



Efficiency Vermont



# Efficiency Vermont's Enhanced Building Operations Programs

11<sup>th</sup> International Conference for Enhanced Building Operations  
Session 4: Regional Utility Programs for Operational Improvement  
New York City - October 19, 2011

# Topics for Discussion

- **Introduction: Efficiency Vermont**
- **Efficiency Vermont's Whole-Building Operational Improvement Programs & Pilot Programs**
  - Commissioning & Retro-commissioning Programs
  - Re-tuning Pilot Program
  - Re-tuning Pilot Program Variations
  - Other Initiatives
- **Results So Far?**





**VERMONT ENERGY**  
INVESTMENT CORPORATION

REDUCING THE ECONOMIC AND ENVIRONMENTAL COSTS OF ENERGY USE SINCE 1986

## Efficiency Vermont – The Basics

- **Operated by the Vermont Energy Investment Corporation, a private non-profit organization, under an appointment issued by the Vermont Public Service Board**
- **Provides technical assistance, economic analysis, and financial incentives to help Vermont households and businesses reduce their energy costs**

# Efficiency Vermont's Commercial & Industrial Programs

## New Construction Program

- Prescriptive - Rebates
- Core Performance
- Custom

## Market Opportunity Program

- Prescriptive - Rebates
- Custom

## Retrofit Program

- Custom\*

\* *includes improving building operations programs*

More Information at [www.encyvermont.com](http://www.encyvermont.com)



# Efficiency Vermont's Operational Improvement Programs & Pilot Programs



1. Commissioning and Retro-commissioning
2. Re-tuning Pilot Program
3. Re-tuning Variations/Monitoring Based Commissioning Pilot

# Commissioning & Retro-commissioning

- **Commissioning of New Construction Projects**
  - Considered baseline and is required by *2005 and 2011 Vermont Guidelines for Energy Efficient Commercial Construction*
  - No incentives offered
- **Commissioning & Retro-commissioning (RCx) of Existing Buildings**
  - Custom approach
  - Cost-sharing may be option for RCx Report
  - Custom incentives offered for cost effective projects
  - Monitoring and Evaluation:
    - IPMVP Option C most commonly used for large projects



# Re-tuning Pilot Program



- Efficiency Vermont supported two re-tuning trainings this past year utilizing Pacific Northwest National Laboratory (PNNL) model
- Three pilot projects underway with incentives offered to the building owner and savings claimed based on actual trending data received

# Re-tuning Pilot Program - continued

## Two types of re-tuning projects being enrolled.

### 1. Facility Staff Attends PNNL Training

- Building staff attends the PNNL training and then reviews the recommendations made by either themselves or PNNL for their building operation improvement. Building facility staff then follows through with the improvements on the sample building used for the training and executing re-tuning on additional buildings under their management.
- Efficiency Vermont support may be in the form of financial assistance for the initial training and/or incentives for implementing recommendations. Savings are claimed based on actual metered data.



# Re-tuning Pilot Program - continued



## 2. Contractor Attends Re-tuning Training

- Trained contractor reviews the building operation and makes recommendations to the building owner or facility manager. Efficiency Vermont offers incentive for cost effective improvements. Savings are claimed based on actual metered data.

# Re-tuning Variations/Monitoring Based Commissioning Pilot Program

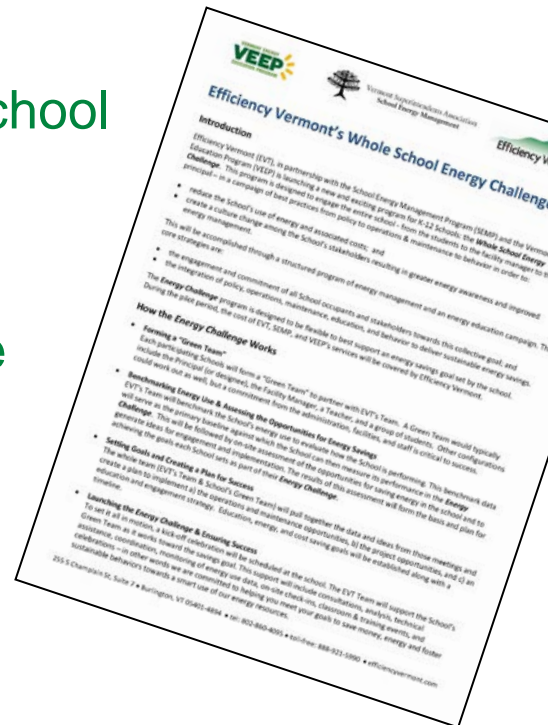
## Custom project process

- Review proposal
- Estimate potential kWh and fuel savings
- Pre-screen based on building/business
- Offer incentive to customer
- Track progress (upgrades, trending data)
- Pay incentive
- Post-mortem with Service Provider (was it a good target?)



# Other Whole-Building Initiatives Being Developed by Efficiency Vermont

1. Efficiency Vermont's Whole School Energy Challenge
2. Energy Leadership Challenge



# Results so far?



# Early Results

## •Re-tuning Pilot Program

- Too early for 12 month results, but early tracking on first pilot projects indicates between 10% and 20% electric savings
- Challenging for facility managers to find time to do the re-tuning themselves, since most building managers attending training manage multiple facilities
- Early projects are using controls contractors with a cost share arrangement between customer and Efficiency Vermont to overcome building managers' time barriers

## •Re-tuning Variation/Monitoring Based Commissioning Pilot Program

- Average savings to date are approximately 15% to 20% electric savings and 30% natural gas savings
- Customers pleased with energy savings
- Customers report improved comfort and fewer complaints from building occupants
- Questions to answer include persistence of savings over time



Thanks!

