Gaining traction
Will consumers ride the electric vehicle wave?

Comparison of results in China, United States, Europe, and Japan

April 2011
Potential first movers of electric vehicles

The following analysis compares survey results in the following markets:
• China: 1163 participants from 22 major urban areas
• United States: 1007 participants
• Europe: 4760 participants across seven countries — Belgium, France, Germany, Italy, Spain, Turkey, and the UK
• Japan: 2075 participants

Figure 1. Consumer segmentation profiles for electric vehicles

Chinese “potential first movers” identify themselves as more highly educated and very knowledgeable of EVs

Potential first movers profile

<table>
<thead>
<tr>
<th>Country</th>
<th>EV perception</th>
<th>Education</th>
<th>EV knowledge</th>
<th>Location</th>
<th>Income</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>“Green and Clean”</td>
<td>86% BA or higher</td>
<td>63% very knowledgeable</td>
<td>Urban</td>
<td>36% &gt; 400,000 RMB</td>
<td>48% male</td>
</tr>
<tr>
<td>U.S.</td>
<td>“Green and Clean”</td>
<td>38% BA or higher</td>
<td>37% very knowledgeable</td>
<td>Urban/Suburban</td>
<td>57% &lt; $50,000</td>
<td>60% male</td>
</tr>
<tr>
<td>Europe</td>
<td>“Green and Clean”</td>
<td>46% BA or higher</td>
<td>23% very knowledgeable</td>
<td>Urban/Suburban</td>
<td>42% &lt; €20,000</td>
<td>57% male</td>
</tr>
<tr>
<td>Japan</td>
<td>“Green and Clean”</td>
<td>54% BA or higher</td>
<td>36% very knowledgeable</td>
<td>Urban/Suburban</td>
<td>51% &gt; 5.8M ¥</td>
<td>54% male</td>
</tr>
</tbody>
</table>

Common characteristics across all four regions:
• Consider themselves to be environmentally conscious, tech savvy, trendsetters, and politically active.
• They viewed the EVs much higher in positive dimensions such as being cool, convenient, safe, stylish, and a good value.
• This group sees themselves as trendsetters but are also sensitive to governmental incentives and gas mileage/cost to charge considerations.
Actual driving range is less than 80 kilometers a day for roughly 80% of individuals across the regions...

Figure 2. Typical daily driving distance of respondents

Consumer range expectations are 2–3 times current market offerings

**Figure 3. Respondents’ expectations for EV range before re-charging**

Given the current recharge typically takes eight hours, charge time expectations may also be an issue.

**Figure 4.** Charge time for EVs of 2 hours or less is expected by the majority of individuals

Purchase price expectations represent a challenge for OEMs and government leaders.

Figure 5. Consumers have a low expectation for purchase price across the regions

Expected purchase price of an EV after government incentives

Figure 6. Consumers have a low expectation for purchase price across the regions

Expected purchase price of an EV after government incentives (in U.S. $*)

Purchase price expectations represent a challenge for OEMs and government leaders.

Figure 7. Consumers are not willing to pay much, if any, of a price premium

Acceptable price premium in local currency

China (in RMB)

- Same or less: 51%
- < 3,400 RMB: 12%
- 6,700: 19%
- 13,500: 12%
- 27,000: 9%
- > 3,400 RMB: 2%

United States (in $)

- Same or less: 56%
- < $500: 13%
- 1,000: 12%
- 2,000: 10%
- 4,000+: 4%

Europe (in €)

- Same or less: 57%
- < 400 €: 14%
- 800: 10%
- 2,300: 9%
- 3,000+: 6%

Japan (in MM ¥)

- Same or less: 63%
- < 40,000 ¥: 15%
- 80,000: 5%
- 250,000: 6%
- 330,000+: 4%

Figure 8. Consumers are not willing to pay much, if any, of a price premium

Acceptable price premium in US dollars*

Rising fuel prices would enhance the attractiveness of EV adoption

Figure 9. The higher the price of fuel... the more interested consumers are in EVs

Question: At what price for a liter of gasoline or diesel would you be much more likely to consider buying or leasing an electric vehicle (EV)?

ICE fuel efficiency advancements will also have a significant influence on EV adoption

Figure 10. But... the better the fuel mileage of gasoline powered ICEs, the less interested consumers become in EVs

Question: If vehicles with gasoline or diesel engines of the size, performance, and other features you prefer were able to achieve the following, at what point would it make you much less likely to consider buying or leasing an EV?

Figure 11. But... the better the fuel mileage of gasoline powered ICEs, the less interested consumers become in EVs

**Question:** If vehicles with gasoline or diesel engines of the size, performance, and other features you prefer were able to achieve the following, at what point would it make you much less likely to consider buying or leasing an EV??

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Global Electric Vehicle research

DTTL’s Global Manufacturing Industry group conducted a global survey to explore consumer adoption of electric vehicles (EVs). The online survey captures the views of more than 12,000 consumers across the Americas, Asia and Europe in 17 countries. To qualify for the survey, potential respondents had to be 18 years of age or older and to have a driver’s license. The survey asked respondents, among other things, how likely they would be to consider buying or leasing an electric vehicle when they buy or lease their next vehicle (assuming that electric vehicles were readily available) and how likely they were to actually buy or lease an electric vehicle. The research analyzed the characteristics and opinions of three groups based on their purchase interest: Potential first movers are consumers who are most likely to buy or lease an EV; Might be willing to consider are consumers who are interested, but less likely to consider an EV; and Not likely to consider consumer who would not be interested in buying or leasing an EV. The overall margin of error for the Chinese results is +/- 2.9%.

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