



## Transforming the National Energy Infrastructure: A Sustainable Energy Utility Strategy

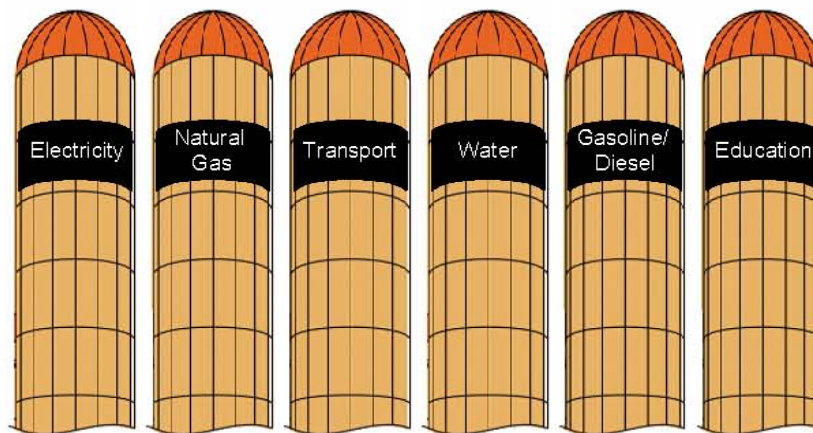
---

# Delaware SEU: Our Nation's First Demand Reduction Utility

Delaware's SEU partners with companies, utilities, not-for-profits & public agencies to meet 21<sup>st</sup> century energy challenges. Members of the *Center for Energy and Environmental Policy* at the University of Delaware and *Citi's Municipal Securities Division* have partnered to define a national strategy expanding upon the initial approach taken in Delaware.

- SEU was established by the State of Delaware on June 28, 2007 to:
  - Promote, provide and invest in Energy Efficiency Services – **Legislated Target: 30% Reduction in Energy Use by 2020**
  - Promote, provide and invest in increased deployment of Distributed Renewable Generation – **Legislated Target: 10-20% of Electricity Sales from Distributed Renewables by 2020**
- SEU exists as a public/private partnership combining the best of both worlds
  - SEU is organized as a non-profit tax-exempt 501(c)(4) organization
  - Day to day operations are conducted by for-profit companies, non-profits & others specializing in the energy sector
  - Eliminates silos and provides solutions throughout the energy spectrum

Old Model

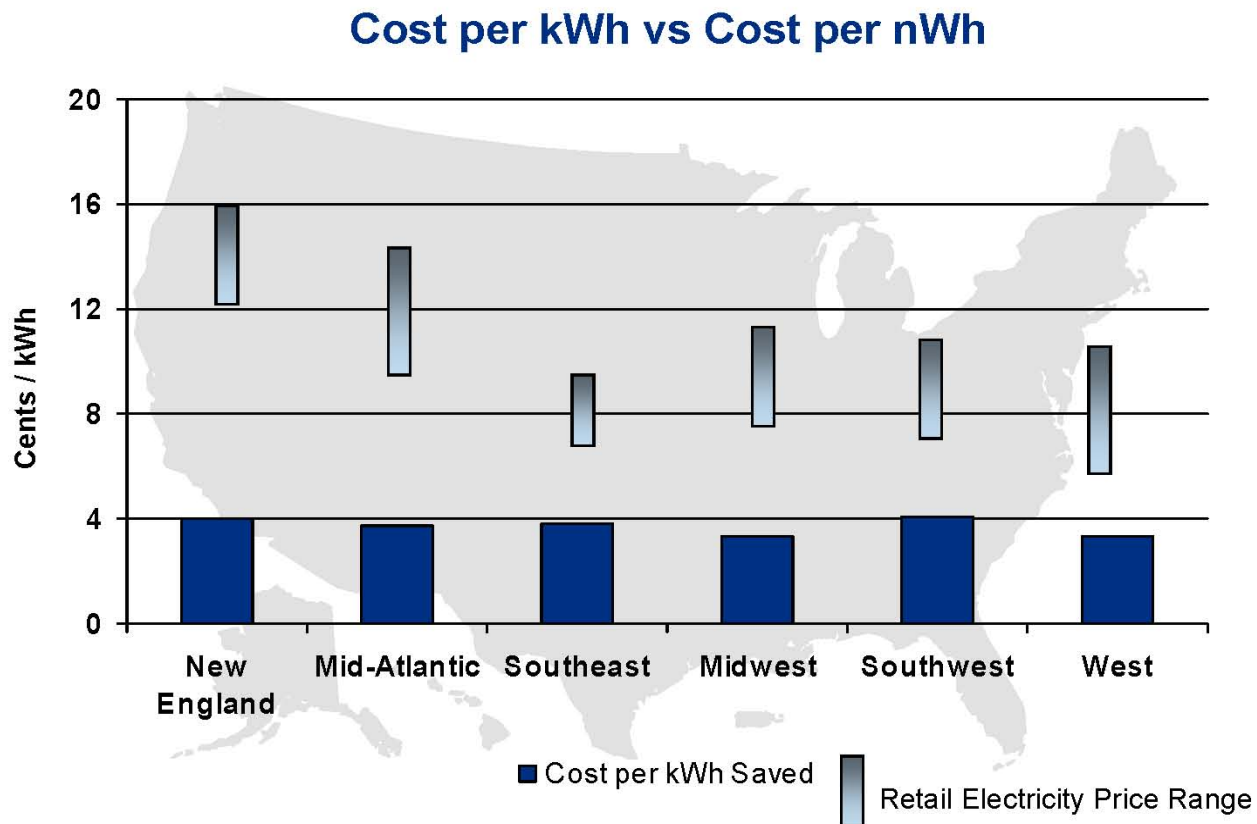


New Model

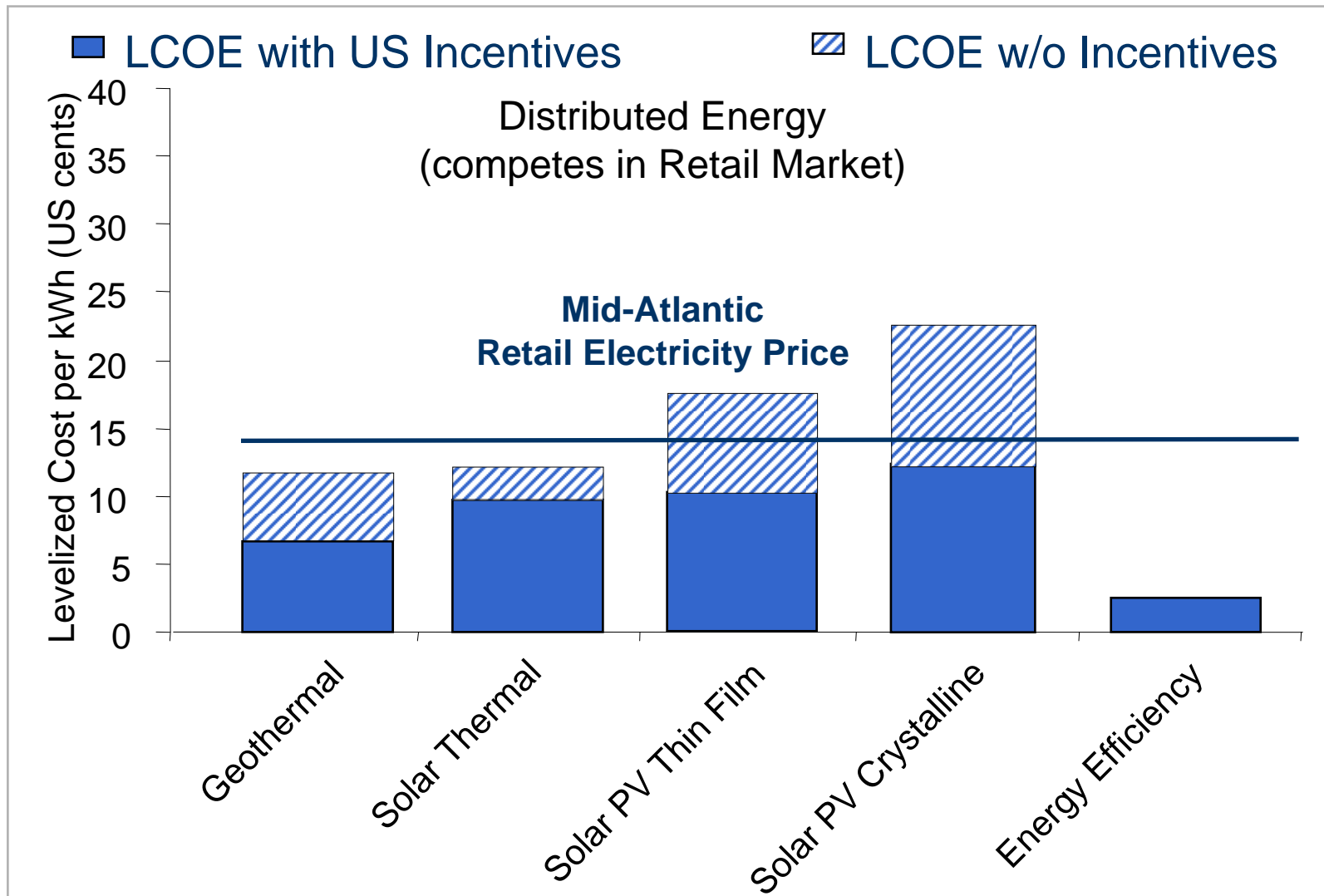


# The “Negawatt” is the Cheapest Energy Available

The costs of energy efficiency improvements are significantly less than electricity rates throughout the U.S.



# Renewables – Approaching Parity



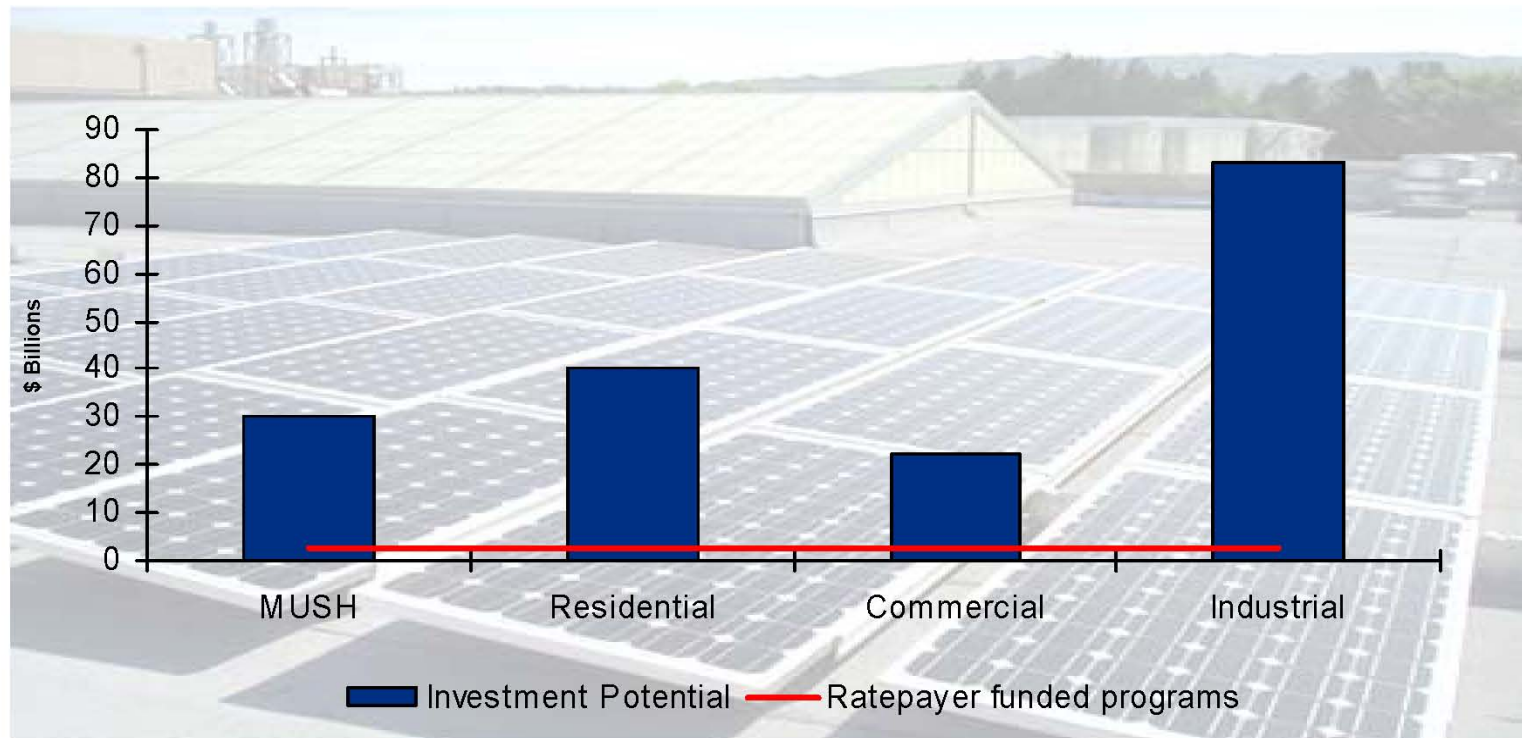
Data Source: Lazard 2009; CEEP (2009)



Center for Energy and Environmental Policy

# Seizing the Energy Efficiency & Distributed Renewables Potential

U.S. investment needs in sustainable energy are staggering



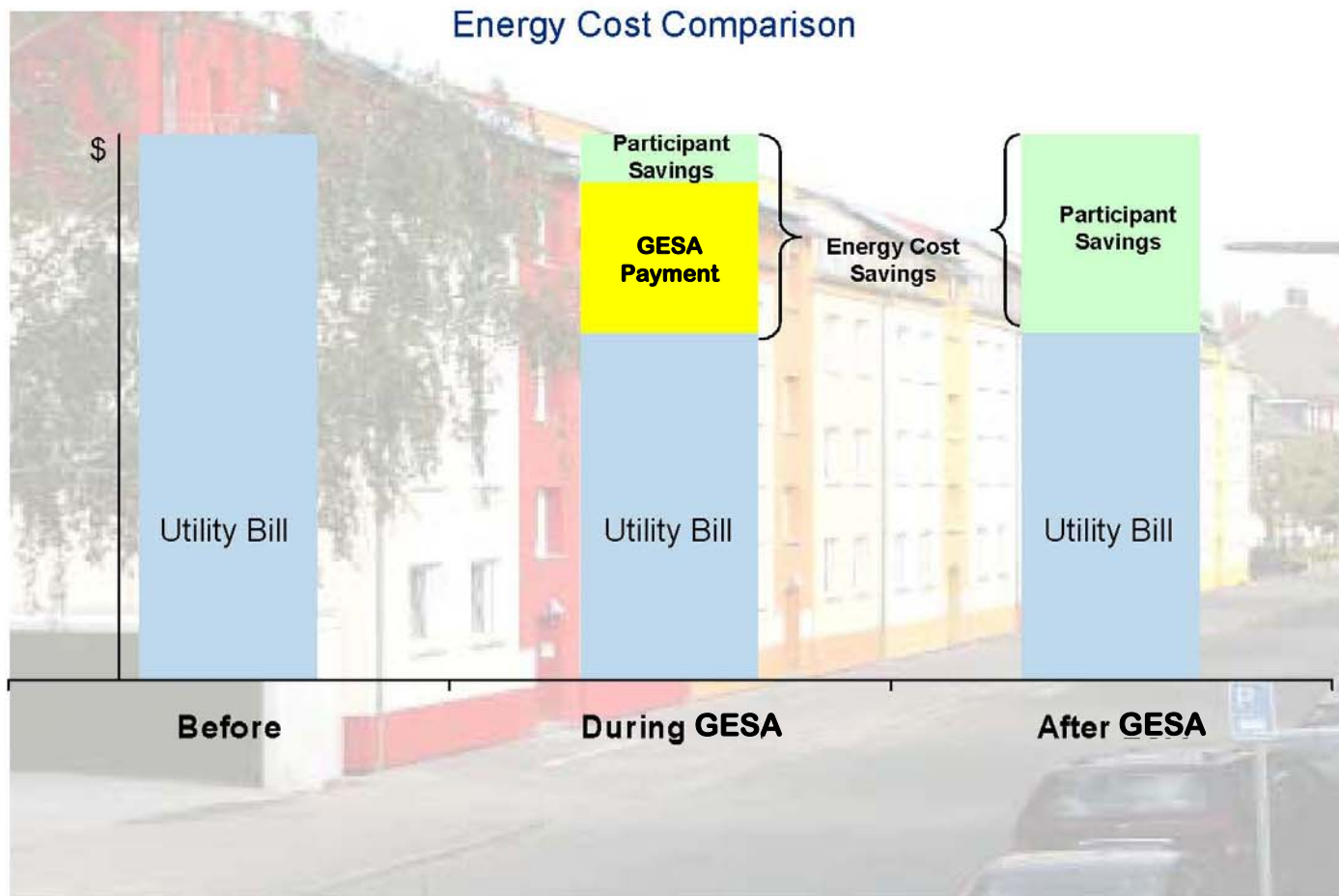
MUSH: Municipalities (state/local government facilities); Universities; Schools; Hospitals

Source: McKinsey Global Institute, The Case for Investing in Productivity  
Berkeley National Laboratory, "A Survey of the US ESCO Industry: Market Growth and Development from 2000 to 2006"



## SEU 101 – Monetizing Sustainable Energy Savings

By pledging cash flow savings from energy retrofit projects, participants can fund all improvements at **NO** upfront capital expense



## SEU Green Financing Program

---

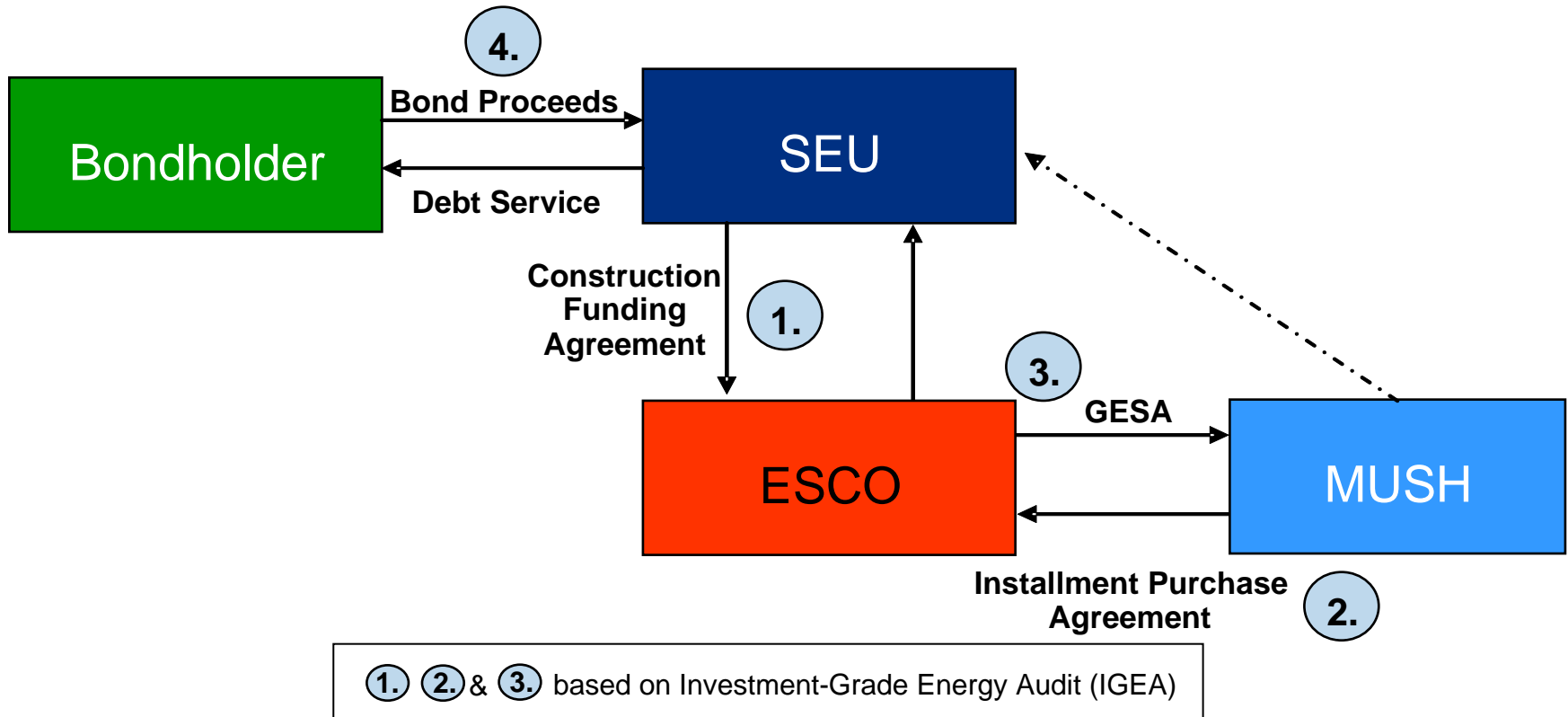
The SEU has identified 5 funding vehicles to provide the necessary capital for its public and private sector projects

---

1. **Green Energy Savings Bonds (GESBs)** – Tax-exempt bonds issued by the SEU to provide capital for energy retrofits & renewable energy projects for Municipal/Public Buildings, Universities, Schools and Hospitals (MUSH). Bonds are secured by Guaranteed Savings Agreements (GSAs), which pledge the energy savings & lower usage charges from retrofit/renewable energy projects.
2. **Sustainable Energy Assessment Bonds (SEABs)** – Tax-exempt bonds are issued to fund MUSH energy efficiency and renewable energy projects. Bonds are secured by voluntary utility fee or property tax (PACE) assessments.
3. **Sustainable Energy Revolving Fund (SERF)** – In cooperation with local banks, the SEU provides low-interest loans to residents and businesses to finance energy efficiency and renewable energy projects. Loans are secured by RGGI auction proceeds and other sources available to the SEU.
4. **SolarShare Program (SOLAR)** – The SEU partners with private investors to build community- and commercial-scale solar power plants, financed by power purchase agreements. The SEU aggregates and sells SRECs through multi-year contracts with utilities. Projects are secured by RGGI auction proceeds and other sources available to the SEU.
5. **Sustainable Communities Program (SUSTAIN)** – The SEU partners with private investors to build community- and commercial-scale sustainable energy plants consisting of bundled megawatt-hour and renewable energy projects, financed by power purchase agreements. The SEU aggregates and sells MWhs, Green MWhs & SRECs through multi-year contracts with utilities. Projects are secured by RGGI auction proceeds and other sources available to the SEU.

# Green Energy Savings Bond Program (“GESBs”)

The SEU’s GESB Program provides the MUSH participants with significant financial, administrative and operation benefits



1. The SEU enters into Construction Funding Agreement with the Energy Service Company (“ESCO”) whereby the SEU agrees to provide capital for EE investments and ESCO agrees to assign all its rights to under Installment Purchase Agreement
2. ESCO and the MUSH enter into Installment Purchase Agreement whereby the MUSH agrees to make annual payments for installation of EE upgrades.
3. ESCO enters into Guaranteed Energy Savings Agreement (“GESA”) with the MUSH, guaranteeing targeted annual savings level for the term of the agreement
4. The SEU issues tax-exempt bonds secured by the assigned payments under the Installment Purchase Agreement



# Benefits of the GESB Structure

---

**The SEU GESB Program provides the Participant with significant financial, administrative and operation benefits**

---

## **1. No Upfront Costs**

- By monetizing annual, verifiable energy savings, a participant can reap benefits of building retrofits

## **2. Off-Balance Sheet Financing**

- Under the terms of the Energy Services Agreement, Participant's payments to the SEU are considered an operating expense

## **3. Lowest Cost of Capital**

- Participant is able to enjoy the benefits of tax-exempt borrowing compared to other financing alternatives (i.e. performance contracting & leasing)

## **4. Payment Flexibility**

- Repayment terms under the ESA can be structured to produce immediate cash flow savings while also providing opportunity to undertake longer payback projects

## **5. Ease of Participation**

- Participation in the SEU EERB Program requires the execution of four documents: 1) Letter of Intent, 2) Guaranteed Energy Savings Agreement, 3) Construction Funding Agreement, and 4) Installment Purchase Agreement. The SEU manages the work and is paid from guaranteed savings.
-

# Importance of Investment Grade Energy Audit

---

The IGEA provides the baseline financial & operation information required to structure the GESB Program

---

An investment grade energy audit provides a detailed analysis of the following:

- **Description of Facility** – size, type of construction, use of facility, types of equipment, operating hours and data logging
- **Current Energy Costs** – monthly and annual use and costs, including breakdown by end use adjusted for weather conditions
- **Proposed Measures** – Detailed descriptions & scope of proposed measures, including no cost / low cost options
- **Economic Analysis** – Detailed, accurate engineering analysis and cost estimates. In addition, may include lifecycle costing

The investment grade energy audit can provide a comprehensive whole-building review, or focus on some of the most common measures:

- lighting, including occupancy sensors
- HVAC systems and controls
- motors and pumps
- windows
- automated energy management systems and controls
- cogeneration equipment



# 4 Easy Steps to Participate in the SEU GESB Program

---

Participation in the SEU GESB Program consists of 4 easy & straightforward steps

---

## 1. Sign Letter of Intent (LOI)

- By signing an LOI with SEU, Participant agrees to participate in the EERB Program and undergo an IGEA.
- SEU provides a list of pre-qualified ESCOs to complete IGEA and Participant selects ESCO
- The IGEA provides the SEU & Participant with a detailed analysis of facilities, their current performance & savings opportunities
- If at the conclusion of the IGEA process, Participant chooses not to proceed to SEU financing, Participant is responsible for 50% of the IGEA cost

## 2. Request ESCO / Contractor Bids

- In consultation with SEU, Participant determines scope of work.
- ESCO bids are sought from SEU's pre-qualified list
- Upon receipt of bids, Participant selects ESCO to perform work
- If Participant chooses not to proceed accept SEU financing, Participant is charged an additional 25% of the IGEA cost

## 3. Execute Agreements

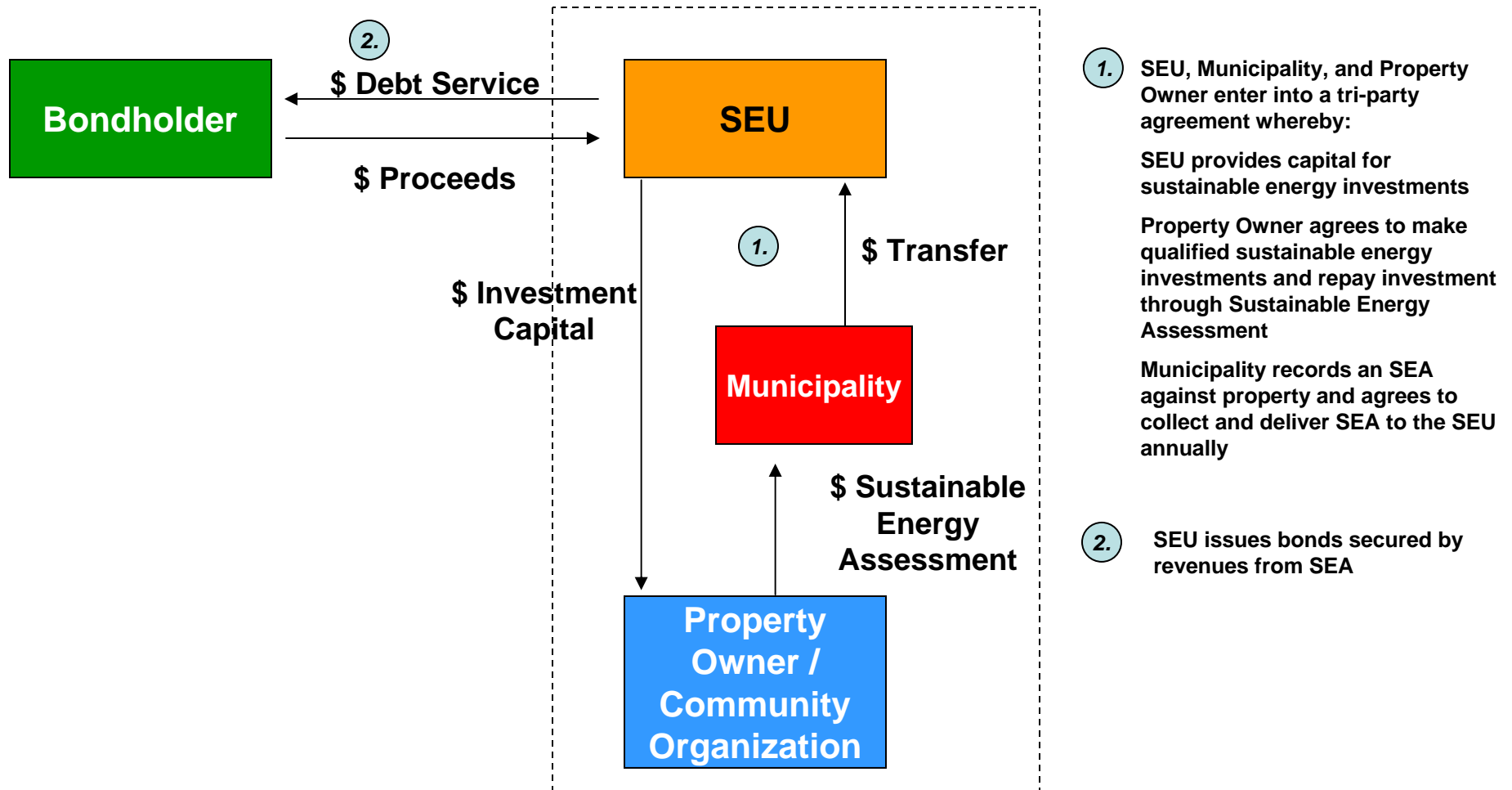
- After selection of ESCO, Participant executes Construction Funding Agreement with SEU
- At the same time, ESCO executes Guaranteed Energy Savings Agreement with Participant
- Participant executes Installment Purchase Agreement with ESCO

## 4. Start Project

- SEU issues tax-exempt Green Bond secured by assigned payments under Installment Purchasing Agreement
- Installation of equipment begins and performance is monitored under GESA
- Participant realizes projected cash flow savings guaranteed by ESCO

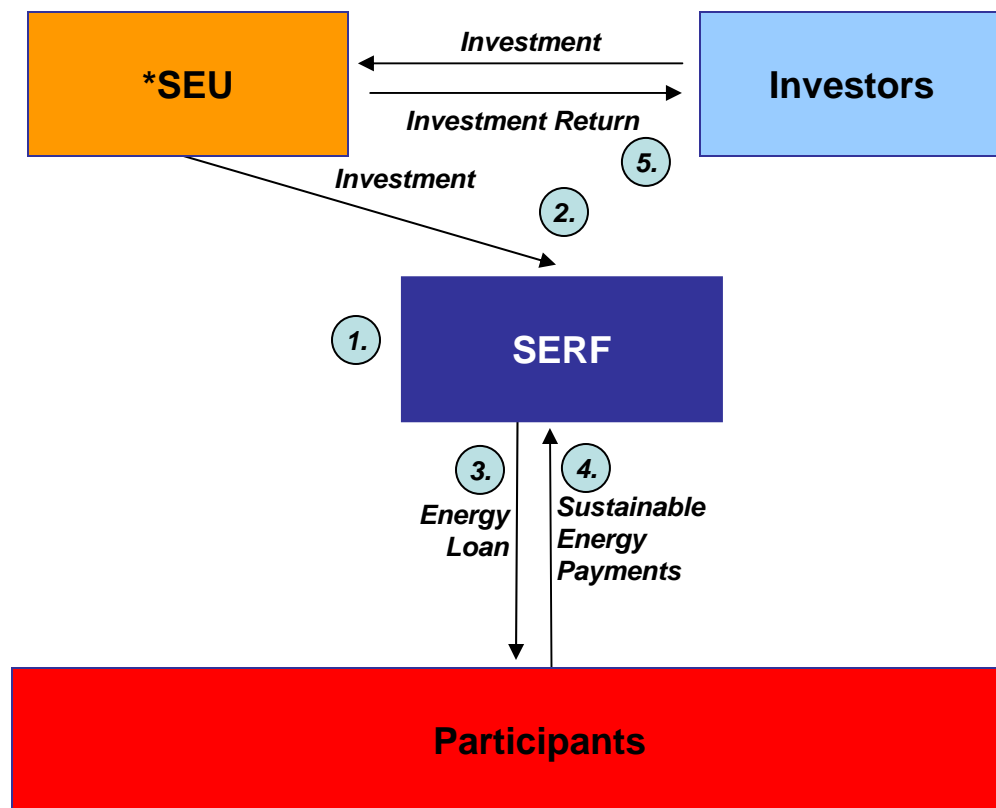
# Sustainable Energy Assessment Bonds (“SEABs”)

SEABs provide a strong mechanism for prepayment of sustainable energy investments



# Sustainable Energy Revolving Fund (“SERF”)

SEU can attract private capital to provide low interest funding through a revolving loan fund structure

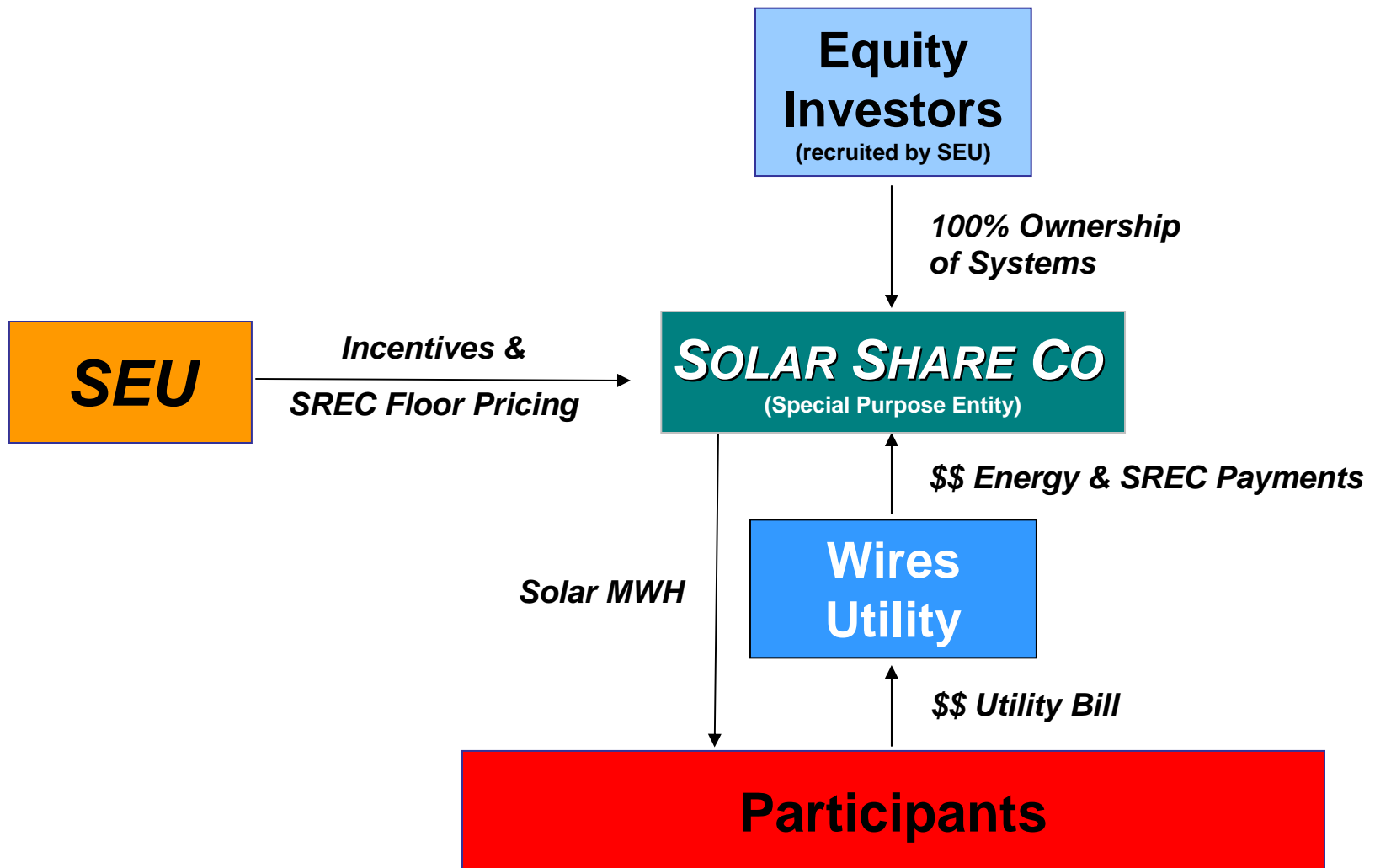


1. SEU establishes the Sustainable Energy Revolving Fund to provide low interest energy loans to qualified participants
2. SEU & Investors provide initial capital investment for SERF disbursements
3. SEU via SERF provides low interest loans to qualified participants for qualified projects
4. Participants agree to make monthly sustainable energy payments to the SERF
5. SEU pays investor annual disbursement based on terms of Investment Agreement. With new capital and/or remaining sustainable energy payments, SEU via SERF provides low interest energy loans to new qualified participants for qualified projects

\* SEU can raise equity from a variety of sources, including EECBG, State Energy Program funds, system benefit charges, RGGI proceeds and Qualified Energy Conservation Bonds

# SEU *Solar Share* Program (SOLAR)

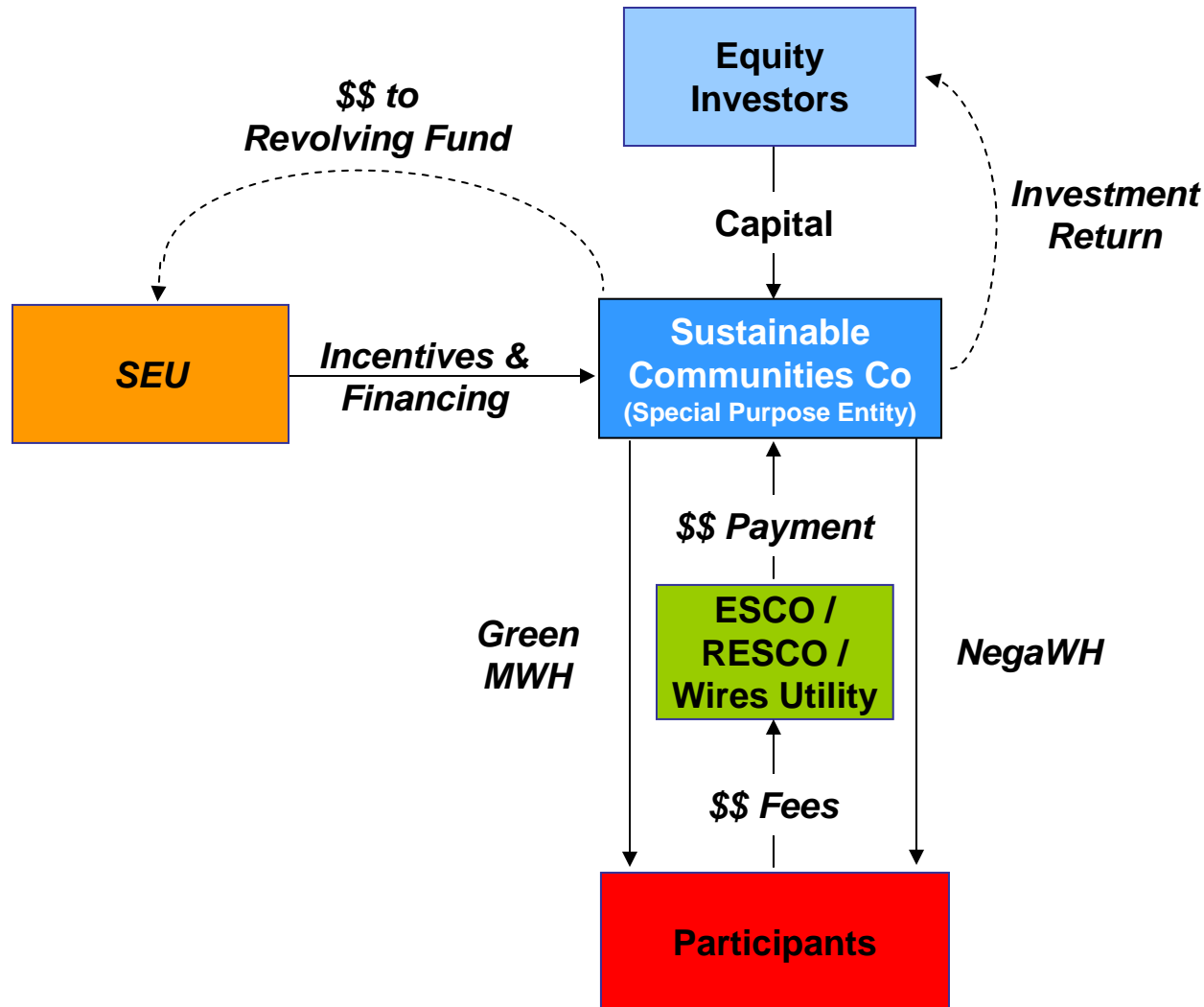
By creating a Solar Share program, the SEU can efficiently maximize federal tax benefits, providing participants with lower cost renewable power on a platform that can include distributed & central location formats





# *Sustainable Communities Program (SUSTAIN)*

A Sustainable Communities program is the SEU's most flexible and robust green financing vehicle. All end users can participate, federal tax benefits can be maximized, and 'negawatthours' (avoided energy use) and renewable energy opportunities can be optimally bundled, through a private-public partnership finance structure



# Key Contacts

---

The following individuals are available to answer questions relating to the national SEU financing strategy

---



**Dr. John Byrne**

**Director and  
Distinguished Professor of Energy & Climate Policy  
Center for Energy & Environmental Policy  
University of Delaware  
278 Graham Hall  
Newark, DE 19716-7301  
Phone: (302) 831-8405  
Fax: (302) 831-3098  
E-mail: [jbyrne@udel.edu](mailto:jbyrne@udel.edu)  
Website: <http://ceep.udel.edu>**



**Trenton Allen**

**Director, Citi Municipal Securities Division  
Public Power Group  
  
1650 Market Street  
Philadelphia, PA 19103  
Phone: (215) 854-6036  
Cell: (214) 478-5679  
Fax: (215) 563-7881  
E-mail: [trenton.j.allen@citi.com](mailto:trenton.j.allen@citi.com)**