

Austin's Net Zero Greenhouse Gas Community Goal

Update from Electricity and Natural Gas (ENG) Technical
Advisory Group

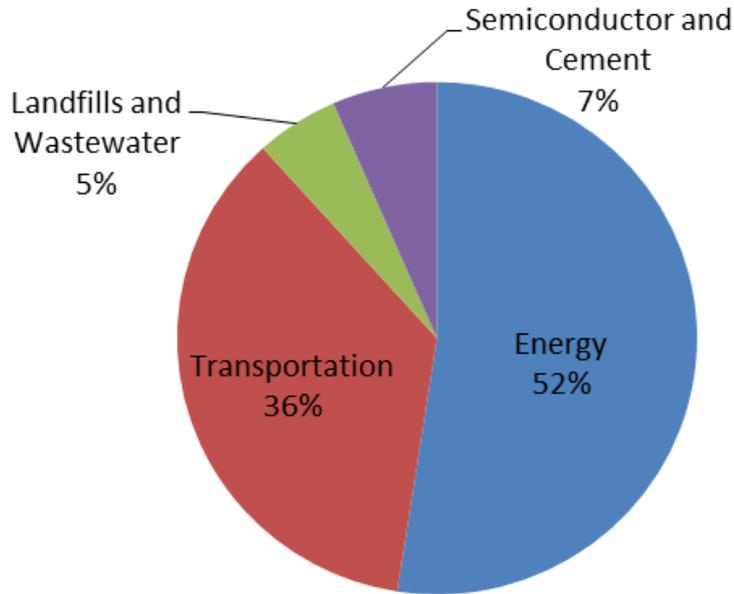
Sep 17, 2014

TAG Members

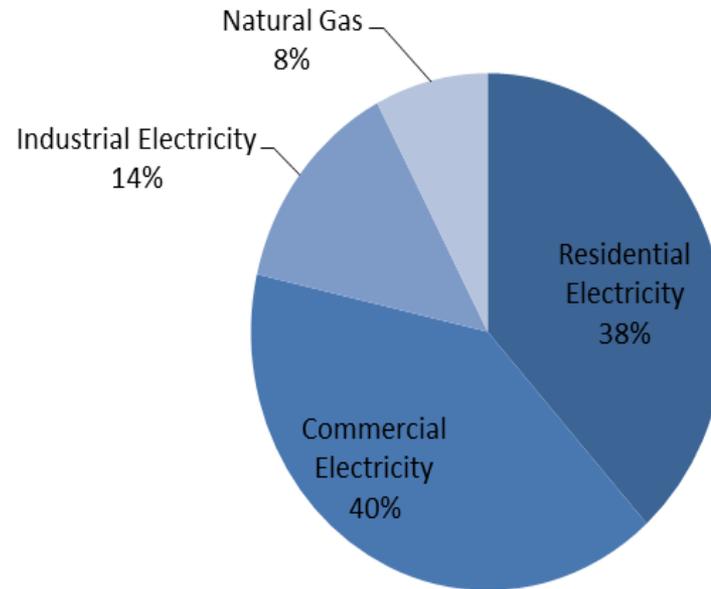
- Doug Lewin – Chair
- Peter Pfeiffer
- Jeff Clark
- Henry Eby
- Larry Graham
- Gurcan Gulen
- John Hoffner
- Morgan Stinson
- Michelle Van Hyfte
- Mike Blackhurst – SC Liaison #1
- Kaiba White – SC Liaison #2
- Paul Stinson – SC Liaison #3
- Zach Baumer - OoS
- Lewis Leff – OoS
- Richard Morgan – AE
- Matt Russell – AE

Sector Overview

(data from COA Office of Sustainability 2010 Travis County GHG inventory)



2010 Travis County GHG Inventory
15.2m metric tons CO₂e



2010 Travis County
Electricity and Natural Gas –
8m metric tons CO₂e

Briefings Held Thus Far

- Austin Energy Resource Overview
- Carbon Footprint Calculations and Greenhouse Gas Metrics for Electricity
- GHG Boundaries and Scope Considerations
- Benchmarking City Climate Plans
- Insights from Pecan Street Project

Activities

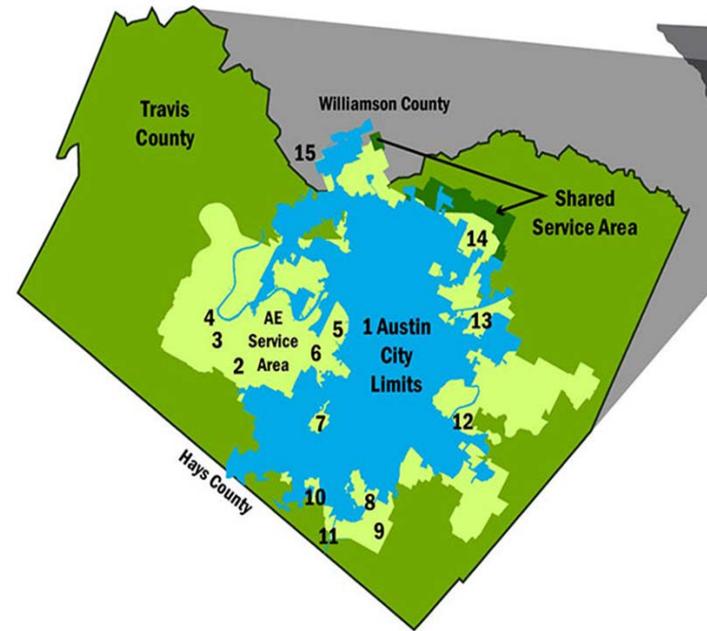
#1 What does Net-Zero mean for this sector?

- Should account for Scope 1 (direct) and Scope 2 (indirect) emissions to reflect actual carbon footprint
- Should emphasize direct reductions to the greatest extent possible, but can include offsets or account for other local sinks
- Should account for positive impact of carbon strategies on ERCOT grid

Activities, cont.

#2 What is appropriate geographic boundary for ENG sector ?

- Recommend Travis County to be consistent with other sectors and facilitate community totals
- Not all of Travis served by COA or AE, the COA limits and AE's service area extend beyond Travis, and some areas in Travis not part of COA but are AE
- Recommend including other sector players in TAG outside of COA/AE: other utilities and UT

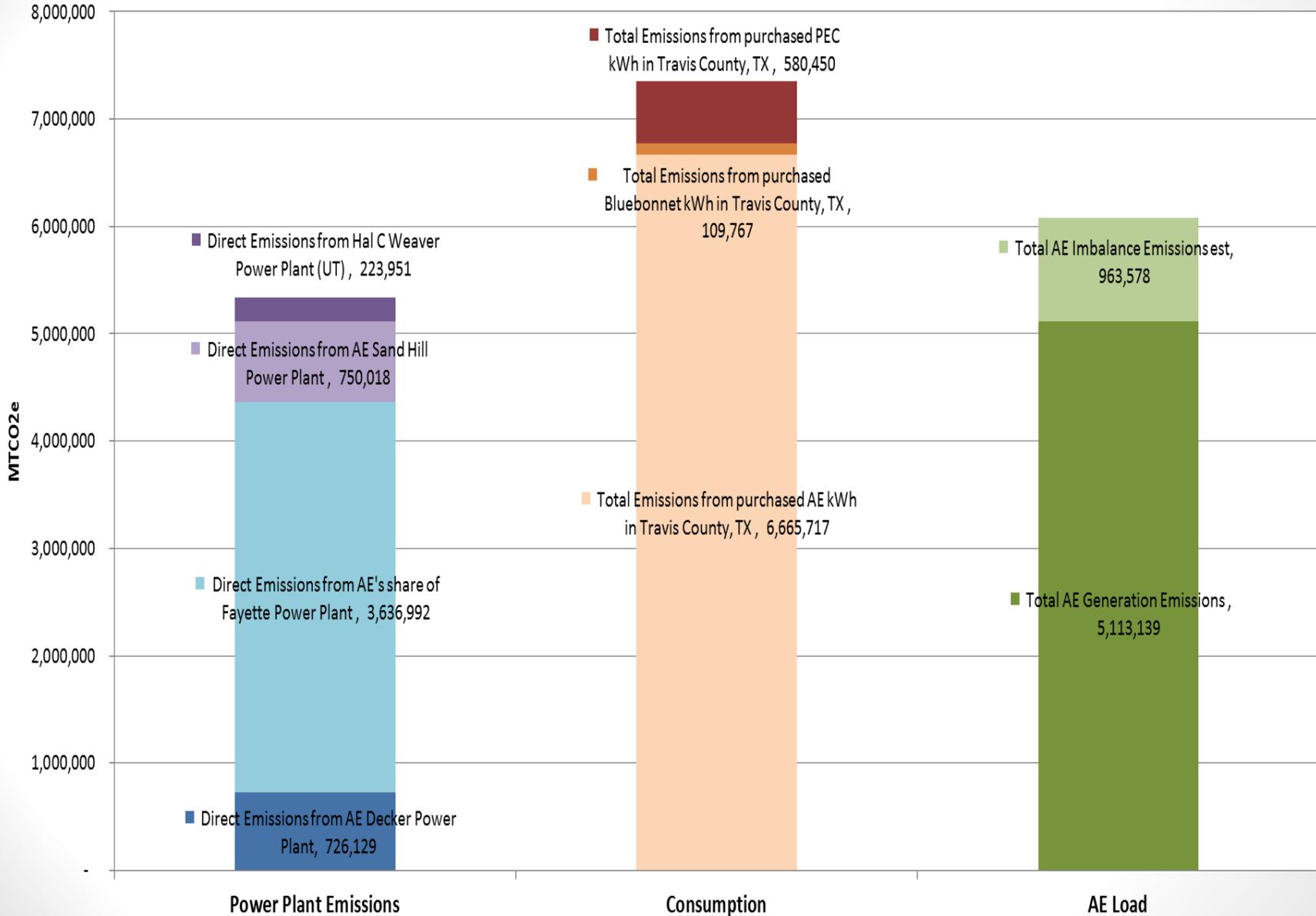


Activities, cont.

#3 How do we calculate greenhouse gas emissions from sector?

- Settled on placeholder calculation method for electricity use, but TAG may revisit later
- Base calculation on Scope 2 (consumption) emissions for electricity to reflect response to DSM
- Base emissions on annual totals – may consider finer resolution such as peak times if appropriate for certain actions/strategies
- Adjust portion of sales met by AE generation to reflect AE generation fleet; any demand not matched by AE generation at ERCOT average.
- Natural Gas – emissions a function of consumption (CO₂) and fugitives (CH₄)

2010 Electricity Carbon Emissions in MTCO₂e Travis County, TX



Activities, cont.

#4 TAG Exercise: What Needs to Happen in the Electricity Sector to Enable Net-zero Emissions?

- Identified four building blocks
 - Demand side/Buildings (lighting, HVAC, windows, insulation, appliances, plug loads, etc. Includes both new buildings and existing. Includes both equipment and design, but not behaviors)
 - Behavior/education (Systems thinking, tools available)
 - Generation technologies (storage, ancillary services, smart inverters other enabling strategies)
 - Utility Business Models (rate structures, TOU, critical peak pricing, etc.)

Next Steps

- TAG members divided into groups and assigned to building blocks:
 - Define significance/potential scale of each building block including how it is expected to evolve and impact the net-zero goal
 - Estimate impact of each block on GHG reduction to the best of our ability → *Identify What is Achievable*
 - Identify needed changes to technology, program implementation, budgets, behaviors to realize all the potential from each block
 - *Develop Action Plans for Achieving Scale in Each Block*
 - Prioritize each block and associated technologies/measures in terms of relative value in near, mid-, and long term
 - *Recommend Targets, Progress Tracking, and Updates*
- Continue hosting focused, expert briefings as necessary