

# **THE NEVADA CLEAN ENERGY FUND ROUNDTABLE**



# Green Banks 101 & Nevada Green Bank Study Results

*Coalition for Green Capital*  
*Jeff Schub, Executive Director*

*July 27, 2017*

# Agenda

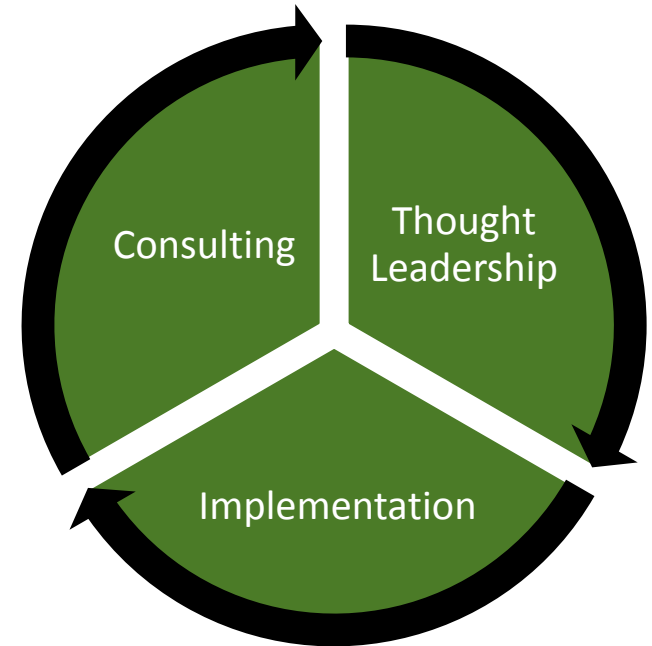
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- About CGC
- “Green Banks 101”
- Introduction to Connecticut Green Bank
- Results of Nevada Green Bank Opportunity Assessment

# Coalition for Green Capital partners with government to design & create public energy finance institutions

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- The Coalition for Green Capital (CGC) is a DC-based 501(c)(3) non-profit that partners with governments to establish dedicated clean energy finance entities
- CGC designs and forms lending institutions that partner with private investors to deploy clean and efficient energy technology that increase energy resilience
- CGC is leading expert in “Green Bank” model and worked with White House, DOE, USDA, EPA, OECD and other leaders on implementation
- CGC has helped establish 6 entities which have financed over \$2 billion of clean energy projects
- CGC has driven the “Green Bank” movement since firm was founded in 2009 by CEO Reed Hundt, former chairman of the FCC
- CGC is supported by leading global foundations



# **GREEN BANKS 101**

# Green Banks use public-purpose dollars to drive more private clean energy investment, deploy affordable energy

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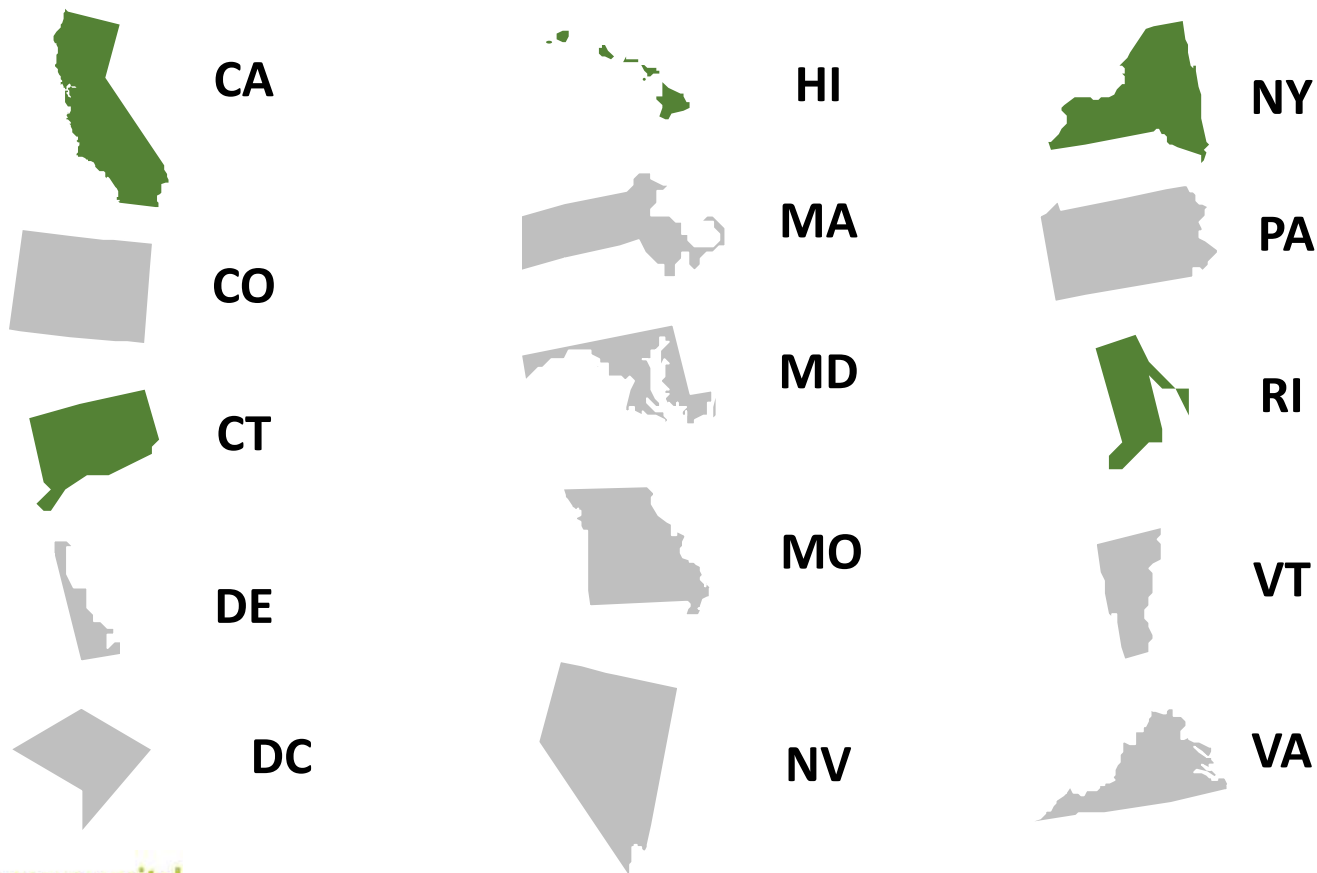


- Are focused institutions, created to maximize clean energy adoption
- Use public-purpose money to de-risk & leverage private capital
- Provide financing in many forms to underserved market sectors
- Are market-oriented and flexible, and aim to increase consumer protection, information transparency, and ease of adoption
- Seek to be self-sustaining, and produce dividends for taxpayers
- Complement existing actors and programs, bridging gaps in capital supply chain

In the U.S., state & local Green Banks are spreading, with growing interest from all regions

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***CGC Now Working on Green Banks in  
15 states***



# Why Green Banks? Because of importance of dedicated local institutions

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Specific Focus

Local Capital  
Formation

Prime the  
Pump

Take 1<sup>st</sup> or 2<sup>nd</sup>  
Loss

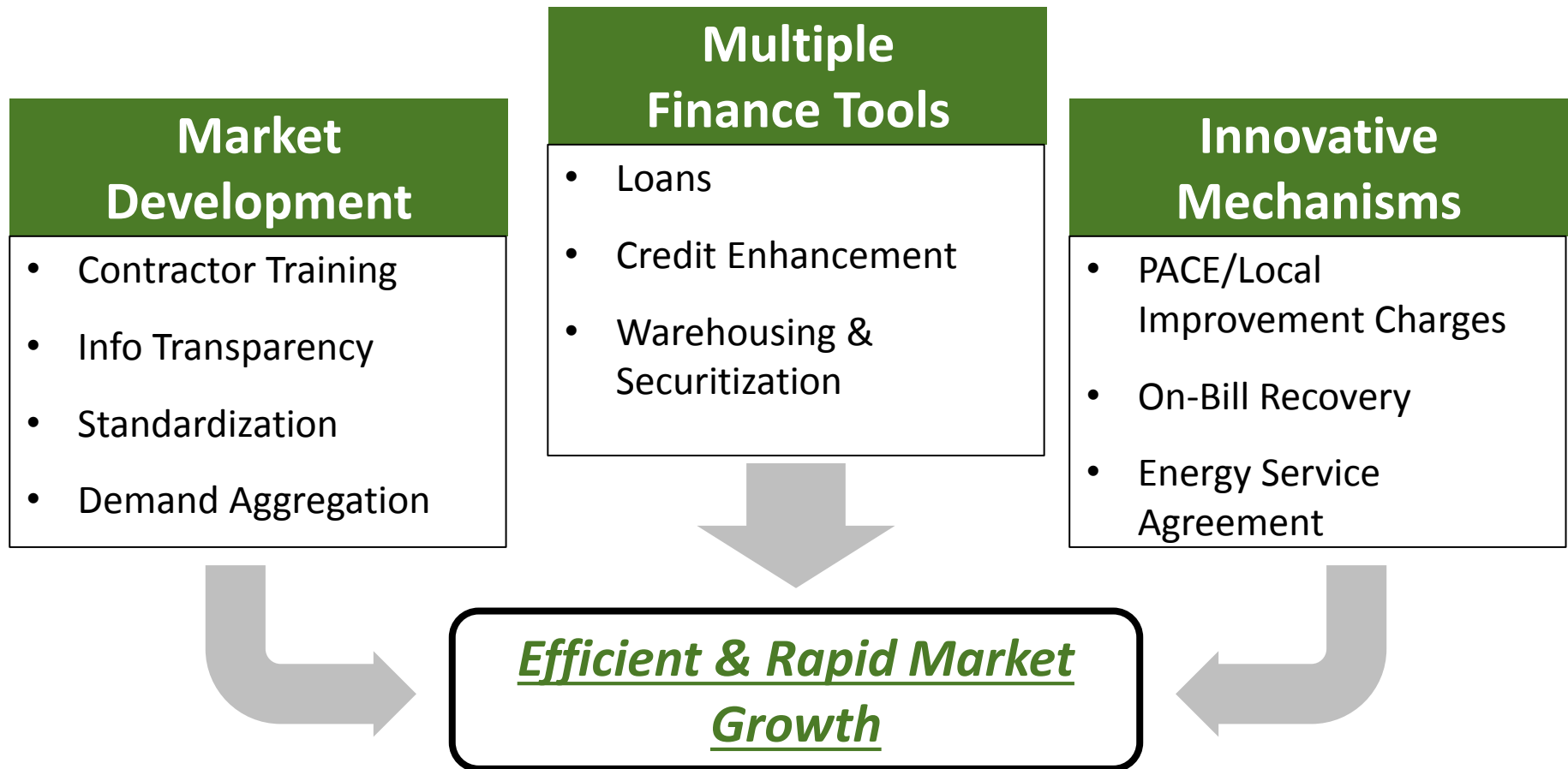
Carry Market-  
Making Costs

Convene &  
Organize



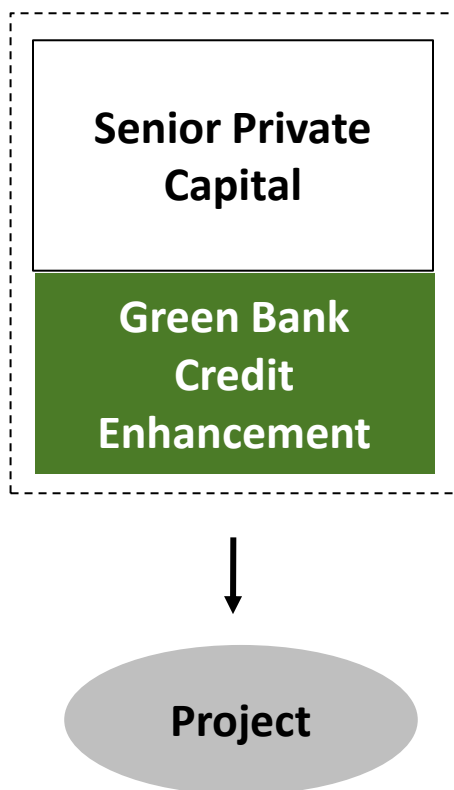
# Green Banks utilize a common set of techniques and finance tools to address targeted market barriers

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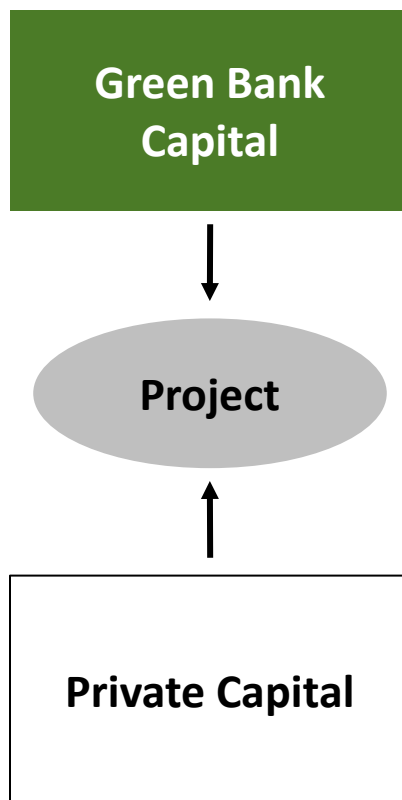


# Green Banks use multiple structures to draw in more investment capital at better financing terms

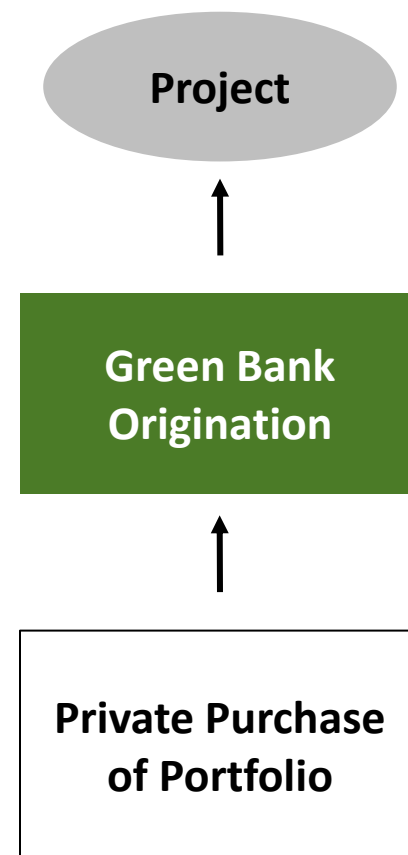
## Credit Support



## Co-Investment



## Warehousing



# GREEN BANK NETWORK IMPACT through 2016

CALCULATIONS BY THE GREEN  
BANK NETWORK BASED ON  
AVAILABLE DATA. \$=US DOLLARS

## CAPITAL

TOTAL INVESTED OR COMMITTED BY GBN

**\$7.9** BILLION



TOTAL VALUE OF PROJECTS SUPPORTED

**\$25.9** BILLION

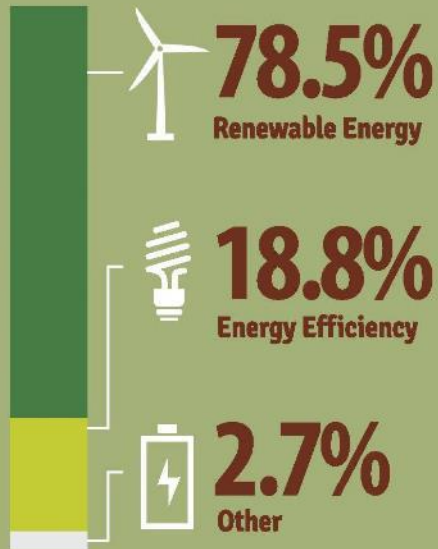
LEVERAGE RATIOS RANGE

**2x to 10x**

Non-GB money invested per GB money invested

## INVESTMENTS

BY TECHNOLOGY TYPE



Including low emissions vehicles, CHP and energy storage

## RESULTS

ANNUAL CO2EQ EMISSIONS AVOIDED\*

**12** MILLION  
TONNES



equivalent to taking  
**5.6 MILLION**  
cars off the road



\*GBN members do not claim that this abatement occurs  
independantly of complementary polides

Sparking the Green Bank Movement

# **CONNECTICUT GREEN BANK**

- **Who Are We** – who is the Connecticut Green Bank?
- **What Do We Do** – what sorts of programs and products does the Connecticut Green Bank oversee within its portfolio?
- **Why Do We Do It** – why do we focus on delivering prosperity through the climate economy?

Who Are We?

# Connecticut Green Bank

## Mission and Goals



Support the strategy to achieve **cheaper, cleaner, and more reliable** sources of energy while **creating jobs** and supporting **local economic development**

**Attract and deploy private capital investment** to finance the clean energy policy goals for Connecticut

**Leverage limited public funds** to attract **multiples of private capital** investment while **returning and reinvesting** public funds over time

Develop and implement strategies that **bring down the cost** of clean energy in order to make it more **accessible and affordable** to customers

Support affordable and healthy homes and businesses in distressed communities **reduce energy burden** and **address health & safety**

# Connecticut Green Bank

## About Us



- **Quasi-public organization** –
- **Focus** – Finance clean energy (i.e. renewable energy, energy efficiency, and alternative fuel vehicles and infrastructure)
- **Balance Sheet** – Approximately \$175 million in assets and \$125 million net position and gone from 1:1 to 5 to 10:1 leverage ratio.
- **Support** – Supported by a \$0.001/kWh surcharge on electric ratepayer bills (about \$10 per household per year) that provides approximately \$27-30 MM a year for investments, RGGI about \$5 MM a year for renewable energy, federal competitive solicitations (i.e. SunShot Initiative) and non-competitive resources (i.e. ARRA-SEP), private capital, and private foundations



# Connecticut Green Bank

## Delivering Results for Connecticut



- **Investment** – mobilized over \$1 billion of investment into Connecticut’s clean energy economy so far
- **Energy Burden** – reduced the energy burden on over 22,000 households and businesses
- **Jobs** – created an estimated 13,000 total jobs, translating to an estimated 7.5% to 20% of total job creation in CT over the Green Bank’s first 5 years.\*
- **Clean Energy** – deployed more than 220 MW of clean renewable energy helping to reduce 3.4 million tons of greenhouse gas emissions that cause climate change

#### REFERENCES

\*62,500 private non-farm jobs created in the state over 5 years since Green Bank creation mid-2011. Green Bank statistics are in job-years; “total jobs” include direct, indirect and induced. CT DOL statistics are aggregated from monthly point-in-time estimates. CT Department of Labor - <http://www1.ctdol.state.ct.us/lmi/privatesectoremployment.asp>

# Connecticut Green Bank



## Innovations in American Government Awards 2017



HARVARD Kennedy School

**ASH CENTER**

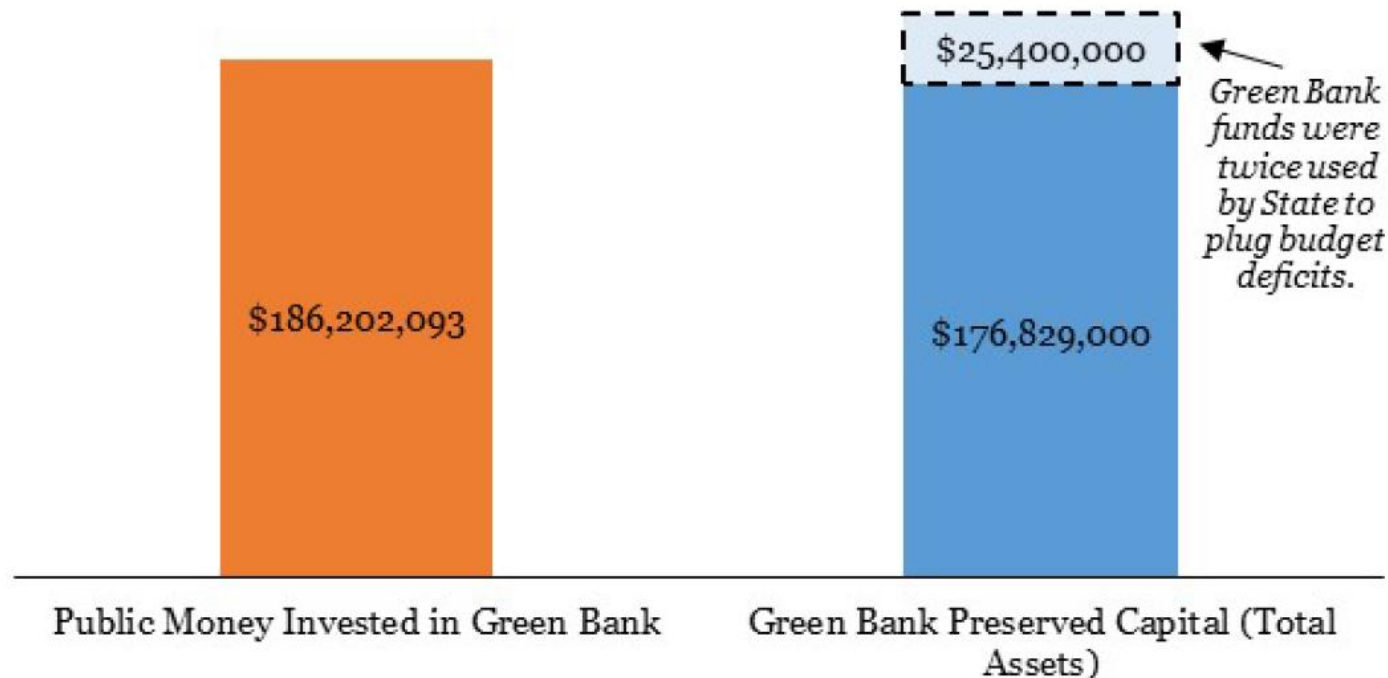
for Democratic Governance  
and Innovation

## Green Bank Preservation of Public Capital

The State Put \$186  
Million in public funds  
into the Green Bank



And effectively all of the  
capital has been preserved  
as Green Bank Assets



Preserving ratepayer capital as an asset to leverage  
more private investment that delivers more impact!

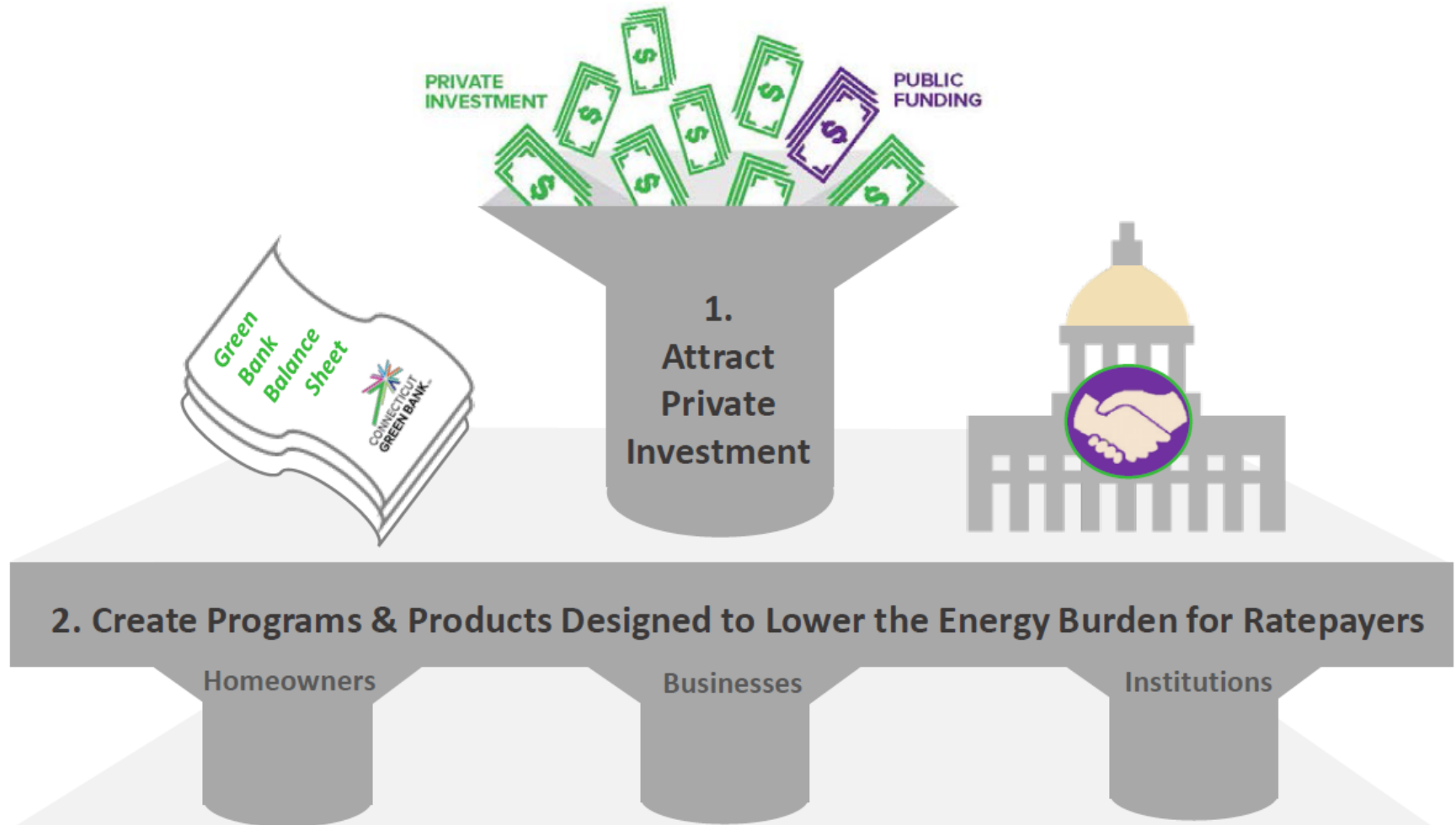
**Sources:**

- Connecticut Green Bank – Financial Analysis – Coalition for Green Capital.

What Do We Do?

# Connecticut Green Bank

## What Does a Green Bank Do?



# Connecticut Green Bank

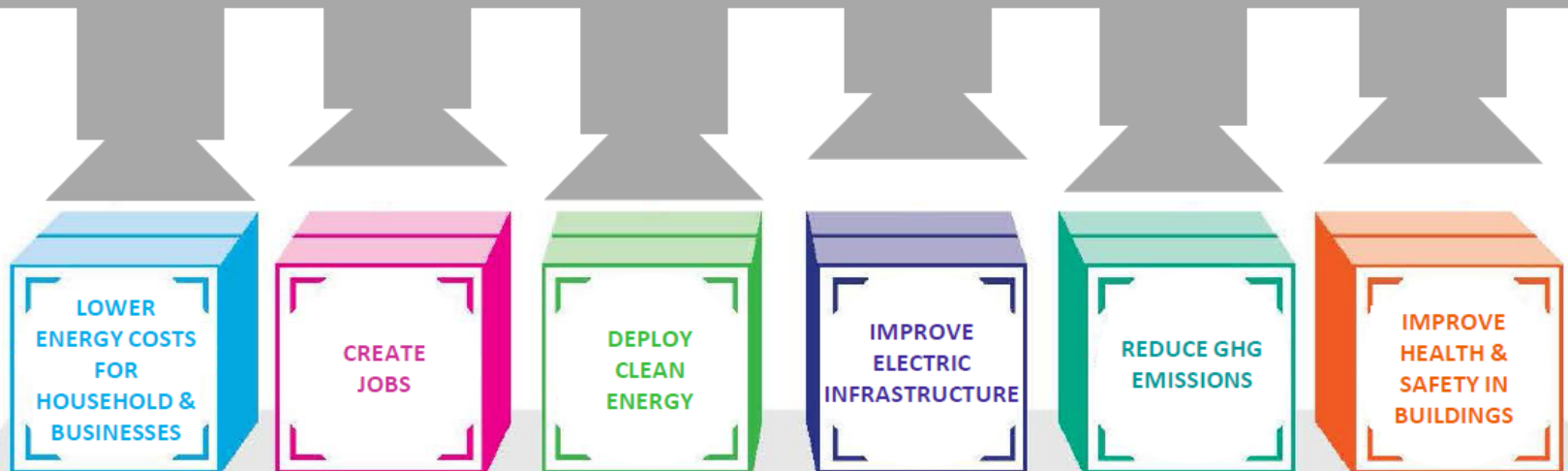


## What Does a Green Bank Do? (cont'd)

### 3. Apply Innovative Financing Tools to Deploy Public and Private Capital



### 4. Educate and Activate Consumers with Ratepayer-focused Marketing Strategies

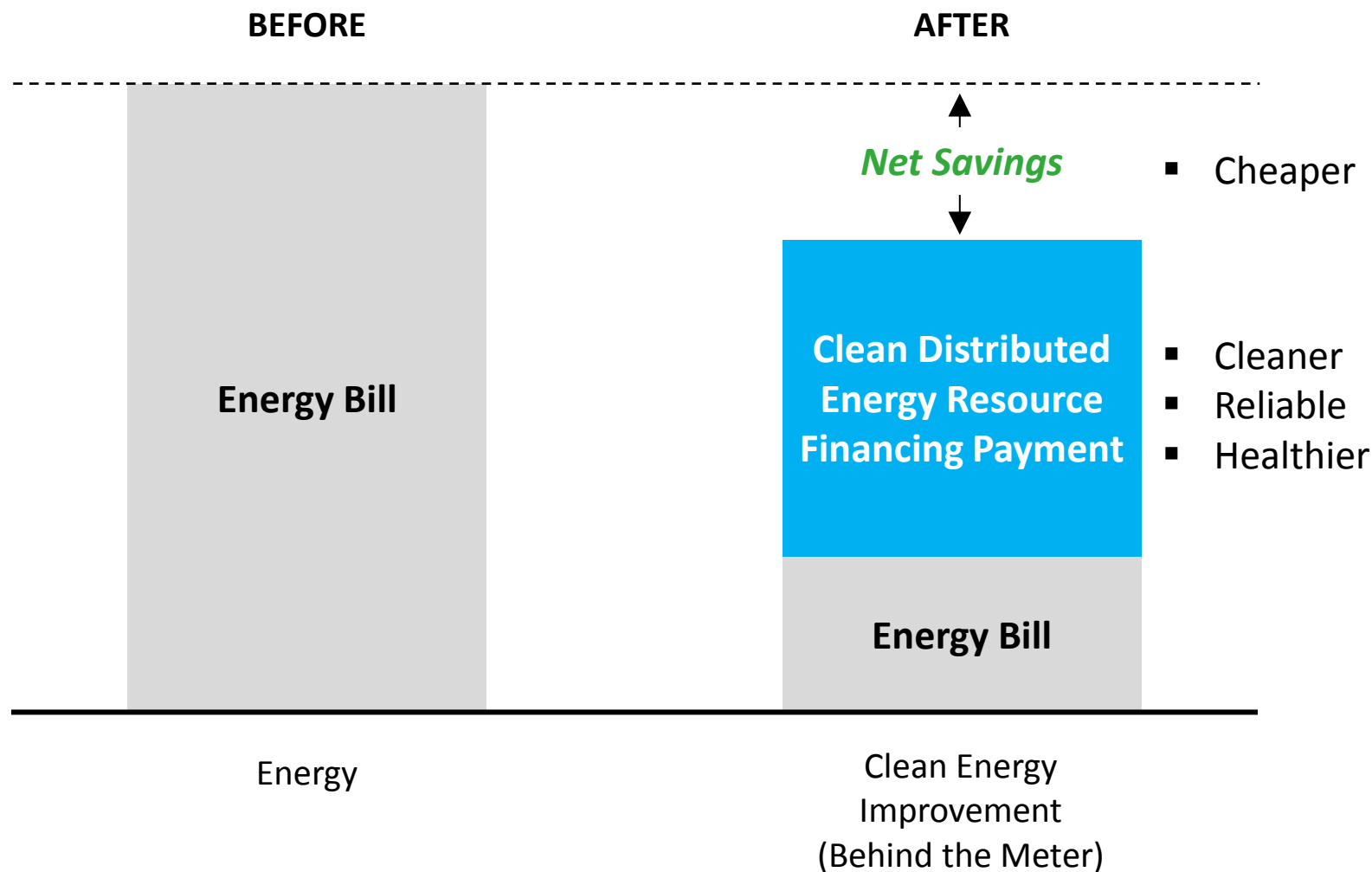


### 5. Accelerate the Growth of Clean Energy Benefits to Connecticut\*

# Connecticut Green Bank



## Help Households and Businesses Thrive



### REFERENCE

Definition provided by the Coalition for Green Capital and adapted by the Connecticut Green Bank

# Connecticut Green Bank

## Innovative Financing Tools



### Incentives

Green Bank  
Capital



Project



Private  
Capital

### Co-Investment

Green Bank  
Capital



Project



Private  
Capital

### Credit Support

Senior  
Private  
Capital

Green Bank  
Credit  
Enhancement



Project

### Warehousing

Project



Green Bank  
Origination



Private  
Purchase of  
Portfolio

### Investment

Projects &  
Programs



Green Bank

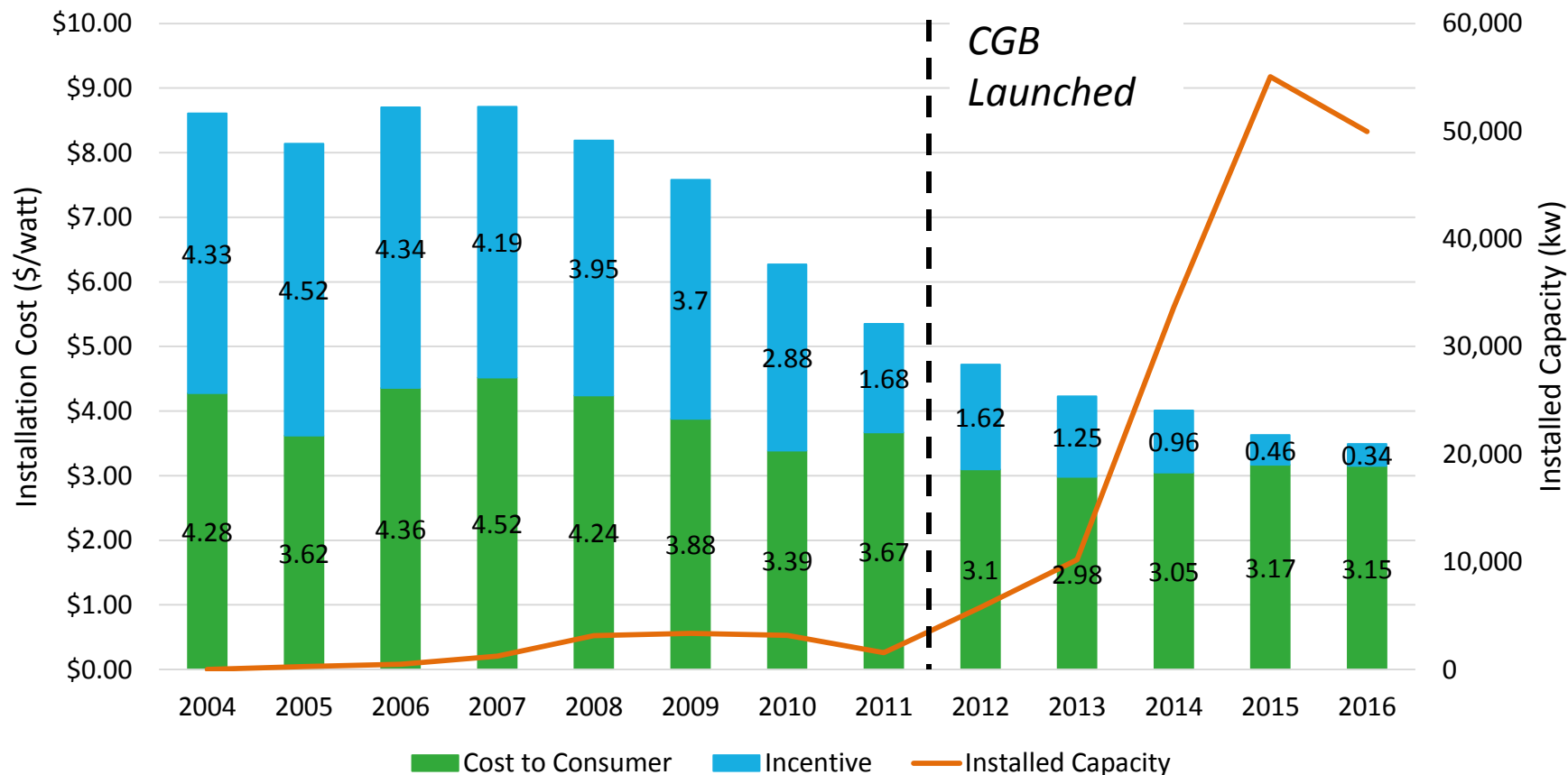


Private  
Balance  
Sheet Loan



# Incentives

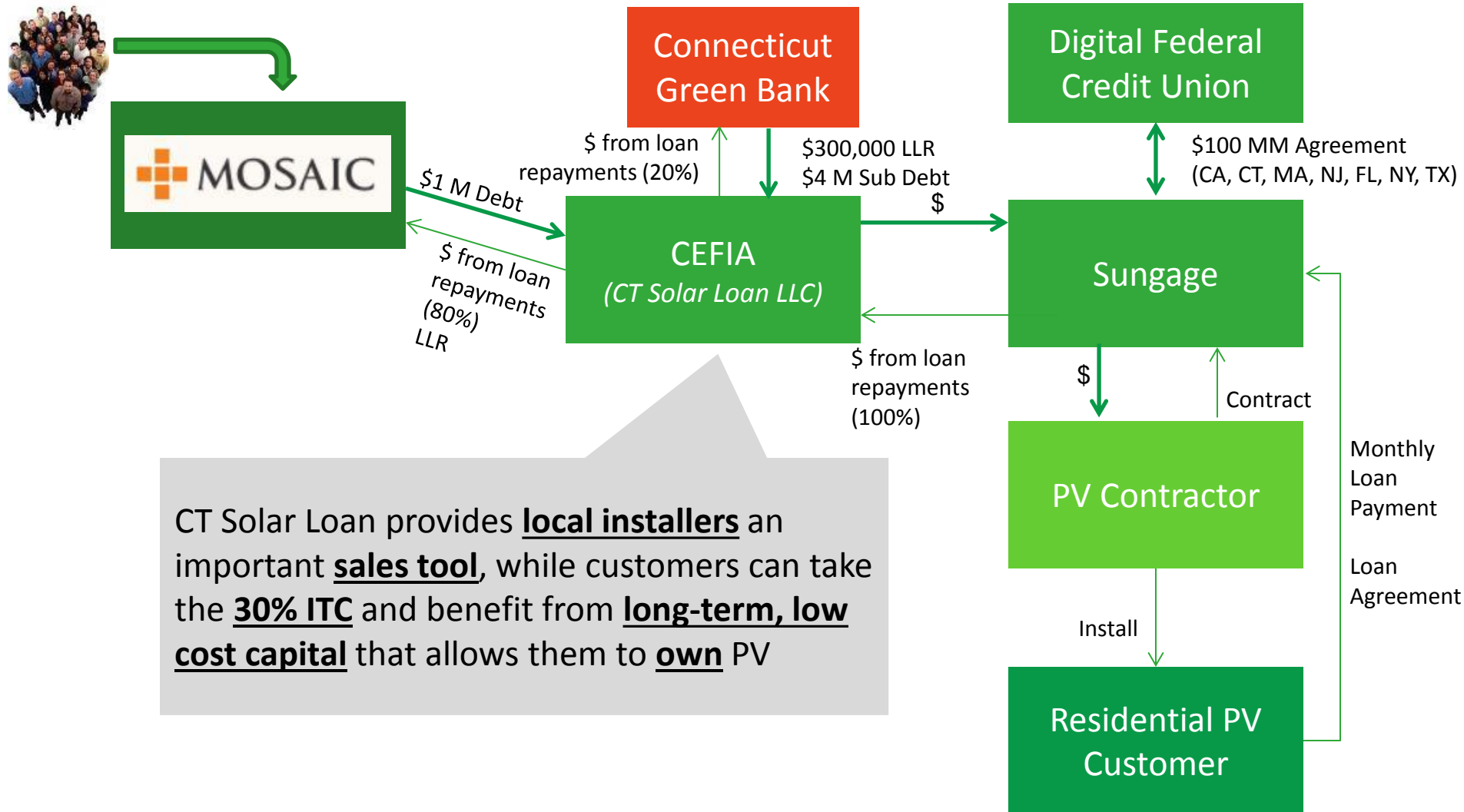
## Residential Solar PV in CT



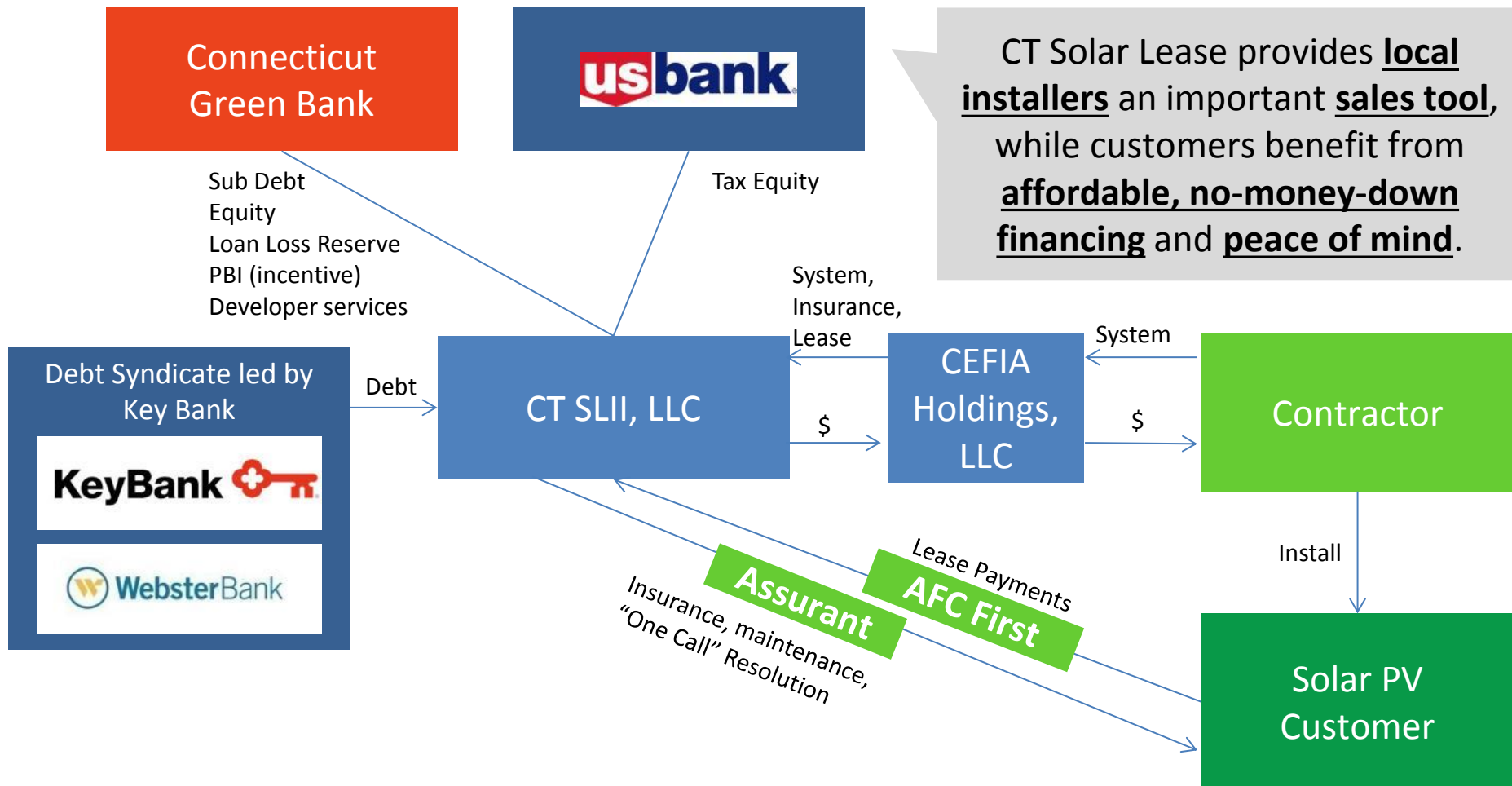
### REFERENCES

Residential Solar Investment Program (RSIP) Market Watch Report of February 28, 2017

# Co-Investment CT Solar Loan



# Co-Investment CT Solar Lease



# Credit Support

## Smart-E Loan



- **Rates** – 4.49% to 6.99% & special offers (2.99%), unsecured lending
- **Terms** – 5 to 20 years unsecured
- **Amount** – \$500 to \$40,000
- **Underwriting** – 640 FICO or above, 40-45% DTI; CDFI at 580+ FICO and 50% DTI waived for >680 FICO)
- **Measures** – predominantly HVAC, hot water, and solar PV... and supports healthy home too
- **Contractors** – over 300 eligible
- **Lenders** – 4 credit unions, 6 community banks, 1 CDFI
- **Credit Support** – \$1.8 MM 2<sup>nd</sup> loan loss reserve to attract ~\$30 MM of loan capital; \$2.5 MM interest rate buy-down program



The First National Bank of Suffield



Banking for Generation You\*



CAPITAL  
FOR CHANGE



# Warehousing C-PACE



## Connecticut Green Bank C-PACE Warehouse (\$40 MM)

C-PACE  
Benefit  
Assessment

C-PACE  
Benefit  
Assessment



Connecticut  
Green Bank

Class B Bonds  
(10%)

Class C Bonds  
(10%)

\$30 Million in Funding  
*Private Placements &  
Ultimately Public Markets*

Class A Bonds  
(80%)

Clean  
Fund

# Public-Private Partnerships Investment Transactions



**\$65 MM**

CLOSED  
10:1



Grid-Tied

**\$6 MM**

CLOSED  
6:1



Residential Solar

**\$75 MM**

CLOSED  
7.5:1



Residential Solar  
Commercial Solar

**\$30 MM**

CLOSED  
4:1



C-PACE

**\$30 MM**

OPEN  
10:1<sup>1</sup>



Residential Energy

**\$20 MM**

OPEN  
4:1



Residential Solar &  
Energy Efficiency

**\$50-100 MM**

OPEN  
9:1



C-PACE

**\$5 MM**

OPEN  
100%<sup>2</sup>



Multifamily Energy

**\$60+ MM**

OPEN  
6:1<sup>3</sup>



Commercial Solar

**\$3 MM**

TERM SHEET  
100%<sup>4</sup>



Residential Storage  
Commercial Storage

**\$10 MM**

TERM SHEET  
100%<sup>4</sup>



Connecticut  
Green Bank

**\$50 MM**

IN PROCESS  
10:1



Small Business  
Energy Advantage

## REFERENCES

1. LLR yields high leverage – and it is 2<sup>nd</sup> loss and thus with no to low defaults, we haven't used to date. IRB's not considered in the leverage ratio.
2. Foundation PRI is to HDF, guaranteed by the CGB in the case of MacArthur Foundation.
3. Onyx Partnership has no upper limit and CGB currently has authorization to commit up to \$15mm. The team expects to commit \$5mm for the first \$60-70mm.
4. Foundation PRI and commercial loan are backed by CGB balance sheet in the case of the Kresge Foundation and Bank of America respectively.

Why Do We Do It?

# **JOBS**



# Global Investment Needed Confront Climate Change



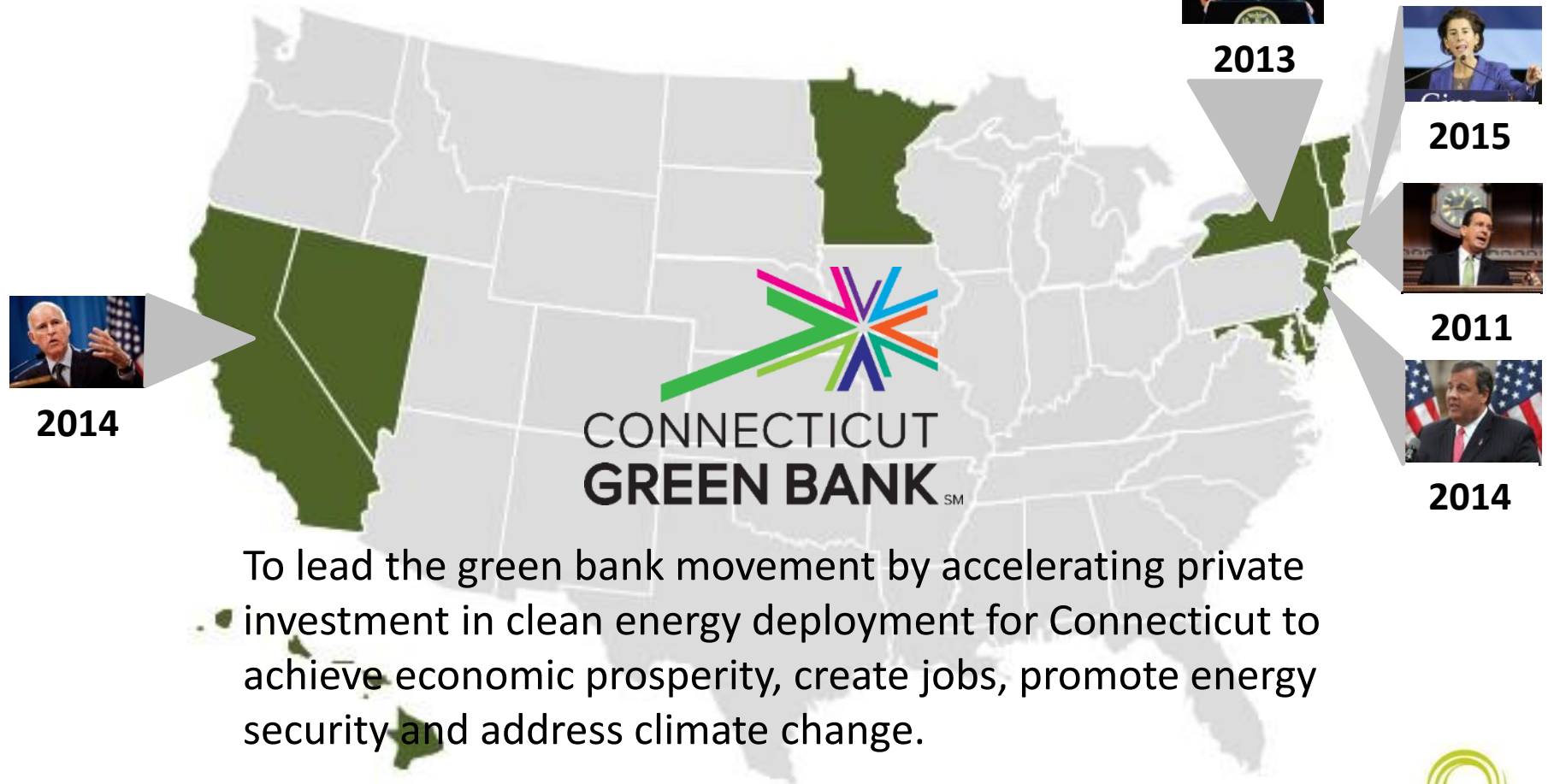
- UN Report<sup>2</sup> says the world will need **\$90 trillion in public and private capital** over the **next 15 years** to **confront the worst effects of climate change**.
- Equivalent to **\$800 per person per year** – Connecticut Green Bank has achieved more than **\$80 per person per year for each of the last two years!**

## REFERENCES

1. How to Raise Trillions for Green Investment by Hank Paulson in the New York Times (September 20, 2016)
2. Financing Sustainable Development :Moving from Momentum to Transformation in a Time of Turmoil by the UNEP (September 2016)

# Green Bank Movement

## United States Trends



### REFERENCES

Map provided by the Coalition for Green Capital

# Green Bank Movement

## CT Leadership Nationally and Globally



**MOTHERBOARD**

**VICE**

### How Green Banks Could Save the World

By Meredith Rutland Bauer  
November 28, 2016



With environmental groups worried that a Donald Trump presidency could slow the implementation of renewable energy in the US, some clean energy advocates are turning to green banks for funding.

## GREEN BANK NETWORK



**NRDC**  
NATURAL RESOURCES  
DEFENSE COUNCIL



**coalition for  
green capital**



**GREEN BANK ACT OF 2016**  
**GREEN BANK ACT OF 2017**



### Does Connecticut's Green Bank Hold the Secret to the Future of Clean Energy?

By Jan Ellen Spiegel  
December 12, 2016



ROCKY HILL, Conn.—Bryan Garcia, president of the Connecticut Green Bank, said he knew five years ago when it was created that it would be an important model for funding clean energy projects.

He didn't know it might become critical for funding them.

# Thank You

**Brian Farnen**

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# **NEVADA GREEN BANK OPPORTUNITY**

# A Nevada Green Bank can accelerate deployment of clean energy and reduce energy costs for Nevadans

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- Today approximately 85% of Nevada's total energy from fossil fuels
- Current clean energy programs and policies mostly focused on rebates
- Massive clean energy investment opportunity still relatively untapped
  - Building efficiency alone \$2.6B, entirely viable, all cost-saving
- Green Bank solutions lower energy costs for citizens & businesses
  - Products designed to reduce monthly cash expense; possible with affordable lending
- Green Bank can also be a central hub of trustworthy market info
  - Reliable, third-party data, technical assistance, and consumer protections
  - Can also facilitate market growth by working with contractors, lenders, etc.

# Estimated Nevada market potential for economically viable clean energy is at least \$26 billion

## High & Low Scenario Addressable Market by Technology

Selected Technologies		Potential Energy Capacity		Investment Need (millions)	
		High Scenario	Low Scenario	High Scenario	Low Scenario
Solar	Utility	352.8 GW	5.7 GW	\$511,600	\$8,200
	Distributed	0.3 GW	0.3 GW	\$1,000	\$1,000
Geothermal		4.242 GW	1.391 GW	\$10,605	\$3,478
Wind		6.329 GW	1.526 GW	\$10,822	\$2,609
Electric Efficiency		7,040 GWh		\$2,590	
<b>TOTAL</b>		N/A	N/A	<b>\$528,404</b>	<b>\$26,090</b>

# Interviews point to numerous obstacles to clean energy market growth

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*“Getting financing at attractive rates is **tough** as the state still struggles to **come out of the recession**”*

*“There are many smaller casinos that can’t or won’t do retrofits, because **the interest rates are too high**”*

*“For commercial building owners, one of the **biggest impediments to doing upgrades is information** about the payback of technologies and **how to finance them**”*

*“Many commercial building operators are **unaware of the Sure Bet rebates**. And if they need financing, that just adds to the complexity as often they don’t have the expertise in house”*

*“It can be **hard to get our grant dollars out the door**, as sometimes folks have little knowledge of all what’s available”*



# Study finds market failures and gaps that leave viable projects unfunded and consumers unaware of options

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- Contractors don't bother recommending deeper energy efficiency upgrades due to longer payback periods and lack of turnkey finance
- It is extra work to hunt down attractive finance
- Lack of trustworthy, impartial source of clean energy market information leaves customers potentially confused and vulnerable
- Lack of credit history makes access to finance difficult for small to medium commercial buildings
- Some grant programs are unable to get all dollars out customers due to lack of information; many customers unaware of various programs

Priority markets identified based on potential size, savings potential, current policies, market needs

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**Nevada Clean Energy Priority Markets**

**Residential Whole-Building Upgrades**

**Commercial Whole-Building Upgrades**

**Distributed Solar PV  
(+Storage)**

**Low to Moderate  
Income Efficiency  
and Solar**

**Transportation  
Electrification**



# Lessons from the Montgomery County (MD) Green Bank

*Coalition for Green Capital  
Alex Kragie, Program Director*

*July 27, 2017*

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- 1.1 – The Montgomery County Green Bank today
- 1.2 – Key learnings from early start-up activities

## The Montgomery County Green Bank (MCGB) was designated as the County's Green Bank August of 2016

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- Created by legislation from County Council
- Publicly-chartered by Montgomery County, MD
- Designated as the County's Green Bank
- An incorporated 501(c)(3) nonprofit, independent of Montgomery County
- 11 members on the Board of Directors
- Initial funding from Pepco-Exelon merger settlement agreement arrived June 2017
- Set to receive a minimum of \$14m in funding from the County
- Also exploring fundraising through private investment and philanthropic channels

# Where has our funding come from?

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## Secured and anticipated funding:

- **\$175,000:** Foundation grants (October 2016 and April 2017)
- **\$25,000:** Forgivable loan for operations (January 2017)
- **\$3,050,000:** Grant from County as a result of Pepco-Exelon Merger Settlement Agreement (June 2017)
- **\$3,050,000:** Additional grant from County as a result of Pepco-Exelon Merger Settlement Agreement (Anticipated September 2017)
- **\$7,900,000:** Remaining Funding from County as a result of Pepco-Exelon Merger Settlement Agreement (Unknown arrival date, over next two years)

# What are additional potential sources of funds?

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## Other Potential Sources of Funds:

- Federal Government
  - Grants from DOE
  - Grants or loans from Treasury via CDFI
  - Capital from EPA via SWRLF
  - Loans or Loan Guarantee from DOE via LPO
  - Loans from USDA via RUS
  - Grants from USDA via RUS
- County Government
  - Budget Dollars
  - Repurpose Existing Funds
- Bond Structures
  - QECBs and CREBs
  - Private Activity Bonds
  - Non-profit Conduit Bonds
  - Industrial Revenue Bonds
  - Asset-backed Securities
  - GO Bonds of State/Local government
- Foundations
  - Grants
  - PRI
- Private
  - High Net Worth Individuals
  - Money Center Banks & Other CRA Investors
  - Mission-Driven

# The Montgomery County Green Bank has become operational over the past year

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## Where We Are Now:

- Operations are standardized
- Governance structure in place
- Communications being built out



## Upcoming Milestones:

- First product launch in Fall 2017
- Second product launch in Winter 2017-2018
- Third product launch in Summer 2018



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- 1.1 – The Montgomery County Green Bank today
- 1.2 – Key learnings from early start-up activities

## Governance Lessons Learned (1/2)

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Board selection is a balance of:

- Expertise
- Government/non-government
- Green Bank experience
- Special Advisor is a way to keep critical parties engaged

## Governance Lessons Learned (2/2)

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### Foundational governance documents:

- Bylaws: draw from templates
- Standard Operating Procedures: Green Bank needs to move at the speed of business
- Conflict of Interest policy: thorough document, needs to keep out actual conflicts and appearance of conflicts
- Internal controls: templates

## Staffing Lessons Learned

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1

- Develop a staffing plan that reflects the priorities of the organization

2

- First hire should be CEO/Executive Director

3

- Number of directions to go with second hire: COO, CIO, CFO

4

- Further staffing done on a programmatic need basis

5

- Payroll services and other functions have online solutions

# Operational Lessons Learned

1

- Incorporation: Choose name wisely

2

- BOD Operations: Pay attention to the details

3

- Workplan: Create a clear and accessible workplan, and stick to it

4

- Accounts: Checking, savings, money market; think about where to bank

5

- Pro bono support: legal, fundraising, expert advice

6

- Fundraising: Local solutions first, national is slower burn

7

- Accounting, financial statements and budget: Start with an eye toward the future

8

- Form 1023: Need counsel, and need to beg, borrow, but don't steal

9

- Partnerships: Keep a detailed compendium from day 1

10

- Insurance: Know what you need before you need it

# **APPENDIX – MCGB MILESTONES**

# Start-up process began in earnest last summer

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## Summer 2016:

- Directors selected and announced for the MCGB Board
- MCGB designated as Montgomery County's Green Bank (Resolution No. 18-574)
- Full Board of Directors holds first meeting
- Alex Kragie of Coalition for Green Capital appointed Acting Executive Director
- Created Special Advisor to the Board of Directors position (designated DEP energy program manager for role)
- MCGB representatives completed site visit to Michigan Saves, a non-profit organization supporting clean energy investment in Michigan

# Fall was focused on operational and governance matters; also early stage product development

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## **Fall 2016:**

- MCGB representatives completed site visit to Connecticut Green Bank, the most successful green bank currently operating in the U.S.
- Created program briefs on potential Green Bank programs; conducted other research
- Initiated outreach and engagement with multiple local energy contractors and other stakeholders
- Created initial communications materials
- Secured \$25,000 grant for short-term operations
- Opened bank accounts for MCGB
- Completed initial budgeting exercises and created financial statements
- Secured Womble Carlyle as pro bono legal counsel
- Adopted Statement of Purpose and full bylaws
- Created Board work groups for governance, finance and fundraising, recruitment, and product development
- Created Board engagement tool to manage Board communications and progress
- Engaged with potential lenders around possible commercial and residential programs
- Initiated outreach and engagement with credit unions serving the county around a single- family residential loan loss reserve product
- Created draft program guides for potential residential and commercial programs



# Winter is when product development work grew more structured; also first fundraising success

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## **Winter and Spring 2016-2017:**

- Submitted IRS Form 1023 for federal nonprofit tax exempt status
- MCGB representatives completed site visits to New York Green Bank and New York Energy Efficiency Corporation, two different green bank models operating in New York
- Engaged with potential lenders around possible commercial and residential programs
- Initiated outreach and engagement with credit unions serving the county around a single- family residential loan loss reserve product
- Created draft program guides for potential residential and commercial programs
- Explored possible affordable multifamily pilot with Housing Opportunities Commission (HOC)
- Issued website and branding RFP. Selected Brightlight Media for website and branding
- Held Board retreat to focus on vision for organization and Work Plan
- Secured \$25,000 forgivable loan for short-term operations from HOC
- Received \$150,000 grant from Town Creek Foundation to support a communications/outreach plan
- Established pro-bono accounting services relationship with Connecticut Green Bank
- Adopted Conflict of Interest Policy and Standard Operating Procedures
- Adopted Mission Statement for MCGB
- Created draft initial FY18 operating budget
- Created draft Work Plan for FY18
- Conducted site visit to NYC Energy Efficiency Corporation

# Summer work has MCGB on track for first product launch in the fall

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## **Spring 2017 to June 30, 2017:**

- MCGB granted 501(c)(3) status by the IRS
- Engaged further with bank, credit union, contractor, and other stakeholders on product development
- Received initial \$3.05m in merger settlement funds from County
- Hired Tom Deyo as Chief Executive Officer of MCGB
- Created logo and tagline for MCGB
- Created sitemap and wireframe for website
- Adopted internal controls policy
- Adopted procurement policy
- Finalized Board of Directors election plan
- Approved FY18 annual budget
- Approved FY18 work plan

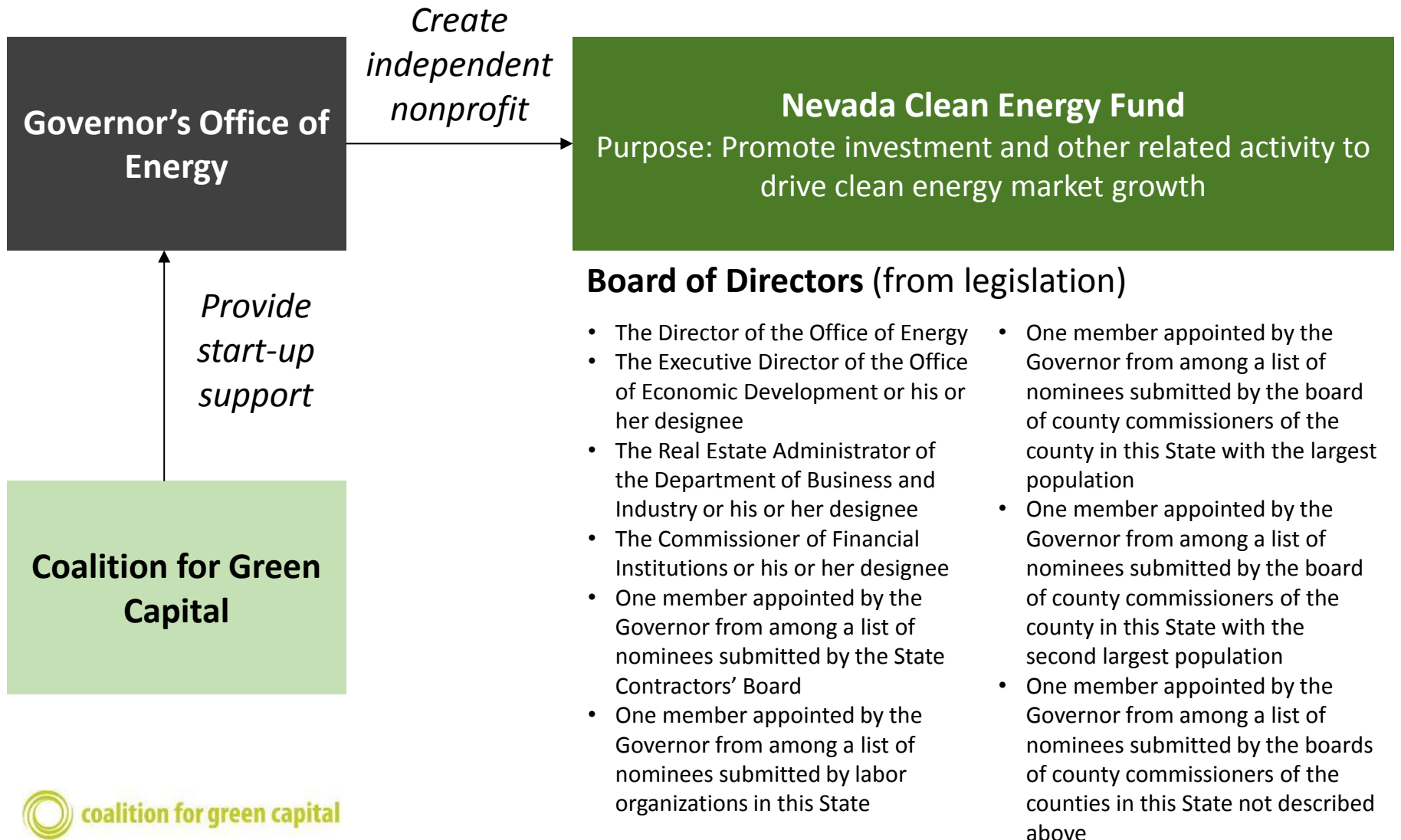


# Next Steps & Brainstorm

*Coalition for Green Capital*  
*Jeff Schub, Executive Director*

*July 27, 2017*

# Legislation is the first step of creating a Nevada Green Bank



# Legislation is the first step of creating a Nevada Green Bank

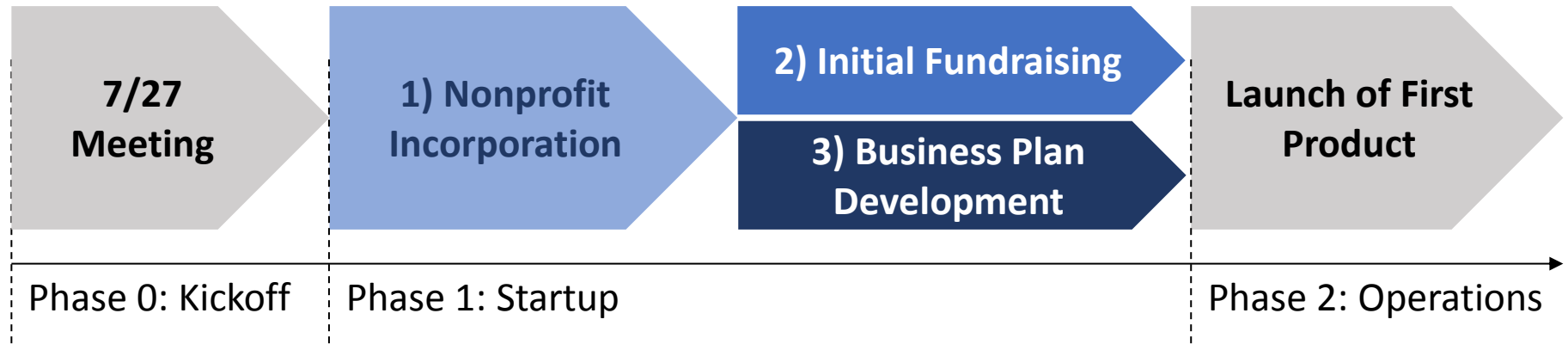
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- SB 407 directs the creation an independent, nonprofit corporation called the Nevada Clean Energy Fund
- Identifies members for the Fund's board of directors
- Identifies overall mission, but not particular products
- Does not specify operating funds or lending capital

**Several pre-launch workstreams needed to ensure organizational success**

# Process Overview

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- Three workstreams identified for start-up phase
- Led by CGC in partnership with GOE
- Timeline TBD, depending on funding

# Process Details

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## 1) Nonprofit Incorporation

- Focus on mechanics
- Create articles of incorporation and ensure nonprofit status
- Create organizational bylaws, finalize board members

## 2) Initial Fundraising

- Focus on raising operating funds (~\$200k)
- Identify fundraising strategy and targets
- Create pitch materials and hold meetings

## 3) Business Plan Development

- [concurrent with fundraising]
- Focus on product development
- Create first draft of biz plan covering: org mission, financials, staffing, and products

# For Discussion: Funding Sources

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## Discussion Questions

- What organizations may have interest?
- What products or markets are most interesting to funders?
- What approaches for clean energy capital fundraising have worked in the past?
- What has not worked?

## *Examples sources of operating funds*

- Nevada-focused foundations
- Family offices
- State and local grants
- Corporate philanthropy or sponsors
- Mission-driven or impact investors



# For Discussion: People

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## Discussion Questions

- Who are the most important stakeholder groups to engage during start-up phase?
- What individuals may be well-suited to a Green Bank role (board members or staff)?

**NEXT STEPS**