Hybrid and Electric Vehicle Market Overview

John Zeng, Managing Director
LMC Automotive Shanghai
Outline

• Introduction
  • Global NEV Market Overview
  • Understand the territory
    • China
    • Japan
    • Korea
  • Summary
Operated from Oxford, Paris, Frankfurt, Detroit, Sao Paulo, Bangkok, Tokyo and Shanghai, LMC Automotive is part of the LMC group and focused solely on global light vehicle, powertrain and MD/HD vehicle market intelligence, forecasting and analysis.

LMC group is the global leader in economic and business consultancy for the agribusiness sector. Founded in 1980, it is privately owned and headquartered in the UK, with further offices in the USA, Singapore, Hong Kong and Kuala Lumpur and a partner office in Brazil.
NEV Definition by LMC

非插电式 (NPHEV)

MHEV: Mild Hybrid Electric Vehicle
- IC and electric motor(s) working in parallel. Not able to drive under electric power alone. Electric assistance greater than 5kW, but less than 30kW. Typical figure is 10kW to 15kW.

FHEV: Full Hybrid Electric Vehicle
- IC and electric motor(s) working in parallel. Can be driven for short distances under electric power alone. Electric assistance greater than 30kW. Typical electric assistance: 60kW to 165kW.

PHEV: Plug-in Hybrid Electric Vehicle
- Full hybrid electric vehicle with larger battery pack which can be recharged from the electricity grid thereby enabling a longer electric-only driving range.

EREV: Extended Range Electric Vehicle
- IC and electric motor(s) working in series. A battery electric vehicle with an on-board charger (usually IC engine + generator) for the battery pack to enable longer range than BEV.

BEV: Battery Electric Vehicle
- No IC engine. Relies on energy stored in battery to provide propulsion via electric motor(s). Recharged from electricity grid or other source of electricity.

FCEV: Fuel Cell Electric Vehicle
- The fuel (typically hydrogen) is processed on-board in a stack of fuel cells to generate electricity for powering electric motor(s). Similar to a BEV but the battery is replaced by a fuel cell.

中国新能源汽车定义只包含插电式汽车
New Energy Vehicle definition in China only include PEV (Plug-in)
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Global Hybrid/EV Sales

- IC Only
- Hybrid/EV
- Share


0% 1% 2% 3% 4% 5% 6% 7%
Global Hybrid/EV Sales by Region
Global Hybrid/EV Sales by Type

- FHEV
- PHEV
- EREV
- FCEV
- MHEV
- BEV

Sales figures from 2011 to 2021, showing the growth in sales of each type of hybrid or electric vehicle.
Global Hybrid/EV Sales by Brand

<table>
<thead>
<tr>
<th>Brand</th>
<th>2014</th>
<th>2019</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota</td>
<td>1,200,000</td>
<td>1,400,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>Honda</td>
<td>300,000</td>
<td>400,000</td>
<td>500,000</td>
</tr>
<tr>
<td>BYD</td>
<td>150,000</td>
<td>200,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Ford</td>
<td>50,000</td>
<td>70,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>100,000</td>
<td>150,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Nissan</td>
<td>50,000</td>
<td>70,000</td>
<td>90,000</td>
</tr>
<tr>
<td>BMW</td>
<td>30,000</td>
<td>40,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Lexus</td>
<td>20,000</td>
<td>30,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Audi</td>
<td>10,000</td>
<td>15,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Mercedes-Benz</td>
<td>5,000</td>
<td>7,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>
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  • Korea

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NPHEV/PEV Retail Market Trends

<table>
<thead>
<tr>
<th>Unit ('000)</th>
<th>2012Q1</th>
<th>2012Q2</th>
<th>2012Q3</th>
<th>2012Q4</th>
<th>2013Q1</th>
<th>2013Q2</th>
<th>2013Q3</th>
<th>2013Q4</th>
<th>2014Q1</th>
<th>2014Q2</th>
<th>2014Q3</th>
<th>2014Q4</th>
<th>2015Q1</th>
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<tbody>
<tr>
<td>NPHEV</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>PEV</td>
<td></td>
<td></td>
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<td>YoY</td>
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<td></td>
</tr>
</tbody>
</table>

NPHEV Sales by Segment in 2015Q1

- FHEV: 96%
- MHEV: 4%

PEV Sales by Segment in 2015Q1

- BEV: 51%
- EREV: 1%
- PHEV: 48%
- FCEV: 0%
Situation China

BEV sales get momentum in Q1 2015

Low cost BEV lead the BEV Segment in 2015Q1

Private lead the BEV Segment in 2015Q1
BEV Market: Low-Cost Segment Getting Momentum

BEV Market Share

BEV Market Structure

Price

Non-Premium

Premium

200k

100k

60k

Business Mode

Private

Taxi+ Rent

Low Cost

Economy

Note: Low cost(<60k RMB); Economy (60k=< price<100k RMB); Non-Premium (100k RMB =< price); Premium (special brand);
... and Quite Well Accepted in Many Regions

Overview – BEV Sales by 8 Economic Zones

Quarterly Volume by Economic zones

Quarterly Volume by Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Q4 14 Volume</th>
<th>Share to Nation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
<td>4,838</td>
<td></td>
</tr>
<tr>
<td>Changsha</td>
<td>2,511</td>
<td></td>
</tr>
<tr>
<td>Guangzhou</td>
<td>948</td>
<td></td>
</tr>
<tr>
<td>Hangzhou</td>
<td>1,372</td>
<td></td>
</tr>
<tr>
<td>Shanghai</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Shenzhen</td>
<td>1,185</td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Xi'an</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The data shows the quarterly volume of BEV sales by economic zones and cities, with significant volumes in the Eastern Coast, Mid-Yangtze River, and Southern Coast regions.
PHEV is More Driven by City Car Restriction Policy

Overview – PHEV Sales by 8 Economic Zones

**Quarterly Volume by Economic zones**

- Northeast Coastal: 16
- Northern Coastal: 511
- Mid-Yellow River: 569
- Northwest: -
- Southwest: 66
- Mid-Yangtze River: 40
- Eastern Coastal: 5,825
- Southern Coastal: 998

**Quarterly Volume by Cities**

- Beijing: 18
- Changsha: 23
- Guangzhou: 6
- Hangzhou: 69
- Shanghai: 5,471
- Shenzhen: 976
- Wuhan: 1
- Xi’an: 567

*Quarterly Volume by Economic zones and Cities showing the impact of city car restriction policies on PHEV sales.*
Brand Source in BEV and PHEV Segment

### Brand Source in BEV

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2013</td>
<td>100%</td>
<td>0%</td>
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<tr>
<td>2014</td>
<td>100%</td>
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<td>2015</td>
<td>100%</td>
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<tr>
<td>2016</td>
<td>100%</td>
<td>0%</td>
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<tr>
<td>2017</td>
<td>100%</td>
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<tr>
<td>2018</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2019</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2020</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Brand Source in PHEV

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2013</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2014</td>
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<td>2015</td>
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<td>2016</td>
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<td>2018</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2019</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>2020</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>
TECHNOLOGY DEVELOPMENTS

- BEV and PHEV have become the main technology solutions for NEVs; most OEMs are investing in the development of both technologies. However, each OEM does seem to have a particular focus on certain methods. For example, BYD is concentrating on PHEV, while BYD Qin and Beijing Automotive are more focused on BEVs.
- Both the Government and OEMs are investing heavily in the development of charging infrastructure. In Jan 2015, BYD published a concept for a ‘charging tower’ which can charge up to 400 vehicles at one time.
- GAC launched the first EREV in China in December 2014 and BYD Qin plans to launch a PHEV at the end of 2015.
- On 29th Jan 2015, it was reported that Chongqing university had launched the first international study centre for Wireless power supply technology and developed the Wireless power supply system successfully.
- Hanergy Holding Group Limited bought the USA company Alta Devices in Jan 2015, which produces flexible thin film batteries. The group also plan to show a solar cell vehicle in Oct 2015.

TECHNOLOGY SHARE

<table>
<thead>
<tr>
<th>Year</th>
<th>BEV</th>
<th>MHEV</th>
<th>PHEV</th>
<th>FHEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>21.9%</td>
<td>4.7%</td>
<td>21.0%</td>
<td>52.4%</td>
</tr>
<tr>
<td>2019</td>
<td>32.9%</td>
<td>2.8%</td>
<td>47.8%</td>
<td>14.5%</td>
</tr>
<tr>
<td>2024</td>
<td>36.1%</td>
<td>14%</td>
<td>51.7%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

TECHNOLOGY INVESTMENT PLANS

- **BAIC**: CNY 3.78bn in 3 years (CNY 1.5bn for CV, CNY 1.7bn for PV, rest for components). Focus on BEV; plans to launch high end BEV to compete with Tesla.
- **SAIC**: CNY 37bn by 2015. Focus on BEV and PHEV. PHEV Roewe 550, BEV Roewe 350 and MG E1, and fuel cell Roewe 750 are to be launched by 2015.
- **Chery**: Full Coverage of BEV, HEV and FCEV but EREV is the group’s primary focus. BEV QQ3 and BEV M1 have been launched, and Arrizo 7 PHEV is in the pipeline.
- **VW**: Will focus on PHEV and will launch several PHEV models including C-Class in 2016, followed by E-Class and GLC.
- **FAW**: 9.8bn RMB to be spent on the R&D, facility and production of NEVs in 12th 5-yr period. The Kaili BEV was launched in 2014.
- **BYD**: BYD has published its 5-4-2 strategy. Simply put, the brand’s aim is for the time taken to reach 100km/h not to exceed 5 seconds, using 4 wheel-drive and fuel consumption of less than 2L/100km. BYD will introduce 3 PHEV SUVs in 2015; Tang, Song and Yuan.
- **JAC**: JAC’s focus is on BEV. IEV4 was launched in 2013 and IEV5 will be launched in 2015. An EREV is under development.
- **Hyundai**: The Kia Cerato EV, named Dianyue, will be launched in 2015.

FORECAST TECHNOLOGY INTRODUCTIONS BY BRAND

- **BEV**
  - Nissan
  - BAIC
  - Lifan
  - Honda
  - Mitsu
  - Great Wall

- **Plug-in Hybrid**
  - BYD
  - Brilliance
  - Geel
  - Chang’An
  - SAIC
  - Hyundai
  - JAC

- **Hybrid**
  - GM
  - FAW
  - Dongfeng
  - SAIC
  - Hyundai
  - JAC

- **EREV**
  - BYD
  - Brilliance
  - Dongfeng
  - Chang’An
  - SAIC
  - Toyota
  - Chery

- **PHEV**
  - GM
  - FAW
  - Dongfeng
  - SAIC
  - Hyundai
  - JAC

- **MHEV**
  - GM
  - FAW
  - Dongfeng
  - SAIC
  - Hyundai
  - JAC

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China NEV Outlook

**NEW ENERGY VEHICLE VOLUME AND SHARE TO PV PRODUCTION**

![Graph showing the increase in new energy vehicle volume and share to PV production from 2012 to 2022. The graph includes columns for BEV, PHEV, HYBRID, EREV, and the share to PV. The number of BEVs increases steadily from approximately 0 to 1,600 thousands, with PHEVs, HYBRID, and EREV showing corresponding increases. The share to PV shows a significant increase from 0% to 6% over the same period.]
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Japan – Hybrid/Electric Technology

**TECHNOLOGY DEVELOPMENTS**

- Japan has a relatively long history of hybrid car development, and we expect hybrids to continue to dominate the hybrid/EV market for the next 10 years.
- Our forecast indicates that BEVs will outsell PHEVs and EREVs in the mid-term and in the long term. In 2014, BEVs managed just a 1.3% share of the electrified vehicle market; this is expected to increase to around 5% in 2024.
- The nature of the Japanese market, with crowded cities and a good public transportation infrastructure, would indicate that BEVs will be used within cities while bullet trains are more likely to be used for longer trips.
- The sub-compact Kei cars can be used as base vehicles to develop pure electric cars.
- Toyota’s Mirai FCEV has been launched for sale at a cost of just over ¥7mn ($59,000, €52,000). The 5-seat sedan vehicle will be eligible for around ¥3mn ($25,000, €22,000) in incentives from the Japanese government. As a result of the significant incentives, initial orders have been higher than expected.

**TECHNOLOGY SHARE**

<table>
<thead>
<tr>
<th>Year</th>
<th>BEV</th>
<th>MHEV</th>
<th>PHEV</th>
<th>FHEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>14%</td>
<td>14%</td>
<td>19%</td>
<td>75%</td>
</tr>
<tr>
<td>2019</td>
<td>2.1%</td>
<td>4.8%</td>
<td>2.9%</td>
<td>89.6%</td>
</tr>
<tr>
<td>2024</td>
<td>4.6%</td>
<td>18%</td>
<td>5.5%</td>
<td>85.3%</td>
</tr>
</tbody>
</table>

**TECHNOLOGY INVESTMENT PLANS**

- **Nissan:** Nissan has developed a new hybrid system called FR Hybrid system for front-engine rear-wheel-drive vehicles. This one-motor, two-clutch intelligent dual clutch control hybrid system has the fuel efficiency and environmental performance of a compact car while still maintaining a pleasurable driving experience with good response and a direct sense of acceleration better than a gasoline vehicle. It will be debut in the fourth-generation Nissan Pathfinder.
- **Infiniti:** There were plans to build an Infiniti version of the Nissan Leaf, but those plans are now on hold, pending changes in EV technology. Infiniti wants to have the best technology in their first BEV, as opposed to using technology which may be obsolete a year or two after launch.
- **Honda:** Honda has developed a new lightweight and compact one-motor hybrid system optimized for small-sized vehicles: the Intelligent Dual Clutch Drive system. The Sport version of the i-DCD will appear in the third generation of the Honda Fit and Vezel hybrid. Unlike Toyota, Honda is not bullish on FCEVS, that will not reach big numbers before 2030.
- **Toyota:** Toyota is driving the move to fuel cells in Japan in the post-Fukushima environment where alternatives to nuclear generation of electricity are sought. Government incentives will underpin sales, but may not be sustainable.

**FORECAST TECHNOLOGY INTRODUCTIONS BY BRAND**

<table>
<thead>
<tr>
<th>BEV</th>
<th>Plug-in Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renault</td>
<td>BMW</td>
</tr>
<tr>
<td>Chevrolet</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Nissan</td>
<td>Mini</td>
</tr>
<tr>
<td>Proton</td>
<td>Toyota</td>
</tr>
<tr>
<td>Hyundai</td>
<td>VW</td>
</tr>
<tr>
<td>Subaru</td>
<td>Jaguar</td>
</tr>
<tr>
<td>Lexus</td>
<td>Porsche</td>
</tr>
<tr>
<td>Honda</td>
<td>Mazda</td>
</tr>
</tbody>
</table>
**HYBRID/EV ASSESSMENT**

- Hybrid and electric vehicle sales reached 946,000 units in 2013 and increased just above 1 million units in 2014, following the introduction of many new hybrid models such as the Honda Vezel, Toyota Noah and new Toyota Harrier.
- Toyota sold 643,025 units of hybrid and electric vehicles in 2014, boosted by top-selling models Aqua and Prius.
- By 2024 hybrid and electric vehicle sales in Japan will remain around the 1 million unit level. This will in fact be caused by a drop in the total passenger car market.
- The share of hybrids and EVs in Japan will head towards 30% of total sales by 2024.
- BEV sales in Japan are expected to be in the order of 15,000 to 20,000 units until the end of this decade.
- The plug-in hybrid market will approach 20,000 units in 2015, and gradually increase beyond 55,000 units by 2024.
- Fuel cell sales are predicted to be below 5,000 units in 2021, based on infrastructure rollout & customer acceptance. However, there is the possibility that this figure will increase.

**HYBRID/EV OUTLOOK**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Units)</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>946,000</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>1,000,000</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>1,050,000</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>1,100,000</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>1,150,000</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1,200,000</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1,250,000</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>1,300,000</td>
<td></td>
</tr>
</tbody>
</table>

**HYBRID/EV LEADERS**

**2014 Market Share by Brand**

- Toyota 61.5%
- Lexus 2.9%
- Subaru 1.3%
- Mitsubishi 1.1%
- Nissan 8.9%
- Honda 22.9%

**TOP 10 HYBRID/EV BRANDS OUTLOOK (RANKED 2024)**

- **Toyota**
  - 2014: 222,619
  - 2019: 33,361
  - 2024: 33,361
- **Honda**
  - 2014: 148,395
  - 2019: 25,178
  - 2024: 25,178
- **Various**
  - 2014: 106,139
  - 2019: 47,955
  - 2024: 47,955
- **Nissan**
  - 2014: 75,756
  - 2019: 65,909
  - 2024: 65,909
- **Lexus**
  - 2014: 65,909
  - 2019: 59,573
  - 2024: 59,573
- **Mitsubishi**
  - 2014: 59,573
  - 2019: 47,955
  - 2024: 47,955
- **Subaru**
  - 2014: 47,955
  - 2019: 33,361
  - 2024: 33,361
- **Mazda**
  - 2014: 33,361
  - 2019: 25,178
  - 2024: 25,178
- **Suzuki**
  - 2014: 25,178
  - 2019: 14,420
  - 2024: 14,420
- **Volkswagen**
  - 2014: 14,420
  - 2019: 14,420
  - 2024: 14,420

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**TECHNOLOGY DEVELOPMENTS**

- South Korean government is giving strong support for battery development and other electronic components needed in electric vehicles.
- Battery prices are still high and hence the adoption of electric cars will depend on how soon, and to what extent, prices fall.
- Battery makers LG Chem, SB LiMotive and SK Energy have developed lithium-ion batteries and are supplying to domestic and international OEMs.
- Hyundai and Kia have chosen lithium-ion polymer batteries to power their hybrid vehicles, since they provide higher power and energy density compared to other battery types such as nickel metal hydride (Ni-MH) and lead acid.
- The government’s decision to spend USD 48 million towards developing high-performance batteries will further lessen the technology gap between South Korean and Japanese battery makers.

**TECHNOLOGY INVESTMENT PLANS**

- South Korean carmakers planned to invest KRW 3.1 trillion over five years from 2011 to develop technologies for hybrid, electric and fuel-cell vehicles.
- **Hyundai**: Hyundai and Kia revealed in Nov 2014 that it will triple the number of green cars in their vehicle line-up to 22 by 2020. Under the new master plan, the number of hybrid electric vehicles (HEVs) will be increased from four to twelve, with six plug-in hybrid electrics vehicles (PHEV) to be sold on the market in six years.
- Two new electric vehicles (EVs) will reach show windows around the world by 2020 to replace the current Ray and Soul EVs, while two fresh fuel cell electric vehicles (FCEV) will take up the mantle from the current Tucson fuel cell model.
- **Renault Samsung**: Supplied 17 units of SM3 Z.E., imported from Turkey, exclusively to government institutions in 2012. Local production of SM3 Z.E. started in Q4 2013.

**TECHNOLOGY SHARE**

- **2014**
  - BEV: 6.9%
  - MHEV: 14.0%
  - PHEV: 6.1%
  - FHEV: 72.8%

- **2019**
  - BEV: 8.7%
  - MHEV: 13.7%
  - PHEV: 23.2%
  - FHEV: 56.4%

- **2024**
  - BEV: 9.5%
  - MHEV: 5.7%
  - PHEV: 37.6%
  - FHEV: 37.6%

**FORECAST TECHNOLOGY INTRODUCTIONS BY BRAND**

- **BEV**: Samsung
- **M HEV**: Ssangyong
- **FHEV**: BMW, Kia, Hyundai
- **PHEV**: Hyundai, Kia
- **EREV**: M-B

- **Plug-in Hybrid**: Hyundai, Kia, Toyota, Ford, Lexus, Porsche
**Korea – Hybrid/Electric Forecast**

**HYBRID/EV ASSESSMENT**

- With domestic automakers joining the bandwagon and strong local hybrid/EV battery technology, South Korea stands a strong chance to become one of the world’s leading hybrid/EV bases. There is also a strong focus on exporting.

- In order to make hybrid/EV ownership more attractive, the government is putting its resources into promoting these vehicles. Measures include providing tax benefits to entice buyers, investing in research and development especially for battery technology, and creating charging stations for electric vehicles.

- South Korea is also one of the lead countries in developing FCEV vehicles. Hyundai’s Tucson FCEV is the first fuel-cell hybrid vehicle to be sold commercially in the region.

- In 2014, around 1,000 BEVs were sold in South Korea. This volume is forecast to increase to over 2,000 units in 2021. We expect FCEV take-up to rise gradually throughout the forecast period, and reach almost 900 unit sales in 2021.

**HYBRID/EV OUTLOOK**

**2014 Market Share by Brand**

- **Toyota** 48.8%
- **Nissan** 6.5%
- **Ford** 3.5%
- **Lexus** 5.6%
- **Various** 6.6%
- **Honda** 12.8%

**TOP 10 HYBRID/EV BRANDS OUTLOOK (RANKED 2024)**

- **Hyundai Sonata/i40** 13,811
- **Hyundai Grandeur** 13,216
- **Kia K5** 4,860
- **Kia K7** 4,186
- **Lexus ES** 4,054
- **Toyota Prius** 1,569
- **Toyota Camry** 839
- **Kia Soul** 403
- **GM Alpheon** 381
- **Lexus CT** 351

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Outline

- Introduction
- Global NEV Market Overview
- Understand the territory
  - China
  - Japan
  - Korea

- Summary
Global and Regional Hybrid & EV Summary

- Initial figures suggest that in 2014, the global market for electrified passenger cars and US light trucks grew a modest 7%, to 2.2mn units, compared with 2.0mn in 2013.

- Drilling into the results reveals that achievements differed significantly depending on technology type. Broadly speaking, plug-in vehicles out-performed non plug-ins.

- Growth in conventional hybrids (MHEV and FHEV) was unspectacular at 4%, while plug-in sales (BEV, PHEV and range extenders) increased by one third, though remain niche.

- The collapse in the oil price explains some of the difficulty facing traditional hybrids, while the plug-in sector is increasingly well supported by product and incentives.

- Geographically, both Asia-Pacific and Europe saw demand for electrified cars grow around 15%, but the US market contracted by 3%, a direct result of falling hybrid demand.

- China’s appetite for electrified passenger cars grew strongly in 2014. In fact, it doubled, but only to just over 50,000 sales; they remain a tiny portion of overall demand.

- Driven by an improving regulatory outlook for NEVs, the Chinese NEV (incl Hybrid) market is expected to approach 1mn units by 2019, a year earlier than previously thought.
Thank You

John Zeng
Managing Director, LMC Shanghai

jzeng@lmc-auto.com