GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CLEAN ENERGY DC SUPPLEMENT
PEER REVIEW REPORT

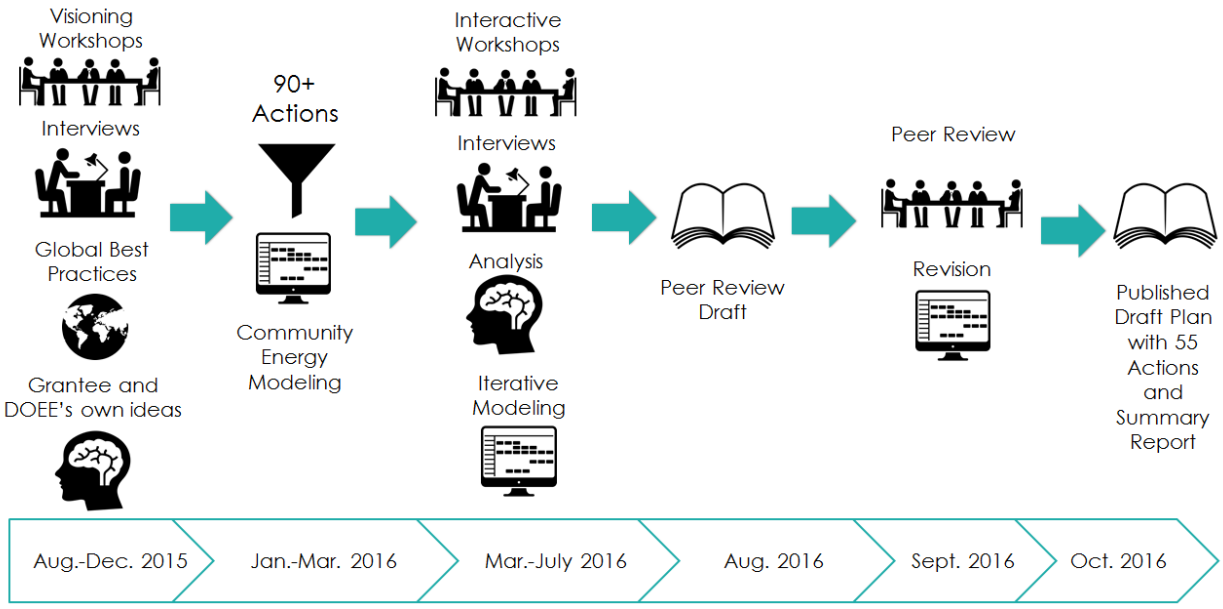
May 2017

This supplement details the process DOEE went through in creating the Clean Energy DC Plan, who was involved in stakeholder engagement, what comments were submitted to DOEE as part of the peer review, and how DOEE responded to each comment. The full draft Clean Energy DC plan, along with the summary report, can be downloaded at http://doee.dc.gov/cleanenergydc/

PLAN DEVELOPMENT AND REVIEW

In May 2015, DOEE released a Request for Applications (RFA) for assistance in completing and communicating a Comprehensive Energy Plan for the District of Columbia (DOEE RFA #2015-1511-EA). After a competitive selection process, DOEE selected Integral Group LLC as the lead grantee, with the Institute for Market Transformation (IMT) and the International Living Future Institute (ILFI) as partners. The Clean Energy DC draft plan was developed over a period of approximately one year in 2015 and 2016, as laid out in Figure 1.

Figure 1: The Clean Energy DC Plan Development Process



Work began in August 2015, with a Visioning Workshop held in October 2015. Integral Group, IMT, and ILFI worked to compile the output from the visioning session, interviews with key experts both within DC and globally, and international best practices, into a set of over 90 possible actions. These actions were plugged into a Community Energy Model that was developed for the plan, and a first draft of the plan was produced. This plan and model were reviewed in two days of interactive workshops in March 2016. After substantial feedback from DOEE and other government stakeholders, more interviews, analysis, and modeling, a review draft was completed in August 2016.

In September 2016, DOEE distributed a "peer review" draft of the Clean Energy DC Plan, at that point still called the "Comprehensive Energy Plan," to key stakeholders and experts for a technical review. 143 attendees representing 74 distinct organizations were invited to the peer review. DOEE held six peer review discussion meetings, each 90 minutes long, with six distinct stakeholder groups, on September 6th through 8th,:

1. District Executive Agencies
2. District Instrumentalities and Intergovernmental Organizations
3. Building Owners and Managers
4. Energy Utilities
5. Environmental Stakeholders
6. DOEE Energy Efficiency Contractors

79 people representing 39 distinct organizations attended one or more of these meetings. Some comments were provided in those meetings. 18 organizations followed up with formal written comments. A full list of people who attended meetings and submitted comments is below. DOEE deeply appreciates the involvement and feedback of everyone who participated so far. A full list of stakeholders is listed at the end of the document. In particular, DOEE recognizes the following organizations for their involvement.

- Amalgamated Bank
- Capital E
- Coalition for Green Capital
- DC Climate Action
- DC Office of Planning
- DC Solar United Neighborhoods
- DC Sustainable Energy Utility
- DC Water
- Department of General Services
- Department of Housing and Community Development
- Department of Consumer & Regulatory Affairs
- District Department of Transportation
- Downtown DC BID
- Green Building Advisory Council
- Grid 2.0

- Groundswell
- Institute for Market Transformation
- Integral Group
- International Living Future Institute
- Metropolitan Washington Council of Governments
- Office of People's Counsel
- Office of Planning
- Pepco
- Public Service Commission
- The George Washington University
- U.S. Green Building Council
- Urban Ingenuity
- Wentworth Green Strategies
- WGL / Washington Gas

DOEE received extensive and detailed comments on the peer review draft. When broken out both by issue of concern and by who submitted them, DOEE received 178 distinct comments. DOEE was able to make edits to the draft in response to 120 of these comments, resulting in an overall stronger and more technically sound draft. Edits ranged from language tweaks to the addition of whole new actions and sections. The model was also improved, with new actions and revised assumptions. Finally, an entirely new executive summary was created and added to the document, which addressed many of the broader concerns stakeholders had. The draft plan was published online on November 2, 2016, at http://doee.dc.gov/publication/cleanenergydc/.

16 comments were general and required no change. 42 comments could not be properly addressed in the time between peer review and the publication of the draft report. DOEE will be continuing to work with stakeholders to improve the draft and work to finalize the plan, as laid out in the discussion on next steps. Additionally, DOEE decided to rename the plan the "Clean Energy DC Plan," because it differed in key aspects from a traditional state comprehensive energy plan, and the name "Comprehensive Energy Plan" was causing confusion among some stakeholders.

NEXT STEPS

Through September 30, 2017, DOEE will be conducting public engagement on the Clean Energy DC plan. DOEE anticipates holding several citywide engagement meetings, engagement sessions in all eight wards. DOEE staff will also be available to present to organizations that desires it. Working groups on particular issues may also be created. DOEE also aims to create accessible educational materials for Clean Energy DC such as online videos. Formal comments will be accepted through e-mail, online forms, in meetings, and by mail. DOEE is also continuing to do research on the thorniest issues in the plan.

In late 2017, DOEE will use input and comments from stakeholders and the findings from our own research to revise the Clean Energy DC Plan. A final plan will be published in early 2018.

COMMENTS AND RESPONSES

Below, we have provided summaries of the comments that DOEE received in September 2016, and how DOEE and Integral Group responded. For brevity and clarity, topics have been arranged thematically, and when multiple similar comments were given by different reviewers, they have been consolidated into one comment. Additionally, all comments are paraphrased, unless quotation marks are used.

GENERAL COMMENTS

Comment: Many reviewers expressed overall support for the Clean Energy DC Plan, and praised its ambition and vision in general, along with specific actions. Actions and foci that got particular positive attention included:

- Net-zero-energy codes (NC.1)
- Building Energy Performance Standard (EB.6)
- Power Purchase Agreement for Standard Offer Service (CRE.2)
- Greenhouse Gas threshold for power importation (CRE.3)
- Thorough treatment of grid modernization (ESM.1-11)
- Valuing of distributed energy resources (ESM.2)
- Increase in the use of electric vehicles (EV.1-6)
- Providing a path to meeting the 2032 Sustainable DC Greenhouse Gas reduction goal
- Inclusion of stretch goals

Response: DOEE appreciates the positive reception the Clean Energy DC Plan has received and hopes stakeholders who support these and other actions will continue to be engaged in 2017 as the plan is finalized to ensure favored actions are included and strengthened.

Comment: Multiple reviewers asked for a greater focus on equity in the Clean Energy DC Plan, both integrating throughout and specifically adding a discussion or box on the subject to the introduction.

Response: DOEE agrees that clean and affordable energy should be accessible to all, regardless of income or credit score. We believe energy equity is a key issue that will need to be addressed as we move forward to create an implementation plan for *Clean Energy DC.* Unfortunately, a detailed discussion of how equity and affordability interacted with every action was outside the scope of what DOEE and our consultant team could accomplish in 2016. We have added some language about this issue to the plan, but we have not had the opportunity to address this issue as thoroughly as would be optimal. We do anticipate further engaging on this as we move forward with public engagement and implementation throughout 2017. The final draft of Clean Energy DC should contain a detailed discussion on energy equity and affordability.

Comment: Multiple reviewers raised concerns about the brevity of the peer review, the overall process, and the need to have further engagement going forward prior to the draft being finalized.

> **Response**: DOEE added a new executive summary to the draft report that discusses the process so far and going forward. DOEE does recognize that the peer review time was too short, and regrets that, while deeply appreciating the work done by all the reviewers to engage with the draft and provide meaningful feedback.
>
> DOEE decided that the plan would be released as a draft in October 2016, and not formally submitted to the Council of the District of Columbia. As discussed above, the document is a living document subject to iterative changes, and DOEE will conduct extensive public engagement through September 2017. In late 2017, DOEE will use input and comments from stakeholders and the findings from our own research to revise the Clean Energy DC Plan.

Comment: One reviewer recommended that as DOEE seeks to finalize and institutionalize Clean Energy DC, it draw on the effectiveness of the "Green Ribbon Committee" for Sustainable DC.

> **Response**: This is indeed one of the models DOEE is looking at to potentially replicate, but no final decisions have yet been made.

Comment: Several reviewers were concerned that the Plan is not based upon any cost-effectiveness nor cost-benefit modeling or analysis, and questioned whether the solutions proposed are economically feasible.

> **Response**: The Clean Energy DC Plan differs from a standard "Comprehensive Energy Plan" in that it is not a just a short-term action plan, but forecasts savings out to 2032. The benefit of this approach is that it allows us to see whether the actions being proposed can actually achieve the environmental policy goals the District Government has set. In addition, cost forecasting for a plan this complex and long-term is challenging because technological changes, market changes, and unforeseen developments will increase and compound with time. While one could make overall assumptions and estimates, and produce some sort of costing for the overall plan, the results would tell you much more about the assumptions that were made than the policies being analyzed. Moreover, the 55 actions in the plan were designed to be mutually supportive and interdependent, creating a level of complexity that would be challenging to cost out.
>
> This is not to say that cost factors were not considered in drafting the plan. The consultant team looked at best practices being executed at reasonable costs in other jurisdictions. None of the actions proposed are entirely novel or prohibitively expensive; all have been implemented in some form somewhere else in the nation or world at a reasonable cost.
>
> A formal cost-benefit analysis will be much more effective when looked at it from the perspective of a single policy over a short time horizon. DOEE expects to do exactly this sort of analysis as elements of Clean Energy DC move towards implementation, for example under action ESM.2.

Comment: More attention is needed to economic development and job creation benefits of energy efficiency and clean energy.

> **Response**: There was not time to fully integrate this discussion into the draft, but more discussion on the subject is planned for the final plan. We did add more discussion of economic and job creation benefits in several actions, including CRE.5, and the new CCB.18; however, no specific job impacts have been modeled.

Comment: One reviewer claimed the plan attempted to deny District residents and businesses access to "low-carbon" natural gas, and objected to this.

> **Response**: The plan does not propose to eliminate natural gas in the timeframe of the plan, up to 2032. However, the plan does recognize that in the long term, to achieve the District's policy goals of reducing Greenhouse Gas emissions by 80% by 2050 and moving towards decarbonization, the role of natural gas as a direct fuel source for heating will be substantially reduced through energy efficiency, the utilization of biogas, and electrification using renewable energy sources and energy storage.

Comment: Two reviewers observed that demand for energy to cool buildings in the summer can be reduced by greater use of measures to reduce the urban heat island effect, and asked what role this played in Clean Energy DC.

> **Response:** Urban Heat Island is a critical issue but addressing this feedback loop was outside the scope of the grant to develop the Clean Energy DC plan. The plan has been revised to make this exclusion clear.
>
> That said, the District inserted amendments to the District of Columbia Construction Codes, including the International Construction Code, the International Residential Code, and the District of Columbia 2013 Energy Code, in 2013 stipulating measures to address roof cooling and other drivers of the urban heat island effect; an example action focused on the requirement for a Solar Reflective Index (SRI) value on District roof coverings. These code amendments are baked into the Community Energy Model used for Clean Energy DC.
>
> Additionally, in 2015 the Department of General Services authored a study in partnership with the Global Cool Cities Alliance highlighting the costs and benefits of cool roofs, green roofs, and rooftop solar PV to address the urban heat island effect in the District.

Comment: One reviewer asked about the overlap between Clean Energy DC and the District's stormwater regulations and suggested that this be discussed in the plan.

> **Response**: This could not be incorporated into the draft plan due to scope and timing. However, there clearly are overlaps. For example, as green infrastructure and green roofs that are installed to manage storm water also have benefits in reducing urban heat island effect and thus reducing summer cooling energy demand.

Comment: One reviewer asked whether the plan looked at actions to reduce emissions by diverting waste away from landfills, to reduce methane emissions from decomposition in landfills, and by mining as much methane as feasible from landfills.

> **Response**: While Clean Energy DC does focus on greenhouse gas emissions, it is still an energy plan, not a full climate action plan, and so waste emissions were outside the scope of the grant. The plan has been revised to make this exclusion clear. The appendix on the model further adds that "although GHG emissions from waste are included in the model, waste was not within the scope of the Plan, so these emissions are not affected by policies. Rather, they are held static to reflect uncertainty in the interaction between growth in waste and the impact of District action to achieve its zero waste vision." (Clean Energy DC page 180) DOEE will address waste emissions and their reductions in future planning efforts.

Comment: The CEP should include educating DC's kids on the costs of GHG emissions, their contributions to them, and ways to reduce them.

> **Response**: Education of children and teenagers about the costs of Greenhouse Gas emissions, and how they can help reduce them, is of critical importance and definitely within the scope of the environmental literacy program called in Sustainable DC (Equity Action 1.3). However, as Clean Energy DC is a technical document, it was decided that discussion of education was not within the scope of the current document at this time. This is certainly an area we hope to investigate and expand on going forward. DOEE recognizes the importance of focusing on reductions in greenhouse gas emissions, as evidenced in the choice to make this the priority target for achieving the goals set out in the document.

Comment: Reviewers asked for analysis on related environmental issues that historically have stood outside discussions of energy and climate policy, but which, if addressed, could have direct benefits to achieving the goals of the Plan, including:

- Heat Island Effect
- Artificial Night Sky Illumination
- Land Use Zoning (e.g., Green Area Ratio or GAR)
- Particulate Pollution
- Surface-Level Ozone
- Additional Criteria Pollutants under the Clean Air Act (nitrogen dioxide, sulfur dioxide, lead, carbon monoxide)
- Methane
- Volatile Organic Compounds (VOCs)
- Vehicle Miles Traveled (VMT)
- Greening of Fleet Vehicles

> **Response:** Some of these issues are addressed in the plan now. The Green Area Ratio has been added as an incentive for net-zero energy buildings under Action NC.2, "Provide a Net-Zero

Incentive Package." Vehicle Miles Traveled, of VMT, was specifically considered in the climate and energy model. "The model assumes the District will achieve its 2032 mode share target of 50% transit, 25% walking and biking, and 25% driving, as set out in the Sustainable DC Plan. The actions required to achieve these reductions are not covered by the Plan, as mode share is the focus of the *moveDC* Plan." (Clean Energy DC page 42) These changes, however, will reduce GHG emissions by 6.4% relative to the 2032 baseline.

Greening of fleet vehicles was not part of the scope of this plan because DOEE was concurrently been undertaking a separate "Greening the Fleet" study, and wished to avoid duplicated effort. However, it will certainly be incorporated into the finalization and implementation of Clean Energy DC plan.

The other environmental issues listed were not considered part of the scope of this project. Several, such as surface-level ozone, criteria pollutants, and VOCs, are being dealt with by other parts of DOEE. However, DOEE recognizes the importance of these issues and looks forward to engaging with DC Climate Action and other stakeholders on these issues in the future as part of the District's ongoing sustainability planning.

THE CLEAN ENERGY DC MODEL

Comment: Reviewers observed that the model results in the plan do not forecast meeting all three of the Sustainable DC Energy and Climate goals, and encouraged DOEE to be more upfront about this in the document. Other reviewers observed that the singular focus on GHGs could limit the perspective of the plan.

Response: In the revised plan, we have addressed the fact that the plan does not forecast reducing absolute consumption by 50% and increasing to 50% the renewable energy share. The plan now explicitly says:

> *"While the actions outlined here are sufficient to achieve the GHG reduction target, they are not sufficient to achieve Sustainable DC's other 2032 targets to reduce energy use by 50% relative to 2012 and increase renewable energy to represent 50% of all energy used in the District. The consultant team discovered during the modeling process that achieving all three targets in unison will prove very difficult, if not nearly impossible. As a result, DOEE decided to prioritize the GHG reduction target, one of the key Sustainable DC climate and energy targets, and chose actions that can significantly reduce GHGs while reducing energy use and increasing renewable energy… The Plan projects that the recommended actions result in an estimated 18% energy use reduction below the 2012 baseline, and increase renewable energy use to make up between 12% and 32% of energy used in the District in 2032, depending on how electricity suppliers comply with the RPS. In subsequent iterations of Clean Energy DC, the analytical framework of this Plan will be used to develop the roadmaps for achieving those targets."* (Clean Energy DC page 4)

In 2017, DOEE will be revising and updating Sustainable DC, and these findings will be taken into account in that process. The other energy goals remain important, and are highly aligned with carbon emission reduction goals, as explained in the executive summary of the published draft.

As for the focus on Greenhouse gas emissions limiting the effort: the GHG goal does interact positively with the energy goals. As stated in our new Executive Summary, "reducing GHG through innovative measures necessarily entails both reducing energy use and increasing renewable energy. However, reducing energy use may not result in an increase of renewable energy, and increasing renewable energy may not result in reduction of energy use."

Comment: Multiple reviewers asked for more transparency into the model that drove the analysis in Clean Energy DC.

> **Response**: DOEE and our consultants have added a new Appendix to the published draft that lays out the methodology and assumptions of the model in detail. DOEE will also provide hands-on walkthroughs of the model methodology, assumptions, and scenarios upon request.

Comment: Several reviewers were unclear on whether transportation sector GHG emissions were only for DC based vehicles, or if emissions from commuters are calculated as part of this percentage contribution to GHG.

> **Response**: We have added clarification both in the body of the document and the Appendix that the Vehicle Miles Traveled (VMT) calculations in the climate and energy model include VMT for all vehicles driven in the District, regardless of origin or destination. It includes both vehicles registered in DC and those entering the city, but only for those miles driven *within* the District boundaries. In other words, the VMTs of commuters are counted, but only for the portion of their commute that is within the District borders.

Comment: Multiple reviewers were surprised that there were not greater savings from existing buildings in the model results.

> **Response**: DOEE and our consultants went back and revised some assumptions about the rate and scale of retrofits for existing buildings. Additionally, the impact of a Building Energy Performance Standard was built directly into the model as a separate line-item. As a result of these changes, existing buildings policies now result in a 6.6% decrease in GHGs and energy use from the 2032 BAU scenario – the second largest individual contributor to meeting the GHG reduction target. It is almost certain that even greater savings can be found in this sector than were modeled—for example, we have not yet modeled the impact of behavior programs or operational savings in a wider swath of buildings than those targeted for retrofits or by the BEPS. Additionally, because so many of the actions for existing buildings involve financing and other enabling measures, fully modeling their impact in a rigorous manner is challenging.

Comment: A couple reviewers asked why the impact of the Clean Power Plan was not modeled.

> **Response**: The technical reason is that we wished to avoid double counting the impact of the District's Renewable Portfolio Standard (RPS), other state RPS, and federal standards. In addition, this has proved practical, as recent political developments at the national level will likely eliminate the Clean Power Plan.

Comment: One reviewer questioned the degree to which a model was been used to select between various GHG emission reduction strategies.

> **Response**: In the initial stages, the community-wide emissions model was used to identify actions with the greatest impact. As discussed earlier, a full cost-benefit analysis model was not

conducted due to lack of time and resources. Rather, actions in the plan were screened for feasibility based on what is being achieved at reasonable costs in leading jurisdictions around the world. Actions were then prioritized and selected based on their projected GHG impact. However, it is important to note that not all actions could be modeled in this way. In particular, actions around finance, education, leadership, and transparency do not in themselves produce GHG savings, but are essential to creating the enabling environment for success. Similarly, actions to modernize the electric grid (outside of microgrids) also do not save GHGs, but are essential to creating a grid that can reliably and resiliently accommodate high levels of intermittent renewable power. These supporting actions were selected based on expert analysis of global best practices, market transformation success stories, and analysis of the District's technological and regulatory context. Over 90 actions were examined during plan development, and only 55 made it into the published draft.

Comment: Several reviewers asked whether the model incorporates actions to reduce methane leaks.

Response: In order to claim savings from reducing methane leaks, we would need to include existing methane leaks in the baseline. However, fugitive methane emissions are not captured in the baseline GHG inventory or the 2032 BAU scenario. DOEE is working to incorporate accounting of fugitive natural gas into future climate inventories. Once that is done, DOEE can look at including actions to reduce leaks, and savings from those actions, in future iterations of Clean Energy DC. Moreover, DOEE added the following discussion was added: "In March 2016, Washington Gas became a founding partner in the U.S. EPA's Natural Gas STAR Methane Challenge, a voluntary program focused on efforts to reduce methane emissions and improve air quality. The commitment includes a goal to reduce the GHG emissions per unit of natural gas delivered 18% by 2020 relative to 2008, which the company is on track to achieve. However, neither the fugitive methane emissions from natural gas, not these reductions, are quantified in the Clean Energy DC model at this time (see Appendix A1 for more information)."

Comment: The review draft only credited GHG savings for neighborhood energy systems being developed by DC Water, and stakeholders in that industry wanted to know why more microgrids were not included in the model—since analysis funded by DOEE under a separate grant has identified as many as 100 microgrid opportunities.

Response: Thanks to additional analysis by DOEE's microgrid analysis partner, Urban Ingenuity, the model now also incorporates the expected GHG savings from microgrids at Walter Reed Army Medical Center and St. Elizabeth's Campus. Modeling any further impact from microgrids at this time is too uncertain. The District is currently investigating and is actively engaged in maximizing the utilization of cost-effective microgrid opportunities. Once more information is available, the next iteration of the Plan can incorporate the potential impact of these opportunities more fully.

Comment: Kerosene usage is hard to see in the charts of existing energy use in the report.

> **Response**: Kerosene is hard to see because its use is negligible, relative to other energy sources. However, we have tried to make it easier to see without compromising the accuracy of the chart.

BUILDINGS

New Construction

Comment: Consider clarifying the zoning regulations pertaining to solar panels, including potentially classifying solar panels differently than other rooftop mechanical equipment to allow reduced setbacks.

> **Response**: This was added to recommendations under Action NC.1.

Comment: Consider allowing net zero projects requiring zoning relief a streamlined hearing process and reduced/eliminated fees from the Office of Zoning.

> **Response**: An "accelerated permitting" recommendation was added to Action NC.2.

Comment: Consider an increased Green Area Ratio (GAR) multiplier for solar panels to incentivize an increase in solar panel installations. Further, consider an increase in the overall GAR requirement in all zones.

> **Response**: Green Area Ratio recommendation was added under Action NC.2

Comment: Floor area ratio bonuses are of limited utility because of the restrictions from the Height Act

> **Response**: Language around FAR in Action NC.2 was clarified as suggested.

Comment*:* Reviewers suggested creating a defined pathway to zero energy buildings many code iterations in advance, as this will send a clear market signal and enable appropriate incentives to spur appropriate action by project teams.

> **Response***:* The same team that worked on *Clean Energy DC*, led by Integral Group, has also worked with DOEE and the New Buildings Institute (NBI) to create an "Appendix Z" to the new energy code. Appendix Z lays out the path to net zero energy buildings *now*, so building owners have plenty of foresight for the net zero energy requirements coming in a decade. Appendix Z will be released with the rest of the new energy code in early 2017.

Comment: Align the goals, requirements, and development processes for DC codes for single family and multifamily buildings, and any respective stretch codes.

> **Response**: The District is working to align these codes. In fact, under *Clean Energy DC*, the residential code will leapfrog the commercial code to become net zero energy by 2020. The Clean Energy DC plan recommends that commercial code will make this leap in 2026, at which point the codes would be closely aligned.

Comment: It would be worth paying special attention to near-term efforts on housing and how the highest of standards can be brought to bear in this sector.

> **Response**: While the plan puts rhetorical emphasis on adopting a net-zero residential code by 2020 as well as a net-zero commercial code by 2026, it also recognizes the importance of near-term action on codes. The new energy codes that will be released next year will make aggressive strides in energy efficiency. Additionally, the plan calls for construction funded in part or in full by the District to include net-zero-energy criteria in the RFPs, and for the District to also leverage its powers by including net-zero requirements for the properties it brokers for sale. These actions will impact the energy efficiency of affordable housing buildings in the near term, not just post-2026.

Energy Efficiency Programs and Funding

Comment: Reviewers involved in Property-Assessed Clean Energy (PACE) projects pointed out that the PACE program was not fully integrated into the peer review draft, and that the commercial PACE was not included at all.

> **Response**: DOEE has now built discussion of DC PACE throughout the plan, in most of the place that were suggested. We have moved the action related to residential PACE into greater prominence, and added in the language for expanding commercial PACE, creating a new action CCB.2, "Enhance the District's Property Assessed Clean Energy financing program through expanded utilization of the commercial offering and the addition of a residential offering." Discussion of PACE also now appears in many other actions as well, especially as related to DCSEU, renewable energy, and data access.

Comment: One reviewer suggested that DCSEU have its own section, given its importance.

> **Response**: To make things clearer, we have broken the Existing Building Actions related to the DCSEU into a new sub-section, 3.2.3.1, "Energy Efficiency Incentives and Management."

Comment: Reviewers observed that the Green Bank concept was discussed throughout the introductory chapters, but did not appear as a specific recommendation. Moreover, the specific recommendations for the green bank were suggested, such as the value of credit enhancement and capital stimulus in the commercial sector.

> **Response:** The Green Bank has also been given greater prominence as an explicit part of Action CCB.1, "Establish a green bank and increase other funding for energy efficiency and renewable energy projects in new and existing buildings." The specific recommendations on loan loss reserve and credit enhancement were added to the Action.

Comment: For existing building retrofit programs, promote "one size fits all" solutions, such as attic insulation, air sealing, modulating boilers, water heaters, and LED retrofits.

> **Response:** This recommendation has been incorporated into action EB.3: "Provide the incentives necessary to operate a District-wide deep energy retrofit program," stating that "retrofits and incentives should promote one size fits all solutions, where appropriate, such as insulation, air sealing, boilers, water heaters, and LED lighting retrofits, to enable adoption at scale."

Comment: Consider how water savings can also lead to energy benefits, from water treatment, sewage treatment, and water heating.

> **Response**: This is an important topic. DCSEU already considers this when providing energy efficiency incentives, and direct install programs. Beyond this, it was not clear how this could best be incorporated into the draft in the time that was available. DOEE looks forward to working with stakeholders in the future on this important topic, and integrating more on it into the final plan.

Data and Metering

Comment: In the discussion about better leveraging energy data in Action EB.1, the review draft discussed accessing and utilizing "supplemental data," but was unclear as to what this data is or how it would be accessed.

> **Response**: The section on "supplemental data" focuses on how data is collected in NYC under NYC's audit and retrocommissioning law. DC currently has no such law, and the plan does not propose creating such a law as a stand-alone measure. Rather, it proposes the creation of a Building Energy Performance Standard (BEPS), which would require building owners to undertake energy audits and energy efficiency measures only if their buildings did not meet a specified performance threshold and were not exempt. This section of EB.1 has been updated to make the link and dependence on the BEPS proposal in Action EB.6 clearer.

Comment: One reviewer recommended that DOEE develop a dashboard for real-time data reporting of energy use.

> **Response**: DGS already discloses the electricity consumption of all its buildings on a 15-minute interval on a next-day basis on www.buildsmartdc.com. Moving to true real-time disclosure of DC government facility energy data would require a different and more expensive technology platform, though it is certainly something DC Government could look at doing in the future. As for private buildings and citywide statistics, true real-time data would be difficult to collect and raise privacy concerns. Overall, the comment was not clear and DOEE made no change to the draft, but certainly this is an area that could be explored further.

Comment: A review recommended DOEE discuss increasing real-time access to data from smart meters.

> **Response**: The question about real-time access for smart meter data for building owners and managers relates to unlocking the ability of building owners to connect directly to smart meters using the ZigBee smart building networking system. This was already addressed under action ESM.9, "Leverage Advanced Metering Infrastructure Data," and has been further expanded in the new draft.

Comment: A reviewer suggested that Pepco should provide DCSEU with information regarding where the grid is most stressed. Targeting buildings on feed lines that are most stressed for energy efficiency work would help stabilize the grid, reduce the need for costly infrastructure, and increase capacity for on-site renewables.

> **Response**: This was added as a new sub-recommendation #3 under Action EB.1, "Increase access to building energy performance data for energy efficiency programs." DOEE is already working with Pepco to access this data more comprehensively, and that information could be shared with DCSEU. Greater access to grid-level data will help the Department support the District's broader effort to modernize its electricity system.

Comment: It was observed that DCSEU is not required to track Greenhouse gas emissions among its performance benchmarks or metrics, or to report this data to DOEE.

> **Response**: This was added as a new sub-recommendation #6 under Action EB.2, "Increase DCSEU flexibility."

Comment: Financial support should be provided to building owners for the purpose of better and more accurate metering. Current costs for new meters are prohibitive to better building and grid management, and metering technology that is currently provided by Pepco has room for improvement.

> **Response:** By definition, metering does not itself reduce energy use; however, multiple studies show an energy savings benefit from better metering, especially when metering is used to align the payment and use of energy. Some incentives here might be possible, though there are some challenges to this approach. Nonetheless, we added language around incentives for meters to Action CCB.4: "Incentivize and require submetering."

Comment: One reviewer expressed the view that submetering does not help condominiums, fearing that residents would not pay the separate energy bill and that the costs they pay are not significant enough to change behavior.

> **Response:** This is an area were community discussion can and should continue. DOEE still maintains that submetering has quantifiable benefits and can play an important role in meeting additional energy usage goals. However, we also note that the plan does not, at this time, recommend mandatory submetering of existing residential buildings.

Comment: DOEE should leverage national efforts to create market demand for energy efficiency in existing housing – specifically around building energy labeling and allowing buyers of energy efficient housing to have a higher loan-to-value ratio because of lower energy costs.

> **Response**: DOEE has revised Action CCB.10, "Integrate energy performance information into residential transactions," to place a greater emphasis on the importance of transparent Home Energy Score for residential units.

Training and Operations

Comment: More attention is needed to incentives (or rules) for behavioral change affecting energy use in buildings.

> **Response**: Agreed. DOEE expanded the discussion on operational energy efficiency savings. But the draft does not currently address savings through occupant/resident behavior change.

Comment: Reviewers from the building owner community observed that there is a huge variation in energy-related skills and knowledge of building managers and consultants. Having a staff that has been trained to identify energy waste and takes steps to eliminate it is critical to capturing low-cost energy interventions. It would be good if there were a standard for training for building engineers and operators. It would do further good if DCSEU funded this training, as it has been shown to yield energy benefits in other jurisdictions.

Response: This topic has been addressed through an expanded Action CCB.8, "Partner to support training and certification of building contractors and managers." Additionally, getting building operators certified has been added as one of the alternative compliance paths under the Building Energy Performance Standard, Action EB.6. Efforts to develop a building operator certification program are currently underway in the District through a partnership between DCSEU, DGS, and the University of the District of Columbia.

Comment: Reviewers recommended adding a new action to establish an online platform for coordinating green jobs training, workforce development, funding, and recruitment.

Response: In response to this comment, the plan now includes a new action, CCB.18, "Create a coordinated green jobs and workforce development platform," which builds on the DOEE's existing Green Pathways website to create a robust clearinghouse for training and workforce development opportunities and funding.

Comment: The review draft contained a recommendation, CCB.11, that a new Mid-Atlantic group be created to unite cities working on deep sustainability. Reviewers observed that existing groups that might fit this need already exist.

Response: DOEE revised the action and next steps to suggest leveraging existing groups, beginning with "open[ing] conversations with existing groups such as the Mid-Atlantic Sustainability Network to determine suitability. If a suitable alignment cannot be found, work to establish a new coalition."

Comment: One reviewer asked about the energy tours, "who is going to pay for this?"

Response: This is an implementation detail for later.

CLEAN AND RENEWABLE ENERGY

Renewable Portfolio Standard

Comment: The draft provided for peer review assumed a 1-for-1 equivalence of RPS renewable requirements and GHG reductions. Reviewers argued that this was not realistic.

> **Response**: Accepted. DOEE never intended to assume a 1-for-1 equivalence. The published draft no longer makes this assumption. Rather, the Plan assumes 57% of the RPS's maximum GHG reduction potential is captured by the District's 2032 requirement of 45% renewable electricity supplied from outside the District, and 5% of electricity supplied in the District. The actual impact will depend on how electricity suppliers comply with the RPS requirements. This is based on the finding that 57% of all non-hydroelectric renewable energy capacity built in the United States from 2000 to 2015 is being used to meeting RPS requirements.
> Finding soured from: Barbose, Galen. 2016. "U.S. Renewables Portfolio Standards: 2016 Annual Status Update." Lawrence Berkeley National Laboratory. https://emp.lbl.gov/sites/all/files/lbnl-1005057.pdf

Comment: Concerns were raised over the definition provided for compliance with the RPS. Specifically, the peer review draft implied there were three ways to comply with the RPS—buying renewable energy directly, buying RECs/SRECs, or paying Alternative Compliance Payments. In fact, there is no distinction in law between buying direct renewable energy and buying RECs.

> **Response**: The published draft makes clear there are only two compliance paths—purchasing RECs/SRECs or paying ACPs. However, we also make clear that RECs purchases do not always lead to direct 1-for-1 increases of renewable energy on the grid (and thus, the corresponding reduction of the greenhouse gas intensity of the regional grid).
>
> "The amount of GHG reductions that the District can achieve by 2032 will significantly depend on how electricity suppliers comply with the RPS, specifically, how much new renewable energy is generated through the expenditure of ACPs, and how much new renewable energy is added to the RFC-East eGRID subregion." (Clean Energy DC, page 40)

Comment: The peer review draft contained language that implied a need to revise the way RECs are counted. Reviewers were concerned this could substantially increase the cost of the RPS by reducing the availability of qualified RECs, thus requiring suppliers to make larger Alternative Compliance Payments. Additionally, large institutional stakeholders raised concerns about how the cost burden of the RPS falls on customers who are buying most of their power direct from utility-scale solar or wind facilities using Power Purchase Agreements, and yet are also having to pay to support the purchase of RECs and ACPs.

> **Response**: The published draft makes clear that DOEE does not seek to narrow compliance options for the RPS in the short term. Over the longer term, we do still call for revision to the

way RECs are counted to increase compliance via RECs that reduce GHGs in the District because they are bundled with the actual purchase of renewable energy, or are sourced from within the RFC-East region. However, no specific solutions to this problem are proposed, as that would need to come from collaborative discussions between the PSC, DOEE, and other stakeholders. DOEE looks forward to these discussions. As for the impact of the RPS on stakeholders who also purchase renewable energy via PPAs, a review of this issue will be one of the topics addressed in any review of the role of RECs, as discussed above.

Additionally, throughout the document, we have updated the language to correctly reflect the independent authority of the PSC, and its collaborative relationship with DOEE and the Mayor's Office.

Comment: The draft plan calls for a 100% RPS by 2050, or sooner. Some concerns were raised about feasibility of a 100% RPS with respect to PJM transmission network.

Response: This is one of the challenges we anticipate being dealt with through PJM coordination as discussed in CRE.1. At the outset, it is important to distinguish RECs from renewable generation itself. A 100% RPS simply means that every kWh of electricity sold in the District will be accompanied by a REC. It does not mean that the District would directly consume 100% renewable energy generation. The small amount of the District's overall consumption relative to the overall consumption within the PJM footprint offers an opportunity to the District that may not be available to other states in PJM. In addition, the long-term time frame of the 100% RPS also provides for the possibility of additional solutions to this challenge.

Comment: Some reviewers pointed out that achieving a 100% renewable electricity portfolio today, with today's technology, could be either impossible or cost-prohibitive.

Response: This statement has merit. Again, it is important to distinguish RECs from renewable generation itself. Therefore a 100% RPS simply means that every kWh of electricity sold in the District will be accompanied by a REC. We also note that the cost of a REC is only a fraction of the cost of an SREC in the District. In any event, the long-term timeframe of the 100% RPS also provides for the possibility of technological solutions to this challenge, and the small amount of the District's overall consumption relative to the overall consumption within the PJM footprint offers an opportunity to the District that may not be available to other states in PJM.

Comment: At the same time, other reviewers indicated substantial support for a long-term move towards a 100% RPS. One reviewer wrote: "Moving to 100% renewable energy is an obvious and essential next step not just for the District but for every jurisdiction in the country. While some may be reluctant to revisit these issues so soon, the value of a long-term target is significant in mobilizing private sector resources and providing for great ability to plan long term with confidence."

Response: DOEE agrees.

Comment: One reviewer felt like we were not sufficiently recognizing the importance of utility-scale renewable power, particularly utility-scale solar, which could be sourced from outside the District.

> **Response**: DOEE agrees and has adjusted the plan to now call attention to the importance of utility-scale solar and wind power in the summary in section 4.1.1.1 on the energy sources available outside the District, and in several actions. A particular focus on utility-scale wind solar and wind power is called for in both Action CRE.1 on improvements to the RPS, and Action CRE.2 on revisions to the Standard Offer Service Agreement. The impact of utility-scale wind and solar is also mentioned as a factor to be considered in Action ESM.2, "Support the collaborative development of an integrated distribution plan."

Comment: Other reviewers, however, felt that there was too much focus on renewable power from outside the District to the exclusion of resources from within the District of Columbia.

> **Response**: DOEE added language to make clear that the most optimal solution for GHG reduction is to decarbonize the current supply line. DOEE recognizes the significant and important role that clean distributed generation has, especially for a net-zero energy city. The District has already taken steps in this direction through the Renewable Portfolio Standard Expansion Act of 2016, and the Solar for All program. However, further regulatory changes and technological advances will likely be needed to allow deep and broad penetration of distributed energy resources in the District. DOEE will closely follow this issue to model in future revisions of Clean Energy DC.

Renewable Energy for Standard Offer Service

Comment: Reviewers requested additional studies and examples to support the proposal for the use of a Power Purchase Agreement to provide renewable energy to residential consumers on the Standard Offer Service. Reviewers also questioned whether the PPA could really provide a cost savings for consumers relative to the current Standard Offer Service proposal.

> **Response**: DOEE is currently undertaking further analysis of the costing and feasibility of the PPA SOS proposal, which will be released later this year. However, early findings are promising.

Comment: The review draft included the full effect PPA for the SOS instantly. However, reviewers pointed out that the current SOS is provided through multiple contracts staggered over 3 years, so a 3-year phase-in would be needed for any SOS replacement to avoid contract breach.

> **Response**: DOEE agrees and has incorporated this into the model and the proposal, with the first contract providing renewables for 70% of the SOS beginning in 2018. Additionally, a combination of several contracts of various terms, rather than a single PPA, would likely be needed to mitigate risks, and this has been clarified.

Renewable Energy Supply Within in the District

Comment: One reviewer was unclear on the value-add of the online solar information and commerce platform, and questioned if it duplicated existing private sector efforts.

> **Response**: DOEE broadened the language to reference multiple existing private sector tools for solar information and commerce, and made clearer that DOEE does not seek to reinvent the wheel here, nor seek to reproduce existing websites. However, a single source of information, backed by the Government, still has utility. Actions CRE.4 and CRE.5 have been revised for additional clarity in response to the reviewer comments and points of confusion.

Comment: Several reviewers active in the local renewable energy industry felt that the review draft did not properly recognize the depth and breadth of existing local expertise in the region, and did not properly call for leveraging existing partners.

> **Response**: DOEE substantially revised Action CRE.5 to stress the involvement of local organizations and talent, including the opportunity a solar proliferation strategy presents to build upon and strengthen the current local workforce capacity and economic development opportunities.

Comment: One reviewer argued that the solar implementation strategy should rely more on competitive solicitation to implement a series of programs and identify the best private sector entities to design and carry out the work, rather than pre-determining the shape of this work.

> **Response**: DOEE substantially revised Action CRE.5 to add multiple calls for RFPs to solicit private sector involvement in implementation. DOEE has also already begun to issue RFPs to carry out parts of the Solar for All plan.

Comment: Reviewers stressed the need to not just rely on a website platform, but also use direct marketing, door-to-door outreach, neighborhood events, and more.

> **Response**: Agreed. However, this was not specifically added yet, since in response to other comments, DOEE is seeking to leave more of these implementation details to grantees.

Comment: One reviewer disagreed with the importance of segmenting the building stock, arguing the main barrier was the ownership of the building, not the type of building.

> **Response**: DOEE agrees; however, DOEE believes segmentation by building and owner type is important for targeted program design and marketing.

Comment: Recommend specific additions to the building segmenting under CRE.5, including looking the roof life for a building, and the cost and ROI to extend roof life.

> **Response**: Added.

Comment: In addition to requirements and incentives for buildings to install solar, incentives should be provided to owners of outdoor parking lots to install solar, where they will generate energy and shade cars.

> **Response**: This is certainly within the scope of Solar Proliferation Strategy, which aims to increase solar installations in the built environment and open spaces. The District has some of the best incentives in the country for solar thanks to high value of Solar Renewable Energy Credits (SRECs). These incentives are just as available to parking canopies as they are to buildings, and several such projects are already moving forward in the District.

Comment: Reviewers encouraged DOEE to consider physical space limitations in the District of Columbia and at individual sites, as well as financial and customer impacts of requiring solar to be installed on new buildings, and recommended further study in this area.

> **Response**: Action CRE.6 was modified to provide multiple options by which a building owner could assess and implement renewable energy generation. Further analysis of financial and customer impacts could not be added to the published draft, but is being undertaken.

Comment: Provide guidelines and encourage developers to consider renewable energy measures as community benefits for planned unit developments, large tract developments, and similar projects.

> **Response**: Incorporated into the recommendations under Action CRE.6.

Comment: Microgrids should be discussed as a strategy to address the strain that concentrated solar generation can place on the electric grid.

> **Response**: DOEE added language to better capture the close relationship between high solar deployments, grid modernization, and microgrids in section 4.1.1.2, as well as in CRE.5, CRE.6, CRE.8, and ESM.3.

Neighborhood Energy Strategies

Comment: Incorporate neighborhood-scale energy strategies into the District's Comprehensive Plan amendment process, specifically the Environmental Protection, Infrastructure, and Resilience Elements.

> **Response**: DOEE added language to call for amendments to the Comprehensive Plan to emphasize neighborhood-scale energy strategies, and require any project over 500,000 gross square feet with a zoning overlay district to evaluate neighborhood-scale energy and microgrid opportunities in planning. DOEE has now made this recommendation to OP for inclusion in the Comprehensive Plan update.

Comment: Reviewers asked for expanded discussion of microgrids in multiple parts of the document.

> **Response**: DOEE expanded the discussion of microgrids in the neighborhood energy systems sections. There is now much greater discussion of microgrids in CRE.7 and CRE.8. Microgrids also feature in the solar PV and electricity modernization actions as well. Lastly, the Executive Summary states that microgrids are one technology option which is currently being explored and evaluated by DOEE.

Electricity Grid Modernization

Comment: A reviewer questioned whether the strategies outlined in this chapter were aligned with DOEE's comments on the PSC's Formal Case 1130.

> **Response**: DOEE's comments on FC1130 and the ESM chapter in Clean Energy DC are closely aligned, and language was added to the published draft to make this alignment clearer.

Comment: Reviewers recommended that DOEE make explicit reference to an active policy agenda to promote deployment of microgrids and neighborhood-scale district energy systems in DC, and to provide support to property owners in better integrating energy planning into real estate development projects.

> **Response**: Language to this effect was added to Action ESM.8.

Comment: Reviewers asked for microgrids to be more comprehensively integrated in the plan, given potential widespread development of microgrids in the District.

> **Response**: DOEE added specific mentions of microgrids in most places that neighborhood energy systems were discussed. Further work on this will be done in the coming months, and DOEE looks forward to working with stakeholders to expand this discussion and analysis. At the same time, DOEE expects that forthcoming PSC rulings will clarify the role and regulation of microgrids in the District. The District is actively engaged in maximizing cost-effective Microgrid opportunities.

TRANSPORTATION

Comment: One reviewer asked for more modeling on the GHG impact of self-driving cars.

> **Response**: This takes research and the jury is still out. The climate impact of self-driving cars could be an increase or decrease in GHGs, depending on fuel source GHG intensity, behavior, vehicle technology, and whether self-driving cars replace or supplement existing vehicles and fleets.

Comment: If DC is going to develop an incentive for electric vehicles it should consider a strong incentive for electric bicycles.

> **Response**: The scope of the transportation section was strongly focused on electric passenger cars, so this recommendation has not been incorporated. Incentives for electric bicycles are worth considering. However, more research is needed on whether electric bike usage replaces the usage of passenger cars, mass transit, and/or standard human-powered bicycles. To the extent that people ride electric bikes instead of driving cars, there will be a reduction in GHGs.

Comment: Reviewers asked for more discussion on mode shift.

> **Response**: Mode shift is extensively discussed in the moveDC plan, and the impacts of moveDC are modeled in the Clean Energy DC model. Electric passenger vehicles were targeted in this plan because, unlike both mode shift and fleets, they had not yet been targeted in any District plan. The introduction to the transportation sector has been modified to make clearer the relationship of this plan to moveDC and other District plans, and the rationale for the focus on electric vehicles.

Comment: Reviewers observed that the draft plan does explicitly address the Bus Fleet operated by both WMATA and DDOT, and asked for proposals in this area.

> **Response**: At the time the Clean Energy DC Report was being drafted, DOEE was simultaneously undertaking an analysis of greening of fleet vehicles. Therefore, to avoid duplication and conserve District resources, fleet vehicles such as electric busses were not part of the scope of the Clean Energy DC analysis. However, it will certainly be incorporated into the final draft and the implementation of the *Clean Energy DC* plan.

Comment: Some reviewers raised concerns about the cost impact of adding EV-ready requirements to the building code, and asked for analysis of these costs.

> **Response**: As is standard practice, this cost analysis would be undertaken at the point of proposing and adopting amendments to the code

APPENDIX: STAKEHOLDERS INVOLVED

(Many DOEE staff were also involved at all stages of the development of the Clean Energy DC plan and participated in one or more workshops. However, for brevity, the names of all DOEE staff who were involved in the project are not listed in this table.)

Organization	Name	Attended workshop during draft development	Attended peer review meeting	Submitted comments on peer review draft
Amalgamated Bank	Ivan Frishberg		✓	✓
Apartment and Office Building Association (AOBA)	Kristen Williams		✓	
Bohler DC	Charles Griffith		✓	
Boston Properties	Bill Atkinson		✓	
Capital E	Greg Kats	✓		
Capital E	Keith Glassbrook	✓		
Chesapeake Climate Action Network	Camila Thorndike		✓	
DC Council Staff (CM Cheh)	Nicole Retnz		✓	
DC Building Industry Association (DCBIA)	Devin Zitelman		✓	
DC Building Industry Association (DCBIA)	Liz DeBarros		✓	
DC Climate Action	John Macgregor			✓
DC Climate Action	John Wickham		✓	✓
DC Climate Action & 8Minute Energy	Bicky Corman		✓	✓
DC Housing Authority (DCHA)	Michael Brown		✓	
DC Office of Planning (OP)	Andrea Limauro		✓	✓
DC Office of Planning (OP)	Stephen Gyor			✓
DC Sustainable Energy Utility	John Supp	✓		
DC Sustainable Energy Utility	Ted Trabue	✓	✓	✓
DC Water	Maureen Hollman	✓	✓	
DCRA	David Epley	✓		
DCSUN	Anya Schoolman			✓
Department of General Services (DGS)	Farah Albani	✓		
Department of General Services (DGS)	Jamie Donovan	✓		✓
Department of General Services	Jen Croft	✓		✓

Organization	Name	Attended workshop during draft development	Attended peer review meeting	Submitted comments on peer review draft
(DGS)				
Department of General Services (DGS)	Mark Chambers	✓		
Department of General Services (DGS)	Monica Andrews	✓	✓	✓
Department of General Services (DGS)	Zach Dobelbower	✓		
Department of Housing and Community Development (DHCD)	Jennifer Skow		✓	✓
Department of Consumer & Regulatory Affairs (DCRA)	Dave Epley	✓		
District Department of Transportation (DDOT)	Tina Casey	✓	✓	✓
Downtown DC BID	Gerry Widdicombe		✓	
Downtown DC BID	Scott Pomoroy	✓	✓	✓
Grid 2.0	Larry Martin			✓
Groundswell	Dan Moring		✓	✓
Groundswell	David Wright		✓	✓
The George Washington University	Meghan Chapelle			✓
HOK	Anica Landreneau		✓	✓
ICF	Joe Schambach		✓	
ICF	Travis Michalke		✓	
International Living Future Institute (ILFI)	Brad Liljequist	✓		*
Institute for Market Transformation (IMT)	Cliff Majersik	✓	✓	*
Institute for Market Transformation (IMT)	Erin Beddingfield	✓	✓	*
Institute for Market Transformation (IMT)	Jayson Antonoff	✓		*
Integral Group	Dave Ramslie	✓	✓	*
Integral Group	Maxwell Sykes	✓		*
Integral Group	Rachel Moscovich	✓		*

Organization	Name	Attended workshop during draft development	Attended peer review meeting	Submitted comments on peer review draft
JLL	Calvin Michael		✓	
Metropolitan Washington Council of Governments	Steve Waltz		✓	✓
Monumental Sports	David Touhey		✓	
Monumental Sports	Jordan Siberman		✓	
National Electrical Manufacturers Association	Patrick Hughes		✓	
Office of People's Counsel (OPC)	Nicole Sitaraman		✓	
Office of People's Counsel (OPC)	Sandra Mattavous-Frye		✓	✓
Office of People's Counsel (OPC)	Yohannes Mariam		✓	
Office of Planning	Art Rodgers	✓		
Pepco	Andrea Harper		✓	
Pepco	Bill Gausman		✓	
Pepco	Chris Taylor		✓	
Pepco	Donna Cooper	✓	✓	✓
Pepco	Marc Battle		✓	
Public Service Commission (PSC)	Dan Cleverdon	✓	✓	✓
Public Service Commission (PSC)	Jorge Camacho		✓	✓
Sierra Club DC	Jeremiah Lowery		✓	✓
Skanska	Myrrh Caplan		✓	✓
Skanska	Rose Hutson		✓	
The George Washington University	Meghan Chapple		✓	✓
The Solutions Project	Tyler Nickerson		✓	
Tower Companies	Eugenia Gregario		✓	
Tower Companies	Giuliana Kunkel		✓	
U.S. Department of Energy	Adam Guzzo		✓	
Urban Ingenuity	Shalom Flank	✓		✓
Urban Ingenuity	Bracken Hendricks	✓	✓	✓
Urban Ingenuity	Upasna Kaku		✓	
U.S. Green Building Council	Jeremy Sigmon		✓	✓
Van Ness Condo Association	Harry Richter			✓
Washington Gas	Melissa E. Adams			✓
Washington Gas	Stephen Jumper			✓
WC Smith	Brian McLaughlin		✓	

Organization	Name	Attended workshop during draft development	Attended peer review meeting	Submitted comments on peer review draft
Wentworth green strategies	Marchant Wentworth			✓
WGL	Bernice K. McIntyre	✓	✓	✓
WGL	Michael Durso		✓	✓
WGL	Steve Jumper		✓	

*Integral Group, IMT, and ILFI were the team that developed the Clean Energy DC Plan for DOEE. Therefore, while they did not submit comments as such, their views were also incorporated in the revision, as they worked with DOEE to review and responded to comments.