



February 9, 2021

The Honorable Kumar P. Barve, Chair
House Environment and Transportation Committee
House Office Building, Room 251
6 Bladen St., Annapolis, MD 21401

Oppose: HB 583 – Climate Solutions Now Act of 2021

Dear, Chair Barve and Committee Members:

The NAIOP Maryland Chapters represent 700 companies involved in development and ownership of commercial, mixed-use, and light industrial real estate, including some of the largest property owners in the state. NAIOP's membership is comprised of a mix of local firms and publicly traded real estate investment trusts that are invested in the future of Maryland but also have experience in national and international markets.

Success in climate mitigation fits the ambition and values of commercial real estate. For decades, NAIOP's member companies have been dedicated to energy efficiency, conservation, and high-performance construction. That commitment is one of the primary reasons that for 20-years Maryland has been among the top ten states in the country for LEED certified buildings. This experience leads NAIOP to consider deep reductions in carbon emissions from buildings to be the most challenging of the sectors.

Meeting Maryland's 2050 greenhouse gas reduction goals in a way that is affordable to the consumer, maintains quality of life and ensures a stable transition of energy and economic markets will require coordinated action across every level of government, by utility operators, regulators, NGOs, consumer advocates, homeowners, and businesses.

NAIOP submitted testimony in support of the Greenhouse Gas Reduction Act [GGRA] in 2009 and again for its reauthorization in 2016. HB 583 proposes changes to the economic benefit test in the GGRA that are consequential departures from the bill NAIOP supported. The bill's focus on eliminating building energy use would divert capital and effort away from directly reducing carbon emissions. Its prescriptive approach to the building sector would displace a framework for developing cost effective building sector strategies endorsed by the Climate Commission during the interim. While net zero energy buildings are technically possible, the trade-offs required can be contrary to transportation and Smart Growth goals. By prescribing means and methods the bill will discourage, sometimes prevent the use of least-cost compliance options in the building sector and the broader economy. The bill imposes more stringent requirements on private buildings than government buildings. NAIOP therefore cannot endorse HB 583 and offers the following information, and observations for the General Assembly to consider.

+ Zero Energy Balance Buildings – Definitions, Challenges and Trade-offs

Requiring Zero Energy Balance buildings prioritizes eliminating energy use which diverts from measures that directly reduce greenhouse gas emissions. Focusing on eliminating energy use will provide fewer emissions reductions at higher cost as utilities accelerate the transition to low carbon electric generation.

A Zero Energy Balance building is designed to use half or one third of the energy a conventional building would require. The balance of the building's energy need is met through on-site renewable energy generation and off-site power purchase agreements. The LEED Zero Energy Balance certification specified in the bill requires not only that energy consumed on-site be offset but also that energy lost during transmission from the generating source be offset as well. This increases the amount of energy the building must offset to 2-3 times the amount of energy consumed on site.

Large buildings, and high energy uses like hospitals, data centers and restaurants will find it extremely difficult to reach Zero Energy balance. Even ultra-efficient buildings will require easy access to locally sourced, off-site wind and solar energy in amounts that are not currently available. Alternatively, the state would need to allow building owners to enter into power purchase agreements without being geographically limited to local utilities, Maryland or the PJM service territory.

Integrating renewables at that scale will require significant advancements in the functionality of the utility grid and the removal of barriers to on-site generation. Deficiencies in the grid influence current rules on net metering, virtual net metering and meter aggregation which limit the size of systems, the amount and price of power returned to the grid and prevent generated power from being shared among a portfolio of related buildings.

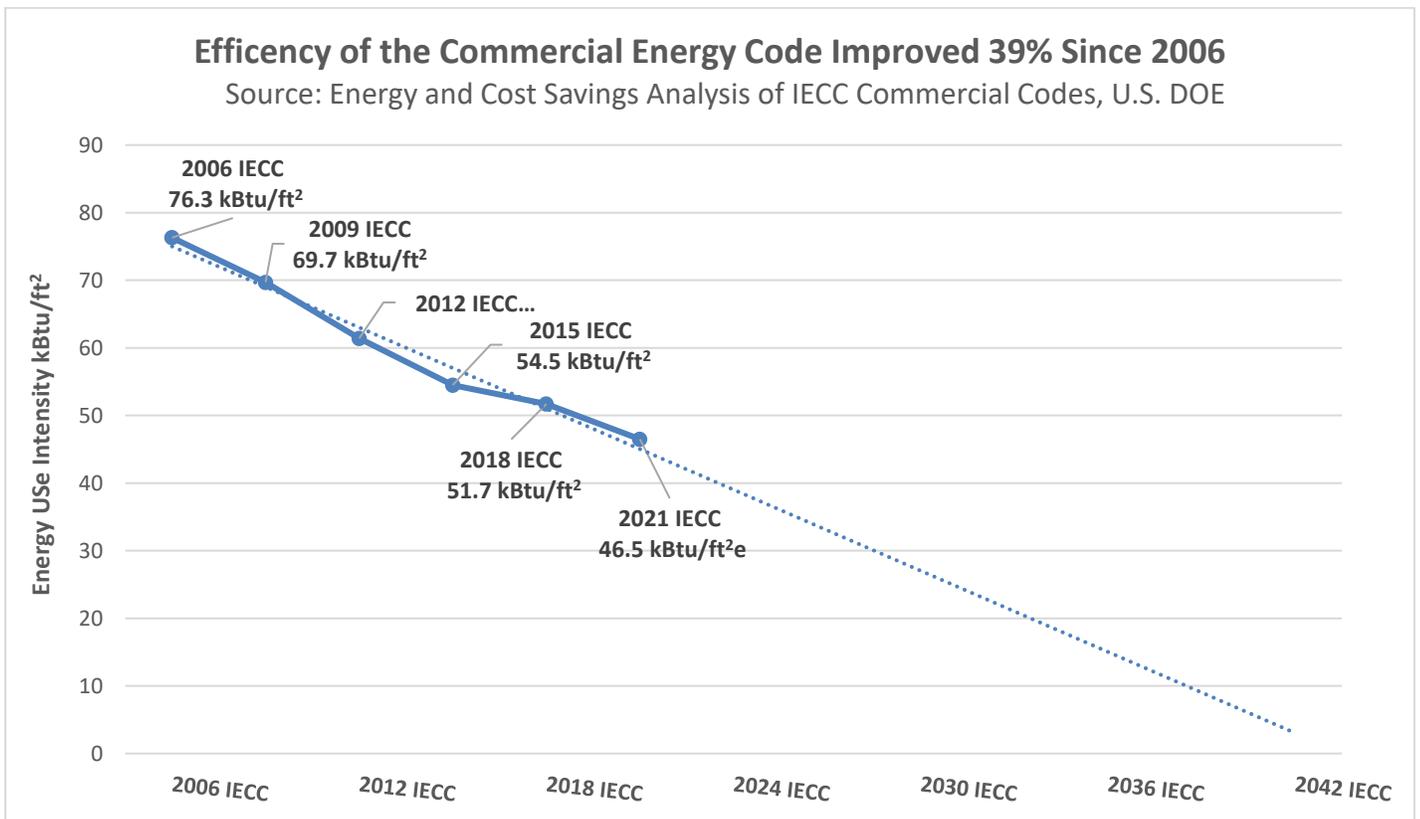
While the technologies exist to build net zero energy buildings under the right circumstances, the trade-offs make them impractical for widespread application across the entire market. To achieve necessary reductions in energy consumption, designers of net zero energy buildings often must put limits in the number of occupants, move computer servers or laboratory equipment off-site, reduce the building footprint or put limitations on the type of tenants and their activities.

Broadly applied, the trade-offs necessary to achieve Net Zero Energy Balance would result in under-utilization of building sites and under-build of job centers which could affect land use and transportation patterns in ways counter-productive to both climate mitigation and Chesapeake Bay cleanup.

Construction costs should also be a consideration. A study of net zero office and multifamily construction in Washington D.C. found that, even after a \$5m solar incentive payment, initial costs were 5%-19% higher than the same building built to meet LEED Platinum.

The phase-in periods of below code energy requirements leading up to the Zero Energy Balance requirement effectively decouple Maryland from the national building and energy codes. This will leave state and local codes officials and building designers to create the code compliant pathway to progressively lower energy use. Even states with long experience writing and administering their own building codes have found this difficult.

The efficiency of the International Energy Conservation Code improved 39% in the fifteen years between the 2006 and 2021 codes, and average of 2.6% improvement per year. Similar rate of improvement will put the code at or near zero energy by 2042. HB 583 requires that new buildings perform at 30% below the energy code over the next five years and reach 60% below code within ten years. This will require an average improvement of 6.6% per year. As buildings have become more efficient, deeper energy use reductions have become less cost effective and more difficult to achieve.



+ 40% Energy Reduction Requirement for Existing Buildings and Life Cycle Analysis

The 40% energy reduction requirements for existing buildings will be extremely difficult for recently built, higher performing buildings to meet both in absolute terms and in the relatively short time-frames that characterize renovation and change of use.

The bill's 15-year payback time and 40% energy use reduction place more stringent requirements on private buildings than state buildings. Legislation passed by the General Assembly during the 2020 session sets a goal of 10% reduction in energy consumption in state buildings by 2029. State agencies are instructed to identify low-cost measures for energy efficiency that are cash-flow positive within 5 years. Longer term energy efficiency measures are based on services contracts in which a contract provider guarantees up to 20% reduction in energy use over a 15-year period while maintaining or enhancing occupant comfort levels.

State buildings do a life cycle analysis, but state projects are not required to include future carbon emissions or distribution systems costs in the analysis. Those are factors that may provide information about outyear benefits but many of those benefits cannot be monetized by building owners and designers.

Uncertainties about commissioning and confirming a pre- and post-construction energy performance complicate a strict mandate like this. Even if reached in modeling the variations in systems performance and tenant energy use can result in large swings in final energy consumption.

This section raises questions about how easily a major renovation would be triggered as there are various definitions used by Maryland jurisdictions. An unreasonably high efficiency mandate will disincentivize renovation and repurposing of buildings and promotes deferral of major upgrades and maintenance.

+ Solar Ready and Rooftop Solar Requirement

The presumptive future use of rooftop solar power raises concerns on several levels.

One is the readiness of equipment, conduit and other materials installed perhaps many years before connecting panels and electric service.

The solar ready rooftop mandate ignores the question of whether equipment might best be located elsewhere on-site such as parking areas where they might be paired with electric vehicle charging equipment or part of a larger ground-based array.

The requirement would encumber roof space that is often used for heating, air conditioning and ventilation systems or communications equipment that cannot be located on the ground, rooftop tenant amenities or skylights that help meet targets for daylighting and reduce power consumption to meet lighting requirements.

Rooftop solar is more expensive for the building owner and consumer than utility scale installations. This situation is made worse because commercial property owners are limited by caps on aggregation of power, net metering, virtual net metering and battery storage. Future utility pricing decisions will also affect the feasibility of rooftop solar for commercial buildings.

The relationship between the roof area and floor area / energy use on a 20-story building is much larger than what our members consider to be a good candidate for rooftop solar. Solar on a building of this size would not provide meaningful amounts of power.

+ Reduced Role of Climate Commission and GGRA Quality Assurance Provisions

Passing HB 583 would make moot the Climate Commission's recommended workplan for developing a cost-effective emissions reduction strategy for the building sector. During 2020 climate commission held a series of subgroup and working group meetings on energy use and emissions in the building sector. The [Commission's work plan for 2021 includes a series of recommended actions](#) related to reducing emissions from the building sector, including:

1. Allowing utility incentive programs to pay for reducing emissions via fuel switching of space and water heating equipment.
2. Commissioning a study of the market potential and consumer economics of building electrification examining incremental first costs payback periods, appropriate incentive levels and the greenhouse gas reduction potential.
3. Producing an energy transition plan for the building sector by the end of 2021.

HB 583's net zero energy new construction and energy retrofit requirements were not presented as part of the commission's 2020 work, therefore the economic and emissions outcomes have not been modeled. By mandating means and methods, limiting technologies, the bill by-passes provisions in ENV 2-1206 that require an MDE feasibility analysis as well as the allowed use of alternative compliance mechanisms such as offsets and credits or technologies including carbon sequestration.

+ Net Zero Emissions and the Need for Carbon Capture or Other Advanced Technologies

Preventing access to technologies, narrowing the set of compliance options, and limiting location choices will unnecessarily increase compliance costs and slow progress. The majority of IPCC model compliance pathways, academic literature and numerous technical studies make clear the need to preserve the option to use a full range of future technologies related to carbon capture, nuclear, green hydrogen, bio energy, synthetic and natural gas technologies. [A recent study](#) by Energy and Environmental, Economics, [Maryland's climate consultant] of least-cost carbon reduction policies in the PJM utility service territory found, *"Reaching the end points of many "100%" goals being set today may require carbon capture and sequestration, new nuclear generation, new sources of renewable biogas or hydrogen fuels or other forms of clean generation that while technically achievable are not commercially available today. Achieving absolute zero carbon emissions requires one or more of these resources to become available."*

On behalf of our member companies, I want to reiterate NAIOP's commitment to working with the General Assembly and other stakeholders to meet the challenges presented by the Maryland's climate mitigation goals.

Sincerely,



Tom Ballentine, Vice President for Policy
NAIOP Maryland Chapters -*The Association for Commercial Real Estate*

cc: House Environment and Transportation Committee Members
Nick Manis – Manis, Canning Assoc.