Short introduction
Why are we talking about EVs?
Who and why are people driving EVs?
How can you charge an EV?
What are the choices?
Q&A

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PlugInConnect
Explore the electric future

- EV and PHEV market and business development
- Presentations and workshops
- Public Charging
- Workplace charging
- Multi housing charging

Pictures: PlugInConnect and auto manufacturers
This presentation is part of Accelerating Alternatives for Minnesota Drivers (AAMD) initiative.

AAMD initiative’s goal is to identify and reduce obstacles to alternative fuel vehicle adoption and use in Minnesota.

AAMD is coordinated by the American Lung Association in Minnesota and project partners include CenterPoint Energy, the City of Duluth, GE Capital Fleet Services, Minnesota Pollution Control Agency, PlugInConnect, University of Minnesota—Duluth and Xcel Energy.

Accelerating Alternatives for Minnesota Drivers initiative is made possible through the support of U.S. Department of Energy grant funding.
“The single most effective way to reduce U.S. oil demand and foreign imports would be an aggressive campaign to launch electric vehicles into the automotive fleet.”


U.S. Petroleum Consumption by Sector, 2005

Transportation 67 %

Industrial 25 %

Residential and Commercial 6 %

Electrical Power 2 %

# Plug-in Vehicle Sales in US

<table>
<thead>
<tr>
<th></th>
<th>Jan 2012</th>
<th>Dec 2012</th>
<th>YTD 2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chevrolet Volt</td>
<td>676</td>
<td>1,529</td>
<td>23,461</td>
<td>7,671</td>
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<tr>
<td>Nissan Leaf</td>
<td>603</td>
<td>1,489</td>
<td>9,819</td>
<td>9,674</td>
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<tr>
<td>Toyota Prius Plug-in</td>
<td>0</td>
<td>1,361</td>
<td>12,750</td>
<td>0</td>
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<tr>
<td>Others</td>
<td>100</td>
<td>2,900</td>
<td>8,100</td>
<td>500</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>1,300</strong></td>
<td><strong>7,300</strong></td>
<td><strong>54,000</strong></td>
<td><strong>17,800</strong></td>
</tr>
</tbody>
</table>

PEV owners have driven over **250 million EV miles** (as of 12/2012) and saved over **11 million gallons of gas**

(Mileage and gas saving numbers calculated using worldwide fleet)

Source and pictures: Auto manufacturers
Key characteristics of EVs
Motor & Transaxle

The Tesla Roadster is a rear-wheel drive sports car powered by a compact electric motor and transmission. Together, the Roadster delivers 250 horsepower, 0-60 mph in 5.5 seconds, and a range of 200 miles on a single charge. The Roadster is designed to be the quickest and furthest electric car on the market, providing an exhilarating driving experience and a revolutionary shift towards sustainable transportation.
Annual fuel expenses

Dollars

Average mileage/day

25 MPG ICE
Chevrolet Volt
Toyota Prius Plug-in
Nissan Leaf

Graph: Jukka Kukkonen
How does an EV impact your energy bill?

Graph: Xcel Energy
How to charge an EV?

120 Volt

240 Volt

DC fast charge
Workplace charging in MN

Photos: MPCA, DSTI, Carlton College, DNR and Jukka Kukkonen
Public charging in MN

Photos: MPCA, St Paul, Chargepoint and Jukka Kukkonen
Upcoming models

Photos: Vehicle manufacturers
How will EVs impact economy:

- Reduction on oil demand → Economic stability
- Moving the energy consumption from oil to electricity → Money stays in local economy
- Vehicles and batteries will be produced in US → Manufacturing jobs
- Charging infrastructure development, planning, manufacturing and installation
- EVs will give boost to renewable energy sector
Q&A

For more information visit:

www.PluginConnect.com/resources.html