



STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY,
TRADE AND ECONOMIC DEVELOPMENT

Climate Action Team Energy Efficiency and Green Building IWG Meeting #8 October 6, 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 #7 summary
- Review and discussion of revised 2009 Actions developed by small groups
- Review and discussion of quantification of 2009 Actions
- Next Steps for IWG
- Agenda, Time and Date for Next Meeting

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

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

EE/GB Action 1: Energy Efficiency Incentives:

Proposed priority legislative concepts:

1. An energy benchmark public disclosure requirement for non-residential buildings at time of sale or, in some circumstances, at time of lease.
2. Public Utility Tax credit for non residential buildings that meet specific levels of energy performance based on actual utility data.
3. 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 that achieve energy performance standards equivalent to an ENERGY STAR Target Finder rating of 90.
2. Partial sales tax refund for new and existing residential buildings that meet a level of energy performance equivalent to an ENERGY STAR Northwest rated home.
3. EE/GB Action 1B: Expanded Implementation of Distributed Energy, Combined Heat & Power (CHP) and Renewable Energy

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

Proposed legislative concepts include:

- Offer tax incentives to encourage the development and use of CHP and other distributed energy systems, in concert with CTED's proposed bioenergy tax, potentially including:
 - B&O (business and operations) Tax credits
 - Public Utility Tax credits for buildings and industries that use CHP/distributed energy systems
 - Sales tax exemptions on machinery and equipment used in CHP/distributed energy systems
 - Property tax exemptions
- Efficiency requirements for CHP systems, including more stringent requirements to receive higher incentives

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

Recent revisions:

- Prioritization of proposed legislative concepts
- Energy performance standard equivalent to ENERGY STAR rating
- PUT Tax Credit:
 - 50% utility “cost share” with the state for the value of the PUT tax credit
 - Revenue impact reduced to \$750,000
- Refinement of sales tax credit refunds

Consideration for Quantification of Action:

- setting targets for number/area of buildings participating,
- average upgrade per unit area,
- average cost per unit (need to consider overlap with other options)

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

Recent Revisions:

- There have been no recent revisions to this action.

Consideration for Quantification of Action:

- Targets for CHP capacity development?
- Targets for other DE development, community energy system development?
- Assumptions regarding displaced fuels, average efficiencies?
- **Note that we have estimates of CHP potential impact/cost based on 2007 work that can be updated, but will likely have to make estimates both from perspective of potential and from perspective of funds available for incentives (that is, determine participation based on funds allotted)**

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

Recent revisions:

- Refinement of energy benchmark requirements for existing public buildings
- LEED credit for regional materials removed
- Assistance available for local jurisdictions emphasized

Consideration for Quantification of Action:

- Input on how to translate goals into:
 - floor area covered and
 - fractional energy efficiency improvement per building

EE/GB Action 2: Energy Efficiency in Existing, New and Renovated Public 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: 15%
- 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

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, 25.0% 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

Initial Results of Analysis

GHG Emission Reductions (MMTCO ₂ e)			Location	NPV (2008- 2020) (\$ Million)	Cost Effectiveness (\$/tCO ₂)
2012	2020	Cumulative (2008-2020)			
0.1	1.1	6.0	In-state / regional	-\$229 million	-\$38

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:

- Further elaboration on the development of a long-term State Building Efficiency and Carbon Reduction Strategy

Consideration for Quantification of Action:

- What fraction of new (and existing) buildings will meet “beyond code” (part 2) targets?

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

Initial Results of Analysis

GHG Emission Reductions (MMTCO₂e)				NPV (2008- 2020) (\$ Million)	Cost Effectiveness (\$/tCO₂)
2012	2020	Cumulative (2008-2020)	Location		
0.3	5.9	24.4	In-state / regional	-\$809 million	-\$33

Next Steps

- Working with co-leads and small groups, facilitators will prepare final draft of IWG materials for the Oct. 14-15 CAT meeting.
- Working with small groups, co-leads, and others as identified by IWG members to identify relevant data sources, facilitators will continue to finalize quantification of 2009 actions.

Next IWG Meetings

- **Agenda:**
 - Review CAT decisions from Oct. 14-15 CAT meeting
 - Discussion of next steps for moving forward with 2009 Actions
- **Date/time for Meeting #8:**
 - Wed. Oct. 29 1:00 – 3:00 pm

