



ONTARIO POWER AUTHORITY

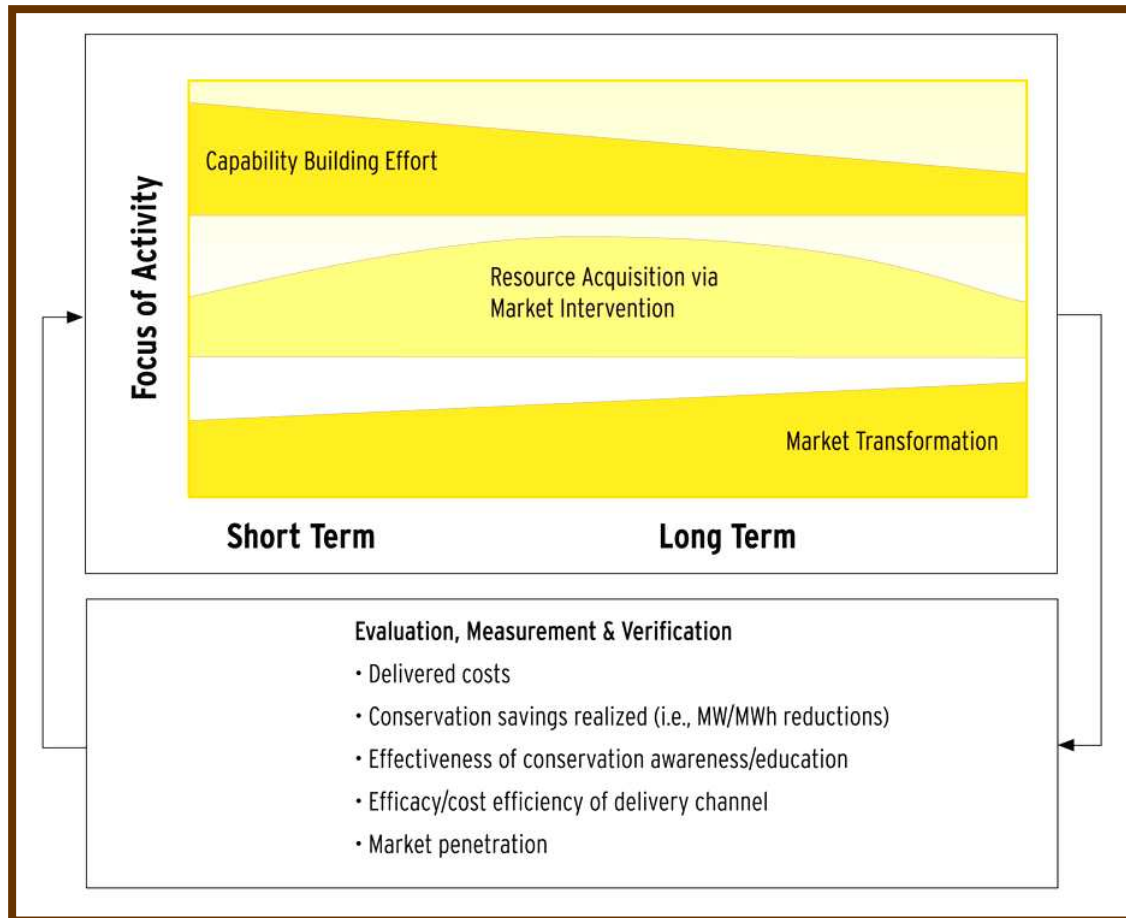
May 16, 2007



NEW CONSTRUCTION PROGRAM

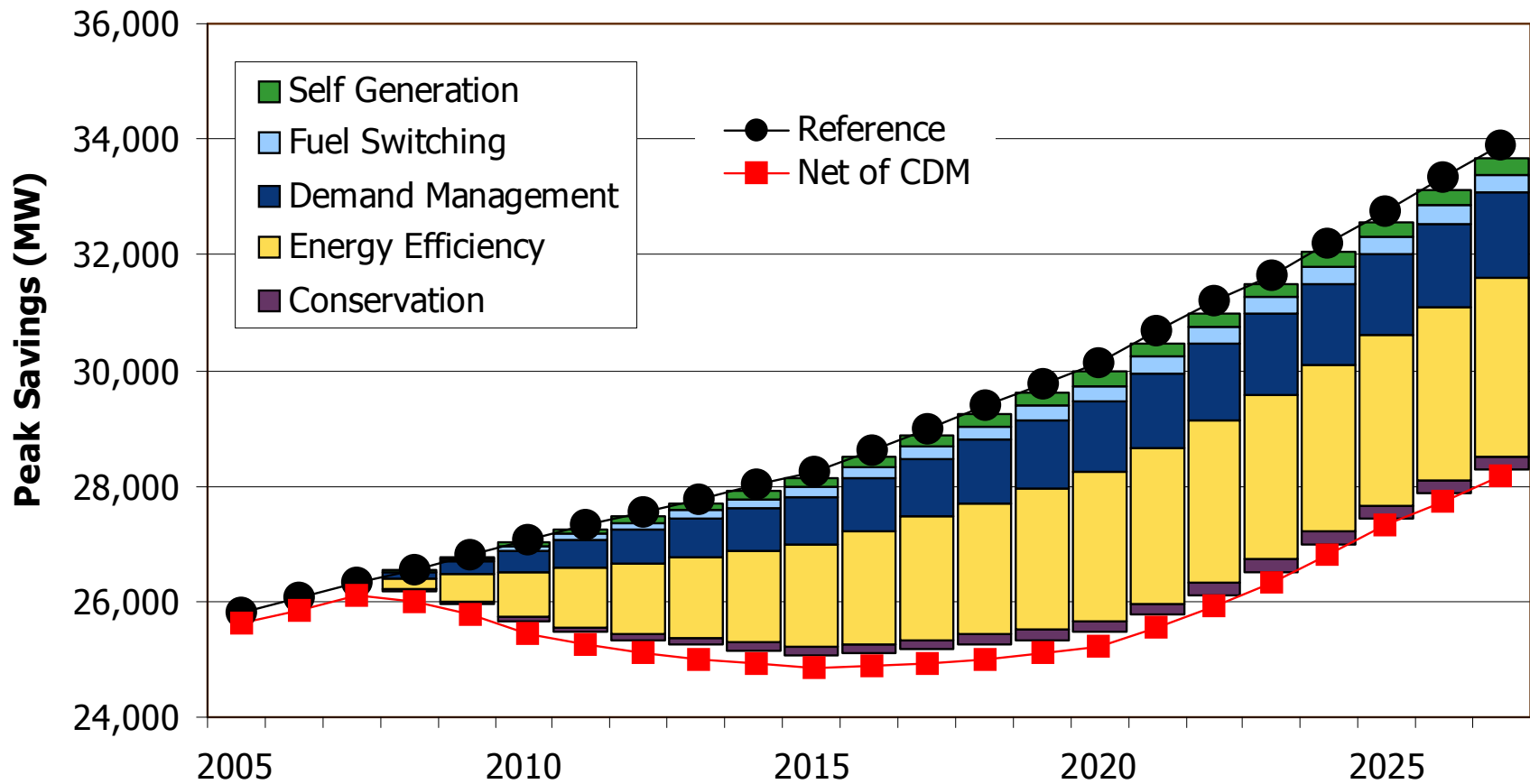
Program Update

OPA Strategy for CDM Programs

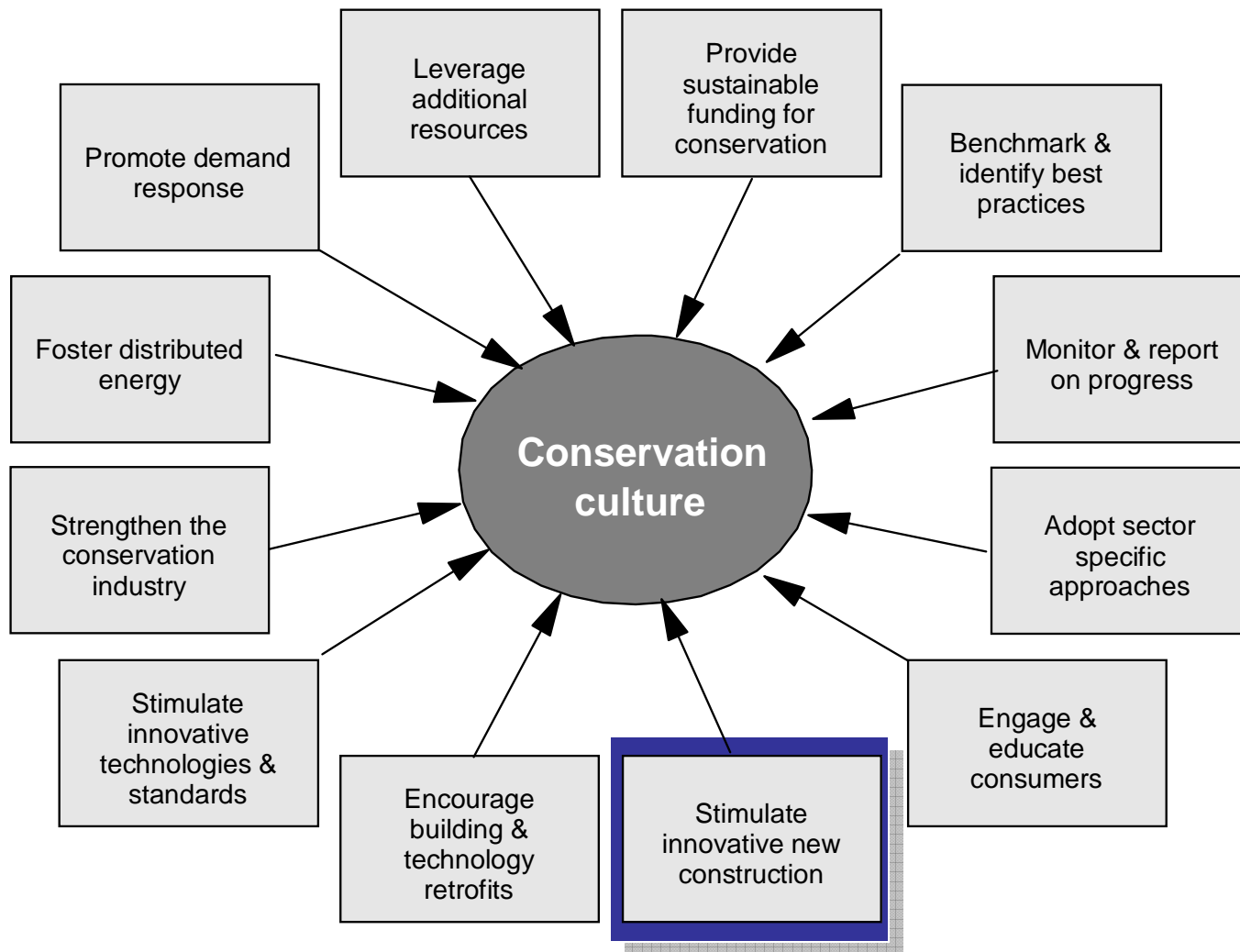


Market Transformation to an Energy-Efficient Market

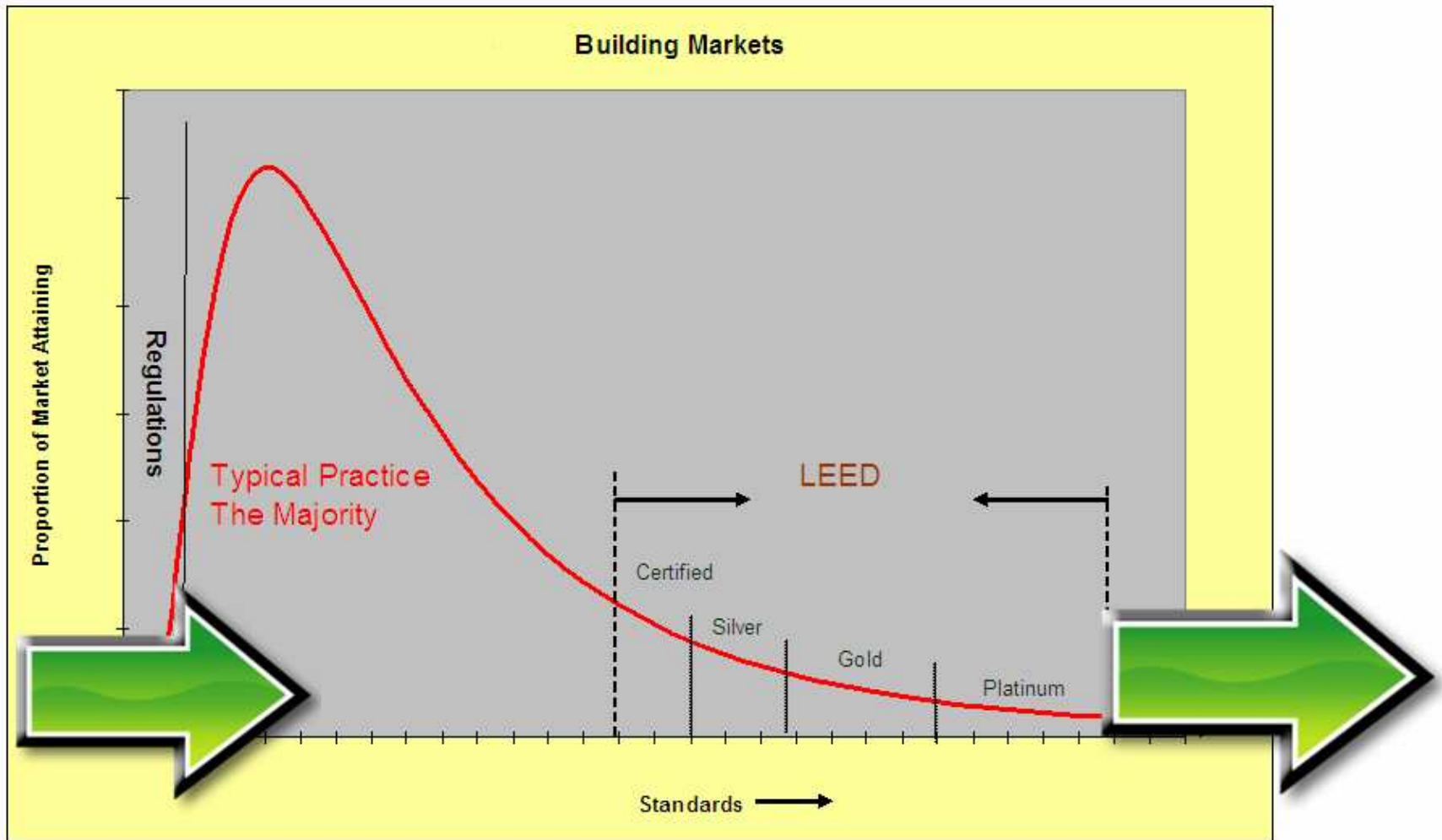
IPSP – CDM Limits Peak Demand Growth



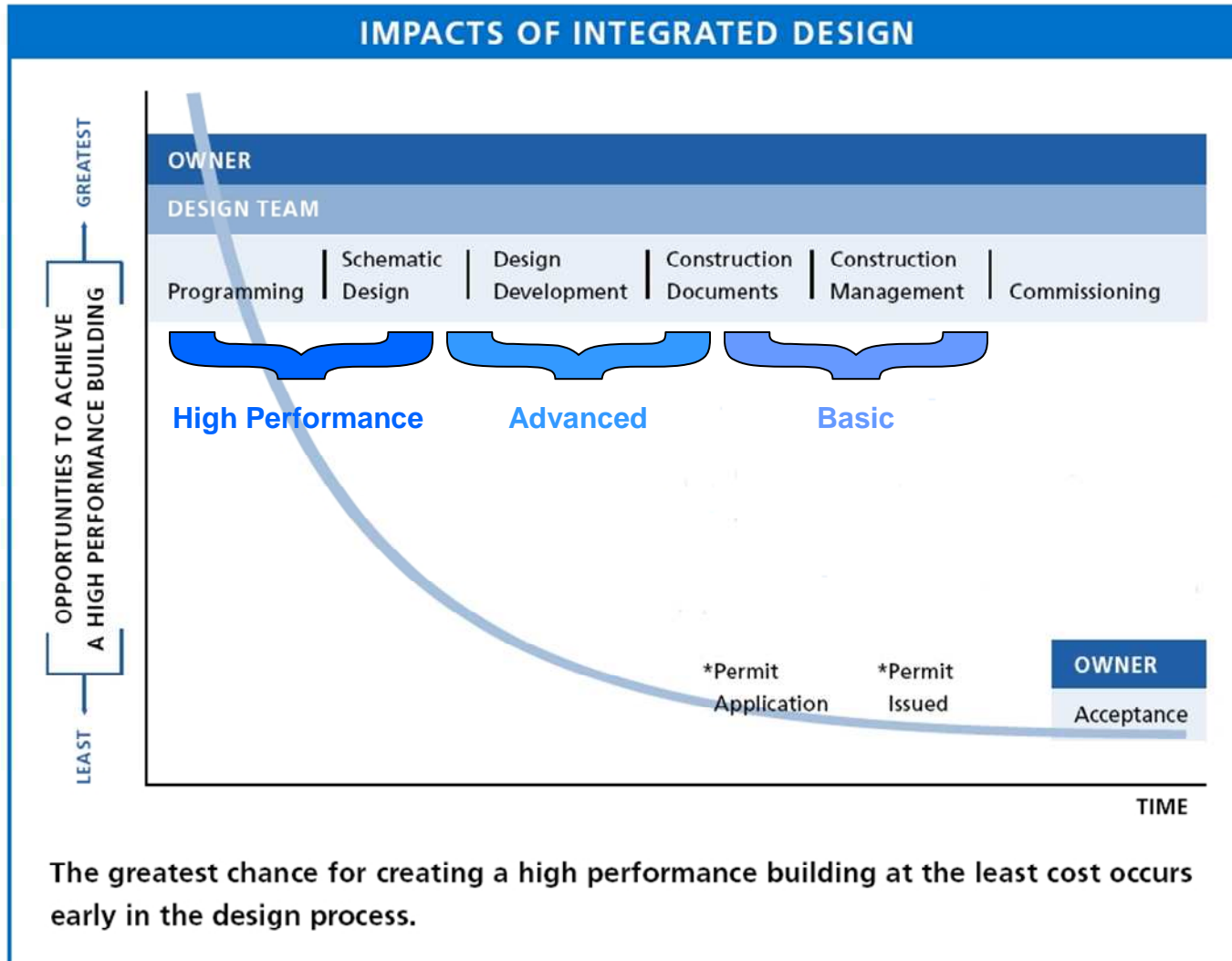
Building A Culture of Conservation



Current Building Practice



Windows of Opportunity



Ontario New Construction Market Forces

PULL Drivers

- Investors/Developers:
 - Rent Premiums
 - Faster Lease-up Rates
 - Market Differentiation
- Owners/Occupants:
 - Enhanced Productivity
 - Employee Retention
 - Future Proofing
- Building Managers:
 - Reduced Operating Costs
 - Reduced Volatility
 - Smaller Emissions Impact

PUSH Drivers

- Ontario Building Code Enhancements
- MNECB Enhancements
- Municipal Green Building Standards
- Building Labeling Initiatives
- Climate Change Considerations

Barriers to High Performance Buildings

- Split Incentives
- Constrained Development Budgets
- Access to Financing
- Conservation Addressed Late in the Development Cycle
- Outdated Cost-Risk-Benefit Perceptions
- Reliance on Inefficient Boilerplate Designs
- Conventional vs. Integrated Design Process (IDP)

Source: Best Practices Non-Residential New Construction (Dec. 2004)

NCP Program Details

| Program Element | Details |
|-----------------------------------|--|
| Early Stage Decision Support | Best Practices Clearing House Website, IDP Charettes, Technology Cost-Risk-Benefit Reports, Business Case & Design Decision Support Software Tools |
| Design Support | Building Modelling support for EE4, DOE2 or EQuest energy simulations |
| Convertible Incentives | \$/kW Incentives Reduce Incremental Costs or Convert to a 4% Interest Rate Buy-down |
| Prescriptive Equipment Incentives | Addresses Late Stage Projects |

Program Incentives

- **Prescriptive Equipment Incentives or Basic Track (0% - 25%*)**

- Applicant/Owner Incentives: **\$250/kW**

- **Advanced Track (26% - 50%*)**

- Applicant/Owner Incentives: **\$300/kW**

- Architect/Design Team Incentive: **\$ 50/kW**

- **High-Performance (HP) Track (50+%*)**

- Applicant/Owner Incentives: **\$400/kW**

- Architect/Design Team Incentive: **\$100/kW**

- **Convertible Incentives:**

- Applicant/Owner Incentives for Advanced and High Performance Tracks are convertible into a 4% interest rate buy-down for financing up to a term of 10 years

***Modeled *Energy Savings* above applicable enforceable code**

Program Flow (Participant Perspective)

- **Step 1:**
 - Architect and Owner learn about early adopter success stories and the program through marketing, sector associations, trade allies and/or industry events
- **Step 2:**
 - Owner accesses best practices clearinghouse to learn about business case for developing high performance (HP) buildings
 - Architect accesses clearinghouse to learn about Cost-Risks-Benefits Reports for specific HP CDM measures
- **Step 3:**
 - Owner/Architect participate or attend a sector-specific charette to learn integrated design process
 - Owner runs early-stage decision support software tools to calculate HP financial, valuation and productivity benefits
 - Architect runs early-stage design support software tools to see how changes to boilerplate design improve energy performance
- **Step 4:**
 - Owner/Architect apply for modeling support to evaluate incremental cost/savings for multiple HP scenarios
- **Step 5:**
 - Owner selects an incentive option and applies to program, providing modeling data to establish project baseline, energy savings and incremental costs.
- **Step 6:**
 - NCP Program Manager (NCP-PM) evaluates application and modeling data; issues an approved incentive commitment letter and reserves funds for the project. Owner builds out project
- **Step 7:**
 - After installation and any required 3rd party commissioning is completed, NCP-PM verifies project and incentives to Owner and Architect are processed. Profile projects are invited to become a NCP case study

Sample Scenarios

Condo (Advanced Track - 40% Better than Code)

- Incentive Calculations

- **Peak Demand Reduction:** 405 kW
- **Owner/Applicant Incentive @ \$300/kW:** \$121,500
- **Architect & Design Team Incentive @ \$50/kW:** \$20,250

- Convertible Incentive into Financing

- Inputs To Convert Incentive into a 4% Interest Rate Buy-down:
 - **Loan Term (Maximum Term is 10Yrs):** 10 Yrs
 - **Lender Rate:** 7%
 - **OPA Incentive - Lump Sum Payment to Lender :** \$121,500
 - **Total Loan - Eligible Incremental Cost of Measures:** \$950,000
- Outputs:
 - **Financing Envelope for 4% Interest Buy-down :** \$721,700 @3.0%
 - **New Blended Interest Rate for Total Loan:** \$950,000 @4.0%

Sample Scenarios

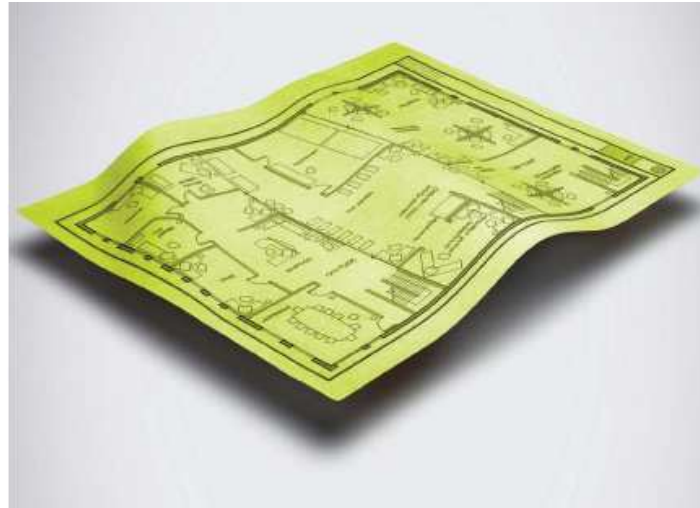
School (High Performance Track - 60% Better than Code)

- Incentive Calculations

- **Peak Demand Reduction:** 61 kW
- **Applicant Incentive @ \$400/kW:** \$24,400
- **Architect & Design Team Incentive @ \$100/kW:** \$6,100

- Convertible Incentive into Financing

- Inputs To Convert Incentive into a 4% Interest Rate Buy-down:
 - **Loan Term (Maximum Term is 10 Yrs):** 10 Yrs
 - **Lender Rate:** 5%
 - **OPA Incentive - Lump Sum Payment to Lender :** \$24,400
 - **Total Loan - Eligible Incremental Cost of Measures:** \$140,000
- Outputs:
 - **Financing Envelope for 4% Interest Buy-down :** \$140,000 @1.0%
 - **New Blended Interest Rate for Total Loan:** \$140,000 @1.0%



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(Look for New Construction Program Under OPA Initiatives Tab)