Charging into the Future: Why Automakers are Transitioning to Electric Vehicles and How States Can Help

Craig Orlan, Director of State and Local Government Affairs, American Honda Motor Company
CHARGING AHEAD:
WHY AUTOMAKERS ARE ELECTRIFYING & HOW STATES CAN ENSURE THIS TRANSITION IS A SUCCESS

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American Honda’s History

Los Angeles, California
1959
Honda directly employs over 30,000 U.S. associates who develop, build and sell a diverse array of products in the United States w/ an annual payroll of over $2.5 Billion

Honda has 74 U.S. facilities
- 12 Manufacturing plants
- 23 R&D facilities
- $23.7 Billion Capital Investment in the U.S.

Honda has over 12,000 authorized dealerships across the country
- Nearly 151,000 dealer employment.
<table>
<thead>
<tr>
<th>Products in North America</th>
<th>Automobiles</th>
<th>Powersports</th>
<th>Power Equipment</th>
<th>Marine</th>
<th>HondaJet</th>
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</thead>
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<tr>
<td><img src="image1.png" alt="Automobiles" /></td>
<td><img src="image2.png" alt="Powersports" /></td>
<td><img src="image3.png" alt="Power Equipment" /></td>
<td><img src="image4.png" alt="Marine" /></td>
<td><img src="image5.png" alt="HondaJet" /></td>
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</table>

Financial Services
The Tip of the Iceberg

This is an incredibly complicated topic, and we won’t cover everything in one session.

Our goal is to start a larger conversation.

PLEASE feel free to reach out at anytime with questions.

Craig Orlan

[Email address]

[Email address]
This is a big deal!

The industry is undergoing a tectonic transformation, which will impact workers, consumers, the economy and society.

John Bozzella
President & CEO of the Alliance for Automotive Innovation
Electric Vehicles – Targeting 100% EV Sales by 2040

Electrification of Automobiles

<table>
<thead>
<tr>
<th>Year</th>
<th>All major markets combined</th>
<th>Global</th>
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<tbody>
<tr>
<td>2030</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>2035</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>100%</td>
<td></td>
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</table>
Automaker Announcements, Goals, and Aspirations

- Multiple new 100% EV brands
- Audi no new ICE designs
- Volkswagen no new ICE designs
- BMW 90% of market categories BEV available

2020 to 2024
- Ford $29 billion investment by 2025
- Mini all new models EV
- GM $27 billion investment by 2025
- GM 40% of models EV; 20 EVs in N.A.
- Cadillac 100% EV available
- Jaguar 100% EV
- Bentley 100% plug-in
- Jeep 100% plug-in available
- Toyota 60 new hybrid/electric/fuel cell vehicles
- Volvo 50% of global sales EVs

2025 to 2029
- Ford 100% BEV (Europe)
- Cadillac potential 100% BEV
- JLR electric available on all
- Daimler 100% EV production
- Mazda some level of electric on all models
- Bentley 100% BEV
- Volvo 100% BEV
- Kia EVs 40% of production
- Subaru hybrid/electric available across models
- Polestar climate neutral

2030 to 2034
- Volvo carbon neutral
- Daimler carbon neutral
- GM carbon neutral

2035 to 2039
- Carbon neutral / near- or net-zero: Ford, Nissan, VW, Honda, Mazda, Toyota, Mitsubishi

2040 to 2044
- GM 100% BEV

2045 to 2050

All signs point towards industry-wide electrification
If this transition isn’t successful, it won’t be a technological issue!
Honda’s 2nd Generation of Electric Vehicles

Acura ZDX  

Honda Prologue
Why is the Industry transitioning to EVs?

Electric vehicles address many of the problems automotive engineers have been working to address for decades:

- Instant torque & acceleration
- Smooth and quiet operation
- Lower center of gravity – improves handling, responsiveness and safety
- Less Maintenance
- More Energy Efficient

As the technology continues to evolve we can expect even better performance from future EVs!

Reduced Emissions

EVs produce zero tailpipe emissions, leading to improved air quality and a decrease in carbon dioxide (CO2) emissions.

By transitioning to EVs automakers can significantly mitigate the harmful effects of transportation on climate change and public health.

As the energy grid continues to shift toward cleaner more renewable energy (such as solar or wind) the environmental impact if EVs will decrease.

Government Mandates

The federal government and 17 states are requiring automakers sell electric vehicles.

Governments in many key international markets are also setting aggressive EV sales mandates.

With extremely long lead times, automakers need predictability and stability in government mandates.
As of now, 17 states have adopted all or part of California’s Clean Cars Standards – which is roughly 40% of the U.S. light duty vehicle market.
Why we need this transition to be successful

### Jobs / Economy
Auto manufacturing drives $1.1 trillion into the economy each year

Each auto job in the U.S. creates nearly 11 other positions in industries across the economy (9% of private-sector employment)

$272 billion is contributed annually in federal, state and local tax revenues

Every State is an Auto State
https://www.autosinnovate.org/resources/insights

### Personal Mobility
Light duty passenger vehicles are the #1 mode of transportation for most Americans

Access to a car unlocks economic opportunities, access to medical care, access to education, and provides people more time to spend with family and friends

### National Security
This is key to energy independence and getting off our reliance on foreign oil

Nations that develop and adopt innovative technologies, will shape supply chains, define global standards, and reshape the international marketplace.

This is not just about the future of the auto industry in the U.S. – it is about the nation’s global competitiveness and economic security
Headwinds to Electrification

- Infrastructure
- High Costs
- Consumer Acceptance
• This is the #1 Concern our dealers and marketing team hear from would be consumers

• Customers demand a convenient, easy to use charging network across the country

• They are looking for something that rivals the existing petroleum network
  • We need to educate them that this isn’t what they need.
<table>
<thead>
<tr>
<th>Level</th>
<th>Range</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>3 to 6 Miles of range/hour</td>
<td>Last resort for Residential &amp; Workplace charging</td>
</tr>
</tbody>
</table>
| Level 2 | 20 to 40 Miles of range/hour | • Residential  
• Workplace  
• Public  
• Small Fleets |
| Level 3 (Direct Current Fast Charge, DCFC) | 250 to 500 Miles of range/hour | • Highways and Transportation Corridors,  
• City Centers  
• Transit Hubs  
• Large Fleets |
Level 2 chargers

• These are critical as >80% of charging happens at home or work via Level two chargers

• Maintaining that ratio is critical for grid resiliency

• Soon EV charging will be seen as a necessity, in much the way broadband access is today
Level 3 chargers

- DC Fast chargers need to be placed strategically!!

- Along major highways & in city centers

- In places where customers will want to spend 20-30 mins:
  - Restrooms
  - Food service
  - Retail operations; and
  - Additional amenities

We also need to change how customers fundamentally think about “filling up”
DC Fast Charging infrastructure has grown dramatically over the past several years, but we have a long way to go as EV’s become a larger % of the domestic fleet.
Level 3 – Federal investment

- The bipartisan infrastructure law provides states with $7.5 billion to help make EV charging more accessible to all Americans for local and long-distance trips.

- Every state submitted a plan to deploy these funds
  - Ohio became the first state to announce the locations of their first round of fast charger locations
    - Built along federally designated EV Corridors and major highways
    - Locations where customers will spend some time

- The goal is to build 500,000 new DC Fast chargers by 2030.

- Ensure a convenient, affordable, reliable, and equitable charging experience for all users.
Level 3 – Private Investment

- Seven major automakers have agreed to create an unprecedented new joint venture that will significantly expand access to high-powered charging in North America.

- Aiming to install at least 30,000 high-powered charge points in strategic urban and highway locations to ensure customers can charge whenever and wherever they need.

- First stations scheduled to come online in Summer of 2024.
How can States Help

• Policies that will encourage public and private investment in charging infrastructure
  • Providing direct funding
  • Building chargers at schools and other government buildings
  • Tax Credits
  • Streamlining regulatory / zoning hurdles

• AFAI Model building code legislation
  • Mandates that new construction be “EV Ready”

• “Right to Charge” legislation
EV’s are currently more expensive than ICE powered cars
- Current customers are mostly affluent single-family homeowners
- We need a broader cross-section of society to participate as this transition progresses

Today’s new cars are tomorrow’s used cars!
The Gap in price between EVs and I.C.E. powered vehicles is closing, but is still significant and will likely last a while for two reasons.
EV Battery Raw Material Prices Increasing

Analysts: Raw material price surge will put EV battery affordability gains on hold until 2024
Honda Joint Venture with LG Energy Solution

- **Production Start:** Fall of 2025
- **Square Footage:** 2+ million sq ft
- **Capacity:** ~40 GWh/year
- **Capital Investment:** $4.4 billion
- **Future Employment:** 2,200 associates

Honda is investing BILLIONS in new factories, factory retooling, and upskilling our current workforce
Fundamental cost differences

Traditional I.C.E. Vehicles
- Higher Maintenance Costs
- Fuel Costs are paid over-time

Electric Vehicles
- Lower Maintenance Costs
- Longer Warranties
- Charging infrastructure included
- Charging costs up front**
How can States Help

- With fair and non-discriminatory EV incentives
  - Not favoring certain OEMs
  - Not favoring certain buyers
    - The way to achieve equity over time is to build a robust used EV market
    - Early adopters are helping fund the R&D and infrastructure costs

- Fair approach to Road funding
  - Rates should be equivalent to gas taxes
    - People should not be double taxed (KwH & Registration Fees)
    - People should have the opportunity to pay over-time, or have the fee waived year one*
Customer Acceptance

- Current customers are mostly affluent single-family homeowners
- We need a broader cross-section of society to participate as this transition progresses
- Addressing cost and infrastructure concerns will go a long way to winning customer acceptance
- We understand that this issue has become increasingly politicized
Electrification: A Growing Political Divide

Opinion of electric, hybrid and gas-powered vehicles

<table>
<thead>
<tr>
<th>CONSERVATIVE RESPONDENTS</th>
<th>Very unfavorable</th>
<th>Somewhat unfavorable</th>
<th>Somewhat favorable</th>
<th>Very favorable</th>
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<tr>
<td>Electric</td>
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<td>20</td>
<td>17</td>
<td>14</td>
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<tr>
<td>Hybrid</td>
<td>17</td>
<td>17</td>
<td>33</td>
<td>22</td>
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<tr>
<td>Gas-powered</td>
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<tr>
<th>LIBERAL RESPONDENTS</th>
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<tr>
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<td>33</td>
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<tr>
<td>Hybrid</td>
<td>10</td>
<td>35</td>
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<tr>
<td>Gas-powered</td>
<td>6</td>
<td>14</td>
<td>34</td>
<td>41</td>
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Note: Respondents who didn’t know or had no opinion aren’t shown.
Andrew Mollica/THE WALL STREET JOURNAL

Another Roadblock to the EV Transition: Personal Politics

As automakers look to push their electric vehicles, some consumers are resisting for political reasons

By Mike Colias
May 27, 2024 5:30 am ET
How can States Help

• These products sell themselves!!
  • We want to “demystify” EV’s and increase exposure
    • Ride & Drives

• State and local fleets are a great way to expose people to these cars
  • A show of confidence from government
  • Long term benefits to government in terms of fuel and maintenance

• Help us lower the temperature politically
  • Help dispel misconceptions about Chinese benefits
Final Thoughts

• The auto industry is committed to electrification

• The industry and the country need this transition to be successful

• Government and industry are going to need to work together to make it successful
Thank You!
Q&A for Legislator Attendees

Please step up to the standing microphones in the room. Please keep your remarks in the form of a question.