

Electrification strategy of Nissan

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Nissan's powertrain development strategy to achieve sustainable mobility is based on two pillars: zero emissions and internal combustion engine (ICE) evolution. In 2010, Nissan introduced the Nissan Leaf; the world's first mass production battery electric vehicle (EV), taking the lead on a zero emission strategy based on EVs. Our vision of EV development is aimed at providing affordable mass market EV's that everyone can enjoy and that deliver a smooth, quiet and quick acceleration response, a key advantage for EV powertrains. Expansion of EV sales volume promotes zero emission mobility and also reduces CO2 emissions and improves air quality.

In developing components for EVs we pursue compactness, light weight and high efficiency. Since the introduction of the 1st generation LEAF we have continued to develop electric components in line with this strategy. Electric components are developed not only through parts evolution but also through the improvement of design methods, for example telematics data was utilized to simulate Li-ion battery capacity deterioration. Incorporating advanced component technologies the 2nd generation Nissan LEAF introduced in 2017 improved every performance attribute to satisfy more global customer requirements with high reliability.

A key factor to enable future EVs meet global market requirements is an improvement in high speed driving efficiency. Together with battery evolution for improvements in power and energy density we will improve the next generation of various EV models.

In 2016, Nissan introduced a new electric powertrain called e-POWER. e-POWER provides all-electric motor drive with the electric power for the traction motor being supplied by an ICE-based power generation unit. e-POWER delivers the same excellent Nissan EV acceleration feeling while also advancing the strategy of EVs for everyone. Technical evolution of EV components was optimized for e-POWER to improve high-speed efficiency for global markets. Nissan will expand electric powertrain vehicles in global markets through EVs and e-POWER for sustainable mobility and improving performance through component evolution.