Implementation Framework for the Greenhouse Gas Reduction Fund
Comments Submitted by the Energy Efficiency Strategy Group (EESG)
Statement of Intention: The EESG as a coalition **will not** apply for a GGRF award.
Via Email Submission: ggrf@epa.gov
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I. Introduction

The Energy Efficiency Strategy Group (EESG), an informal coalition of energy efficiency advocacy organizations provides comment in response to the Environmental Protection Agency's (EPA) ***Implementation Framework for the Greenhouse Gas Reduction Fund*** (Framework), released on or about April 19, 2023. The EESG includes Advanced Energy United (AEU), Alliance to Save Energy (ASE), American Council for an Energy-Efficient Economy (ACEEE), ASHRAE, Building Performance Association (BPA), California Efficiency + Demand Management Council, E2 (Environmental Entrepreneurs), E4TheFuture, Environmental and Energy Study Institute (EESI), Federal Performance Contracting Coalition (FPCC), Institute for Market Transformation (IMT), International Code Council (ICC), Midwest Energy Efficiency Alliance (MEEA), National Association for State Community Service Programs (NASCSP), National Association of Energy Service Companies (NAESCO), Natural Resources Defense Council (NRDC), Northeast Energy Efficiency Partnerships (NEEP), NW Energy Coalition, Southwest Energy Efficiency Project (SWEEP), World Resources Institute (WRI), and U.S. Green Building Council (USGBC). The following information in response to the Framework was developed collaboratively and should not be attributed solely to any of the above-listed organizations.

We greatly appreciate the prioritization of energy efficiency in the GGRF. The comments below are additional guidance on how the EPA can optimize GHG reduction and elimination, in addition to achieving greater consumer and community benefit when leading with energy efficiency first. The comments below primarily focus on energy efficiency implementation as provided in the National Clean Investment Fund, Clean Communities Investment Accelerator, and Solar for All. We also provide comment to request additional clarity on new language in the Framework related to equity objectives.

II. Priority Project Categories: Decarbonization Retrofits of Existing Buildings

A. Executive Order 10457—Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability

As it relates to energy efficiency, the EESG concurs with EPA's reliance on Executive Order 14057 on *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (EO 14057 or Executive Order), and subsequently by reference, Council on Environmental Quality (CEQ) *Guiding Principles for Sustainable Federal Buildings*. This necessarily incorporates identified draft standards governing *Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings*, which incorporate by reference ASHRAE

90.1-2019. These sources reflect the Administration's prioritization of energy efficiency as a first and necessary step for reducing energy consumption and achieving decarbonization in the built environment.

In section 205 of EO 14057, the Administration identifies two pathways for achieving building decarbonization and requisite net-zero targets, leading with energy efficiency. According to the Executive Order, "each agency shall… reduce greenhouse gas emissions by 50 percent from buildings, campuses, and installation by 2032 from 2008 levels **prioritizing improvement of energy efficiency** and the elimination of onsite fossil fuel use."[1] Among other things, agencies are further directed to implement CEQ's Guiding Principles for Sustainable Federal Buildings— and section 206 of EO 14057, *Increasing Energy and Water Efficiency*, requires that agencies establish targets for agency-wide facility energy use intensity.[2]

The referenced CEQ Guiding Principles specifically target optimizing energy performance in federal buildings, and similar to the Executive Order, also leads with energy efficiency, specifically targeting compliance with energy efficiency standards, requiring the purchase and installation of energy efficient products and equipment, and employing strategies that optimize energy performance, and minimizing energy use.[3] The Guiding Principles also address indoor environmental controls, targeting indoor air quality, and the implementation of strategies to control mold and associated health risks.[4] Both the Executive Order and CEQ Guiding Principles will work in tandem with proposed federal rules governing Clean Energy for New Federal Buildings and Renovations of Federal Buildings, as proposed in December, 2022, where DOE proposes to incorporate by reference ASHRAE 90.1-2019, *Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings*.[5] The purpose of ASHRAE 90.1-2019 is to expand and revise previous versions to "help designers create more energy efficient buildings," focusing on energy-saving measures to achieve "energy cost levels above the standard minimum and result in more efficient buildings and more innovative solutions.[6]

B. Application of Executive Order 14057 Implementing Instructions

In the recently released Framework, The EPA indicates it will prioritize decarbonization retrofits of existing buildings. According to the Framework, prioritization will be given to "projects, technologies or activities that retrofit an existing building to reduce or eliminate greenhouse gas emissions and air pollution, with that project, technology, or

[1] Executive Order 14057 *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, section 205 (a), emphasis added.
[2] Executive Order 14057, section 206.
[3] Council on Environmental Quality (CEQ), Guiding Principles for Sustainable Federal Buildings and Associated Instructions, II. 2. Optimize Energy Performance, page 5.
[4] CEQ Guiding Principles for Sustainable Federal Buildings and Associated Instructions, II. 4, page 6.
[5] See Federal Register Vol. 87, No. 244, December 21, 2022, Proposed Rule 78382.
[6] 2019 Update of Standard 90.1, October 31, 2019.

activity consistent with the targets and strategies of *net-zero emissions buildings* as specified in Executive Order 14057 (*Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*) Implementing Instructions."

Identifying a target for existing buildings consistent with the overall net-zero emissions goal is arguably one of the easier aspects of achieving the overall objective. Fortunately, the Implementation Instructions for EO 14057 (Instructions or Implementing Instructions), provide good guidance on the steps required. However we are concerned that sufficient gaps may remain in making EO 14057 operational in the GGRF context.

Achieving deep energy savings in existing buildings is not a one-size-fits all approach, and in addition to appreciating building size, type, use, and individual characteristics, owners and planners must also account for climate. Some state and local governments have already taken the lead in establishing targets— adopting building performance standards (BPS) impacting the commercial built environment. These jurisdictions may provide ideal shovel-ready or early pipeline projects for GGRF application. However, as a general rule, a state or local BPS anticipates compliance over multiple years versus in a single project. EPA should contemplate a strategy that would incentivize owners in BPS jurisdictions to meet relevant targets through a single-planned project or coordinated series of smaller projects. Placing a deep retrofit into a shorter completion timeframe will likely be costly for most building owners, and GGRF low-cost capital will be essential to incentivize movement.

Another component that will be helpful, is the use of Energy Services Companies (ESCOs), who in some cases are best positioned to facilitate fast start to completion. ESCOs also possess the analytical and subject matter expertise required to assess projects and help building owners plan to net-zero, when possible. To that end, GGRF should overtly encourage direct and indirect awardees to strategize, plan, and coordinate with ESCOs, who through standardization and aggregation of projects may be able to help lower retrofitting costs.

Including ESCOs in GGRF building decarbonization strategies will be key as building owners participate in deep energy retrofits consistent with EO 14057 and the Implementing Instructions.[7] Deep energy retrofits leverage "whole building approaches and integrative design to maximize energy efficiency and emissions reductions."[8] According to the Implementing Instructions, under EO 14057, "a deep energy retrofit is a facility retrofit or renovation project that reduces annual site EUI by at least 40 percent from a pre-renovation, FY 2019 baseline."[9]

[7] See Implementing Instructions 4.4.7 Existing Facilities: Deep Energy Retrofits.
[8] *Id.*
[9] *Id.*

Some are concerned that 40% EUI is too aggressive for GGRF and believe that a less aggressive target may result in more building owners using the program. As a possible solution, EPA should consider tiering or setting capital cost to incentivize the 40% target. Those building owners seeking to achieve a 40% reduction in annual site EUI in a single project or package of projects as financed by GGRF, wholly or partially, should receive the lowest capital cost necessary. Moreover, when possible, the cost of capital should be sufficiently priced so that the cost of deep retrofits when combined with other targeted strategies, result in repayment through energy savings. When focusing specifically on projects located in low-income and disadvantaged communities, supplementing cost with grants should also be considered.

However, there may be building owners who prefer to retrofit based on BPS schedules identified by their state or local government, versus completion in one project. These building owners should have full access to GGRF capital when relevant building performance standards (BPS) meet or exceed the targets of the Implementing Instructions, or as otherwise determined by EPA. In such cases, EPA should consider strategies that keep the cost of capital low, but clearly distinguishable from the cost of capital for owners whose 40% EUI retrofit project is completed as a single project or package of projects.

That said, EPA would also need to develop a strategy for buildings that are not subject to a relevant BPS. These building owners certainly should be able to access the lowest capital cost for single projects meeting the 40% target as identified in the Executive Order, and should also have access to capital at the same cost when deciding to plan to 40% over multiple years. For multiple-year/phase projects in non-BPS jurisdictions, EPA could consider defaulting to the EO target, but requiring the financed project to include a full project plan with identified phases, such as 25%, 50%, 75%, and 100% of the total project. Although 25% would be eligible for GGRF, the cost of capital for a 50% project would be less, with 75% being less than 50%, and 100% at the lowest available cost.

The EESG appreciates the clear prioritization of energy efficiency in Greenhouse Gas Reduction Fund (GGRF) implementation, as a necessary tool to achieve building decarbonization and net zero energy targets.

C. Other Built Environment Prioritization

In addition to the prioritized focus on energy efficiency in existing buildings as identified, the EESG proposes that the EPA also prioritize energy efficiency investments in new commercial and residential construction consistent with EO 14057 Implementing Instructions as applicable— including site-built single family, manufactured housing, and

multifamily housing, and including in low-income and disadvantaged communities.[10] New construction projects should be required to meet zero energy or zero energy ready, and developers and builders should have access to the lowest possible capital costs when building affordable housing in low-income and disadvantaged communities.

The Framework should also clarify that the decarbonization retrofit priority applies to existing residential buildings— including site-built single family, manufactured and multifamily housing, and including in low-income and disadvantaged communities.

With the above in mind, the EESG would also encourage EPA to clarify, define, and incentivize "community facility retrofits" as described in the Framework. Retrofitting the nation's critical facilities infrastructure is key to a national buildings decarbonization strategy, and should necessarily include hospitals, fire and police buildings, community health facilities, and other similar infrastructure. That said, retrofitting should include targets as identified above.

Finally, it is essential that GGRF capital does not displace private markets, and direct and indirect awardees should be encouraged to leverage private capital when available. Additionally, EPA should consider applying the lowest capital cost to those projects in low-income and disadvantaged communities.

D. Industrial Decarbonization

Applying robust energy efficiency solutions to industrial and manufacturing processes is another key strategy to achieving desired emission and climate targets as identified by the Administration. Reducing energy consumption and deploying cleaner ways to make industrial products is one of the most challenging and important ways to achieve both decarbonization and reductions in air pollution in low-income and disadvantaged communities. EPA should consider allowing direct and indirect awardees to apply GGRF capital to industrial strategies that include robust energy efficiency measures, including motor efficiency, particularly in low-income and disadvantaged communities, if not already contemplated.

III. Priority Project Categories: Transportation Pollution Reduction

Although electric vehicle (EV) technology is often identified as a transformative fuel switching climate solution, EVs are in fact a quintessential energy efficiency tool in climate mitigation. EVs convert up to 77% of the charged energy to the vehicle and braking systems, as compared to

[10] See Implementing Instructions 4.4.10 New Construction and Modernization: Net-Zero Emissions.

12%-30% for gasoline powered vehicles.[11] As such, deployment of EVs and other low-to-zero emissions vehicle technologies should be incentivized through the GGRF. Support is especially important for heavy-duty vehicles, particularly near and around shipping and transportation modes in low-income and disadvantaged communities. Heavy-duty EVs are far behind light-duty EVs in deployment, and they are a major contributor to air pollution in at risk communities.

More specific to light-duty vehicles and customer acquisition in low-income and disadvantaged communities, EPA should allow direct and indirect awardees to structure relevant financial products that support the purchase of EVs and other vehicle types that meet GHG reduction or elimination objectives. As a related matter, charging infrastructure development should also be prioritized, including as connected to single family, multifamily, and commercial energy efficiency retrofits and new construction. Finally, EPA should consider how best to incentivize EV dealership ownership in low-income and disadvantaged communities, with a primary focus on owners that are representative of low-income and disadvantaged communities.

IV. Solar for All

The EESG commends the EPA for specifically targeting solar installations in low income and disadvantaged communities. However, installing solar without first leading with energy efficiency is contrary to what some advise as reasonable practice, and could result in low-income communities experiencing a different result than what would have been encountered but for their participation in Solar for All. Also, failing to provide energy efficiency first could have the unintended consequence of disqualifying some low-income families from participation in the Department of Energy's (DOE) Weatherization Assistance Program (WAP). Moreover, energy efficiency can provide the needed health, thermal and ventilation outcomes for low-income families that solar alone cannot. Building inclusivity between these programs will offer the maximum benefit to the client.

As a general rule, advanced solar practitioners and others recommend energy efficiency retrofits prior to solar installations. In Minnesota for example, the state's Department of Commerce, as part of its solar program recommends that before installing solar, consumers should first apply a number of energy efficiency solutions, including conducting an energy audit, sealing air leaks and adding insulation, replacing old heating and cooling systems, and adding LEDs and smart thermostats. According to the state's guidance, "***after your home is energy efficient, you are ready to explore solar***."[12] According to the Minnesota program, "by making your home energy efficient first, you can reduce your energy consumption. A decrease in your energy demand will reduce the size of investment needed for your solar energy system, and maximize the returns on your system."[13]

[11] https://www.fueleconomy.gov/feg/evtech.shtml.
[12] https://mn.gov/commerce/energy/solar-wind/solar-for-homes/, emphasis added.
[13] *Id.*

Researchers focusing on combining energy efficiency and solar conclude similarly, indicating that "when efficiency retrofits are performed immediately before PV installation, the upfront cost of PV installation will be lower."[14] This occurs "because the optimal PV size to meet the lower demand will decline."[15] The author concludes that "households which combine energy efficiency and solar are expected to have higher savings because they can reduce electricity usage using [energy efficiency] and use [solar] to serve the lower energy demand."[16]

As mentioned previously, solar without energy efficiency first could have the unintended consequence of preventing some low-income families from receiving WAP services. WAP requires a minimum saving to investment ratio (SIR) that demonstrates cost effectiveness on individual measures as well as the whole measure package. The installation of solar in a home changes the energy usage and thus the modeled energy savings, Which could push the SIR out of reach and decrease the likelihood that low-income households will benefit from receiving WAP's energy conservation measures. This would unnecessarily harm low-income communities and detract from the Administration's Justice40 objectives.

Finally, energy efficiency first before installing solar in low-income and disadvantaged communities will also positively affect health impacts in the home. "Air sealing, high-efficient windows, and insulation can reduce drafts and make temperatures more even throughout the home, as well as help prevent mold, mildew, fungal growth, and dust mites. Such benefits cannot be achieved by using solar alone."[17] Moreover, solar without energy efficiency first would ignore Administration rationale for energy efficiency in buildings, as specifically connected to viable indoor environments.[18]

EESG appreciates that EPA envisions that all GGRF competitions complement each other, with the possibility of other GGRF funds outside of the Solar for All program becoming available to place energy efficiency in tandem with solar. However, due to practical concerns associated with servicing low-income and disadvantaged communities, and to ensure that GGRF does not become a barrier to accessing needed assistance, it will be essential that energy efficiency and solar are part of a single program package. A single program package approach reduces the number of hurdles and obstacles that low-income families might otherwise experience, and better ensures the success of GGRF, in reducing GHG emissions and positively impacting low-income and disadvantaged communities.

As a possible strategy to ensure effective solar installations when leading with energy efficiency first, EPA could consider designating at least $3 billion from other GGRF competitions. In the

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[14] Fikru, G., Mahelet, (2021). *Building Residential Rooftop Photovoltaics with Energy Efficiency Upgrades: Does it Really Pay Off?*

[15] *Id*.

[16] *Id*.

[17] *Id.*

[18] See, Council on Environmental Quality (CEQ), Guiding Principles for Sustainable Federal Buildings and Associated Instructions

alternative, EPA could consider using Solar for All funds for both energy efficiency retrofits and solar. To ease coordination of energy efficiency retrofits with solar installations, EPA should also consider using existing WAP infrastructure, allowing states to apply for relevant funds. WAP has a 46-year track record of modeled cost effectiveness in their retrofits along with a robust Quality Assurance program, health and safety guidelines, and a nationwide network of local Subgrantees to qualify applicants and complete the retrofits. Additionally, it is recommended to explore categorical eligibility standards to ease the burden on clients, combine more services, and reduce the administrative burden on implementers. States could then use awards and their WAP infrastructure to appropriately retrofit homes prior to or in tandem with solar. GGRF awards could also be used to serve WAP applicants who cannot access energy efficiency retrofits because WAP funds have been exhausted, in addition to those who qualify for WAP but their homes do not meet the readiness requirements. That said, all retrofits should be designed to achieve an identified energy consumption benchmark consistent with zero energy goals. The cost of energy efficiency retrofits to consumers associated with Solar for All should be at no cost, as it is in WAP, or could include some other model that achieves repayment with energy cost savings when combining energy efficiency and solar.

V. Benefits to Low-Income and Disadvantaged Communities

A. $15 Billion Appropriations for Low-Income and Disadvantaged Communities Versus "Flow To"

The Greenhouse Gas Reduction Fund (GGRF) is clear that at least $15 billion is allocated to provide financial and technical assistance to low-income and disadvantaged communities.[19] In the recently released Framework, in addition to designating funds according to the statutory requirements, EPA also indicates that "each GGRF competition will align with the President's Justice40 Initiative, ensuring that 40% of the overall benefits from the program ***flow to*** disadvantaged communities" (emphasis added).[20] Similar "flow to" language is used throughout the Framework.

Applying Justice 40 Initiative principles throughout the whole of GGRF versus solely in the program areas connected to the $15 billion appropriations for low-income and disadvantaged communities is significant. However, we request that EPA clarify how the Justice40 requirements relate to the statutorily designated appropriations for low-income and disadvantaged communities as passed by Congress. We additionally ask that EPA clarify the meaning of "flow to" as used in the Framework. We are concerned that "flow to" would be more difficult to measure in terms of actual allocation of funds to low-income and disadvantaged communities, and we are further concerned how "flow to" may be defined. Direct funding and benefits to low-income and disadvantaged communities are essential if we are to achieve a just energy transition.

[19] Public Law 117-169, section 134 (a) (1) and section 134 (a) (3).
[20] EPA's Implementation Framework for the Greenhouse Gas Reduction Fund, page 4, emphasis added.

B. Financial Assistance for Low-Income and Disadvantaged Communities: Grants and Loans

The draft Framework states that "EPA does not expect to consider grants as a financial product" for the National Clean Investment Fund or the Clean Communities Investment Accelerator. While developing decarbonization financing infrastructure is important, and for some projects (e.g. with LIHTC financing or support from the Department of Energy's Home Energy Rebates) loans may be better than grants, loan programs have been problematic for low-income and disadvantaged communities.[21] Members of these communities are more likely to have poor credit scores and not qualify for loans, or to have been victims of predatory lending.[22] In addition, some projects with significant climate benefits, in particular building electrification, may not reduce energy costs—leaving low-income borrowers unable to pay back loans or paying inequitably for climate benefits. Thus we would urge you in the National Clean Investment Fund and the Clean Communities Investment Accelerator to include grants as an eligible form of financial assistance for individuals and small businesses in low-income and disadvantaged communities.

VI. Conclusion

EESG thanks EPA for its leadership on the Greenhouse Gas Reduction Fund, and the needed prioritization of energy efficiency and low-income and disadvantaged communities. We look forward to our continued work with EPA throughout the program implementation phase. If you have questions or need additional information, please contact Vincent Barnes at vbarnes@ase.org.

[21] State and Local Energy Efficiency Action Network. 2017. *Energy Efficiency Financing for Low- and Moderate Income Households: Current State of the Market, Issues, and Opportunities*. Prepared by: Greg Leventis, Chris Kramer, and Lisa Schwartz of Lawrence Berkeley National Laboratory. https://emp.lbl.gov/publications/energy-efficiency-financing-low-and.

[22] National Consumer Law Center. 2017. *Residential Property Assessed Clean Energy (PACE) Loans: The Perils of Easy Money for Clean Energy Improvements*. https://www.nclc.org/wp-content/uploads/2022/09/IB_PACE_stories.pdf.