guide explains the miles per gallon equivalent (MPG_e) information, which is helpful. Finally, the reviewer commented that the used car label is a huge benefit to the used car industry and noted that it is downloadable.

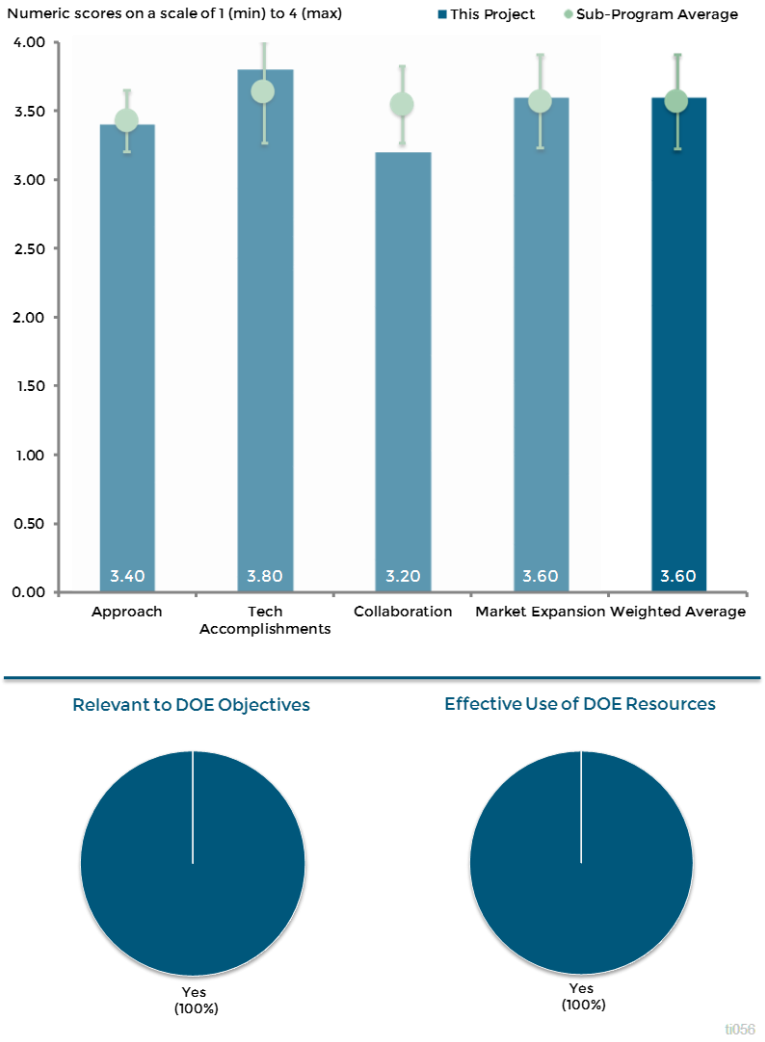

Figure 8-1 Fuel Economy Guide and fueleconomy.gov Website: Bo Saulsbury (Oak Ridge National Laboratory) - Technology Integration

Reviewer 2:

The reviewer stated that this project aligns well with and seems to exceed DOE's mandate to provide fuel economy education to consumers. The reviewer concluded that the overall project approach and its various prongs will help consumers make more fuel-efficient decisions and allay their potential concerns about the trustworthiness of MPGE ratings.

Reviewer 3:

The reviewer stated that the project approach section provides effective methodology to accomplishing the project objectives for fiscal year (FY) 2014 and FY 2015. The reviewer also stated that adequate detail is provided on the approach and milestone slides with regards to the planned tasks and activities.

Reviewer 4:

The reviewer praised the information provided through project activities as exceptional, and cautioned that there seems to be a lesser emphasis on alternative fuels information versus conventional vehicle fuel economy information.

The reviewer recommended a closer look at the user experience and taking into consideration that there is an enormous amount of information that could very quickly turn the user away, for lack of knowing where to begin.

The reviewer also praised the media approach effort, stating that it is a great way to get the program acknowledged, in particular through the planned public service ad campaign.

Reviewer 5:

The reviewer observed that the project continues to maintain clear and robust alternative fuel MPGE ratings for flex-fuel vehicles and other AFVs on fuel economy (FE) window stickers, the Fuel Economy Guide (FEG), and website.

The reviewer pointed out that, while the FEG website includes a "Safety" tab, in many cases, only a link to National Highway Traffic Safety Administration (NHTSA) is provided. The reviewer suggested that these tabs should be pre-populated with crash test rating information. Furthermore, the reviewer commented that there is an opportunity for the FEG to highlight vehicles that achieve both high crashworthiness/safety ratings in addition to strong fuel economy. The reviewer observed that there are many fuel-efficient cars that also achieve a strong safety rating and that highlighting these vehicles could help dispel a common consumer misconception that one needs a large vehicle (truck/sport utility vehicle (SUV)) in order to stay safe on the road. The reviewer concluded that an integrated view of safety and efficiency could be especially useful to consumers.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:

The reviewer observed an excellent tool to provide resources for Clean Cities coordinators, and noted that it does effectively include electric vehicles (EVs). The reviewer stated that the trip calculator is excellent. The reviewer also praised the gas savings research on technologies as an excellent resource. The reviewer suggested that the project team do a deep dive presentation to Clean Cities coordinators at the next coordinator summit.

Reviewer 2:

The reviewer praised the project's website statistics and hits as very impressive and a testament to the fact that the project team can keep information on the site updated, timely, and accurate.

Reviewer 3:

The reviewer stated that significant progress has been made towards achieving FY 2014 and FY 2015 project goals and that all initiatives and activities appear to be on track for successful completion. The reviewer observed that the activities to upgrade existing tools/develop new tools for the fueleconomy.gov website should continue to provide end-users with various options to better help make an informed vehicle purchase decision. The reviewer said no concerns have been identified.

Reviewer 4:

The reviewer praised the project as having achieved a very useful modernization of both the FEG and website across multiple technology platforms that have kept both highly accessible and user-friendly to consumers. The reviewer stated that inclusion of driving range for plug-in hybrid electric vehicles (PHEVs) and EVs is a valuable addition to the FE vehicle sticker.

Reviewer 5:

The reviewer described the project work accomplished as significant and well developed, with a tremendous amount of excellent information and tools made available. The reviewer stated that the website obviously has the most potential for impact, and praised the program management as doing a wonderful job with staying on top of new web technology and keeping the website compliant. The reviewer expressed a concern that the users

could become overwhelmed with so much information when first entering the website. The reviewer suggested a simpler user interface as a way to prevent this and a "start here" link that would allow users to simply assess what the site offers and what direction they should go on the site to gather the information needed.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer stated there was an effective project team assembled to carry out this project with numerous government and industry partners involved. The reviewer also characterized the roles of the project team as well defined and said that the collaboration and communication among project partners appears to be appropriate for the project of this scope.

Reviewer 2:
The reviewer said that the project team is doing a nice job in distribution of material to dealerships. The reviewer suggested that Clean Cities Coalition coordinators receive a communication alerting them to when dealers get the guide. The reviewer concluded that the project team has provided evidence of good collaboration to get the job done.

Reviewer 3:
The reviewer described the project as involving good collaboration but suggested that given the excellent information on alternative fuels provided by the Alternative Fuels Data Center (AFDC), perhaps there could be stronger collaboration with that project team. The reviewer stated that this would allow for cross-use of more alternative fuels data that would help in strengthening the alternative fuels information provided through this project.

Reviewer 4:
The reviewer stated that it might be interesting to see some more targeted collaboration with dealerships, with consumer groups that can help spread the word, and with fleet decision makers.

Reviewer 5:
The reviewer remarked that there is an opportunity and need for greater vehicle dealer outreach and training on the FEG and website (beyond just guide dissemination).

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer praised the tools as excellent ones to accomplish both market expansion and petroleum reduction.

Reviewer 2:
The reviewer stated that the focus of this project (i.e., consumer education) is vitally important to DOE's efforts to reduce petroleum use in the transportation sector.

Reviewer 3:
The reviewer stated that the project absolutely has a huge potential to contribute to the alternative fuel vehicle market expansion, but added that the contribution could be much more by enhancing the user experience with a simplified web user interface. The reviewer summarized that the information is on the website and just needs to

be presented in a more user friendly way to draw in more users and provide them with easy to find, useful information on their visits.

Reviewer 4:

The reviewer suggested that the current methodology estimating FEG impact on petroleum consumption could perhaps be improved (for example, by linking fueleconomy.gov visits to actual vehicle sales data, consumer surveys, etc.). The reviewer also stated that proposed efforts to engage other online vehicle sales sites/vendors (e.g., eBay, CarMax, etc.) would be important and valuable for future project work.

Reviewer 5:

The reviewer stated that the project should contribute to reduced petroleum dependence in the transportation sector, as well as contribute to a sustainable alternative fuel vehicle market, through the activities accomplished to date and the completion of the remaining project activities. The reviewer said noteworthy activities that should contribute are the continued refinement of the "Find and Compare Cars," "Gas Mileage Tips," and the "Hybrid & PHEV calculator" tools.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:

The reviewer praised the FEG and website as providing credible, fundamental public information that is highly important in guiding consumers' decisions about energy and vehicle transportation choices. The reviewer declared that the public and consumer value of the FEG cannot be overstated.

Reviewer 2:

The reviewer stated that the project relevance slides clearly describe the project's statutory requirements, as well as how the project addresses specific barriers in the VTO's Multi-Year Program Plan 2011-2015.

Reviewer 3:

The reviewer agreed that the goal of this project (i.e., to reduce petroleum based fuels through fuel economy and the use of alternative fuel vehicles) definitely supports DOE objectives of reducing reliance on petroleum based fuels.

Reviewer 4:

The reviewer stated that although the specific metrics are hard to capture (i.e., it is unknown exactly how much petroleum dependence has been reduced as a result of this project), the FEG and website clearly help consumers make important decisions about their purchases, and they seem to be helping consumers understand the benefits of fuel efficiency and how it works.

Reviewer 5:

Considering the petroleum reduction goal, this reviewer explained the importance of understanding what actually happens for MPG_e in the transportation sector and how the tools provided enable consumers to make a valid choice to reduce fuel use.

Question 6: Comments on Use of Resources.

Reviewer 1:

The reviewer observed that fueleconomy.gov activities fulfill DOE's statutory responsibility to provide fuel economy information to the public (49 U.S.C. 32908, 2006) and therefore must continue to be funded. The reviewer characterized the activities related to developing and improving tools for the public to make informed vehicle purchase decisions, based on either fuel economy and/or greenhouse gas (GHG) reduction comparisons, as critical in reaching mass audiences (versus a fleet focus). Additionally, the reviewer stated it is important to continue to link FE.Gov to the AFDC to provide more detail on alternative fuel and advanced technology vehicles available for sale.

Reviewer 2:
The reviewer stated that this is a wise use of DOE funds and should continue into the future.

Reviewer 3:
The reviewer characterized the project as a good use of resources to get the petroleum reduction method out the door to consumers and fleet managers.

Reviewer 4:
The reviewer commented that the project is very important and needed. The reviewer stated that the tools being developed are quite labor intensive and justifies the funding and that project efforts are worthy of continued funding. The reviewer recommended a better collaboration with AFDC and cross utilization of the information and materials developed through that program to avoid the funding of some of the same data for both sites. The reviewers suggested that a $350,000 outreach/marketing budget should bring significant program impact/recognition.

Fuel Economy Information Project - Research, Data Validation, and Technical Assistance Related to Collecting, Analyzing, and Disseminating Accurate Fuel Economy Information: Bo Saulsbury (Oak Ridge National Laboratory) - ti057

Presenter

Brian West, Oak Ridge National Laboratory.

Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 has done an excellent job of providing detailed, customized, and usable information to vehicle purchasers.

Reviewer 2:

The reviewer characterized the project approach section as providing effective methodology to accomplishing the project objectives for FY 2014 and FY 2015. The reviewer stated that adequate detail is provided on the approach and milestone slides with regards to the planned tasks and activities.

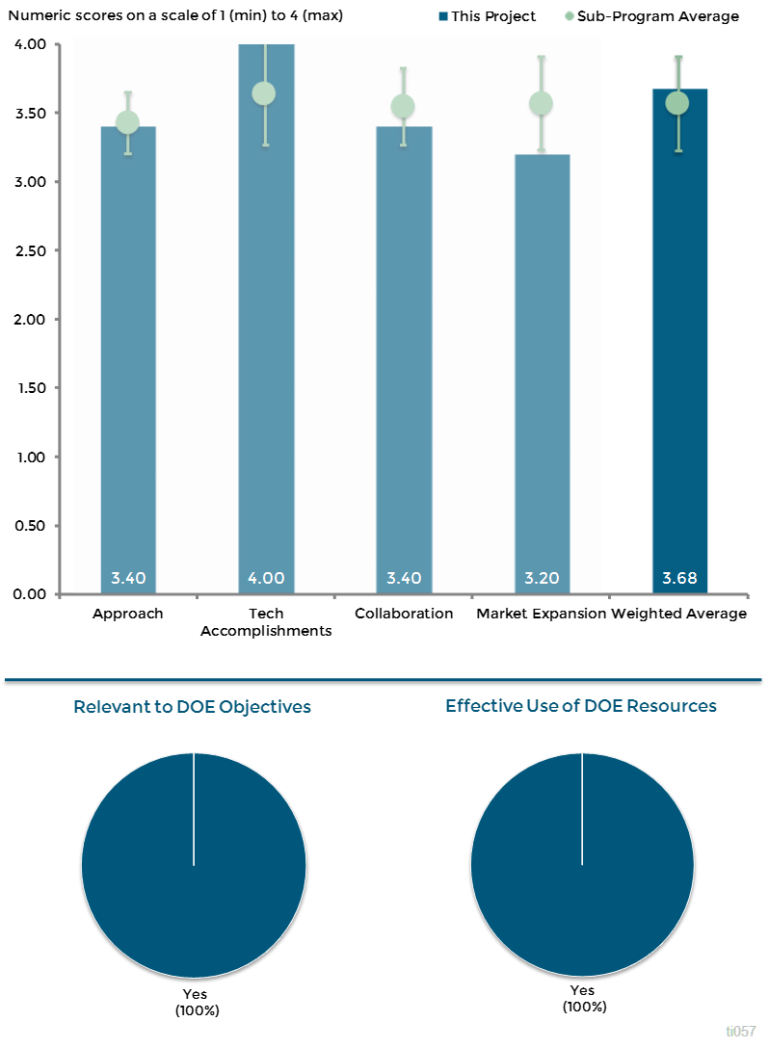

Figure 8-2 Fuel Economy Information Project - Research, Data Validation, and Technical Assistance Related to Collecting, Analyzing, and Disseminating Accurate Fuel Economy Information: Bo Saulsbury (Oak Ridge National Laboratory) - Technology Integration

Reviewer 3:

The reviewer described the information and research that is done as reasonably well focused on the consumer. The reviewer recommends that a fleet corner be added to some of the material.

Reviewer 4:

The reviewer stated that the project approach is sound, producing consumer-focused research that adds notable value to the FEG website.

The reviewer observed that there is a wide array of after-market devices and automotive lubricants in existence that claim to boost vehicle fuel economy and suggested that research into some of these consumer-targeted products, to validate or dispute their claims, would be beneficial. The reviewer commented that it can be hard

for consumers to discern which products may be gimmicks and/or snake-oil. The reviewer also noted that the project team plans to research several additional good topics useful to the consumer such as vehicle accessory loads (electronics, heated seats), pre-heating vehicle in winter, etc.

Reviewer 5:

The reviewer described the project approach as very strong and remarked that consumer information/education is critical. The reviewer stated that the only obvious weakness is that alternative fuel vehicle information seems to take second place to conventional vehicle fuel economy information. The reviewer concluded that it is obvious there is an abundance of research and project data gathered/developed and suggested a poll or survey of consumers and industry to ask what information or tools they would like to see developed. The reviewer said that Clean Cities coordinators should be a part of the survey group to ensure tools support their local efforts as well.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:

The reviewer remarked that the research and data collected, as well as the validation of data, appear to be excellent and of significant quantity, resulting in great consumer information and tools. The reviewer also stated that the project did an excellent job on the process of taking technical information and turning it into consumer friendly information.

Reviewer 2:

The reviewer stated that significant progress has been made towards achieving FY 2014 and FY 2015 project goals. The reviewer also stated that all initiatives and activities appear to be on track for successful completion and commented that activities such as validating existing/adding new fuel efficiency tips (i.e., for hybrid electric vehicles (HEVs), plug-in electric vehicles (PEVs), EVs, cold/warm weather driving, effects of speed, effects of vehicle alterations, etc.) should continue to provide the general public information on how to maximize their driving efficiency and reduce the amount of petroleum used. The reviewer said no concerns have been identified.

Reviewer 3:

The reviewer stated that the completed special research activities studying the impact of various vehicle operations and/or features (such as air conditioning use, air filter maintenance, speed, hitched trailers and other myth-buster topics) are very valuable to the public.

The reviewer described the consumer information page on fuel octane as concise and a very useful addition to the site and suggested that additional similar information pages on ethanol/ethanol blends would also be beneficial (if they do not already exist).

Reviewer 4:

The reviewer noted there was fuel reduction information and thanked the project for the octane rating. The reviewer asked if the project fed information about tire fuel economy to tire sales stores, and suggested looping in tire dealers about the fuel reductions that can be achieved with proper tires and maintenance.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer stated there was an effective project team assembled to carry out this project, with numerous government and industry partners involved. The reviewer said the roles of the project team are well defined and collaboration/communication among project partners appears to be appropriate for the project of this scope.

Reviewer 2:
The reviewer praised the nice job done of collaborating with the automotive industry.

Reviewer 3:
The reviewer recommended a stronger collaboration with the Alternative Fuels Data Center (AFDC) team to cross-utilize alternative fuel vehicle data, so that alternative fuel vehicle information can be better portrayed overall throughout project materials.

Reviewer 4:
The reviewer said that although the project team is very well-qualified, it seems very focused on the laboratories and academia. The reviewer suggested that more engagement with consumer groups, Clean Cities coalitions, or other channels to access potential vehicle consumers may benefit the project.

Reviewer 5:
The reviewer said that while current industry and stakeholder coordination is good, it is nevertheless a bit ad-hoc. The reviewer suggested that some increased formality in terms of stakeholder input to the FE project may be beneficial (e.g., a more established advisory body structure, documentation of external participant inputs, etc.).

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer praised the practical real time research that has been accomplished in this program as outstanding. The reviewer described the project's great tools for Clean Cities coalition coordinators as they push for fuel reduction in the transportation sector.

Reviewer 2:
The reviewer remarked that the research and data collected, as well as the overall technical support with media and general questions, serve a very important role in helping to educate consumers and other audiences in making better clean transportation choices.

Reviewer 3:
The reviewer praised the My MPG pages as great. The reviewer said that a potentially significant enhancement to My MPG would be direct marketing or targeting of tips to My MPG users that are reporting low fuel economy. The reviewer suggested that Clean Cities coordinators could help in delivering targeted messaging or tips.

Reviewer 4:
The reviewer stated that the project should contribute to reduced petroleum dependence in the transportation sector, as well as contribute to a sustainable alternative fuel vehicle market, through the activities accomplished

to date and the completion of the remaining project activities. The reviewer said noteworthy activities that should contribute are the continued refinement/addition of fuel efficient driving and maintenance tips.

Reviewer 5:

The reviewer remarked that the project presentation did not specifically address this criterion. The reviewer suggested that user statistics for the My MPG pages, in addition to other fueleconomy.gov traffic data may help provide a baseline for better addressing this criterion in future reviews.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:

The reviewer praised the project as providing timely, responsive, and informative research to help consumers achieve greater fuel economy and petroleum reduction.

Reviewer 2:

The reviewer described the project as helping inform consumers, who ultimately hold decision-making power about their purchases. The reviewer said that by presenting information in a user-friendly way, this project creates more informed consumers and helps draw attention to fuel-efficient and AFVs that might not have otherwise happened in its absence.

Reviewer 3:

The reviewer agreed that this project supports the overall DOE objectives of reducing reliance on petroleum based fuels by providing consumers and other audiences with much needed information to help with their purchasing decisions of fuel economy/AFVs.

Reviewer 4:

The reviewer stated that the Project Relevance slides clearly describe the project's statutory requirements, as well as how the project addresses specific barriers in the VTO's Multi-Year Program Plan 2011-2015. The reviewer concluded that the activities related to developing/improving tools and resources for the public to adopt more fuel efficient driving practices will help contribute to reducing our nation's petroleum consumption.

Reviewer 5:

The reviewer emphasized tools and research as the best ammunition for fuel reduction strategies.

Question 6: Comments on Use of Resources.

Reviewer 1:

The reviewer characterized the project as absolutely a good use of resources.

Reviewer 2:

The reviewer said the project seems to be a necessary and valuable use of DOE resources.

Reviewer 3:

The reviewer stated that fueleconomy.gov activities fulfill DOE's statutory responsibility to provide fuel economy information to the public (49 U.S.C. 32908, 2006) and therefore must continue to be funded. The reviewer also stated that activities related to developing/improving tools and resources for the public to adopt more fuel efficient driving practices will help contribute to reducing the nation's petroleum consumption.

Reviewer 4:

The reviewer agreed that the amount of work conducted for the budget appears to be good. The reviewer characterized the $375,000 marketing budget as allowing for significant publication/impact of project. However, the reviewer cautioned that there is not enough information to validate this part of the budget,

although there is some mention of media impact. The reviewer concluded that project efforts are worthy of continued funding.

Alternative Fuel Station Locator: Andrew Hudgins (National Renewable Energy Laboratory) - ti058

Presenter

Andrew Hudgins, National Renewable Energy Laboratory.

Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 it is not possible to reduce conventional fuel use without the use of alternative fuels and that alternative fuel cannot be used if the stations cannot be found. The reviewer praised the project as a nation leading tool.

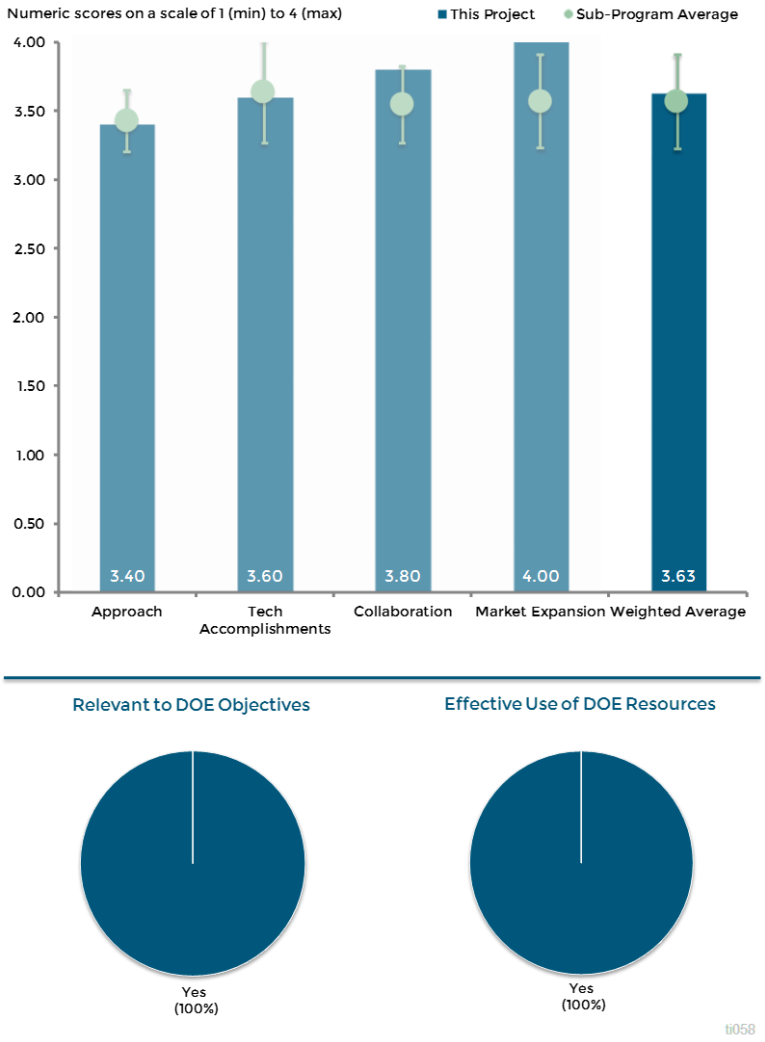

Figure 8-3 Alternative Fuel Station Locator: Andrew Hudgins (National Renewable Energy Laboratory) - Technology Integration

Reviewer 2:

The reviewer praised the project approach section as providing effective methodology to accomplishing the project objectives for FY 2014 and FY 2015 and said that adequate detail is provided on the approach and milestone slides with regards to the planned tasks and activities.

Reviewer 3:

The reviewer stated that the project approach is integrated and supports the overall objectives of the program's goals. However, the reviewer pointed out that how stations are evaluated for being open varies, noting that sometimes an open station can be interpreted differently depending on which alternative fuel is being discussed.

Reviewer 4:

The reviewer praised the project team as having developed an efficient data collection and management approach for maintaining a robust alternative fuel station database.

The reviewer pointed out that overlapping regional/metropolitan AFV concentrations with the station locator map would help identify infrastructure gaps and where potential unmet fuel markets exist (e.g., ethanol 85 (E85) and flexible-fuel vehicles (FFVs)). The reviewer suggested that this could serve as a good extension of the tool, especially useful to station developers, researchers, and other stakeholders.

Reviewer 5:
The reviewer characterized the ability to now make real-time changes as critical, as the market is changing rapidly. The reviewer cautioned that the once-per-year data checking may not be often enough to catch stations going offline, because these are not as likely to be reported as those coming online. The reviewer was glad to hear that hydrogen stations will be included in the graph showing the total stations by this time next year. The reviewer suggested that for future work it may be good to define what open means. The reviewer inquired as to whether open means commercial, or whether there needs to be an agreement with the station owner/operator.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer remarked that because it is the only truly all-encompassing alternative fuel locator, this tool is very important to alternative fuel users. The reviewer offered a bravo to this group that has sped up the time to list EVSE stations as they are installed.

Reviewer 2:
The reviewer characterized as very useful the tool enhancements that enable greater fuel station search refinement (e.g., ethanol by blend level, natural gas (NG) by pressure, EVSE by charger type, etc.).

Reviewer 3:
The reviewer praised the project team as showing good education and outreach, resulting in a 31% increase in web submissions in 2014 over 2013.

Reviewer 4:
The reviewer stated that significant progress has been made towards achieving FY 2014 and FY 2015 project goals. The reviewer also stated that all initiatives and activities appear to be on track for successful completion. The reviewer offered that the expanded industry outreach and collaboration should continue to ensure up-to-date and accurate station data is provided for vehicle operators that rely on the Station Locator.

Reviewer 5:
The reviewer stated that the project produces a lot of good data and tracks the number of page views and hits on a daily basis but noted that this is a very difficult metric to correlate to impact. This reviewer cautioned that this can be difficult based on the nature of the project.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer praised the excellent project team assembled to carry out this project with numerous public and private entities involved. The reviewer also emphasized that collaboration and communication among project partners appears to be one of the major strengths of this activity.

Reviewer 2:
The reviewer praised the collaboration and coordination as the strongest portion of the project. The reviewer noted that without strong collaboration and coordination, the project objectives would be more difficult to achieve.

Reviewer 3:
The reviewer characterized the project team as a good one. The reviewer described as very helpful the fact that the project team reaches out to all the alternative fuel associations. The reviewer mentioned that the project

team has developed a relationship with U-Haul and described it as great. The reviewer applauded the liquefied petroleum gas (LPG) station concept as a good one. Finally, the reviewer observed an excellent job in pushing the autogas market to accommodate vehicles.

Reviewer 4:
The reviewer characterized it as a very large collaboration and good two-way sharing to ensure other databases are also up-to-date.

Reviewer 5:
The reviewer stated that the project demonstrates robust industry collaboration and coordination in cultivating and vetting station info (Renewable Fuels Association (RFA), General Motors, and NGVAmerica, etc.).

The reviewer described the project team's previous outreach and dialogue with Google as proactive. The reviewer characterized the current strategy of steering other geographic information providers to the DOE station locator tool as good, and efforts to leverage google-based image/map data as sound. The reviewer recommended that further integration of station data with Google maps in the future is something the team should continue to explore.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer described this tool as very useful to alternative fuel market development.

Reviewer 2:
The reviewer characterized the database as critical to encourage consumer purchases of AFVs. The reviewer remarked that review of the federal fleet data showing missed opportunities is an excellent way to identify low hanging fruit for additional petroleum reduction. The reviewer also acknowledged the benefit to developers who can look at the map to see where there are gaps in coverage, determine where they might want to develop stations to fill those gaps, and see what the incentives are in those states/districts. Finally, the reviewer noted that the tool can also be used to track how the incentives impact the build-out of the stations over time and described this as very beneficial in showing the impact of policy.

Reviewer 3:
The reviewer described the locator tool as providing a critical service and fundamental information necessary for enabling consumers and fleets to access and use alternative fuels. The reviewer suggested that it would be particularly useful if the tool captured statistics on station use/fuel volumes dispensed.

Reviewer 4:
The reviewer stated that the project should contribute to local/regional alternative fuel market expansion, through the completion of the remaining project activities. The reviewer stated that noteworthy activities that should contribute are the continued outreach to Clean Cities Coordinators, coordination with DOE programs, and industry collaborations.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer said this project absolutely has potential for alternative fuel market expansion and petroleum reduction.

Reviewer 2:
The reviewer described this project as supporting the DOE objectives of petroleum displacement by reducing barriers associated with the availability of alternative fuels and electric charging infrastructure. The reviewer stated that by providing fleet managers, drivers and consumers with a comprehensive list of fueling stations and options, this will help to facilitate the greater adoption of alternative and advance vehicle technologies.

Reviewer 3:
The reviewer stated that the use of statistics shows that a sizeable number of people are using the station locator tool to locate where to purchase alternative fuels.

Reviewer 4:
The reviewer remarked that in order to reduce the use of petroleum based fuels, it is critical that consumers can easily access data on where alternatives are available.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer remarked that in lieu of funding for hardware (i.e., vehicles and fueling sites), the use of DOE funding to inform the public about the availability of the existing alternative fuel and electric charging infrastructure is critically important. The reviewer also stated that understanding the availability of the existing fueling options in a fleet's area/region is absolutely necessary to develop a successful deployment strategy. The reviewer offered 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 2:
The reviewer declared that this is a must-have tool, so funding this is imperative.

Reviewer 3:
The reviewer stated that it is important that all alternative fuels – particularly those for commercial vehicles – are captured. The reviewer remarked that the plan to incorporate hydrogen going forward is critical for successful deployment of zero-emission vehicles (ZEVs) which use fuel cell (FC) technology.

Alternative Fuels Data Center and API: Johanna Levene (National Renewable Energy Laboratory) - ti059

Presenter

Johanna Levene, National Renewable Energy Laboratory.

Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 characterized the project's approach to supporting alternative fuel research by significantly enabling increased data sharing of AFDC-hosted information as excellent. The reviewer also characterized hotspot market analysis drawing on data extracted from the Application Programming Interface (API)/station locator tool as a good example of how the project's approach advances alternative fuel research.

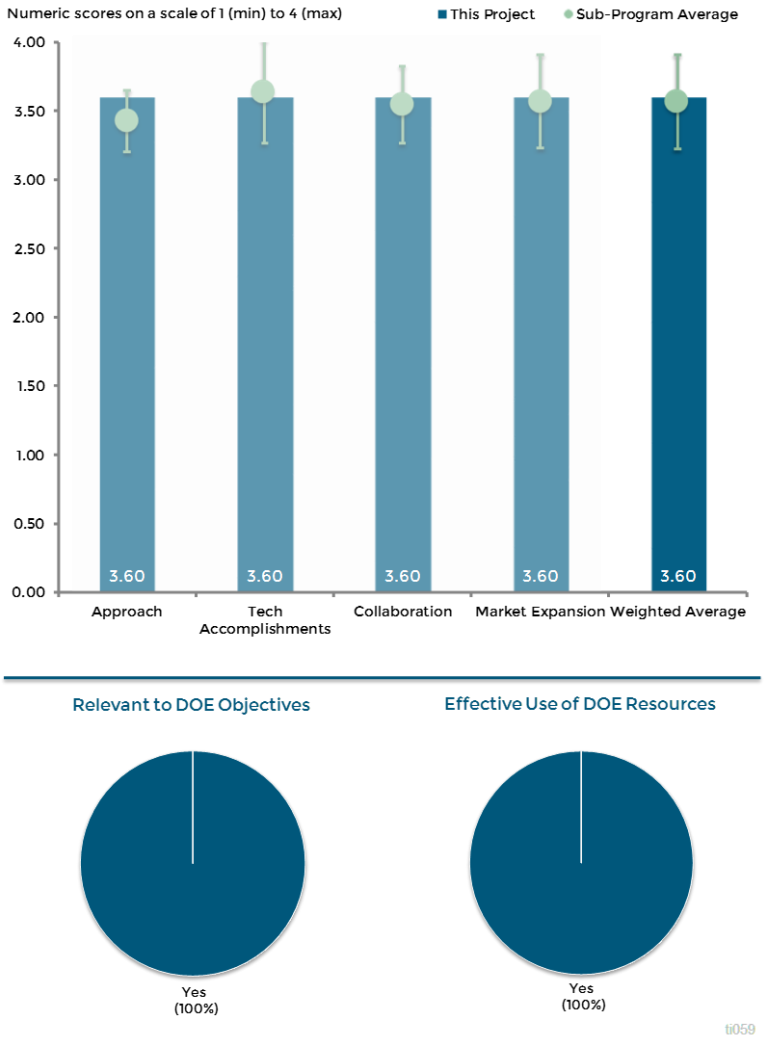

Figure 8-4 Alternative Fuels Data Center and API: Johanna Levene (National Renewable Energy Laboratory) - Technology Integration

Reviewer 2:

The reviewer remarked that all the data on the sites that has been evaluated is available thanks to the diligence of this team and added that in today's technical world, APIs are very important.

Reviewer 3:

The reviewer praised the project approach section as providing an effective methodology for accomplishing the project objectives for FY 2014 and FY 2015, for both the AFDC and AFDC APIs. The reviewer stated that the approach and milestone slides have adequate detail with regards to the planned tasks and activities.

Reviewer 4:

The reviewer praised the project's approach as nice overall. The reviewer suggested tracking gasoline prices and total page views along with alternative fuel price, if possible, adding that this could also lead to additional helpful information.

Reviewer 5:
The reviewer described the focus on fleets as interesting but would like to see more information on the commercial light-duty vehicle (LDV) market as well. The reviewer praised the widget as great for easy integration into other websites and said that having multiple ways to access the data is a good approach.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer described accomplishments and progress made by the project team as nice.

Reviewer 2:
The reviewer characterized the project as conducting work that is very responsive to both consumer and program needs (e.g., gaseous fuel temperature/pressure tool addresses a key consumer acceptance/market barrier).

The reviewer praised the project as very comprehensive in its data sharing tasks and noted that substantially increased API requests have allowed AFDC data to touch many places and be incorporated in a wide array of external tools, research products, and communication platforms.

Reviewer 3:
The reviewer remarked that the project group has a difficult task staying ahead of requests for data, yet handles it superbly, with requests met in a timely manner.

Reviewer 4:
The reviewer noted that the significant use of the project data shows the value of the project.

Reviewer 5:
The reviewer observed that significant progress has been made towards achieving FY 2014 and FY 2015 project goals and stated that all initiatives and activities appear to be on track for successful completion. The reviewer noted that the continued growth in number of AFDC views, as well as the fact that AFDC has approximately 25% of all the Office of Energy Efficiency and Renewable Energy (EERE) webpage views illustrates the importance of the site as a comprehensive unbiased clearinghouse of information about alternative fuels and advanced vehicles technologies for fleets, industry, and the general public. The reviewer added that the expanded use of AFDC APIs will ensure that the data collected by DOE will be shared and will assist end-users in enhancing their own sites, analyses and tools.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer remarked that this project demonstrates strong coordination with other DOE programs and analysis tools.

Reviewer 2:
The reviewer praised the great collaboration and coordination among the project team.

Reviewer 3:
The reviewer commented on the effective project team assembled to carry out this project, with numerous DOE national laboratories and EERE transportation related programs involved. The reviewer said collaboration among project partners appears to be appropriate for the project of this scope.

Reviewer 4:
The reviewer described the good collaboration with Idaho National Laboratory (INL).

Reviewer 5:
The reviewer described as good progress reaching out to the Energy Information Administration (EIA). The reviewer noted that the project team must work with the other DOE technical folks such as the National Renewable Energy Laboratory (NREL) and Argonne National Laboratory to make things happen and added that they do a nice job collaborating.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer remarked that all the reports and data made available through this service further increase the ability of folks to continue the fuel reduction strategies that are needed for additional petroleum reductions.

Reviewer 2:
The reviewer stated that data accessibility is important to expand the alternative fuels market. The reviewer also observed that the ability to use the data to determine which station types and locations are most popular is very interesting in terms of looking at policies and adoption rates in different areas.

Reviewer 3:
The reviewer stated that the project should contribute to local/regional alternative fuel market expansion, through the completion of the remaining project activities. The reviewer also stated that noteworthy activities that should contribute are the continued collaboration with key audiences such as fleets, industry partners, Clean Cities coordinators, and government programs to expand the alternative fuels market.

Reviewer 4:
The reviewer remarked that project presentation did not specifically address this criterion (alternative fuel market expansion and petroleum reduction potential). However, the reviewer stated it is clear that the project contributes immensely to the body of knowledge around alternative fuel and advanced vehicle technologies and markets, which in turn supports deployment.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer commented that the project is directly supportive of DOE's objectives to reduce reliance on petroleum fuels, advance information sharing and research of alternative fuels and advanced vehicle technologies, and aid technology deployment.

Reviewer 2:
This reviewer stated that project supports the DOE objectives of petroleum displacement by establishing a clearinghouse for information that reduces the barriers to adopting alternative fuel technologies. The reviewer praised the AFDC as offering transportation decision-makers unbiased information, data, and tools related to the deployment of alternative fuels and advanced vehicles. The reviewer observed that the AFDC connects its audience to information and data through a variety of digital channels, increasing exposure to alternative fuels and advanced vehicles.

Reviewer 3:
The reviewer commented yes.

Reviewer 4:
The reviewer stated that data accessibility is important to expand the alternative fuels market.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer commented that the use of DOE funding to establish/maintain/expand the AFDC is critically important and necessary and praised the site as offering transportation decision-makers unbiased information, data, and tools related to the deployment of alternative fuels and advanced vehicles. The reviewer remarked that all of these products are critical for expanding the market acceptance of alternative fuels and advanced vehicles technologies, as well as the development of the supporting fueling infrastructure.

Reviewer 2:
The reviewer observed that the project staff does a lot in this technical environment to provide data at a bargain price, compared to the prices consultants get in the IT space. The reviewer praised the team with a comment of hats off to them.

Reviewer 3:
The reviewer observed that half of the project funding goes toward maintaining the site and the other half toward updates to tools and expanding new tools. The reviewer remarked that it is important to not only maintain existing tools but to adapt to new needs as well and stated that the funding structure takes this into account.

Clean Cities Coordinator Resource Building and National Networking Activities: Wendy Dafoe (National Renewable Energy Laboratory) - ti060

Presenter

Wendy Dafoe, National Renewable Energy Laboratory.

Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 approach of training coordinators in each regional area and having mentors is a good way to spread sustainable transportation information.

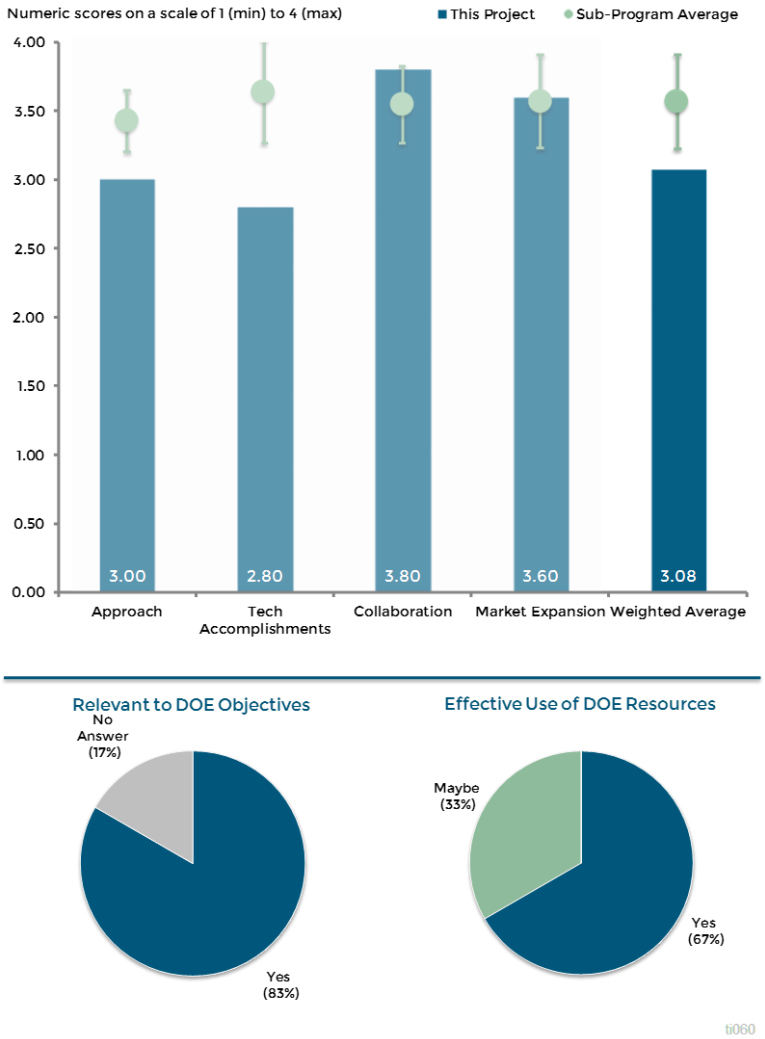

Figure 8-5 Clean Cities Coordinator Resource Building and National Networking Activities: Wendy Dafoe (National Renewable Energy Laboratory) - Technology Integration

Reviewer 2:

The reviewer praised the designed approach as providing major pieces of information and resources that meet the needs of a broad based audience. The reviewer remarked that the structure and process seem very clear and on target, and while the focus may be on coordinators and stakeholders, consumers are able to benefit from the project. The reviewer suggested that there be a look into the use of social media to reach more consumers as this would help reduce petroleum use more quickly.

Reviewer 3:

The reviewer remarked that the services offered are fine, but that there needs to be a more proactive way to get the weak coalitions and weak coordinators to ask for them, or, even if they do not ask, somehow get them to avail themselves of the services. The reviewer also expressed a desire to see a more rigorous evaluation system for the mentors.

Reviewer 4:

The reviewer remarked that the 20-minute presentation probably did not highlight the great Clean Cities resource building and national networking enough to really address the impact.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer praised the significant progress toward project goals and objectives, especially in new courses and additional tracks. The reviewer also praised the many webinars highlighted as a strong plus.

Reviewer 2:
The reviewer commented that completing and updating the following items has made for major program progress: online tools; webinars; mentoring programs; Clean Cities University (CCU) programs; Coordinator Toolbox; and one-on-one training. The reviewer added, though, that the one-on-one training needs to be increased. The reviewer remarked that the informal process, or the interaction between the project managers and coordinators, is also playing a significant role in meeting goals.

Reviewer 3:
The reviewer said the presentation is lacking data on what new courses and materials were being offered and noted that statistics to track success were not provided. The reviewer also remarked that the presenter, upon questioning, did not provide information on what courses are offered, or how success is tracked.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer remarked that there is an incredibly large number of organizations involved and the collaboration is strong.

Reviewer 2:
The reviewer observed a very strong collaborative and coordinated process in place, and believed this is the foundation for the project's success. The reviewer stated that input to support development of the various programs has come from industry, stakeholders, coordinators, and consumers, etc.

Reviewer 3:
The reviewer stated that this could be better.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer remarked that Clean Cities coordination and training is important to support the early markets for alternative fuel vehicles.

Reviewer 2:
The reviewer observed that as issues surface, the project team has moved immediately to address those issues through seminars, webinars, outreach programs, CCU courses, and enhancing the social media program. The reviewer stated that technical support by the project team plays a major role in removing barriers.

Reviewer 3:
The reviewer remarked that the Clean Cities program is the best, although perhaps the only, deployment program that DOE has.

Reviewer 4:
The reviewer posited the question of whether this is really a government role. The reviewer stated that the project should try to get the private sector to look at opportunities to take over the many roles here.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer praised the tools developed by the project as having helped Clean Cities coordinators and stakeholders build successful strategic plans, to gain buy-in for petroleum reduction programs.

Reviewer 2:
The reviewer remarked that education and outreach are together key components of vehicle adoption.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer stated that future funding is a must. The reviewer also observed that it seems that funding at a level that enables the project team to increase more one-on-one time with coordinators would greatly enhance program outcomes/successes. Additionally, the reviewer remarked that funding support to provide follow-up to gauge mentor's effectiveness would be good for the program.

Reviewer 2:
The reviewer remarked that the Clean Cities coordinators are the feet on the ground, and that giving them tools and education to make them more effective is the best use of the Clean Cities money. The reviewer stated that if there were more money available, it should be partially spent on funding the coordinators.

Reviewer 3:
The reviewer remarked that because the value was not shown in terms of a metric and specifics were not given, it is hard to answer this question.

Reviewer 4:
The reviewer asked if this is this a proper role for DOE or the government in general.

Clean Cities "Tiger Team" Technical and Problem Solving Assistance: John Gonzales (National Renewable Energy Laboratory) - ti061

Presenter

John Gonzales, National Renewable Energy Laboratory.

Reviewer Sample Size

A total of six reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 project takes the right approach with providing technical coordination and guidance to stakeholders to help address barriers and challenges with deployment. The reviewer stated that there could be an opportunity to leverage activities in other areas to help better disseminate information to the appropriate stakeholders. This includes the sharing of lessons learned.

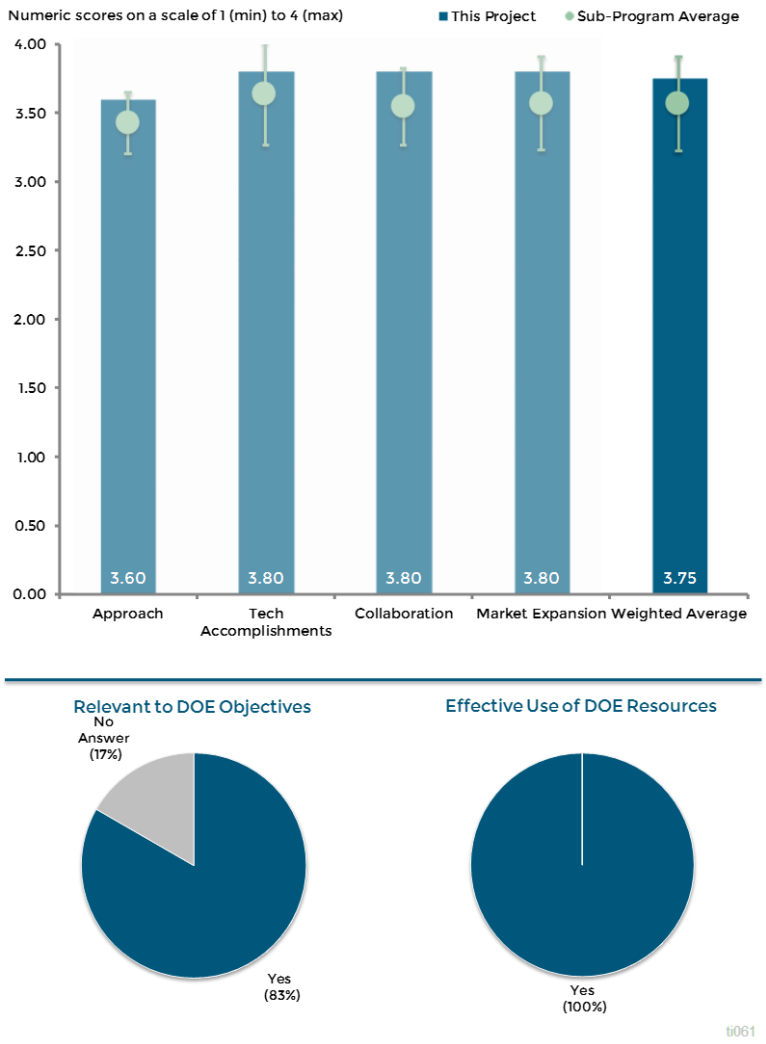

Figure 8-6 Clean Cities "Tiger Team" Technical and Problem Solving Assistance: John Gonzales (National Renewable Energy Laboratory) - Technology Integration

Reviewer 2:

The reviewer praised the Tiger team concept and program as great. However, the reviewer observed that most of the tasks are reactive (i.e., responding to a call from a coordinator about a crisis). The reviewer stated that if enough resources are available, the reviewer would like to see a more proactive outreach, for example, to key accounts.

Reviewer 3:

The reviewer observed that while the approach to looking at a problem that has been identified and developing a solution is evident, it seems that the Tiger Teams need to be brought into the process earlier. The reviewer stated that a process for more outreach to the Clean Cities coordinators about the Tiger Team program would add value to the project. This would also enable coordinators to assist stakeholders with third party reviews before getting deeper into the project and potentially greater problems.

Reviewer 4:
The reviewer observed that teams have begun to help with fleet analysis and station placement, in addition to reliability issues, and commented that this is good. However, the reviewer also noted that the team is also helping to write requests for proposals (RFPs) for the station bidding processes and cautioned that this may not be the best use of resources of this team, and could possibly result in RFPs that are skewed toward specific technologies. The reviewer suggested it would be beneficial to have a specific process in place once the root cause has been identified to follow up with preventative activities, but added that this process will need to be flexible to accommodate confidential information.

Reviewer 5:
The reviewer asked how are projects selected and with what selection criteria.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer described the project as working, and indicated it was clear that the project had been very successful in finding a solution whenever called upon. The reviewer pointed to case studies from Georgia, Kansas City, and Oyster Bay as good examples of excellent outcomes.

Reviewer 2:
The reviewer observed that while the Tiger teams manage all fuels including hydrogen, they have found that compressed natural gas (CNG) and propane have the most need of the Tiger teams, because many of the vehicles are conversions rather than OEM vehicles. The reviewer remarked that this is a significant finding from this work as it suggests codes and standards around conversions should be strengthened. The reviewer also observed that identification and correction of unsafe installations is a key accomplishment that also helps to ensure continued market adoption by improving safety.

Reviewer 3:
The reviewer stated that the Tiger team supported several incidents, but that there was not much mention of some of the other activities the Tiger team supported.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer stated that project has been able to maintain the high level of needed technical collaboration, which has been key. The reviewer remarked that the focus on providing technical expertise from industry, local governments, and the communities at large has enhanced the effectiveness of the project.

Reviewer 2:
The reviewer observed that the teams must work with many different customers and consultants and remarked that it is clear through their results that they do this effectively.

Reviewer 3:
The reviewer stated that there is strong collaboration in most of the alternative fuel areas, and suggested a plan forward to address other, new, critical areas.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer stated that the degree to which the project continues to respond successfully to issues facing the alternative fuel community on the front end will go a long way toward getting buy-in that expands the use of AFVs. The reviewer praised the current program as being on track to do just that, and added that while barriers may continue, the Tiger team presents a major solution.

Reviewer 2:
The reviewer stated that as the alternative fuel market expands, there will always be a need to engage and support deployment and praised this project as the right mechanism to do this.

Reviewer 3:
The reviewer remarked that addressing crises quickly makes for happier users, specifically, alternative fuel customers.

Reviewer 4:
The reviewer remarked that ensuring quality work and avoiding incidents that can have a domino effect on the market are critical to alternative fuel vehicle adoption.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer praised the project's hands-on approach as being able to develop a picture that people can see, enabling better understanding of the cause and the solution, which in turn fosters increased use of non-petroleum based fuels.

Reviewer 2:
The reviewer stated that it is important to support the early market and ensure safety in order to promote adoption.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer stated that safety is extremely critical with new vehicle technologies and praised this team as being extremely important to ensuring good practices.

Reviewer 2:
The reviewer declared that the project must be continued and with increased funding, because it is the only program that provides a process to get needed support to resolve issues that are currently facing stakeholders using alternative fuels. Additionally, the project represents a great tool to help new stakeholders that have issues, and enables them to become users of non-petroleum based fuels.

Reviewer 3:
As previously indicated, this reviewer stated that more resources for proactive outreach (e.g., Kansas City Transit program) would be valuable.

Collegiate Programs: Advanced Vehicle Technology Competitions (AVTC), Graduate Research Assistants (GRCs), and Clean Cities University Workforce Development Program (CCUWDP): Marcy Rood (Argonne National Laboratory) - ti062

Presenter

Marcy Rood, Argonne National Laboratory.

Reviewer Sample Size

A total of four reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, alternative fuel vehicles, infrastructure and related efforts—the degree to which the project is well-designed, feasible, and integrated with other efforts.

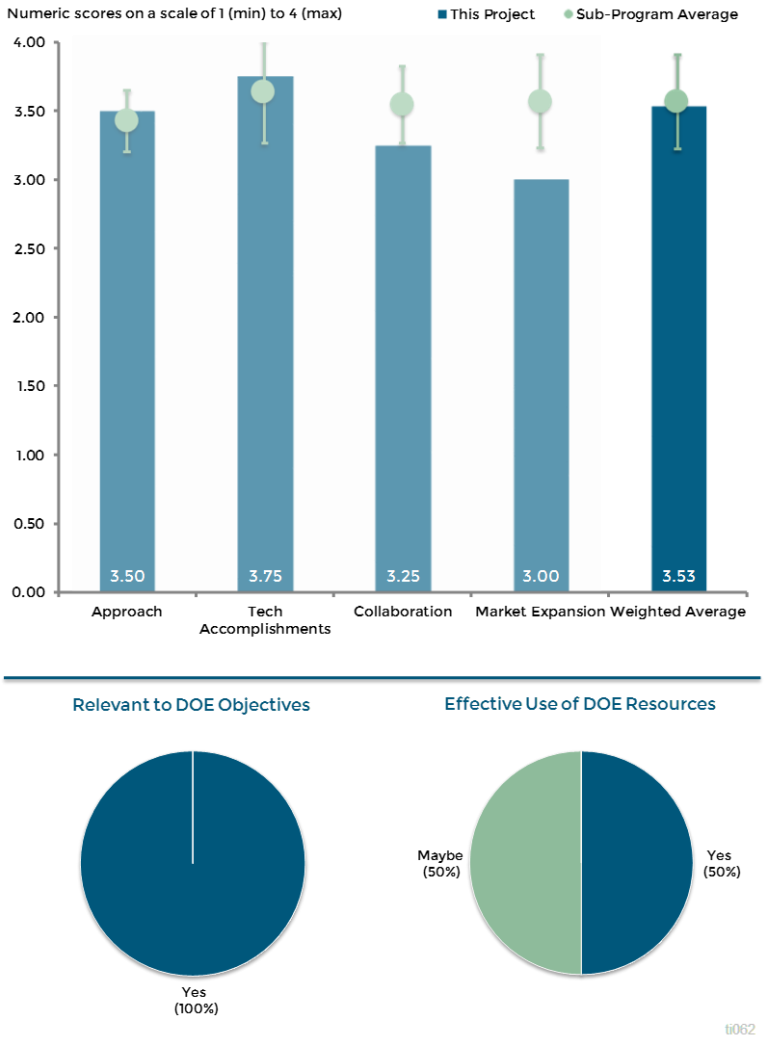

Figure 8-7 Collegiate Programs: Advanced Vehicle Technology Competitions (AVTC), Graduate Research Assistants (GRCs), and Clean Cities University Workforce Development Program (CCUWDP): Marcy Rood (Argonne National Laboratory) - Technology Integration

Reviewer 1:

The reviewer praised the Collegiate Program project approach as excellent. The reviewer remarked that this program provides support to the Clean Cities coalitions that desperately need the support and to the EcoCAR teams who also very much need the support, while at the same time it invests in the development of future energy professionals. The reviewer described this approach as a win/win.

Reviewer 2:

The reviewer praised the great outcomes in building student skills, improving ability to sit for professional exams, and providing networking opportunities that result in full-time placement. The reviewer observed that these placements are often in petroleum reduction fields. The reviewer suggested that in the technology competition program, there be a look at a two-year timeframe to allow for more teams to get involved, and possibly increasing the number of teams that are able to participate, or increasing funding to support more teams.

Reviewer 3:

The reviewer stated the project is well done for what it is, but questioned the value of it. The reviewer observed that while the project is clearly a big deal for the few people it reaches, this is a very small group. The reviewer remarked that reaching college students is important, but this seems like a very expensive way to do it.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer remarked that it seems that in all categories the outcomes have met or exceeded their goals. The reviewer observed that there is a high graduation and employment rate (in this field) of students in the programs. The reviewer praised the project as playing a major role in the development of future leaders for the alternative fuels and vehicles arena.

Reviewer 2:
The reviewer stated that the program has grown tremendously since a relatively new beginning and that it continues to show growth in the number of coalitions being supported and number of interns being utilized/mentored/trained.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer praised the collaboration and coordination efforts of this program as being really outstanding. The reviewer exclaimed that there is so much industry support and that does not come easily.

Reviewer 2:
The reviewer observed that collaboration and partnering seems to be at an all-time high with buy-in from OEMs, universities and colleges, technical groups, coalitions, and others. The reviewer observed that students are learning a strong lesson in how working as a team produces a better outcome. The reviewer praised the project as promoting student development, which represents a huge plus for the country and the world.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer praised the project as planting seeds in thousands of young minds that will continue to be concerned about clean energy and petroleum reduction. The reviewer observed that this represents one of the best ways to sustain the objectives and goals of the overall project.

Reviewer 2:
The reviewer stated that this program has significant potential to contribute to a sustainable alternative fuel vehicle market through the following ways: support of the Clean Cities coalitions by providing intern support; support of the EcoCAR program by providing intern support; and investment in future energy industry professionals.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer observed that students in the project and those touched by it continue to demonstrate that reliance on petroleum-based fuels is no longer necessary. The reviewer remarked that the students' creative projects and

educational events have reached thousands of lives, in addition to the thousands it has reached in its direct support to the Clean Cities coalitions.

Reviewer 2:
The reviewer definitively affirmed the value of the project, remarking that it is a huge investment in the country's energy future by preparing tomorrow's energy professionals.

Reviewer 3:
The reviewer stated there is increased awareness.

Reviewer 4:
The reviewer said the project was valuable but only but marginally.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer praised the funding of this project as representing an excellent use of the DOE budget, in part because it helps to change behavior and how people are thinking. The reviewer stated that the project programs are developing the army of strong proactive individuals needed to ensure our energy independence. The reviewer suggested that additional program funding is needed to bring participates together to exchange ideas and program recommendations, in addition to a focus on lessons learned.

Reviewer 2:
The reviewer agreed that the project appears to be having a significant impact for the budget provided and that project efforts are worthy of continued funding.

Reviewer 3:
The reviewer suggested other options are grants for Ph.D. degrees or natural gas vehicle cylinder training and safety.

Reviewer 4:
The reviewer suggested stepping back and seeing how college students can be reached more efficiently.

Alternative Fuel Tools and Technical Assistance Activities: Marcy Rood (Argonne National Laboratory) - ti063

Presenter

Marcy Rood, Argonne National Laboratory.

Reviewer Sample Size

A total of five reviewers evaluated this project.

Question 1: Project Approach to supporting deployment of petroleum reduction technologies and practices, 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 stated that having a project that has as its focus the analysis side of the clean energy program represents a major support piece in helping stakeholders and fleet managers move to alternative fuels.

The reviewer stated that the technical assistance and tools provide a template for an easy transition to a number of petroleum reduction activities.

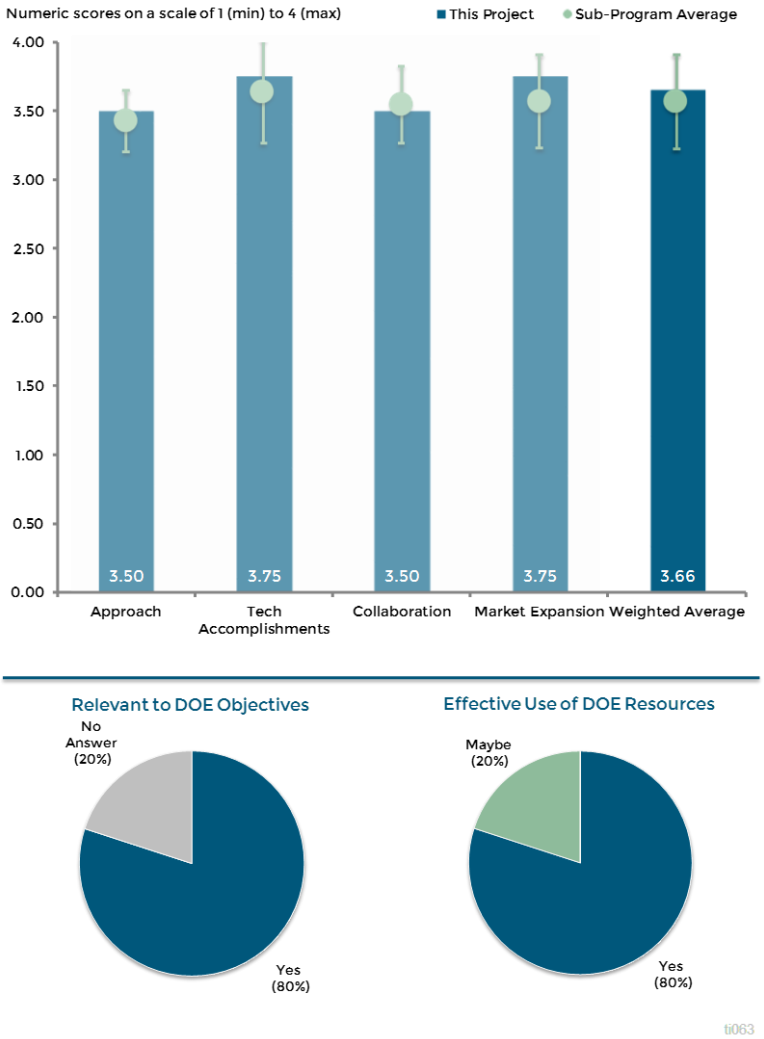

Figure 8-8 Alternative Fuel Tools and Technical Assistance Activities: Marcy Rood (Argonne National Laboratory) - Technology Integration

The reviewer remarked that the Idle Box program approach seems to represent all the components needed to achieve the best outcome and should be duplicated.

Reviewer 2:

The reviewer said that the project approach is very good, but cautioned that as a non-mathematical person, the reviewer found the AFLEET and JOBs tools way too cumbersome for use. The reviewer stated that the goal of each tool is of great value to the user but surmised many others would feel the same apprehension to using the products.

The reviewer stated that the Idle Box materials are very good but are not easy to find on websites. The reviewer stated that the case studies are very good and the outreach efforts are good.

Reviewer 3:

The reviewer praised the AFLEET tool and case studies as great, but that the JOBS tools needs to be made more robust to take into account secondary job impacts.

Question 2: Project Accomplishments and Progress toward overall project and DOE goals—the degree to which progress/significant accomplishments have been achieved, measured against performance indicators and demonstrated progress toward project and DOE goals.

Reviewer 1:
The reviewer remarked that various outcomes noted from white papers, case studies, and webinars all demonstrate project success. The reviewer stated that the data is suggesting a wide use of information and the development of a number of events/activities. The reviewer remarked that the expanded development of the AFDC calculators and quick response (QR) cards have provided some very useful tools for the general public as a whole, and for fleet operators. The reviewer concluded that these tools are very useful for enabling decision makers to better identify what alternative fuel works best for them.

Reviewer 2:
The reviewer remarked that the presentation states that the team is in process of making the AFLEET tool user-friendly. The reviewer praised this as a huge progress point and the reason for rating this section outstanding versus good on the first section. The reviewer recommended a more user-friendly approach for the JOBS Model also be considered.

The reviewer requested seeing more overall outreach and marketing for the project. The reviewer remarked that it is such a consumer program and that it really needs to be pushed out via outlets such as social media, etc. The reviewer also recommended better visibility among program websites.

Reviewer 3:
The reviewer stated that more effort should be put into repackaging the case studies for publication in customer magazines and in presentations to customer conferences.

Question 3: Collaboration and Coordination among Project Team—the degree to which the appropriate team members and partners are involved in the project work and the effectiveness of the collaboration between and among partners.

Reviewer 1:
The reviewer strongly suggested that student representation from the collegiate program be added to the team because their youthful ideas would add enhanced value to the outreach program and help ensure that the projects are being designed to reach this and future generations.

Reviewer 2:
The reviewer praised the outstanding efforts to pull in the right experts/industry partners for support in development and beta testing. The reviewer recommended that beta testing also be conducted by those who have not been involved in the project development so they can bring new insights.

Question 4: Alternative Fuel Market Expansion and/or Petroleum Reduction Potential—the degree to which the project has the potential to contribute to a sustainable alternative fuel vehicle market and/or reduce petroleum dependence in the transportation sector, including the potential to reduce barriers to large scale alternative fuel vehicle market penetration and make information about alternative fuels and petroleum reduction opportunities widely available to target audiences.

Reviewer 1:
The reviewer praised the project for playing a major role in providing tools to help stakeholder resolve issues that had represented barriers to moving into the alternative fuels program. The reviewer remarked that there is a lot of missing/bad information regarding alternative fuels in the public domain but that the project is bringing a great deal of meaningful, accurate, and definable data to the industry.

Reviewer 2:
The reviewer praised the project as having great purpose and stated that the tools and products being developed are highly needed.

Question 5: Relevance: Does this project support the overall DOE objectives of reducing reliance on petroleum based fuels?

Reviewer 1:
The reviewer remarked that clearly the tools not only show the value in why the country should reduce its use of petroleum, but they also demonstrate the economic benefits for the country. The reviewer observed that the expansion of the project's audience helps to lay down a foundation for continuous reduction in petroleum-based fuels.

Reviewer 2:
The reviewer agreed that the project provides tools of great importance that can be utilized by a number of audiences.

Question 6: Comments on Use of Resources.

Reviewer 1:
The reviewer stated that more funding should be put into case studies because these are very valuable sales tools.

Reviewer 2:
The reviewer remarked that the funds seem appropriate for work being conducted and stated that project efforts are worthy of continued funding.

Reviewer 3:
The reviewer remarked that the fact that end products are geared to user needs is a huge plus. However, the reviewer suggested a look be taken to ensure that information provided on the AFLEET program/process is understood by the novice. The reviewer wondered whether a quick study guide or step-by-step approach instructions is needed.

Acronyms and Abbreviations

AFDC	Alternative Fuels Data Center
AFV	Alternative Fuel Vehicle
API	Application programming interface
CNG	Compressed natural gas
DOE	Department of Energy
E85	85 percent ethanol blend with gasoline
EERE	Office of Energy Efficiency and Renewable Energy
EIA	Energy Information Administration
EV	Electric Vehicle
EVSE	Electric vehicle supply equipment
FC	Fuel cell
FE	Fuel economy
FEG	Fuel Economy Guide
FFV	Flex-fuel vehicles
FY	Fiscal year
GHG	Greenhouse Gases
HEV	Hybrid Electric Vehicle
INL	Idaho National Laboratory
MPG_e	Miles per gallon gasoline equivalent
NHTSA	National Highway Traffic Safety Administration
NG	Natural gas
NGV	Natural gas vehicle
NREL	National Renewable Energy Laboratory
OEM	Original Equipment Manufacturer
PEV	Plug-in electric vehicle
PHEV	Plug-in hybrid electric vehicles
PI	Principal Investigator

SUV	Sport utility vehicle
VTO	Vehicle Technologies Office
ZEV	Zero-emission vehicles