

Legislative Testimony of FuelCell Energy, Inc.
Energy and Technology Committee
March 4, 2021

Senate Bill 882
**AN ACT CONCERNING CLIMATE CHANGE MITIGATION AND HOME ENERGY
AFFORDABILITY**

FuelCell Energy, Inc., based in Connecticut and in its 52nd year of operation, respectfully submits the following written testimony on SB 882.

FuelCell is opposed to SB 882. Once again, FCE finds itself forced to mount a campaign in opposition to a bill proposal from the administration that would essentially end FCE's clean energy business in its home state. Remarkably, SB 882 goes even further than proposals in prior years in seeking to end the ability for anyone to do business in CT, inasmuch as it bans the supply of electricity to customers in the state from any greenhouse gas emitting source. It does not distinguish between grid connections or behind the meter connections. Intermittent solar and wind resources are simply insufficient to power our operations as a manufacturer, and we suspect most manufacturers will be unable to rely on such intermittent sources to continue their operations.

FuelCell Energy has called the State of Connecticut home for 52 years, despite its being the highest cost and arguably most business unfriendly state in the country. And since the Malloy administration, FCE has had to come to the legislature year after year after year to remind Connecticut that it is the birthplace and worldwide capital of the hydrogen and fuel cell industry, and we are continually forced to fight to stay here.

Fuel cells pay state and local taxes, including sales taxes. Connecticut fuel cell manufacturers also pay payroll taxes for their employees. Each MW of fuel cells procured in the State creates or retains 6.2 high-tech manufacturing jobs and 2 indirect industry jobs, creates approximately \$810,000 in state and local tax revenue, and adds to infrastructure investment and expansion. And unlike other renewable energy technologies that consume suburban and rural open space and require transmission facilities to move the power to where it is needed, fuel cells are located in high density, urban areas and remediate sites with limited development value, providing power where needed and bringing the benefits of clean air and environmental justice to underprivileged communities.

Fuel cells are absolutely critical to reliable and resilient baseload clean power. Science dictates that

powering the State of Connecticut with solar and battery storage alone will require 700 square miles of total land area, cost \$13 billion for the battery storage, and require 6% of the global annual cobalt production. Cobalt is not mined in a sustainable or environmentally friendly way, and disposal of batteries and solar panels in landfills is also not accomplished in a sustainable manner. Wind turbine blades are largely not recyclable, and tens of thousands of metric tons of spent carbon fiber wind blades are currently buried in the Utah desert. Attached to these comments is a presentation providing the backup for these calculations and statements.

CT needs to value resiliency and renew its recognition of economic diversity, environmental justice and obligations to its urban areas in its energy policy. SB 882 does not further any of those critical goals. During tropical storm Isaias, almost 1,000,000 Connecticut customers lost power, some for longer than a week. In addition, numerous wastewater treatment plants that were left without power were forced to dump raw sewage into CT rivers and streams. That is apparently more acceptable under SB 882 than having a natural gas consuming fuel cell, that emits no NOx, SOx or particulates and only a fraction of the carbon dioxide of traditional combustion generators, located on site to provide power when the distribution system goes down to keep the wastewater plants running. SB 882 gives short shrift to the need to provide continuous power to hospitals, schools, public safety complexes or neighborhoods, many of which currently rely on backup diesel generators to sustain operations, which generators will be banned under SB 882.

Connecticut need only read the newspaper to see the likely results of the policies advanced by SB 882. As a result of over-reliance on solar and wind power, the California PUC recently approved a proposed decision in its microgrid proceeding allowing the utilities to invest up to \$350 million in backup diesel generation for substations as part of its "Keep The Lights On" initiative. Diesel is absolutely required because the overabundance of solar and wind cannot keep the lights on without help. EPA eGrid emissions data for California show that, as solar and wind penetration has grown, the California grid has actually gotten dirtier due to the need to import coal and oil fired power from neighboring states to keep the lights on. This is exactly the type of poor planning Connecticut should not fall victim to, but that SB 882 will perpetuate.

SB 882 ignores one of the most substantial benefits of its localized fuel cell technology, namely, that fuel cells can be located wherever the power is needed. Unlike offshore wind or large solar farms that have to rely on the transmission and distribution system to get power where it is needed, fuel cells can fit anywhere – right on site. And fuel cells can provide ancillary benefits, such as thermal energy, hydrogen generation, long duration hydrogen storage or carbon capture and separation.

While FCE is and always has been supportive of an all of the above strategy when it comes to the clean energy mix, intermittent renewables and battery technology cannot reliably power the grid. We only need to look at the recent events in California and Texas to realize that over-reliance on any one technology creates avoidable crises. In California today, citizens experience "public safety power shutoffs", or "PSPS", regulatory speak for rolling blackouts. FCE has two fuel cells in California powering facilities that were subject to PSPS events – one at the University of California San Diego and one at the Santa Rita Jail. Both form the backbone of microgrids and both kept the power on while the rest of those

neighborhoods went black. SB 882 will most certainly require a “Keep the Lights On” strategy for Connecticut if enacted.

FCE remains perplexed as to how its home state – the birthplace of hydrogen fuel cells – has become so averse to the cleanest baseload technology available today. Such a policy ignores that fuel cells are the bridge technology to the hydrogen economy. Most of the rest of the world is embracing hydrogen as the clean fuel of the future. The EU has provided hundreds of billions of dollars in funding for the transition to the hydrogen economy. But in Connecticut, the integrated resource plan mentions the word hydrogen only twice in a 173 page document, and all of DEEP’s planning to reduce transportation emissions is solely focused on EVs (electric vehicles), rather than ZEVs (Zero Emission Vehicles), which would include fuel cell cars and trucks.

FCE has come before the General Assembly and this Committee many, many times in the past 5-6 years to remind our state of the jobs, taxes, and economic benefits brought by the fuel cell industry. FCE weathered the COVID pandemic and not only did not furlough or lay off a single employee, but actually increased its headcount. FCE had plans to further increase headcount, until the revocation of 3 awarded Shared Clean Energy Facility projects and the announcement of SB 882.

Recently, all 3 fuel cell companies, FCE, Doosan and Bloom were fairly awarded projects in the Shared Clean Energy Facility Program. FCE’s selected projects alone would have generated approximately \$9 million in state and local tax revenue and 92 new jobs. Unfortunately, someone weighed in on the project awards, causing PURA to order a “do-over” of the selection process which resulted in the revocation of every Eversource fuel cell project awarded and the re-award of every Eversource fuel cell project to a solar company.

SB 882, and the continued actions of DEEP with respect to fuel cells, reflect misguided policy that fails to value resilience, reliability, economic development, jobs or the future of Connecticut industry. FCE again looks to this Committee to take a strong stand on behalf of our energy future and reject SB 882.

Thank you for your consideration of this testimony.