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**CLIMATE**  
INITIATIVE



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**Association of Energy Engineers  
New York Chapter  
November 17, 2009  
New York City**

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# The William J. Clinton Foundation

## Foundation Philosophy

- Think Big
- Move Fast
- Use and Create Markets
- Create Partnerships
- Get Results



**SCALEABLE | SUSTAINABLE | MARKET-FRIENDLY**

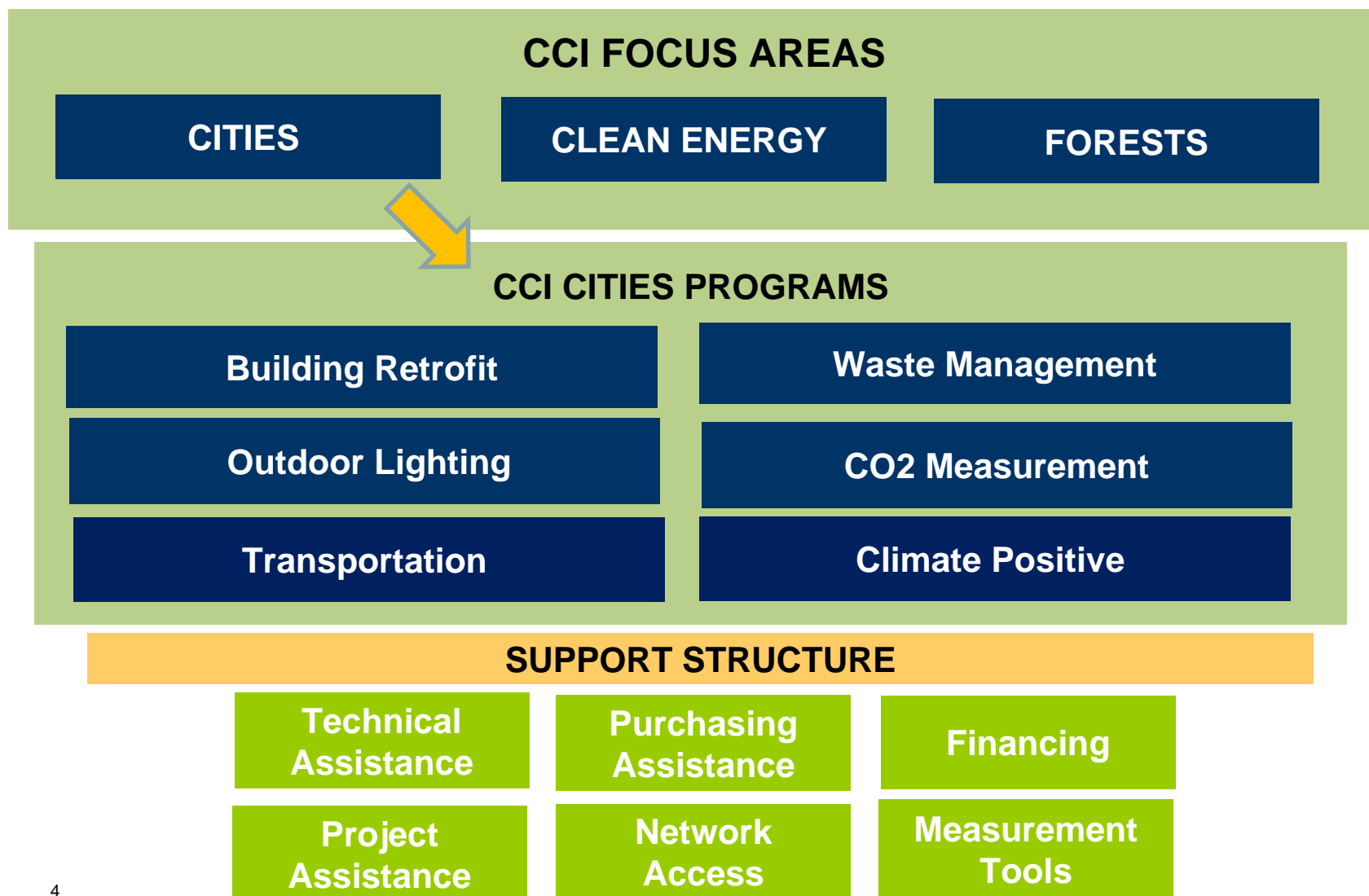
# C40: 40 Partner Cities & 15 Affiliate Cities



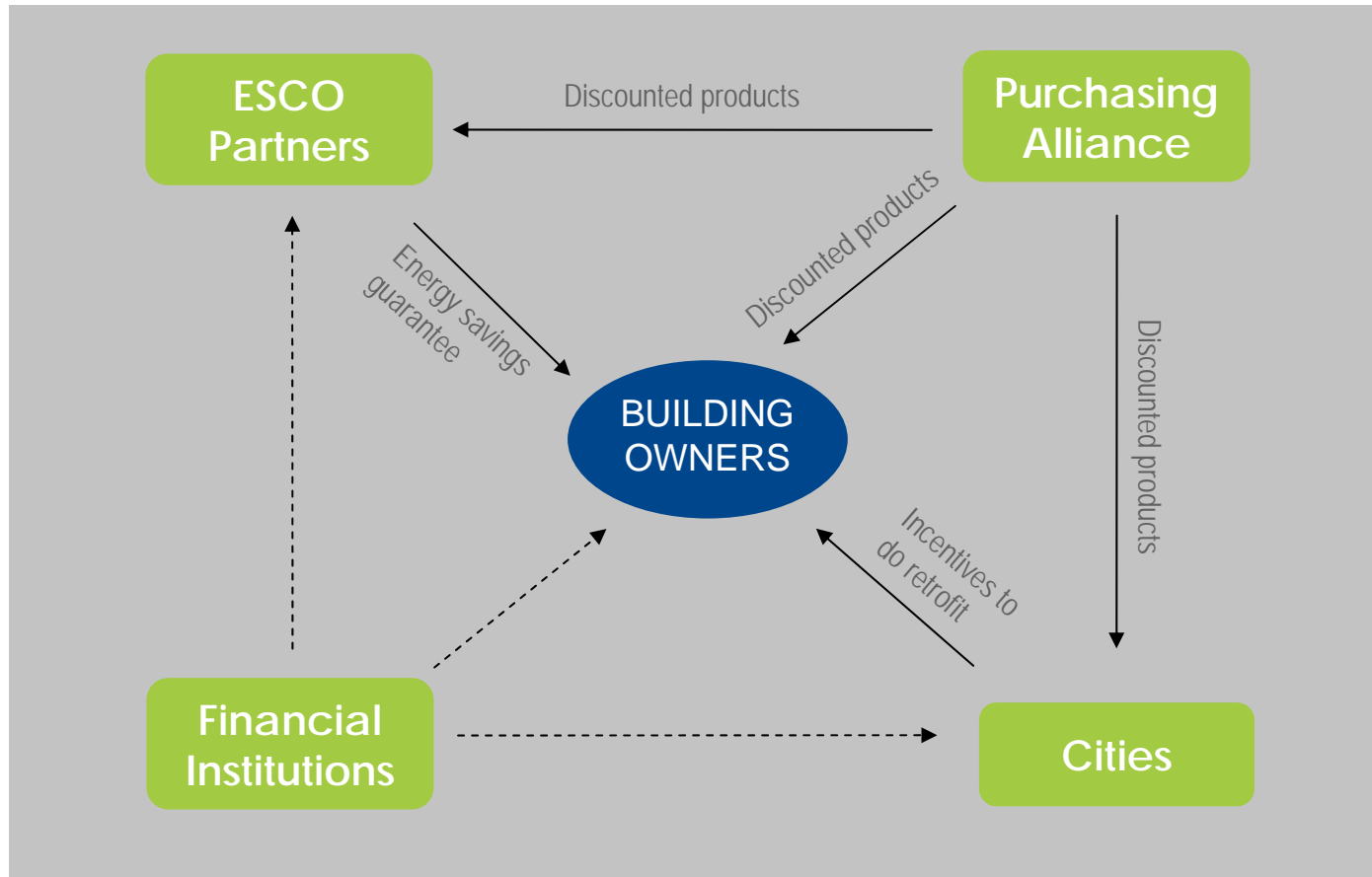
**C40CITIES**  
CLIMATE LEADERSHIP GROUP

- CCI Partner City
- CCI Affiliate City

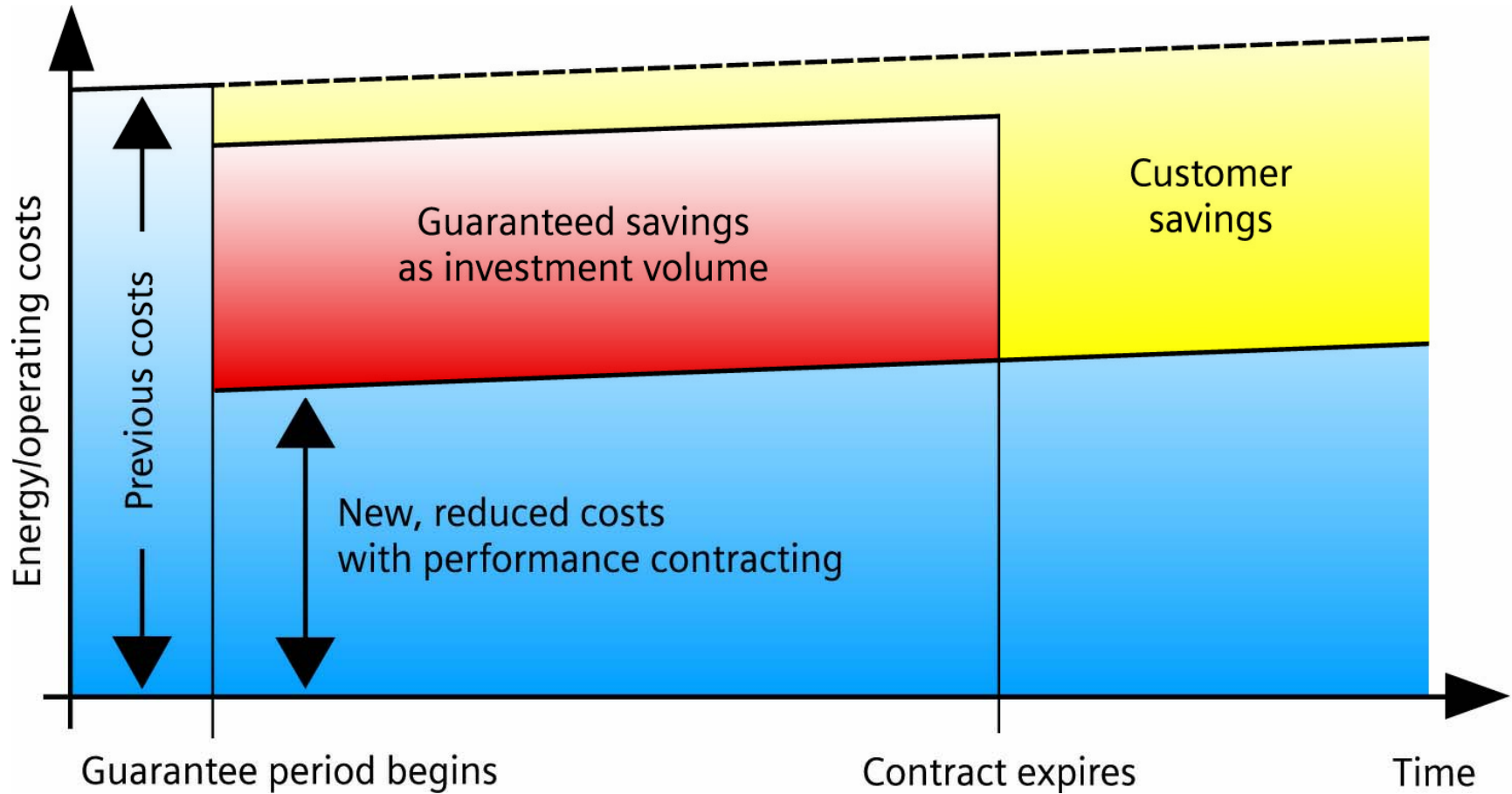
# Programs & Supporting Infrastructure



# Partnership Model

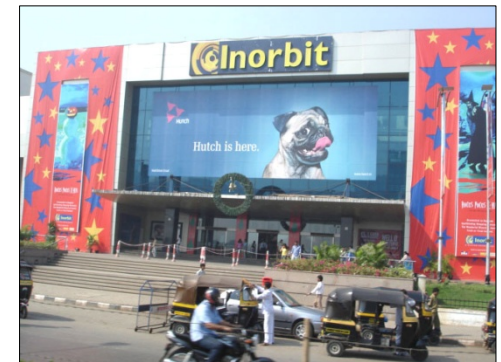


# ESPC: Cash Flows



# Role of Building Owners

- Understand the opportunity
  - Benchmark and measure
  - Analyze your portfolio
- Take Action
  - Retrofit your buildings
  - Avoid the cost of waiting
- Measure your results
  - Expenses
  - Carbon



# EEBRP: Overview Energy Service Companies (ESCos)

- Commitment
  - Enter new markets on favorable terms
  - Participate in ESPC projects in partner cities
  - Deliver sustainable projects with maximum savings with performance guarantees
  - Develop mutually acceptable Terms & Conditions of Performance Contracts with Cities
  - Work with CCI to reduce Program Costs

Ameresco

Chevron  
Energy  
Solutions

Honeywell

Johnson  
Controls

Noresco

Schneider/TAC

Siemens  
Building  
Technologies

Trane

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## Role of CCI

- Developing and sharing best practices
- Stimulating the Market
- Mobilizing Resources
- Accelerating Change
- Removing Barriers
  - Commercial
  - Technical
  - Political

# CCI Outdoor Lighting Program: Two Focus

Areas





## Advanced Public Lighting

Stimulate the market for advanced, energy-efficient public lighting equipment among cities around the world

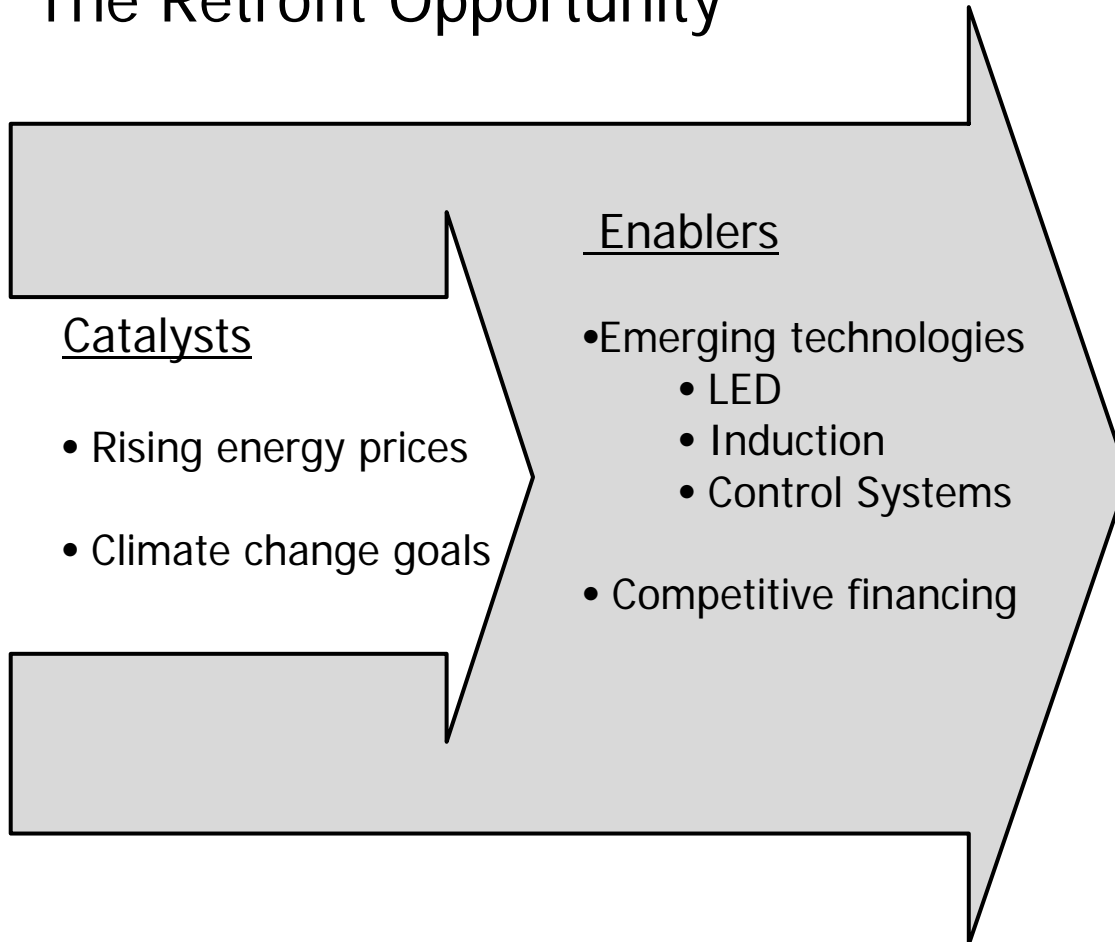


## LED Traffic Signals

Accelerate the conversion of traffic signals from incandescent or halogen to LED

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- 
- Improve Quality of Outdoor Lighting Infrastructure
  - Reduce System Energy & Maintenance Costs
  - Lower GHG emissions

## The Retrofit Opportunity



### Near-Term Benefits

- Reduced energy bills
- Avoided greenhouse gas emissions
- Reduced maintenance costs
- Decreased light pollution
- Enhanced visibility and performance

# Los Angeles LED Retrofit Program



- Announced February 16, 2009
- 98% of fixtures to be retrofitted will be HPS
- City will tender in small, discrete increments to allow for technology innovation
- Largest LED retrofit project ever undertaken

## Los Angeles LED Retrofit Program

- Replacement of 140,000 city street light fixtures with LED fixtures and installation of remote monitoring system.

Estimated Total Project Cost	\$57 million
Projected Annual Energy and Maintenance Savings (\$, post retrofit)	\$10 million
Projected Annual Energy Savings (kWh, Post Retrofit)	68,640,000 kWh / year
Projected Annual CO2 Savings	40,500 t / CO2 / year
Installation Timeline	5 years
Expected Payback	7 years

# New York City Housing Authority



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NYCHA is the largest public housing authority (PHA) in North America, with over 180,000 units. CCI has partnered with NYCHA on retrofitting and a variety of other projects.

- Project Details
  - 343 Developments; 2,653 Buildings
  - 20-year multi-phase energy-efficiency and building retrofit program
- Project Team
  - Contractor: Various
  - Financing: HUD, Municipal, Banks
- Successes
  - Multi-faceted project includes performance contracting, CCI Purchasing Alliance products and more
  - Project structure and building technologies to serve as a model for PHAs across the US and around the world



# Lee College, Baystown Texas

## PROJECT AT A GLANCE

ESCO: ..... Johnson Controls Inc.

Project Size: ..... 588,956 square feet / 35 buildings

Project Cost: ..... \$9.9 million

Annual Energy Savings:

- Electricity: ..... 45% reduction (7,393,067 kWh)
- Natural Gas: ..... 14% reduction (4,216 MBtu)
- Water: ..... 30% reduction (5.2 million gallons)

Annual Energy & Maintenance

Cost Savings: ..... 32% (\$716,433)

Annual Emission Reductions: ..... 4,434 tons CO<sub>2</sub>

Simple Payback: ..... 15.6 years (financed over 20 years)

Construction Duration: ..... 12 months

## PROJECT TIMELINE



## A groundbreaking energy and sustainability program

### *Setting a new standard*

The Empire State Building Company decided to make the building one of the greenest in New York City by developing an innovative sustainability and energy retrofit strategy that would dramatically reduce energy consumption *and* result in a positive ROI.

### *Innovative, collaborative process*

Eight key initiatives were identified from more than sixty potential strategies including infrastructure projects, green design concepts and a tenant energy management program.

### *Delivering significant environmental and financial results*

The plan is projected to:

- Reduce energy use by 38 percent, an annual savings of \$4.4M
- Reduce carbon emissions by 105,000 metric tons over the next 15 years
- Be funded through energy and operational savings
- Be over 50% complete within 18 months and 100% complete in 5 years
- Serve as a model for owners of existing buildings

