



STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY,
TRADE AND ECONOMIC DEVELOPMENT

Climate Action Team Energy Efficiency and Green Building IWG Meeting #9 October 29, 2008

WA Departments of Ecology and
Community, Trade & Economic Development
Center for Climate Strategies
Ross & Associates

Agenda

- Roll Call
- Review and approval of IWG Meeting #8 summary
- Review of CAT feedback and next steps
- Review and discussion of quantification of 2009 Actions
- Next Steps for IWG
- Agenda, Time and Date for Next Meeting

Overall CAT feedback and next steps for CAT process

- Include Public Disclosure of energy performance in private buildings (residential, commercial, etc.) in Actions
 - City of Seattle Public Disclosure approaches as a model to consider?
- Alternative Financing – Do we have enough on this topic?
- CHP efficiency threshold level for incentives
- Stage beyond-code improvement in local government buildings to follow deployment of new energy code, and confirm that analysis reflects staging
- Provide feedback on the alignment which groups pay for and receive the benefits of these actions

2009 Actions Under Consideration

EE/GB Action 1: Energy Efficiency Incentives:

- Energy Efficiency Quality Investment Program (EEQUIP)
- CHP and Distributed Energy Development

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings, and Energy Benchmarking and Energy Performance Disclosure in Public and Private Buildings

EE/GB Action 3: State Energy Code Improvements and Establishment of 2030 Building Goals

EE/GB Action 1: Energy Efficiency Incentives:

EE/GB Action 1A: Energy Efficiency Quality Investment Program (EEQUIP)

Proposed priority legislative concepts:

1. Public Utility Tax credit for non residential buildings that meet specific levels of energy performance based on actual utility data.
2. A modification of statutory language related to Local Improvement Districts (LID) that adds energy efficiency as a qualifying activity.

Recommended legislative concepts once state budget situation improves:

1. Partial sales tax refund for new non-residential buildings achieving energy performance standards equivalent to ENERGY STAR Target Finder rating of 90.
2. Partial sales tax refund for new and existing residential buildings meeting level of energy performance equivalent to ENERGY STAR Northwest rated home.

EE/GB Action 1B: Expanded Implementation of Distributed Energy, Combined Heat & Power (CHP) and Renewable Energy

EE/GB Action 1A: Energy Efficiency Quality Investment Program (EEQUIP)

Recent revisions:

- Shift energy benchmark to Action 2
- Elaboration of “Amendment to Local Improvement District Statute” section
- Addition of “bullets” noting other possible alternative financing mechanisms
- Completion of draft analysis (with many assumptions for IWG review)

EE/GB Action 1A: Energy Efficiency Quality Investment Program (EEQUIP)

Initial Results of Analysis

GHG Emission Reductions (MMTCO ₂ e)				NPV (2008- 2020) (\$ Million)	Cost Effectiveness (\$/tCO ₂)
2012	2020	Cumulative (2008-2020)	Location		
0.1	0.8	5.0	In-state / regional	-\$187 million	-\$38

EE/GB Action 1B: Expanded Implementation of Distributed Energy, Combined Heat & Power (CHP) and Renewable Energy

Recent Revisions:

- Revised level of efficiency for qualification for incentives (to recognize more efficient systems, limit revenue impact)
- Expanded consideration of distributed energy systems
 - Including a section on district facilities designed for improvements water/wastewater use efficiency (and associated energy efficiency gains)
- Initial quantitative analysis of action
 - Focusing only on CHP at present
 - Shows results of CHP implementation at levels evaluated in 2007 CAT process, and for systems assumed to receive new sales tax/use tax exemptions (most industrial systems qualify for existing exemptions as manufacturing equipment)

EE/GB Action 1B: Expanded Implementation of Distributed Energy, Combined Heat & Power (CHP) and Renewable Energy

Initial Results of Analysis

	GHG Emission Reductions (MMTCO ₂ e)			Location	NPV (2008-2020) (\$ Million)	Cost Effectiveness (\$/tCO ₂)
	2012	2020	Cumulative (2008-2020)			
CHP (all)	0.3	1.4	7.5	In-state / regional	-\$72 million	-\$10
Sales and use exemption	0.1	0.3	1.6	In-state / regional	-\$4.6 million	-\$3

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings

Legislative action is proposed to substantially upgrade energy efficiency/sustainability of publicly-constructed and -operated buildings, both new and existing

Key elements of proposed legislation include:

- Require a process of benchmarking, auditing, and implementation of energy-efficiency measures in existing publicly-constructed and – operated buildings, with energy-efficiency requirements becoming more stringent over time in a tier/phased approach
- Require that new and substantially renovated publicly-constructed and –operated buildings meet strict energy performance standards, again with energy-efficiency requirements becoming more stringent over time in a tier/phased approach
- Emphasize education/promotion as critical components of program
- Implementation will emphasize the use of existing programs and funding in state and local governments
- Partnering with US EPA's ENERGY STAR program is a critical element and has been initiated

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings, and Energy Benchmarking and Energy Performance Disclosure in Public and Private Buildings

Recent revisions:

- Addition of energy performance disclosure requirement for private buildings (to title and addition of text section, in part moved from Action 1A, in part based on Seattle/Oregon proposals)
- Broadening of language on building energy efficiency rating systems
- Minimum building area for new public building energy efficiency requirements 10,000 square feet (all owners)
- Quantification revised slightly (still seeking input on assumptions)

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings, and Energy Benchmarking and Energy Performance Disclosure in Public and Private Buildings

Key Assumptions (some “placeholder”) for analysis to date:

- Levelized Cost of Electricity Savings: \$32/MWh
- Levelized Cost of Natural Gas Savings: \$6.6/MMBtu
- Fraction of statewide commercial space owned or leased by the State, Universities, or Schools: 18%
- Fraction of existing space owned or leased by the State, Universities, or Schools in buildings of greater than 10,000 square feet: 80%
- Fraction of statewide commercial space in other public buildings: 5%
- Fraction of space in other public buildings that are greater than 10,000 square feet: 80%
- Fraction of statewide residential units publicly-owned: 5% (included in action)

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings, and Energy Benchmarking and Energy Performance Disclosure in Public and Private Buildings

Key Assumptions (some “placeholder”) for analysis to date,
Existing Buildings:

- Average Electricity and Gas Savings for Buildings Participating in Program (existing commercial and residential buildings): 20% by 2012, 25% by 2020
- Average annual ongoing efficiency improvement in existing public buildings following "ramp-up": 1%/yr

New Buildings

- Fraction of new qualifying public buildings participating in program through target dates: 100%
- Fraction of new public housing units included in program: 80%
- Annual (gross) reduction in energy use based on Architecture 2030 goals: 64% by 2012, 80% by 2020
- Equal amounts of new and substantially renovated public building space included
- Improvement in Electric Energy Intensities come largely from energy efficiency, but also from renewable energy, green power

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public Buildings, and Energy Benchmarking and Energy Performance Disclosure in Public and Private Buildings

Revised Results of Analysis

GHG Emission Reductions (MMTCO₂e)				NPV (2008- 2020) (\$ Million)	Cost Effectiveness (\$/tCO₂)
2012	2020	Cumulative (2008-2020)	Location		
0.2	1.2	6.8	In-state / regional	-\$222 million	-\$33

EE/GB Action 3: State Energy Code Improvements and Establishment of 2030 Building Goals

This Action includes two major elements:

- Revision of Washington State Energy Code (WSEC), in 2009 State Building Code adoption cycle, to achieve a 30 percent reduction in new building energy use compared to 2006 edition of WSEC
- Legislative action to direct CTED to develop a State Building Efficiency and Carbon Reduction Strategy, which would include:
 - Establishing targets for building energy efficiency and carbon reductions in both new and existing buildings for the years 2010-2030
 - Examination of implementation methods to meet targets including:
 - State building code and appliance standards
 - Emerging technologies
 - User incentives
 - Education and technical assistance
 - Measurement
 - Updating the strategy every three years prior to the state building code development and adoption process.

EE/GB Action 3: State Energy Code Improvements and Establishment of 2030 Building Goals

Recent revisions:

- No revisions to text since last IWG teleconference
- Before last teleconference: further elaboration on the development of a long-term State Building Efficiency and Carbon Reduction Strategy
- Quantification revised slightly (still seeking input on assumptions)

EE/GB Action 3: State Energy Code Improvements and Establishment of 2030 Building Goals

Key Assumptions (some “placeholder”) for analysis to date:

- Levelized Cost of Electricity Savings: \$32/MWh
- Levelized Cost of Natural Gas Savings: \$6.6/MMBtu
- In both Parts 1 and 2, “substantially renovated” buildings are assumed to be equal in space/number to new buildings
- Average electricity and gas savings for existing commercial and residential buildings): 8.4% by 2012, 26.0% by 2020
- Fraction of existing (as of 2006) commercial and residential buildings participating in program through 2030: 75%
- "Ramp-up" period for existing building element begins 2012, completed 2017 (by which time ~4.5%/yr of buildings participate)
- Fraction of new residential and commercial buildings participating in “beyond code” program through target dates: 50% (after ramp-up beginning in 2012, completed by 2017)
- Annual reduction in energy use relative to revised energy code in Part 1 for new/renovated residential/commercial buildings: 8.0% in 2012, 30.0% in 2020

EE/GB Action 3: State Energy Code Improvements and Establishment of 2030 Building Goals

Revised Results of Analysis

GHG Emission Reductions (MMTCO₂e)				NPV (2008- 2020) (\$ Million)	Cost Effectiveness (\$/tCO₂)
2012	2020	Cumulative (2008-2020)	Location		
0.4	5.7	23.7	In-state / regional	-\$811 million	-\$34

Next Steps

- Finalize EE/GB IWG materials for 2008 CAT report (Due November 1)
 - EE/GB Actions document will be annex to final CAT report
 - CAT report will be included in final 2815 report that the State is completing by December 1
- Participation beyond 2008 CAT process
 - State Agencies responsible for implementing CAT Actions open to having interested IWG members continue as informal advisors as detailed implementation plans are formulated.

Next IWG Meetings

- No additional meetings planned
- Your facilitators and co-leads would like to express their deep appreciation for your participation, interest, and hard work during the IWG process!

