

Rebuilding strategies for electrification of cars “Creating a new business model”



Battery business that supports electrification requires enhancement of supply chain and improvement of profitability using a business model that brings cost to the users of batteries.

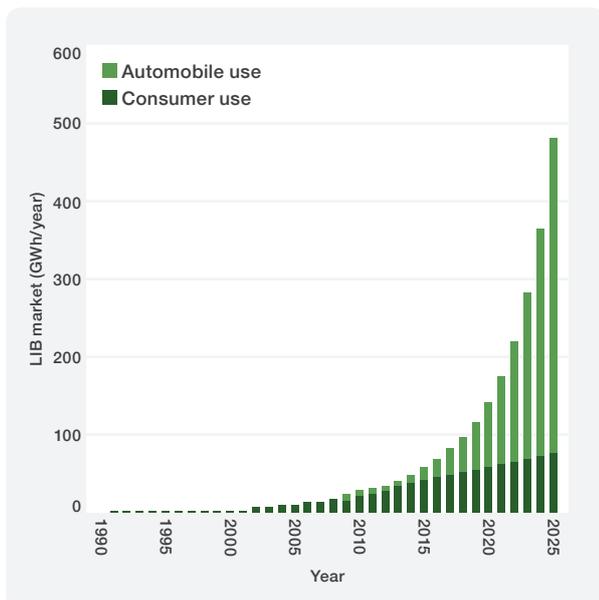
Stringent demand and supply of batteries in the era of rapid electrification

There is a rapid electrification of cars, mainly in Europe and China. The measures adopted to spread electric vehicles are also shifting from assistance type (such as purchase subsidy and tax exemption) to control type (such as ban on sale of internal combustion engine-equipped vehicles and restriction on NEVs). Further, after the Diesel gate scandal, OEMs have started working on the electrification strategy and are announcing aggressive sales targets, which is expected to expand electrification rapidly. On the other hand, the Lithium-ion battery (LIB) industry is bound to point out the possibility that supply may not be able to meet the over rising demand, comparing the rapid expansion of electric vehicles market with the trends of market expansion until now. Elimination of bottlenecks concerning the supply chain, such as securing of resources and capital investment by battery and material manufacturers, and supply of battery equipment, has become a pressing issue.

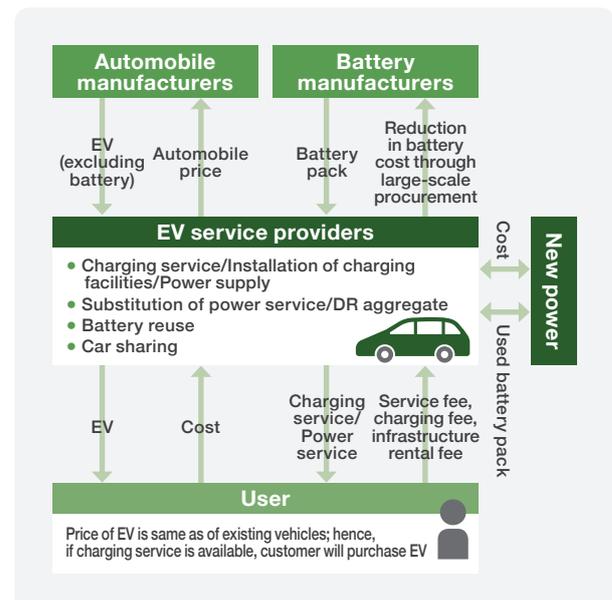
Development of a business model that is indispensable for the spread of EV

If we generally classify the current roles in automotive industry among manufacturers, dealers and fuel companies, EV society will offer low profits to the fuel companies, due to which an ecosystem will not be established. Hence, it is necessary to divide roles appropriately that can help in securing profits. Further, due to high cost of batteries, making EV having the same driving range as the gasoline vehicles makes it very expensive and reduces the demand. Since there is a limit to the cost reduction of batteries through technological development, it is required to make adjustments for substantial cost reduction of batteries through business innovations. Specifically, they can pass on lifecycle cost of battery on the user, by creating a used battery market, promoting reuse of batteries and making adjustments in power systems that are used in-vehicle batteries. Therefore, it is necessary to create a business model that solves these issues and verify and execute such model.

LIB market estimation based on optimistic electrification scenario



Business model for the EV era



Need a business model that solves various problems caused by batteries

Using our industry knowledge, NRI can propose a strategy using client's strengths and provide execution support for the electric car, battery and materials business.

Provides specialized execution support for forecasting, strategy formulation using highly-accurate information and multifaceted analysis

NRI has over 20 years of accumulated data acquired through industry research and has established itself in the field of electrification of cars and batteries. Market forecasts are characterized by multi-faceted analyzes such as policies, users, manufacturers, and technologies. NRI visualizes the future from both supply side and demand side, using our powerful industry network, highly-accurate information and user surveys. Further, in addition to research activities for policy-related trends, we provide support for making rules related to decision-making process and identification of key persons. While making a new entry strategy, it is important to consider differences in industry practices and patents as a risk and include them in the strategy. We have a collaborative system in place with NRI Cyber Patent for implementing patent analysis. After the strategy is drawn, most companies face the issue of resource shortage in the execution phase. Therefore, NRI provides support for reliable execution of strategy through optimization, resource allocation, and outsourcing, to eliminate the shortage of man-hours for development.

Case: Provided support in forecasting electric car market and developing a business model

After the Diesel gate scandal in 2015, various governments proposed the policy to ban the sale of internal combustion engine-equipped vehicles, and OEMs in Europe strengthened the strategy related to electric cars. Regarding the feasibility of shifting to electric cars, NRI quickly presented the crises in lithium-ion battery market and bottlenecks in supply chain, and advocated measures for stable procurement. For this, NRI utilized the knowledge of entire value chain, including materials, batteries, automobiles and power. Following this, when NRI performed incremental cost analysis with an intent to reduce the cost of batteries required to shift to EV and PHEV, it was identified that it is considerably difficult to reach the target cost; hence, companies were suggested to reduce cost by having an effective business model. For developing the business model, NRI suggested to expand the business domains, mainly in Reuse and V2G, based on advanced overseas trends data we obtained through our industry network. Further, we also helped in identifying the core technologies and usage method using clients' strengths.

■ Characteristics of electric cars and battery related services of NRI

