



GREENTOWN LABS

Senate Committee on Environment and Public Works
Subcommittee on Superfund, Waste Management and Regulatory Oversight

Testimony on oversight related to Environmental Protection Agency
regulations' impact on American small businesses

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Thank you Chairman Rounds, Ranking Member Edward Markey and members of the subcommittee for giving me the opportunity to testify on the impacts of the Environmental Protection Agency regulations' on American small businesses. My name is Dr. Emily Reichert and I am CEO of Greentown Labs, the largest cleantech incubator in the United States, currently home to 50 young companies.

I would first like to provide you with some background on Greentown Labs. We are located in Somerville, MA with 40,000 square feet of space used to enable entrepreneurs to solve big energy problems. The mission of Greentown Labs is to enable a vibrant community of entrepreneurs to work on their visions and to provide access to the space, resources, and funding that allows their early-stage companies to thrive.

We offer roughly 25,000 sq. ft of prototyping lab space along with co-located office space, a shared machine shop and electronics shop, immersion in a growing community of energy and clean technology entrepreneurs, and on-site events and programs designed to enable startups to rapidly grow

their networks and their companies. Images of our space are provided in our Appendix.

Greentown Labs was started in 2011 by 4 startups that needed space to get dirty and build things - something that was not possible in normal co-working spaces that are very useful for typing on a computer but not ideal for designing a solar powered cooling station. These 4 companies joined forces in a small space in east Cambridge, MA and quickly attracted a few more startups and some larger, more established companies that were intrigued by the ideas that were literally becoming products. Greentown's operating budget in 2011 was \$99,000 without any government assistance of any kind.

Flash forward almost 5 years and in 2015, Greentown Labs operated as a for-profit company with an operating budget of \$2.1 million, with a staff of 9 including 6 full time employees.

- Of that - \$1.3 million was revenue in the form of rent from our member companies
- \$293,000 was from sponsorships from private corporations
- And \$300,000 from the MassCEC and MassDevelopment in the form of state grants

And in 2015, Greentown received its first federal funding in the form of a \$50,000 grant from the SBA for one of its programs.

Overall, in 2015, Greentown Labs' operating budget was made up of 17% grants, 2% of which was from federal grants. Which leaves 83% of our budget made up by privately funded companies in the form of our members paying rent and large corporate entities sponsoring our activities, because they want access to the innovation coming out of our labs.

Today Greentown is home to 50 companies, we've had 3 locations, and we have supported 103 companies over that time. A recent survey of our alumni has shown that 86% of them continue to grow today, and the majority of these do so in Massachusetts.

And why is that important? Recently, Greentown Labs has undertaken some research to quantify the impact our companies have on our community.

Greentown Labs Impact #'s

- 50 current startup member companies
- Jobs Created in 2015 through Greentown Labs member companies: 400+
- Member companies total funding (money raised by companies) since 2011: \$180M+
- Member companies total revenue since 2011: \$15M+
- Direct economic output in 2015: \$182.5M+
- Direct gross state product value added to MA economy in 2015: \$83.8M+ ¹

The companies who are accepted to Greentown Labs are all at a later stage of development. Most of them have raised a small amount of money, and often have gone through an accelerator or business plan competition where they have learned some basics of business. Many people use the terms “Accelerator” “Incubator” and “scale-up facility” interchangeably but they represent very different things for startups. So I have provided a chart that we use at Greentown Labs defining these terms as we see them and outlining the very common route for our startups to come to Greentown Labs for your reference.

While we have not recorded how many applicants we have turned away since 2011, I can tell you that since 2014, Greentown Labs has received 100 applications and accepted 40 of those, often due to space constraints. We have also continued to operate with a wait list since January of 2015. I mention this because it shows to me that people are developing solutions to energy and environmental problems everyday that are leading to the creation of small businesses.

And in Massachusetts, they are doing so in one of the most heavily regulated states in the country. Since elected, Governor Baker has undertaken a review of state regulations in Massachusetts and we now know that we have over 1600 regulations that our companies have to deal with in one form or another.

¹⁺ = reported impacts found via IMPLAN version 3.4.1 software

Many of these are the Commonwealth's interpretation of federal standards, but like so many other states, in Massachusetts the federal regulations act as a floor and Massachusetts has decided to build on many of those regulations, particularly environmental regulations.

Over the last 9 years, Massachusetts has enacted a number of laws that increase our state's regulation and investment in renewable energy, clean technology deployment and business regulations regarding these matters. It has also led to over 1GW of installed renewable energy capacity in Massachusetts as of 2015.

Over the same timeframe, Massachusetts has also grown to be one of the leading states in innovation, home to not only thousands of startups, but also:

- The largest accelerator in the country, MassChallenge
- One of the largest, if not the largest, concentrations of clean tech startups in the country
- Greentown Labs, the largest clean tech incubator in the country

According to the Massachusetts Clean Energy Center (MassCEC), who issues an industry report on clean energy that is now considered a standard and whose methodology is used in 10 other states, job growth in the clean energy sector continues to grow.

Despite being in one of the most heavily regulated states in the country, in 2015, Massachusetts experienced the largest single year of growth in the clean energy industry since reporting began in 2010 at 11.9%, which represents 10,500 new jobs.

Overall the clean energy sector has added <40,000 jobs since 2010, with a total in 2015 of 98,895 jobs at 6,439 clean energy establishments - a growth rate of 64% over that time. Clean energy jobs now represent 3.3% of the

overall Massachusetts workforce. And these jobs are found in every region and county of Massachusetts.

Clean energy firms have also added 1500+ new employers statewide since 2010 with a steady annual growth of 7-12%. And of those businesses, the majority are small, 86.9% have fewer than 50 employees and 56.7% have 10 or fewer employees. Which is exactly where the vast majority of companies who call Greentown Labs home fall.

And for the purpose of this hearing, I wanted to share some examples of how the companies who have made their way to Greentown are actually taking advantage of some of the regulations passed by the EPA.

In April 2012, the EPA promulgated regulations under the Clean Water Act to limit water pollution from aircraft and airport runway de-icing operations - *77 Federal register 29168-29205*, "Effluent Limitations Guidelines and New Source Performance Standards for the Airport Deicing Category; Final rule,"

In response to this, a young company from MIT developed a new electric based plane wing de-icing method that will not only help airlines comply with this regulation, but will also help airlines save time and money on the runway and potentially remove all glycol, a dangerous toxin, from the de-icing of planes.

To give you an idea of the costs this can save airlines, the glycol solution and application which has to be heated to de-ice the plane costs about \$4,000 per de-icing for small jets and \$10,000 per de-icing for commercial airliners. The annual costs for the aerospace industry amounts to around \$6 billion in the United States. Our startup company can help reduce these costs by 50% or \$3 billion.

And from an environmental standpoint, the glycol solutions employed in de-icing are extremely undesirable. This is due to the harmful effect of glycol effluent in large quantities, as well as the pernicious additives which are also present in the solution, some of which are proven carcinogens and harmful to sea life. Worse yet, 5.5 pounds of water and 15 kwh of electricity are required for the production of each pound of glycol de-icing solution, an

unnecessary waste of money, resources and time on the runway for companies and passengers.

We have other company's currently at Greentown Labs that have benefitted from increased air quality restrictions from the Clean Air Act. One specific company has developed hardware and software utilizing a wireless sensor network to optimize the extraction of methane from landfills through better landfill gas monitoring. The technology is designed for energy producing landfills, by harvesting methane gas from landfills, and has shown to increase efficiency by 25% in at least one location. The software and hardware provides an advancement over the existing technology that requires on-site monitoring and adjustments to optimally extract the methane utilizing wireless sensor networks. The reduction in methane results in less pollution and increased revenue from landfill gas-to-energy plants, all while the risk of noncompliance is mitigated.

While this company has benefitted from the enactment of regulations of the Clean Air Act, the interpretation of regulations by states and their enforcement can be tricky to navigate for small businesses who want to operate in multiple states - particularly for innovative companies whose technologies were not in existence at the time of the writing of the regulations. For instance, our methane monitoring company can give real time methane data readings on multiple valves vs. standard measurements which might include a monthly reading by a human on 1 release valve. The regulations somewhat clearly oversee the latter with no idea how to handle the former, even though dynamic data monitoring provides significantly better information for regulators and landfill owners.

Providing clarity for some regulations could help spur even more innovative companies who take advantage of the opportunities that regulations create - not only do they help protect our environment and clean our common spaces, but they create opportunities for new companies to spring up.

And not just in Massachusetts. Through the Incubatenergy Network, Greentown Labs has developed partnerships with more than 25 other cleantech incubators and accelerators across the country. We have signed agreements to share services with 4 other incubators in: Oregon, New York, Los Angeles, and Wisconsin and have more planned that create shared resources and connections for our companies in those locations. Collectively,

this group represents hundreds of cleantech companies who are likely benefitting from the passage of environmental regulations, just like the two companies I mentioned above.

Based on the experiences of Greentown Labs, and our partners around the country, it is clear that regulations to improve our environment are not stifling the growth of small businesses. In fact in our experience, environmental regulations are creating new opportunities for innovators from every walk of life to create new companies and new products and help regulators achieve their goals of a cleaner and safer environment. Certainly there are opportunities in regulation to be more adapting to new innovations, but the regulations themselves are certainly not stifling the growth of innovation and job growth - quite the opposite in fact.

As this committee continues to review the impacts of EPA regulations on small businesses, I hope you will keep the experience of Massachusetts and Greentown Labs in mind. Creating regulations that can help promote a cleaner and efficient environment can also lead job growth and create innumerable opportunities for new businesses. Thank you again for inviting me here today and for the opportunity to speak on such an important issue.