



**Statement of the Connecticut Clean Energy Finance and Investment Authority
(Connecticut Green Bank)**

**Energy & Technology Committee subject matter hearing
February 19, 2015**

As the nation's first green bank, the Connecticut Green Bank (Green Bank)¹ leverages the limited public resources it receives to attract multiples of private investment to scale up clean energy deployment in Connecticut. As a result of efforts over the past three years, we are deploying more clean energy in our state than ever before – 65.3 MW in anaerobic digester, combined heat and power, fuel cell, solar PV, small hydro, and wind resources.²

Connecticut's residents, businesses and institutions now have easier access to affordable capital to finance clean energy projects. The Connecticut Green Bank scales up clean energy and plays an essential role in reducing the costs of clean energy investment, increases private capital investment, and lowers costs to consumers. The Green Bank looks forward to supporting the legislature's and Governor's vision of cleaner, cheaper and more reliable energy sources for Connecticut – while creating jobs and supporting local economic development.

The goals of the Green Bank include:

- Attract and deploy capital to finance the clean energy goals of Connecticut;
- Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers; and
- Reduce reliance on grants, rebates, and other subsidies and move towards innovative low-cost financing of clean energy deployment.

By using \$100 million of ratepayer funds, we have attracted over \$250 million of private investment in clean energy for a total investment of \$350 million to support clean energy projects creating nearly 2,500 jobs and reducing carbon emissions by over 580,000 tons. More importantly, rather than giving away ratepayer resources to support the sustainable growth and development of a thriving clean energy market in Connecticut, the Green Bank has transitioned

¹ Formerly known as the Clean Energy Finance and Investment Authority.

² Comprehensive Annual Financial Report (June 30, 2014)

from providing 100 percent of its resources as subsidies to around 40 percent by more responsibly managing public funds through financing (see Table 1). Financing not only allows for multiples of clean energy deployment over the subsidy model but also provides for the recycling of ratepayer funds to be used for additional, future investment.

Table 1. Green Bank model deploying more clean energy faster and more responsibly

	FY 2000-FY 2011 (CCEF)	FY 2012-FY 2014 (CT Green Bank)
Model	Subsidy	Financing
Years	11	3
Energy (MW / Lifetime GWh)	43.1 / 2,299	65.3 / 3,189
Total Investment (\$ MM)	\$349.2	\$350.2
Ratepayer Investment (\$ MM)	\$168.1	\$100.0
Ratepayer Investment as Loans (%)	9	57

It should be noted that as of the first two quarters of FY 2015 (from July 1, 2014 through December 31, 2014), the Green Bank has approved investments in over 40 MW of clean energy projects totaling over \$250 million. In just six months, the financing model being practiced by the Green Bank will have deployed more clean energy than over a decade’s worth of investment using the subsidy model through its predecessor entity, the Connecticut Clean Energy Fund (CCEF).

The Green Bank and its partners are working together to deploy more clean energy at a faster pace while using public resources more responsibly – while increasing investor confidence that Connecticut is a state for more clean energy investment.

The Green Bank focuses its efforts in four market segments, including infrastructure (e.g., grid-tied renewable energy systems), residential, commercial and industrial, and institutional (including state and municipal buildings). Our investment activities within these market segments are guided by the public policy goals and objectives of the State of Connecticut.

Residential Rooftop Solar PV – under Public Act 11-80 (CGS §§ 16-245ff), the legislature established a target of deploying a minimum of 30 MW of new residential solar PV in Connecticut by 2022. As a result of Green Bank efforts, nearly 60 MW of new residential solar PV is being deployed – doubling the legislative target 8 years ahead of schedule and well under budget. Installed costs have been reduced by nearly 30 percent and incentives by nearly 60 percent, and installed capacity has increased by 2,000 percent.³ The market for rooftop solar PV has increased from \$10 million of investment in 2011 to over \$160 million of investment in 2014

³ Installed costs: \$5.35/W (2011) to \$3.83/W (2015); Incentives: \$1.68/W (2011) to \$0.71/W (2015); Deployment: 1.7 MW (2011) to 37.0 MW (2014); Investment: \$8.4 MM (2011) to \$160.6 MM (2014). Approved, in progress, and completed projects.

– and more private investment in lease⁴ and loan⁵ financing for rooftop solar PV is occurring than ever before.⁶

The Green Bank has overseen doubled market growth each year since 2012. With more volume and consumer interest anticipated, there is a continued need for forward-thinking policy around residential solar. The Connecticut Green Bank appreciates the opportunity to provide comment on several such proposals before your committee, Senate Bill 730 and House Bill 6435.

SB-730 AN ACT PROHIBITING HOMEOWNER OR CONDOMINIUM ASSOCIATIONS FROM INTERFERING WITH OR PREVENTING INSTALLATION OF SOLAR PHOTOVOLTAIC SYSTEMS

The Connecticut Green Bank supports the aim of greater solar access. Homeowner or condominium associations may arbitrarily remove the option to go solar that other electric rate-paying homeowners benefit from, while also limiting potential solar PV customers that would help the state meet its clean energy goals. Given the state's commitment to clean energy, removing barriers to solar PV installation is particularly important at a time when the state will be considering Governor Malloy's vision of 300MW of residential solar PV in Connecticut.

Solar rights, broadly defined, are the rights to access and harness sunlight.⁷ Solar rights are defined and protected (or not) with respect to installation and use of solar energy systems in two primary aspects:

- Assuring adequate access to direct sunlight for a solar energy system (either active or passive) including the ability of one property to continue to receive sunlight across property lines without obstruction.
- Protecting the ability to install a solar energy system on residential or commercial property that is subject to restrictions including private restrictions (i.e., covenants, conditions, restrictions, bylaws, condominium declarations) as well as local government ordinances and building codes.

Solar rights are not protected at the federal level. However, 40 U.S. states have solar rights laws in the form of solar easement and/or solar rights provisions.⁸ Connecticut is one of a

⁴ *Connecticut's Green Bank: A Model for Public-Private Renewables Partnerships?* by Conway Irwin of Greentech Media (July 8, 2013)

⁵ *Will Crowdsourced Loans for Rooftop Solar Overtake Third-Party Ownership* by Herman Trabish of Greentech Media (February 19, 2014) and *\$200 Million More Flows to Residential Solar Loans through Sungage and Mosaic* by Eric Wesoff of Greentech Media (October 20, 2014)

⁶ It should be noted that the Connecticut Green Bank attracted \$50 MM of private capital to support the CT Solar Lease – including \$23 MM investment from US Bank as a tax equity investor and a \$27 MM investment from a syndicate of local lenders: First Niagara Bank, Webster Bank, Liberty Bank, and Peoples United Bank. It should also be noted that the Connecticut Green Bank enabled the first \$5 MM crowd-funded solar loan product with its partners Sungage Financial and Mosaic, which recently resulted in a \$100 MM commitment from the Digital Federal Credit Union and Sungage Financial to provide private capital to finance programs throughout the Northeast region.

⁷ Sara C. Bronin, Professor of Law and Faculty Director, Center for Energy and Environmental Law, University of Connecticut School of Law: (1) Solar Rights, *Boston University Law Review*, 2009, <http://ssrn.com/abstract=1479024>, (2) Modern Lights, *University of Colorado Law Review*, 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1479042.

minority of U.S. states that does not protect the right to light.⁹ Discussion about solar rights in the CT context and examples of solar rights laws in other states is provided in a final project report prepared under a U.S. Department of Energy SunShot Initiative Rooftop Solar Challenge funding award.¹⁰ As CT's solar PV market continues to grow and mature, **SB-730 would be a step in the right direction toward protecting solar rights for all current and future homeowners and ratepayers in Connecticut.**

HB-6435 AN ACT STREAMLINING THE PERMITTING PROCESS FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC SYSTEMS

The Connecticut Green Bank supports the objective of HB-6435. The lack of standardization in the municipal permitting process leads towns to create their own paths for approval of a solar PV installation. The result is 169 municipalities with wide variation in the amount of money and time required of applicants to complete a town's unique process. In effect this creates "cold spots" in the state where installer companies see disincentives to pursuing business within the borders of certain jurisdictions.

The Green Bank recommends that municipalities take the initiative in establishing expedited permitting processes for small residential solar PV¹¹ systems. The municipality should meet the following recommended minimum requirements to establish an expedited process.

1. The municipality shall develop a checklist of requirements with which small residential solar PV systems must comply to be eligible for the expedited process and to obtain the applicable permit. This checklist shall include eligibility and process requirements, documentation requirements, and applicable municipal regulations.
2. The municipality's checklist of requirements for expedited review shall be posted on a publicly accessible website.
3. Applications for small residential solar PV systems that comply with the municipality's checklist for its expedited permit process shall be coordinated through and approved by the building or (if applicable) electrical department only.
4. Municipalities shall allow electronic submission of applications that qualify for expedited review (via the internet, e-mail or facsimile) and accept electronic signatures in lieu of wet signatures. If a municipality determines that it cannot accept electronic signatures it

⁸ A Comprehensive Review of Solar Access Law in the United States, Suggested Standards for a Model Statute and Ordinance, Colleen McCann Kettles, Florida Solar Energy Research and Education. Report: solarabcs.org/about/publications/reports/solar-access/pdfs/Solaraccess-full.pdf.

⁹ dsireusa.org/solar/solarpolicyguide/?id=19, Database of State Incentives for Renewables & Efficiency (DSIRE) Connecticut General Statute 47-25. Right to light not gained by adverse possession. No occupant of real estate may acquire, by adverse occupation, the right to keep, sustain or enjoy any window or light, so as to prevent adjoining premises from erecting and maintaining any building thereon.

¹⁰ <http://energizect.com/sunrisene>, and http://energizect.com/sites/default/files/uploads/SunShot%20Final%20Project%20Report_0.pdf

¹¹ A "small residential solar PV system" is characterized as a solar energy system that is mounted flush to the roof of a 1-4 unit dwelling and meets all applicable state fire, structural, electrical and other building codes as adopted by the state. Recognizing a standard definition for this term may enable towns to eliminate certain departmental or zoning oversight functions if they choose.

must document the reason for its inability to accept electronic signatures and shall accept permit applications for small residential solar PV systems by mail.

5. Municipalities shall allow payment of permit fees for applications that qualify for expedited review in person, through the internet or by mail.
6. Only one inspection shall be required for small residential solar PV systems eligible for the municipality's expedited process. If a small residential solar PV system fails inspection, subsequent inspections are authorized.
7. In addition to these minimum requirements, when developing their expedited process for small residential solar PV systems, municipalities shall substantially incorporate additional recommendations in the SunShot Initiative Rooftop Solar PV Permitting Guide.

The Green Bank has developed a partnership with the federal Department of Energy's SunShot Initiative Rooftop Solar Challenge to identify and reduce the soft costs of solar PV installation. With the help of a variety of stakeholders this partnership produced the CT Rooftop Solar PV Permitting Guide¹². The guide makes recommendations to standardize several business operations of town halls to prospectively address a growing volume of small residential solar PV applicants.

We thank you again for the opportunity to provide these comments.

¹² www.energizect.com/sunrisene