

Austin Community Climate Plan

Steering Committee Meeting
December 17, 2014



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SUSTAINABILITY

CITY OF AUSTIN

Agenda

- Citizens Communication (10 min.)
- Brief overview of yesterday's results (10 min.)
- Methane and Materials Management TAG (30 min.)
- Transportation TAG (30 min.)
- Electricity and Natural Gas TAG (30 min.)
- Potential Scenarios for Report (if time allows)

Methane and Materials Management TAG

Shaun Auckland	Phil Gosh
Richard Avila	David Greene
Brandi Clark Burton	Adam Gregory
Tony Davee	Ryan Hobbs
Andrew Dobbs	David Hogan
Brad Emerson	Woody Raine
Ashley Faseler	Kevin Tuerff

Methane & Materials Management TAG

Outline

- TAG activities
- Key Strategies & Actions
- Top two actions per strategy
- Landfill methane management
- Next Steps

TAG Activities

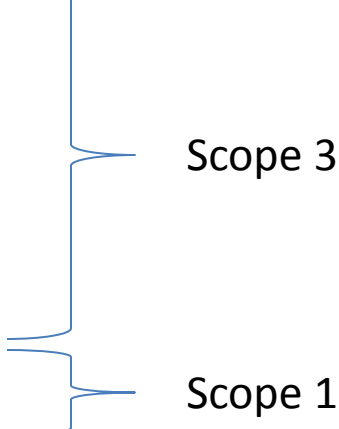
Briefings, Discussions

1. Quantify emissions with WARM model to prioritize Actions
2. Personas
 - Who are they?
 - How do they relate to strategies
3. UT research on implementing ARR Master Plan
 - Landfill gas emissions (Scope 1)
 - LCA avoided emissions (Scope 3)
4. Discussed landfill input / plan scope



Key Strategies & Actions

5 Strategies

1. Organic Diversion
 2. Purchasing
 3. Recycling
 4. Reduction / Reuse
 5. Methane Management
- 
- The diagram shows a vertical line with two brackets on the right side. The top bracket groups items 1 through 4 and is labeled 'Scope 3'. The bottom bracket groups item 5 and is labeled 'Scope 1'.

61 Actions*

1. 40 ARR Actions (In progress & in place)
2. 21 non ARR

*ARR actions not include in the following slides

1. Organic Diversion

Top 2 Actions

1. Universal organic diversion – collect not only food residuals, but also, other organic, non-recyclable materials from all sectors (*Direct Large*)
2. Promote community and regional farming and urban agriculture to use and produce compost [close the loop: consume, compost, grow, produce, consume] (*Direct Large*)

2. Purchasing

Top 2 Actions

1. Promote specs which emphasize. Focus on large institutions / businesses first. (*Indirect Large*):
 - Material Reuse
 - Reduced Packaging
 - Materials with Recycled Content
 - Locally Manufactured Product
2. Develop a marketing campaign which promotes responsible purchasing (*Conceptual*)

3. Recycling

Top 2 Actions

1. Make recycling a community activity. Create decentralized community centers for recycling / reuse (*Direct Small*)
2. Expand ARR Master Plan

4. Reduction / Reuse

Top 2 Actions

1. Expand reuse and sharing opportunities by supporting existing reuse centers and fostering development of additional formal community centers (*Direct Small, conceptual*)
2. Promote minimization of material use in home construction [such as with prefab components] and design of durable goods [such as appliances] (*Direct Small, Indirect Small*)

5. Methane Management

Top 2 Actions

1. Encourage participation in EPA landfill methane outreach voluntary programs (*Direct Large*)
2. Encourage use of effective daily landfill cover (*Direct Small*)

*ARR Master Plan and Emissions

Estimated 2010 to 2030 CH₄ Emissions from Travis County Landfills (MTCO₂e)

Landfill Area with CH ₄ Capture	Business As Usual	ARR Master Plan Initiatives
40 %	15,900,000	14,500,000
100 %	927,000	844,000

Source: Analysis of GHG emissions from Travis County Landfills, Dr. Carey King, Jackson School of Geosciences, University of Texas, Austin

More work is need on the community scale / with landfills



TAG Next Steps

Asked Landfills:

1. What values do you report to EPA for landfill fugitive methane, combusted methane, CO2 emissions for 2010 and 2013? Are these actual measured values? If not, what are your measured values?
2. Do you calculate, measure, or report biogenic versus anthropogenic landfill emissions?
3. What is the state of your gas collection and destruction system, and are changes for the system planned in the next 10 years?
4. Are you planning on capturing and destroying more landfill gas in the future?
5. What other actions are you taking that reduce direct greenhouse gas emissions from the landfill (organics diversion, composting, etc.)?

...answers part of report appendix



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Transportation TAG

Pharr Andrews

Surbhi Bakshi

Rob Borowski

Cari Buetow

Brandi Clark Burton

Kane Carpenter

Billie Fields

Glenn Gadbois

Bonnie Lister

Dennis Perkinson

Karl Popham

Cathy Stephens

Karla Taylor

Jon White

Transportation TAG

Key Strategies

1. Land Use
2. Policy and Planning
3. Technology Solutions
4. Transportation Demand Management
5. Economic and Pricing Systems
4. Infrastructure and Service
5. Vehicles and Fuel Efficiencies

Land Use

Key Actions

LU-1. Prioritize mixed use development integrated with transit and the creation of compact, walkable and bikeable places with a commitment to plan transportation systems using objective analysis of environmental consideration, demand models, congestion models, safety, and full life cycle cost/benefit analysis. (Tier 1/2015-2020)

LU-2. Promote growth within the Desired Development Zone where dense, mixed use development support centers and transit corridors, and consider incentives for infill development with long-term affordability for residents and businesses; develop an outreach program for the available incentives and enhanced property locator tools (e.g. location efficient mortgages, tax credits). (Tier 1/2020-2030)

- Direct large impact, in a plan, quality of life, affordable, health, jobs, and water



Policy and Planning

Key Actions

PP-1. Establish intergovernmental agreements between municipalities that include commitments to increase density around Centers. (Tier 1/2020-2030)

PP-2. Consider development of regulations to reduce the number of vehicular parking spaces and to allow parking requirements to be met through alternative approaches demonstrated to reduce parking demand and GHG emissions (e.g. on-site car-sharing, bicycle parking, transit passes) (Tier 2/2015-2020)

- Indirect large impact, under development, quality of life, affordable, health, jobs

Technology Solutions

Key Actions

TS-1. Promote trip management technologies (e.g. apps, websites, electronic services) that provide the user with real-time travel information as well as amenities along travel routes as long as the technology shares user data related to GHG performance tracking. (Tier 2/2015-2020)

TS-2. Develop an interactive website where residents and employers can monitor their GHG emissions against others. (Tier 2/2015-2020)

- Direct small and indirect large impact, under development, quality of life, affordable, health, jobs, and water

Transportation Demand Management

Key Actions

TDM-1. Seek opportunities to provide separate dedicated lanes prioritizing public transit, and seek financing to extend service hours and frequency to make public transit services more attractive and increase use of public transit. (Tier 1/2015-2020)

TDM-4. Work with major event promoters to establish innovative transportation plans that ensure visitors to the City have full information about transportation options. (Tier 1/2015-2020)

- Direct large impact, in a plan, quality of life, affordable, health, jobs, and water

Economic and Pricing Systems

Key Actions

EPS-1. Apply a fair market value for parking through demand-based pricing, and research programs that reinvest a portion of the revenue into area improvements/amenities and transport options. (Tier 1/2020-2030)

EPS-2. Encourage more funding to replace older, more polluting cars with newer vehicles that meet the current vehicle emissions standard, and partner with non-governmental organizations where appropriate to implement programs. (Tier 3/2020-2030)

- Direct small and indirect small impact, under development, quality of life and jobs

Infrastructure and Service

Key Actions

IS-1. Continue planning efforts to complete a connected network of high-capacity transit, including intracity and intercity rail systems, using the major projects identified in the Austin Strategic Mobility Plan and Project Connect to improve Austin's transportation and economic connections with other major cities in Texas. (Tier 1/2030-2050)

IS-2. Protect the safety of all right-of-way users and increase mobility by managing traffic speeds with regular synchronizing/retiming all traffic signals along arterials, adjusting speed limits within the urban core as appropriate, adding more volume-count stations to make informed traffic system improvements, installing more roundabouts, using enhanced bicycle signal detection technologies, and installing Pedestrian Hybrid Beacons. (Tier 1/2015-2020)

- Direct large impact, in a plan, quality of life, affordable, health, jobs



Vehicles and Fuel Efficiencies

Key Actions

VFE-1. Expand electric/alternative fuel infrastructure and consider incentives for the purchase of electric/alternative fuel vehicles by individuals and fleet owners. (Tier 1/2020-2030)

VFE-2. Work with community partners to develop a freight plan that reduces emissions within the region from the trucking industry, fosters more efficient freight movement, and provides assistance to freight companies to help them identify how to reduce emissions from their vehicles. (Tier 2/2020-2030)

- Direct large impact, under development, quality of life, affordable, health, jobs, and water

Transportation TAG

Much more work is needed to streamline the hundreds of proposed actions collected into workable solutions that can more effectively meet the greenhouse gas emissions goal. During the next year, the Austin Transportation Department will work to lead an effort to further review and streamline the proposed actions into actionable items and will provide to the Office of Sustainability an update to this section within one year of approval of the Climate Protection Plan by City Council.

Electricity and Natural Gas TAG

Henry Eby
Larry Graham
Gurcan Gulen
John Hoffner
Michelle Van Hyfte
Doug Lewin
Richard Morgan
Peter Pfeiffer
Matt Russell
Morgan Stinson

Electricity and Natural Gas

Key Strategies

1. Increase Building Energy Efficiency
2. Obtain Electricity from Zero-Carbon Resources
3. Promote Behavior Change to reduce Carbon Footprints
4. Change Utility Business Models to Support De-carbonization

Building Energy Efficiency

Key Actions

1. Identify high energy users in all sectors; target incentives for highest impact.
 - Potential large impact; Limitations include need for new policies, behavior change and funding
2. Increase funding for energy efficiency rebates; emphasis on new offerings that may attract new customers
 - Potential large impact; limited by funding
3. Maximize non-utility pathways to increase energy efficiency that will stretch utility incentives further (e.g., alternative financing like PACE, etc.)
4. Create a new minimum standard for existing building energy use; enforce the new standard
 - Potential large impact; Would require new policies
5. Coordinated effort with AWU to reduce energy use and carbon intensity associated with consumption, treatment, and delivery of water, including peak shifting



Zero-Carbon Generation

Key Actions

1. Prioritize investment in zero carbon resources at utility and/or customer scale including utility-scale and distributed solar, and utility-scale wind (inland and coastal)
 - Potential large direct impact; limited by maintaining affordable rates
2. Regularly evaluate all zero and low-fossil resources for opportunities to reduce carbon intensity of the grid including renewables, combined heat and power, geothermal, biomass, and nuclear generation
 - May allow reductions to occur sooner
3. Prioritize development and evolution of Smart Grid/Intelligent Energy Management Systems to further enable intermittent resources and use of EVs for storage/demand shift
 - Explore and pilot storage



Behavior Change

Key Actions

1. Implement time of use / dynamic rates programs, including user educational efforts, supported by smart meters
2. Utilize meter reads and bill format/presentation to influence behavior, and present energy use in actionable and more timely formats/ways to customers
3. Educational efforts through social media, applications, competitions (try individual and neighborhood scale competitions) and exposure/Media campaigns to drive behavior change

Electricity and Natural Gas

Additional Thoughts

- Local utilities should start evaluating new business models now; potentially coordinate efforts and/or use expert committees in an open transparent process
- As of today, the need for offsets in 2050 are likely without major technological breakthroughs or drastic price differences between carbon and non-carbon energy sources
- Advantage of energy efficiency is to offset costs of moving to more-expensive, lower-carbon resources; role may change as move closer to zero



Presenting Future Scenarios

Presenting Future Scenarios

- The world of possibility
- Combinations
- Discussion

Pathways

Emissions Growth

(Worst case) - Double emissions by 2050

(Slight growth) - AE slight growth, CAMPO VMT, 0 other reductions

Goals

(Hansen) - Zero by 2030

(2050 Net Zero) - 90% reduction by 2050 Goal

Emissions Reductions

(A) 500+ Plan & Transportation Growth Mitigated

AE gen plan reductions, flat trans, LFgas and industry 25% reduction

(B) 500+ Plan & Global High Shift Transportation

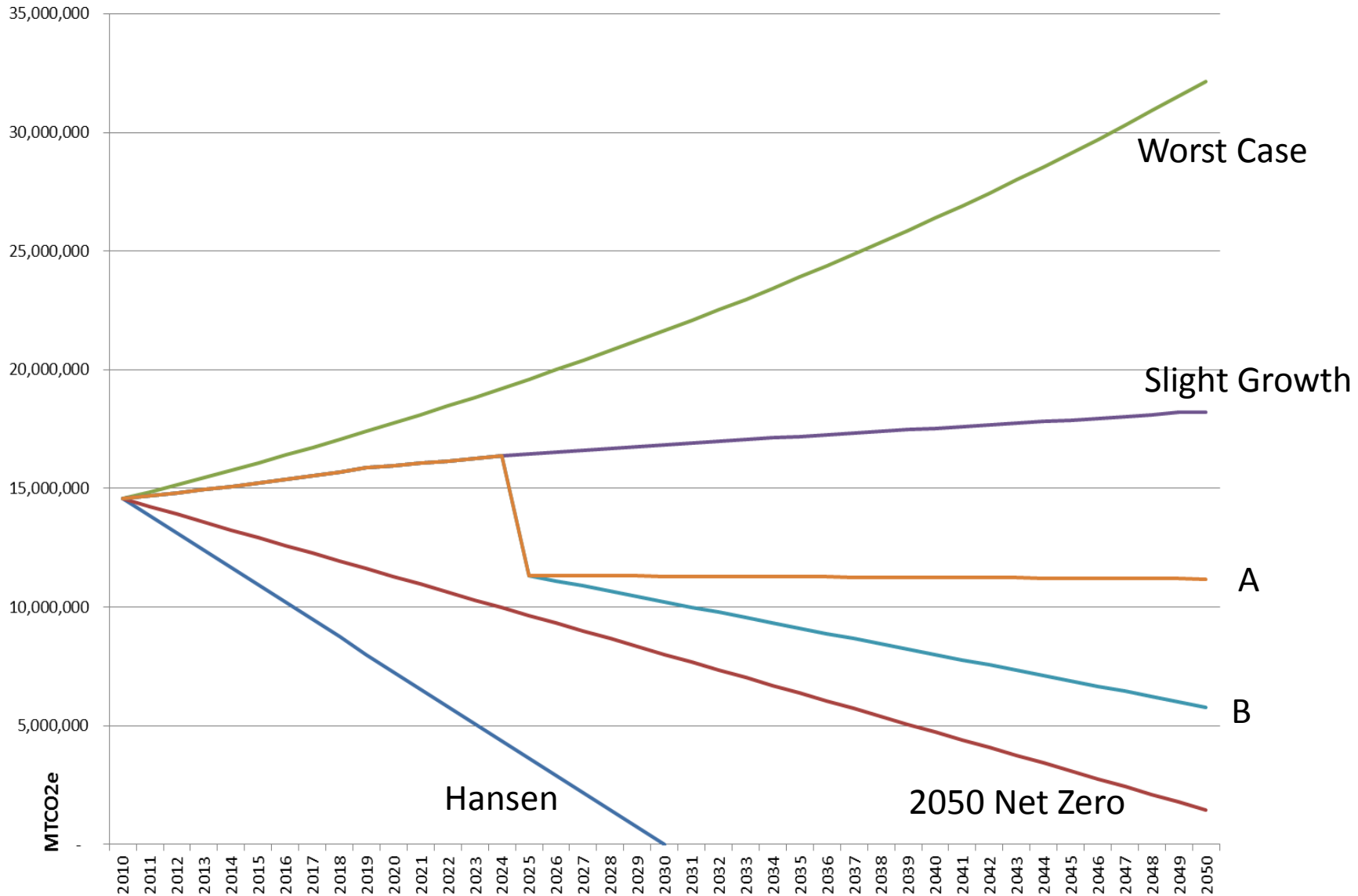
AE gen plan reductions, 30% trans reduction, LFgas and industry 50% reduction



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Pathways

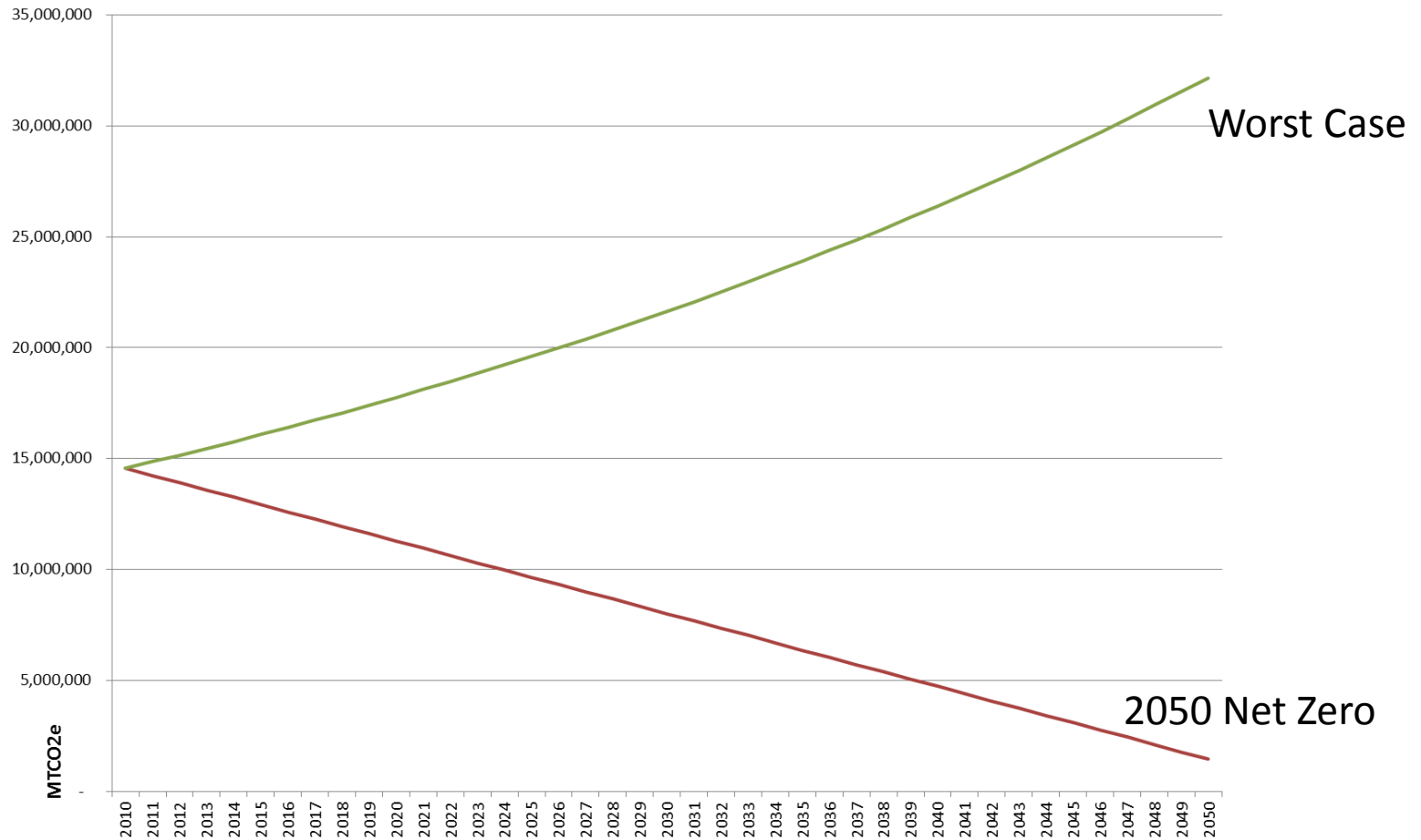


Presentation

- Purpose of Communication through these graphs
 - How large the challenge is
 - What we think our plan can and can't achieve
 - What research shows about the reality of our world
 - The opportunity to move from one line to another
 - How growth works against us

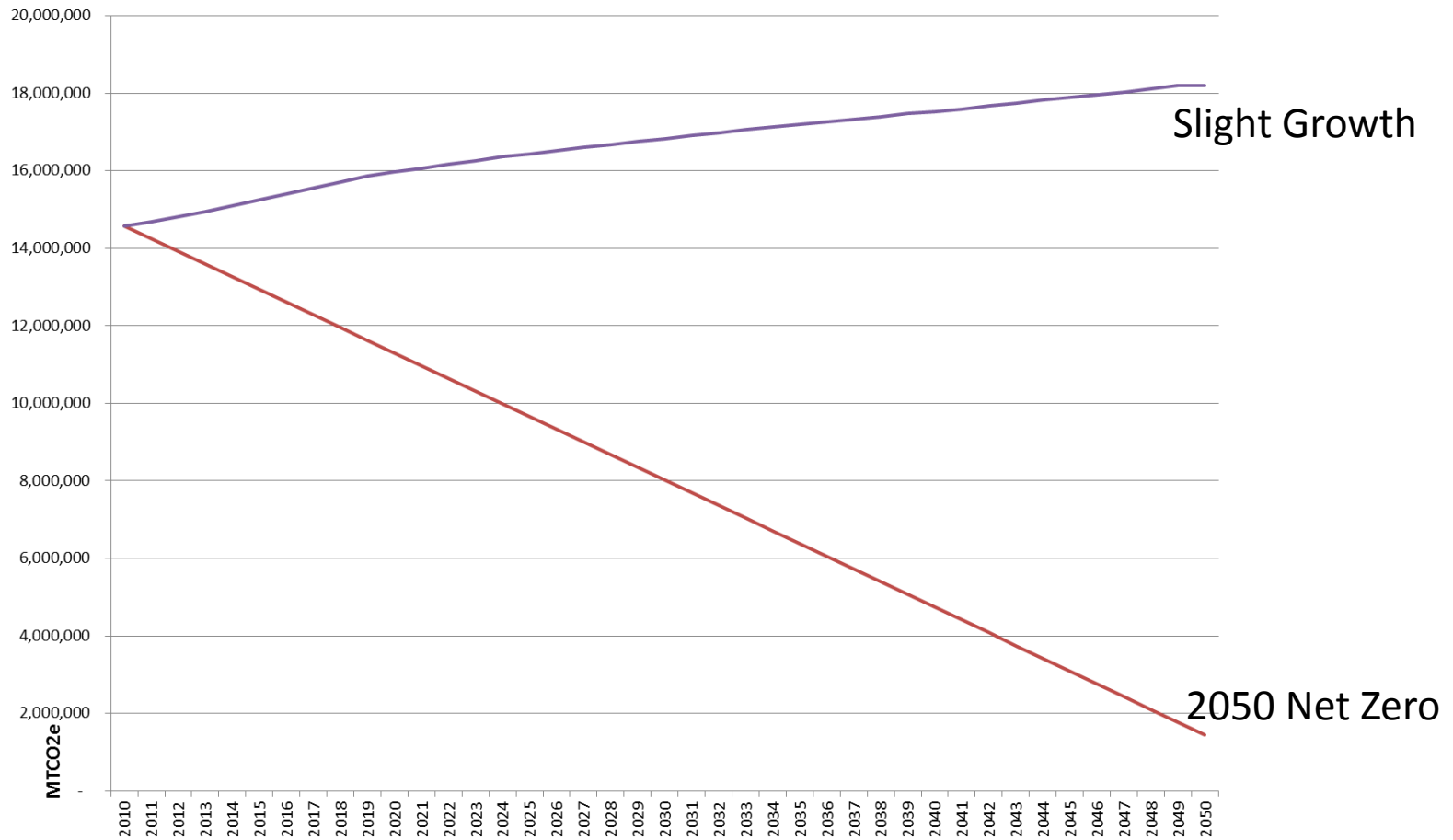
- Challenge / Opportunity
 - Fear and Inaction
 - Excitement and Motivation

I. Austin Goal, Worst Case Growth



What's your reaction to the presentation of data in this way? Pros/Cons...

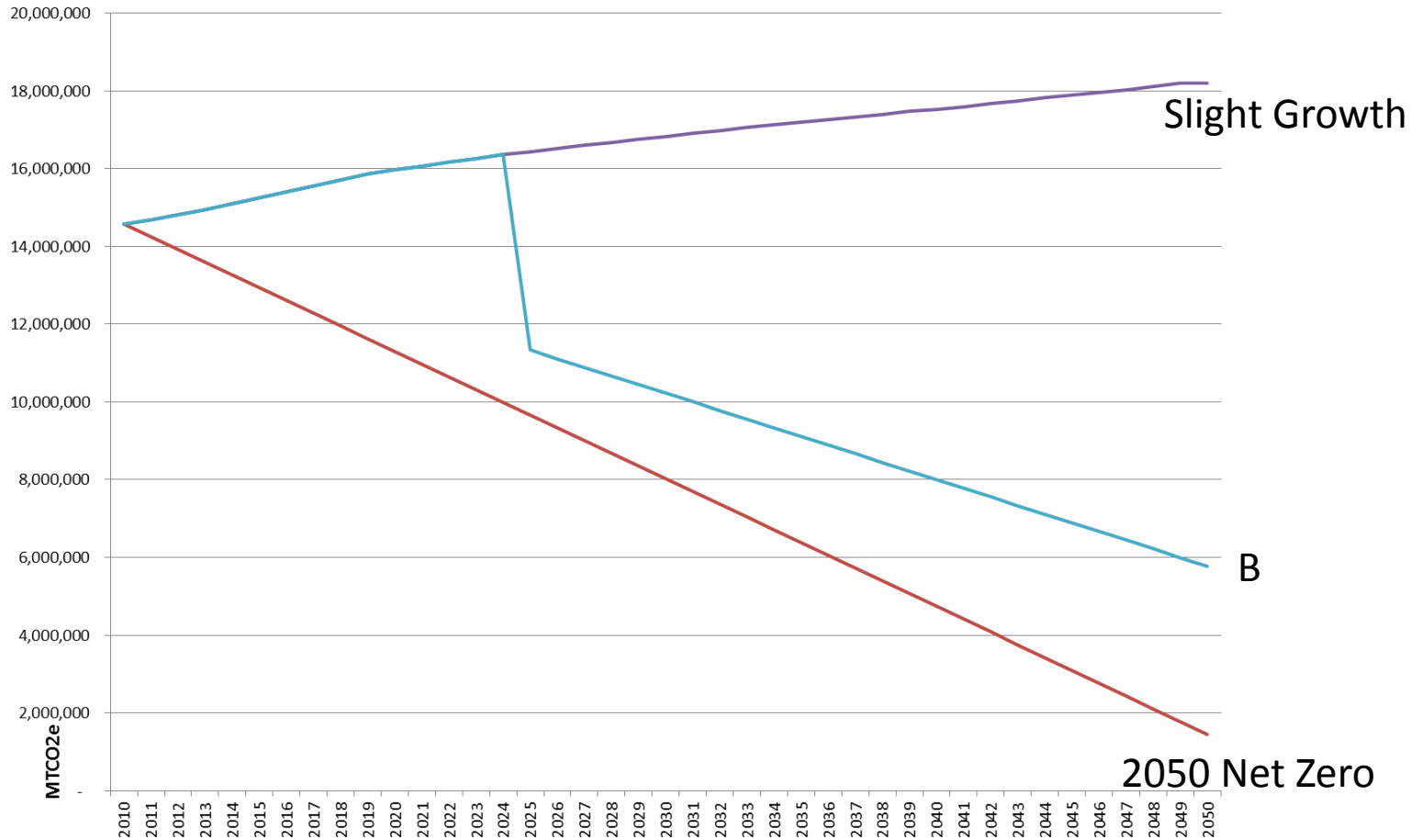
II. Austin Goal, Slight Growth



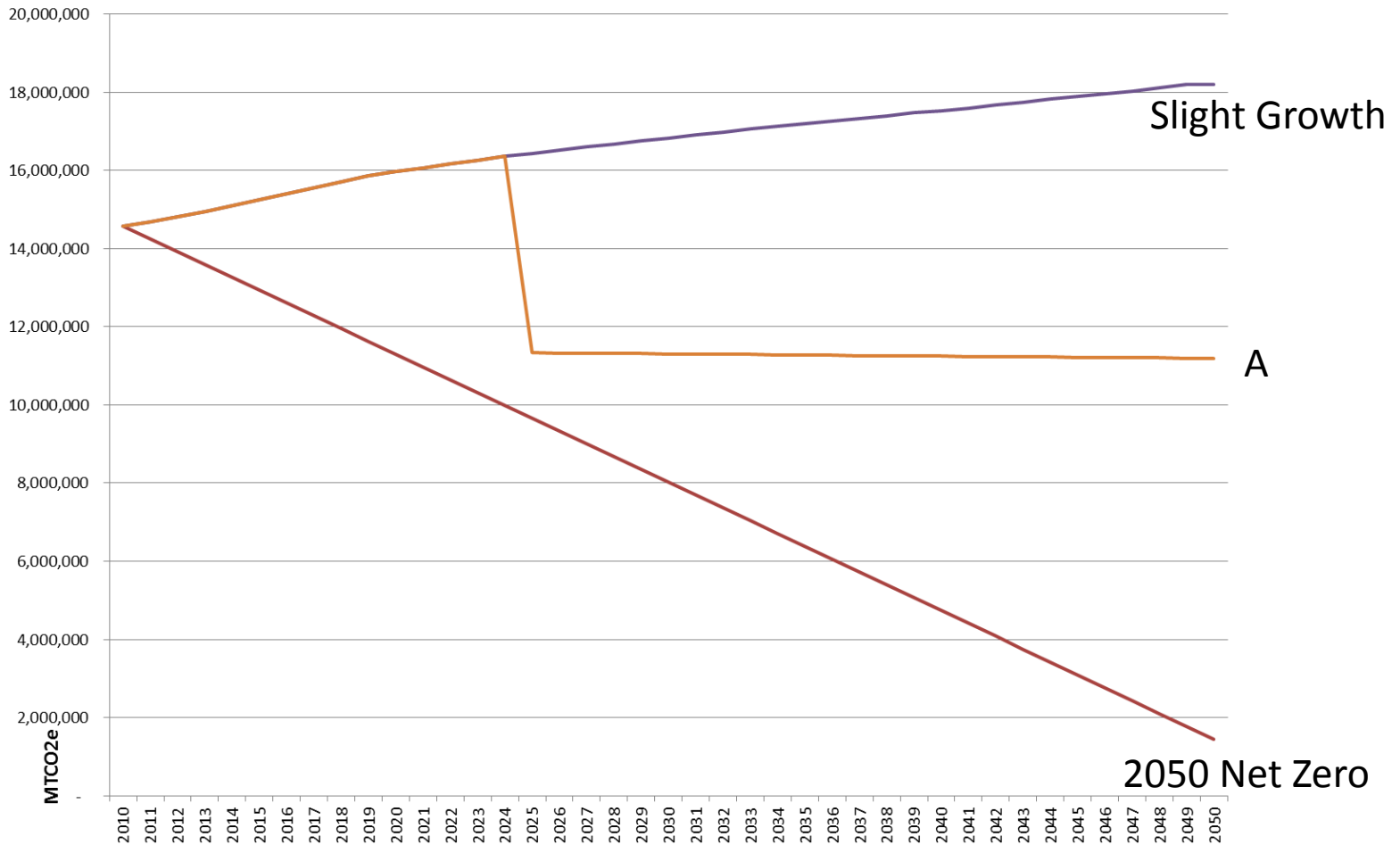
III. Worst Case Growth, Austin Goal, Hansen



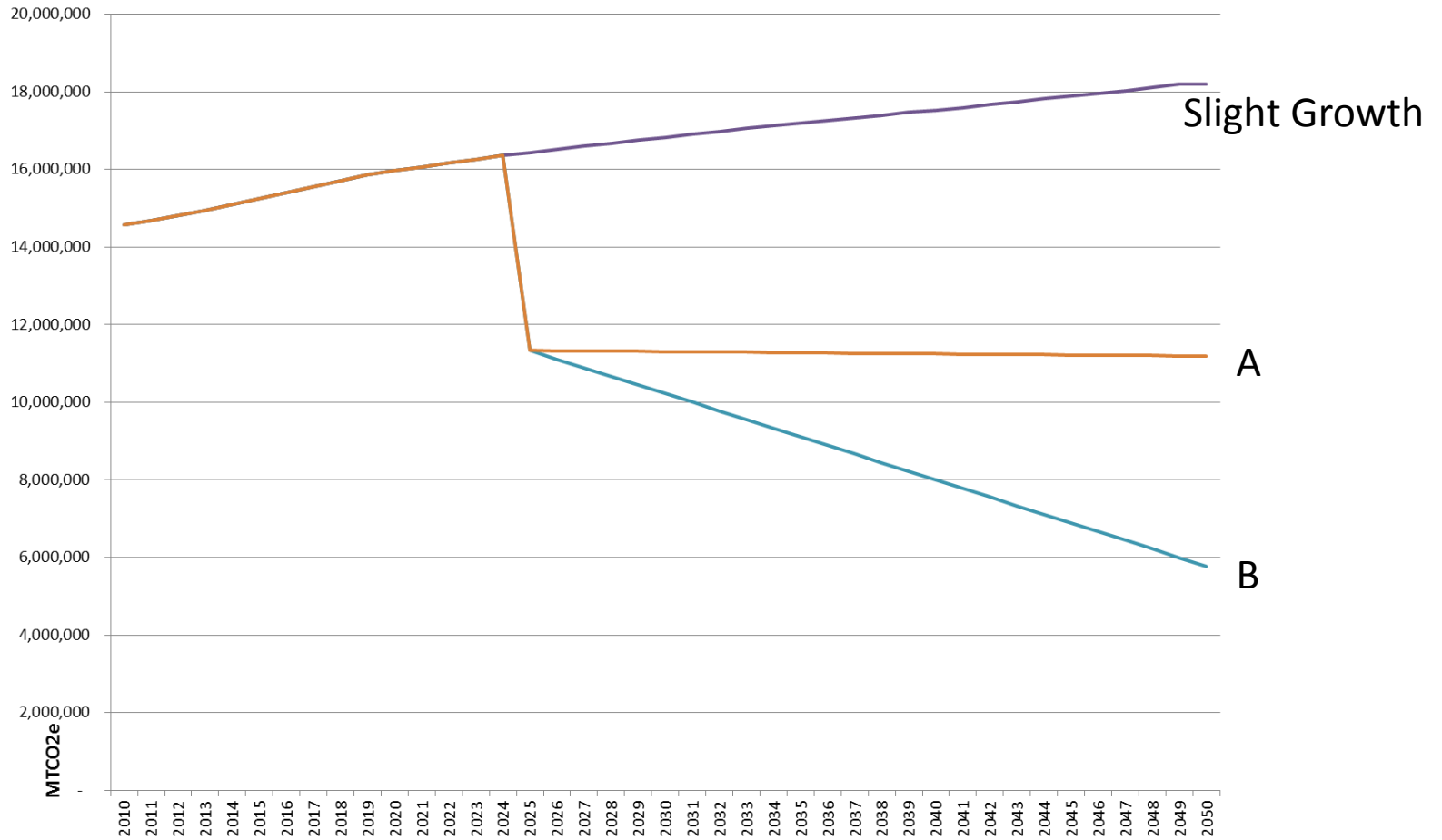
IV. Austin Goal, Slight Growth, Optimistic Reductions



V. Austin Goal, Slight Growth, Research Reality



VI. Slight Growth, Optimistic Reductions and Research Reality



Conclusion

- We can display one or multiple graphs to tell the story
- How do we move forward with a decision?
 - Choose today by vote
 - Email a poll
- Discussion on choices.

Schedule and Next Steps

- January
 - Draft and Review
- February
 - Finalize

Industrial Process TAG

Drivers:

- Safety
- Regulatory compliance – EPA and TCEQ – in compliance and will comply with future regs
- Trade association leadership and industry group participation
- Economic competitiveness (efficiency and cost reduction)
- Meeting product demand

Actions and Reductions:

- Fuel efficiency, process optimization, and tuning
- Fuel switching
- Emission capture and destruction
- Chemical substitutions and reduction of use
- Certain amount that will never be reduced (CO₂ from CaCO₃ and some PFCs)
 - Local offset investments