Factsheet: Nissan LEAF Vehicle-to-Home

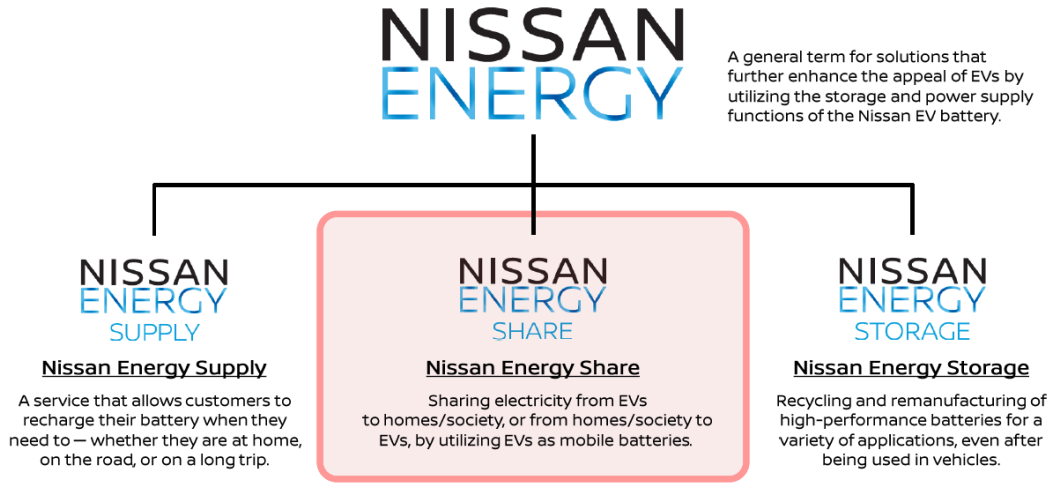
The Nissan LEAF is the world's first 100-percent electric, zero-emission car designed for the mass market. With its advanced powertrain, Nissan LEAF provides a totally new driving experience, with its smooth and responsive acceleration, stable handling, and quietness.

Nissan to create electric vehicle 'ecosystem'

Nissan has created a vision to make electric vehicles even more useful to customers by introducing new convenient ways to utilize their batteries' ability to store and share energy.

Under the plan, called Nissan Energy, owners of Nissan's electric vehicles will be able to easily connect their cars with energy systems to charge their batteries, power homes and businesses or feed energy back to power grids.

Nissan Energy will establish new standards for connecting vehicles to energy systems through three key initiatives:



Nissan EVs can provide electricity to households through the Power Control System. The power supply system* lets a Nissan EV share the electricity stored in its high-capacity lithium-ion batteries with an ordinary home once the car is connected to the home's electricity distribution panel via its quick-charging port. In this way EV batteries can provide additional value. The connector conforms to CHAdeMO, a fast-charging protocol used in global markets where Nissan EVs are sold, and ensures a high level of versatility, stability and reliability.

Source: https://www.nissan-global.com/EN/ZEROEMISSION/APPROACH/COMPREHENSIVE/ECOSYSTEM/

Vehicle-to-Home(V2H)

A Vehicle-to-Home (V2H) system enables customers to store home generated renewable energy in their LEAF battery, or fill their battery when energy tariffs are low or even free.

Customers can then draw energy out to power their home when it is needed or tariffs are high.

Using V2H, owners of Nissan LEAF can use their cars as a power source for the household to save money on electricity bills, or as backup power during blackouts or emergencies and support the adoption of renewable energy.

V2H also allows the Nissan LEAF's battery to be used for electricity storage, providing backup for buildings and private homes in preparation for a power shortage and/or outage.

Nissan is working with partners like EGAT to bring inexpensive equipment to the market to popularize V2H. Since Nissan introduced V2H in 2012 in Japan, according to the research, the total V2H sales number has exceeded 8,300 unit (V2H devices) in Japan (as of March 2020).

V2H Mechanism

- Electricity from Nissan EV's high-capacity battery is used at home via a bi-directional charger.
- Reduction of monthly electricity charges by utilizing electricity rate plans of electric power companies and household solar power generation.

V2H Benefit

- Nissan LEAF can generate electricity consumption of approximately 12 kWh/day.
- The electricity stored in Nissan LEAF B4 can sustain a household approximately 3 days, while LEAF e+ B6 can sustain approximately 4 days (when outside power is disrupted).
- V2H can be used in Nissan ARIYA, which launched globally in July, 2020.
- As part of Nissan Energy share, V2H is helping solve environmental, disaster prevention and reduction.
- Thru V2H, Nissan LEAF is charged while electricity rate is low (during the nighttime).
- Stored electricity in Nissan LEAF is supplied to home when electricity rated are high (during daytime while everyone in your home use electricity appliance). This allows the usage of renewable energy when electricity is cheaper.