

Overview: Energy Efficiency in the State of Minnesota

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**Minnesota Department of Commerce
Division of Energy Resources**



Overview

- **Historic energy efficiency commitment in Minnesota**
- **National recognition**
- **Evolving regulations and programs**
- **Stakeholder partnerships**
- **Achievement of real results**

Minnesota Initiatives

- **Conservation Improvement Program (CIP)**
- **Weatherization (low income residential)**
- **Energy Codes & Standards**
- **B3, SB2030, benchmarking**
- **Better Building Challenge**
- **Financing Programs**

Efficiency as a Resource

Energy Savings Policy Goal:

“The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources...”

Minnesota Statute §216B.2401

Amended by Article 12, Sec. 2 of HF 729 (4th)

Conservation Improvement Program (CIP)

1980:

PUC directed to initiate a pilot to demonstrate the “feasibility” of investments in EE.

1989: All public utilities were required to operate conservation improvement programs. Oversight transferred from PUC, low-income requirements added.

1991:

A specific level of spending was required (1.5% electric, 0.5% gas) & munis and coops were included.

2007:

Next Generation Energy Act

1983: Utilities with revenues greater than \$50 million were required to operate at least 1 conservation program. Required “significant” investment.

1994: Prairie Island settlement required [Xcel] to spend 2% of their annual GOR. Programs began to be evaluated against a pre-set goal.

2010:
1.5% Savings Goal for utilities takes effect

CIP Fundamental Change

The greatest impact of the 2007 NGEA was the change from a *spending* goal to a *savings* goal.

SPENDING



SAVING

CIP Energy Savings Results: 2010 - 2011

- **Enough energy savings to heat, cool and power 102,000 homes annually on average.**
- **2 million tons of CO₂ emissions avoided annually from electric and gas savings.**
 - **Enough to remove 370,700 cars annually**

CIP: Utility Programs

Direct:

- **Rebates for prescriptive measures**
- **Custom rebates based on site-specific assumptions**

Indirect:

- **Education & Awareness programs**
- **Behavioral change**
- **Market transformation**

Weatherization Assistance Program

- **Assists low income families to make homes more energy efficient, healthier, safer**
 - Funded by DOE
 - Pre-ARRA: 3,000-4,000 homes per year
 - ARRA: nearly 20,000 over 3 years (\$136 million)
 - Air sealing, insulation, furnace repair/replacement, etc.
 - Families save 30-40% of energy bills, for years
 - Provides good-paying jobs throughout the state
 - 150,000 MN families eligible each year
 - Congressional funding appears doubtful

Energy Code

- **Minnesota first adopted in 1976**
 - **For residential, commercial, institutional buildings**
 - Applies to heating, cooling, ventilating, lighting
- **Current buildings more efficient**
 - **Residential: 30% better than in 1976**
 - 2014 amendments: 50% better
 - **Commercial: 30% better than in 1976**
 - 2014 amendments: 45% better

B3 -- Buildings, Benchmarks, & Beyond

- The **B3** tools are designed to help make **buildings** more energy efficient and sustainable.
- B3 programs are required on State-funded projects in Minnesota.
- The B3 tools include guidelines to make new buildings sustainable and use less and less energy and benchmarking tool to track and monitor building energy use on existing buildings

SB 2030- energy standard for B3 guidelines

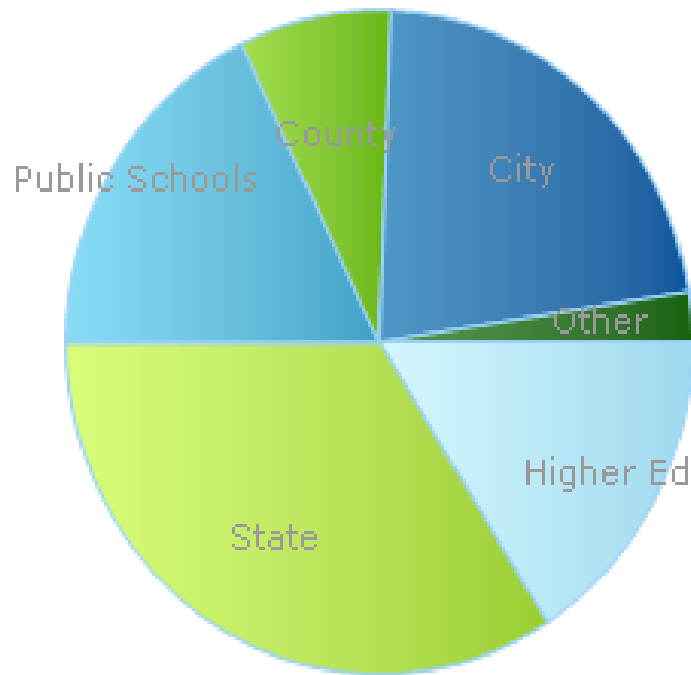
- **Reduce carbon output from non-residential buildings**
 - By 100% (net zero carbon) by 2030
 - compared to 2003 levels
- **Energy savings**
 - **40 buildings designed to SB 2030, so far**
 - 250 million kBtus/year savings
 - \$3.25 million

B3 -- Buildings, Benchmarks, & Beyond

- **B3 benchmarking tool is free and used by MN public entities to track and manage its energy and building data:**
 - Building Data:
 - Square footage,
 - operational equipment,
 - occupancy and usage
 - Utility Data:
 - electric and natural gas use:
 - *kW, kWh, therms*
 - Water Use:
 - *Sanitary & sewer consumption*

Buildings, Benchmarking, & Beyond

Buildings By Sector



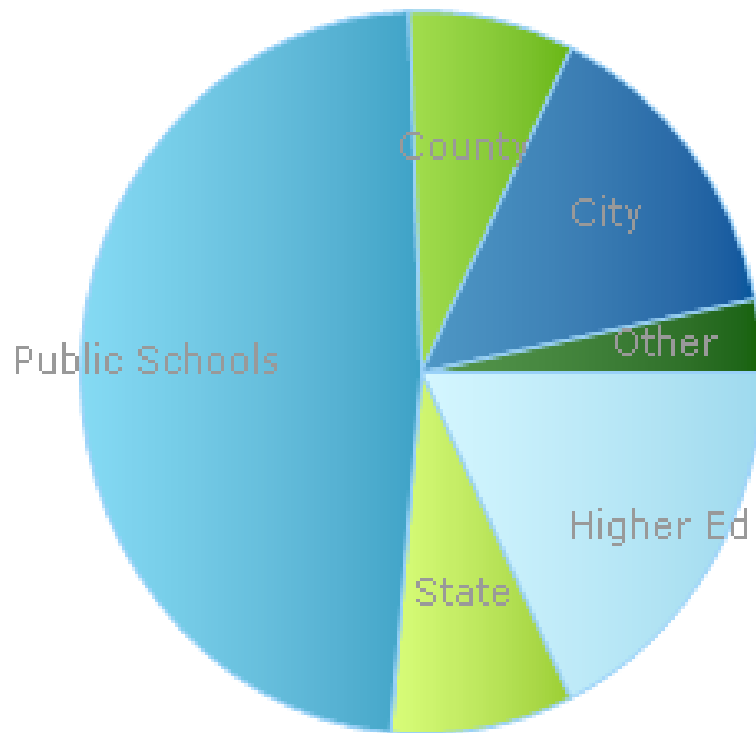
Current Statistics

Number of Organizations	1,352
Number of Sites	5,418
Number of Buildings	7,631
Number of Meters	11,950
Total Square Feet	305,734,556

- Higher Ed - 1,220 buildings
- State - 2,593 buildings
- Public Schools - 1,356 buildings
- County - 598 buildings
- City - 1,679 buildings
- Other - 185 buildings

Buildings, Benchmarking, & Beyond

Square Footage By Sector



- Higher Ed - 54,458,964 SF
- State - 26,441,467 SF
- Public Schools - 146,679,821 SF
- County - 23,893,463 SF
- City - 44,276,383 SF
- Other - 9,984,458 SF

Better Building Challenge

- **Executive Order 11-12**
 - Committed all 26M SF in state-owned buildings to participate in the federally sponsored “Better Building Initiative” to reduce energy consumption 20 percent by 2020.
- **Minnesota will provide the USDOE:**
 - Building and utility consumption data for all state-owned buildings
 - “Showcase Projects” completed using the State’s Guaranteed Energy Savings Program (GESp)
 - MN’s Implementation Plan outlining the State’s efforts in establishing and administering GESp

Financing: GESB

- **Guaranteed Energy Savings Program**
 - Developed to support of EO 11-12
 - Pre-qualified 11 Energy Services Companies (ESCOs)
 - Developed Master Contract
 - All State Agencies and Local Units of Government
 - Commerce provides technical support for project development, performance measurement & verification

Financing: GESB Statistics

- **Five Interagency Agreements**
- **Five Joint Powers Agreements**
- **Project development pipeline:**
 - 9 Sites
 - 171 Buildings
 - 7,117,408 Square Feet
 - \$42,000,000 Estimated Project Value Created
 - 641 Estimated Jobs Created

Financing: PACE

- **Property Assessed Clean Energy**
 - **Pays for energy improvements through a property tax assessment**
 1. Local government establishes a PACE program
 2. Building owner completes audit/feasibility study
 3. PACE administrator approves and city makes assessment to property
 4. Property owner completes improvements
 5. Property owner uses energy savings to repay assessment

Financing: PACE

- **PACE Programs:**
 - Edina Emerald Energy Program
 - *First PACE in MN, Nov. 2011*
 - *Two projects to date*
 - PACE for MN
 - *SPPA, available statewide, Aug. 2013*
 - *Cities of St. Paul, Eagan, Cottage Grove, to date*
 - Southwest Regional Development Commission
 - *18-county region of SW MN*

Financing: Trillion BTU

- **SPPA-administered RLF**

- Using ARRA money to reduce energy consumption in Xcel service territory for C/I businesses
- Accomplishments:
 - 44 projects over 10.3M SF of building space
 - Investments exceed \$17 million
 - Estimated annual energy reduction of 137 billion Btus
 - Retained/created
 - *566 jobs at borrower's locations*
 - *242 construction jobs*
 - No loan losses to date

Bill Grant, Deputy Commissioner

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THANK YOU