



National Electrical Manufacturers Association

Representing Electrical and Medical  
Imaging Equipment Manufacturers  
[www.nema.org](http://www.nema.org)

**Comments of the**  
**National Electrical Manufacturers Association (NEMA)**  
**to US Department of Energy, Office of Energy Efficiency & Renewable Energy**  
**Bipartisan Infrastructure Law (BIL): Request for Information**  
**Resilient and Efficient Codes Implementation (RECI)**

**DE-FOA-0002755**

**May 20, 2022**

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The National Electrical Manufacturers Association (NEMA) is the leading U.S. trade group representing electrical equipment and medical imaging manufacturers, which are at the forefront of efficiency, sustainability, and resiliency. Our nearly 325 Member companies provide a range of products, including those that make high-performance buildings, electric vehicles, and reliable energy distribution possible. Collectively, our membership provides some 370,000 American manufacturing jobs in more than 6,100 facilities, with worldwide industry sales exceeding \$130 billion.<sup>1</sup> The electroindustry has a robust domestic manufacturing base and supports the fundamental goal of creating good-paying American jobs, shoring up our domestic supply chains, and improving the country's built environment.

The Biden-Harris Administration has taken quick action to implement the historic Infrastructure Investment and Jobs Act (IIJA). The IIJA represents a major milestone in the transformation of U.S. infrastructure systems toward accessible, electrified transportation systems, modernized buildings and lighting, a more resilient grid, and increased efficiency of expanded U.S. manufacturing. The legislation also includes important Build America, Buy America (BABA) provisions that in the long term will allow for more resilient and equitable domestic supply chains and support the creation of high-paying American jobs. The ambitious timelines outlined in law combined with the difficulties faced by U.S. manufacturers in obtaining raw materials and supplies used to support infrastructure projects in our current global geopolitical environment underscore the need for a nimble and strategic approach to implementation.

### **Comments**

The U.S. Department of Energy (DOE) has requested information for the solicitation process and structure of a potential DOE Funding Opportunity Announcement (FOA) to fund sustained cost-effective implementation of efficient and resilient building codes. Please find our comments herein:

As outlined in Section 40511. Cost-Effective Codes Implementation for Efficiency and Resilience, \$225 million has been appropriated over the next five (5) years, encompassing fiscal years (FYs) 2022 through 2026. This amount of funding will provide a unique opportunity to advance building

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<sup>1</sup> For more information, please visit: <https://www.nema.org/>.

codes for efficiency and resiliency in states and local jurisdictions, at scale, throughout the United States. However, this amount can also be quickly consumed when spread over 5 years and divided up throughout the 50 states. For this reason, funding objectives should be judiciously focused on the largest and most equitable gains in energy improvements and resiliency. NEMA recommends DOE consider the following when developing the solicitation process and structure of a potential DOE Funding Opportunity Announcement (FOA) to fund sustained cost-effective implementation of building energy codes:

### **Category 1 – Technical Requirements:**

- Funding should be allocated to **education, training, and workforce development**. These efforts should focus specifically on code enforcement education and target the building officials and inspectors' community. We believe that strong building code enforcement will create a long term positive dynamic and a renewed interest in the design, construction, and commissioning of buildings in order to become code compliant. Design professionals and contractors are most likely to design and install what is regularly enforced.
- To attract and develop the next generation workforce, DOE should consider leveraging **existing resources developed by trade associations representing specific trades**. Trade associations continuously spend significant resources to attract, retain, and develop their respective workforce. NEMA and its members have years of experience assisting contractors, engineers, and building owners with critical technical information and installation guidance that enable greater energy efficiency and resiliency gains. Finally, NEMA's Technical Field Representative program<sup>1</sup> has already established itself as an industry staple when it comes to promoting adoption of the latest codes, educating local energy and code offices on the benefits of energy efficiency and resiliency in buildings, and educating code officials with technical information. NEMA is prepared to assist the Department and any state or local energy or code offices with technical guidance on product selection, operation, maintenance, safety and code compliant installation of electrical products.
- **DOE should focus efforts on training the existing workforce**. The long-term threat to the code official and trade workforce is well documented and a long-term threat to the country's ability to build safe, efficient, and resilient buildings. However, focusing efforts on the existing workforce will provide a short-term benefit of energy savings through improved enforcement; and a long-term benefit that those responsible for training the future workforce are equipped with the best knowledge and skills.
- Innovative approaches to improving energy efficiency through building codes, such as model energy efficiency and stretch codes, will eventually become best practices. NEMA is supportive of these efforts, generally. However, NEMA recommends **DOE focus its efforts on encouraging the adoption and enforcement of the most recently published building and energy codes and standards**. Currently, more than half of states' residential code are based on the 2009 IECC or earlier. This approach would generate the most energy

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<sup>1</sup> <https://www.nema.org/standards/technical/fieldreps>

savings at scale. It has the added benefit of creating more equitable access to efficient and resilient homes and offices by potentially impacting more of the population.

- **DOE should consider leveraging existing state building energy code programs** that have proven best practices in adoption and enforcement that generate energy savings in the field. For instance, some states require that building departments be regularly audited for compliance to ensure program requirements are adequately enforced. Others require that building professionals (i.e., certified commissioning professional, functional testing agents, etc.) validate knowledge requirements in the latest code in order to maintain their professional license.
- **DOE should consider funding programs that create financial/market incentives** for compliance with the code. When there is a market expectation, it makes building energy code compliance and enforcement easier. For example, NEMA has encouraged more than two dozen cities, counties, and states across the country to adopt building energy disclosure, transparency, and performance ordinances. These policies allow building tenants and occupants to compare building energy performance with others in the area, providing the information needed to make informed decisions about where to purchase and rent. This provides building owners an incentive to invest in energy efficiency upgrades to their facilities.<sup>2</sup> We believe a similar effort could be made around building compliance where building owners would be incentivized to retrofit up to the latest version of the relevant building energy code.
- **DOE should fund programs designed to support and train building officials and inspectors to go “beyond safety.”** As our society advances towards “electrification of everything,” and the resulting improvements in overall building performance and energy usage, NEMA feels it is important to now go beyond basic safety requirements. An effective training program focused on energy efficiency and resiliency will shift the enforcement community’s mindset to recognize those criteria are now as important as basic safety in improving building occupants’ livelihoods, comfort, productivity, and health.
- **NEMA urges caution against the “overallocation” of funds towards research or studies** on code compliance. The Department, along with several nonprofit organizations, have made extensive and valuable investments on understanding the code compliance landscape and rates. NEMA recommends that further research or studies be carefully evaluated for return on investment, and that funding favor activities that directly affect states’ ability to adopt a more recent version of the codes and/or measurably improve its enforcement. For instance, an incentive program where states that continuously adopt a newer version of the code, one code cycle after the other, are rewarded by additional funding would be much more impactful than another study focused on the benefits of the adoption and enforcement of the latest energy codes.

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<sup>2</sup> [https://www.nema.org/docs/default-source/technical-document-library/building-energy-benchmarking-how-measurement-prompts-management.pdf?sfvrsn=12944842\\_4](https://www.nema.org/docs/default-source/technical-document-library/building-energy-benchmarking-how-measurement-prompts-management.pdf?sfvrsn=12944842_4)

- **DOE should provide funding to support the creation, adoption, and enforcement of Building Performance Standards (BPS).** Performance-based policies will provide the flexibility for existing buildings to achieve the greatest gains in energy efficiency and resiliency. NEMA stands ready to assist the Department, state and local code and energy offices, and other stakeholders in developing, promoting, and implementing BPS and energy efficiency standards for existing buildings. NEMA is also ready to assist in providing training resources on electrical equipment and how they can help improve existing building stock energy efficiency, resiliency, and safety. Finally, while we believe BPS are critical to unlocking significant energy savings within the existing building stock, we feel consistency and clarity is lacking within the BPS space. While some BPS tend to focus on energy efficiency, others focus on health or wellness or both. We recommend DOE review existing BPS as well as those currently in development. Such a review would allow states and local jurisdictions to quickly identify which BPS is best suited to meet their objectives.

### **Category 2 - Supporting State Code Adoption:**

- **NEMA recommends that DOE develops a prioritization model based on the following three criteria** to analyze applicants with the highest potential efficiency gains:
  - Gap in code adoption: States where the largest gap between enacted code and currently published code (i.e., OH, KY, IN, SC, MS, LA, OK, IA) may be prioritized;
  - Building market dynamics and square footage: States with the highest forecasted square feet of building and construction growth over next five years should be prioritized; and
  - Likelihood of adoption: Although subjective, states where influence of adoption is most likely to have success should be prioritized.

Home rule states could use a similar prioritization formula as above, but for city or county adoption.

- **DOE should balance funding made available to update current codes and funding directed towards promoting code adoption and enforcement of existing published codes.** While the development or update of codes is an important endeavor, it becomes irrelevant if such codes are not adopted and enforced. Given the significant lag in code adoption across the country, particularly on the residential side, significant funding should be made available to focus on helping states or local jurisdictions that have missed a previous adoption cycle, catch up and stay up to date with code adoption. NEMA recommends DOE either allocate funds or develop program(s) that aim to support the adoption and enforcement of the latest version of model energy efficiency codes.
- In addition to the three main criteria highlighted above, **DOE should promote continued adoption of the latest code at regular intervals.** Program incentives could be designed

to encourage the continued adoption of the most recent code and prevent a one-and-done approach.

- **DOE should consider incentivizing states to adopt codes and standards through technical processes.** Where the code adoption process is controlled by the legislature, it often leads to significant delays in adoption or the pervasive inclusion of amendments to the code that significantly reduce the efficiency and resiliency impacts. Incentivizing states to use a technical regulatory approach (through board, committees, advisory groups, etc.) would ensure that the decision to adopt, and what amendments to include, are based on the best available technical information.
- **Electrical safety improves building efficiency and resiliency.** NEMA has a longstanding history advocating for safe electrical systems and installations. More specifically, NEMA has been a dedicated supporter of NFPA 70 or the National Electrical Code® (NEC®). Promoting the use and adoption of the (NEC®), and monitoring regional developments, is critical to establishing a baseline for building safety and a foundation for building resiliency. The NEC® enhances the efficiency and resiliency of individual buildings, it also, critically, improves the efficiency and resiliency of a building's interaction with the electrical grid, having a community-wide effect. We recommend DOE either allocate funds or develop program(s) that aim to support the adoption of the latest version of the NEC® across the states.

### **Category 3 - Partnerships, Eligible Entities, and Evaluation Criteria:**

- **DOE should emphasize public/private partnership by partnering with trade associations** that innovate, create, and sell products supportive of increased energy efficiency and resiliency. These associations, such as NEMA, are already incentivized and have invested significant resources in bringing to market high-performance products. These associations also have access to subject matter experts that can assist with training, education, deployment, assessment to further support increased building energy efficiency and resiliency.
- **DOE should prioritize applicants that have demonstrated effective use of funds,** including a proven track record to affect code adoption. DOE should also prioritize applicants with experience designing and implementing impactful programs that promote building energy efficiency and resiliency.
- **DOE should consider external factors that may affect energy efficiency and resiliency gains** such as housing starts, market dynamics, population growth, etc. DOE should, through its national laboratories, develop a model that helps evaluate an applicant's potential for energy performance gains using multiple criteria.
- **DOE should design and implement an outreach program before issuing the FOA** to encourage applications by "demystifying" the application process by using various tools and technologies available such as charts, visuals, social media platforms, or case studies highlighting past successes.

#### **Category 4 - Funding and Period of Performance:**

- **The period of performance of 3-5 years is reasonable and should not be shorter than 3 years.** Emphasis should be placed on creating incentives for applicants to promote continued code adoption during and in-between code cycles and after the period of funding expires.
- Going forward as part of the DOE's yearly funding request to Congress, **DOE should begin requesting additional funding** to ensure for implementation of this program.

#### **Category 5 - Energy and Environmental Justice (EEJ) Priorities**

- **DOE should dedicate funding** to support states and local jurisdiction where there is a larger percentage of lower income and underserved communities.
- **DOE and the National Labs should weight the applicant prioritization methodology to favor EEJ outcomes (See Category 2; Bullet 1).**
- **DOE should create a bridge with the State Energy Program or the Energy Efficiency and Conservation Block Grant Program** to provide financial incentives for building owners or renters within underserved communities to bring existing buildings up to code.
- **DOE should prioritize disadvantaged or minority-owned business** by creating set asides in accordance with the U.S. General Service Administration (GSA) and the Small Business Administration (SBA) regulations.

#### **Summary**

NEMA and its members are active proponents of several focus points of this RFI: health, safety, energy efficiency, and resiliency. NEMA is prepared to play a role in helping DOE advance building safety and energy codes for high-performance buildings and communities in states and local jurisdictions throughout the United States. Building energy codes will play an important role in achieving our nation's energy and environmental goals. Many of these goals will only be achievable through building electrification. As the voice for the electroindustry, we look forward to assisting the Department in enhancing building energy code adoption across the country and assisting states and local jurisdiction transition to a more sustainable and resilient future.