



ON A MISSION TO REDUCE EMISSIONS IN NEW ZEALAND



meridian

Electrifying your fleet





Clean energy

The Climate Leaders Coalition is a fantastic initiative that demonstrates how serious New Zealand businesses are in taking climate action, and Meridian are proud to be members. We hope that you will be able to take something from the lessons we've learnt from electrifying our fleet, and that this will just be one of many case studies where we support each other to accelerate the pace of change in New Zealand.

Taking climate action

The Climate Leaders Coalition is committed to: measuring and reporting on greenhouse gas emissions; setting a public emissions target in line with the Paris Agreement; and working with suppliers to reduce greenhouse gas emissions.

At Meridian we have been publicly reporting on and auditing our sustainability performance since 2001, including our greenhouse gas emissions since 2006. If you would like to know more about carbon accounting, the Ministry for the Environment publishes a [guide](#), and you can find our Meridian Group Greenhouse Gas Inventories [online](#).

We are taking action to support the Paris Agreement's aspiration of keeping global temperatures within 1.5° of warming. We are already below the Science Based Target for the electricity sector due to our 100% renewable energy generation, and in addition we have started offsetting our Scope 1 and 2 emissions, and plan to include offsetting of our operational Scope 3 emissions in 2025, to become a net Zero Carbon organisation.

We also have a Supplier Code of Conduct that requires the reporting of greenhouse gas emissions relating to the goods and services supplied.

Focusing outwards

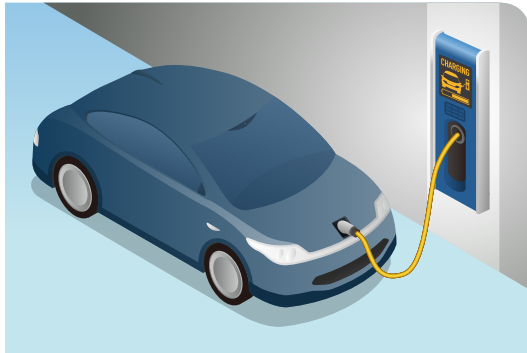
Taking action on climate change will require more than our individual efforts. Over the last few years we have increasingly turned our attention towards the systems we are a part of – encouraging the electricity sector to work towards 100 percent renewable electricity resources, engaging everyday kiwis in the benefits of electric vehicles, and working with our large industrial customers as they seek to transform their emissions intensive heat sources to low carbon technologies.

Our purpose is to use clean energy to create a fairer and healthier world. Electrifying our vehicle fleet is one way that we can demonstrate our commitment, and also learn – and then share those learnings with the broader business community.

We have shared our vehicle fleet electrification story before, and will again, as we are still on the journey to electrify our entire fleet. There is a lot to learn and new technology to come, but we are heartened by how many businesses have committed to purchasing electric vehicles – both as an action that reduces their carbon footprint, but also an action that enables the growth of a second-hand market of good used fleet vehicles for New Zealanders to buy at more affordable prices.

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What does it mean to “go electric”?



100% ELECTRIC (BEV)

Perfect for commuting and as city run-around cars

RANGE:

120 - 400kms +
depending on the model

CHARGING:

Battery powered electric cars are charged by plugging into an electrical outlet or charging station.

CONSIDERATIONS:

Planning and extra time may be required when travelling long distances, however rapid charging infrastructure is now available every 75kms along state highways in New Zealand.

SOME OF THE BEVS IN NEW ZEALAND

Nissan Leaf, Hyundai IONIQ (Full Electric model), Hyundai Kona (Full Electric model), Renault Zoe, BMW i3 (Full Electric model), Kia Soul EV, Tesla Model S and Model X, Mitsubishi i-Miev and VW e-Golf.

SOME OF THE BEV VANS IN NEW ZEALAND:

Nissan e-NZ200 and Renault Kangoo.



PLUG IN HYBRID (PHEV)

Good for long distance travel

RANGE:

400-600kms
depending on the model

CHARGING:

Plug in hybrid cars have both an electric and petrol motor, they can be plugged in to recharge or topped up with petrol.

CONSIDERATIONS:

Plug in hybrid cars still have an internal combustion engine requiring maintenance, petrol refuelling costs and despite lower fuel consumption than a non-electric car, still contribute to air pollution as well as climate change, particularly as users find these cars easier to run on petrol rather than plugging them in to charge.

SOME OF THE PHEVS IN NEW ZEALAND:

Plug-in hybrids available in New Zealand include: Mitsubishi Outlander, Audi e-tron, BMW i3 (Plug-In Hybrid model), BMW i8, Hyundai IONIQ (Plug-In Hybrid model), Toyota Plug-in Prius and Volvo XC90 T8.

Converting your fleet

Making a commitment to convert to electric

Be clear about what your target is: Meridian's target of 90% by the end of 2020 relates to our passenger vehicles (as those are the car models currently available) and we are only purchasing 100% battery electric vehicles (as our core goal is emission reduction).



1

Get buy-in from the Senior Management team and Board that this is something that you're committed to as an organisation.



2

Understand your business' needs and make sure that you're meeting them when you convert to electric. It is important that you're able to **bring staff along on the journey**, so that they are excited about driving electric and changing how they use company vehicles.



3

Be careful of meeting an electrification goal with hybrid vehicles - depending on how the vehicles are used, the emissions can be higher than an efficient diesel engine, defeating the purpose of electrification as a climate action, and you also risk not realising the fuel savings, while still incurring the higher upfront costs.





Our electrification journey

Making an environmental action commercially attractive

We took a four-pronged approach to overcoming these barriers, illustrated below.

UNDERSTANDING THE REQUIREMENTS

Using GPS tracking technology analysing more than 200,000 trips, we identified opportunities to reduce the size of our fleet, offsetting the higher upfront costs of converting to more expensive vehicles.

BEING TECHNOLOGY CURIOUS

We started off buying second-hand Nissan Leaf's and testing how these would work with our corporate sales teams. It was a good way for our people to get used to electric vehicles, while making sure that they would fit our needs.

Once our people were comfortable with the idea of electric vehicles, we began to look wider at what other options there are out there. This is when we decided to invest in several Hyundai IONIQs – which were more like your traditional petrol vehicle, with the benefit of being 100% electric.

Electric vehicle car sharing services have also been a great way for our staff to try electric vehicles and have become part of our fleet solution.

TESTING THE RESALE VALUE

After a year we sold one electric car and received good value (90% residual value), which gave us confidence that the actual cost (purchase price minus resale value) was favourable compared to an internal combustion engine vehicle. We have learnt that we need to sell electric vehicles within the first two years, due to the pace of change with technological developments in electric vehicles. Encouragingly the residual value after 2 years is still 84%.

CREATING RELATIONSHIPS WITH SUPPLIERS

We partnered with Hyundai REVNZ, YMI and Aotea Electrical, which has enabled us to become early adopters and allowed us to test new products when they come to market to see if they are fit for our needs, especially for the maintenance vehicles we require at our power stations.



Does an electric fleet stack up?

Meridian's fleet of passenger vehicles is currently more than 50% pure electric, costs us the same in capital expenditure as our previous (large) fossil fuel fleet, has lower running costs and higher residual values. On average we are saving around \$5000 a year on maintenance and fuel costs for each vehicle.

Other benefits of an electric vehicle fleet:

- **Attracts and retains talent:** 55% of millennials say that it's the most innovative and progressive businesses that take sustainability seriously.
- **Reduces your carbon footprint:** Demonstrates to your customers and stakeholders that your company acts on its values and commitments.

Want to know more?

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