



CGB's Experience with Solar + Efficiency in the Residential Market

Co-Selling Energy Efficiency and Renewable
Energy Panel

ACEEE Finance Forum

June 2, 2015



Connecticut Green Bank

Attract and Deploy Capital



Attract and deploy capital to finance the clean energy goals for Connecticut

Increase the attractiveness to capital providers



Increase the attractiveness to consumers

Residential Solar Policy Context in CT



Solar PV in Connecticut

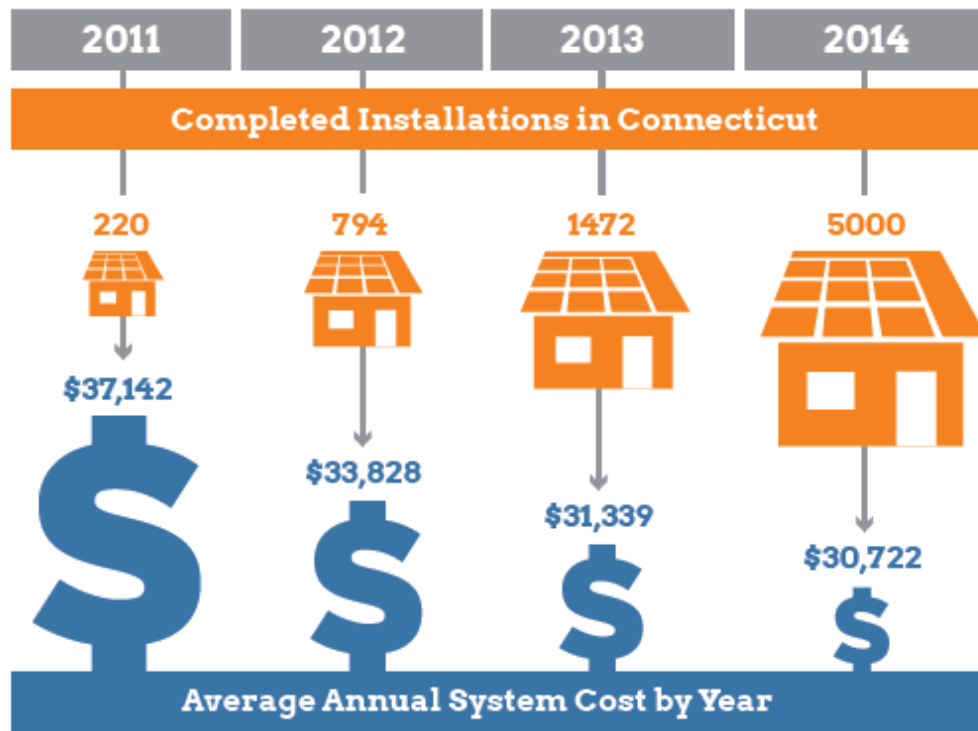
- **Public Policy** – Connecticut Green Bank to deploy no less than 30 MW of new residential solar PV by the end of 2022 – beginning from 2012
- **Performance** – currently completed about 30 MW with an additional 45 MW of projects in process – installed costs (↓20%) and subsidies (↓60%) are down and financing is up!
- **Public Benefits** – beyond saving energy costs for 10,000 homeowners, the Connecticut Green Bank's Residential Solar Investment Program will have reduced nearly 1,000,000 tons of CO₂ and created about 2,000 direct jobs

2.5 times target – 7 years ahead of schedule



The GoSolarCT Solar Market Spotlight is shining a light on the current trends and economic benefits of solar PV, making it easier than ever before for homeowners to shop solar! Since 2011, the average cost of a residential solar PV system has decreased by 17%. Solar has never been more affordable.

SOLAR TRENDS



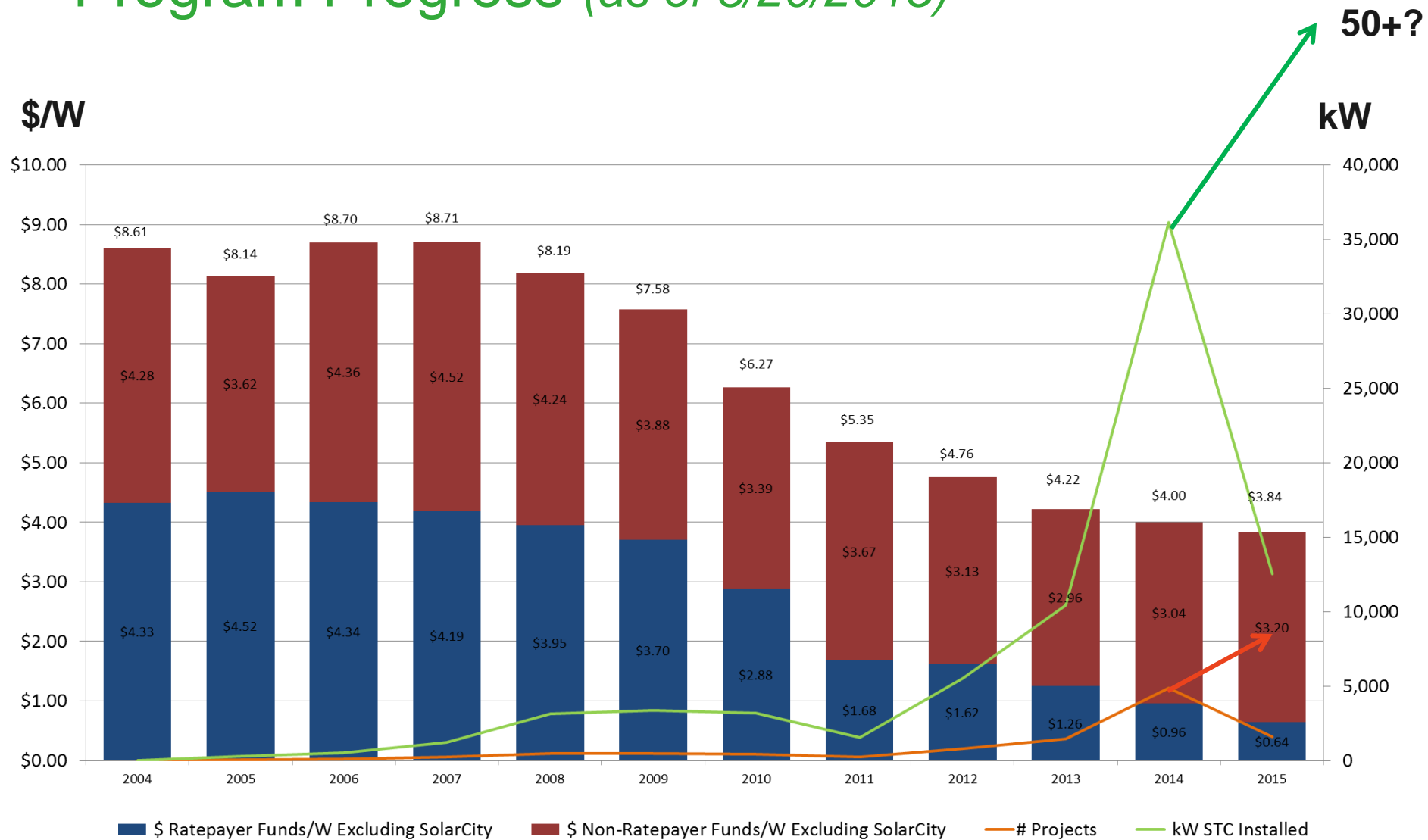
11,652
SOLAR HOMES

Total Projects approved,
in progress, and
completed as of 5/1/15

-17%
DECREASE IN
SYSTEM COST

Average costs
decline since 2011

Residential Solar Investment Program Progress *(as of 3/20/2015)*





Future of Solar PV in Connecticut

- **Proposed Public Policy** – “An Act Concerning Solar Homes and Economic Development” seeks to deploy no less than 300 MW of new residential solar PV by the end of 2022 – equal to 83.4 W/capita
- **Perspective** – California’s “Million Solar Roofs” goal was about 2,000 MW – equal to 51.5 W/capita
- **Potential** – between 3,000 MW to 6,000 MW for residential solar PV in Connecticut...programs like Solarize, access to financing, and reaching low income market segments will help us meet these targets

Solar + EE in Action in CT

Solar and EE Intersection in CT – Residential Solar Investment Program

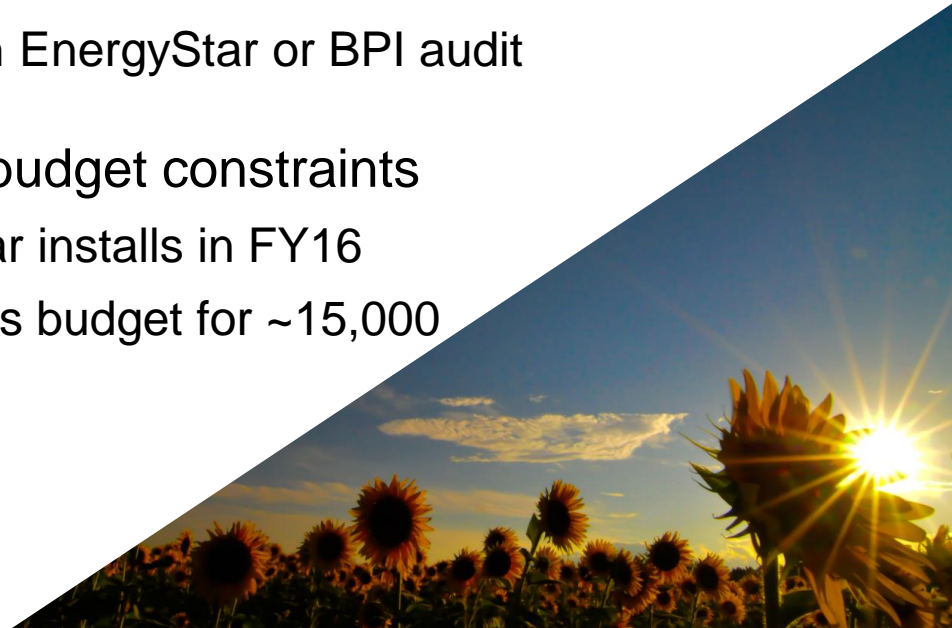


Green Bank's solar incentive requires an energy assessment – *a great opportunity for EE!*

- Efficiency Ratepayer Fund's Home Energy Solutions program
 - \$99 co-pay gets you blower-door assisted weatherization (sealing), lighting and water measures
 - Roadmap for what else your home needs to be most efficient, including a DOE Home Energy Score
 - Access to rebates and incentives
- Can also do Home Performance with EnergyStar or BPI audit

But Efficiency Ratepayer Fund has budget constraints

- Green Bank is projecting 13,000 solar installs in FY16
- Efficiency ratepayer fund typically has budget for ~15,000 assessments each year



Solar and EE Intersection in CT – Smart-E Loan Bundle Offer



Go Solar **and** add insulation,
a heat pump; or switch to gas!



WITH THE SMART-E BUNDLE,
HOME ENERGY IMPROVEMENT IS CHILD'S PLAY.

- No money down
- Rates as low as 2.99% APR for 10 years!
- Act now for this limited time offer

See how easy it is to get started!
Visit EnergizeCT.com/SmartEBundle



*Includes ductless mini-splits, air source heat pumps, heat pump water heater, or ground source heat pump (geothermal)

■ Smart-E Bundle

2.5% - 2.99% interest rate for **10 year** for qualifying projects with **multiple measures**

- ✓ **Solar + Attic and/or Wall Insulation**
- ✓ **Solar + Ductless Mini-Split**
- ✓ **High Efficiency Gas Conversion (Boiler or Furnace) + Solar or Insulation**
- ✓ **Insulation + Windows**

- Bundle offer has the most momentum among the Smart-E loan terms
 - Solar Bundles dominate – 85%
- “Credit” given for an eligible measure installed in last 5 years, with proof

Solar and EE Intersection in CT – Smart-E Bundle Customer Example



The Smart-E Bundle

Insulation and Solar

Financing:

- 10 year loan, 2.5%
- Insulation - \$2,100
- Solar – \$28,743
- Loan - \$22,211 or \$209.42/ month
- Savings ~ \$176 /month
- By bundling saved - \$2,981.42

Solar and EE Intersection in CT – Solarize Campaigns



Solarize East Granby-Suffield Windsor-Windsor Locks

Solar. Simple. Together.

Now is the time to go solar!
You must sign a contract by April 8, 2015 to qualify.

Now is the Time to Go Solar!

Save money by taking advantage of a unique group buying opportunity from our towns in partnership with the State of Connecticut. The Solarize program benefits include:

- Significant solar discounts which increase in size as more people sign up.
- Lower monthly utility bills.
- Pre-selected, competitively chosen installer for our community, C-TEC Solar.

Sign up today and be guaranteed the lowest price available by the end of the program.

You must sign a contract by April 8, 2015 to qualify.

For a free no obligation site consultation, call C-TEC at 888-52-SOLAR.

To learn more about Solarize, visit our website at www.SolarizeCT.com/East-Granby-Suffield-Windsor-WindsorLocks.



Facebook.com/SolarizeCT @solarizeCT



www.SolarizeCT.com/EastGranby-Suffield-Windsor-WindsorLocks



Go Solar and add insulation or a ductless mini-split!

SMART-E FINANCING AVAILABLE FROM EASTERN SAVINGS BANK

- No money down
- Flexible rates and terms
- Act now for this limited time offer on qualified bundles

See how easy it is to get started!

Call (860) 425-0142 or visit www.eastern-savings.com/energyloans



WITH THE SMART-E LOAN,
HOME ENERGY IMPROVEMENT IS CHILD'S PLAY.

Solar and EE Intersection in CT – What's Next for CGB



Need more contractor matchmaking – this is market transformation!

- Between Solar installers, HVAC, Insulation, and Home Performance contractors
- Solar installers have taken the lead with this so far
 - Example: 1) SolarCity partnership with Home Performance contractors, due to constraints on HES program; 2) local installers + HES contractors for insulation or HVAC for mini-splits
- We're working hard to cultivate the EE contractors, educate about solar
- Home improvement/remodeling is another area of opportunity – they are excited about incorporating solar, but it's a new contractor base for us

Will start testing direct offers of EE to 12,000 solar residents

- Who does this? Solar installer or Green Bank?

Evaluating a low-moderate income proposal:

- Lease + ESA for EE measures



Customer Insights

The CT Solar Customer

- In 2014 worked with our agency, Match Drive, to do a Nielsen customer market segmentation analysis of the current Solar customer in CT
 - Research available at www.GoSolarCT.com/Solar_Segmentation
- Our current customer base can be broken into 2 primary segments:
 - **“Solar Homes”** – the mainstream solar customer
 - **“Prudent Yankees”** – unique segment, very different from Solar Homes, unique to our state
- Nielsen identified an additional segment based on their national profile – new opportunity for state:
 - **“Solar Prospects”** – going solar elsewhere, but not in CT

Segment	% of Current Customers	Avg. Household Income	Avg. Age	College Education	% w/ Children in Home	% Employed Full Time	Potential CT Households
Solar Homes	70%	\$148K	44	52% college+	54%	66%	483K
Prudent Yankees	10%	\$48K	52	16% college+	48%	38%	83K
Solar Prospects	<10%	\$79K	50	32% college+	27%	49%	250K

Insights on Solar vs. EE Customer in CT



Why Go Solar?

- **Reduce electric costs**
 - Save from day 1
- **Taking control of electric bill**
 - With predictable bill for years to come
- **Self reliance**
 - Independence from utility/grid, fossil-based fuels
- **Easy**
 - Never more affordable (costs, financing), no money down, no hassle options like leasing
- **Social norms**
 - In certain geographies & due to media coverage
 - Feels like lots of people are going solar

Why Do EE?

- **High energy bills – need to reduce**
- **Something broke**
- **Comfort issues**
- **Health & safety issues**
- **Women initiating majority of home improvement work**
 - Most closely aligned with EE for opportunity to upsell project to incorporate efficiency

Common Ground – Energize CT Social Media Target Customer

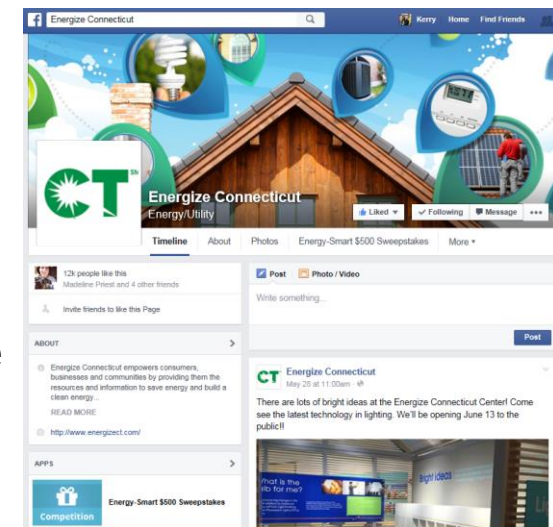


Energize CT Facebook page top posts are already a blend of EE & Solar

- Tips, solar, Smart-E loan (including solar/Bundle posts), LED lights

Decision making dynamics on household energy decisions*

- Linked to home improvement, “nestbuilding,” enhance appearance & value
- External perceptions – neighbors and friends
- Self sufficiency – strong motivator
- “Muddling through” – wife and husband circling each other
- “Minimizing conflict” – as opposed to maximizing value



Common Ground – Energize CT Social Media Target Customer



Go-forward Facebook target customer* – works for EE & Solar

Female decision influencer:

- Female head of household
- 35-64, sweet spot of 35-45
- Married with kids
- Professional, educated
- Suburban
- Communicator
- Engaged with husband in ongoing conversation on household economics and home improvement

** From analysis/strategy by drinkcaffeine, Energize CT's Social Media agency*

Women as Gatekeepers

- They are frequently the “go/no-go” on whether home projects move forward
- We see this in our testimonials for both solar and efficiency
- Need to proactively address this phenomenon

Parting Thoughts



What Can EE Learn from Solar?



On the policy front, CGB has shown that declining incentives and a shift to financing can work and still support a growing (exploding!) market

Marketing innovations matter

- Solarize showed soft costs can come down and demand grows with time-bound campaigns and community focus

Meet people where they are

- If they want to go solar first, set them up to do EE too/next & follow up

Given explosive growth in solar in some markets, can solar pull EE at scale?

- Can Energy Efficiency Ratepayer programs exploit that?



Thank you!

Kerry E. O'Neill

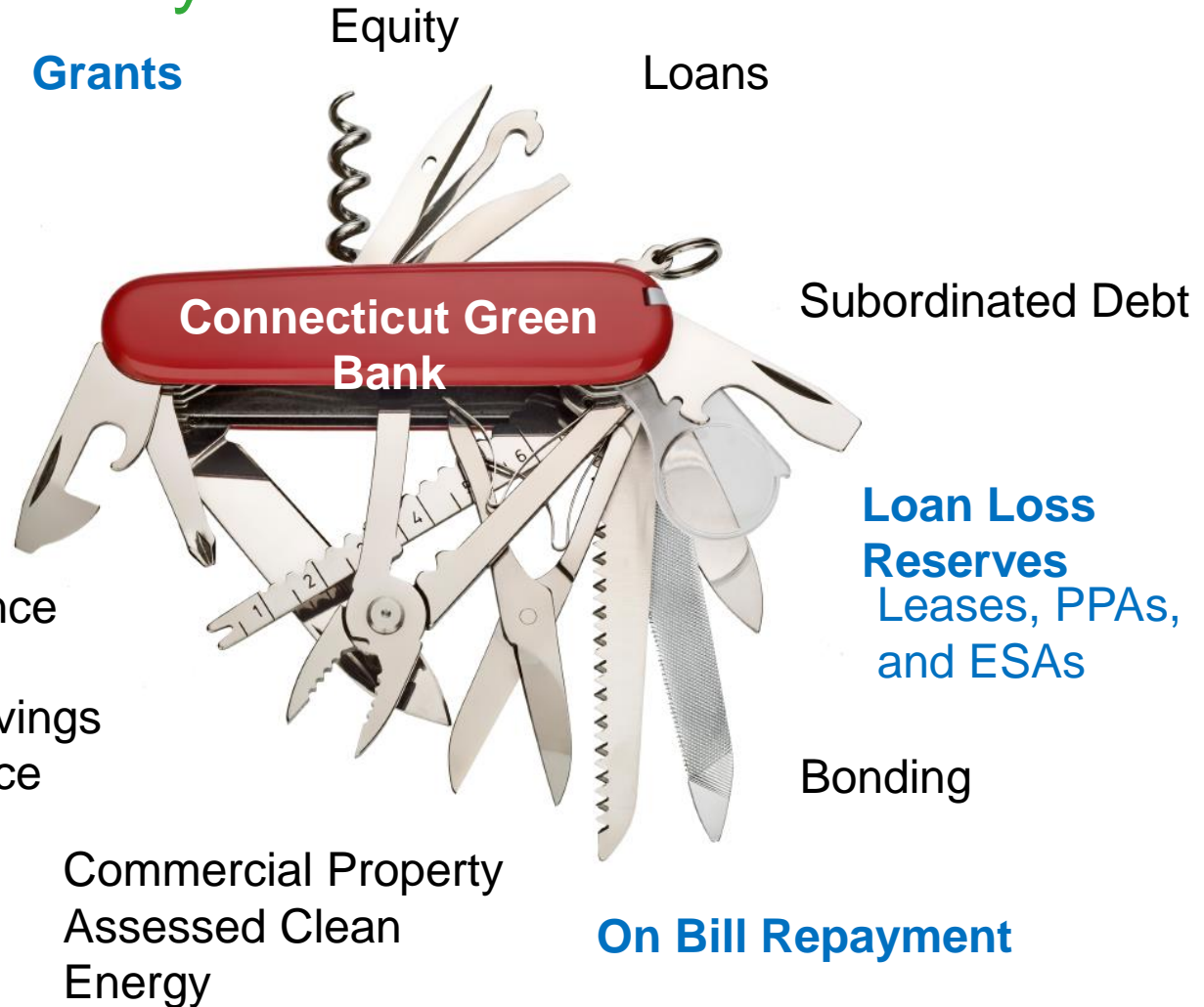
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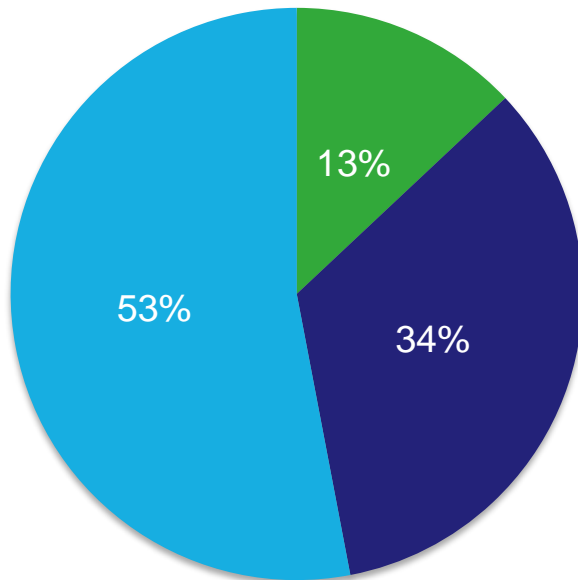
Green Bank Residential Solar and Energy Efficiency Tools



Commercial PACE (C-PACE) Measures and Buildings Financed



Measure Types



Building Types

