全球电动汽车热度排名

The global electric vehicle heat rankings

文/ maijinjing The text/maijinjing

近日，德国《经济周刊》（Wirtschafts Woche）与咨询机构麦肯锡（McKinsey Co.）对全球主要国家的插电式汽车需求和生产情况进行了调研。调研结果如下面几图：

图1 各国电动汽车需求情况示意图

Recently, the Germany economy weekly (Wirtschafts Woche) and consulting firm McKinsey (McKinsey Co.) have investigated the demand and production situation for plug-in cars in the world's major countries. Research results as the following pictures

Figure 1 national electric vehicle demand situation in every country:

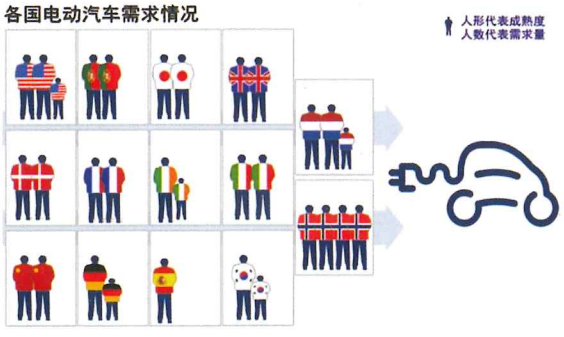


图1 各国电动汽车需求情况示意图

Figure 1 national electric vehicle demand situation in every country

图2 各国电动汽车生产情况示意图

Figure 2 electric vehicle production situation map in every country

该图显示，挪威引领全球电动汽车需求热度最高的国家，西班牙则是需求最少的国家。（人穿的国旗衣服代表国家）

图2 各国电动汽车生产情况示意图

该图显示，德国是全球电动汽车产量第一的国家，丹麦、葡萄牙、爱尔兰和挪威则是产量不多的国家。

图3 全球主要国家整体插电式汽车市场评估示意图

该两张图显示，左图中，越接近绿色区域的国家，整体插电式汽车市场的热度越高——美国引领着世界电动汽车发展，德国和日本紧随其后；接近红色区域的是发展最缓慢的爱尔兰和西班牙。

现状评估

从右图可以看出，作为汽车大国，德国和中国的需求热度都比较低，明显落后于美国。据麦肯锡调研，自2009年以来，全球已有超过400000辆插电式汽车上路，但德国仅占5%。

德国《经济周刊》称，德国企业在电动汽车制造方面已经进入快车道，但是德国消费者却不甚热衷于购买电动汽车，该国2013年第四季度电动汽车的销量仅为2800辆。

未来展望

调查表明，未来5年，德国每年的电动汽车产量预计将达到440000辆，只有日本可以追赶上德国，该国年产量将达到450000辆，美国每年电动汽车产量预计为360000辆，中国年产量预计为290000辆。

The picture shows that, Norway is the highest heat demand for leading the global electric vehicle, while Spain is a country with the less of the demand. (the national flag on people is on behalf of the state)

Figure 2 electric vehicle production situation map in every country

The picture shows that Germany is the first global electric vehicle production country , Denmark, Portugal, Ireland and Norway are the few production countries.

Figure 3 The whole market assessment diagram of the ply-in car for major countries around the world

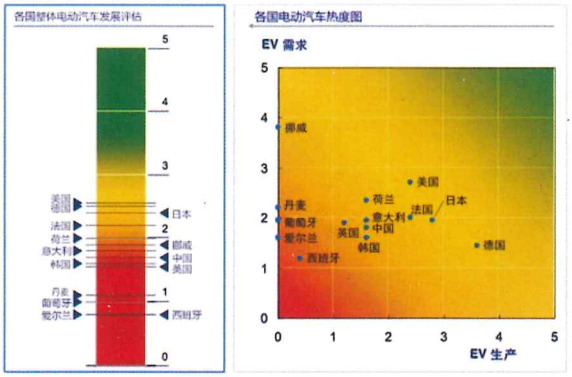


图3 全球主要国家整体插电式汽车市场评估示意图

Figure 3 The whole market assessment diagram of the ply-in car for major countries around the world

The two pictures show that, the picture on the left, the country gets closer to the green area, the higher heat of the whole plug-in car market - the United States leads the world electric vehicle development, followed by Germany and Japan; Closed to the red areas are the slowest development of Ireland and Spain.

Situation assessment

As can be seen from the picture on the right, as the car grant country, the heat demand of Germany and China are relatively low, obviously was lag behind the USA. According to a McKinsey survey, since 2009, the world had more than 400000 plug-in cars are running on the road, but only 5% in Germany.Germany "economic weekly" said, Germany enterprises in electric vehicle manufacturing had entered the fast lane , but the Germany consumers are not very keen on buying electric vehicles, the country's electric vehicle sales in the fourth quarter of 2013 was only 2800.

Future prospect

Survey showed that over the next five years, the German production of electric vehicles are expected to reach to 440000 vehicles every year, only Japan can catch up with Germany, the country's annual output will reach to 450000, the United States electric vehicle production is expected to be 360000 every year, China is expected to produce 290000 vehicles per year.

美国 电动汽车发展趋势

USA THE DEVELOPMENT TREND OF ELECTRIC VEHICLE

文 Text/ MEIGUOZHONGXIN

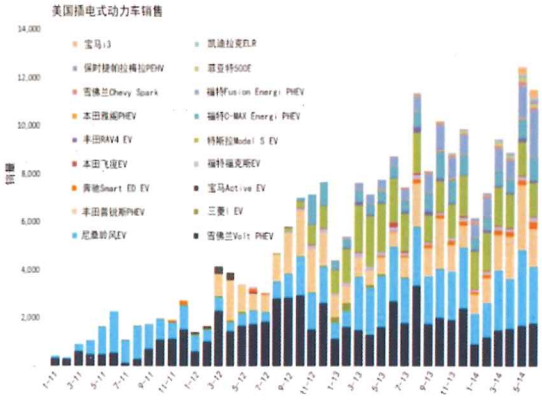
今年，美国已销售大约54973辆插电式和电池式电动汽车。同期的汽车销售量为810万辆，电动汽车仅占0.67%。电动汽车的销量有些微不足道。但与去年相比，电动汽车的销量增长了35%，并且在5、6两个月连续突破单月历史最高销量。近日，美国能源政策信息中心发布了一系列关于电动汽车发展趋势的图表，对美国电动汽车的销售情况进行了简单梳理。

This year, the United States has sold about 54973 plug-in and battery type electric vehicles. At the same period of auto sales are 8.1 million vehicles, electric vehicles only accounted for 0.67%. The sales of electric vehicles have some trivial. But compared with last year, the sales of electric vehicle have rose by 35%, and monthly record sales have continuous breakthrough in 5, 6, these two months. Recently, the USA energy policy information center has issued a series of development trend chart of electric vehicles, has carried on the simple combing of the sales of electric vehicles to the United States

一、插电式电动汽车销量创历史新高

插电式电动汽车是指通过将插头插入插座这种方式来充电的汽车（不包括混合动力汽车）。下面这张图显示美国插电式电动汽车的销售情况。

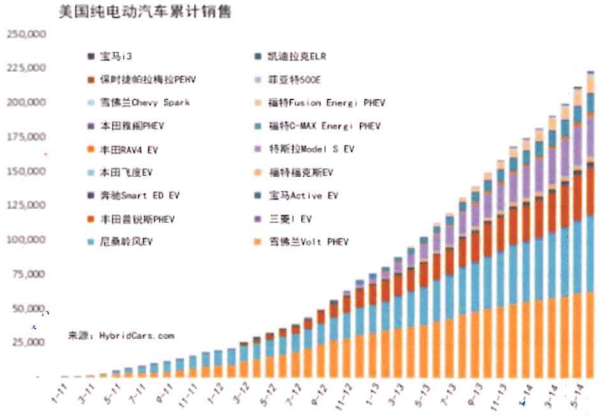
回顾2011年，当雪佛兰伏特和尼桑聆风刚上市时，几乎没有人会买电动汽车，惨淡的销量甚至让人绝望。从那以后，电动汽车的销量几乎增长了五倍。今年5月和6月，更是



连续创造单月历史最高销量。虽然电动汽车的销量现在还只占今年全美汽车销量的0.67%，但它正在稳定增长。

二、四款车垄断插电式电动汽车市场

值得注意的是，目前的市场被四款车型垄断，它们是通用的雪佛兰伏特、尼桑聆风、特斯拉的Model S和丰田普锐斯的插电版。这四款车加起来大约占了2011年以来所有



销量的80%。下图显示自2011年1月以来美国纯电动汽车的累计销售量，全美共计售出了超过22万辆。

不过，这样的垄断正被瓦解。福特的Fusion Energi在慢慢赶上，2014年6月，其销量就超过了雪佛兰伏特和普锐斯。

三、混合动力车仍然比插电式电动汽车受欢迎

今年，汽车制造商们销售了超过23万辆混合动力汽车。这种车就像传统的普锐斯一样，同时拥有汽油动力引擎和电力推进系统，以更好地节约燃料。

目前，汽车厂商售出的混合动力车是插电式电动汽车的五倍。这并不令人惊奇，毕竟混合动力车更方便，不需要在插座上给它充电，也不需要四处寻找充电站。即便如此，混合动力车也只占全美汽车销售总量的很小比例，今年大约占3%。

四、加利福尼亚拥有最多的充电站

电动汽车快速兴起的一个重要原因就是网络效应，虽

A, The sales of Plug-in Electric Vehicle Has Hit a Record High

Plug-in electric vehicle is the car to plug in the socket to charge electricity (not including hybrid cars). The image below shows the sales of plug-in electric vehicle in the United States.

Back in 2011, when the Chevrolet Volt and Nissan Leaf just listed on the market, there was almost nobody will buy electric vehicles, dismal sales and even despair. From then on, the sales of electric vehicle have increased by almost five times more. In May and June this year, but also have created a continuous monthly record sales. Although sales of electric vehicle is still account for only 0.67% of U.S. auto sales this year, but it is rising steadily.

Second, four models of car monopoly plug-in electric vehicle market

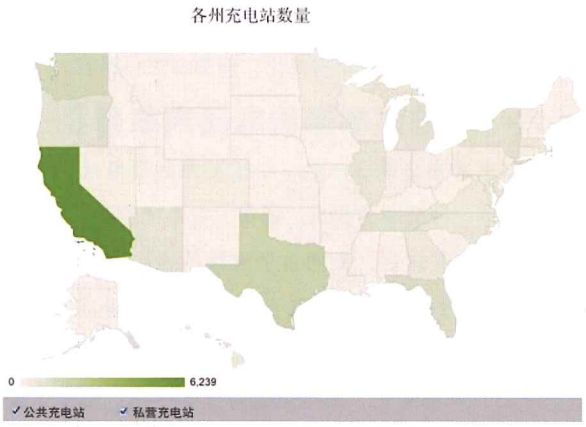
It is important to note that the current market was monopolized by the four models cars, they are GM Chevrolet Volt and Nissan Leaf, Tesla Model S and Toyota Prius plug-in versions. Add up the four models cara accounted for about 80% of all sales since 2011. Shown cumulative sales below of the pure electric vehicles in the United States, totally have sold more than 220000 vehicles since January 2011.

However, the monopoly is being dissolved. The Ford Fusion Energi is slowly to catch up with the sales, in June 2014, its sales is more than the Chevy Volt and the Prius.

Third, hybrid car is still more popular than plug-in electric vehicle

This year, the carmakers have sold more than 230000 hybrid cars. The car is just like traditional Prius, at the same time have a petrol engine and electric propulsion system, in order to have a better fuel economy.

At present, the auto maker sold hybrid car is five times more as plug-in electric vehicles. It's not surprising, after all, hybrid car is more convenient, don't need plug into the socket to charge it, also do not need to search for charging station. Even so, hybrid car is also account for only a small percentage of the total sales across the country, it is about 3% this year.



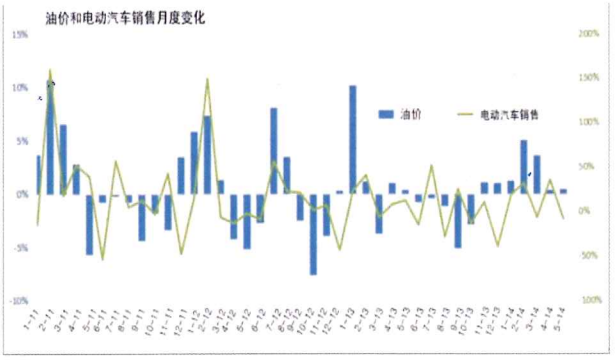
然其基数并不大。如果更多的人购买电动汽车，那么厂商就更有可能去建设充电站。充电站多了就会使得电动汽车更加便于使用，反过来又能进一步刺激电动汽车的销售。

就这一点而言，加利福尼亚做得最好，总共有6239个公共的或私人的充电站。这个数量是纽约的6倍，是德克萨斯的3倍。

美国境内的充电站总数正在快速地增长，2011年时只有3300个，2013年末就超过了19000个。

五、电动汽车销量随油价上涨而增长

插电式电动汽车通常要比传统汽车贵得多，那是什么原因促使人们购买电动汽车呢？一个可能的原因就是电动



汽车可以节省汽油成本。下图是美国能源政策信息中心发布的，显示了汽油价格和电动汽车销量的月度变化。

来源：美国能源政策信息中心

有的时候，汽油价格和电动汽车销量的增长同时出现，但这种相关关系并不完全相符。还有其他的影响因素在起着作用，如汽车销量的周期性变化、消费者信心等等。

六、电池成本影响电动汽车普及

电动汽车市场规模小的一个主要原因是电池仍然很昂贵，却只能行驶有限的距离。通常，电池的价格在12000美金到15000美金左右，大约占了汽车价格的三分之一。目前，美国电池的价格仍然远高于节约下来的汽油成本。

如果电池能大幅降价，情况就会不一样。下图是麦肯锡公司2012年发布的，图中就阐释了这一点。电池目前的价格高于500美金/千瓦时，汽油则高于3.5美元/加仑。在这种价格下，混合动力车更加经济节约，而不是电动汽车。

Fourth, California Has the Most Charging Stations

An important cause of the rapid rise of the Electric vehicle is network effects, although its base is not big. If more people buy electric vehicles, so manufacturers are more likely to build charging stations. The more charging stations you can easier to use electric vehicles , in return, further to spur sales of electric vehicles.

In this point, California is doing the best, a total of 6239 public or private charging stations. This number is 6 times as in New York, is three times as in Texas.

Total number of charging station in the United States are growing quickly, there were only 3300 stations in 2011, and more than 19000 stations at the end of 2013.

Fifth, the Sales of Electric Vehicle Growth With the Rise of Oil Price

Plug-in electric vehicle is often much more expensive than conventional car, then what's the reason to encourage people to buy electric vehicles? One possible reason is that the electric vehicle can save petrol costs. Below chart is published by the America Energy Policy Information Center, shows the monthly change in the price of gasoline and the sales of electric vehicle.

Sometimes, the growth of gasoline price is appear with the sales of electric vehicle at the same time, but the correlation is not completely consistent. There are other factors are working, such as the periodical change of car sales, consumer confidence and so on.

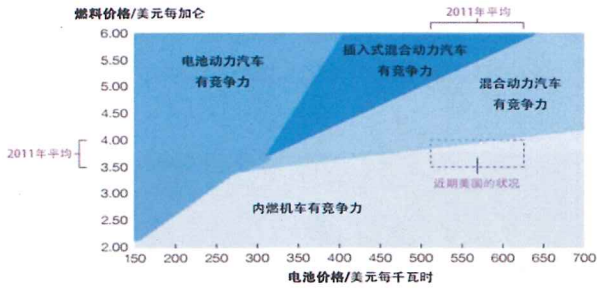
Sixth, Battery Costs Affect the Electric Vehicle

One of the major causes of the small electric vehicle market is the battery is still very expensive, but only limited of the driving distance. Usually, the price of the battery is around $12000 to $15000, accounts for about a third of the car price. Currently, the battery is still much higher than the price of gasoline cost savings.

If the battery can be slashed price, it would be different. Below chart was released by McKinsey in 2012, it was illustrated in the figure. The current battery price is above $500 per kilowatt-hour, gasoline was over $3.5 a gallon. Under this price, hybrid car is more economical, rather than electric vehicles.

On the other hand, if the battery price dropped by two-thirds, for most people, so the electric vehicle will become economic saving. McKinsey researchers think that, at least in the next decade, due to economies of scale in production, as a decline in the cost of raw materials and the advanced of electronic cathode technology, it is likely to decline the battery price.

However, not everyone is optimistic for rapid upgrade of the battery. In 2013, Fred Schlacter published in <the proceedings of the national academy of sciences>, the progress of the battery technology was very slow, to increase battery capacity significantly must need to change a chemical substance. He pointed out that the progress of the lithium ion battery was very slow, the scientists were no longer optimistic for a major breakthrough, a new kind of lithium air batteries or lithium sulfur batteries might have good prospect.



[1]假设每英里240瓦特时与当下每英里305-322瓦特时相比较

来源：麦肯锡

另一方面，如果电池的价格下降三分之二，那么电动汽车对大多数人来说就会变得经济节约了。麦肯锡的研究人员认为，至少在下一个十年，由于生产的规模经济、原材料成本的下降以及电子阴极等技术的进步，电池价格下降是有可能的。

但是，并非所有人都对电池的快速升级表示乐观。2013年，Fred Schlacter在《美国国家科学院院报》上发表文章称，电池技术的进步一直非常缓慢，要想显著提升电池容量除非换一种化学物质。他指出，锂离子电池的进步已经非常缓慢，科学家们对重大突破已不再表示乐观，新型的锂空气电池或者锂硫电池可能会有希望。

七、电动汽车只是燃料经济性提高的一个原因

近年来，美国的燃料经济性得到提升，但混合动力车和电动汽车只起了很小一部分作用。下图是美国环境保护署发布的，图中显示，2008年至今，哪些提高燃料经济性的技术更加普及。

结果表明，过去五年中，大部分的创新是针对现有内燃机的改进而做出的。缸内直喷技术使得汽油到引擎的传递更有效率，停缸技术能节省燃料，随着电动汽车的兴起，这些技术的关注度越来越低，但它们仍是重大的技术进步。

然而，人们希望未来电动汽车、混合动力车和微混合动力车能取得更大进步。

（美国工业和信息化部国际经济技术合作中心编译）

Seventh, One Reason For the Electric Vehicle is the Limproving of fuel Economy

In recent years, the fuel economy has improved, but the hybrid and electric vehicles have made only a small part of the role. Below figure is released by the United States environmental protection agency (EPA), shown in the figure, since 2008, which technology improve the fuel economy is more widespread.

The result shows that in the past five years, most of the innovation is the improvement of existing internal combustion engine. In cylinder direct injection technology to make the transfer is more efficient, gasoline to the engine cylinder technology can save fuel, with the development of electric vehicles, the popularity of these techniques is lower and lower, but they are still the major advances in technology.

然而，人们希望未来电动汽车、混合动力车和微混合动力车能取得更大进步。

（美国工业和信息化部国际经济技术合作中心编译）

However, it is hoped that the future of electric vehicles, hybrid cars and micro hybrid can make greater progress.

(It is compiled by the Ministry of Industry and Information Technology Center for International Economic and Technological Cooperation)