SUNSTREET ENERGY GROUP

September 19, 2019

The Honorable Frank Pallone
Chairman, House Committee on Energy and Commerce
United States House of Representatives
2107 Rayburn House Office Building
Washington, DC 20515-3006

The Honorable Greg Walden
Ranking Member, House Committee on Energy and Commerce
United States House of Representatives
2185 Rayburn House Office Building
Washington, DC 20515-3702

The Honorable Bobby Rush
Chairman, House Committee on Energy and Commerce
Subcommittee on Energy
United States House of Representatives
2188 Rayburn House Office Building
Washington, DC 20515-1301

The Honorable Fred Upton
Ranking Member, House Committee on Energy and Commerce
Subcommittee on Energy
United States House of Representatives
2183 Rayburn House Office Building
Washington, DC 20515-2206

Dear Chairman Pallone, Chairman Rush, Ranking Member Walden and Ranking Member Upton,

To enhance the affordability of a home and reduce carbon in the most cost-effective manner, we need a level playing field between solar photovoltaic ("PV") technologies (i.e. solar panels) and energy efficiency measures in residential building codes. Once a builder has met the energy efficiency requirements on a non-solar home under the performance path contained in the 2018 IECC codes, solar panels and energy efficiency measures work in a symbiotic manner and can be treated as interchangeable substitutes. This can be done by implementing the below definition for equivalency, as well as a reasoning statement inclusive of the rationale offered below.

> The term "energy efficiency" should incorporate a clarification on the issue of equivalency: "Equivalency — The Secretary shall treat one unit of renewable energy production as equivalent to one unit of renewable energy savings after the energy efficiency requirements of the 2018 performance path for the home's envelope measure."

The correspondence between PV technologies and energy efficiency measures can be understood as follows: The Energy Rating Index ("ERI") is a voluntary path that ensures robust insulation and building envelope measures while enabling on-site renewables that enhance the affordability of a home in select climate zones. In the process of development of the 2018 IECC, in the Public Comment version, RE173-16, the ERI target scores are fundamentally modified by language inserted into a punitive footnote. The result of this change is differential treatment for building projects based on whether construction includes an on-site renewable energy system. Projects incorporating a renewable energy system to offset the consumption of energy and to reduce energy flows at the meter are artificially constrained and rendered meaningless in this revised compliance option by requiring higher level envelope measures than a non-solar home. Once a builder uses the higher envelope measures, the builder achieves compliance without solar. Thus, the 2018 ERI path – the only path for renewables in the I-codes – renders solar meaningless from a compliance perspective.

This significant alteration is punitive to homebuilders and is an impediment to the affordability of a home. The voluntary path now produces an ERI compliance option focused exclusively on energy efficiency as the only compliance tool by artificially constraining the role of renewable energy systems. Under this more expensive option, the ERI target score is less stringent and will only be met with energy efficiency. Whether the footnote was intentionally or unintentionally inserted, the addition of this footnote to the code creates a disincentive for builders to use renewable energy systems in the ERI path. As a result, no builder will use solar as a compliance option which is inconsistent with purpose and intent of building energy codes.[1] Energy codes should address 100% of the home's energy load, and only a path that uses both energy efficiency and renewables can address 100% of the home's energy load.

As presented by the Building Technologies Office of the Department of Energy's 2018 National Energy Codes Conference, according to the U.S. Energy Information Administration's AEO 2018 report, "typical residential end uses include energy production for space heating and space cooling, which combined amount to 35% of all residential energy end uses. Water heating accounts for 13.5% of residential energy end uses."

Mr. Chairman, we have done a very good job of reducing regulated loads, such that unregulated loads (such as lighting loads, appliance loads, and plug loads) now represent greater than 50% of all residential energy end uses. In terms of regulated loads, typical residential end uses include energy production for space heating and space cooling, which combined amount to 35% of all residential energy end uses. Water heating accounts for 13.5% of residential energy end uses. Note, only renewable energy systems can provide a whole-home approach by offsetting both the unregulated loads, and reduce regulated loads.

In conclusion, both energy efficiency and renewable energy systems must be interchangeable. Compliance measures and compliance paths that focus only on building envelope measures and discourage or penalize renewable energy systems— or fail to make renewable energy systems attractive to builders as a compliance option— are focused on solving 35% of the problem. The IECC should encourage the use of energy efficiency measures PLUS renewable energy systems, to solve 100% of the problem. In fact, we know that new homes with PV systems and electric vehicle ("EV") chargers can also power our consumer vehicles with sunlight, solving greater than 100% of the building energy problem. We urge you to tell the Department of Energy that you would like to see the equivalency standard for renewable energy adopted in all future IECC standards.

Sincerely,

Jeremy L Susac
Vice President of Government Affairs

[1] The International Energy and Conservation Code is created and guided by federal law. Specifically, 42 U.S. Code § 6831(b)(2), "provide[s] for the development and implementation, as soon as practicable, of voluntary performance standards for new residential and commercial buildings which are designed to achieve the maximum practicable improvements in energy efficiency and increases in the use of nondepletable sources of energy."