



AN OPEN LETTER TO DOE SECRETARY GRANHOLM

July 2, 2024

Secretary Jennifer Granholm
U.S. Department of Energy
1000 Independence Ave., SW
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Dear Secretary Granholm,

We write today to call your attention – and the attention of others within your team – to the unfortunate impacts and missed opportunities of the Zero Emissions Building (ZEB) definition issued by the Department of Energy (DOE) in June. We fully support the Administration and DOE’s ambitions to decarbonize buildings and other sectors of the economy. We fear, however, that this definition and its impacts do not align with other DOE initiatives that prioritize economy-wide net-zero goals. We are concerned that the implementation of this definition will effectively remove an entire category of distributed energy resilience solutions that customers and communities are seeking: microgrids.

Your Department has declared a vision in which microgrids are “essential building blocks of the future electricity delivery system to support resilience, decarbonization, and affordability...capable of reaching 30-50% of the total generation capacity.”¹ Microgrids, which allow single facilities or complexes of buildings to optimize their energy use and actively calibrate with the larger grid, offer a pathway for buildings to play a dynamic role in revitalizing and decarbonizing our electric grid.

Regrettably, the framework established by the ZEB definition misses this opportunity and pushes us toward strategies that will increase risks, costs and community impacts. Specifically, the ZEB definition inappropriately prohibits microgrids and other lower-carbon distributed energy solutions while exempting backup generation and allowing high-emitting grid resources. Prohibiting distributed solutions that parallel with the grid will result in higher total emissions and decreased resilience for federal buildings and other facilities that adopt similar frameworks. These facilities and their surrounding communities already face vulnerabilities to grid failures. There is a better way. It is not too late to adjust the definition and correct for its deficiencies as you implement this new rule.

As we outline in this letter, by revisiting the definition your Department and the Administration can not only reduce the future emissions impacts of buildings, but actually turn them into assets in our common

mission to build a more flexible, resilient and equitable grid. This approach includes:

1. Evaluating actual emissions – whether from backup resources, distributed energy resources or resources associated with the centralized grid – with transparent methods that accelerate the transition to clean energy and community resilience.
2. Aligning policy so that distributed energy (“small grid”) and centralized (“big grid”) solutions are equally empowered to provide needed grid services that support the revitalization and transformation of a robust, resilient electric system.
3. Encouraging – not prohibiting – investments in microgrids and emission-reducing distributed energy solutions that not only provide much-needed backup power, but also provide pathways to increase clean distributed energy and load flexibility.

Think Microgrid is a coalition focused on educating policy makers, regulators and community leaders about the potential of microgrids to offer solutions for the resilience, climate and equity challenges that we face. Over the past four years, we have hosted workshops and meetings with hundreds of elected representatives, regulators and officials from state and federal agencies. Our presentations invariably include your own words as quoted in the Washington Post: “I’m very supportive of microgrids...We should be incentivizing communities to think about them so that they are not so dependent on poles with wires atop that were constructed 70 years ago.”²

Far from incentivizing microgrids, the definition excludes them from its portfolio of solutions to advance the stated priorities around decarbonization, resilience, and modernization of the electricity system. Buildings have a role to play in the decarbonization effort, but only if they are intelligently connected to the larger grid. Should we not be encouraging building owners to invest in emissions-reducing, resilient systems that offer an effective, affordable and equitable pathway to the fast deployment of clean energy resources?

Any decision of this magnitude should be guided by data above all. Think Microgrid is concerned that the Department has not shared analysis into the actual emissions, resilience, and public health impacts of the new definition. We elaborate on these data gaps below. Similarly, as of early July the Department has not publicly shared any of the public comments received or the basis for its decision. Comments provided by Think Microgrid and its members had seemingly no impact on the final definition. A definition with such far-reaching impacts warrants greater consideration and transparency. Think Microgrid's concerns are outlined below.

CONCERN: The definition will lead to reactivation of high-emitting grid resources, amplifying historical inequities.

The definition assumes that the ‘big grid’ is the cleanest electric source available. While we support every effort to decarbonize the big grid, it remains primarily powered by fossil fuel. In California and New York – often referred to as two of the cleanest systems in the country – the Environmental Protection Agency’s eGrid shows that marginal and average grid emissions are increasing. While the

macro trend is toward a cleaner grid, utilities nationwide are requesting to build tens of thousands of megawatts of new natural gas generation to meet booming load growth – and causing legacy fossil resource to delay their closure or come out of retirement.³

Mounting evidence suggests that increasing demand for electricity is keeping heavily-emitting fossil fuel plants online. In many cases, the greatest impacts are borne by those communities that can least absorb them – historically disadvantaged communities that will now live in proximity to infrastructure with a long history of increasing harmful local gas and particulate emissions. We've seen this dynamic play out recently in New York. Last year, the NY ISO warned that building electrification would result in a fossil peaker plant remaining in operation.⁴ They followed up later in the year to advise that four plants in New York would continue years beyond their scheduled deactivation date.⁵ Local advocates note that these peaker plants already imposed higher concentrations of air pollution and toxic emissions on the low-income working communities of New York City.⁶

We are concerned that the definition was adopted without analysis about the emissions or community impacts of extended operation of large-scale fossil peaker plants. Similarly, the Department's guidance allows qualifying buildings to purchase renewable energy credits (RECs) to offset grid emissions while excluding similar mechanisms to account for the on-site emissions from low-carbon distributed energy and microgrid technologies.

CONCERN: The definition should create pathways for intelligent, resilient microgrids and distributed energy solutions that are based on honest accounting.

The definition prohibits any "on-site" emissions from local energy sources, but inconceivably ignores the actual emissions from "backup power." Microgrids are capable of providing not only intelligent backup power, but also a smart interconnection to the grid, which can then be leveraged to advance a primary objective of the ZEB program, which is to maximize "on-site clean energy before procuring off-site clean energy." Microgrids typically combine clean energy sources, energy storage and low-emitting fuel cells or natural gas generators that provide consistent backup power while also providing renewable energy exports and acting as virtual power plants (VPPs), capable of providing grid services during blue sky operating conditions. These capabilities are parallel priorities across multiple initiatives led by the Department, including those articulated in the recently published "Pathways to Commercial Liftoff: Virtual Power Plants" report from DOE's Loan Programs Office.

Microgrids can outperform traditional backup generation on reliability and resilience while avoiding troublesome public health impacts. With EIA data demonstrating that reliability has been in steady decline over the past decade, the need for local resilience for critical loads is clear.⁷ In this context, it may be no surprise that over one out of every eight homes in the United States have decided to purchase a backup power system and that 90% of backup generation in California is diesel-fueled.⁸ These statistics become concerning when paired with findings that, in the Bay Area and South Coast of California alone, ubiquitous diesel backup generation could drive up health care costs by nearly \$150M.⁹ A recent study concluded with the observation, "Diesel-powered BUGs potentially

represent a substantial hurdle to achieving greenhouse gas goals, and likely contribute to localized public health harms associated with pollution, particularly in vulnerable communities.”¹⁰

In contrast, microgrids provide more reliable pathways toward greenhouse gas reduction, community health, and sophisticated delivery of resilience and other grid services. Regrettably, the Department has provided no analysis of the potential for microgrids to provide resilient backup power in the face of some of this century’s most formidable extreme weather events.

CONCERN: The definition prohibits customers (both large and small) from implementing intelligent resilience solutions for communities and critical loads

As we advance important electrification initiatives, which are vital to economic and climate goals, we should also be clear-eyed and honest about the risk profile we create for customers, critical facilities and the grid overall. This definition prohibits an important safety tool that the “big grid” simply cannot provide. Increasing electrification without planning around the impacts of increased load concentrates risk on a system that is already struggling to provide reliable power.

Think Microgrid is in full support of electrification across the economy. We urge the Secretary, however, not to turn a blind eye towards the near-term impacts of this rule on federal buildings whose reliable operation is critical to the nation’s wellbeing. The Department’s guidance will further ripple across how infrastructure is planned economy-wide, eliminating the ability of buildings to implement resilience solutions and putting vulnerable customers and critical facilities in undue risk.

While in some cases, there may be a balance point between resilience needs and emissions goals, there are innumerable opportunities to create solutions with multiple wins. Several years ago, for example, the Pittsburgh Airport implemented a microgrid solution that has led to lower emissions, greater resilience and lower operating costs.¹¹ This is just one of thousands of examples, including military bases, medical campuses, commercial facilities and community resilience hubs, where buildings are able to realize this trifecta of benefits. Regrettably, the ZEB definition closes the door to these opportunities in federal buildings and across the industry.

HELP OUR COUNTRY STEP INTO THE FUTURE

Think Microgrid writes you because we believe that buildings – and the energy systems they are connected to – have a unique opportunity to increase resilience, reduce emissions and revitalize the electric grid in ways that align with national policy priorities and economic opportunities. This new definition will remove the ability to create resilience just as communities are facing more frequent and devastating climate events.

We do not believe that the American people benefit from a definition of “zero-emissions” that ignores the real emissions of backup generation or centralized fossil fuel plants. This only increases the risks we face together, especially when people, businesses and communities are seeking microgrid and distributed energy solutions for the day-to-day challenges they face in the form of rising rates and

increasing unreliability. On the journey to economy-wide clean energy solutions, microgrids and distributed energy represent the fastest path to deployment of the sophisticated and reliable technologies we need.

As we've noted already, your Department has declared microgrids as a "fundamental building block" of the grid today and in the future. Let's make that a reality and recognize that buildings have a unique role to play in decarbonizing the grid and moving us toward a better future. This definition misses that opportunity. Our suggestions offer a path to correct that mistake as you implement this rule.

Sincerely,



Cameron Brooks
Executive Director
Think Microgrid

cc:

David M. Turk, Deputy Secretary, U.S. Department of Energy
Jeff Marootian, Principal Deputy Assistant Secretary, EERE
Nick Montoni, Deputy Chief of Staff, EERE
Carolyn Snyder, Deputy Assistant Secretary for Buildings & Industry, EERE
Jim Carlisle, Building Technologies Office Director (Acting)
Jigar Shah, Director, Loan Programs Office
David Crane, Under Secretary for Infrastructure
Dr. Geri Richmond, Under Secretary for Science and Innovation

¹ Department of Energy, Office of Electricity, Microgrid Program Strategy. <https://www.energy.gov/oe/microgrid-program-strategy#:~:text=The%20overarching%20vision%20for%20the,resilience%2C%20decarbonization%2C%20and%20affordability>.

² New Energy Secretary Granholm has advice for Texas – and for the oil industry. *The Washington Post*. February 2021. <https://www.washingtonpost.com/business/2021/02/27/energy-secretary-granholm-texas-oil/>

³ Electricity Demand Growth and Forecasting in a Time of Change. *Brattle Group*. May 2024. <https://www.brattle.com/wp-content/uploads/2024/05/Electricity-Demand-Growth-and-Forecasting-in-a-Time-of-Change-1.pdf>

⁴ Short-Term Assessment of Reliability: 2023 Quarter 2. *New York ISO*. July 2023. <https://www.nyiso.com/documents/20142/16004172/2023-Q2-STAR-Report-Final.pdf/5671e9f7-e996-653a-6a0e-9e12d2e41740?source=email>

⁵ NYISO Identifies Solution to Solve New York City Reliability Need. *New York ISO*. November 2023. <https://www.nyiso.com/-/press-release-%7C-nyiso-identifies-solution-to-solve-new-york-city-reliability-need>

⁶ Response to NYISO Reliability Report Findings. *PEAK Coalition*. November 2023. <https://www.cleaneenergy.org/wp-content/uploads/PEAK-Coalition-Response-to-NYISO-Reliability-Report-Findings.pdf>

⁷ U.S. Power Distribution System Reliability Has Declined Over the Past Decade: How to Make It Better. *Power Magazine*. June 2024. <https://www.powermag.com/u-s-power-distribution-system-reliability-has-declined-over-the-past-decade-how-to-make-it-better/>

⁸ Backup Power: Public Implications of Private Substitutes for Electric Grid Reliability. *Oberlin College*. February 2024. https://www2.oberlin.edu/faculty/pbrehm/BrehmJohnstonMilton_Grid_Reliability.pdf

⁹ Hidden Grid: More Than Eight Gigawatts of Fossil Fueled Back-Up Generators Located in Just Five California Districts. *M.Cubed*, May 2020. <https://www.lgsec.org/wp-content/uploads/2020/05/BUGs-in-5-CA-Air-Districts.pdf>
<https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>

¹⁰ Overview: Diesel Exhaust & Health. *California Air Resources Board*. <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>

¹¹ See: <https://flypittsburgh.com/aaa-corporate/newsroom/news-releases/pittsburgh-international-airport-goes-live-with-first-of-its-kind-microgrid-powering-entire-facility-with-natural-gas-and-solar-energy/>
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