Continuous Improvement Workshops: Stakeholder Ideas for Improving the Weatherization Assistance Program

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NOTICE

Acknowledgments

List of Acronyms

AMI	Area Median Income
DOE	Department of Energy
CAP	Community Action Partnership
H&S	Health and Safety
NASCSP	National Association for State Community Service Programs
NCCER	National Center for Construction Education & Research
NREL	National Renewable Energy Laboratory
QA	Quality Assurance
QCI	Quality Control Inspector
SWS	Standard Work Specifications
T&TA	Training and Technical Assistance
WAP	Weatherization Assistance Program
WIOA	Workforce Innovation and Opportunity Act
WPN	Weatherization Program Notice

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1 Background

The U.S. Department of Energy (DOE) Weatherization Assistance Program (WAP or program) reduces energy costs for low-income households by increasing the efficiency of their homes, while ensuring their health and safety. The program supports 8,500 jobs and provides weatherization services to approximately 35,000 homes every year using DOE funds. Through weatherization improvements and upgrades, these households save, on average, $283 or more every year, according to a national evaluation of the program. Since the program began in 1976, the WAP has helped improve the lives of more than 7 million families through weatherization services. WAP is implemented by a network of 57 Grantees and over 700 Subgrantees, who administer the program at the local level. The program is also supported by accredited training centers and other WAP stakeholder organizations.

Given the broad network of implementers within the program, DOE sought to engage with WAP stakeholders to solicit feedback and gain a deeper understanding of on-the-ground operations. Through a series of Continuous Improvement Workshops in 2019, network stakeholders identified opportunities for improved coordination, training, procedures, and communication across all levels of the WAP. These workshops built on a previous cycle of Solution Summits held in 2017. Actionable ideas generated through the Continuous Improvement Workshops were synthesized by the National Renewable Energy Laboratory (NREL) and are presented in this report for DOE's consideration.

2 Workshop Summary

Three Continuous Improvement Workshops were held in 2019 and brought together 52 stakeholders from around the country. The workshops were held in coordination with the following conferences to minimize travel requirements for participants: the 2019 National Home Performance Conference and Trade Show; the Community Action Partnership (CAP) 2019 Annual Convention; and the National Association for State Community Services Programs (NASCSP) 2019 Annual Training Conference. The first workshop was facilitated by Advanced Energy, and the second and third were facilitated by NREL.

Participants were recruited through an application process announced in January 2019. Applicants were selected for one of three workshops based on availability, experience, organizational diversity, and geographic diversity. Participation for each workshop is summarized in Table 1.

This report is available at no cost from the National Renewable Energy Laboratory at www.nrel.gov/publications.

Table 1. Continuous Improvement Workshop Participation

	Chicago, IL April 4-5, 2019	Chicago, IL August 27, 2019	Little Rock, AR September 27, 2019
Grantee	4	3	11
Subgrantee	7	8	3
Training Center	3	-	2
WAP Stakeholder	4	5	2
Total	18	16	18
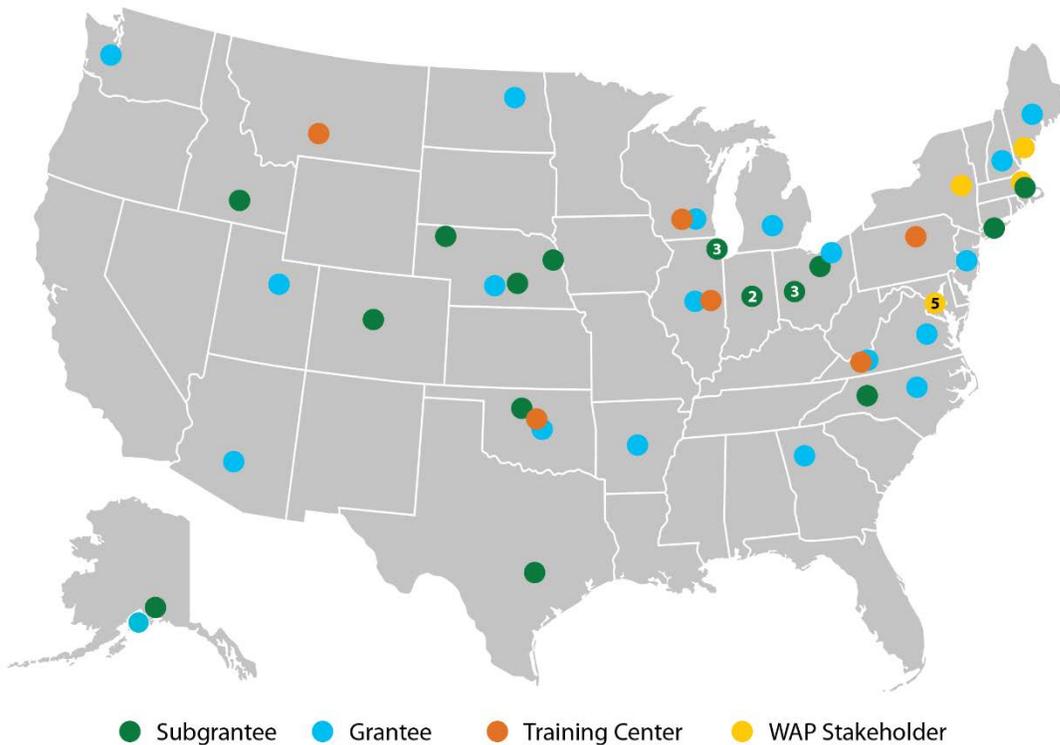
Figure 1. Location and Stakeholder Type of Workshop Participants

The workshops were organized around three objectives:

1. Define elements of baseline performance and high performance within the WAP[1]
2. Identify the root cause barriers to achieving baseline performance
3. Brainstorm actions at all levels of the WAP that address the root cause barriers.

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[1] The first workshop used the term "compliant performance." NREL believed this term skewed the focus of the first workshop toward Subgrantee compliance and switched to "baseline performance" for the other workshops.

For the purpose of these workshops, baseline performance was defined as: *"WAP stakeholders perform at a level that complies with statutes and regulations and supports the provision of appropriate services to eligible households."* High performance was defined as: *"WAP stakeholders perform at level that complies with statutes and regulations, maximizes provision of appropriate services to eligible households, and adeptly responds to internal and external challenges."* Distinguishing between the characteristics of baseline and high-performing programs allowed participants to focus on barriers to baseline performance throughout in the workshops.

Participants used a "5 Whys" approach to identify root cause barriers preventing baseline performance across the WAP. This iterative technique identifies cause-and-effect relationships of a given outcome. By repeating the question "Why?" multiple times, the answers progressively lead to more systemic causes. Several elements of performance were found to have multiple root cause barriers. After prioritizing barriers that would be most useful to address, participants used a Continuous Improvement template to facilitate brainstorming of potential actions that could be taken across all levels of the WAP to address the barriers to baseline performance.

3 Discussion Themes

Across the three workshops, several recurring themes emerged regarding the root cause barriers brainstormed by participants. Although these themes are addressed to an extent through the potential actions presented in Section 4, further exploration of potential actions is worth DOE consideration.

3.1 Workforce Issues

In the second workshop, each small group independently identified workforce development and retention root cause barriers. Although some of the groups brainstormed partial solutions to workforce issues, participants recognized that this issue was broader than the workshop participants, and even DOE, could fully address. Recruitment to trades, including building science and home performance, has not kept up with demand in the broader economy. With a relatively robust economy and demand for similar skills in the private sector, Subgrantees, and to some extent Grantees, have found it difficult to attract and retain enough qualified staff in both rural and urban areas. Workforce development and retention also came up at the third workshop, but participants decided to focus their efforts on other topics that they could more directly affect. Although this report does not contain many specific recommended actions for DOE to address workforce issues, we encourage DOE to explore longer-term efforts to expand the weatherization and building science workforce.

3.2 Guidance from DOE Project Officers

In each workshop, the facilitators reserved time after the identification of root cause barriers to identify resources and efforts already underway that address the perceived barriers. During this discussion, it became apparent that not all participants were aware of the existing DOE resources available. Grantee participants also identified that they were not always aware of the degree of flexibility available to them within the program structure. Grantees voiced concern that guidance or expectations from DOE Project Officers were not always consistent or readily available. The recent reorganization to Programmatic Project Officers and Technical Project Officers may

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address this Grantee desire for more access, better understanding of existing flexibility, and consistent interpretation.

3.3   Sharing of Best/Good Practices

Subgrantee and Grantee participants at all workshops expressed difficulty leveraging best practices from their peers to avoid needing to reinvent the wheel. Reasons identified included: other higher priorities occupying staff time; inability to identify appropriate peers; lack of understanding which practices are best/good practices; and lack of appropriate forums to connect and share such practices. Subgrantees may not always know what approaches Grantees view favorably. This may be due to insufficient communication from a Grantee, lack of peer sharing among Subgrantees, turnover among Subgrantee or Grantee staff, or other reasons. Similarly, Grantees may not always know what approaches DOE views favorably. Reluctance to label practices as "best" is understandable, given fluctuating levels of performance and continued evolution of the program. However, there are options available to DOE to facilitate the sharing of "good," if not "best," practices among Grantees, some of which are listed below.

3.4   Communication

Participants at all levels identified the need for more effective communication between levels of the WAP. Subgrantees expressed desire for Grantee communications via multiple media (websites, emails, webinars, etc.) with adequate lead times for participation or implementation. Grantees expressed desire for greater Subgrantee participation in update cycles for various components of annual Grantee Plans or other policy documents. Grantees identified need for more media and platforms for peer-to-peer communication, as well as additional opportunities for informal communication with DOE. Given the layered structure of the WAP, communication within and between WAP levels is paramount for effective and compliant implementation. The participants in the workshops brainstormed many ideas to improve communication within the WAP, but there are likely additional opportunities for improvement. NREL recommends that DOE continue to explore opportunities to improve communication with Grantees and support Grantees in improving communication with their Subgrantees.

4   Root Cause Barriers and Potential Actions

The barriers to performance brainstormed by participants largely addressed challenges faced by Grantees and Subgrantees. Potential actions to address these barriers involved action at all levels of the WAP and were shaped by participants' degree of visibility into other WAP levels. Tables 2 and 3 below present the root cause barriers identified by participants that the WAP network has control to influence, as well as associated actions likely to address each barrier.

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Table 2. Barriers to Grantee Performance and Potential Actions

Barrier to Performance	Potential DOE Actions	Potential Grantee Actions	Potential Subgrantee Actions	Potential WAP Stakeholder Actions
Grantee Operations Manual is not comprehensive or multiple documents do not align due to lack of clarity on what constitutes a comprehensive Operations Manual; lack of Grantee process for developing or maintaining Operations Manual	Identify common elements that may be included in a comprehensive Operations Manual, similar to Standard Work Specifications (SWS) Provide recommendations to Grantee during monitoring activities on how program documents, including Operations Manual, can be improved Continue providing short webinars on policy changes	House all program documents in one easily accessible place Provide Subgrantees sufficient time to provide input on Operations Manual changes (ask Subgrantees how much time is sufficient) Engage Subgrantee network in policy changes beyond email announcements Establish and communicate clear process for updating Operations Manual	Provide input to Grantee on consistency of Operations Manual and on proposed changes	NASCSP: provide more communication of DOE changes in newly issued Weatherization Program Notices (WPNs) compared to prior guidance Training Centers: better inform network of opportunity for customized trainings, such as on maintaining Operations Manual
Inability to implement nationally standardized administrative systems and processes at the Grantee level due to regional and state-specific circumstances	Provide platform for sharing common elements of Grantee plans, Operations Manuals, etc., similar to SWS. Enable "upvoting" to help network identify good (if not best) practices	Post Grantee plan and policy documents online for other Grantees to view	N/A	NASCSP: Make Grantee plan and policy documents available online to other Grantees CAP: Create portal for Subgrantee policy documents Other: Establish a Grantee hub for management issues, similar to the Trainer's Consortium
Inadequate Grantee staff capacity due to small staffs; reluctance of Grantees to hire more staff at the expense of production	Engage in discussion with Grantees regarding the balance between Grantee staffing to manage program versus total number units weatherized Consider approval of Grantee plan components (field guide, energy audit tools, etc.) in different cycles, as appropriate, to support Grantees with smaller staffs	Leverage Subgrantee expertise to support maintenance of policy documents	Engage in Grantee plan and policy update process, offering expertise as appropriate	Establish peer-to-peer exchange forum searchable by subject/topic/issue

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Table 2. Barriers to Grantee Performance and Potential Actions

Barrier to Performance	Potential DOE Actions	Potential Grantee Actions	Potential Subgrantee Actions	Potential WAP Stakeholder Actions
Grantee difficulty implementing policy changes due to confusion about effective dates; DOE not publishing all policy documents prior to or at the start of the Program Year; lack of clarity of DOE timeline for approval of Grantee plans	Establish clear distinctions between "effective date" and "publish/issue date" for WPNs, and make clearly visible at top Build out PAGE database to include audit letters, variances, etc., and to provide the status of Grantee submissions (example: under review, approved) Ensure consideration of Grantee implementation timelines in review of policy changes	Attend webinar hosted by DOE, NASCSP regionals calls Provide comments to DOE on draft changes before final issuance	N/A	N/A
Limited ability of Grantees to learn from each other and leverage each other's resources due to inadequate forums for exchange	Encourage/support other regions to organize similar to Energy OutWest Provide funding for "big tent" online peer-to-peer exchange platform	Participate in developing agendas for NASCSP regional calls	N/A	Establish platform for sharing elements of Grantee plans and policy documents. Enable "upvoting" for network to identify good practices Build database of Grantee characteristics to identify peers to engage for support. Characteristics could include: % single family v. multifamily, # of staff, # of Subgrantees, urban/rural split, allowance of solar, leveraged funds, productions levels Create forums for technical staff to engage and discuss updates and implementation issues Allow for more time for self-directed/ organic Grantee discussion of crowdsourced topics at conference

Table 3. Barriers to Subgrantee Performance and Potential Actions

Barrier to Performance	Potential DOE Actions	Potential Grantee Actions	Potential Subgrantee Actions	Potential WAP Stakeholder Actions
Client complaints inadequately addressed by Subgrantee due to lack of formal complaint resolution process; lack of clear expectations	During review of Grantee plan, ask Grantee: Are Subgrantees required to have a complaint resolution process? Has Grantee provided a sample policy on complaint resolution? Has Grantee made training available on complaint resolution?	Establish clear parameters on expectations for Subgrantee complaint resolution process Provide sample/template complaint resolution procedure to Subgrantees Make training available to Subgrantees on complaint resolution process[2]	Establish clear complaint resolution process Complaint resolution process, including points of contact, are available on Subgrantee website Implement internal training Build culture of customer service	N/A
Subgrantee misses production goals due to lack of training in forecasting accurate production numbers; lack of fiscal management training	Develop training on fiscal management and production forecasting[3] Provide monthly production tracking template for Grantees to use and send to Subgrantees During Grantee Plan review and monitoring, ask Grantee how it communicated training resources to Subgrantees	Develop state production tracking system Send out regular dashboard/ spreadsheet of Subgrantee production to allow Subgrantees to facilitate peer exchange among Subgrantees Serve as matchmaker for peer exchange between Subgrantees on meeting production goals	Participate in training on fiscal management and production forecasting Engage in peer exchange with other Subgrantees Integrate fiscal and production forecasting training into succession planning	Dedicate a track at conferences for fiscal management
Inadequate maintenance of energy audit tools due to lack of training on update process; lack of feedback on accuracy of audit tool inputs	Ask Grantees about their review of Subgrantee audit tool measure libraries and inputs as part of QA process	Create feedback mechanism to review measure lists and inputs (especially fuel prices) Develop fuel prices inputs for Subgrantees or institute QA protocols Review audit tool measure libraries and inputs as part of QA Participate in training on audit tools	Participate in training on audit tools and inputs	Training Centers develop training for: Managers and supervisors on audit tools and how to review them Energy auditors on modifying inputs Crew supervisors to recognize when audit tool recommendations do not align with expectations

[2]Development of online training module on client engagement is under development.
[3]Development of online training modules on fiscal management and production forecasting are under development.

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Table 3. Barriers to Subgrantee Performance and Potential Actions

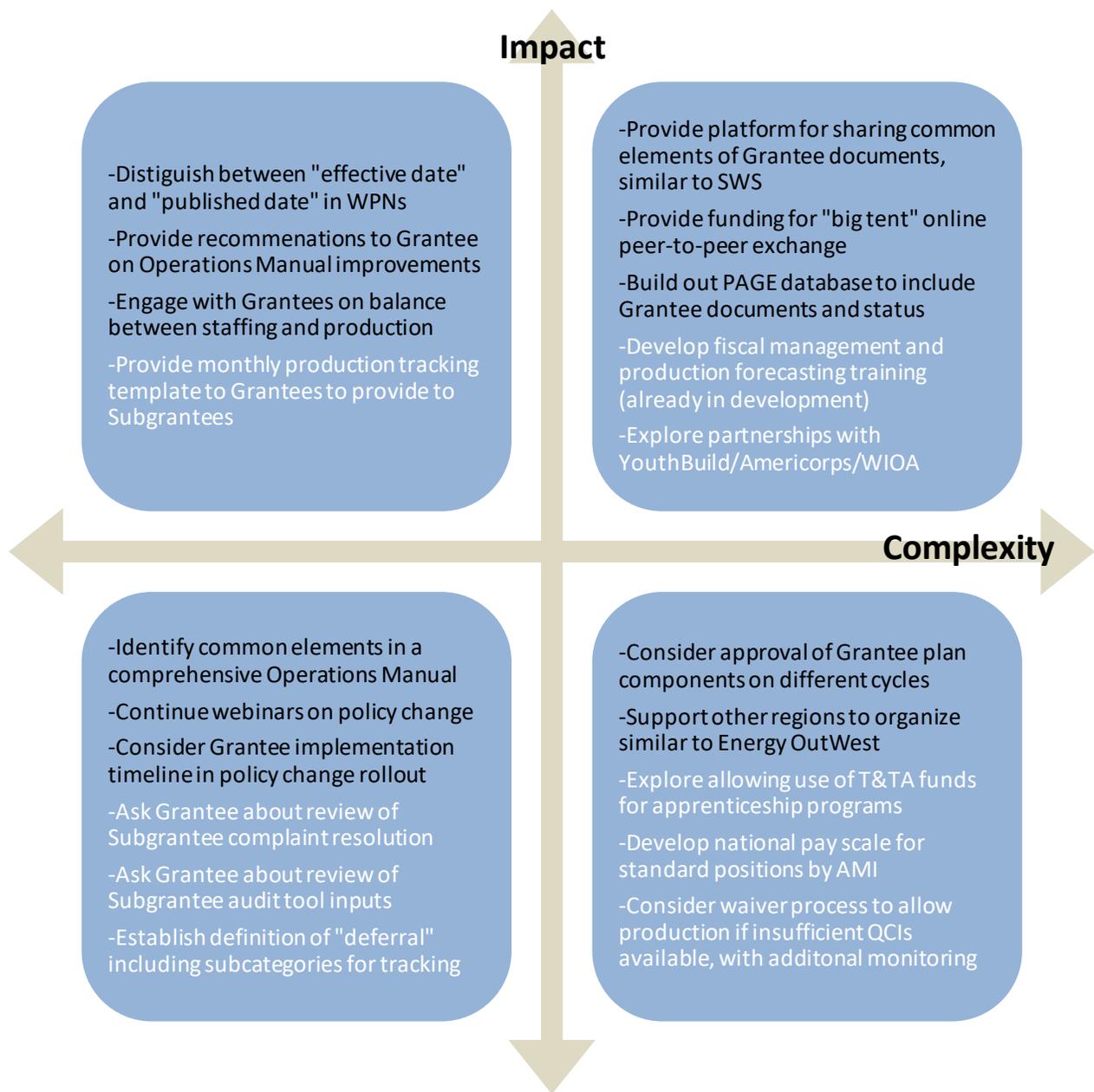| Barrier to Performance	Potential DOE Actions	Potential Grantee Actions	Potential Subgrantee Actions	Potential WAP Stakeholder Actions
Lack of qualified staff due to insufficient entry-level recruitment	Explore partnerships with YouthBuild, Americorps, the National Center for Construction Education & Research (NCCER), and leverage Workforce Innovation and Opportunity Act (WIOA) resources to recruit entry-level staff Explore allowing Training and Technical Assistance (T&TA) funds to be used for apprenticeship programs	Partner with utilities to provide stipends for training Review Subgrantee training plans for inclusion of professional development outside of certifications, in alignment with WPN 15-4 Explore flexibility in providing T&TA funds to Subgrantees	Conduct recruitment and outreach activities including, but not limited to: trade school partnerships; high school career days; diverse backgrounds Communicate opportunities for retraining of individuals making a career change Communicate career pathways to employees through Job Task Analyses (JTAs) and internal advancement opportunities	Training Centers: Better communicate that trainings are available to individuals who are not already Subgrantee employees
Lack of Quality Control Inspectors (QCIs) due to inadequate retention of highly trained staff	Develop national salary scale for standard positions based on area median income (AMI) Consider a waiver process to allow Grantees to allow Subgrantee to continue production for a period if insufficient QCIs are available and require the Grantee to increase QA monitoring during that period	Partner with utilities to provide stipends for training Explore flexibility in providing T&TA funds to Subgrantees	Partner with utilities to provide stipends for training Partner with nearby Subgrantees to share QCIs	N/A
High percentage of deferrals due to lack of consistency in the deferral process; Subgrantee/contractor bandwidth or ability to perform necessary repairs	Define what constitutes a deferral, including subcategories for tracking, such as deferrals due to: health and safety (H&S), structural issues of the home, client or unit eligibility, referred to another program	Request data on deferral rates, including subcategories of deferrals	Track deferral rates, including subcategories of deferrals	N/A

5 Synthesis of Potential DOE Actions Brainstormed by Participants

Due to resource and other constraints it may be difficult for DOE to implement all the potential actions simultaneously. Some of the brainstormed actions are complex, require partnerships beyond DOE, or have lengthy implementation timelines, thus limiting DOE capability in implementation. Figure 2 organizes the potential DOE actions by expected level of impact and expected level of complexity of implementation. This is intended to assist DOE in prioritizing actions for implementation on near-, mid- and long-term timeframes.

The potential actions that involve the development of online resources, external partnerships, or significant policy changes are considered to have a high degree of complexity, whereas those action that involve adjustments to existing DOE processes or additional engagement with Grantees are considered to have a low degree of complexity. In general, the time frame for implementation is expected to increase with higher complexity, so the complexity axis in Figure 2 can be used as a proxy for implementation timelines.

The potential actions considered to have higher levels of impact are those that introduce broad changes to the program, are likely to significantly address a barrier to performance, or involve development of online tools or resources. Potential actions considered to have lower levels of impact may have limited applicability to the whole WAP network, only partially address a barrier to performance, or impact a relatively narrow barrier to performance.

The organization of the potential actions along these two axes is intended to assist in understanding and should not be interpreted to reflect the relative merits of any potential action over another. DOE may find it valuable to implement actions considered to have low impact in the near term while planning for actions with higher complexity. The list of potential actions brainstormed by workshop participants should not be considered comprehensive, and hopefully this list of actions generates additional ideas for improvement.

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Figure 2. Degree of impact and complexity of potential DOE actions brainstormed by participants. Actions related to Grantee barriers to performance in black, actions relation to Subgrantee barriers in white.

6 Lessons Learned from Continuous Improvement Workshops

Participants reported that the Continuous Improvement Workshops were a valuable conduit of ideas from across the network to DOE. Post-workshop evaluation responses were received from 22 of the 52 participants. Participants valued the diversity of perspectives within each workshop and felt it contributed to the depth of understanding around barriers, existing resources, and ideas for improvement. In general, participants agreed that the workshops focused on the right outcomes and were effective in meeting those outcomes. In survey responses, several participants indicated that they intend to use the 5 Whys problem-solving approach with their organizations. All but one survey respondent indicated that they would be very likely to recommend that other members of the WAP network participate in future workshops.

Several potential improvements were identified in the evaluations. The workshops were oriented around addressing the barriers to baseline performance, with the aim of lifting all WAP stakeholders to meet WAP expectations and requirements; however, the decision to focus on baseline performance was not decided until after participants were selected to attend. A few participants expressed frustration that the workshops focused on barriers to baseline performance rather than barriers to high performance (as defined above), because they felt that baseline performance had been discussed at length before. There was also some frustration that the structure of the workshop was not communicated far enough in advance or lacked focus. To address the frustration, NREL intends to set the topics for future workshop agendas prior to the application process. For the 2020 cycle, DOE may want to consider focusing on barriers to high performance, which may have spillover benefits for baseline performance. While NREL did not attempt to assign stakeholders to a baseline or high-performance state, the elements of performance brainstormed by workshop participants could be developed into self-assessment tools for WAP stakeholders.

Beyond focusing on barriers to high performance, participants provided the following suggestions for improving the agenda for future workshops:

- hold separate tracks or workshops on administrative and technical elements of the program;
- delve into the metrics of performance used by DOE;
- address workforce development more deeply; and
- conduct a survey of applicants prior to the workshop to tailor topics to the attendees.

Several participants expressed a desire for more DOE participation in the workshops to offer context and hear directly from participants.

Finally, while the participants brainstormed actions that could be taken at all levels of the WAP network, DOE faces a challenge in communicating these ideas to Grantees, Subgrantees, Training Centers, and other WAP stakeholders. For the 2020 Continuous Improvement Workshops, participants articulated a wish for DOE and NREL to expand work with stakeholders in advance of the workshops to identify ways to engage the full WAP network in the resulting ideas for improvement.