

Fort Collins Climate Action Plan Update



**Citizen Advisory Committee meeting
September 18, 2014**

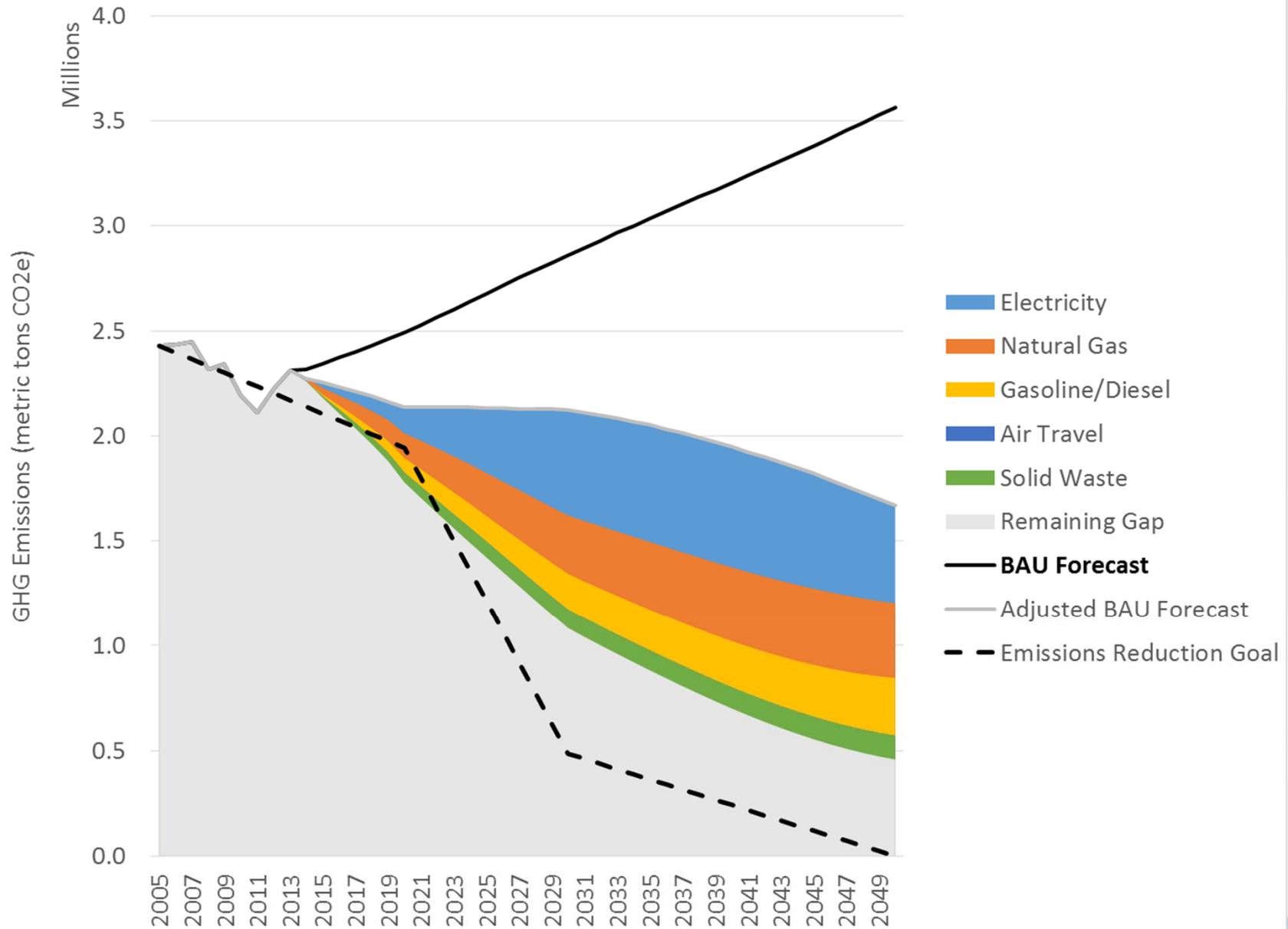
Preliminary Strategy Analysis Results

- Comparison of strategies
 - Emissions reduction
 - Cost savings
 - Implementation cost
 - Cost effectiveness
- Wedge diagram
- Focus area targets

Comparison of Strategies

Strategy	2030 Emissions Reduction Potential	2030 Potential Cost Savings	Total Implementation Cost by 2030	2030 Cost of Carbon Reduction
DEFINITION	Annual emissions reduction estimated for the year 2030	Annual cost savings estimated for the year 2030	Cumulative implementation cost through the year 2030	Net implementation cost for each unit of carbon reduction (\$/MT)
Green Building Program	High	High	High	High
Land Use Choices that Encourage GHG Emissions Reduction	Medium	Medium	Medium	Low
Increase Residential Energy Efficiency	High	High	High	High
Increase Energy Efficiency in the Business Sector	High	High	High	Medium
Increase Energy Efficiency in Large Institutions				
Drive Adoption of Multimodal Transport	Medium	High	Medium	Low
Accelerate Adoption of Fuel Efficient Personal Vehicles	Medium	Medium	Low	Low
Efficiency and Demand Reduction in Commercial Fleets	Low	Low	Low	Low
Road to Zero Waste	Medium	Medium	Low	Medium
Solar Gardens/Community-Scale Solar	Medium	Medium	Medium	Medium
Advance/Enhance Rooftop Solar Adoption	Medium	Medium	Medium	Medium
Residential and Small Commercial Building Heating Electrification	Low	Low	Low	Low
Commercial and Industrial Building Heating - Electrification, CHP, and Biofuels	Low	Low	Low	Low
Personal Vehicle Electrification	Medium	Medium	High	High
Commercial Fleet Electrification	Low	Low	High	High
Local Offsets/ Sequestration				
Catalyst Zone - FortZED	High	High	Medium	Medium

Preliminary Sector Wedge Diagram



Wedge Analysis

- How to present results
 - By focus area
 - By strategy
 - Other
- How to account for/represent
 - External factors (PRPA, CAFE, etc.)

Preliminary Sector Targets

Required (for 80x30) and Achieved Reductions by Sector by Decade from Adjusted BAU Forecast (MT CO₂e)

Sector		2020	2030	2040	2050
Electricity	<i>Required</i>	170,000	870,000	710,000	440,000
	<i>Achieved</i>	140,000	530,000	590,000	470,000
Natural Gas	<i>Required</i>	120,000	380,000	460,000	540,000
	<i>Achieved</i>	100,000	250,000	330,000	350,000
Ground Travel	<i>Required</i>	(45,000)	240,000	330,000	420,000
	<i>Achieved</i>	69,000	170,000	220,000	270,000
Air Travel	<i>Required</i>	28,000	99,000	120,000	150,000
	<i>Achieved</i>	0	0	0	0
Solid Waste	<i>Required</i>	(80,000)	50,000	81,000	110,000
	<i>Achieved</i>	46,000	89,000	100,000	110,000
TOTAL	<i>Required</i>	190,000	1,640,000	1,710,000	1,670,000
	<i>Achieved</i>	360,000	1,040,000	1,240,000	1,210,000



Topics for Next Meeting Introduction

- Wedge analysis
- Scenario outlines and definitions

Scenario Outlines and Definitions

- Potential characteristics of scenarios
 - Adjustments for uncertainty
 - Mandates vs. incentives
 - With and without BAU adjustments
 - With and without cost of carbon
 - Other

Strategy Analysis

Annual emissions reduction potential (MTCO₂e)

First-cost (\$)

Ongoing/annual costs/savings (\$)

Return on investment (\$/ton avoided)

Cumulative GHG Reduction (MTCO₂e)

(Un)certainty

Technical feasibility (qualitative)

Financial feasibility (qualitative)

Climate adaptation opportunities (qualitative)

Strategy/Tactic

Additional Evaluation Criteria Discussion

Criteria	Mitigation
Additionality	<p>Beyond BAU Would it occur without City role? Address thru baseline and double-counting</p>
Permanence	<p>Persistence/Longevity Lifespan of hard investments vs behavior change</p>
Leakage	<p>Reduction here causes same / increased GHG elsewhere Transportation/Land use ; Grid emissions</p>
Verifiability	<p>Transparent; measurable Not adopt unless proven elsewhere or can be measured Uncertainty</p>

Range of Actions



Education -- Engagement -- (Dis)incentive -- Regulation

**Where do you fall
on this spectrum?**

- A. Education
- B. Engagement
- C. (Dis)incentives
- D. Regulation

CAP Contents / Outline

Plan Element	In 2008 CAP?	Narrative Concepts
Need for Climate Action; new goals	X	Risks and Consequences of BAU
Benefits of Climate Action (business case?)	X?	Opportunities from accelerated climate action
Role of cities	X	
History of Climate Commitment	X	
CAP update process (strategies and scenarios considered?)	X	
Principles	X	
Baseline emissions, Adjusted BAU, Forecast	X	
Role of Existing plans and programs	X	
Focus area chapters (Buildings, Energy Supply, Transport, Waste, [<i>? Land use/Public Health?</i>] Targets, strategies, (tactics?))	Only list of strategies	What do we need to do to meet the goals?
Support for climate preparedness ?		
Community role / engagement?		What does this mean for the community?
		Vision for the Future
Near Term Implementation Plan		Next Steps
Monitoring and Reporting	X	
Detailed implementation /tactics plan?		
Financial Strategy?		

Subcommittee Formation?

Public Engagement

Role: Input on public materials for CAP and climate in general plan forums, identify partnerships

Energy/Buildings

Transportation

Land Use/Cross Cutting

Other?

Role: Review the strategies and tactics in more detail before the Nov and Dec CAC meetings, develop suggestions to dial the scenarios

CAP Public Engagement

Phase I

Introduction / General Concepts

Stakeholder Group presentations
Raised in other contexts (ClimateWise, Utilities key accounts, etc.)
Newspaper, “Full Circle” videos
Web input on Strategies/General Comments

Phase II

Strategy Analysis/ Scenario Alternatives / Draft plan

Stakeholder Group presentations
Teaser campaign – building interest
Dec 3 (tentative) - Public Forum on alternatives
(at a high school?)
Jan 15 /21 (tentative) – Public Forum on draft plan