



Media Kit

APRIL 2021 | AUSTRALIA

### Contents

LEAF e+	4
Fast Facts	10
Grade Walk	12
Infrastructure & Vehicle-To-Grid	14
Purchase & Service	20
Nissan Casting Australia Plant	22
Chassis & Suspension	24
Design	30
Powertrain & Range	38
Charging	44
Nissan Intelligent Mobility (NIM)	46
Safety Technologies	52
Pricing	60
2021 Nissan LEAF & LEAF e+ specification	62
Accelerating Toward Carbon Neutrality	68
Formula E	72
History of Nissan Electrification	74
History of LEAF	76
Nissan Contacts	80







BFP:602 "0-100km/h arrives in 6.9 seconds — nearly 13% quicker than the current LEAF" 06 | australia.nissannews.com

issan has gone one step further to broaden the appeal of its successful electric vehicle, the LEAF, with the introduction of the LEAF e+.

Now featuring a 62kWh battery, the LEAF e+ sits at the pinnacle of the LEAF range. Set to deliver a superlative ownership experience, the model features advanced Nissan Intelligent Mobility technology and delivers 160kW of performance and an indicative driving range of up to 385km² of zero-tailpipe-emissions driving.

Prices for the Nissan LEAF e+ start from \$60,490 MSRP<sup>6</sup>, and \$49,990 MSRP<sup>6</sup> for LEAF.

With an additional 22kWh of storage over the existing LEAF model, the LEAF e+ offers 55 per cent more capacity and an approximate 25 per cent improvement in energy density, despite retaining a similar shape and size to the 40kWh LEAF battery pack.

All of this is achieved without compromising the vehicle's exterior design and interior space, and the dimensions of the LEAF e+ remain relatively unchanged.

This has given the LEAF e+ a significantly increased indicative driving range of up to 385km² (WLTP combined mode) on a single battery charge — an additional 115km over the existing model's capability. Maximum power output and torque have also been improved to an impressive 160kW and 340Nm, delivering increased acceleration performance.

With the more powerful motor, 0-100km/h is available in 6.9 seconds — nearly 13 per cent quicker than the LEAF.

This gives the LEAF e+ the ability to confidently pass slower-moving vehicles, exit corners faster and merge seamlessly with fast-moving traffic. The top speed of 158km/h has also increased from the 40kWh version by approximately 10 per cent.

### Battery

While the previous battery pack modules for the LEAF were composed of eight identical laminated-structure cells, the new Nissan LEAF e+ uses a new battery module design that allows for cell modules to vary in number. The new battery module uses an innovative laser-welding technique on the cell joints to reduce the overall length of the module. At the same time, by changing the number of lamination layers of the cell, an optimal module height that matches the shape of the vehicle can be achieved

The combination of these technologies has made it possible to achieve high energy density efficiently inside the battery pack.

The key components for achieving this higher density and reliability are the ternary cathode material and laminated-structure cells (battery cells). Ternary cathode material, which has a layered structure, increases battery storage capacity by allowing

lithium-ions to be tightly packed (higher density). Laminated-structure battery cells have a high level of cooling performance and a simple structure, saving space and reducing the overall size of the battery pack.

As the icon of Nissan Intelligent Mobility, LEAF exemplifies Nissan's Intelligent Integration philosophy. The LEAF e+ is equipped as standard with Nissan's NissanConnect infotainment system, featuring an 8" touchscreen.

Features include Apple CarPlay® and AndroidAuto<sup>tm∆</sup>, allowing for seamless smartphone connectivity.

The addition of the LEAF e+ extends the personalisation options on offer, with a total of seven body colours available. In addition, Gun Metallic, Ivory Pearl, Magnetic Red and Vivid Blue are also available in a two-tone black roof combination, allowing owners to give their vehicle a bold visual presence.

Fine-tuned since the launch of the original LEAF in 2011, an internal thermalmanagement system is also installed in every LEAF, ensuring that fast charging performance is optimised for specific driving conditions, with the LEAF e+ able to charge up to 100kWh⁵.

The system also ensures that the quality and longevity of the battery is maximised as much as possible, giving customers peace of mind and high levels of performance, which will remain important as vehicle-to-grid technology continues to evolve.



### Fast Facts

02

03

Prices for the new Nissan LEAF e+ start from \$60,490 MSRP6

With a 62kWh battery, LEAF e+ sits at the pinnacle of the LEAF range

LEAF e+ delivers an additional 115km in driving range, now 385km<sup>2</sup>

Peak charging capability increased to 100kWh⁵

06

80

Maximum power now increased for LEAF e+ to an impressive 160kW Maximum torque also improved, with LEAF e+ delivering 340Nm Now nearly 13 per cent faster to 100km/h, at 6.9 seconds

New battery module design allows for higher energy density

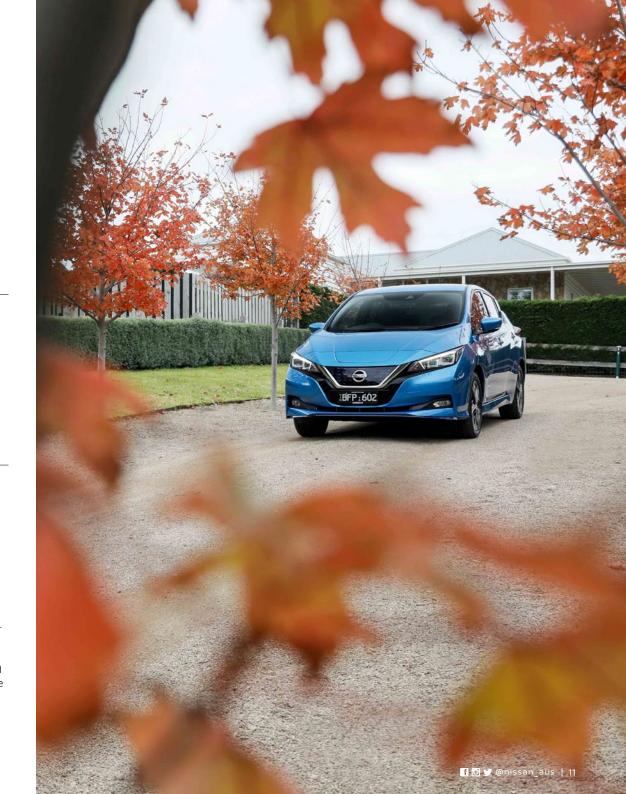
12

NissanConnect infotainment system features 8-inch touchscreen connectivity

Apple CarPlay® and AndroidAuto<sup>™</sup> for seamless phone

LEAF e+ is equipped with bi-directional charging

Bi-directional charging allows vehicle to be used as a power source



2021 NISSAN I FAF e+

# Nissan LEAF & LEAF e+ highlights

**I FAF** I FAF e+

### Powertrain & Performance

- · e-Powertrain with 40kWh lithium-ion battery
- Power: 110kW
- Torque: 320Nm
- . Max. DC charging capacity: 50 kW
- Indicative driving range (WLTP): 270km1
- Acceleration (0-100km/h): 7.9 seconds
- ECO Mode
- e-Pedal
- · Shift-by-wire drive selector
- Intelligent Trace Control
- Intelligent Ride Control
- Charge ports (AC Type-2 & DC CHAdeMO)
- MODE-3 EVSE cable (Type-2) supplied

- with revised laminated cell structure
- Power: 160kW
- Torque: 340Nm
- Acceleration (0-100km/h): 6.9 seconds
- ECO Mode
- e-Pedal
- · Shift-by-wire drive selector
- Intelligent Trace Control
- Intelligent Ride Control

#### Powertrain & Performance

- e-Powertrain with 62kWh lithium-ion battery

- Max. DC charging capacity: 100 kW
- Indicative driving range (WLTP): 385km<sup>2</sup>

- Charge ports (AC Type-2 & DC CHAdeMO)
- MODE-3 EVSE cable (Type-2) supplied

### Standard specifications across the LEAF range

#### Exterior

- LED daytime running lights
- 17-inch alloy wheels with temporary spare wheel
- Privacy glass
- Power-fold/adjustable heated door mirrors
- Fog lights
- Rear spoiler
- Chrome door handles

### Comfort & Convenience

- Dusk-sensing LED headlights w/ auto-levelling & Follow-Me Home function
- Climate control
- · Rear heater duct
- · Auto-dimming rear-view mirror
- Rain-sensing wipers
- Intelligent Cruise Control
- Intelligent Key w/ push button start
- High Beam Assist

### Seating

- Heated leather-accented steering wheel with tilt adjustment
- Leather-accented seat trim
- 6-way manual-adjustable driver seat
- 4-way manual-adjustable front passenger seat
- Heated seats (front & rear)
- 60:40 split rear seats

### Connectivity

- Apple CarPlay® / Android Auto™
- Voice recognition
- 1 x USB port and 1 x 12V charge outlet
- 8-inch touch-screen display
- Satellite navigation
- Digital radio
- Bluetooth (phone/audio)
- 7-speaker Bose® Energy Efficient premium audio
- 7-inch Advanced Drive-Assist™ Display with analogue speedometer

#### Safety

- ISOFIX anchor points
- Hill Start Assist
- Intelligent Around-View Monitor
- Parking sensors (front & rear)
- Intelligent Driver Alert
- Predictive Forward Collision Warning
- Intelligent Emergency Braking (w/ pedestrian)
- Intelligent Lane Intervention
- · Blind Spot Warning
- Rear Cross-Traffic Alert
- Tyre Pressure Monitor System
- Vehicle Sound for Pedestrian
- Traffic Sign Recognition





he country is better prepared to meet the needs of LEAF and LEAF e+ buyers when it comes to infrastructure, compared to 2012 when NIssan's first EV arrived here.

Based on data collated by the Electric Vehicle Council as part of its 2020 State of Electric Vehicles report, the number of public charging stations as of July 2020 had increased by 40 per cent over. the previous year.

The largest growth has come in the DC rapid and ultra-fast space, with more than 350 of those chargers available across more than 150 locations - a growth of 42 per cent. This has continued to grow, and with new sites being commissioned, and further support packages announced, this trend looks likely to continue.

Supporting the increasing number of DC sites is a growing number of AC public charging stations, which grew by 16 per cent, year on year, with 1950 charging stations across more than 1200 sites.

There are some good examples of new infrastructure, with the Queensland Government extending its Electric Super Highway fast charging network to 31 sites, allowing EV travel from Coolangatta to Port Douglas and Brisbane to Toowoomba. The West Australian Government has also committed to fully connecting its entire jurisdiction with chargers statewide.

### Bi-directional charging

Both the Nissan LEAF and LEAF e+ are capable of bi-directional charging, meaning energy can not only flow from charger to vehicle, but can also be returned back to a home or other



premises. A feature that has the opportunity to revolutionise personal energy storage for consumers, it also has significant potential to assist with imbalances in the electrical grid system.

Although the technology is not yet available localy, the LEAF and LEAF e+ are part of a select few vehicles in Australia to have this capability. Nissan is involved in multiple programs with industry partners to help roll out this exciting technology.

#### **REVS**

As part of Nissan's commitment to bringing vehicle-to-grid energy solutions to reality here in Australia, it is currently

engaged in the Realising Electric Vehicle Services (REVS) project. The project received funding from the Australian Renewable Energy Agency (ARENA) as part of its Advancing Renewables Program.

The trial, which utilises 51 Nissan LEAF EVs as part of the ACT Government's vehicle fleet, is focused on providing Frequency Control Ancillary Services (FCAS) to the National Electricity Market, utilising Nissan infrastructure partner JET Charge's prototype V2G hardware as part of the trial.

The FCAS system refers to the energy used to keep a power grid operating at its optimum levels at times of fluctuating demand. It's this injection or reduction of

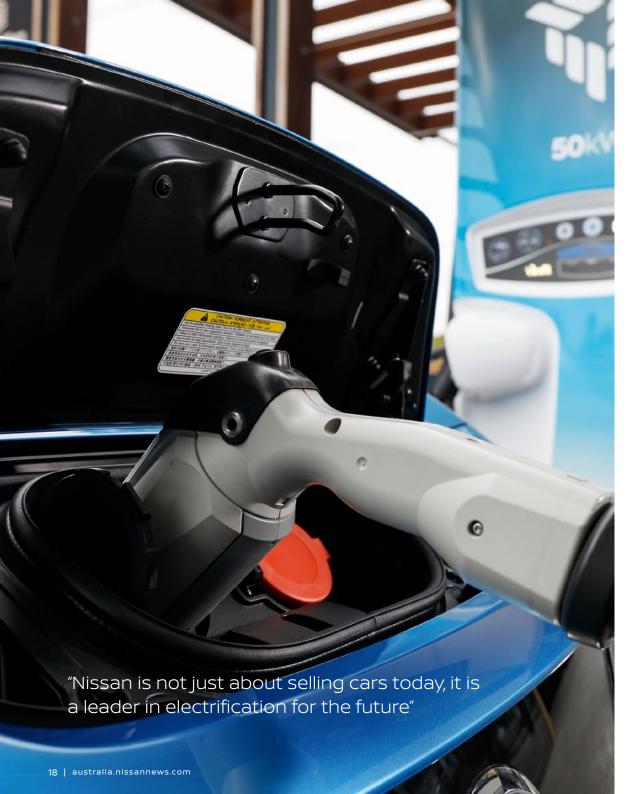
power that prevents instability in the grid that can lead to blackouts. The trial will focus on the ability of the Nissan LEAF to provide energy to the grid to help stabilise the load in peak and off-peak periods.

The results of this study will help pave the way for future applications in both commercial and residential settings.

Nissan is further supported by the following partners within the REVS project:

- ActewAGL
- The Australian National University (ANU)
- JET Charge
- Evoenergy
- SG Fleet
- The ACT Government





### Nissan engagement

Nissan is not just about selling cars today, it is a leader in automotive electrification, so it feels it has a responsibility to help prepare the industry and the country for what lies ahead — the mass adoption of electric vehicles.

With this in mind, it is engaging in discussions with federal, state and local governments, academia and industry, energy companies and automotive associations to help increase awareness and infrastructure, promote partnerships and to engage the community.

It is also lobbying governments on EV policy direction, by way of incentives for buyers (both financial and non-financial) and improved, and increased, infrastructure — like charging points.

### JET Charge

Helping Nissan with its EV charging infrastructure is JET Charge.

JET Charge has taken part in the fit-out and installation of EV hardware

in select Nissan dealerships nationwide, offering industry-leading expertise, support and service for our EV customers around Australia.

JET Charge electricians are trained to understand EV-charging hardware, and the cars they are designed to charge, delivering a service tailored to the Nissan Dealership network.

With more than 90 EV-ready dealerships, Nissan LEAF owners can be safe in the knowledge that they are supported by Australia's largest EV-ready dealer network.

JET Charge is also Nissan Australia's preferred consumer charger-installation and support partner.

Upon the sale of each LEAF and LEAF e+, the Nissan dealer can arrange for JET Charge to install the customer's very own dedicated charging equipment in their home, before the final vehicle delivery in most cases. This optional service can be added to the final purchase price of the vehicle, making for a clean, easy and convenient experience.



### Purchase & Service

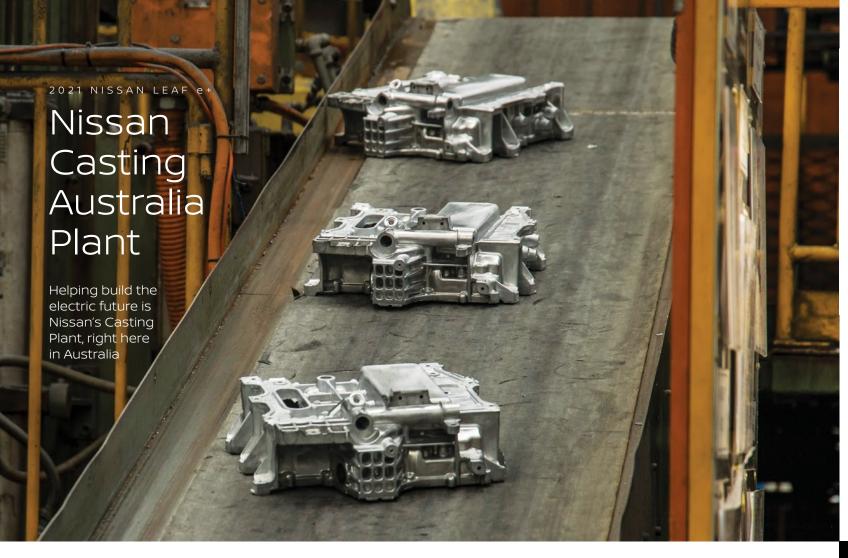
hen the Nissan LEAF first arrived, it was one of the first 100-percent electric vehicles of any type to be sold in Australia.

Initially, LEAF could be purchased and serviced at 12 specially accredited dealerships across the nation, rising to 20 soon after.

As it stands today, more than 90 dealerships across Australia are equipped to meet the needs of current and future Nissan EV owners, creating the largest EV dealer network in Australia and providing unmatched OEM support to owners.

The network includes 60 metropolitan dealerships across all six metro cities, including Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.

In addition, a further 27 provincial centres, in locations such as Canberra, Darwin, Gold Coast, Cairns and Fremantle are also 'EV ready', which means that sales and service technicians have been fully trained, and the dealership has the expertise and infrastructure to service a LEAF model, and has access to spare parts and accessories.





n 1982, Nissan Australia began manufacturing parts at its dedicated casting plant. More than 35 years later it is still delivering; proving that automotive manufacturing in Australia is still alive and well.

With a production lineage that dates back over 50 years, Nissan first started assembling cars in Sydney in 1966, well before full-line local production began in 1972.

Today, the Nissan Casting Australia Plant (NCAP) continues to supply parts for Nissan vehicles, thanks to its facility that sits on 90,000 square metres of prime real estate in south-east Melbourne.

Employing approximately 200 highly skilled workers, the Nissan Casting Australia Plant runs three shifts a day, making approximately 2.5 million die-cast aluminium parts and over 25,000 accessories annually.

Currently, NCAP manufactures several parts exclusively for the second-generation Nissan LEAF, including an EV Inverter water jacket, Inverter cover, Inverter case and the Motor Stator Housing.

This is the only plant in the world that makes these parts for LEAF.

Exporting to Japan, USA, Thailand and Mexico, around 50 per cent of parts sales out of NCAP are for EV and e-POWER vehicles, and every item produced here includes a unique Kangaroo insignia highlighting that they are truly 'Australian Made'.





he Nissan LEAF and LEAF e+ prove that efficiency need not come at the cost of driving excitement. Heavy components, including the battery, are placed in the centre of the body – lowering the centre of gravity by five per cent over the previous generation LEAF — helping achieve smaller yaw moments of inertia compared with front-engined vehicles, and thereby improving directional stability and enabling smoother cornering.

The Nissan LEAF electric power steering system has a linear feel, enhancing confidence, especially on highways. High levels of responsiveness and stability when cornering and a lock-to-lock ratio of 2.7 turns help to improve steering speed and feel, too.

At launch, the LEAF was treated to a software upgrade — a new control logic working in conjunction with the steeringangle sensor. Paired with a 10 per cent increase in steering torsion bar stiffness, the LEAF was gifted with adept steering control, and this carries through to the LEAF e+ model.

The Nissan LEAF and LEAF e+ are also equipped with Intelligent Trace Control and Intelligent Ride Control. Both are designed to improve ride quality and steering control.

### Intelligent Trace Control

Intelligent Trace Control applies a small amount of braking automatically to each wheel to help the vehicle stay on its intended path.

Intelligent Trace Control can engage at any part of a corner (entry, middle, exit) if it determines the vehicle is departing from its steered direction.

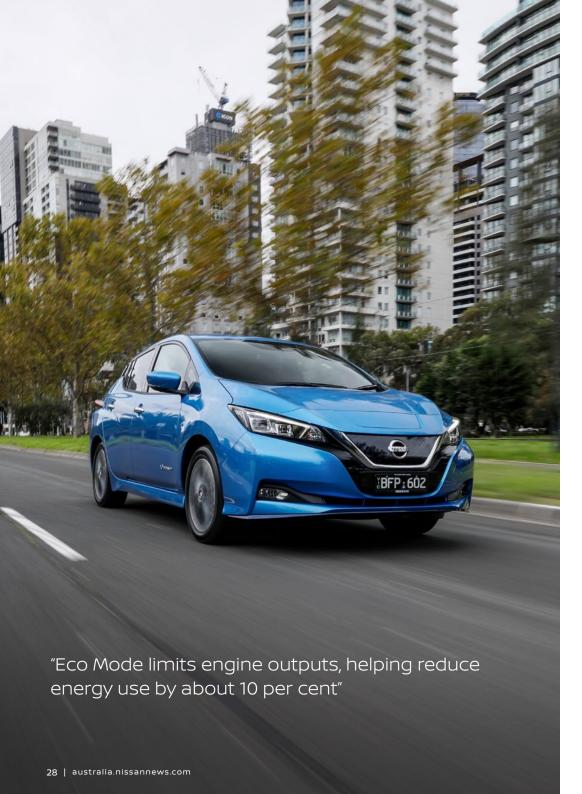
Based on the ESC system, which monitors steering input, wheel speed, yaw rate and lateral/longitudinal forces, it can engage at any point in the corner to maintain smooth control.

### Intelligent Ride Control

Intelligent Ride Control aims to minimise the fore-aft pitching motion that can contribute to motion sickness.







Engine torque is varied slightly according to the bumps in the road surface, with a small amount of braking designed to reduce the pitch motion when going over bumps.

This results in faster damping of the pitch motion than when using the vehicle's shock absorbers alone.

Engine torque and brake applications are small and smooth, to calm the body motion without the driver noticing.

### **Driving Modes**

The Nissan LEAF can be driven in four drive modes, these being D Mode, B Mode, Eco Mode and B+ Eco Mode.

D Mode gives the driver the most responsive drive and the maximum EV performance.

Many people don't realise just how much fun the LEAF is to drive, with its instant power and torque. The D mode is the setting that brings that fun to the fore.

B Mode offers maximum regenerative braking. With more powerful braking it helps increase the car's driving range and reduces brake-pad wear.

Eco Mode limits engine outputs, helping save energy by about 10 per cent.

Wanting to achieve more kilometres per charge? The B+ Eco Mode is the optimum setting to help achieve this. With maximum regenerative braking, the disconnection of energy-intensive systems which limit engine outputs, and reduced brake-pad wear, energy savings of up to 30 per cent can be achieved over the regular D mode. All of these driving modes can be paired with the e-Pedal, which allows the user to drive with the use of one pedal only.



### Noise, Vibration and Harshness (NVH)

The comfort and quietness of the Nissan LEAF delivers a peaceful in-car experience. Even at highway speeds, the Nissan LEAF's cabin stays quiet.

Along with producing less drag, the LEAF has been sculpted and refined aerodynamically, leading to incredibly low levels of wind noise.

Noise-reduction measures include optimisation of the inverter's structural rigidity, and a noise-isolating cover on top of the Power Delivery Module.

The noise from the electric motor itself was also reduced over the original LEAF, despite generating more torque and power. Additionally, rubber bump stops were specifically designed for the model's rear suspension, reducing shocks and bumpiness when driving on uneven roads.



### Exterior Design

Sleek silhouette to complement pioneering tech

he Nissan LEAF design is inspired by the IDS Concept car - first shown at the 2015 Tokyo Motor Show — and has a sporty, eyecatching body that represents the car's dynamic EV personality.

Nissan's philosophy behind the exterior design was to express clean and simple lines. A robust and sleek silhouette creates the feeling of a high-tech device.

Horizontal character lines, the bumper, and the striking highlights in the lower part of the body all underscore the lower centre of gravity, and offer an instinctive feeling that it's agile and fun to drive.

The signature V-Motion grille, the "boomerang" light signature and the floating roof emphasise the presence of Nissan brand design.

A clear-blue 3D mesh pattern with a "freezing" motif, on a flush surface inside the V-Motion grille, expresses the model's uniqueness as an EV. Dusk-sensing LEDs with dual, directlens low and high beams continue to light the way in the LEAF e+.

More mechanical details and a floating signature configuration express a high-tech feel, while visibility and safety are improved

by enhancing forward illumination coverage, optimally balancing design and functionality.

Rear combination lamps feature a unique signature that's easily recognisable from a distance.

A spoiler integrated in the window graphics gives the Nissan LEAF range an impressive, sporty look, while the low bonnet blends flawlessly into the windshield and floating roof, creating a sleek silhouette.

The underfloor and a diffuser-type rear bumper combine to achieve reduced drag and zero lift, resulting in improved vehicle stability.

Thanks to the aerodynamic body styling, including a rear bumper with a clear-cut curve and aero-design wheels, the drag coefficient of the Nissan LEAF is a low 0.28.

The angle of the charging port at the front is configured for user convenience, letting the customer connect the charging cable without bending down, changing its positioning from 30 degrees to 45 degrees.

Testing by Nissan shows that this 45-degree angle allows drivers of all heights to easily and comfortably connect the charger.





### Interior Design

Premium ambience with a clean, relaxed, high-tech feeling

he Nissan LEAF's cabin features roominess and openness with the brand design language "Gliding Wing" used as a framework.

### 7-inch Advanced Drive-Assist™ Display

The driver-information display has a simple, light configuration without excessive decoration.

It focuses on visibility, creating a tasteful, understated look and feel with excellent spaciousness and functionality.

Through the thoughtful design of the centre console and switchgear, the Nissan LEAF gives drivers the information they need, where they need it. This helps them focus on what really matters the most; an enjoyable drive.

When the car is activated, a start-up movie is displayed, giving the driver a sense of excitement about driving an electric car.

Monitors and switches have also been designed for smart, stress-free operation. Most notable is the combination of an analogue speedometer and a multiinformation display.

On the left side, the 7-inch, full-colour, thin-film transistor (TFT) display shows a power gauge meter as the standard

setting. However, the driver can easily change the information that's displayed.

The centre display has a screen with a flush-surface design, allowing the driver to easily operate audio and navigation systems and connect to smartphones intuitively.

It also shows Nissan Intelligent Mobility technologies, the vehicle's charge and a power gauge, as well as audio and navigation system information.

### Apple CarPlay® & Android Auto™

Undoubtedly the biggest feature on the centre console is the 8-inch touch colour display – which is compatible with Apple CarPlay® & Android Auto™ smartphones.

### Steering Wheel

The multi-function D-shaped flatbottomed heated steering wheel is sporty in its design, and is leatheraccented for a more premium feel and improved grip.

The audio functions can be modified, cruise control set, and the driver can flick through the Advanced Drive-Assist™ Display, all without taking their hands off the steering wheel.

#### Front Console

The front console features a modern aesthetic for both the LEAF and LEAF e+ models.

Dual cup holders, in a tandem configuration, sit between the driver's seat and front passenger seat. This allows for a storage area at the base of the centre console — ideal for a smartphone or wallet — as well as an easily accessible power switch, a 12-volt outlet and a USB port.

The ergonomic centre-console design



removed as much as possible, allows greater space utilisation, increasing convenience and usability.

The rear cargo space can accommodate two large suitcases or three medium-sized airline carry-on suitcases, thanks to the 1000mm width of the boot area.

### Seating

Customers will immediately notice the signature vibrant blue stitching, a hallmark of Nissan EVs, in the seats.

The LEAF has comfortable leatheraccented seats that are heated in both the front and rear.

The driver's seat is adjusted by a six-way manual lever, while the passenger seat can be repositioned using a four-way lever. Rear seats have a 60:40 split.



gives easy access to the controls and switchgear in the lower portion.

Energy-efficient air-conditioning and heating systems provide elevated comfort inside the cabin for all occupants, whether in the front or rear.

The fact that there is no discernible difference in interior cabin space is remarkable, considering the energy capacity differences between the LEAF and LEAF expenses.

### Cargo space

The rear cargo area offers 405 litres (VDA) of available stowage.

The square space, with bumps



# Powertrain & range

The focal point of the Nissan LEAF is the incredible electric powertrain





he e-powertrain delivers an exhilarating, linear driving performance, with a power output of 110kW for the LEAF and 160kW for the newly released LEAF e+.

Fun to drive and with instantaneous acceleration, the LEAF produces 320Nm of torque, the LEAF e+ raises that to 340Nm.

Existing Nissan LEAF drivers already love the instant response and linearity of performance as they navigate the city and the new Nissan LEAF e+ has improved acceleration which will boost that enjoyment even further.

In Australia, 45 per cent of respondents to a poll curated by the Electric Vehicle Council said that range remained a discouraging factor in EV ownership.

However, 79 per cent of that same sample indicated a range of less than 400km per charge would meet their requirements and expectations.

In reality, the average driving distance per day for Australians is under 40km. With the LEAF covering an indicative driving range of up to 270km<sup>1</sup> and the LEAF e+ increasing this capability to an indicative driving range of 385km<sup>2</sup>, Nissan has

delivered a solution that more than satisfies the daily driving needs of the majority of Australians looking to purchase an EV, with the capacity to tackle longer journeys as and when required.

When designed for the current-model LEAF, the battery added additional energy storage capacity without a visible increase in battery size.

It did this by improving the individual cell structure of the laminated lithium-ion battery cells, which ensured an impressive increase in energy density.

Another key engineering improvement for the lithium-ion battery pack is enhanced electrode materials with revised chemistry, resulting in higher power density while contributing to greater battery durability upon charge and discharge.

Additional changes were made to the battery to achieve a 22kWh increase for the LEAF e+, allowing improved charging and driveability as a result.

While the previous battery pack modules composed of eight laminated-structure cells, the new Nissan LEAF e+ uses a new

40 | australia.nissannews.com



battery module design that allows for cell modules to vary in number. The new battery module uses an innovative laser welding technique on the cell joints to reduce the overall length of the module. At the same time, by changing the number of lamination layers of the cell, an optimal module height that matches the shape of the vehicle can be achieved.

The combination of these technologies has made it possible achieve high energy density efficiently inside the battery pack.

The key components for achieving this higher density and reliability are the ternary cathode material and laminated-structure cells (battery cells).

Ternary cathode material increases battery storage capacity by allowing lithium ions to be tightly packed (higher density). Laminated-structure battery cells have a high level of cooling performance and a simple structure, reducing the overall size of the battery pack.

2021 NISSAN I FAF e+

### Charging

Faster to charge, and more ways to use your power

MODE-3 TYPE-2 EVSE cable for AC charging is supplied to charge both the Nissan LEAF and LEAF e+.

The connector angle, for these cables is set at 45 degrees to improve visibility and user posture for better ergonomics.

Charging status is supplied by indicator lights on the dash. This is positioned to be visible from both inside and outside the vehicle

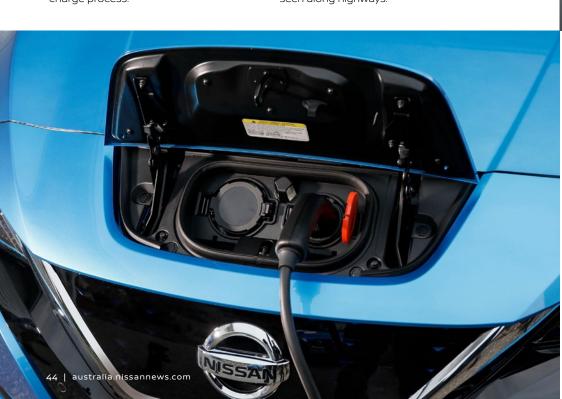
Once the charge connector lock is on, the number of lights indicate the charge process.

The Nissan LEAF can be charged in one of three ways.

Firstly, using a Mode 3 cable, with a dedicated EVSE plug, enables connection to an AC charger. Alternatively, a Mode 2 cable will allow a LEAF owner to charge via a standard 10A 230V wall socket.

Mode 4 tethered to a CHAdeMO DC charger is designed for quick charging via a direct current.

These chargers are most commonly seen along highways.





### Charging Times

There are three levels of charging times for the new Nissan LEAF

The first, via the three-pin 10A 230V Mode 2 wall socket, is best suited for those that have light driving habits, and recharges the battery in approximately 21 hours (40kw) or 32 hours (62kw)3.

A second-level charge - from a Mode 3 connection - takes approximately 7.5 hours (LEAF) or 11.5 hours (LEAF e+) (from empty warning to full)4. This set-and-forget system delivered by a garage wallbox can charge the LEAF overnight ready for the day ahead much like a mobile phone - operating in low-demand periods for cheap, effective charging.

Finally, the 50kWh CHAdeMO fast charging point has the ability to accomplish a charge from 20 per cent to 80 per cent within approximately 60 minutes⁵. Meanwhile, the LEAF eis capable of charging at up to 100kWh, allowing the battery to be fully replenished in 45 minutes, despite the larger capacity.



# Nissan Intelligent Mobility





### Refining how we drive

Nissan is committed to making transportation safer, smarter and more enjoyable. Nissan Intelligent Mobility (NIM) is the roadmap, providing a vision for the future of motoring.

Nissan Intelligent Mobility, which is designed to transform the way you drive and how you live, encompasses three core areas of innovation: how our vehicles are powered (Nissan Intelligent Power), how they are driven (Nissan Intelligent Driving), and how they are integrated into society (Nissan Intelligent Integration).

These developments aren't in the future, they are taking shape in the Nissan vehicles our customers are driving today.

### Nissan Intelligent Power

Nissan's leadership in electric vehicles demonstrates not only our commitment to progress and the environment but also to bringing cleaner, quieter power and transportation to the world.

As one of the world's best-selling electric vehicles, the Nissan LEAF has redefined what an electric car can be

It gives you instant torque and zero tailpipe emissions, proving that sustainable transportation doesn't have to compromise the thrill of driving.

### Nissan Intelligent Driving

Today, Nissan vehicles offer technologies that help look out for you and some of





them can even take action and help you avoid trouble.

Intelligent Around-View™ Monitor, uses four cameras to give you a virtual 360° bird's-eye view of your vehicle, and is a great example of advanced technology featured on a wide variety of Nissan vehicles today.

### Nissan Intelligent Integration

At Nissan, we're working to understand what the road of the future will look like. Nissan is helping to establish a more sustainable ecosystem, enabling cars to interact with people, homes, other cars and road infrastructure.

This approach will eventually lead to remote vehicle operation, reduced traffic jams, more efficient car-sharing and improved energy management.

### NIM and the Nissan LEAF

As one of the icons of NIM, the Nissan LEAF sets a new standard in the growing market for mainstream electric cars by offering customers greater range and advanced technologies.

Drivers will feel more confident, excited and connected thanks to the Nissan e-Pedal8, increased power and range, and improved comfort and convenience.

Nissan's zero-tailpipe-emission LEAF embodies Nissan Intelligent Mobility, the company's approach to changing the way cars are driven, powered and integrated into society.

### Nissan Intelligent Driving

Headlining the LEAF range in terms of Nissan Intelligent Driving technology is the e-Pedal.

The e-Pedal — offered as standard equipment — enhances the Nissan LEAF driving experience by allowing the driver the simplicity of starting, accelerating, decelerating, stopping and holding the car by using the accelerator pedal alone - a revolutionary innovation that can entirely change the way people drive their vehicles.

By simply releasing the accelerator, the car will come to a smooth and complete stop and hold there without the need to press the brake pedal.

With a deceleration rate of up to 0.2q, the e-Pedal reduces the need for drivers to constantly move their foot from the accelerator to the brake pedal to slow down or stop, reducing fatigue and increasing enjoyment.

Studies by Nissan in Japan, Europe and the U.S. have showed that the Nissan LEAF e-Pedal reduces the number of times the driver must apply the brakes while commuting in heavily congested traffic.

While the conventional brake pedal must still be used in aggressive braking situations, the e-Pedal<sup>8</sup> lets drivers use a single pedal for more than 90 per cent of their driving needs.

It also features Auto Hold. Once the vehicle reaches a complete stop, hydraulic bake pressure is applied to all four wheels to hold the vehicle. To release the auto hold, simply accelerate as normal.

Along with e-Pedal, the Nissan LEAF is equipped with a set of advanced safety technologies including Intelligent Around-View Monitor, Intelligent Driver Alert, Predictive Forward Collision Warning, Intelligent Emergency Braking (with pedestrian detection), Intelligent Lane Intervention, Blind Spot Warning and Rear Cross Traffic Alert.

### Nissan Intelligent Power

The focal point of Nissan Intelligent Power in the LEAF is the e-powertrain, which offers improved energy efficiency and increased torque and power output. This has been updated for the LEAF e+ to provide an additional 50kW of power and 20Nm of torque.

### Nissan Intelligent Integration

Using vehicle-to-home systems, the battery makes it possible to store surplus solar power during the daytime and then use it to help power the home in the evening.

Alternatively, customers can also recharge the battery of the LEAF in the middle of the night, during the cheaper off-peak times, and then use the electricity during the day to reduce energy costs.

Nissan is working closely with a range of key partners in Australia to make this exciting and futuristic technology a reality.





he Nissan LEAF keeps passengers safe, with six SRS airbags (driver and passenger front, side, and curtain airbags) plus ISOFIX anchor points in the rear of the cabin.

Under the Nissan Intelligent Mobility banner, the Nissan LEAF boasts an array of innovative and accessible technologies, designed to bring maximum convenience, comfort and driver engagement.

### Predictive Forward Collision Warning

The Predictive Forward Collision Warning system utilises a radar installed at the front of the vehicle that can analyse the relative velocity and the distance to a vehicle directly ahead, as well as a vehicle traveling in front of the preceding one.

When the system detects potential risks, the system gives an alert to encourage

the driver to decelerate in advance with a signal on the display, audible warning and also by tightening the seat belt.

These functions work to help prevent pileup collisions, which may be caused by late brake application by the driver. The technology perceives risks outside the driver's field of view

### Intelligent Emergency Braking

This technology detects potential forward obstacles and assists drivers in avoiding collisions with vehicles and pedestrians, as well as reducing damage caused by collisions.

When the system detects danger it warns the driver with audible and visual warnings, urging the driver to take the appropriate action to avoid the danger.





If the driver fails to decelerate, it will apply an emergency brake and decelerate to either help avoid a collision, or reduce the damage caused by a collision should one be unavoidable.

### Intelligent Lane Intervention

When you start to drift from your lane, the Intelligent Lane Intervention system alerts you with a visual warning on the display and an audible signal designed to capture your attention..

If Intelligent Lane Intervention detects that you are still straying from your lane, it will brake the inside wheels to gently help guide you back.

### Intelligent Around-View® Monitor with Moving Object Detection

The Intelligent Around View® Monitor is a technology that Nissan pioneered in 2007, providing a 360-degree bird's-eye view around the vehicle, which can be viewed on the 8-inch display screen.

This system helps to give the driver confidence when manoeuvring around tight spaces and provides an additional safety benefit for both the vehicle and any pedestrians.

In addition, the Intelligent Around View® Monitor is also equipped with Moving Object Detection, which utilises the Intelligent Around View® Monitor to inform the driver should an object enter the detection zone.

The system will provide the driver with a visual warning by highlighting the screen on the centre display in yellow and an audible warning to alert the driver that something may be in the vehicle's path.

Moving Object Detection will operate automatically under the following road conditions:

- When the vehicle has been placed into reverse
- When the camera button is pressed to activate the camera view on the screen
- When the vehicle speed decreases below approx. 8km/h and the camera screen is displayed.

### Intelligent Cruise Control

While standard cruise control locks in a driver's speed so that the vehicle maintains this, the 'Intelligent' version will reduce speed based on the traffic flow ahead, maintaining the gap to the car in front.

So if the speed limit is 100km/h, and this is input into the Intelligent Cruise Control system, if traffic congestion has the car in front doing 80km/h, then your car will also drop speed to maintain the gap.

When traffic gets back up to 100km/h, so too will your vehicle.

### Rear Cross Traffic Alert

This reduces the risk of low-speed impacts, especially when reversing out of a parking space.

If the driver attempts to reverse when an approaching vehicle is detected, the system gives visual and audible warnings.



### Intelligent Driver Alertness

The system ensures the LEAF 'gets to know you' so that it can tell when the driver is getting drowsy.

After learning your driving style, the system will monitor inputs, showing a dashboard alert if steering becomes erratic, indicating the driver should take a break.

### High Beam Assist

This uses a high-resolution camera combined with advanced software to provide a sophisticated automatic high and low headlight beam function.

The system applies or dips the high beam depending on lighting conditions and oncoming traffic, providing the maximum amount of light for any driving scenario.





### Vehicle Sound for Pedestrians

This unique system alerts pedestrians when the LEAF is driven at low speeds.

EVs are quieter than most cars, and harder for pedestrians to hear, so when the LEAF is travelling below 30km/hour, and in reverse, it lets out an audible sound.

### Blind Spot Warning

The Blind Spot Warning system is designed to inform the driver if there is a vehicle in their blind spot.

Blind Spot Warning operates when the vehicle is traveling above approx. 32km/h and will detect vehicles on either side of the vehicle within the detection zone. The detection zone is approximately 3m behind the vehicle and 3m to the left and right.

The system utilises two radars (left and right) at the rear of the vehicle to detect vehicles in the adjacent lanes.

If a vehicle enters the detection zone, the Blind Spot Warning System provides the driver with a visual warning by illuminating an indicator light located in the driver and passenger side mirror trim panels.

If the driver then indicates while the light is illuminated, a warning chime will sound and the lights will begin to flash to inform the driver.

### Hill Start Assist

This uses Vehicle Dynamic Control and braking systems to hold the vehicle for up to two seconds when stationary on an incline.





#### Content Disclaimers

- 1. 315km range tested to Australian NEDC ADR81/02 standard. 270km indicative driving range using the new WLTP test procedure for the European spec model. Note Australian model has not been tested using WLTP test procedure. Figures obtained after the battery was fully charged. Figures stated for the purposes of comparison amongst vehicles tested to the same technical procedures only. Actual real world driving range may vary depending on factors such as battery age and condition, driving style, use of heating/cooling, traffic conditions, weather conditions, any accessories fitted and vehicle load.
- 2. 450km range tested to Australian NEDC ADR81/02 standard. 385km indicative driving range using the new WLTP test procedure for the European spec model. Note Australian model has not been tested using WLTP test procedure. Figures obtained after the battery was fully charged. Figures stated for the purposes of comparison amongst vehicles tested to the same technical procedures only. Actual real world driving range may vary depending on factors such as battery age and condition, driving style, use of heating/cooling, traffic conditions, weather conditions, any accessories fitted and vehicle load.
- 3. Home charging time is based on, and requires use of a 10A / 230v wall socket (GPO). Home Charging time will be dependent on charging conditions, including Home Charging type and condition, battery temperature and size as well as ambient temperature at point of use. Home Charging time is based on Nissan testing. Before using this product at home, consult with a licensed electrician to ensure your homes electrical system can support the use.

- 4. Home Charging time is based on, and requires use of a 32A / 6.6kW (7kW) wall box. Home Charging time will be dependent on charging conditions, including Home Charging type and condition, battery temperature and size as well as ambient temperature at point of use. Home Charging time is based on Nissan testing. Before using this product at home, consult with a licensed electrician to ensure your homes electrical system can support the use.
- 5. Time dependent on charging conditions, including charger type and condition, battery temperature as well as ambient temperature at point of use. Indicated rapid charging time requires use of a CHAdeMO rapid charger. The Nissan LEAF (40kW & 62kW) are designed to support the majority of journeys in daily life and is equipped with charging safeguards to protect the battery during repeated rapid charging sessions in a short period of time. The time taken for successive rapid charging can take longer if the battery temperature activates the battery safeguarding technology.
- 6. Manufacturer suggested retail prices (MSRP) are provided for media purposes only and do not include statutory charges or other on-road costs.

60 | australia.nissannews.com ¶ ♥ ♥ @nissan aus | 61



Specifications	40kW	e+ 62kW
Drivetrain		
Motor	AC synchronous (EM57)	AC synchronous (EM57)
Battery	Laminated lithium ion	Laminated lithium ion
Battery capacity (kWh)	40	62
Battery voltage (V)	350	350
Driven wheels	2	2
Fuel type	Electricity	Electricity
Transmission	Reduction drive	Reduction drive
Drive selector	Shift-by-wire	Shift-by-wire
ECO Mode	•	•
	<del></del>	
Performance		

Performance		
Acceleration, 0-100km (sec)	7.9	6.9
Top speed (km/h)	145	158
Electricity Consumption (Wh/km)	171	180
Maximum power (kW @ 3283-9795 rpm)	110	160
Maximum torque (Nm @ 0-3283 rpm)	320	340
Driving range, indicative real-world WLTP standard (kms)	270◊	385⁰⁰
CO2 emissions while driving (g/km)	0	0

Brakes & Suspensions		
Brake type (front and rear)	Ventilated disc	Ventilated disc
Anti-lock Braking System with Electronic Brakeforce Distribution	•	•
Brake Assist	•	•
Intelligent Trace Control	•	•
Intelligent Ride Control	•	•
Foot-operated park brake	•	•
e-Pedal "one pedal driving"	•	•
Suspension, front	MacPherson strut	MacPherson strut
Suspension, rear	Twist beam axle	Twist beam axle

Wheels & Tyres		
17" alloy wheels	•	•
Tyres	215/50 R17	215/50 R17
Temporary wheel	•	•

Charging		
On-board AC charger		
Capacity (kW)	6.6	6.6
Charging port	Type 2 (Mennekes)	Type 2 (Mennekes)
Charging time (empty warning to 100%): 10A MODE-2 cable with 3-pin domestic socket	21h00#	32h00#
Charging time (empty warning to 100%): 32A MODE-3 cable with Type 2 socket	7h30*	11h30*
On-board DC quick charger		
Capacity (kW)	50	100
Charging port	CHAdeMO	CHAdeMO
Charging time (empty warning to 20%): 50kW CHAdeMO quick charger	60min <sup>o</sup>	90min <sup>o</sup>
Charging time (20% to 80%): 100kW CHAdeMO to quick charger <sup>6</sup>	60min <sup>o</sup>	40min <sup>o</sup>
Bi-directional charge capability <sup>5</sup>	•	•
lluminated charging port with remote opening	•	•
On-board charge timer	•	•
5-meter 32A MODE-3 charging cable (Type 2)	•	•

Specifications	40kW	e+ 62kW
Exterior Features		
LED signature daytime running lights	•	•
Dusk-sensing LED headlights with auto levelling system	•	•
Friendly Lighting function	•	•
High Beam Assist	•	•
LED signature rear lights	•	•
Privacy glass (second row and rear)	•	•
Auto-folding heated door mirrors with integrated LED turn indicators	•	•
Front and rear fog lamps	•	•
Rear spoiler	•	•
Gloss black floating roof	•	•
Metallic blue rear bumper finisher	•	•
Chrome door handles	•	•
Metallic blue front bumper finisher	-	•
Metalic blue nont bumper misner		•
Comfort / Convenience	I	
Advanced Drive-Assist® Display	•	•
	•	•
Digital speedometer	•	•
Climate control with on-board timer		-
Intelligent Key® with push button start	•	•
Intelligent Cruise Control	•	•
Hill Start Assist		-
Outside temperature display	•	•
Rain-sensing front wipers	•	•
Intermittent rear wiper	•	•
Power windows with driver one-touch up/down	•	•
Driver and front passenger vanity mirrors with illumination	•	•
Auto-dimming rearview mirror	•	•
	ı	
Seating / Appointments		
Tilt-adjustable leather-accented steering wheel* with heating function	•	•
Black leather-accented seat trim* with Ultrasuede® inserts	•	•
6-way manual-adjustable driver seat		
4-way manual-adjustable front passenger seat	•	•
Heated seats (front and outboard rear)	•	•
60:40 split rear seats	•	•
Front centre armrest	•	•
Carpet mats	•	•
Connectivity / Entertainment		
Connectivity / Entertainment	•	•
8" colour touch-screen display		
Satellite navigation with traffic monitoring	•	•
Apple CarPlay® and Android Auto® smartphone mirroring <sup>△</sup>	•	•
Audio system with AM/FM and Digital Radio (DAB+)	•	•
Bluetooth® audio streaming	•	•
Bluetooth® hands-free phone system	•	•
Voice recognition	•	•
7-speaker Bose® Energy Efficient premium audio system	•	•
iPod® compatible USB port^	•	•
12V power outlet	•	•

Specifications	40kW	e+ 62kW	
	40KW	e+ 62kW	
Safety / Security			
Front, front-side and side curtain airbags	•	•	
Vehicle Dynamic Control with Traction Control System	•	•	
3-point Emergency Locking Retractor front and rear seatbelts	•	•	
Child restraint anchorage (RH/LH ISOFIX + tether and centre tether)	•	•	
Rearview camera with predictive path technology	•	•	
Intelligent Around-View® Monitor with Moving Object Detection	•	•	
Parking sensors (front and rear)	•	•	
Intelligent Forward Collision Warning	•	•	
Intelligent Emergency Braking with pedestrian detection	•	•	
Blind Spot Warning	•	•	
Rear Cross Traffic Alert	•	•	
Lane Departure Warning	•	•	
Intelligent Lane Intervention	•	•	
Intelligent Driver Alertness	•	•	
Traffic Sign Recognition	•	•	
Tyre Pressure Monitoring System	•	•	
Vehicle Sound for Pedestrian (low-speed)	•	•	
Seatbelt reminder (front and rear)	•	•	
Alarm	•	•	
Dimensions			
Exterior			
Overall length (mm)	4490	4490	
Overall width without mirrors (mm)	1788	1788	
Overall width with mirrors (mm)	2030	2030	
Overall height (unladen) (mm)	1540	1540	
Wheelbase (mm)	2700	2700	
Track width, front/rear (mm)	1530 / 1545	1530 / 1545	
Ground clearance (mm)	155	155	
Turning circle (kerb-to-kerb) (m)	11	11	
Coefficient of drag	0.28	0.28	
Approach angle (°)	14.5 / 15.0	14.5 / 15.0	
Departure angle (°)	23.5 / 24.0	23.5 / 24.0	
Interior			
Head room front / rear (mm)	142 / 40	142 / 40	
Hip room front / rear (mm)	1308 / 1270	1308 / 1270	
Leg room front / rear (mm)	641 / 594	641 / 594	
Shoulder room front / rear (mm)	1382 / 1335	1382 / 1335	
Cargo length (mm)	790	790	
Cargo width (mm)	1103	1103	
	,		
Weights & Capacities	I		
Seating capacity	5	5	
Cargo capacity, seats up (litres)	405	405	
Cargo capacity, seats down (litres)	1176	1176	
Kerb weight (kg)	1594	1736	
Gross Vehicle Mass (kg)	1988	2140	
Maximum payload (kg)	437	409	

64 | australia.nissannews.com

Maximum roof load (kg)

Specifications	40kW	e+ 62kW
Exterior colours		
Arctic White (326)	S	S
Magnetic Red (NAJ)	P	P
Magnetic Red with with Pearl Black Roof and Mirrors (XDS)	Р	P
Pearl Black (Z11)	Р	P
Platinum (KY0)	P	P
Gun Metallic (KAD)	Р	P
Gun Metallic with Pearl Black Roof and Mirrors (XDJ)	P	P
Vivid Blue (RCA)	Р	P
Vivid Blue with Pearl Black Roof and Mirrors (XDY)	Р	P
Ivory Pearl with Pearl Black Roof and Mirrors (XDF)	P	P

Premium paint available at extra cost

Standard paint

- \* Manufacturer suggested retail prices (MSRP) are provided for media purposes only and do not include statutory charges or other on-road costs.
- ^ iPod is a registered trademark of Apple Inc.

Standard

- <sup>9</sup> 315km range tested to Australian NEDC ADR81/02 standard. 270km indicative driving range using the new WLTP test procedure for the European spec model. Note Australian model has not been tested using WLTP test procedure. Figures obtained after the battery was fully charged. Figures stated for the purposes of comparison amongst vehicles tested to the same technical procedures only. Actual real world driving range may vary depending on factors such as battery age and condition, driving style, use of heating/cooling, traffic conditions, weather conditions, any accessories fitted and vehicle load.
- 99 450km range tested to Australian NEDC ADR81/02 standard. 385km indicative driving range using the new WLTP test procedure for the European spec model. Note Australian model has not been tested using WLTP test procedure. Figures obtained after the battery was fully charged. Figures stated for the purposes of comparison amongst vehicles tested to the same technical procedures only. Actual real world driving range may vary depending on factors such as battery age and condition, driving style, use of heating/cooling, traffic conditions, weather conditions, any accessories fitted and vehicle load.
- <sup>†</sup> Leather accented features and upholstery may contain synthetic material.
- <sup>a</sup> CarPlay is a registered trademark of Apple Inc. Android Auto is a registered trademark of Google LMC. Compatible device and USB connection required.
- \* This Home Charging time is based on, and requires use of a 32A / 6.6kW (7kW) wall box. Home Charging time will be dependent on charging conditions, including Home Charging type and condition, battery temperature and size as well as ambient temperature at point of use. Home Charging time is based on Nissan testing. Before using this product at home, consult with a licenced electrician to ensure your homes electrical system can support the use.
- $^{\circ}$  Time dependent on charging conditions, including charger type and condition, battery temperature as well as ambient temperature at point of use. Indicated rapid charging time requires use of a CHAdeMO rapid charger. The Nissan LEAF (40kW & 62kW) are designed to support the majority of journeys in daily life and is equipped with charging safeguards to protect the battery during repeated rapid charging sessions in a short period of time. The time taken for successive rapid charging can take longer if the battery temperature activates the battery safeguarding technology.
- This Home charging time is based on, and requires use of a 10A / 230v wall socket (GPO). Home Charging time will be dependent on charging conditions, including Home Charging type and ambient temperature at point of use. Home Charging time is based on Nissan testing. Before using this product at home, consult with a licenced electrician to ensure your homes electrical system can support the use.



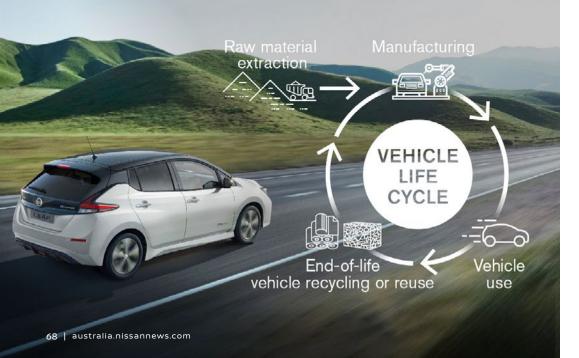
# Accelerating toward carbon neutrality

issan Motor Co., Ltd. has set the goal to achieve carbon neutrality across the company's operations and the life cycle of its products by 2050¹. As part of this effort, by the early 2030s every all-new Nissan vehicle offering in key markets will be electrified.

Nissan will pursue further innovations in electrification and manufacturing technology to make progress on the company's carbon neutrality goal in the following strategic areas:

• Battery innovations including solid-state

- and related technologies to develop cost-competitive and more efficient electric vehicles
- Further development of Nissan's e-POWER electrified powertrains to achieve greater energy efficiency
- Development of a battery ecosystem to support decentralised, onsite power generation for buildings with renewable energy sources. Nissan anticipates increased collaboration with the energy sector to support the decarbonisation of power grids





 Manufacturing process innovations to support higher productivity in vehicle assembly, starting with the Nissan Intelligent Factory initiative. The company will also strive for greater energy and material efficiencies to support longerterm carbon neutrality ambitions

Nissan's goal builds on its decadeslong programs to reduce emissions and provide electric vehicle technologies that benefit the environment and society. The company's electrification and emissions reduction efforts support the aims of the U.N. Paris Agreement on climate change and global progress toward carbon neutrality by 2050.

Nissan's ambition also expands upon past initiatives under the Nissan Green

Program and the company's ongoing work to minimize the carbon footprint of its products and operations. The company introduced the world's first mass-market electric car, the Nissan LEAF, and has sold more than 500,000 of the zero-emission vehicle to date. Nissan also continues to work with industry coalitions and authorities to develop infrastructure and raise public awareness about the benefits of electric vehicles.

Nissan believes the automotive industry can be a driving force in meeting global environmental and climate needs.

When combined with the expansion of renewable energy and charging infrastructure, vehicle electrification and sustainable operations can help accelerate the arrival of a carbon-neutral future.

1. 'Life cycle' includes raw material extraction, manufacturing use and the recycling or reuse of end-of-life vehicles.

# Formula E



n October 2017, Nissan announced it would race in the 2018/2019 FIA Formula E World Championship, the first Asian margue to commit to the world's newest global motorsport category.

Launched in 2014, the FIA Formula E championship is a global racing series where teams and manufacturers compete with all-electric powertrains on street circuits set up in major urban centres around the world.

Purchasing a stake in championship winning organisation e.dams, Nissan, the maker of the world renowned electric car, the Nissan LEAF, has used the all-electric championship as the ideal platform to showcase its Nissan Intelligent Mobility strategy.

The two-car Nissan team is spearheaded by former Formula E champion Sebastien Buemi and UK-based driver Oliver Rowland, with the pair riding off a highly successful 2020 campaign, which saw them take second in the Formula E teams championship, a debut victory for Rowland, five podiums and one pole position.

The team will be hoping to go one step further and take top honours in season seven of the world's leading EV series.

Electrification is a key pillar of the strategy, which seeks to change how cars are driven, powered and integrated into society.

Campaigning Generation 2 Formula E cars must complete the entire race, stopping only for punctures to the all-weather tyres or to attend to damage,- on a single charge.

With Gen3 cars due to furnish the grid for the 2022/23 season, manufacturers are permitted to modify their powertrain components once more in the current extended homologation period. Teams are permitted to make these alterations at the beginning of the 2020/21 season to take effect for the next two seasons, or to make one final change to support the 2021/22 campaign.

Drivers will have 200kW of power available for the race as a whole, but will be able to access 225kW for periods of the race named Attack Mode. This is achieved by passing through a single activation zone.

This will be marked on the circuit for fans watching at the track, online or on TV. The two power modes are indicated using different colours on an innovative LED system on the driver's halo head protection devices.

In addition, the ground-breaking FANBOOST system enables fans to vote for their favourite driver, with the top three getting to use the maximum power output of the Gen2 racers, 250kW, for short periods.

All Formula E races will have a set time of 45 minutes plus one lap, rather than a predetermined total number of laps.



### History of Nissan Electrification

oday Nissan is one of the world's most successful electric vehicle manufacturers, but its electric history goes back well before the introduction of the Nissan LEAF in 2010, in-fact Nissan has been an electric vehicle (EV) pioneer for more than 70 years.

While we have seen a surge in electric vehicles in the last decade, Nissan's first EV rolled off the production line in 1947. After the Second World War, oil was scarce in Japan, but electricity was plentiful, so the Japanese government promoted EV manufacturing.

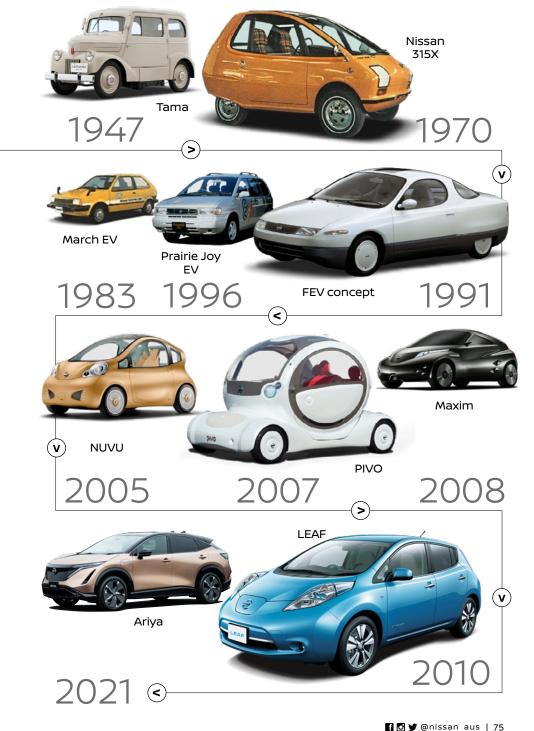
Encouraged by this, Nissan's first foray into EVs was with the Tama, an electric car that serviced Japan through to 1950. It was 3,035mm long, 1,230mm wide and 1,618mm high, with a wheelbase of 2,000mm. It included a 40v battery with 3.3kW of power that maintained charge for 65km and had a top speed of 35km/h. While the development of the internal-combustion engine (ICE) took precedence, Nissan never took its focus off EVs, with a number of concept cars unveiled over the years.

In 1970, Nissan revealed the Nissan 315X two-door EV city car at the Tokyo Motor Show, followed by the Nissan March EV – an experimental compact hatchback — in 1983. Following this was the FEV concept — which concentrated on short range driving — at the 1991 Tokyo Motor Show, and then the second generation FEV was powered by a lithium-ion battery.

All of these ideas and developments led to the Prairie Joy EV, the world's first EV to feature a cylindrical lithium-ion battery. In market from 1996, this was so reliable that it was used by Japan's Arctic Environmental Research Centre in the North Pole for more than six years with no mechanical issues.

Over the next 10 years, Nissan developed several concepts including the two-seat compact lithium-ion PIVO in 2005, the Maxim, which was powered by an electric motor/generator, in 2007, and the laminated lithium-ion battery NUVU, a year later. All helped contribute technologies that would feature in the Nissan LEAF.

Nissan's electrification strategy continues to gather pace globally, with the upcoming all-electric Ariya SUV and a range of e-POWER products set to join the LEAF and bolster the Japanese brand's position as a pioneering leader in the EV segment.





he first-generation LEAF was launched to the world in December 2010, with sales starting in the USA and Japan, followed by Europe soon after.

It immediately won praise from industry experts, taking the 2010 Green Car Vision award, the 2011 European Car of the Year, and then the biggest prize of all in the automotive industry; the 2011 World Car of the Year.

Arriving in Australia in June 2012, by mid-2013 the popular EV and the LEAF battery were also now manufactured in Europe — at the Sunderland manufacturing plant in England. By the start of 2014, global LEAF sales had already reached 100.000 units.

The development and innovation of the LEAF has continued in earnest this decade, with the European launch of the Nissan LEAF 30kW in October 2015, followed by the start of sales of that model in February 2016.

Also focusing on infrastructure, Nissan's 'Fuel station of the Future' was unveiled at the 2016 Geneva Motor Show, while vehicle-to-grid trials, and the introduction of the xStorage Home second-life battery initiative began. Bi-directional

charging continues to be a key future benefit of LEAF ownership here in Australia, with Nissan firmly focused on delivering this technology for commercial and residential applications imminently.

In 2016, Nissan launched #electrifytheworld, a movement to promote more sustainable living within the global community, and before the year was out global sales had reached 260,000.

Having sold 635 units in Australia, Gen 1 LEAF sales ended in 2016, but LEAF was again the focus of the automotive industry, thanks to the global unveil of the all-new 40kW Nissan LEAF at a special event in Tokyo in September 2017.

One of the world's most successful EV monikers to date, the Gen 2 LEAF picked up where it's previous iteration finished, already outselling Gen 1 sales after just one year in Australian showrooms.

Current LEAF sales have passed 500,000 globally, making the LEAF nameplate one of the bestselling electric vehicles worldwide. The LEAF e+ adds yet another dimension to Nissan's Australian EV offering and provides the opportunity to be at the forefront of global technological change.







