

Austin Community Climate Plan

Electric Utility Commission | March 23, 2015



CITY OF AUSTIN



TRANSPORTATION DEPARTMENT

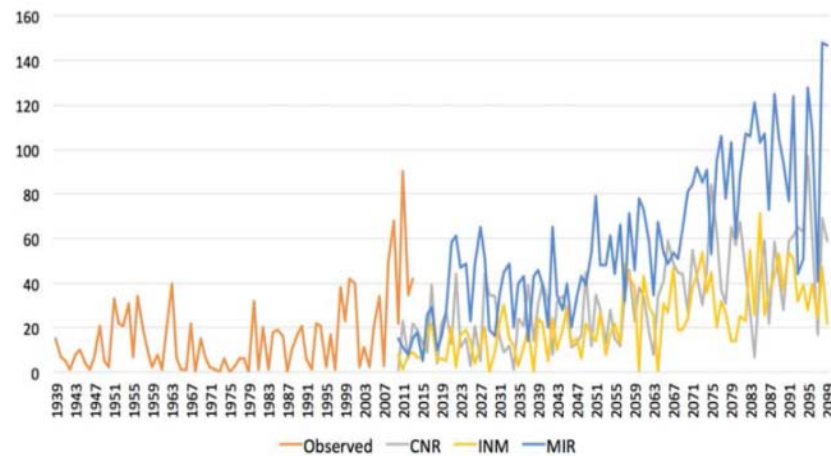
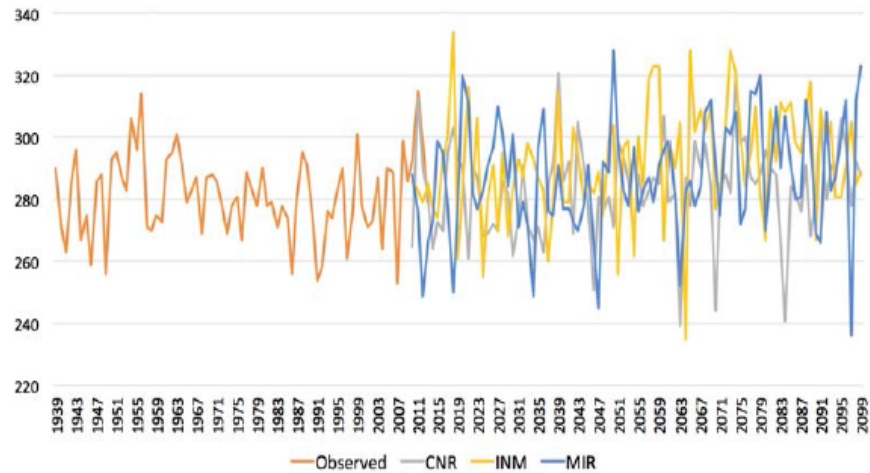


Agenda

1. Why Develop a Community Climate Plan?
2. Our Approach and the Plan Development Process
3. Plan Summary and Electricity and Natural Gas Strategies
4. Next Steps



Why Develop a Community Climate Plan?



Why Develop a Community Climate Plan?

Council Resolutions

The 2007 Climate Protection Plan included five key goals:

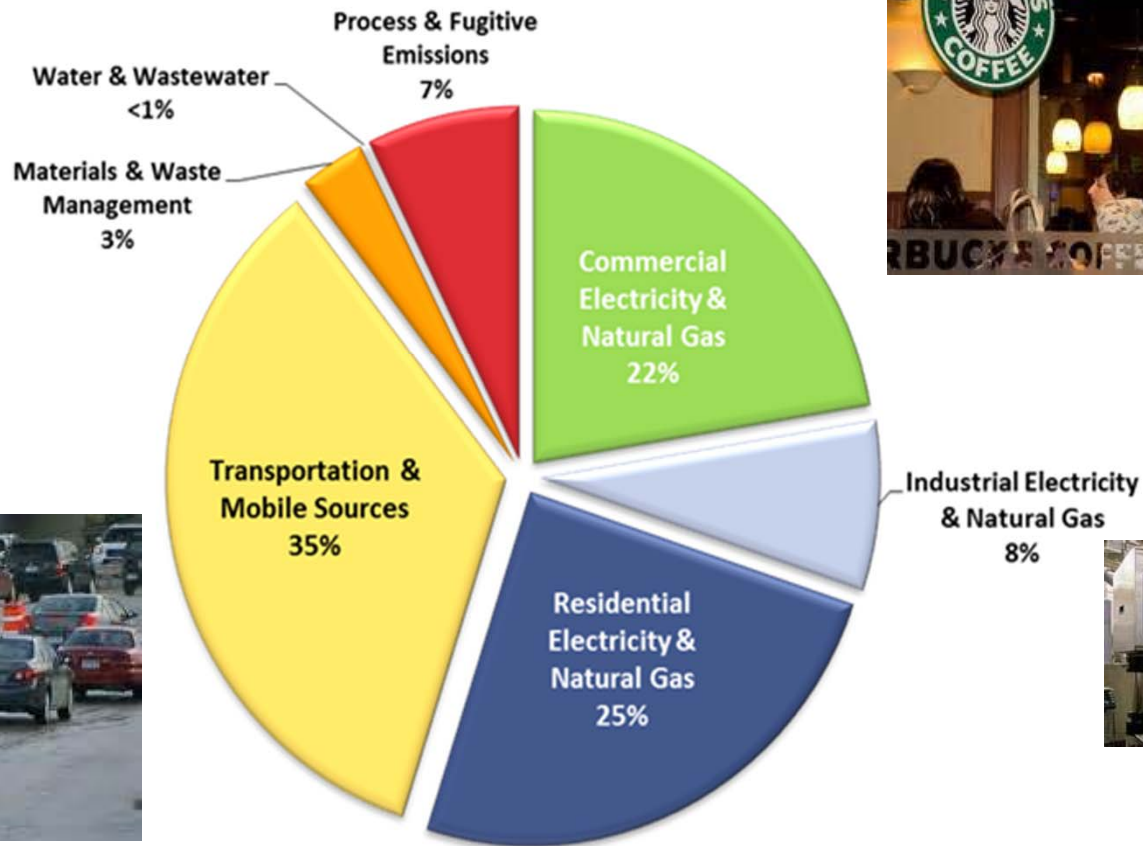
1. Municipal operations
2. Utility generation mix
3. Homes and buildings
- 4. Community planning**
5. Carbon Neutral Programs and Assistance

April 10, 2014: Council passed Resolution 20140410-024 which established a long term community wide goal:

Net zero community-wide greenhouse gas emissions by 2050

Our Approach

2010 Travis County GHG Emissions 14 Million Metric Tons CO₂e

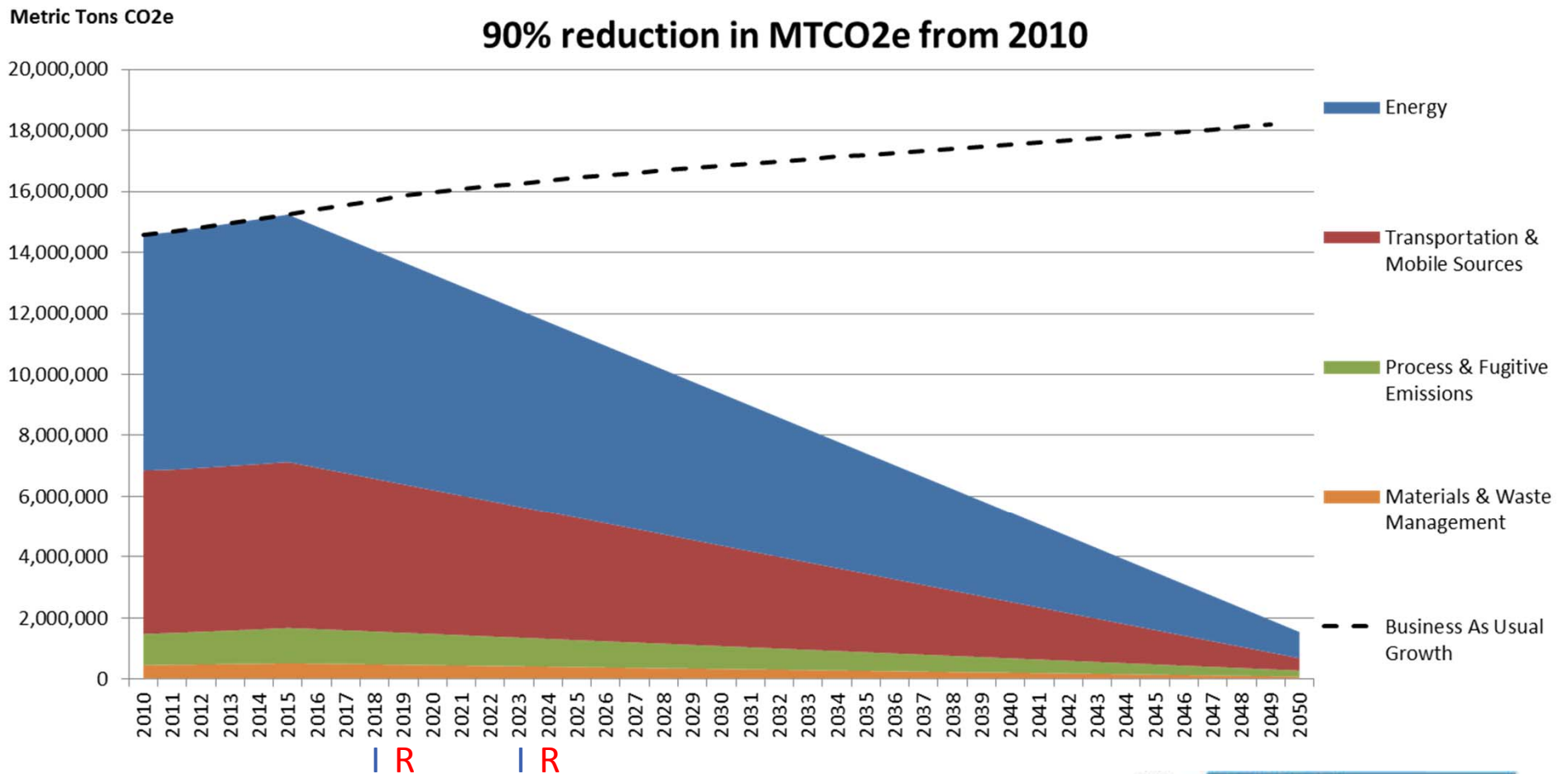


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Our Approach

What does net-zero in 2050 mean?



I - New Inventory
R - Full Plan Revision



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Our Approach

What does net-zero in 2050 mean?



Image: Scientific American

Electricity and Natural Gas

- Not using fossil fuel for power

Materials Management

- Landfills capture and destroy all methane and a major diversion and reuse of materials, especially organics

Transportation

- Major reduction in vehicle miles traveled and switch to active, renewably powered, and public transportation

Industry

- Chemical replacements, new processes, and offsets



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Plan Development Process



June 2014, the Office of Sustainability formed a Community Climate Steering Committee and four Technical Advisory Groups (TAGs):

- Electricity and Natural Gas
- Transportation
- Materials Management
- Industrial Process



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Plan Development Process

Steering Committee

Name	Organization
Roger Duncan	Energy Institute, University of Texas
Mike Blackhurst	UT School of Engineering Professor
Joep Meijer	Climate Buddies
Al Armendariz	Sierra Club Senior Campaign Representative
David Cortez	Austin Interfaith Network
Kaiba White	Public Citizen
Pam Reed	Texas Climate & Carbon Exchange
Mary Dodd	Community Advancement Network, Executive Director
Mitch Jacobsen	ATI Clean Energy Incubator, Co-Director
Francois Levy	American Institute of Architects
Tim Mohin	AMD Director of Corporate Responsibility
Jere Locke	Texas Drought Project
Kevin Tuerff	EnviroMedia, President
Todd Hemingson	Capital Metro VP of Strategic Planning & Development
Jim Marston	EDF, VP of Energy
Tamala Barksdale	Enviromedia and AISD board member
Jeremy Martin	Greater Austin Chamber of Commerce, Senior VP Government Relations

Electricity and Natural Gas TAG

Doug Lewin (chair)	SPEER
Larry Graham	Manager of Regulatory Affairs, Texas Gas Service
Gurcan Gulen	Researcher, Jackson School at the University of Texas, Austin
John Hoffner	Renewable and Sustainable Design Consultant
Morgan Stinson	Principal at Energy Engineering Associates
Henry Eby	Consultant, Former LCRA Manager of Environmental Affairs
Michelle Van Hyfte	Manager Environmental Stewardship, Seton Healthcare
Peter Pfeiffer	Architect
Blake Beavers	Pedernales Electric Co-op



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Plan Development Process

Electricity and Natural Gas

Behavior Change and Education
Buildings and Integrated
Efficiency
Resource Technologies

Materials Management

Organics Diversion
Purchasing
Methane Management
Recycling
Reduction Reuse

Industrial Process

Fuel Switching
Process Optimization
Capture and Destruction
Local Offsets

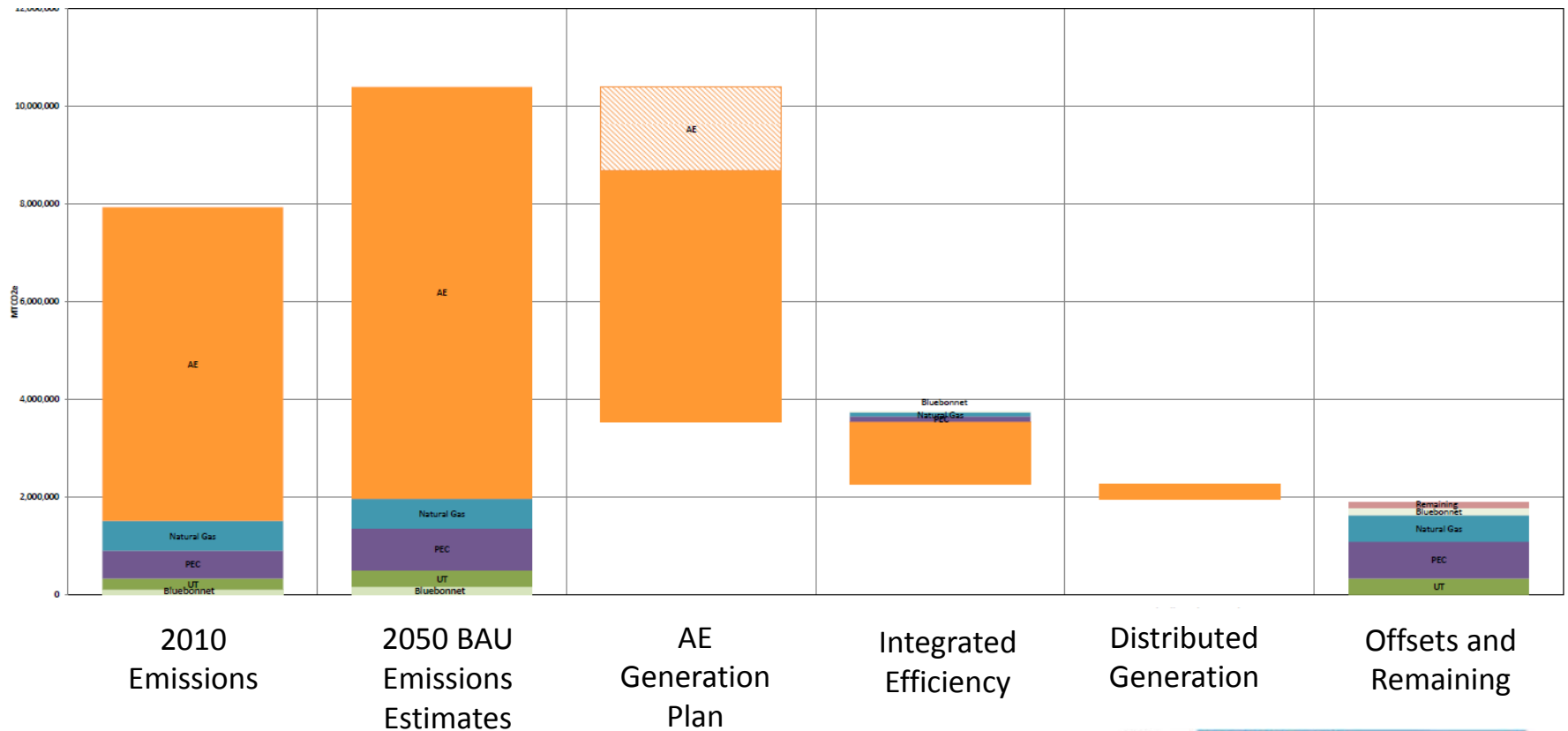
Transportation

Infrastructure and Service
Land Use
Demand Management
Policy and Planning
Vehicles and Fuel Efficiency
Economic and Pricing Systems

Plan Development Process

Quantitative analysis

- Waterfall chart below shows current sector footprint, BAU growth in emissions, and how the strategies would reduce emissions through cleaner energy production and reduced energy demand, inclusive of offsets



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Plan Development Process

Qualitative analysis of proposed actions

19 Tier 1 actions

- New action or currently in an adopted city plan
- Fewer barriers or limiting factors in the way
- Large potential to avoid emissions
- Additional benefits identified
- **Will be considered for implementation upon plan adoption or part of the implementation planning effort over the next year**

9 Tier 2 actions

- Mostly actions in 2020-2050 timeframe
- Have current barriers related to policy, funding, or technology

ENGTAG: Strategies & Actions

Buildings and Integrated Efficiency

The City of Austin will continue to be a national leader in energy efficiency and reduced demand programs.

1. Explore financing mechanisms to enable energy efficiency, demand response, distributed generation and energy storage.
2. Increase funding for energy efficiency rebates within constraints of rate affordability goals, and emphasize and market offerings or higher amounts that may attract new customers
3. Identify high energy users in all sectors and target incentives and initiatives to those users to maximize impact
4. Promote specific high-impact strategies including envelope improvements, lighting retrofits, HVAC improvements, water heating efficiency, and plug load reduction
5. Implement programs to reduce energy use and carbon intensity associated with water consumption

ENGTAG: Strategies & Actions

Buildings and Integrated Efficiency

6. Expand the availability and use of automated demand response to more and new technologies
7. Increase meter reading frequency and use the information to identify opportunities for utility action and to promote customer conservation and demand response
8. Educate designers, builders, code inspectors, and plan reviewers to gain higher compliance with new energy codes as they are implemented every 3 years



ENGTAG: Strategies & Actions

Resource Technologies

Making generation resource decisions to minimize greenhouse gas emissions while remaining within the affordability limits set by the City Council.

1. Begin a coordinated effort to prioritize strategic development and evolution of Smart Grid/Intelligent Energy Management Systems, within constraints of rate affordability goals, to further enable intermittent resources and use of electric vehicles for storage/demand shift
2. Prioritize investment in zero carbon resources at utility and/or customer scale, with consideration of affordability goals:
 - Utility-scale and distributed solar, including concentrating solar and community solar;
 - Utility-scale wind (inland and coastal)
3. Routinely evaluate resource technologies for opportunities to incrementally improve carbon intensity including storage, distributed chilled water, biomass, geothermal, and nuclear

ENGTAG: Strategies & Actions

Behavior Change and Education

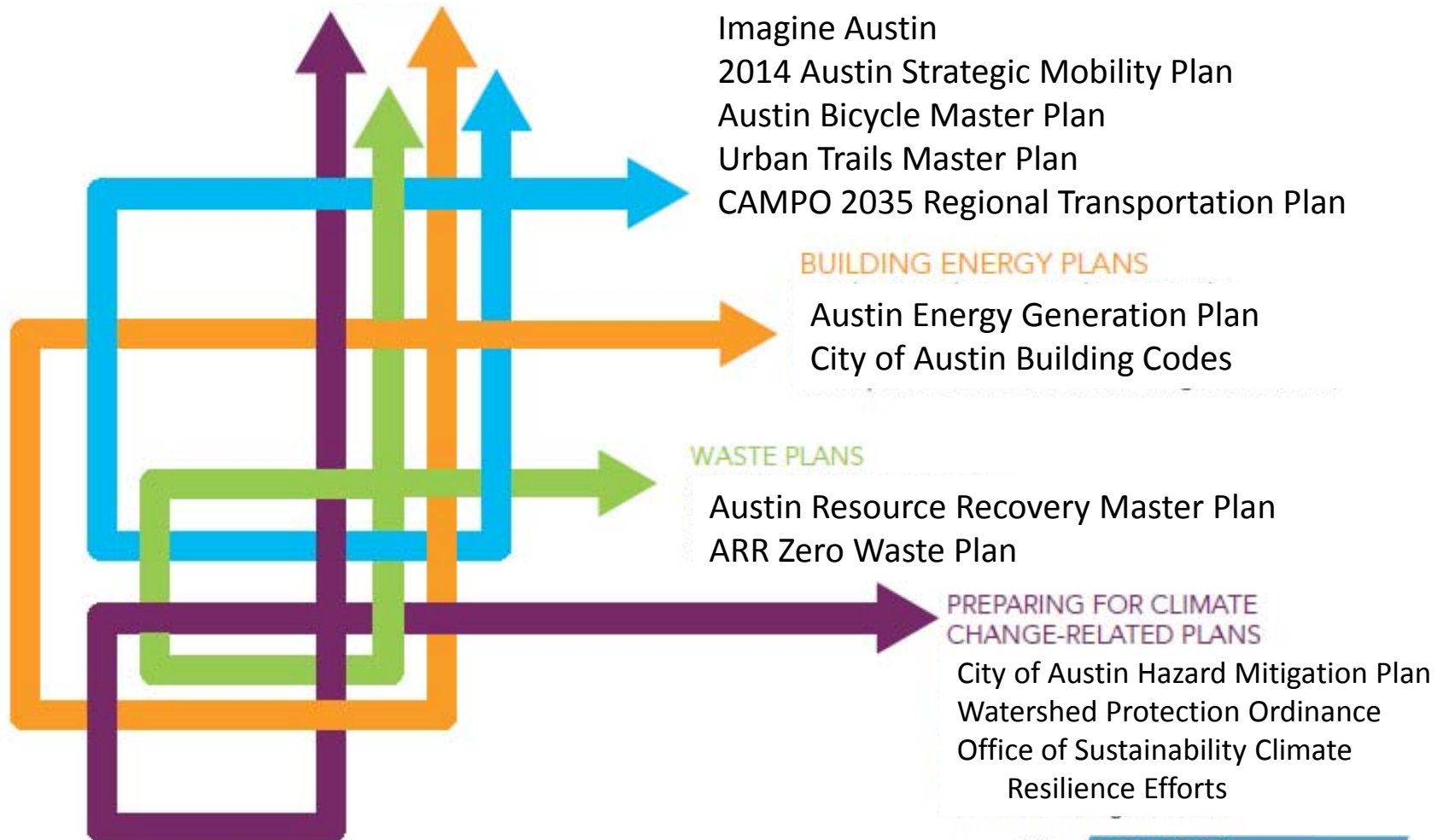
Consumer preferences and willingness to pay upfront for actions that result in lower energy use over time, and concurrently support zero and low-greenhouse gas resources, are key to the extent to which strategies and actions can be effective.

1. Increase efforts to engage customers to drive energy efficiency and demand response: increase transparency of energy costs in multi-family and commercial buildings; evaluate feasibility of neighborhood wide energy efficiency challenges
2. Implement time of use / dynamic rates, including user educational efforts, supported by advanced metering and other technologies
3. Expand educational efforts through social media, applications, competitions
4. Utilize meter reads and bill format/presentation to influence behavior



Coordinating to Reach Common Goals

Austin Community Climate Plan



Source:
Adapted from Seattle's Climate Action Plan



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Coordinating to Reach Common Goals



Climate Plan Next Steps

1. Move forward with the following new actions within the next year:

Electricity and Natural Gas Sector Actions:

- Buildings and Integrated Efficiency: Explore financing mechanisms to enable energy efficiency, demand response, distributed generation and energy storage. (BIE-1)
- Behavior Change: Increase efforts to engage customers to drive energy efficiency and demand response; increase transparency of energy costs in multi-family and commercial buildings; evaluate feasibility of neighborhood-wide energy efficiency challenges. (BC-1)
- Resource Technologies: Begin a coordinated effort to prioritize strategic development and evolution of Smart Grid/Intelligent Energy Management Systems within constraints of rate affordability goals to further enable intermittent resources and use of electric vehicles for storage/demand shift. (RT-1)

Transportation and Land Use Sector Actions:

- Transportation Demand Management: Commuting and Trip Reduction Programs
- Transportation Demand Management: First and Last Mile travel connections
- Vehicles and Fuel Efficiency: Expand electric/alternative fuel infrastructure

Materials Management Sector Actions:

- Purchasing: City adopts sustainable procurement specifications
- Methane Management: Travis County landfills participate in EPA landfill methane programs
- Recycling and Organics Diversion: Maximize efficacy of the Universal Recycling Ordinance

Climate Plan Next Steps

2. Develop an implementation plan for all remaining Phase 1 actions
3. Determine feasibility of a carbon impact statement for major city council decisions (CIP and major expenditures)
4. Determine the feasibility of a local carbon investment and trading program.
5. Continue climate resilience planning efforts

Process Next Steps

- The Draft Plan is on the Office of Sustainability website and available for public comment through April 10th
- Final Plan will be submitted to Council by April 30, 2015

Questions?