Southeast Regional Transportation Electrification Workshop

March 11 – 12, 2019

National Governors Association Center for Best Practices

WIFI:
Network: Hutton Meetings
Password: nga19

#WeTheStates
Welcome & Opening Remarks

Sue Gander, Division Director, Environment, Energy & Transportation, National Governors Association

#WeTheStates
Energy, Environment & Transportation Division Focus

Power Sector Modernization
- Energy Policy Institute
- Grid Modernization Retreats
- Global Energy Solutions Summit

Support for New Governors
- Boot Camps and Webinars
- Energy Advisors
- Transportation Advisors
- Water Advisors
- Governors Guide to Energy Policy

Energy Efficiency
- Lead By Example Workshop
- Energy Efficiency Experts Roundtable
- Energy Efficiency Roadmap for Governors

Resiliency
- State Energy Risk Assessment & Planning Tool and State Resilience Retreats
- Grid Emergency Exercises
- State/Utility Coordination Workshop
- Housing Resiliency Experts Roundtable

Energy Policy Institute
- Nuclear Weapons Waste
- Federal Facilities Task Force Meeting
- Intergovernmental Meeting
- Governors Guide to Nuclear Weapons Waste Cleanup

Smarter States, Smarter Communities
- Learning Lab
- Roadmap
- Policy Academy Kick Off

Technical Assistance on Demand
- Research
- Policy Memos
- Consultations

Transportation Modernization
- Traffic Safety Learning Labs
- Innovation Workshops
- Transportation Policy Institute

Water Policy Institute
- Water Policy Learning Network
- Webinar Series
- Delaware River Basin Retreats
Why are you here?

Why are you here?

### Why are you here?

#### All-Electric Car Comparisons - US

<table>
<thead>
<tr>
<th>Brand</th>
<th>Model</th>
<th>Base Price (MSRP)</th>
<th>Dest. Charge</th>
<th>Tax Credit</th>
<th>Price After Tax Credit</th>
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<tbody>
<tr>
<td>Audi</td>
<td>e-tron (2019)</td>
<td>$74,800</td>
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<td>Honda</td>
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<td>Jaguar</td>
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<tr>
<td>Nissan</td>
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<td>$885</td>
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<tr>
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<td>smart</td>
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<tr>
<td>Tesla</td>
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<td>Volkswagen</td>
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<td>$895</td>
<td>$7,500</td>
<td>$25,290</td>
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</tbody>
</table>

#### 2017: $61,372

**Sources:**
- INSIDEEVs
- FRED: Real Median Household Income in the United States
Why are you here?

Technology adoption:
  • **Static snapshot**
  • Trend analysis!
Monthly Sales of **BEV** + **PHEV**

BEV + PHEV Light Duty Model Offerings
2008-2018
Median BEV Range

Breadth of AEV Ranges, MY 2011 and 2018

MY 2011
- Median = 73
- 63
- 94

MY 2018
- Median = 125
- 58
- 335
Range Comparison with ICE Vehicles

Vehicle Trips by Length (miles)

- < 6: 59.5%
- 6 - 10: 17.3%
- 11 - 15: 8.4%
- 16 - 20: 5.0%
- 21 - 30: 4.9%
- > 30: 4.9%

Fuel Cost Savings

Fuel Cost Savings for a Vehicle Using Electricity Versus Gasoline

Total Cost of Ownership by Drivetrain and Fuel

Battery Cost ($/kWh)

BATTERY COSTS ($ COST/KILOWATT-HOUR)
Electrified Transportation

Key Trends

- U.S. EV Sales Growth
- Vehicles Sold in 2017
- Vehicle Costs
- Customer Choice
- OEM Plans
  - 40-70 million EVs by 2025
- "Range Anxiety"
  - Record investment; VW
Electrified Transportation

Benefits
- Lowering & shifting emissions
- Electricity market benefits
- Minimizing household expenditures
- Reducing petroleum dependence

Concerns
- Obsolescence risk
- Equity issues
- Impact on oil markets
- Revenue depletion
- Resource constraints
- State & federal incentives

Challenges
- System stress
- Affordability
- Infrastructure deployment
- Cost considerations
- Range anxiety
Questions?

Patricio Portillo
Environment, Energy & Transportation Division
National Governors Association

@NatiGovsAssoc
#WeTheStates