

M E M O R A N D U M
March 18, 2009

TO: Environmental Advisory Board
Climate Action Plan Advisory Group

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SUBJECT: Consideration of a recommendation to City Council on whether to increase the Climate Action Plan (CAP) tax to further the city's adopted Climate Action Goal

EXECUTIVE SUMMARY

The purpose of this joint meeting is to seek a recommendation to City Council on whether to raise the Climate Action Plan (CAP) tax to further the city's 2012 Climate Action goal, and if so, to what level. *The 2009 Community Guide to Boulder's Climate Action Plan* (attached) provides background on the city's Climate Action goal, what has been achieved so far, and further actions needed to reach the goal. This memo provides information about tax increase options that will be considered by City Council in April.

The original CAP was accepted by City Council in June 2006. The plan provides a framework for achieving the city's goal, adopted from the Kyoto protocol, of reducing greenhouse gas emissions to seven percent below 1990 levels by 2012. When the plan was approved, it was suggested that programs and funding would need to be adjusted over time to achieve the goal.

The 2009 CAP revenue and budget is projected to be \$839,000. The current CAP programs have been evaluated for effectiveness and revised to achieve a projected 63 percent of the goal by 2012 (see Section Four of the attached *Community Guide*). This demonstrates that the CAP investment and 2009 programs will make significant progress toward achieving the goal. However, while the existing programs are a good investment, increasing investment in the same set of programs will not yield the same rate of return. In other words, to achieve the goal, it is best to invest additional funding in new strategic programs while continuing to sustain the programs already in place.

Four tax rate options and corresponding CAP revenue are presented and analyzed in this memo:

1. no change to the minimum CAP tax rate;
2. raise the tax to the mid-point allowed under the voter approved range;
3. phase in the tax over time, reaching the maximum allowed in 2012; or
4. raise the tax to the maximum allowed under the voter approved range.

Additional annual revenue in the range of \$504,500-\$1,016,000 generated from any tax increase would be used to specifically address the remaining 37 percent of the goal. If a tax increase is approved, staff will work with key community partners to evaluate the best way to spend additional tax dollars. Four

potential paths to the goal are presented in Section Six of the attached *Community Guide*. The paths are:

- Major focus on renewables
- Maximizing impact of the Smart Grid
- Lobbying to change the energy mix and efficiency standards
- Investing in additional WindSource

To inform the consideration of an increase in the CAP tax rates, staff has conducted a cost/benefit analysis of the existing CAP programs as well as a preliminary analysis of potential additional strategies that could be funded. In doing so, staff has taken into consideration not only the level of investment required from the CAP funds, but also the level of investment that would be expected from the private sector, and the actual cost savings and environmental benefits that would be realized over time (recognizing that in some cases savings as well as emission reductions are cumulative over time rather than immediate and one-time).¹ Additionally, projected greenhouse gas (GHG) emission reduction by option has been estimated. See Appendix A of the *Community Guide* for details by program for the existing strategies, as well as Section 6 of the *Community Guide* for a discussion of the potential additional strategies.

A summary of the economic and environmental impacts and benefits of the four tax options is provided in the Analysis section on page 6 of this memo.

OPTIONS:

2009 CAP Strategy and Programs

The CAP strategy and programs are designed to address the major sources of greenhouse gas emissions, including building energy use, energy supply, transportation, and solid waste.

The CAP strategy includes funds and programs directly managed by the CAP staff as well as collaborative efforts with other city staff and programs that contribute to the emission reduction goal. Overall, the 2009 programs—at current levels of funding—are projected to achieve 63 percent of the CAP goal by 2012 (see *Community Guide* Section Four and Appendices A and B). The 2009 CAP strategy focuses on energy efficiency and conservation in existing commercial/industrial and residential buildings; efficiency mandates for new construction through the city’s Green Building program; promotion of renewable sources for energy generation; increased use of non-auto transportation and low-emission vehicles; continued reduction of the city’s solid waste stream (and therefore lower levels of methane); and a potential increase in tree protection and replacement to expand the city’s urban forest. CAP-funded programs were evaluated for effectiveness across a range of both quantitative and qualitative criteria (see Section Four of the *Community Guide*). As an outcome of the evaluation, adjustments were made that resulted in a 44 percent overall increase in program efficiency by 2012.

Strategies for 2010-2012

While the 2009 CAP programs are making significant progress toward the goal, further analysis of the potential to “ramp up” those programs indicates that while existing programs are a good investment, increasing investment in the same set of programs will not yield the same rate of return. This is largely

¹ Staff has looked at additional investment from other city departments (e.g., transportation, waste reduction, facilities, fleets and urban forestry). However, that analysis has not been included here.

due to the fact that the existing programs focus on relatively “easy” gains in energy efficiency and conservation activities. An investment in new strategies beyond what is currently being implemented is necessary to achieve the goal. Potential new strategies to achieve the goal are described in Section Six of the *Guide to Boulder’s Climate Action Plan*. An increase in CAP tax funds would be invested in these strategies to make the gains necessary toward the 2012 goal. The specific investment mix would be refined pending further analysis.

Tax Rate Options

In 2006, voters approved the CAP tax to fund programs aimed at achieving Boulder’s Climate Action Goal. The voter approved measure included a range of rates that may be adjusted by Council. The rates have been set at the minimum since the initial approval. Council may consider an increase to the rates at any level. Four tax rate options are provided for consideration:

1. no change to the minimum CAP tax rate;
2. raise the tax to the mid-point allowed under the voter approved range;
3. phase in the tax over time, reaching the maximum allowed in 2012; or
4. raise the tax to the maximum allowed under voter approved range.

Projected customer cost and revenues for all tax options have been reduced to include projected purchases of wind energy from Xcel Energy’s WindSource program as subscribers to this program are exempt from the CAP taxes. A 1.8 percent growth factor projected by Xcel Energy is included. Energy use reductions, which would reduce the average annual customer cost and city tax revenues, have not been projected and are not reflected in the tax revenue estimates. With the exception of Option 1, the 2009 projections are pro-rated based on a June effective date for any change to the tax rates.

Tax Rates and Projected City Revenue

The following tables on the provide information on the proposed tax rates and projected city revenue at four tax rate options.

Option 1 – No Change to Minimum CAP Tax Rates and Revenue								
	2009		2010		2011		2012	
Sector & Rate	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue
Commercial \$0.0004/kWh	\$44.00	\$325,000	\$45.00	\$330,500	\$46.00	\$336,300	\$46.50	\$341,000
Industrial \$0.0002/kWh	\$6,300.00	\$50,000	\$6,400.00	\$51,000	\$6,500.00	\$52,200	\$6,600.00	\$53,000
Residential \$0.0022/kWh	\$11.50	\$464,000	\$11.45	\$464,000	\$11.40	\$461,800	\$11.35	\$460,000
Total		\$839,000		\$845,500		\$850,300		\$854,000

Option 2 - Midpoint CAP Tax Rates and Revenue

	2009		2010		2011		2012	
Sector & Rate Beginning June 2009	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue
Commercial \$0.00065/kWh	\$58.00	\$426,000	\$73.00	\$537,000	\$74.50	\$546,500	\$74.50	\$554,100
Industrial \$0.00025/kWh	\$7,100	\$57,000	\$8,000	\$64,000	\$8,100	\$65,200	\$8,300	\$66,300
Residential \$0.00355/kWh	\$15.00	\$606,000	\$18.50	\$749,000	\$18.40	\$745,000	\$18.30	\$741,200
Total		\$1,089,000		\$1,350,000		\$1,356,700		\$1,361,600

Option 3 - Phase In CAP Tax Rates and Revenue

	2009		2010		2011		2012	
Sector & Rate Beginning June 2009	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue
Commercial \$0.00053/kWh	\$51.00	\$375,200	\$73.00	\$537,000	\$89.00	\$651,500	\$104.50	\$767,000
Industrial \$0.00023/kWh	\$6,700	\$53,500	\$8,000	\$64,000	\$9,000	\$72,000	\$10,000.00	\$80,000
Residential \$0.00288/kWh	\$13.00	\$535,300	\$18.50	\$749,000	\$18.50	\$887,000	\$25.00	\$1,023,000
Total		\$964,000		\$1,350,000		\$1,610,500		\$1,870,000

Option 4 - Maximum CAP Tax Rates and Revenue:

	2009		2010		2011		2012	
Sector & Rate Beginning June 2009	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue	Average Annual Customer Cost Per Sector	Projected City Revenue
Commercial \$0.0009/kWh	\$72.00	\$527,000	\$101.00	\$743,000	\$103.00	\$757,000	\$104.50	\$767,000
Industrial \$0.0003/kWh	\$7,900	\$63,000	\$9,600	\$77,000	\$9,800	\$78,000	\$10,000.00	\$80,000
Residential \$0.0049/kWh	\$18.50	\$749,000	\$25.50	\$1,033,700	\$25.30	\$1,029,000	\$25.00	\$1,023,000
Total		\$1,339,000		\$1,853,700		\$1,864,000		\$1,870,000

ANALYSIS OF IMPACTS:

The estimated economic and environmental impacts for each of the tax rate options is provided below. The typical percentage of a customer's electricity cost that would be represented by the CAP tax has also been broken out by sector in the information below. The percentage was calculated using the associated CAP tax rates, Xcel Energy's kWh rate for each sector and the average kWh usage.

OPTION 1: NO CHANGE TO MINIMUM CAP TAX RATES AND REVENUE

Economic

Customer Cost Per Sector

There would be no change to the average annual customer cost per sector, currently at \$45 in 2010 and \$46.50 in 2012 for commercial; \$6,400 in 2010 and \$6,600 in 2012 for industrial, and \$11.45 in 2010 and \$11.35 in 2012 for residential.

Percentage of Electricity Cost That is CAP Tax

- Residential: 1.8 percent
- Commercial: 0.4 percent
- Industrial: 0.3 percent

Projected Revenue

No change from the current minimum tax rates would maintain the projected annual revenue at \$845,500 in 2010 and \$854,000 in 2012.

Environmental

This level of investment will achieve approximately 63 percent of the CAP goal, for a total projected reduction of 263,051 tons CO₂e over the next four years.

OPTION 2: MIDPOINT CAP TAX RATES AND REVENUE

Economic

Customer Cost Per Sector

A change from the current minimum tax rates to the midpoint tax rates (the midpoint between the current and maximum rates) would increase the average annual customer cost per sector by: \$28 in 2010 and \$28 in 2012 for commercial; \$1,600 in 2010 and \$1,700 in 2012 for industrial, and \$7.05 in 2010 and \$6.95 in 2012 for residential.

Percentage of Electricity Cost That is CAP Tax

- Residential: 2.9 percent
- Commercial: 0.7 percent
- Industrial: 0.4 percent

Projected Revenue

The projected annual revenue would increase to \$1,350,000 in 2010 and \$1,361,600 in 2012. At the midpoint rates, additional revenue is projected to be \$504,500 in 2010 and \$507,600 in 2012.

Environmental

This level of investment will be used for additional strategic programs to achieve the goal. It is likely to achieve approximately 75 to 80 percent of the CAP goal, for a total projected GHG reduction of 313,000 to 334,000 tons CO₂e over the next four years.

OPTION 3: PHASE IN LEVEL CAP TAX RATES AND REVENUE

Economic

Customer Cost Per Sector

A change from the current minimum tax rates to phase in tax rates would increase the average annual customer cost per sector by: \$28 in 2010 and \$58 in 2012 for commercial; \$1,600 in 2010 and \$3,400 in 2012 for industrial, and \$7.05 in 2010 and \$13.65 in 2012 for residential.

Percentage of Electricity Cost That is CAP Tax

- Residential: 2.9 percent
- Commercial: 0.7 percent
- Industrial: 0.4 percent

Projected Revenue

The projected annual revenue would increase to \$1,350,000 in 2010 and \$1,870,000 in 2012. At the phase in rates, additional revenue is projected to be \$504,500 in 2010 and \$1,016,000 in 2012.

Environmental

This level of investment increases over time which may coincide with improvements to the national economy. However, the phase in nature of this level of investment may not generate enough revenue in the earlier years to make a difference to the overall goal by 2012. This level of investment will be used for additional strategic programs to move toward the CAP goal. It is likely to achieve approximately 80 to 85 percent of the CAP goal, for a total projected GHG reduction of 334,000 to 355,000 tons CO₂e over the next four years.

OPTION 4: MAXIMUM CAP TAX RATES AND REVENUE

Economic

Customer Cost Per Sector

A change from the current minimum tax rates to the maximum tax rates would increase the average annual customer cost per sector by: \$56 in 2010 and \$58 in 2012 for commercial; \$3,200 in 2010 and \$3,400 in 2012 for industrial, and \$14.05 in 2010 and \$13.65 in 2012 for residential.

Percentage of Electricity Cost That is CAP Tax

- Residential: 3.9 percent
- Commercial: 1.0 percent
- Industrial: 0.5 percent

Projected Revenue

The projected annual revenue would increase to \$1,853,700 in 2010 and \$1,870,000 in 2012. At the maximum rates, additional revenue is projected to be \$1,008,200 in 2010 and \$1,016,000 in 2012.

Environmental

This level of investment will be used for additional strategic programs to achieve the goal, for a total GHG reduction of 417,750 tons CO₂e over the next four years.

Other Community Investment

Additional levels of investment under all the options include further monetary investment from the private sector and an increased contribution from the entire community through actions to reduce emissions:

Private Sector Investment

To achieve the goal, private sector investment will need to occur through the implementation of energy efficiency improvements such as insulation, efficient heating and cooling systems and appliances, and improved lighting. While this requires a substantial investment, the investment is paid back in projected cost savings as a result of implementing measures that require less energy. The total private sector investment assumed for the 2009 programs over the next four years and the estimated lifetime energy cost savings are provided in Appendix A of the *Community Guide*.

Community Action

Another aspect of investment that will need to occur is an increase in individual effort to take actions like turning down the thermostat, turning computers off when not in use and reducing vehicle travel. This level of investment is essential to achieving the goal. Every member of the community can contribute in this way and make a measurable difference to the achievement of the goal.

All of these investments result in the reduction of greenhouse gas emissions and ongoing energy cost savings for business and home owners. Other noteworthy benefits of increasing the community investment in the Climate Action Goal include a continued sustainable approach toward energy efficiency and renewable energy, improved buildings, and local job creation.

STAFF RECOMMENDATION:

Staff believes that the city's Climate Action Goal is achievable with Option 4 and possibly Option 3: the maximum tax rate or the phased-in approach. Although all options result in significant progress toward achieving the goal, the increased investment associated with Option 4 will provide the needed funding that is most likely to reduce GHG emissions to seven percent below 1990 levels.

As the Climate Action Goal is furthered in the coming years, energy use and therefore energy costs will be reduced. The resulting CAP revenue reduction has not been factored into the CAP tax estimates provided here. For this reason, Option 4 is the most likely to succeed in achieving the Climate Action Goal.

NEXT STEPS

Staff will forward recommendations from the EAB and the CAP Advisory Group to City Council, as well as comments received from the public at an Administrative Hearing on March 19. Public comments will be recorded and summarized for City Council.

Council will consider the proposal for first reading on April 7. A public hearing and second reading is scheduled for April 21. If the proposal is approved, it is anticipated that Xcel Energy will include the new rates in the June billing cycle.

ATTACHMENTS:

2009 Community Guide to Boulder's Climate Action Plan