



The Parker Ranch installation in Hawaii

## Community Energy Planning

November 1, 2010

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- DOE Technical Assistance Program (TAP) Overview
- Designing a Community Energy Alliance
  - Program Design
  - Incentives
  - Quality Assurance
  - Marketing
  - Program Sustainability
- Q&A

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- Jolyn Newton
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# What is TAP?

DOE's Technical Assistance Program (TAP) supports the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs.





## TAP offers:

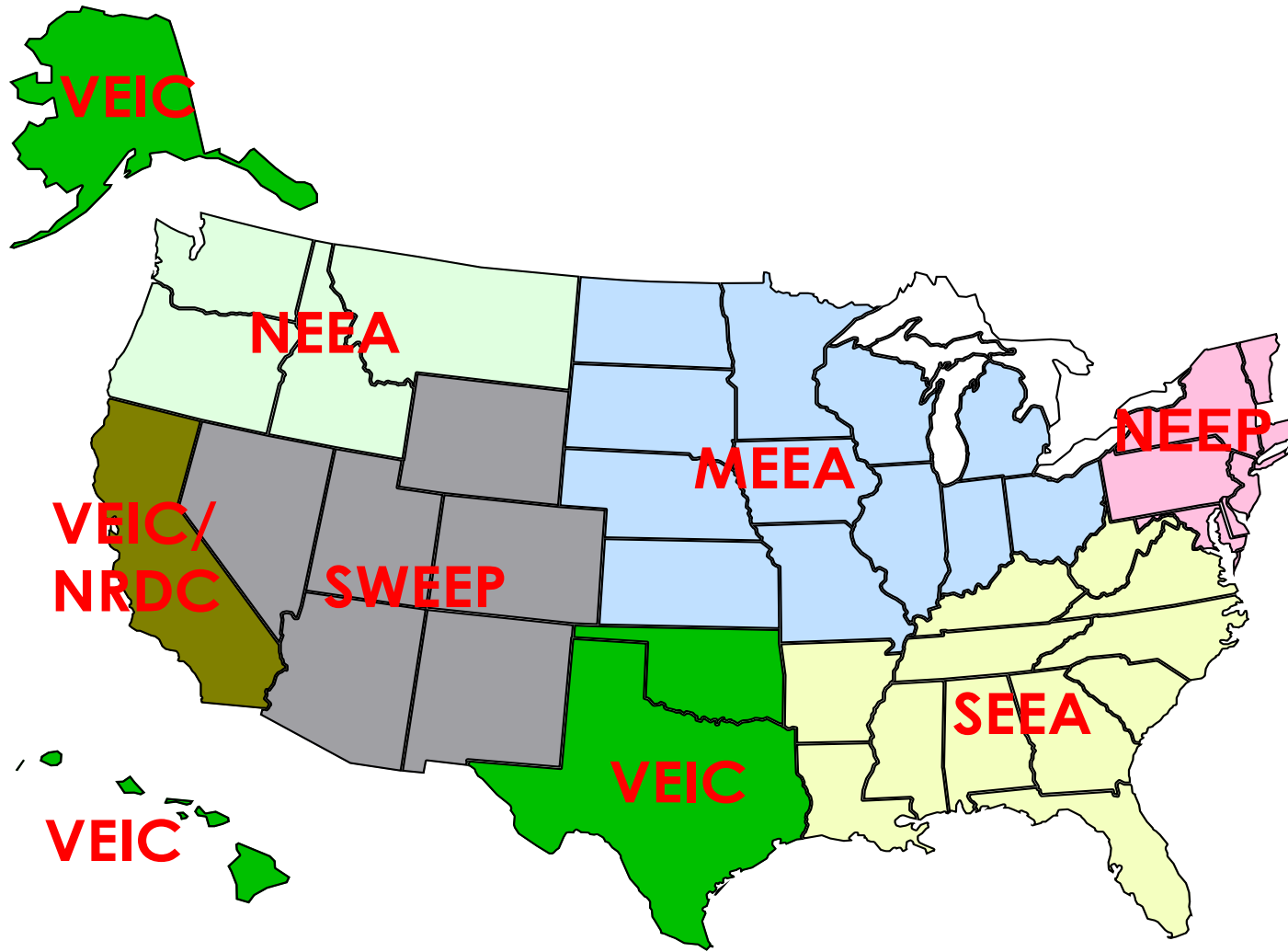
- One-on-one assistance
- Extensive online resource library, including:
  - Webinars
  - Events calendar
  - TAP Blog
  - Best practices and project resources
- Facilitation of peer exchange

## On topics including:

- State and local capacity building
- Energy efficiency and renewable energy technologies
- Program design and implementation
- Financing
- Performance contracting

State and Local Capacity Building	<ul style="list-style-type: none"> <li>• Trainings</li> <li>• Workshops</li> <li>• Peer-to-peer matching</li> </ul>
Technical	<ul style="list-style-type: none"> <li>• Renewable energy siting and development</li> <li>• Review of technical specs for RFPs</li> <li>• Strategic planning, energy management, and conservation strategies</li> <li>• Green building technologies</li> <li>• Building codes</li> </ul>
<b>Program Design and Implementation</b>	<ul style="list-style-type: none"> <li>• Policy and program development</li> <li>• Coordinating rate-payer funded dollars with ARRA projects and programs</li> <li>• Sustainable community and building design</li> <li>• State and regional EE and RE assessments and planning</li> <li>• EE and RE portfolio program design elements</li> </ul>
Financial	<p>Program design support and guidance on financing mechanisms such as:</p> <ul style="list-style-type: none"> <li>• Revolving loan funds (RLFs)</li> <li>• Property-assessed clean energy (PACE)</li> <li>• Loan loss reserves and enhanced credit mechanisms</li> </ul>
Performance Contracting	<ul style="list-style-type: none"> <li>• Designing and implementing a performance contract</li> <li>• Leveraging private investment</li> <li>• Reducing institutional barriers</li> <li>• Tracking and comparing programs</li> </ul>

# Who We Are: Team 4



**ACEEE, NRDC: National Support**

# Designing a Community Energy Alliance



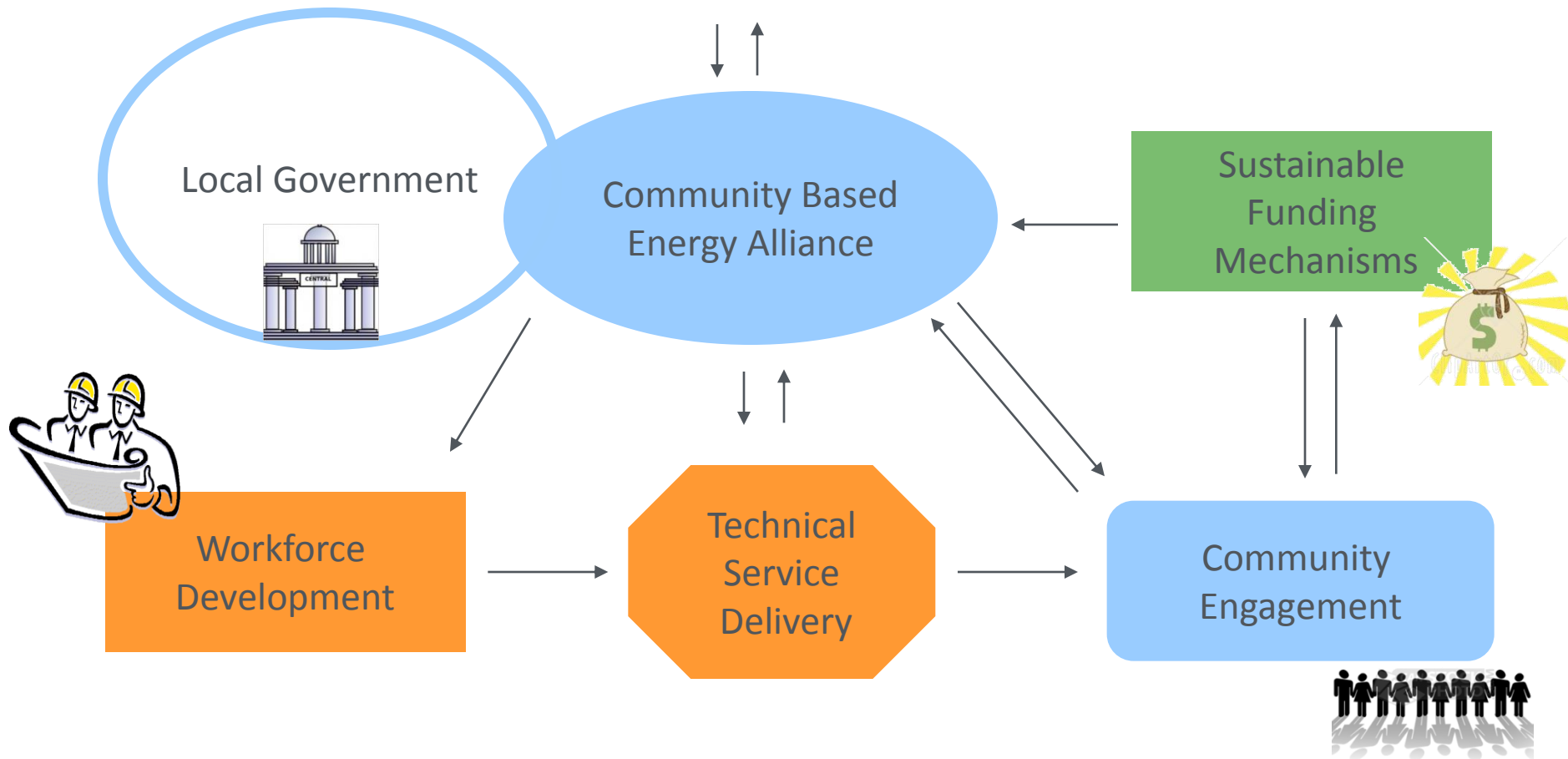
- Create a local market for energy efficiency
- Create partnerships for community development
- Locally administered programs improving the local community
  - Local investment, economic development
  - Job creation
  - Reduce environmental impacts of energy
  - Improved quality of life
- Neighbors helping neighbors
- Increased level of trust for participants

The mission of a Community Energy Alliance is to lead the effort in the local community to increase energy efficiency in buildings to promote cost savings, job creation, energy sustainability, local economic development, and environmental stewardship.



## Regulatory Framework

Carrots, Benchmarks, & Sticks



- **Establish and implement best practices** in program design, workforce development and other key areas
- **Employ effective** measurement and verification, marketing strategy and messaging, customer tracking, quality control, and financing
- **Sustainability** - Facilitate successful long-term economic self-reliance and adoption of programs







- **For Customers**  
Implementation of sensible energy and water improvements that will save you money. We will provide the delivery system, financing and quality assurance to make it safe to invest, to make sure it works and that it pays for itself.
- **For Contractors and Trade Partners**  
We want you to get certified to do the energy audits well, to guarantee your work, and in return, we will bring you motivated customers that have prearranged financing.
- **For Lenders & Financial Partners**  
We want you to make a market in your community by making low interest energy loans, enjoy a solid return, and we will take much of the risk off the table.



- Energy portal for the community
- Energy education & outreach *efficiency & renewable*
- Financing resource
- Standards champion for property owners
- Workforce development engine
- Contractor coordination/certification for quality assurance
- Monitoring & verification data tools
- Aggregator of RECs, white tags, and carbon offsets

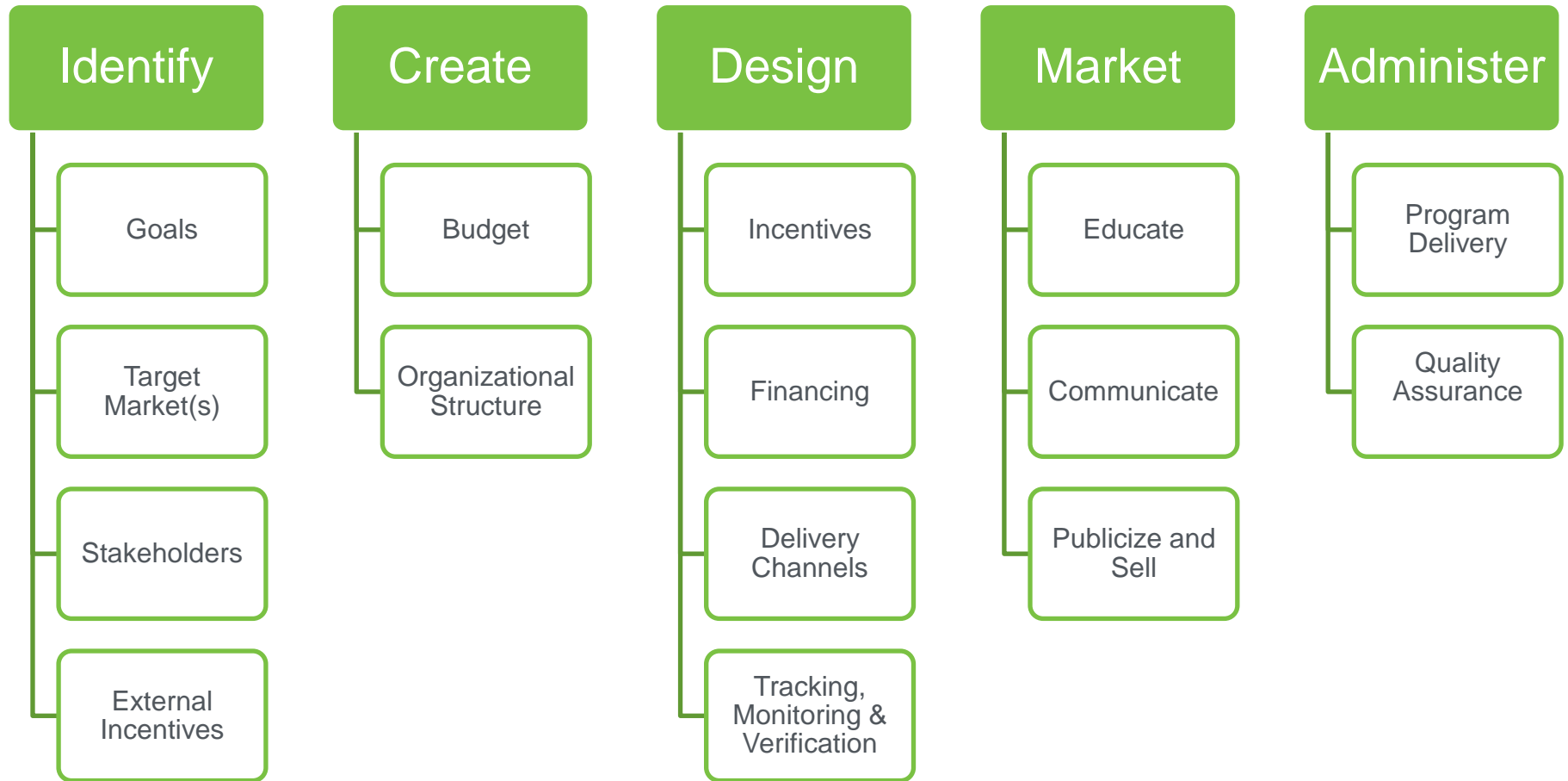


# Program Design

- Building a platform for long-term success
- Integrates components critical to success
  - marketing, technical service delivery, incentives and financing
- Must be tailored to target market segment(s)
- Ensure integration with existing and pending utility, low income WAP, other existing programs
- Program planning must include quality assurance measures and feedback loops for continual improvement
- Provides a roadmap for program sustainability



# Key Components of Program Design



## Clarify your goals

- Number of homes/businesses reached
- Dollars invested
- Jobs created
- Energy (kWh) reduced
- Environmental impacts – greenhouse gas (GHG) reductions





## Local Energy Alliance Program (LEAP) Expected Community Impacts



### Job Creation

1600 - 1800 Direct Jobs






### Money Saved

30% efficiency gain =  
\$4900/house over 7 years

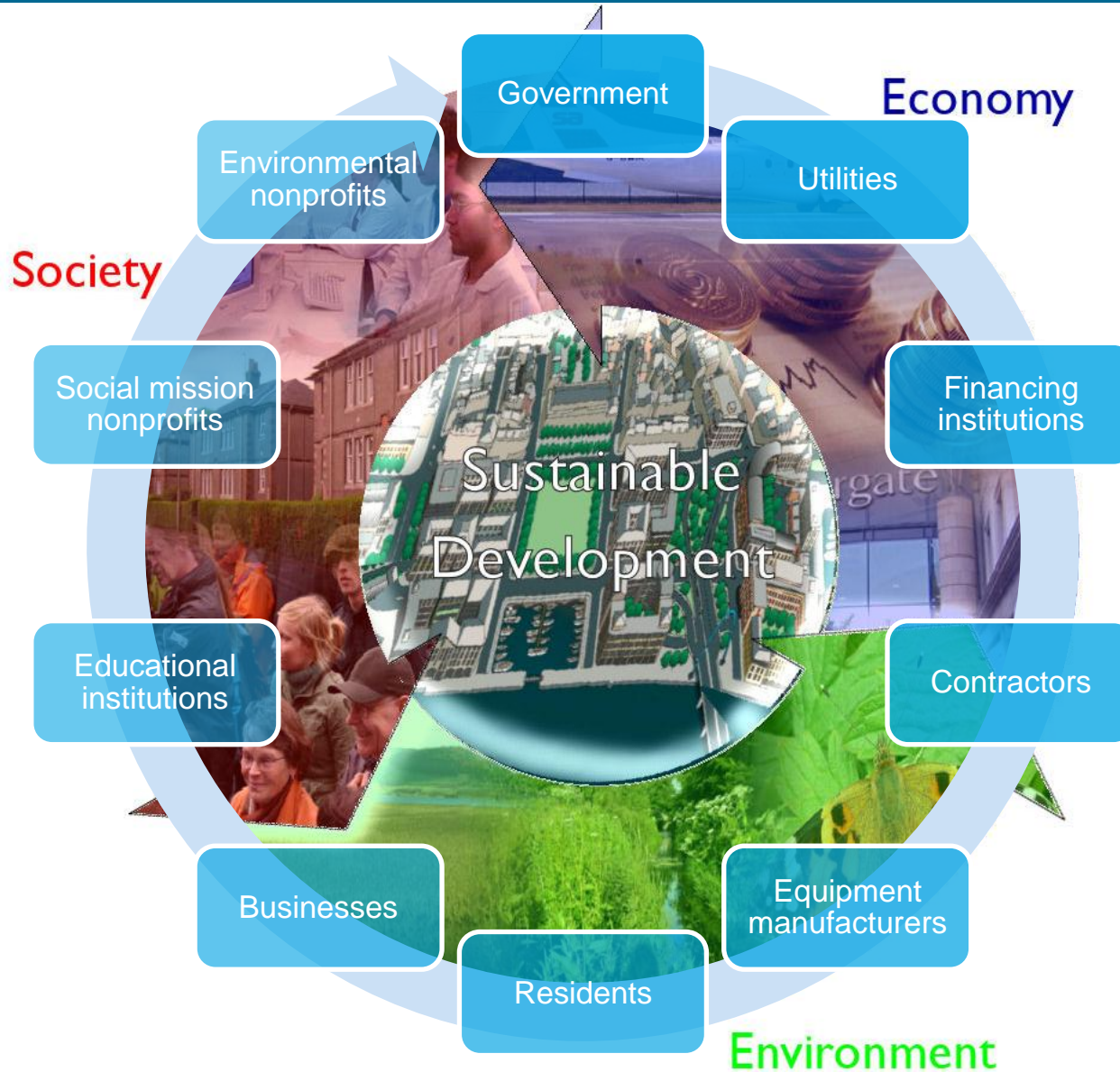
**\$75,000,000 Community Wide**



# Market Segments

	Benefits	Barriers
	<ul style="list-style-type: none"> <li>• Politically important</li> <li>• Job creation</li> <li>• Large market</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information</li> <li>• High transaction &amp; upfront costs</li> <li>• Uncertainty of benefits</li> </ul>
	<ul style="list-style-type: none"> <li>• Ability to reach many at once</li> </ul>	<ul style="list-style-type: none"> <li>• Split incentives</li> <li>• Credit worthiness</li> </ul>
	<ul style="list-style-type: none"> <li>• Politically important</li> <li>• Good lighting / electric measure candidates</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information</li> <li>• High transaction &amp; upfront costs</li> <li>• Credit worthiness</li> </ul>
	<ul style="list-style-type: none"> <li>• Large kWh &amp; GHG reduction</li> <li>• Good potential paybacks</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to take on debt</li> <li>• Long decision making process</li> </ul>
	<ul style="list-style-type: none"> <li>• Performance Contracting</li> <li>• Large kWh &amp; GHG reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Long decision making process</li> </ul>

MUSH = Municipal, Hospital, School, University



- Leveraging resources adds value to your program
- Offer a 'one-stop shop' by packaging all opportunities
- Fill the gaps!
- Identify existing subsidies, other programs and incentives
  - Tax credits
  - Equipment manufacturer rebates
  - Utility-run programs
  - State-run programs
  - Federal programs



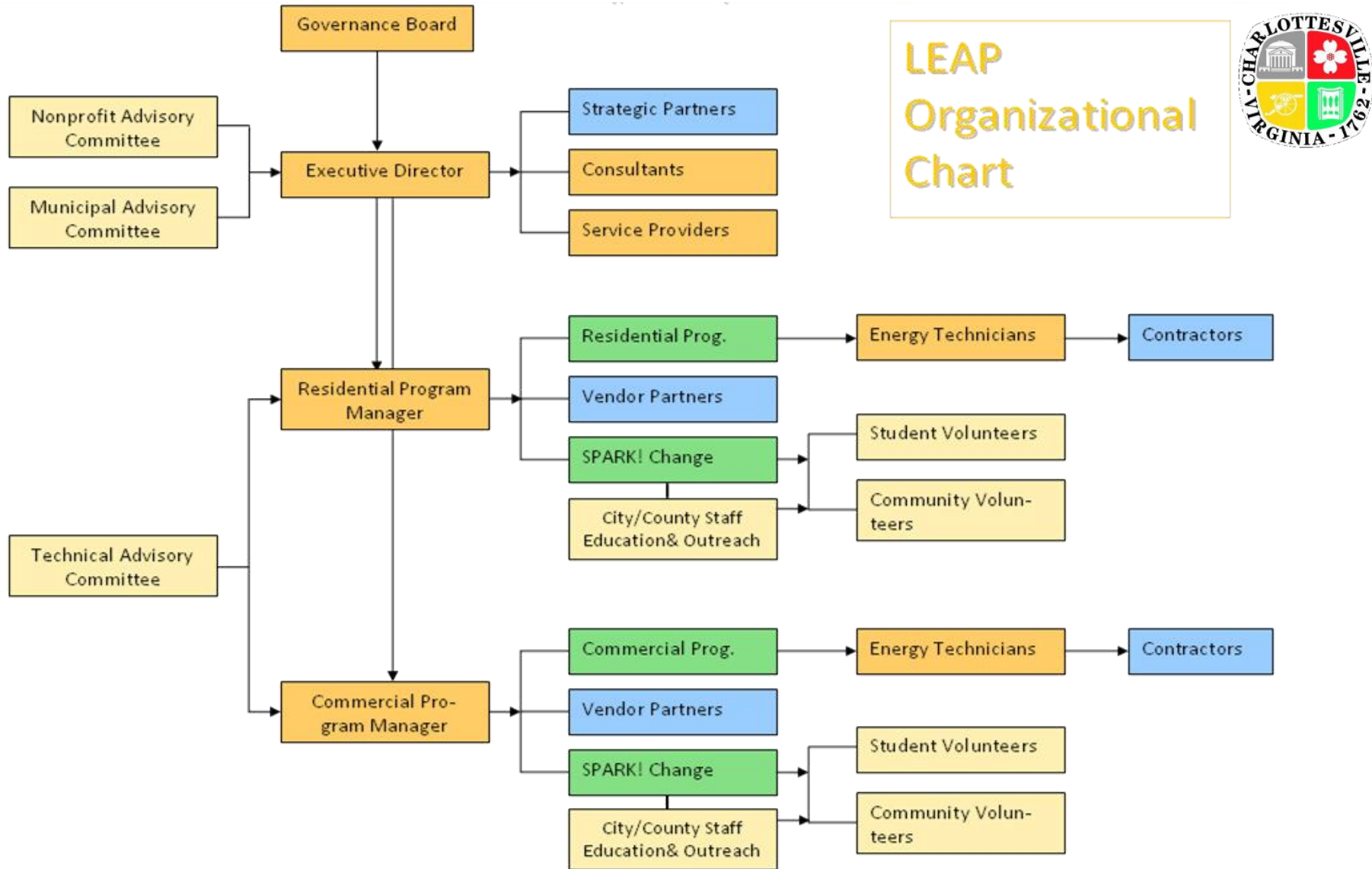
- Set aside program management and consulting costs
- Budget the total available funding
- Allocate incentives to your target market sectors

An established program, generally has the following costs:

Program Admin: 10-15%	Marketing : 20-30%	Incentives: 55-70%	Tracking & Verification: 3-5%
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*In the beginning, these number may be reversed, with far more dollars going to program administration and marketing*

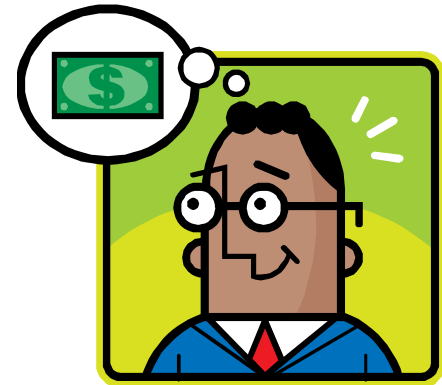
# Example Organization Structure



# Designing Incentives and Delivery Quality Assurance



- Buy down the upfront cost of energy conservation measures (ECM)
- Motivate property owner to participate
- Increase program penetration
- Market energy efficiency as a good deal!



## Complement existing programs

- Home Performance with Energy Star
- How is client is best served – upfront cost reduction or long term financing?
- What isn't already incentivized?
- What is over incentivized?
- Coordinate with your local energy and water utilities

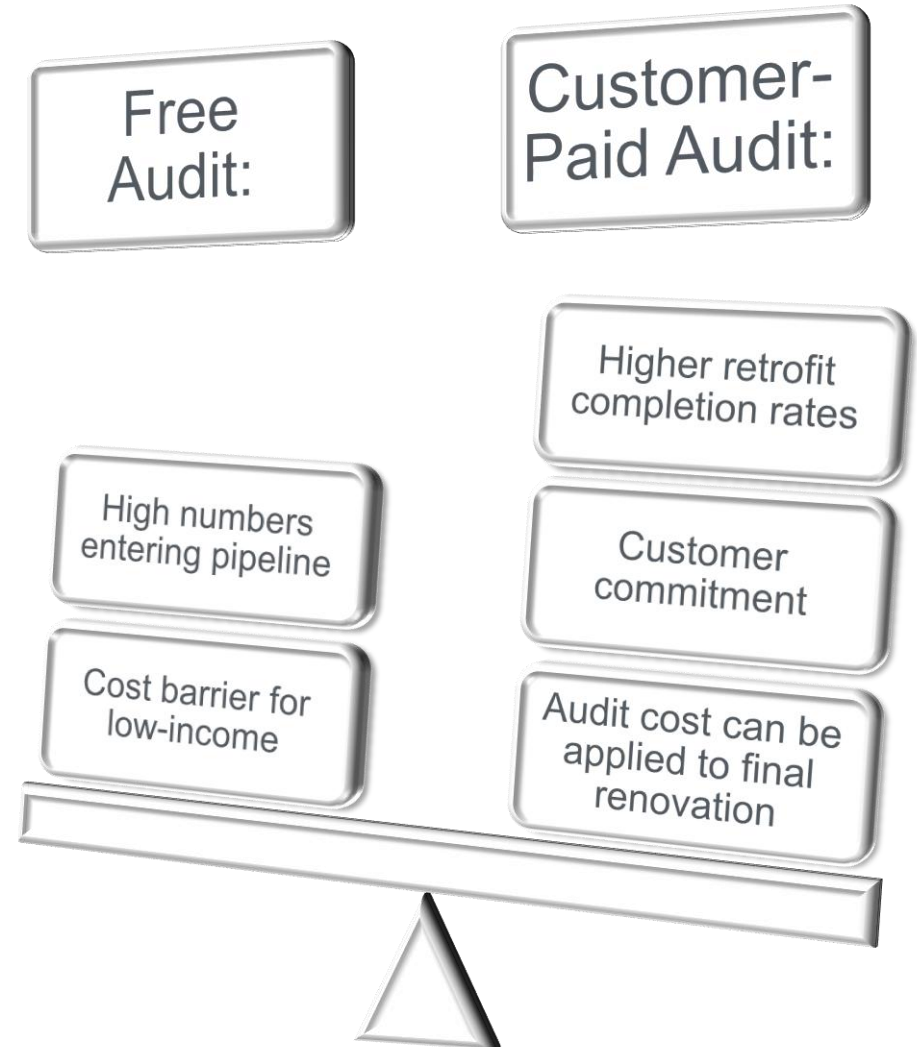
## Consider your market

- Will the work scope differ greatly between projects or is there homogeneity in the building stock?
- Is there a specific ECM that needs to be pushed?
- What ECMs are best for the region?

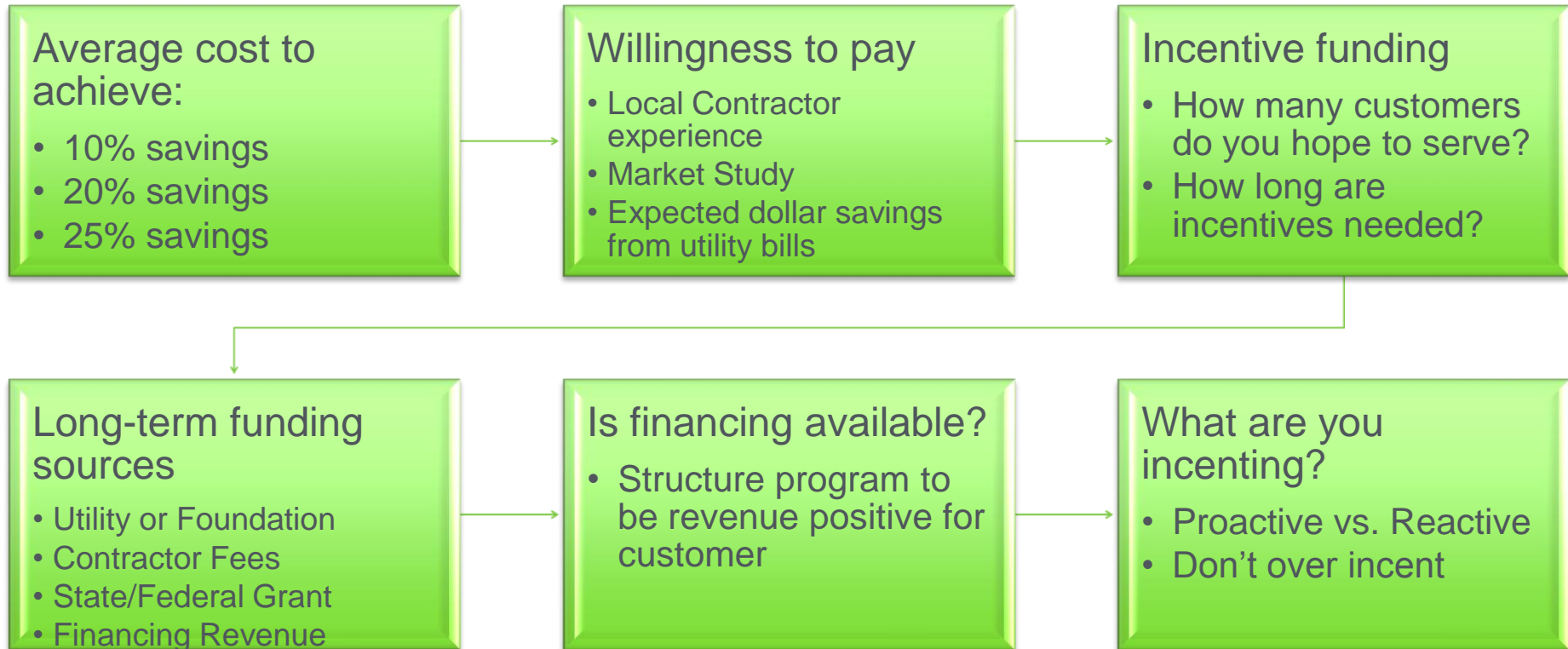
## Set a range of sizes

- Encourages people to pursue larger projects without limiting participation of small work scopes
- By tying incentives to total measure energy saved, there is greater emphasis on proper installation.

- What diversity of income you seek in implementation?
- What is the depth of measure subsidy you are offering
- How large of a budget do you have to spend on incentives in the residential sector?



## Key Considerations

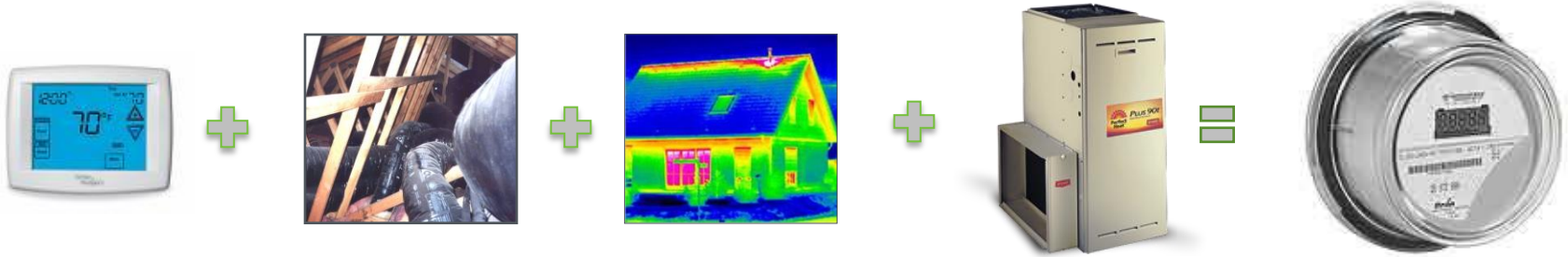


## Proactive

- Retrofit a property owner would not make on their own
  - Example: Attic insulation
- High incentive to total cost ratio
- Used to encourage adoption of deeper retrofits

## Reactive

- Retrofit an owner would do anyway
  - Example: Older refrigerator
- Incentive to cover the incremental cost of efficient unit
- Do not over incent!



## Behavior

- Set Your Stat
- Improvement:  
5% - 10%

## Delivery

- Fix Leaky Ducts
- Improvement:  
30% - 50%

## Building Load

- Stop Leaks
- Improvement:  
20% - 40%

## Equipment

- Efficiency / Size
- Improvement:  
10% - 15%

## Performance

- Efficiency
- Health
- Comfort

## Whole House vs. Products Savings

**Whole House Solution: 30% - 50%**

(Ducts, Insulation, Behavior, 40K BTU 90% Furnace)

**High Efficiency Furnace: 10% - 15%**

(100K BTU 96% Furnace)



## Design the Pathway for Participation



What makes a project eligible

- Audit?
- Pre-qualification?



How is the incentive applied to the project

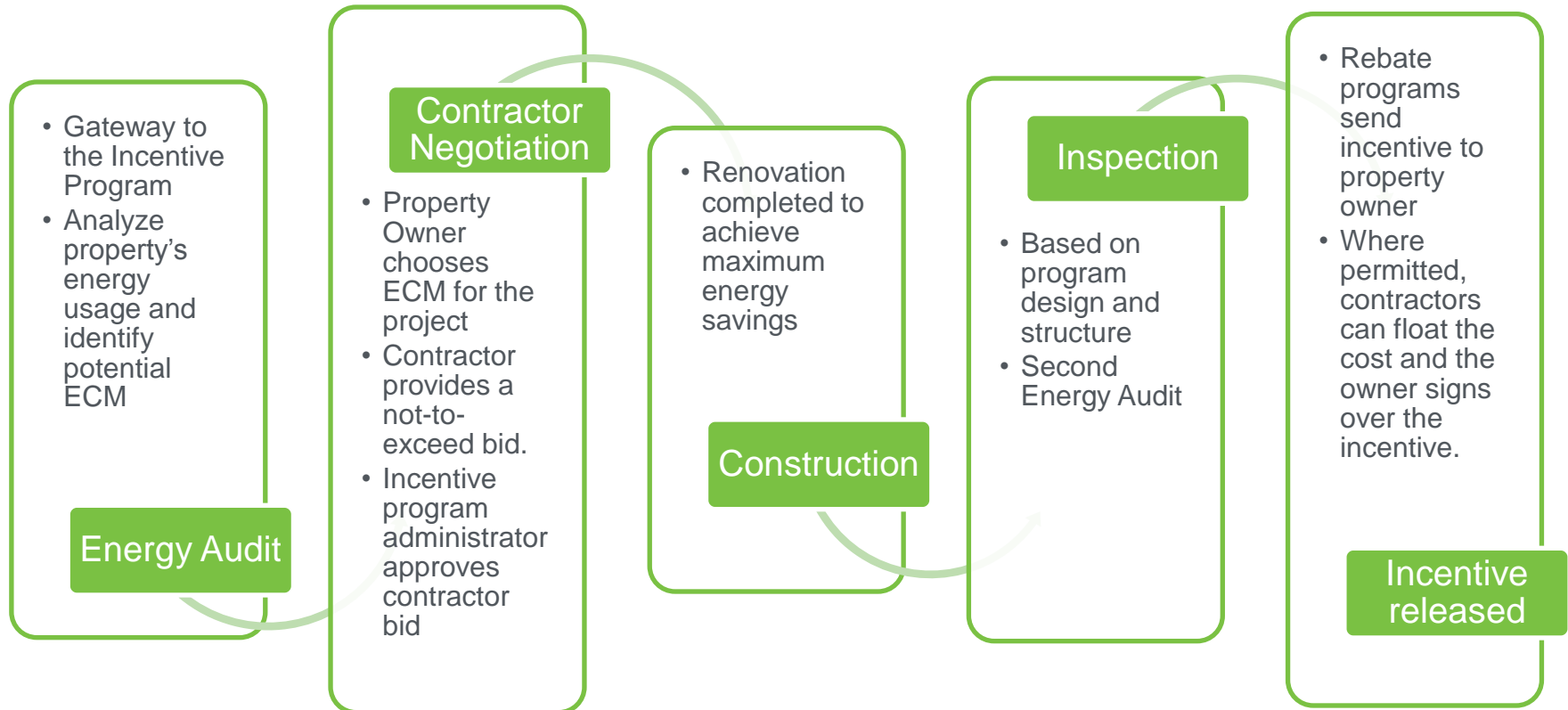
- Homeowner or Contractor?
- Specific measures or total energy saved?



Tie your incentives to the financing options

- Make the retrofit revenue positive

# The Energy Efficiency Pathways



- Make the workforce your partner
  - Contractor arranging
  - Customer discounts through contractor network
- Provide contractor training
  - Tie incentive approval to trained contractors
  - Train your local contractors to explain program & incentives
- Employ a pre-qualification process
  - Establish certification requirements (BPI, RESNET)
  - Bonding, licensing, insurance
- Quality Assurance





## An adequate customer tracking database and IT solution

- Web portal for customers
- Contractor portal → audit reports and measures installed
- Integration of utility data and financing



## Customer care protocols

- The “Energy Advisor”



## Who provides quality assurance

- % of projects QA

Marketing

- Achieve success by
  - Creating interest
  - Delivering value
  - Driving actions
- Same old methods won't deliver...
  - Social networks
  - Community groups
  - Contractors







- Know your customer
  - Understand attitudes toward energy efficiency
  - Identify messages that will resonate with the target customer audience
- Who are you targeting?



Public  
Infrastructure



Single family  
residential



Small  
Commercial





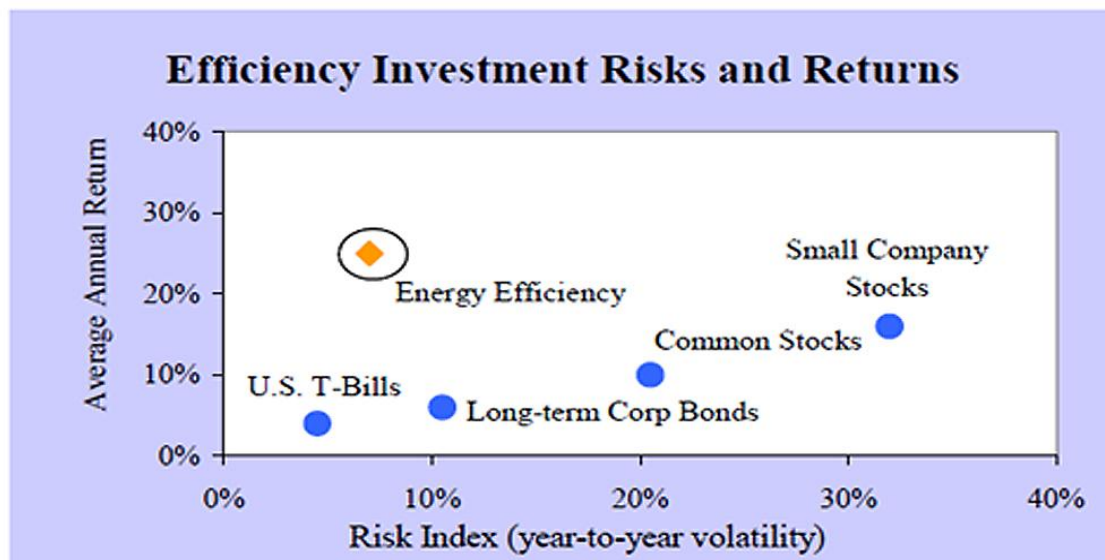
- What motivates consumers and program designers isn't always the same!
- Common motivators include
  - Saving money
  - Increasing comfort
  - Reducing environmental impacts
- Local market research can provide the missing links
  - Surveys, Focus Groups
  - Utility data
  - Demographics

- Common barriers
  - Expensive
  - Difficult
  - Uncomfortable
  - Time-consuming
  - Skepticism



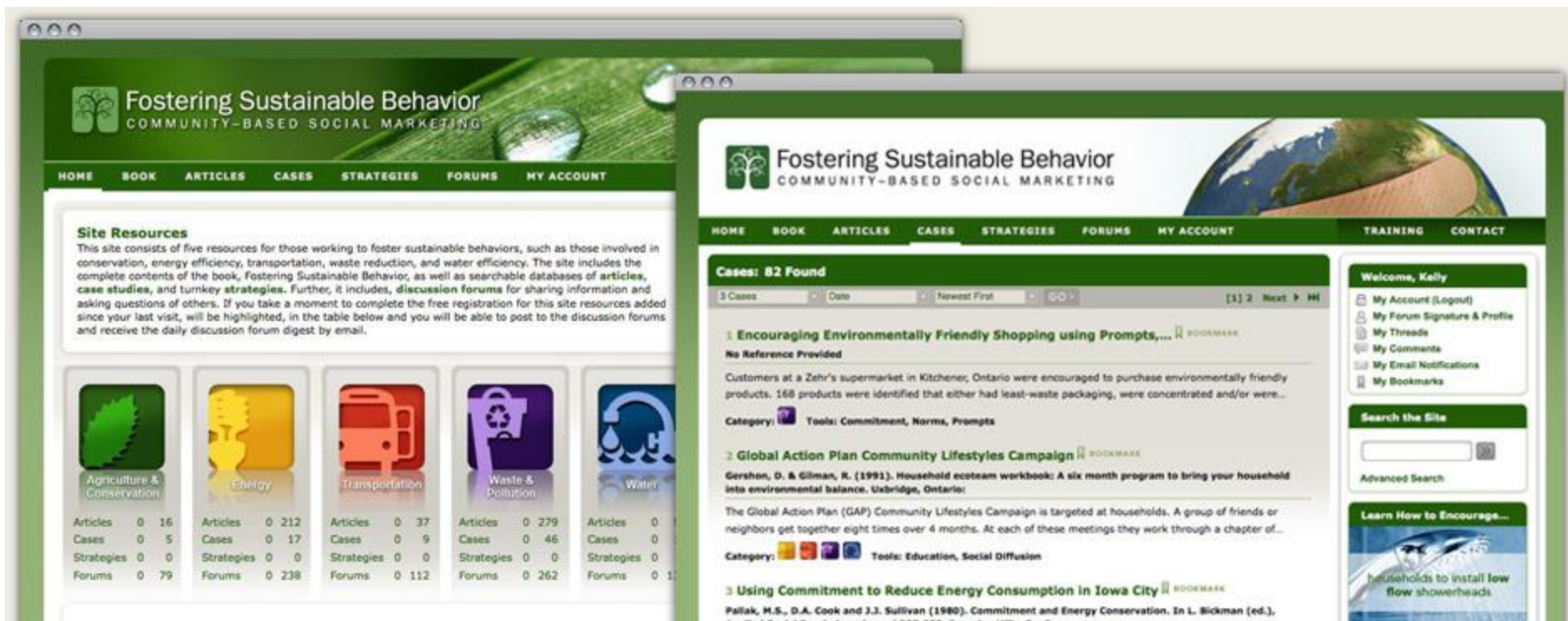
- Consumer lack of awareness and understanding
- Incentives & financing lowers costs
- Its easy! *With your program*
- Comfort doesn't have to be sacrificed
- One person can make a difference!

## The Value Proposition!










Source: Adapted by ACEEE from the EPA and the Vanguard Group (see Laitner 2008)

*“Community-based social marketing draws heavily on research in social psychology which indicates that initiatives to promote behavior change are often most effective when they are **carried out at the community level and involve direct contact with people.**”*





- Create a sense of urgency  
*Incentives won't last forever!*
- Employ trusted messengers
- Include multiple channels
  - Mass media
  - Press releases
  - Local neighborhood groups
  - Social networking       
  - Local competitions
  - Be creative!





# Sustainability

- Federal grants won't last forever!
- Potential funding sources
  - % Fee from projects
  - Subsidy from other market sectors?
  - Revenues from revolving loan fund
- Coordinate with your utility and other external incentives providers
- Manage your record-keeping, database of participants, accounting, audit trail

## Plan for the future: *What is your role after incentives?*

- Creating a new economy around efficiency
- Develop effective and engaging programs
- Define and establish a clear, long-term objectives
- Employ strong management infrastructure
- Identify and recruit program partners
- Establish long-term, self sustaining funding mechanisms
- Educate communities
- Create outreach support

## Conclusion

## Intentional Design

- Clear vision
- Achievable goals
- Effective management

## Design your program to work with other elements

- Financing, workforce development, marketing
- Work with Existing Incentives
  - Fill the gaps
  - Layer on top where appropriate

## Know your Market

- Customer type, size and income
- Understand consumer motivations
- Identify barriers

## Design Incentives for your Market

- You are incentivizing contractors as much as customers
- Figure out what it takes to motivate both to take action
- Phase incentives out over time!

## Quality Assurance is a must

- Maintain a good reputation
- Use the money well
- Build a case for future funding

- **SEEA** Southeast Energy Efficiency Alliance



- **LEAP** Charlottesville Local Energy Alliance Program



- **CESI** Clean Energy Solutions Inc



- **ACEEE** American Council for an Energy-Efficient Economy





## CONTACTS

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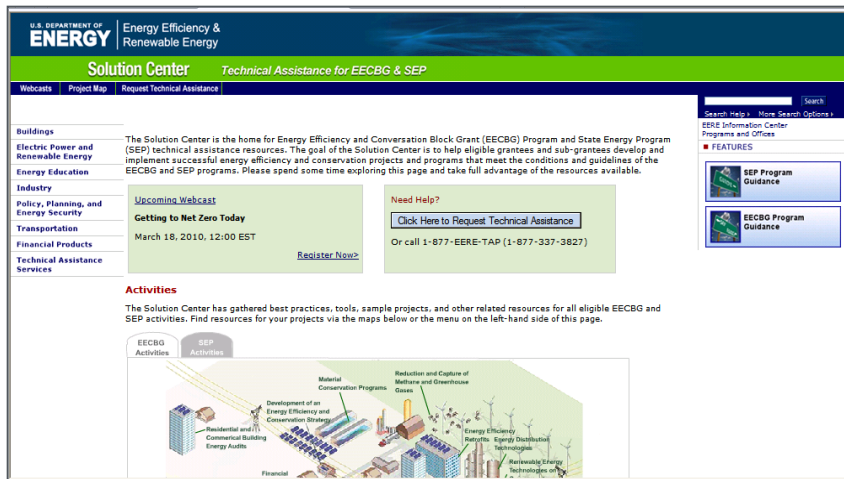
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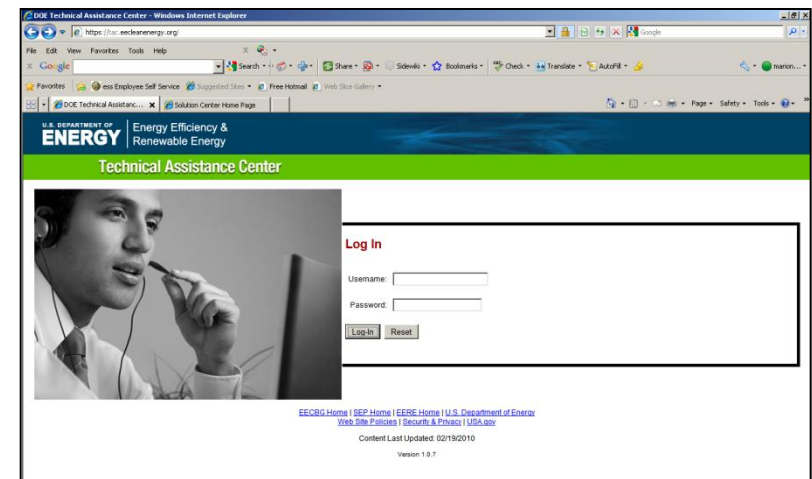
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[Driving Demand: Working With and Learning from Contractors](#) November 9, 2010 2:00 - 3:15pm EST

[EM&V 101: General Approaches to Tracking Data and Estimating Savings](#) November 10, 2010 2:00pm EST

[Energy Efficiency Rebate Programs 101](#) November 15, 2010 12:00 - 2:00pm EST

[State Clean Energy Policy Impact](#) November 17, 2010 3:00 - 4:15pm EST

[Negotiating and Entering Into an ESPC](#) November 18, 2010 1:30 - 2:30pm EST

[Community Renewables Projects](#) November 30, 2010 2:00 - 3:00pm EST

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