Comments of the American Council for an Energy-Efficient Economy (ACEEE) on "DOE RFI IRA, Section 50131. Technical Assistance for Latest and Zero Building Energy Code Adoption"

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On behalf of the **American Council for an Energy-Efficient Economy (ACEEE)** on the DOE Request for Information (RFI) on the Inflation Reduction Act, Section 50131. Technical Assistance for Latest and Zero Building Energy Code Adoption DE-FOA-0003054. We appreciate the opportunity to provide input to the Department.

Summary

We recommend that DOE support state and local governments (jurisdictions) and partner applicants to adopt and implement the latest codes and zero-energy and -carbon building codes (zero codes) for new and existing buildings including residential, multifamily, and commercial buildings. We recommend that DOE allow jurisdictions to focus their efforts on the areas where they can have the greatest impact through energy savings, decarbonization, and community benefits, which include advancing equity, affordability, and workforce development. We believe DOE should provide significant support for a code workplan/roadmap and then allocate funding based on these plans.

We recommend that the funding process emphasize brevity and simplicity. With this in mind, we recommend that DOE develop a one-page grant application and off-the-shelf workplans for jurisdictions wanting a streamlined process. We recommend that DOE also have a funded planning grant process to support jurisdictions in developing a customized codes roadmap. We recommend that the implementation grants provide rolling funding with milestones and go/no-go decision points.

Category 1: Selection Criteria & FOA Issues

C1.1) Should DOE specify a period within which adoption of a code must be achieved? If so, what timeframe should be required for states to adopt the code (i.e., 2021 IECC/90.1-2019, Zero Energy Code, or other code/standard achieving equivalent or greater energy savings) to be eligible for funding?

We recommend requiring applicants to develop a timeline within a broad specified period. The timeline needs to be specified within each code workplan/roadmap. The

implementation grant proposal should detail this further and include key performance indicators that will be incorporated into the project, as outlined in the summary above and our response to C1.4. The timeline should include "getting to zero energy or carbon by XXXX year," and the roadmap should show how this will be accomplished. We also recommend that the implementation grant detail major milestones and consider ongoing processes that will continue after the period of performance as well as community benefits such as advancing equity, affordability, and workforce development.

The goal year will need to allow a reasonable path to reach the target from the jurisdiction's current baseline but recognize the need for speedy action to address the climate crisis and the time limits on this funding. We suggest an outer limit of 2025 for adoption of the latest codes (allowing time for legislative and/or administrative processes) and 2030 for zero codes (potentially three code update cycles). DOE should specify target years, but also welcome applications from states and jurisdictions with less stringent current codes that show ambitious step changes with specific targets over longer periods.

C1.2) What guidance should DOE provide applicants around "equivalent or greater energy savings," including both timeframe over which savings must be achieved, and scope of where savings occur? How should emissions reductions be considered?

Regarding timeframe, we recommend that DOE specify the goal for achieving adoption and implementation of the latest codes and zero codes even if this is beyond the funding opportunity (see additional timeline detail in C1.1).

We believe that guidance on equivalency from DOE is very important because we want to ensure consideration of the variety of ways to achieve net zero. It is also important that nuances between new and existing buildings are detailed, as well as residential, multifamily, and commercial considerations. In addition, we highly recommend providing tools, templates, and off-the-shelf workplans as well as the opportunity for states and local jurisdictions to align energy and climate plans through custom codes roadmaps.

DOE should allow applicants to show equivalence or greater through site energy usage, primary energy usage, combustion energy usage or, if allowed by statute, greenhouse gas emissions. It is important to provide guidance on what to consider for changes in the grid over time. We suggest DOE provide projected equivalences based on location (climate zone and region) for both the most recent codes and what would be a "zero energy" code. DOE should show how energy savings using these different metrics would change over the course of the timeline from the jurisdiction's current code through an update to the most recent code and ending at zero code. DOE will also need to consider and provide guidance on equivalency for a building performance standard (BPS) as detailed in C4.2.

We recommend that DOE develop a tool similar to the Resilient and Efficient Codes Implementation (RECI) impacts calculator that allows applicants to evaluate different approaches to achieving equivalent or greater savings. This tool should be released well in advance of the planning grant (i.e., not in the implementation grant package). This could be a web interface that a jurisdiction could use and submit to confirm that what they are planning would qualify for the "equivalent or greater" criteria. Early tools like this will benefit states and jurisdictions that want to explore how to achieve savings without having to do all the paperwork immediately.

C1.3) How can DOE incentivize innovative Building Performance Standards, including standards that focus on affordable and sustainable housing for underserved communities?

DOE can incentivize innovative building performance standards (BPS) by (1) specifying that BPS projects are eligible for funding and (2) including procedures and metrics with this in mind. This should include metrics for specific activities to help BPS achieve equitable outcomes (e.g., considerations for affordable housing, specific building type(s), multiple compliance pathways, variable structure for fines) as detailed in [ACEEE's 2021 Clean Energy Scorecard](#). We recommend that DOE specify consideration of equity within each workplan/roadmap and specify metrics and key performance indicators (KPIs) with the implementation grants.

We also recommend providing links to resources as part of the implementation grant process to support this effort. Good examples are USDN's [A New Framework for Equitable Policies to Address Existing Buildings](#) and [ACEEE's 2021 Clean Energy Scorecard](#). Jurisdictions should consider including technical and financial assistance to help affordable housing and underserved communities meet the improved codes (including BPS) in their compliance plans. The challenges in these sectors, which are price sensitive and have limited access to financing, are a stumbling block to ambitious requirements, but the energy cost and health benefits are also greatest for these sectors. Substantial targeted assistance can enable stronger codes, greater compliance, and larger benefits.

C1.4) What tools or services should DOE provide to support applicants?

We recommend here both a funding process for applicants as well as tools and resources for applicants.

Recommended Process – Planning Grants & Implementation Grants
We recommend that the funding process prioritize brevity and simplicity. We recommend that DOE support jurisdictions in both adoption and implementation of the latest codes and zero codes for new and/or existing buildings, and for residential, multifamily, and/or commercial buildings. We recommend that DOE allow jurisdictions to focus their efforts on the areas where they can have the greatest impact through

energy savings, decarbonization, and community benefits (enhanced equity, affordability, workforce development, etc.).

With this in mind, we recommend that DOE develop a one-page grant application and off-the-shelf workplans for jurisdictions wanting a streamlined process. We propose that this process provide a menu of code adoption and implementation options through corresponding workplans that jurisdictions can select for rolling implementation grant funding. This would provide a simple application process but more detailed plans for carrying out the work.

We recommend that DOE also fund planning activities to support jurisdictions in developing a custom codes roadmap (we recommend limiting applications for these grants to 5 pages) and a rolling funding implementation grant with milestones and go/no-go decision points. We recommend that DOE put together a group of external experts to review and provide feedback to each roadmap developed within the planning grants. We propose a [color-team](#) review process that helps each team strength their proposal and ensures consistent evaluations throughout the process. The custom code roadmap can then be the basis for an implementation grant application.

Implementation grant proposals should include sections on adoption of code updates, code implementation, and compliance efforts as well as on expected community benefits for these efforts including equity, workforce, and braided funding. We recommend that DOE also provide off-the-shelf templates and resources for the implementation grant that include a project timeline, estimated energy efficiency and carbon savings impact tool, community benefits plan, considerations for other funding sources, compliance plan, outreach plan for stakeholders and partnerships, and training and workforce plan. We recommend that the implementation grant include metrics and KPIs within each of the templates.

Recommended Tools & Resources
We recommend that DOE provide off-the-shelf solutions, templates, and resources for each effort including:
- One-page grant application
- Off-the-shelf workplans
  - Variety of options for code adoption and implementation of the latest codes and zero codes for new and/or existing buildings, and for residential, multifamily, and/or commercial buildings
- Custom codes roadmap template for planning grant
- Implementation grant templates and resources
  - Templates for a project timeline, a community benefits plan including equitable policies and metrics, considerations for other funding sources, compliance plan, outreach plan for stakeholders and partnerships, and training and workforce plan

- o Additional resources on each of these topics (i.e., reports, white papers, references, websites, and webinars)
- Estimated savings and impact tool for calculating energy efficiency and carbon savings (like the RECI calculator, see C1.2)

C1.5) What tools or services should DOE provide to support grantees?

We propose that DOE regularly check in with funded teams regarding implementation of their roadmaps and assess if there are broad gaps and needs across projects. Efforts supporting the teams should include enhancing capacity; providing topical expertise, analysis, and ongoing support through resources; developing dashboards; and assessing impact and community benefits. DOE can also support grantees by setting up a "rapid response center" that can quickly assist them with estimates of potential impacts through analysis and modeling.

Category 2: Other Funding Sources

C2.1) How can DOE encourage coordination between BIL and IRA codes funding and aid States and localities in developing a holistic plan for adoption, implementation, and compliance?

DOE should consider RECI-funded projects as foundational to the deeper energy savings goals of this program. While it is important that RECI-funded projects represent concrete improvements in energy code implementation, DOE should consider how RECI-funded projects provide a structure for further successful code updates. Coordinating such funding should include not only RECI- and IRA-funded projects within a jurisdiction alone but also how RECI-funded projects could encourage improved implementation and compliance regionally. This could support jurisdictions in pursuing IRA funding for adoption who may otherwise not have the internal capacity or support.

C2.2) How should funding under other federal programs (e.g., BIL Section 40109: State Energy Program, BIL Section 40552: Energy Efficiency and Conservation Block Grant Program, other federal programs, or tax incentives for efficient buildings) be leveraged to maximize the impact of the IRA codes funding?

Given the vast funding opportunities that are available and under development, leveraging other federal funding is increasingly important. While some of these funding opportunities are well known, others are not. Given this, opportunities to combine resources through "braided" funding may be unknown. Yet other federal funding could not only help support government codes work but also help pay for the added cost of advanced construction, especially for affordable housing and disadvantaged communities. We recommend that DOE develop a template for addressing multiple funds within this opportunity as well as provide jurisdictions resources about braided funding.

C2.3) How can IRA building energy codes funding best leverage other sources of funding from

states, utility programs, and others?

We recommend that DOE support jurisdictions and partners through the process outlined in the summary and our response to C1.4.

We recommend that each implementation grant include consideration of funding opportunities and alignment. We recommend that considerations of utility funds as well as federal funding opportunities be included and that DOE provide a template for consideration of other and braided funding as well as provide resources (see C2.2).

C2.4) Should DOE prioritize projects that leverage other funding sources?

We do not recommend DOE prioritize projects with other funding sources. While a plan with consideration for leveraging other funding sources is important and should be encouraged within each workplan/roadmap, we don't believe that this should be a requirement. Prioritizing projects leveraging other funding sources may have the unintended consequence of funding jurisdictions that are well funded already. DOE should encourage careful consideration of leveraging other funding but also be open to jurisdictions that can make the case that they seriously looked and decided little leveraged funding is available.

Category 3: Compliance Plan

C3.1) The IRA requires each jurisdiction receiving funds to implement a plan to achieve full compliance. Emphasizing that full compliance refers to 100% of buildings subject to the energy code/standard meeting all aspects of that code or standard:
C3.1.a) How should DOE require jurisdictions to demonstrate full compliance? Through audits of completed buildings? Through design evaluations at permitting? Through demonstrated reductions in energy consumption in the relevant building stock? Through another approach? In what scenarios would different approaches be appropriate?

First, we would note that full compliance as defined in the question (it is not defined in the law) is an aspirational goal, and that it may be even more important to achieve transformation of construction practices and ambitious energy savings than to ensure every code provision is implemented.

We recommend that DOE support jurisdictions and partners through the process outlined in the summary and our response to C1.4. We recommend that each implementation grant include a compliance plan and that DOE provide a template for the plan. Considerations within the compliance plan also need to include thought to permitting, inspection, implementation, measurement, verification, etc. As part of this, we recommend that DOE include metrics of success (both qualitative and quantitative). While we recommend allowing multiple approaches, we also recognize

that data-driven approaches such as benchmarking provide support for a number of other policies and codes.

We also recommend that DOE consider innovative ways for each jurisdiction to report on these metrics beyond formal written reports, including through webinars, data visualization, infographics, scorecards, or other methods that communicate progress and lessons learned to a broader community.

C3.1.b) Should there be a timeframe for when full compliance must be achieved? Should this be a set timeframe, or should it be partially dependent on the degree to which an energy code is improved?

While we recommend that DOE should specify target years (e.g., 2025 and 2030 as suggested above), we recommend that consideration should be partially dependent on the degree to which the code is improved and based on projected impact of the update relative to energy, emissions, and equity goals. As part of this, an impact tool (as recommended in C1.4) is important.

C3.2) The compliance plan must include "measurement of the rate of compliance each year."
C3.2.b) What approach(es) to measuring the annual rate of compliance should DOE accept and why?

We recommend that DOE accept various metrics for the annual rate of compliance given the code workplan/roadmap. Ensuring that the metric aligns with the proposed workplan/roadmap for the implementation grant is more important than requiring one single metric.

C3.2.c) Should DOE require its established methodology on a periodic basis (e.g., 3 or 5 years)? Would information derived from the existing DOE methodology be useful to verify annual metrics, to track improvement over time, to allow comparison of effectiveness of different approaches across jurisdictions, or for other purposes?

We recommend that DOE allow reporting on metrics to vary. While we do recommend energy savings and emission reductions to be reported annually, other metrics should be considered to streamline annual reporting as not every metric will need to be reported annually and some may be over the entire period of performance.

C3.2.e) Should DOE require energy use or emissions data as part of code compliance in a manner that helps validate the proposed energy or emissions savings to be delivered by the adopted code or standard?

We recommend that energy use or emissions data be part of code compliance and that this can be reported through actual data from benchmarking data or through an impact tool based on modeling and analysis (see C1.4 for further details).

C3.3) The IRA requires an "active training" program as part of the compliance plan.
C3.3.a) What should constitute an "active training" program? What metrics should DOE track to demonstrate a program is "active"?

We recommend that DOE support jurisdictions and partners through the process outlined in the summary and our response to C1.4. We recommend that each implementation grant include a compliance plan and that active training be included within this plan. DOE should provide a template. We recommend an active training program be focused on the communities being served and focused on developing the energy efficiency workforce.

We recommend that DOE focus on conducting trainings rather than developing training curricula to better utilize the existing resources and avoid duplicated efforts. We also recommend that active means specifying the frequency of training, number of trainers employed/contracted, plans to cover X% of jurisdictions/population/etc. each year. We recommend that active training programs using the implementation grants be required to specify success metrics such as the number of people trained, whether/how graduates enter the workforce, and other measures of the effectiveness and outcomes of the trainings.

As with the compliance plan, we recommend that DOE consider innovative ways for each jurisdiction to report beyond formal written reports including through webinars, data visualization, infographics, scorecards, or other methods that communicate progress and lessons learned to a broader community.

C3.3.b) If a jurisdiction does not have a training program, what should be the allowable timeframe to establish such a program?

We recommend to DOE that jurisdictions without training programs partner with existing training programs in their area or adjacent areas. As a result, the allowable timeframe can be expedited and one year should generally be sufficient to establish a program. Applicants should be able to suggest slightly longer periods (up to two years) if they can demonstrate that there are not nearby training programs that they can leverage.

C3.3.c) What best practices and/or replicable models have states, AHJs, or others implemented with demonstrated success?

We recommend that DOE consider providing additional resources including webinars, reports such as Through the Local Government Lens: Developing the Energy Efficiency Workforce, and training materials. Some best practices are available within ACEEE's State and Local Policy Database on Energy Efficiency and Renewable Energy Workforce Development. Additional best practices are available in the Fostering Equity through Community-Led Clean Energy Strategies report and story map. Ongoing efforts from DOE will also be critical here, including adding other best practices and materials under development.

C3.4) The IRA requires an "active enforcement" program as part of the compliance plan
C3.4.a) What should constitute an "enforcement program" for both codes and building performance standards? What metrics should an AHJ track to demonstrate a program is "active"?

We recommend that DOE support jurisdictions and partners through the process outlined in the summary and our response to C1.4. We recommend that each implementation grant include a compliance plan and that active enforcement be included within this plan. DOE should provide a template for the compliance plan. We recommend that an active enforcement program include training and workforce considerations for internal jurisdiction staff, including plans examiners, building officials, city inspectors, climate office staff, transportation staff, and others. In addition, many jurisdictions need additional capacity for enforcement. We recommend including regional trainers (i.e., circuit rider programs), third-party code inspectors, alternative compliance paths, and other innovative solutions as part of active enforcement as well.

We also recommend that "active" means that the program has specified success metrics for the enforcement program as part of the implementation grant (and DOE-provided template). As with training, we recommend that DOE consider innovative ways for each jurisdiction to report on these metrics beyond formal written reports including through webinars, data visualization, infographics, scorecards, or other methods that communicate progress and lessons learned to a broader community.

C3.5) Should DOE develop guidance around what constitutes a compliance plan?

Yes, we believe that DOE should develop guidance and templates for the compliance plan.

C3.6) Should DOE develop a template to support the compliance plan requirement?
C3.4.a) As discussed in the accompanying NOI, DOE anticipates providing a streamlined competitive process for some funding. What resources, including tools, could DOE provide to facilitate streamlined applications that address the requirement for a compliance plan?

Yes, we believe that DOE should develop templates and off-the-shelf compliance plans that jurisdictions can use as part of the implementation grants. We recommend to DOE that each compliance plan include metrics for success for each area, including compliance, energy efficiency, emissions, training, and enforcement.

C3.7) What equity considerations should DOE incorporate into any guidance or plans, especially surrounding workforce and training?

We recommend that DOE support jurisdictions and partners through the process outlined in the summary and our response to C1.4. We recommend that each implementation grant include a community benefits plan to advance equity, affordability, and workforce development. We recommend that maximizing underserved community benefits based on community-identified priorities should be a requirement for the community benefits plan. Potential community and resident benefits include, but are not limited to, reducing energy burden, improving energy affordability, improving resident comfort and indoor environmental quality, reducing pollution, reducing respiratory illness, and creating well-paying jobs for local residents.

We recommend that DOE provide a template for a community benefits plan that provides definition and context, identifies communities, and includes metrics of success (both qualitative and quantitative). Definitions can be based on current research and efforts such as ACEEE's [Leading with Equity](#) and [Residential Retrofit for Energy Equity (R2E2)](#) initiatives. Identifying communities can be informed by [DOE's Justice40 Initiative](#). Metrics should align with the benefits above and can include [energy equity](#) and [energy burden](#), [health impacts](#), and [clean energy workforce](#).

We also recommend that DOE consider innovative ways for each jurisdiction to report on these metrics beyond formal written reports including through webinars, [data visualization](#), infographics, [scorecards](#), or other methods that communicate progress and lessons learned to a broader community.

Category 4: Existing-Building Opportunities

C4.1) What types of existing-building codes or standards (e.g., building performance standards) should be considered? Should these existing-building codes or standards be encouraged to focus on particular types of buildings?

We recommend that DOE include buildings performance standards (BPS) within this funding opportunity. Achieving net-zero will require energy efficiency and emissions reductions within essentially all buildings, including those that exist today. As a result, we recommend that DOE use the funding to support stronger codes and performance standards for new buildings, alterations and additions to existing buildings, as well as for existing buildings that would not trigger conventional building codes. We believe there

is adequate funding to support policies for both new and existing buildings and that performance standards are a must because only a small number of existing buildings (primarily those undergoing a major renovation) will need to comply with codes for new buildings.

We recommend using the process outlined in C1.4 to ensure that existing building policies are comprehensively considered. We also support thinking about BPS achieving equitable outcomes as detailed in C1.3. We recommend that DOE include a variety of options of policies for existing buildings within this opportunity. These include building performance standards with consideration for commercial, multifamily, and residential; enhancing the existing building alteration section of the building code; and permitting considerations for equipment replacement to eliminate like-for-like quick permits.

C4.2) How should DOE think about calculating equivalent energy savings for existing-building codes or standards? How should emissions savings be considered?

DOE should allow applicants to show equivalence or greater through site energy usage, primary energy usage, combustion energy usage or, if allowed by statute, greenhouse gas emissions as detailed in C1.2. It is challenging to set a reasonable equivalence for BPS (or any requirement on existing buildings) to a code for zero energy new buildings. The approach for existing buildings should ensure that the BPS is also consistent with decarbonization goals but should not set an impossible threshold. One option would be that the BPS require buildings, on average, to achieve the equivalent percentage savings (average per square foot or home) compared to the buildings before the policy (using benchmarking data) as the zero energy appendix (Appendix CC Zero Energy Commercial Building Provisions and/or Appendix RC Zero Energy Residential Building Provisions) achieves compared to the appropriate 2021 IECC main chapter(s). We recommend prioritizing savings achieve 30% unless the applicant can make a compelling case as to why these savings are not achievable and a lower threshold is needed. We recommend that these equivalencies should be calculated including any renewable energy used.

C4.3) Stakeholder and community engagement are critical components for designing an inclusive existing-building policy driving toward equitable outcomes. What critical considerations should be included when evaluating community impacts for equitable outcomes and workforce opportunities under an existing-building code or standard?

We agree and recommend that stakeholder outreach is an essential component. A successful team must conduct authentic community relationship-building and underserved community engagement throughout the planning and implementation processes, including the application period. The ultimate goal should be co-design and co-leadership by working with local community leaders—especially community members from marginalized communities—on activities oriented toward identifying and embedding underserved community priorities into the team's plan. The result of this

approach will be better designed, more beneficial, more sustainable policies and programs that are more tailored to local circumstances, needs, and strengths.

C4.4) Given that existing-building codes or standards necessarily have longer timelines for compliance, should there be minimum thresholds set on the amount of time required or permitted before the first assessment of compliance by covered facilities?

We recommend to DOE that existing buildings may have longer timelines and recommend 2030. DOE should specify target years, but also welcome applications from states and jurisdictions with less stringent current codes that show ambitious step changes with specific targets over longer periods. In addition, reporting on progress and timelines through the period of performance ensures each effort is on track. We also recommend that all proposals include 2030 savings estimates from an impact tool so that all proposals can be compared.

C4.5) What resources and tools should DOE provide, as well as those that DOE can leverage that already exist, to support existing-building codes and standards?

We recommend that DOE provide off-the-shelf solutions, templates, and resources for each effort and include existing buildings in the following:
- One-page grant application
- Off-the-shelf workplans
  - Menu of options for code adoption and implementation of the latest codes and zero codes for new and/or existing buildings, and for residential, multifamily, and/or commercial buildings
- Custom codes roadmap template for planning grant
- Implementation grant templates and resources
  - Templates for a project timeline, a community benefits plan including equitable policies and metrics, considerations for other funding sources, compliance plan, outreach plan for stakeholders and partnerships, and training and workforce plan
  - Additional resources on each of these topics (i.e., reports, white papers, references, websites, and webinars)
- Estimated savings and impact tool for calculating energy efficiency and carbon savings (like the RECI calculator, see C1.2)

Some of the specific materials that can be provided as resources for BPS are detailed within ACEEE technical reports (which will be updated in 2023) and other reports including How Energy Efficiency Programs Can Support Building Performance Standards and Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals, ASHRAE's Building Performance Standards: A Technical Resource Guide, and IMT's buildings performance standards resources.