Electric Vehicle Planning Study

TAB Technical Advisory Committee February 2, 2022



Overview

- Metropolitan Council Electric Vehicle Planning Study
- Draft strategies
- Key takeaways
- Q&A



Study Goals

- Identify strategies to accelerate EV adoption in the Twin Cities as a way to reduce greenhouse gas emissions and improve public health
- Guide future investments, policies, and other work to accelerate EV adoption for the Met Council and partner agencies
- Inform the 2040 Transportation Policy Plan and other investment and policy proposals
- Deliver final products by May 2022





Focus on Equity

Harms

- Highway pollution impacts health of those living nearby
 - Most burdened groups include low-income and Black, Indigenous, and people of color communities
- Low-income and Black, Indigenous, and people of color have few resources to respond to climate change

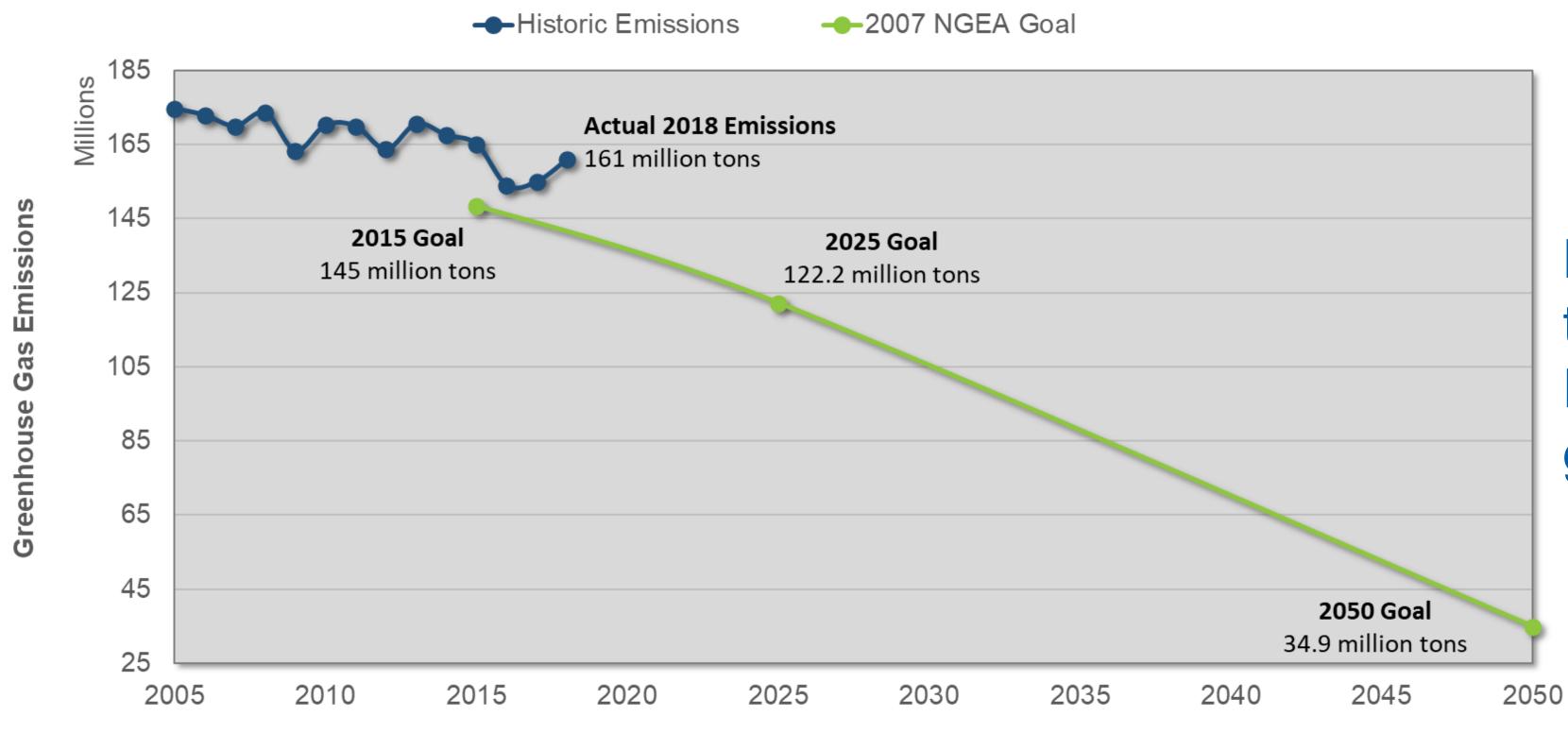
Opportunities

- EVs offer zero tailpipe emissions,
 leading to cleaner air for communities
- EVs reduce greenhouse gas emissions, reducing harm for those most vulnerable to its impacts
- EVs have lower fuel and operating costs for drivers
 - Income-based incentives can further reduce costs for vulnerable groups

*Communities of concern must be engaged prior to implementing strategies



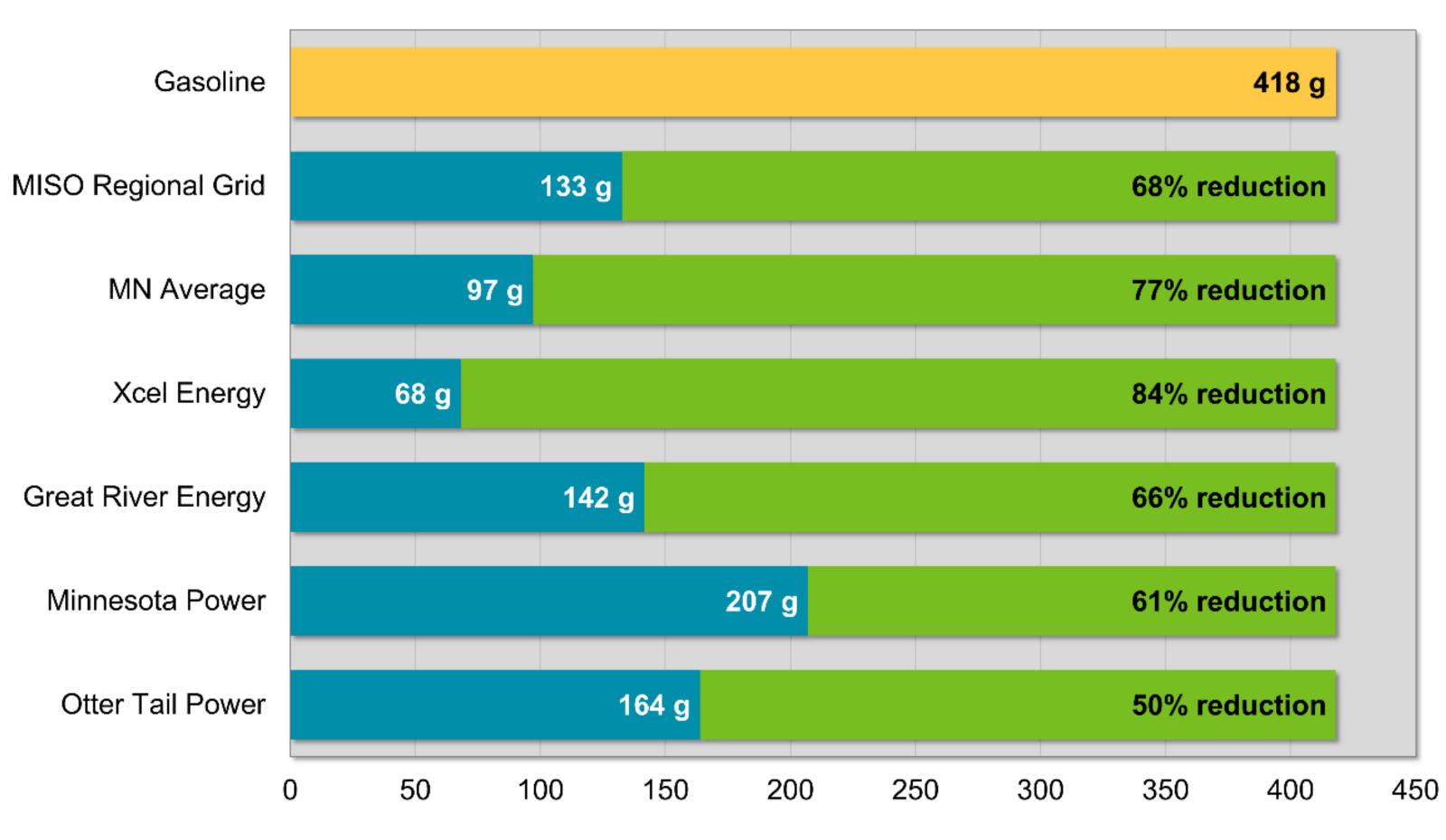
Historic greenhouse gas emissions and reductions necessary to meet 2007 Next Generation Energy Act (NGEA) goals



Minnesota not on track to meet Next Generation Energy Act greenhouse gas emission goals

Source: "Greenhouse gas emissions data," Minnesota Pollution Control Agency (website), accessed December 6, 2021, https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data.

EV greenhouse gas reductions by electricity source



Electric vehicles offer significant greenhouse gas emission reductions compared to gasoline vehicles

As utilities increase the amount of renewable energy on the grid, these reductions will decrease even more

 100% renewable grid means 95% reduction

Greenhouse Gas Emissions (grams per mile)

Source: Calculated by the Great Plains Institute using the GREET model, Argonne National Laboratory, October 9, 2020, https://greet.es.anl.gov/. Assumes most recent reported grid mix for each utility or electric service territory region and that gasoline represents Minnesota average gasoline.

Planned Outcomes

- EV white paper
 - EV landscape
 - Data analysis on travel patterns, vehicles, streetlight data, public awareness
 - Fleet analysis
- EV use case identification and evaluation
- EV charging needs assessment for Twin Cities
- Identification and recommendation of strategies to help Twin Cities scale EV adoption and improve public health, including an equity analysis
- Summary report and presentation





Draft Strategies



Process & Timeline

October

Draft strategies

Evaluate with Met Council Staff

November

Evaluate with PMT

Evaluate with TAC

December

More evaluation w/ PMT

January

Evaluation w/ workgroups

Presentations to TAB and Met Council groups

Revise strategies

February

Presentation to TAB

Present results from use case analyses and metro charging corridor assessment

Final evaluation w/ PMT & TAC



Strategies to support additional charging infrastructure

Lead

Identify how Regional Solicitation can further support EV readiness projects

Increase visibility of Livable Communities Act grants to fund EV charger installation and encourage applicants

Provide EV analysis, best practices, and data in Transportation Policy Plan and Regional Development Guide

Identify opportunities to support charging infrastructure in affordable housing communities

Partner

Connect cities/counties to available state, federal, and utility funding

Work w/ third-party convener to develop model ordinance for EV ready parking standards

Fund

Provide grants to install DC fast chargers in strategic areas (through Regional Solicitation and other funding sources)

Help cities develop programs/incentives that promote charging in multi-unit dwellings



Strategies to increase EV availability

Lead

Identify how to further provide financial support for EV car sharing programs

Assess internal fleet for electrification opportunities

Conduct
comprehensive fleet
and infrastructure
electrification study for
MTS Contracted
Services

Collect and share data on EV access by race, income, gender, age, disability status, and geography

Support

Align Metro Transit electric bus routes w/ Zero Emission Bus Transition Plan

Invest in projects identified in Metro Transit Zero Emission Bus Transition Plan

Partner

Connect cities/counties to available state, federal, and utility funding



Strategies on Marketing, Education, and Outreach

Lead

Develop and disseminate representative marketing materials for targeted communities

Provide a webpage on Met Council's website with basic EV education information and links to resources

Partner

Participate in and promote MnDOT's EV-Ready certification program for local governments and help create a full program

Work with affordable housing providers and other orgs to educate residents

Continue coordinating w/ other partners (state agencies, nonprofits, local agencies, etc.)

Convene local government partners on EV and equity opportunities

Fund

Fund local government ride and drives



Strategies where further study is required

E-bikes

Potential for ebikes and escooters to reduce VMT

Potential for ecargo bikes to reduce delivery vehicle trips

Equity

Impacts and opportunities of EVs now and in the future

EV implementation

Metrics for EV implementation and GHG reduction in Regional Solicitation

EV safety

Assess gaps in local government response to EV crashes and fires

EV charging

Role for counties in deploying charging infrastructure beyond their facilities



Key Takeaways

- EVs can help significantly reduce greenhouse gas emissions
- Transportation electrification operates alongside other mechanisms to reduce greenhouse gas emissions (e.g., VMT reduction, increased renewable energy, more biofuels, etc.)
- EVs provide ample opportunities to reduce inequities, but vulnerable groups must be part of the decision-making process
- Greater policy intervention, funding, resource sharing, and education is critically needed to scale electric vehicle adoption
 - The Metropolitan Council has a key role to play in this





Questions?

