April 10, 2023

Council on Environmental Quality
730 Jackson Place NW
Washington, D.C. 20503

Via regulations.gov

Re: Comments of the International Code Council on the Council of Environmental Quality's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change; Docket Number CEQ–2022–0005

The International Code Council (ICC) is a nonprofit organization of roughly 600 employees, driven by the engagement of its more than 63,000 members, that is dedicated to helping communities and the building industry provide safe, resilient, and sustainable construction through the development and use of model codes (I-Codes) and standards used in design, construction, and compliance processes. Most U.S. states and communities, federal agencies, and many global markets choose the International Codes (I-Codes) to set the standards for regulating construction and major renovations, plumbing and sanitation, fire prevention, and energy conservation in the built environment.

The International Code Council is dedicated to providing the building industry with the tools necessary to realize safety, sustainability, and resilience goals. This includes achieving decarbonization goals through the use of energy efficiency, greenhouse gas (GHG) reduction and climate resilience solutions captured through our extensive building and construction services.

In March 2021, the Code Council Board of Directors released a new framework, Leading the Way to Energy Efficiency: A Path Forward on Energy and Sustainability to Confront Climate Change, leveraging the success of the International Energy Conservation Code (IECC) and International Green Construction Code (IgCC), plus additional resources to help all levels of government advance their climate goals. The framework establishes a new scope and intent for future editions of the IECC that commits to continued improvement in energy efficiency and GHG reduction, including the inclusion of zero energy pathways today and by 2030. The 2021 IECC provides cost-effective reduction of energy use over previous editions and includes net-zero appendices for both residential and commercial buildings to provide options for jurisdictions with ambitious climate goals.

Recognizing the need for a coordinated and deliberate approach, in September, the Code Council Board of Directors approved *Decarbonization of The Built Environment: Solutions from the International Code Council*, which recognizes the significant impact of buildings on the environment and the need for a coordinated set of solutions to support the achievement of energy and GHG reduction goals set by governments. The report also calls for expanded activities that support a coordinated approach across the I-Codes, standards, and other solutions. This highlights the Code Council's ongoing commitment to deliver the tools that communities and the federal government need to realize their climate-related goals.

The Code Council's comments regarding the Council on Environmental Quality's (CEQ) interim guidance to assist Federal agencies in analyzing GHG and climate change effects of their proposed actions under

the National Environmental Policy Act (NEPA). The International Code Council urges the Federal Government to require modern building and energy codes for all new Federal buildings and major renovation projects to ensure energy and climate goals are achieved. Under NEPA guidance, federal agencies should consider the potential effects of their building stock on climate change and considering mechanisms such as implementing modern building energy codes to realize GHG emission reductions.

The U.S. Department of Energy (DOE) has acknowledged the significant role of modern energy codes in achieving climate and decarbonization goals by unlocking over $1B in energy code funding through the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA). Through the IRA, the Federal Emergency Management Agency (FEMA) is also charged with funding costs associated with low-carbon materials to help cut carbon pollution and support climate resilience during response efforts in communities. The General Services Administration (GSA) and Environmental Protection Agency are also working to establish low-carbon material standards through the Federal Buy Clean Initiative. The International Code Council urges federal agencies to leverage the ICC's decarbonization solutions throughout these programs and internally through the implementation of NEPA to fulfill GHG emissions reductions and realize national climate goals.

Many federal agencies already value the Code Council's building safety solutions across the federal building stock. GSA relies on the latest edition of the I-Codes including the IgCC as the basis for its P100 design requirements. DoD requires several of the I-Codes through the Unified Facilities Criteria (UFC), including the 2018 editions of the International Building Code (IBC), International Residential Code, International Existing Building Code, and the International Plumbing Code under UFC 1-200-01 for their buildings and facilities. The UFC also cites ASHRAE 189.1, which is the basis for the IgCC. In addition, NASA's Procedural Requirements (NPR) for Facility Project Requirements (FPR) requires designs to meet or exceed the locally adopted, nationally recognized building codes and standards – requiring the latest edition of the IBC in jurisdictions without a nationally recognized code adoption.

The International Code Council's Decarbonization Strategy includes building and construction sector solutions targeting whole life carbon, materials and processes, and operational carbon and electrification. These solutions go beyond solely codes and standards activities, which provide avenues for Federal agencies to achieve programmatic goals captured in the IRA, IIJA and Federal Buy Clean Initiative. As part of the energy and decarbonization strategy, the International Code Council has finalized the formation of the ICC Energy and Carbon Advisory Council, made up of leaders from a broad cross-section of the economy whose policy and economic experience can inform our codes and standards development efforts and other activities. In addition to guiding ICC's future decarbonization activities, the Advisory Council is positioned to provide recommendations on a wide spectrum of topics that can help meet the individual goals and needs of governments, the building industry and other market actors. Federal agencies are encouraged to lean on the International Code Council and Energy and Carbon Advisory Council's expertise to deliver decarbonization solutions through the updated NEPA program. Further, the Code Council's additional existing decarbonization solutions and their applicability to the proposed NEPA guidance are outlined below.

Whole Life Carbon

The I-Codes provide significant guidance that influences the carbon impacts of buildings—although often not directly labeled as such. The resilience measures contained within the suite of I-Codes have contributed significantly to reducing the carbon impacts of buildings. Buildings that remain standing or sustain less damage in the face of a hazard do not need to be rebuilt and the GHGs embodied in those buildings continue to provide value. The lead investigator for the National Institute of Building Sciences (NIBS) Mitigation Saves study found that the 15,000 homes preserved per year due to use of current codes avoids 1.5 million metric tons of CO2 emissions per year (equivalent to about 168 million gallons of gasoline or the annual emissions of 323,000 passenger vehicles). Structures consumed by fire (either inside or outside of the wildland urban interface) release significant amounts of carbon into the atmosphere. Constructing buildings to wildfire resistant codes has the equivalent value of preserving about 4,800 new homes and avoiding 500,000 metric tons of CO2 emissions per year.

The Code Council has also begun the development process for an American National Standard to assess GHG emissions across the entire building life cycle. ASHRAE/ICC Standard 240P – *Evaluating Greenhouse Gas and Carbon Emissions in Building Design, Construction and Operation,* will provide a whole life carbon approach to support emissions reductions in buildings. The standard will establish how to calculate and verify the GHG emissions of a building, or group of buildings, over their entire life cycle. The goal is to provide consistent procedures and data to be referenced by policies, codes, and other standards that address new and existing building performance. The Code Council engaged organizations both in the U.S. and internationally to assure the standards are broadly applicable and can support a global approach. The standards development process has begun with a target for completion in early 2025.

Decarbonizing the built environment requires a holistic approach that addresses all phases of the building process including the design, procurement, and construction process, materials used, building operations and deconstruction. Federal agencies are encouraged to harness the International Code Council's whole life carbon reduction solutions outlined above as key mechanisms to reduce GHG emissions and mitigate the impacts of climate change across the federal building stock to meet the proposed NEPA guidance.

Materials and Processes

The carbon impacts of the materials used in buildings is becoming an area of increased interest as the operational energy of buildings continues to decrease. The IgCC provides a holistic approach to addressing sustainability—including through materials and energy efficiency and water conservation. The IgCC already includes measures in Chapter 9 on the carbon impacts of materials and the use of environmental product declarations (EPDs) and life cycle analysis. EPDs have been identified as a primary tool for transparency communication of the environmental impacts of products and materials.

The ICC Evaluation Service (ICC-ES) is an accredited EPD Program Operator, providing the tools necessary for development of product category rules (PCRs) and verification of EPDs and stands ready to assist manufacturers in expanding the availability of EPDs. One additional concern is whether materials with lower environmental impact than traditional versions of the material deliver a similar level of

performance. In addition to being an EPD Program Operator, ICC-ES evaluates products for their compliance with building codes or relevant industry standards. ICC-ES recently developed an Acceptance Criteria (AC) on the performance of low-carbon alternative cements for use in concrete (AC529). Marrying EPDs with product evaluations can be a valuable tool to address multiple performance requirements. To ensure both environmental and traditional (physical, mechanical, thermal, chemical, etc.) performance properties are achieved in federal buildings and grant program projects, federal agencies should ensure materials and products used demonstrate both an acceptable EPD from an accredited Program Operator, like ICC-ES, as well as an acceptable report or listing that demonstrates the material/product meets the traditional performance requirements required in the I-Codes.

Another solution that should be considered for federal construction and building recovery projects is the widespread deployment of off-site construction as a decarbonization solution across federal building projects and programs. Due to its fabrication in a factory, off-site construction has been found to reduce material waste and spoilage (among addressing other industry and societal challenges). A recent study out of the United Kingdom found that off-site construction projects resulted in a 45 percent reduction in carbon impacts when compared to similar site-built projects. In September 2021, the Code Council and Modular Building Institute released two standards that address the design, fabrication, assembly, plan review and inspection of off-site construction projects (Standards 1200 and 1205). Work is now underway on Standard 1210 covering energy efficiency and water conservation opportunities in off-site construction. The International Code Council encourages federal agencies to consider the deployment of off-site construction as a mechanism to deliver affordable and sustainable buildings with improved construction quality within accelerated project timelines.

Operational Carbon and Electrification

The IECC has made significant progress in advancing efficiency and mitigating GHG emissions. Implementation of the 2021 IECC is foundational to achieving energy savings and GHG emissions reductions across the Federal building stock, both residential and commercial. The 2021 IECC represents a roughly 40% improvement in energy efficiency for buildings compared to the 2006 edition, along with corresponding improvements in building, mechanical, and material science and technology. The Pacific Northwest National Laboratory's (PNNL) final determination on the 2021 IECC found a 9.4% site energy savings improvement and an 8.7% reduction in carbon emissions for residential buildings relative to the 2018 version. The commercial provisions of the 2021 IECC (which includes multifamily buildings) provide a 12.1 percent improvement in site energy use and a 10.2 percent improvement in GHG emissions over the 2018 edition. Ensuring the requirements for Federal buildings and major renovations are based on the provisions of the 2021 IECC, including the net-zero appendices for residential and commercial buildings, will ensure the Federal Government can meet their climate and energy goals while also leading by example and charting a path forward for jurisdictions across the nation.

Analyzing reasonably foreseeable climate effects in NEPA reviews will ensure Federal agencies understand the implications of their actions, chart a path forward towards increased climate mitigation and resilience, and further the Federal Government's leadership to drive the nation towards a decarbonized future. The Code Council strongly encourages federal agencies to leverage the ICC's outlined solutions as mechanisms while assessing the effects of climate change and environmental impacts on their proposed actions through the updated NEPA guidance for future reviews. We look

forward to continued work with the U.S. Federal Agencies to improve the performance and environmental footprint of the federal building stock.

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Thank you for the opportunity to provide comments. If you have any questions concerning these recommendations, please do not hesitate to contact us.

Sincerely,

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