Fresh Energy
EV Policy Committee
Findings and Policy Position

Minnesota Public Utilities Commission
November 2, 2012
Fresh Energy’s EV Policy Committee

- July 2011 – January 2012
- Twelve members, incl.
  - President and CEO of NSP Minnesota
  - President of Saxon Ford (dealership)
  - Midwestern GM of Iberdrola Renewables (wind)
- Six outside experts
- 500+ pages of material
With major tech hurdles cleared, EV adoption is now inevitable
Oil cost trends

Figure 5. Average annual world oil prices in three cases, 1980-2035 (real 2010 dollars per barrel)

Source: U.S. Energy Information Administration
How much does Minnesota spend on oil?

In recent years, Minnesota has “exported” about $2,000 per person per year for oil.

Source: US Energy Information Administration (State Energy Data System)
Source of 83% of Minnesota’s refined fuels

Source: University of Minnesota Center for Transportation Studies
Electricity cost trends

Figure 17. Average electricity prices in three cases, 2005-2035 (2010 cents per kilowatthour)

Source: U.S. Energy Information Administration
EV battery costs are dropping fast
Findings: Broad public benefits

• Improved energy efficiency
• Lower, more predictable operating costs
  • $1.11 / kWh ≈ $1 / gal
• Reduced dependence on oil
• Reduced air pollution
• Reduced GHG emissions
Findings: Broad public benefits

Every kWh used by EVs generates public benefit
Findings: Electricity sector benefits

- Use more electricity in a balanced and efficient way
- Harmonizes with wind and solar
- Adds storage and flexibility to the grid
- Side benefits of distribution upgrades
- Downsides of inaction
Transition to EVs will be driven by market competition... but smart public policy is essential to maximize public benefit.
In the Midwest, states should (1/2):

- Encourage and enable adoption of EVs
- Encourage and enable usage of EVs
- Encourage and enable electric fueling
- Enable a variety of private-sector business models
- Make cost savings simple, transparent, obvious
The competition
In the Midwest, states should (2/2):

- Make emissions benefits visible to EV owners and the public
  - Dedicated EV meter
- Create incentives for off-peak charging
- Make connection between EVs and clean energy
- Allow utilities to recover costs for required upgrades
- As technology matures, use vehicle-to-grid services to increase the value of EV batteries