Center for Energy and Environment

Sustainable Buildings 2030: Cost-Effective Analysis

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Sheldon Strom
Executive Director

Russ Landry, PE, LEED® AP
Mechanical Engineer

Center for Energy and Environment
212 North 3rd Ave, Suite 560
Minneapolis, MN 55401
612-335-5858
www.mncee.org

CEE Economic Analysis for SB 2030: Main Goals

- Economic Justification/Optimization of SB 2030 Standards
  - In the same way that utility conservation programs are economically justified
- Utility Program Advocacy/Optimization
  - Leverage utility spending on CIP programs
  - Help optimize programs

Conservation Improvement Program (CIP) Economics

- Goal: Evaluate the economics of reducing the demand for energy VS increasing capacity to meet an ever-increasing demand
- CA Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects
- In MN primarily look at Ben-Cost ratio:

  NPV of Benefits : NPV of Costs
- Different tests look at the economics from the perspective of different stakeholders

CIP Program Economic Tests: Three Different Primary Perspectives

- Participant Test (Building Owner)
- Utility Test
- Societal Test

CIP Program Economic Tests: Participant Test (Building Owner)

- Uses discount rate appropriate to customer
  - Government (low) VS Business (high)

Benefits

- Utility bill savings
- Utility incentive (rebate)
- Other Savings
  - Tax credits
  - Operations & Maintenance (O&M)

Costs

- Incremental cost to building owner

CIP Program Economic Tests: Utility Test

- Uses utility discount rate

Benefits	Costs
Avoided energy costs (e.g. fuel for power plant)	CIP program costs
Avoided infrastructure costs (e.g. power plants, transmission & distribution)	Rebates to Participants

CIP Program Economic Tests: Societal Test

- Uses societal discount rate (low)
- Ignores payments between utility, customer & gov't

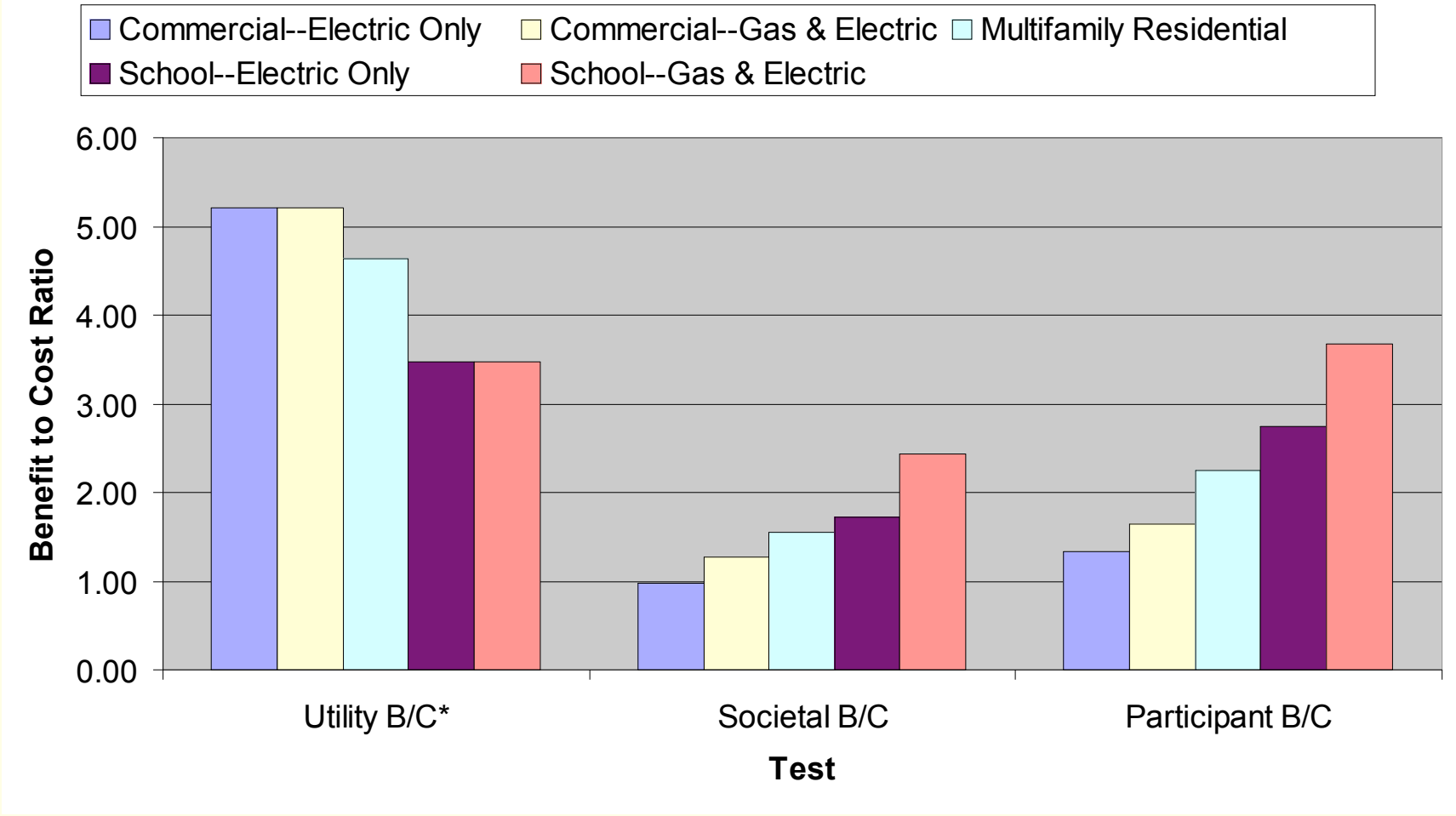
Benefits

- Avoided energy costs (e.g. fuel for power plant)
- Avoided infrastructure costs (e.g. power plants, transmission & distribution)
- Environmental externalities

Costs

- Total incremental cost
- CIP program costs (excluding rebates)

Economic Analysis for SB 2030: Preliminary Results for Sample Projects



CEE Economic Analysis for SB 2030: Next Steps

- Establish Analysis Protocols
  - Develop Analysis Tool
    - Combine gas & electric
    - Transparent assumptions (concise input/output summary)
    - Easy to look at impact of varying inputs
  - Establish appropriate assumptions for key inputs
- Run Cost-Benefit Analysis for Benchmarks & Case Studies
- Run Cost-Benefit Analysis for Utility Programs