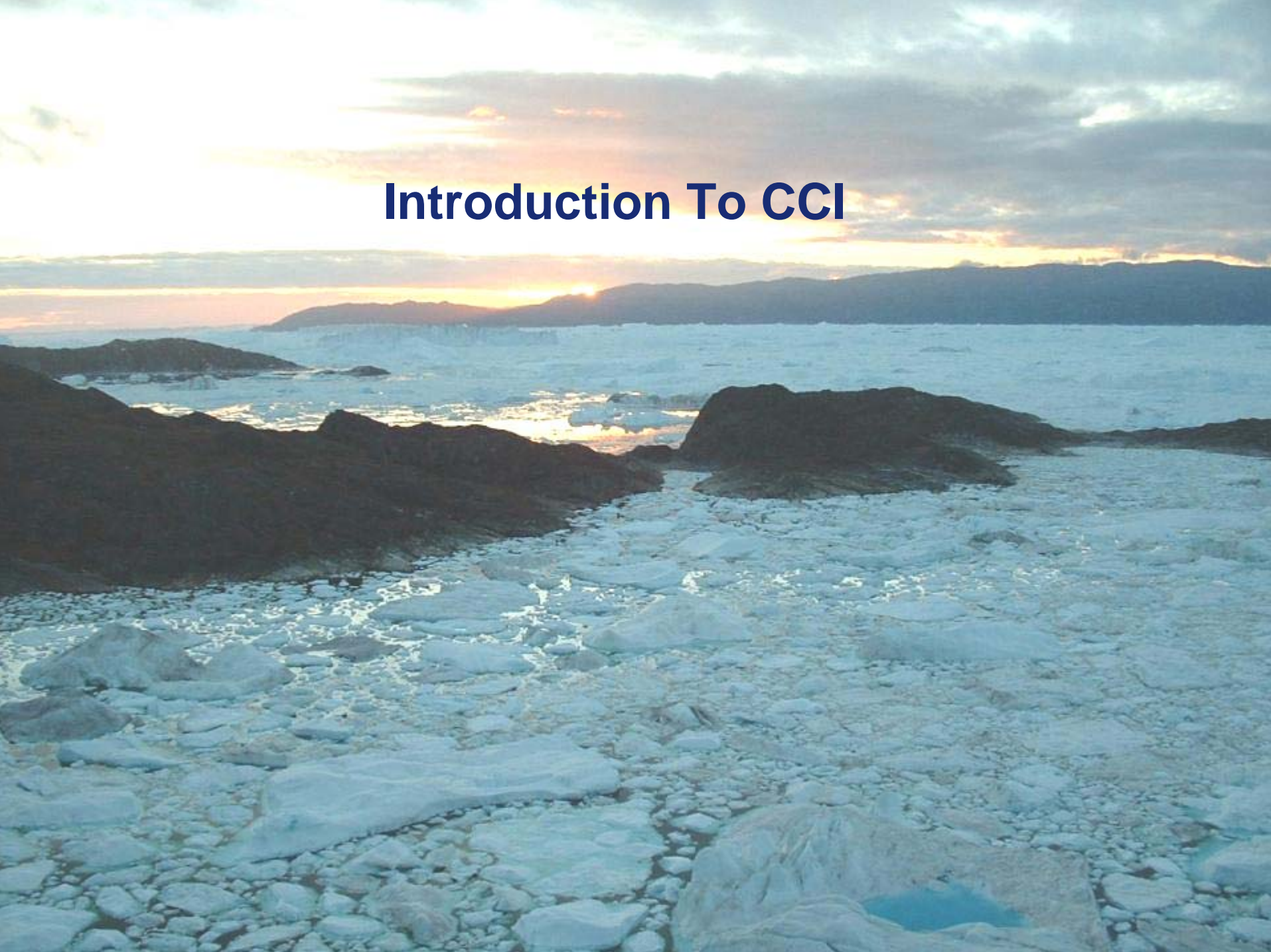




CLINTON
CLIMATE
INITIATIVE

**CCI, USGBC and Energy Performance Contracting
Webinar**
05/13/08

Introduction To CCI



The Clinton Climate Initiative

MISSION

Make a difference in the fight against climate change in practical, measurable, and significant ways.

APPROACH

- Generate Political Will
- Convene Stakeholders
- Stimulate Markets
- Remove Barriers to Scale-Up
- Organize Partners
- Mobilize Resources
- Share Best Practices
- Measure Results

PHILOSOPHY

- Think Big
- Move Quickly
- Use Markets
- Create Partnerships
- Get Results

Introduction to the US Green Building Council



THE VISION: GREEN SCHOOLS WITHIN A GENERATION



**LEED
FOR SCHOOLS**



LEED for Existing Buildings: Operations & Maintenance

Ongoing certification of all projects

Consensus-Based Standards

USGBC has four levels of LEED:





Nutrition Facts

Serving Size 8 crackers (28c)

Servings Per Container About 2

Amount Per Serving

Calories 120 Calories From Fat 30

% **Daily Value***

Total Fat 3.5g **5%**

Saturated Fat 1g **5%**

Trans Fat 0g

Polyunsaturated Fat 1.5g

Monounsaturated Fat 0.5g

Cholesterol 0mg **0%**

Sodium 140mg **6%**

Total Carbohydrate 22g **7%**

Dietary Fiber Less than 1g **3%**

Sugars 7g

Protein 2g

Vitamin A 0%

• Vitamin C 0%

Calcium 10%

• Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet.

CONTINUED ON OTHER SIDE



immediate
& measurable

immediate
& measurable

immediate
& measurable

immediate
& measurable





Partners

- Clinton Climate Initiative
- National PTA
- American Federation of Teachers
- National Education Association
- National School Boards Association
- American Association of School Administrators
- Council of Educational Facility Planners International
- National Clearinghouse for Educational Facilities
- American Architectural Foundation
- Learning First Alliance
- Association of School Business Owners International

K-12 Program with USGBC

- Begin with “Pilot” school districts and states
- Design models to promote broad based adoption of building retrofits within state/district
 - Policy, finance, procurement streamlining
- Replicate models across regions under the guidance of regional teams
- Maintain focus on health and well-being of students

Energy Efficiency Building Retrofit Program

FOCUS ON EXISTING BUILDINGS

- The largest contributors of GHG emissions in most urban areas

PARTNER WITH CITIES

- To encourage & streamline retrofits

PARTNER WITH PUBLIC & PRIVATE BUILDING OWNERS

- To identify opportunities for large scale, measurable projects

PARTNER WITH LEADING ENERGY SERVICE COMPANIES (ESCOs)

- To promote best practices for cost-efficient projects

PARTNER WITH LEADING FINANCIAL INSTITUTIONS

- To provide capital through a variety of project financing mechanisms

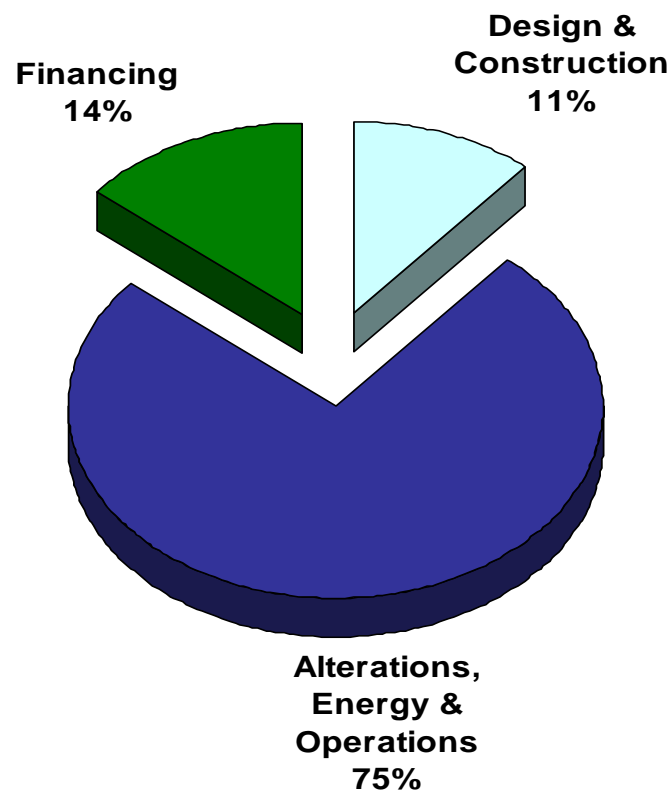
PARTNER WITH SUPPLIERS OF ENERGY EFFICIENT PRODUCTS

- To reduce retrofit costs

Why Existing Buildings?

- Buildings contribute 50 – 70% of GHG emissions in urban areas (up to 90% on many campuses)
- 20 – 50% energy savings “trapped” in buildings.
- Existing buildings use on average 25% more energy than new buildings
- 3/4 of building lifecycle costs occur after construction is complete

Typical Building Lifecycle Costs



Energy Service Performance Contracts (EPCs)

INNOVATIVE CONTRACTING MODEL

- Streamlined procurement and construction process
- Single provider of construction, management, and M&V creates accountability

EPC PROJECTS PAY FOR THEMSELVES

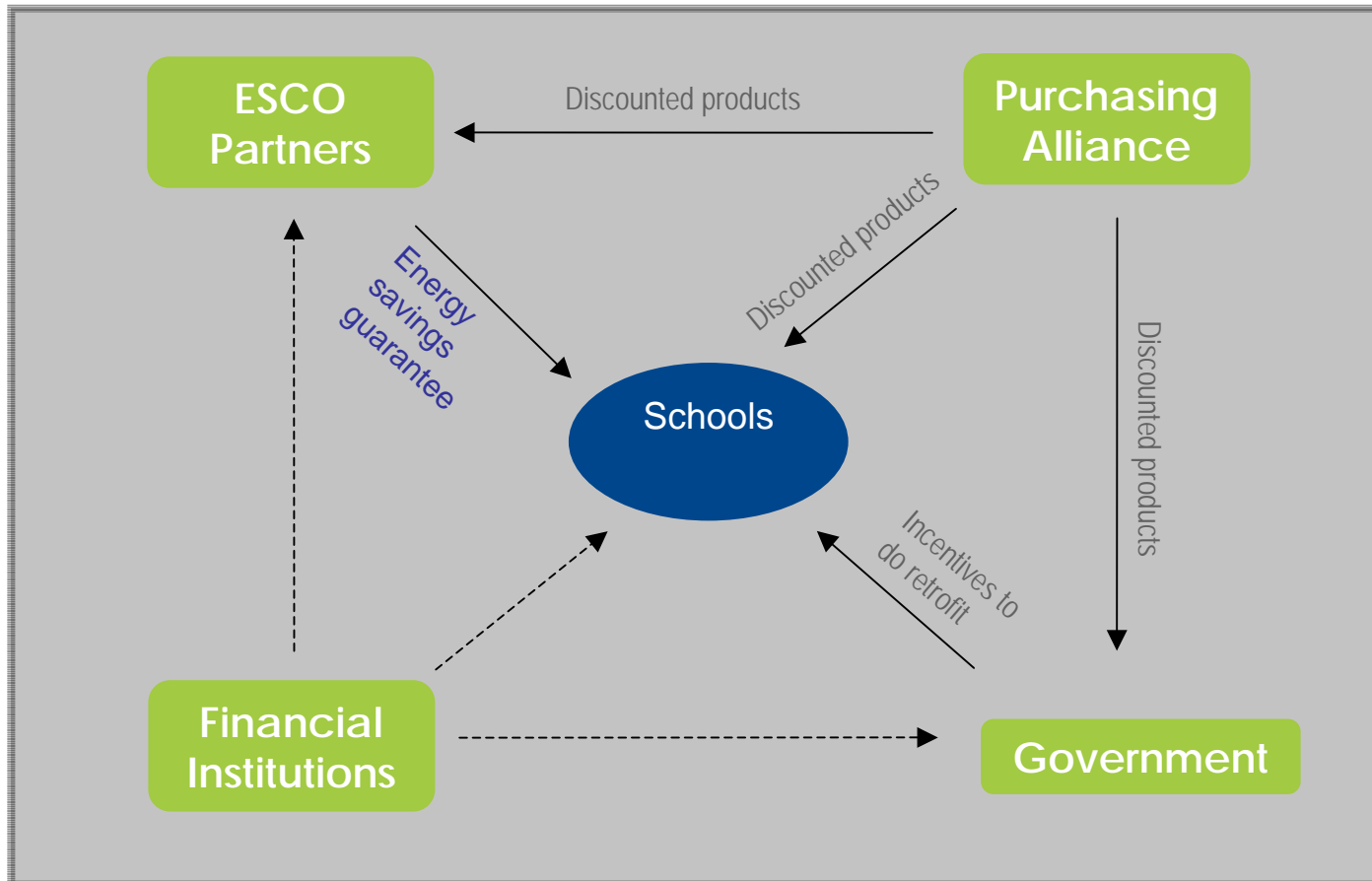
- Project cost and energy savings are guaranteed by ESCO
- Utility savings over time pay for investments in equipment and services
- Projects can be 100% financed – guaranteed savings are source of funds to repay loan

BUILDING OWNERS CONTROL PROCESS

- Owners indicate project specifications (buildings, investment, and other criteria)
- ESCO identifies energy conservation measures
- EPC defines performance and specific level of energy savings for life of agreement
- ESCO implements upgrades and provides ongoing measurement and verification

Project Cost and Energy Savings are Guaranteed by ESCOs

Partnership Model



Role of Building Owners

- Work with CCI on project goals & schedule
- Establish cross-functional team & leader to manage project
- Select buildings for program participation
- Qualify ESCO & financial partners for services
- Work with CCI on determining best process to bring financially positive, measurable projects to fruition

Role of ESCOs

DELIVER FINANCIALLY JUSTIFIABLE & SUSTAINABLE PROJECTS

- Identifies energy conservation measures to meet owner's goals
- Implement and measure agreed-upon project
- Guarantee performance for life of contract

WORK IN ALIGNMENT WITH CCI NEGOTIATED TERMS & CONDITIONS

- Guarantee maximum pricing – owner knows project cost up front
- Guarantee savings – owner knows exact savings over time
- Provide price transparency on costs and markups
- Pass through project savings to owner through gain sharing
- Document Quality Control

WORK WITH CCI TO MINIMIZE COSTS & PASS ON RESULTS

- Streamline process to reduce project development costs
- Include CCI pricing on energy-efficient products where feasible

CCI ESCO Partners

- Ameresco
- Carrier
- Chevron Energy Solutions
- Constellation Energy
- Honeywell
- Johnson Controls, Inc.
- Noresco
- Schneider/TAC
- Siemens
- Trane
- Local ESCOs

As of May 2008

Role of Financial Partners

PROVIDE REASONABLE & EFFICIENT ACCESS TO CAPITAL

- Fund projects using the best financial solutions available
- Help schools overcome barriers
- Provide 100% financing through commercial loans – *not grants* - to qualified building owners at market rates
- Banks committed up to US\$1 billion in capital each

DESIGN FINANCIAL SOLUTIONS FOR RETROFITS

- Work with CCI on financing innovations for projects
- Explore the use of ESCO performance guarantees to provide security for loans
- Evaluate energy savings as a way of analyzing debt capacity of the project

CCI Financial Partners

- ABN AMRO
- Citi
- Deutsche Bank
- Hannon
Armstrong
- JP Morgan
Chase
- UBS
- Local Banks

As of May 2008

SOME WAYS ENERGY EFFICIENCY PROJECTS ARE FINANCED:

Receivables purchase agreements
Multi-level lending structures
Direct tax-exempt finance
Master lease agreements

Operating leases
Utility-based project repayment
Revenue bonds
State-based revolving funds

Role of CCI

FACILITATE PROJECT DEVELOPMENT & IMPLEMENTATION

- Connect building owners with ESCO & financial partners
- Ensure that owner's interests and expectations are met
- Monitor & assist owner throughout project cycle
- Provide purchasing assistance and product discounts

PROVIDE TECHNICAL ASSISTANCE

- Share best practice examples and support at each stage of project
- Connect owners to technical experts where required

FACILITATE BEST PRACTICE SHARING

- EPC project development and implementation
- Working with ESCOs and financial institutions

HIGHLIGHT LEADING BUILDING OWNERS' REDUCTIONS IN CARBON FOOTPRINT

Purchasing Assistance for Building Projects

TECHNOLOGIES

- Building Technologies
- Commercial & Industrial Lighting

NEGOTIATED PRICE CEILINGS

- Typically 5%-40% discounts off best-customer or prevailing prices, (based on order size, local market conditions & buyer specifications)
- Price ceilings based on projected sales volumes & predictable pipeline
- Final price negotiated by owner or ESCO at/under ceiling price

TECHNOLOGY SELECTION CRITERIA

- Impact on GHG & Energy Efficiency
- Product Quality & Innovation
- Discount Level

Building Products

CATEGORY	SUBCATEGORY	SUPPLIERS	TYPICAL DISCOUNTS
Envelope Products	Window Films	3M Solar Gard/ / Bekaert	25 – 50%
	Reflective Coatings	Tremco	17- 20%
Cooling Products	Chillers	Carrier Corp.	5-20%
	Chiller Optimization Application	Optimum Energy	35%
Lighting Technology	Fluorescent	General Electric Acuity Lighting Cooper Lighting	5%-30%
	HID	Acuity Lighting Cooper Lighting	5%-30%
	LED	Lemnis Lighting	Up to 70%
	Sensors	Cooper Lighting	5%-15%
	Specialty (e.g., emergency)	Acuity Lighting Cooper Lighting	5%-30%

Note: Installed prices and availability vary by geography, local labor costs, and installation requirements

Measuring Success: Project 2 Degrees

THE EMISSIONS TRACKER SOFTWARE WILL ALLOW USERS TO:

- Upload data on emissions producing activities by sector
- Establish baseline GHG emissions
- Manage inventories
- Set emissions forecasts & targets
- Track effectiveness of emissions reduction programs
- Choose data to make public
- Create graphs, charts & reports by sector

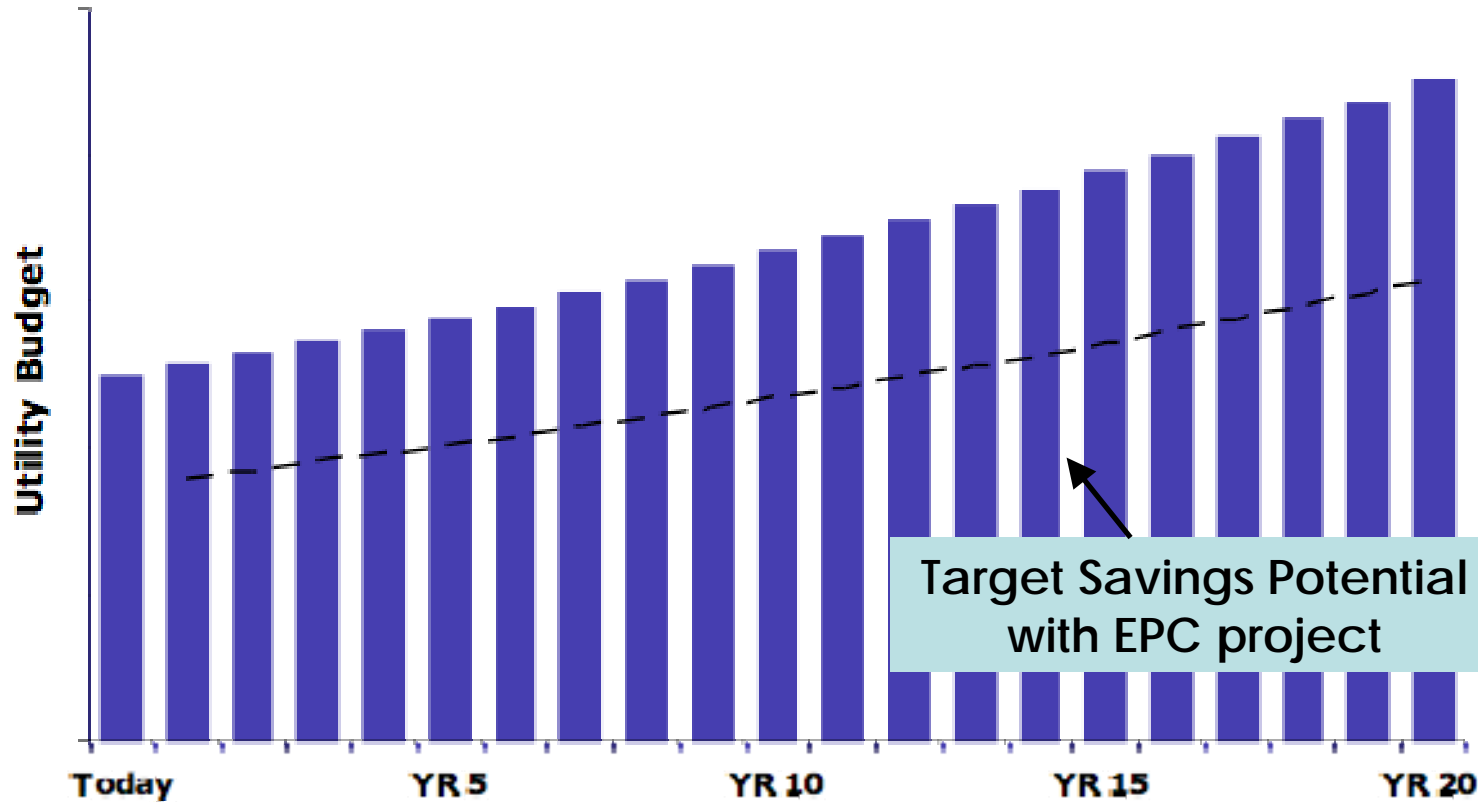
PARTNERS

- Microsoft
- ICLEI
- Center for Neighborhood Technology

How Does the Money Flow?

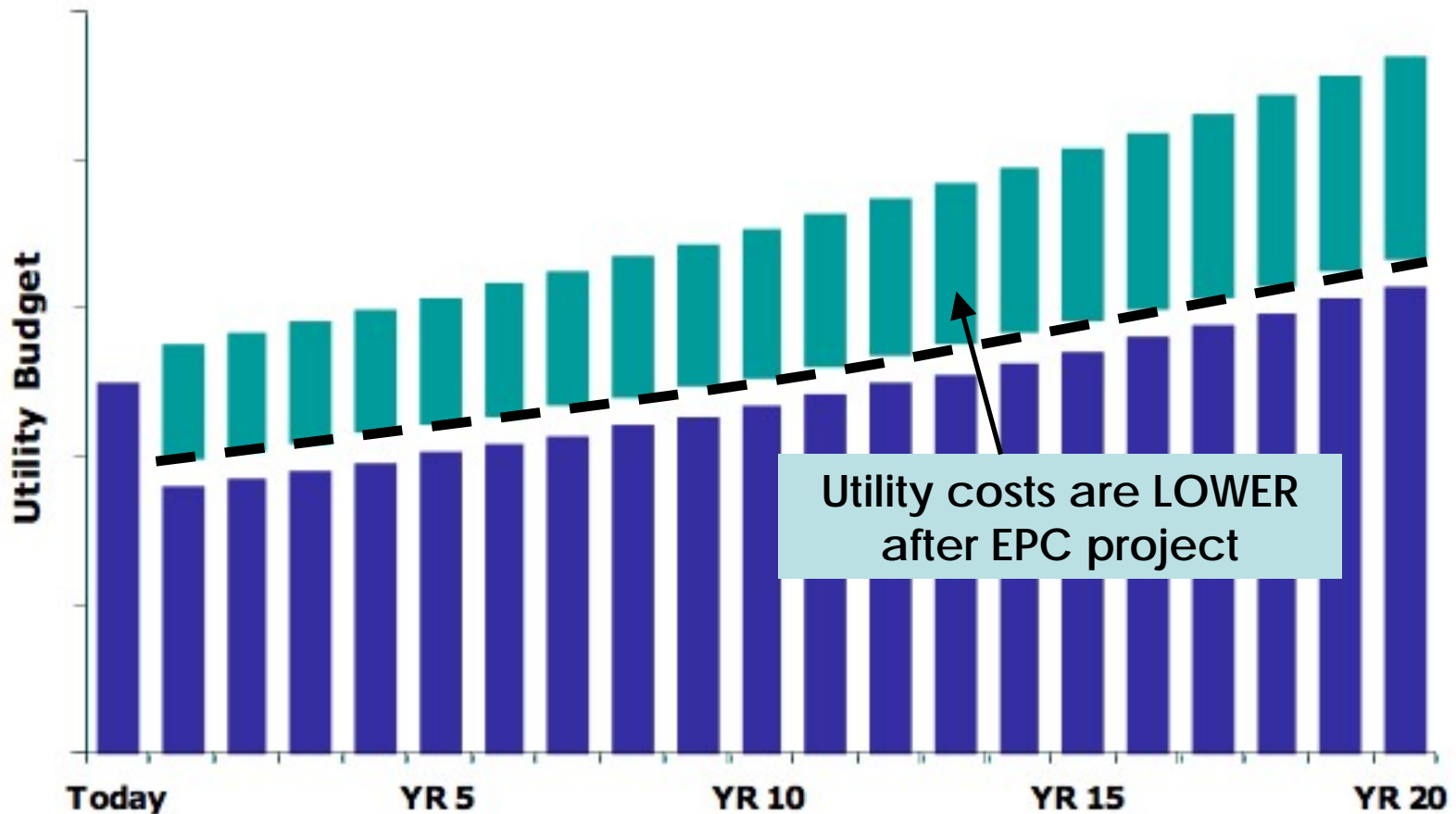


Self-funded through Cash Flow



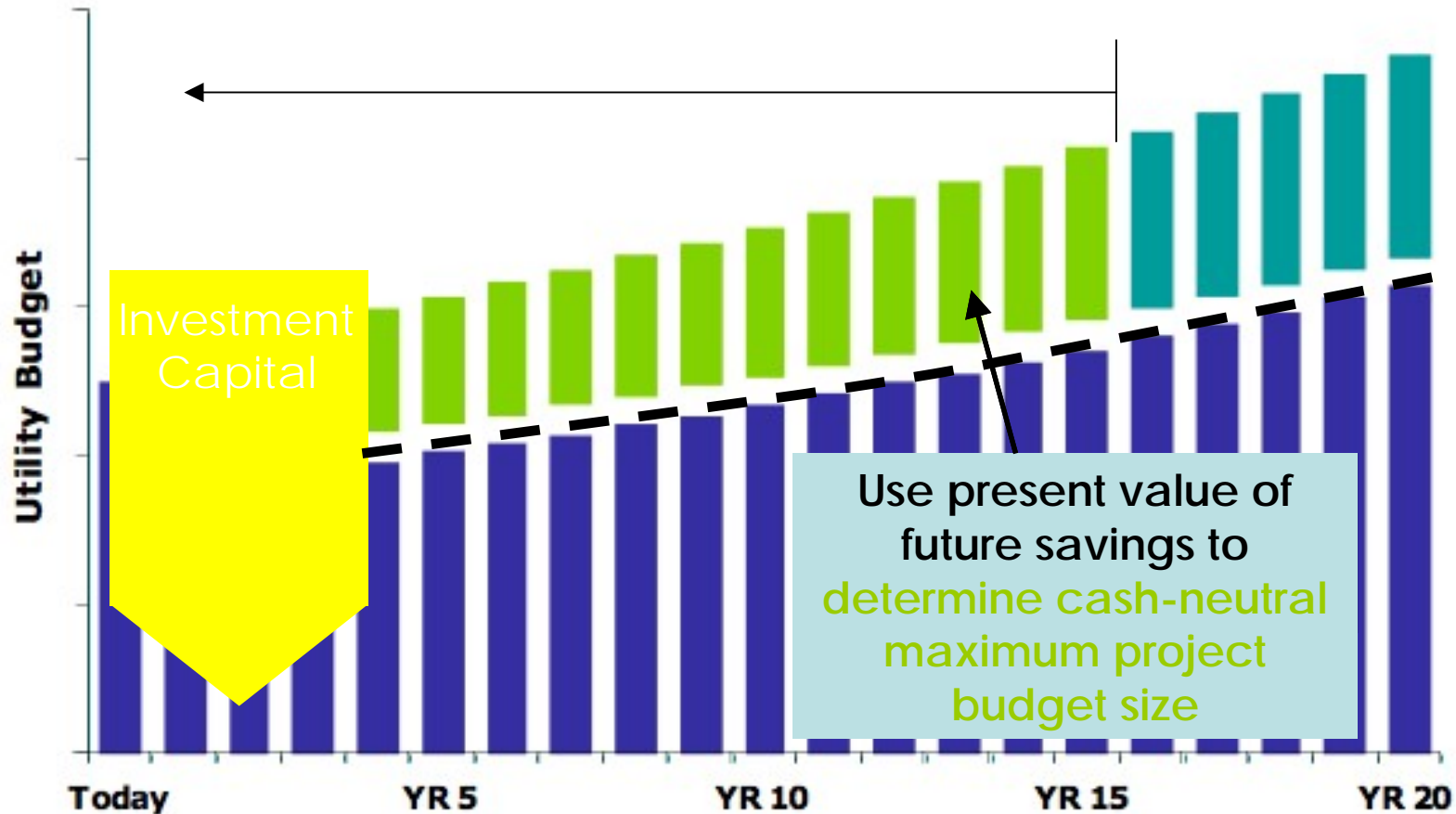
Self-funded through Cash Flow

Potential Energy Savings with Building Retrofit

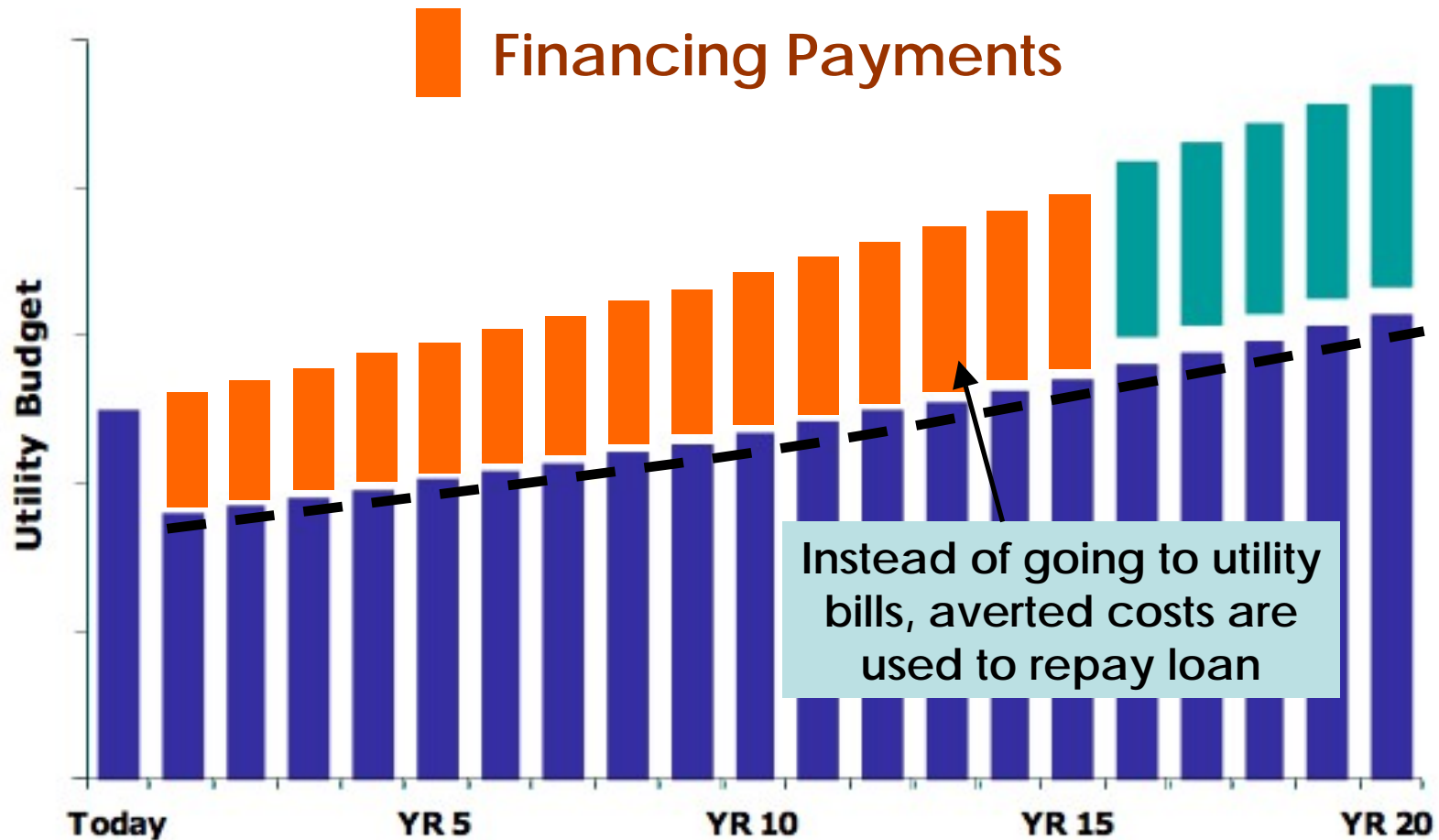


Self-funded through Cash Flow

Funding Potential of Building Retrofit



Self-funded through Cash Flow



EPC: Cash Flow Example

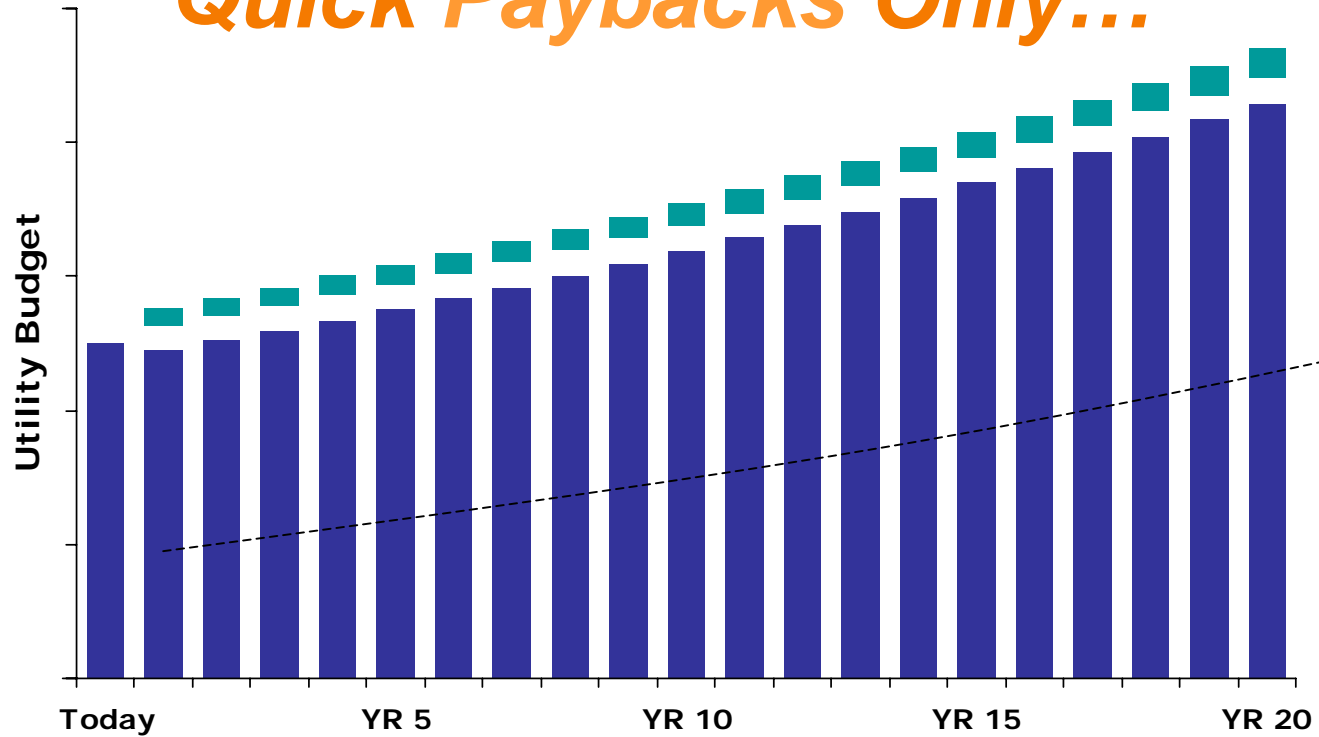
VARIABLES		
Energy Cost	\$	83,333 / month
Energy Cost Increase		3% annually
Guaranteed Energy Savings		15%
Actual Energy Savings		18%
Project Cost	\$	883,000
Interest		7% per annum
Contract length		10 years

	Year		
	1	2	3
Previous Energy Cost	\$ 1,000,000	\$ 1,030,000	\$ 1,060,900
Actual Energy Savings	\$ (180,000)	\$ (185,400)	\$ (190,962)
New Energy Cost	\$ 820,000	\$ 844,600	\$ 869,938
Debt Service / Guaranteed Energy Savings	\$ 150,000	\$ 150,000	\$ 150,000
Total Energy + Debt Service	\$ 970,000	\$ 994,600	\$ 1,019,938
Net Savings to Building Owner	\$ 30,000	\$ 35,400	\$ 40,962

	4	5	6	7	8	9	10
\$	1,092,727	\$ 1,125,509	\$ 1,159,274	\$ 1,194,052	\$ 1,229,874	\$ 1,266,770	\$ 1,304,773
\$	(196,691)	\$ (202,592)	\$ (208,669)	\$ (214,929)	\$ (221,377)	\$ (228,019)	\$ (234,859)
\$	896,036	\$ 922,917	\$ 950,605	\$ 979,123	\$ 1,008,497	\$ 1,038,751	\$ 1,069,914
\$	150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
\$	1,046,036	\$ 1,072,917	\$ 1,100,605	\$ 1,129,123	\$ 1,158,497	\$ 1,188,751	\$ 1,219,914
\$	46,691	\$ 52,592	\$ 58,669	\$ 64,929	\$ 71,377	\$ 78,019	\$ 84,859

EPC: Note of Caution

Quick Paybacks Only...



EPC: Note of Caution

Cost of Waiting...

Year	Savings
<u>1</u>	30,000
<u>2</u>	35,400
<u>3</u>	40,962
<u>4</u>	46,691
<u>5</u>	52,592
<u>6</u>	58,669
<u>7</u>	64,929
<u>8</u>	71,377
<u>9</u>	78,019
10	84,859
TOTAL	563,498

Cost to Wait on Project	
Years	Savings Lost
1	30,000
2	65,400
3	106,362
4	153,053
5	205,644

EPC: How it Works



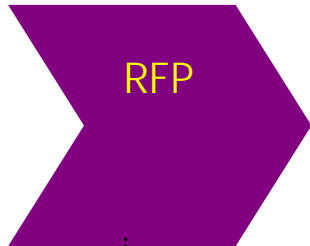
- Financial stability
- Technical expertise
- Resource mobilization



- Qualified measures
- Performance guarantee
- Walk-away compensation



- Harmonization
- Credit check
- Investment criteria



- Qualifications
- Scope of work
- Project pricing
- Cost reduction incentive



- Conformance
- Qualitative evaluation



- Energy engineering
- Investment proposal
- Service proposal



- Loan underwriting
- Equity participation
- Gain sharing

Green Performance Contracting

SBT Green Value Proposition

Customer



SBT Capital Projects

- Lighting retrofits
- HVC&R upgrade and replacement
- Building envelope improvements
- Water efficiency measures
- Renewable energy systems
- EMS upgrade and installation
- Funding options (PC)

Green Building Goals

- Meet mandates
- LEED certification
- Emissions reductions
- Energy Star rating
- Indoor Environmental Quality

Policy and Commitment

- Sustainable purchasing
- Green cleaning
- Reporting and transparency
- Community engagement
- Recycling and waste
- Alternative transportation

SBT Ongoing Optimization

- Preventative maintenance services
- BAS optimization
- Facility improvement measures
- Energy monitoring and reporting
- Audits and benchmarking
- Energy Star ratings
- Emissions reporting
- Green power purchasing and offsets

QUESTIONS?



Jonathan Magaziner. CCI. jmagaziner@clintonfoundation.org
Rachel Gutter. USGBC. rgutter@usgbc.org