# Lead the charge.

Turning Government and Business fleets 🛛





# "We first included battery electric vehicles in our fleet in 2019 and they have been well accepted by staff."

Peter Bowker, Manager Fleet Services, Transport for NSW

"When looking at the vehicles on contract, the Hyundai Kona met all of our requirements, including the ability to travel 450kms on a single charge."

John Barlow, Senior Manager Fleet Operations, NSW Dept. of Planning, Industry and Environment

"The ACT continues to lead the EV revolution in Australia. This station will allow fuel cell electric vehicles on our roads alongside battery electric vehicles, forming a strong pathway to zero emissions transport in Canberra. The ACT Government will also use this station to service Australia's first government fleet of hydrogen vehicles, 20 Hyundai NEXOs, as we continue to transition 100% of our passenger fleet to zero emissions vehicles."

Shane Rattenbury MLA, ACT Minister for Climate Change and Sustainability

"What we want to do is demonstrate to the Queensland community that these vehicles will be on the road like any other vehicle."

Cameron Dick MP, Qld Treasurer

# Evolve to eco with Hyundai.

Hyundai Motor Company was founded in 1967 and now produces close to four million cars and commercial vehicles a year, ranking as the world's fifth-largest automotive corporation.

Supported by 68,000 global employees, Hyundai invests billions of dollars in research and development to produce eye-catching, advanced, practical cars that are more safe, efficient and environmentally friendly than ever before.

Hyundai Motor Company Australia (HMCA) is a wholly-owned subsidiary of HMC. For over 30 years, we have been a part of the Australian automotive landscape, offering affordable, efficient and stylish cars to all Australians.

Hyundai is at the forefront of the global shift towards eco mobility, offering one of the widest ranges of environmentally friendly powertrains worldwide. We plan to expand our eco car line-up to 44 models by 2025, cementing our role as one of the largest manufacturers in this segment.

We welcome the opportunity to help shape your zero-emissions mobility future.



## HYUNDAI MOTOR GROUP ECO MODELS BY 2025



# The eco future fleet.

Government and business fleets play a crucial role in accelerating eco vehicle uptake. We can help you transition to a greener fleet and meet your sustainability targets. But which is the best way to transition?

To begin with, here are the four key points to keep in mind:

- Selecting the Hyundai eco model that best meets your fleet requirements
- Understanding the operating costs
- Installing and maintaining electric vehicle charging infrastructure
- Educating staff about using the technology

Should you wish to learn more once you've read this guide, we invite you to get in touch with your local Hyundai Blue-Drive dealer or contact one of our Hyundai Australia State Fleet Managers.



# Hyundai eco cars on Australian roads now.



## **NEXO**

Hyundai's next-generation fuel cell electric vehicle.



Filters and purifies the air as it drives







Emits nothing but water vapour

Quiet operation (no noise pollution)

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Refuelling time of 3-5 minutes

Long range

120kW 395Nm Output

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2	

IONIQ

One car. Three low emissions powertrain choices.



38.3kWh 311km Battery range (WLTP)\* Battery capacity

100kW 295Nm Output

100kW to 80%



54min



Standard charge (AC)



First fully-electric small SUV.







Standard charge (AC)



\*Range is based on WLTP (Worldwide Harmonised Light-Duty Vehicles Test Procedure) static laboratory combined average city and highway cycle test, which measure, energy consumption, range and emissions in passenger vehicles, designed to provide figures closer to real-world. Real life driving results will vary depending on a combination of driving style, type of journey, vehicle configuration, battery age and condition, use of vehicle features (such as heating and air conditioning), as well as operating, environmental and climate conditions.

# Eco in a nutshell.

While Hyundai offers a range of quality powertrains, in this guide we're presenting you with the two most fleetfriendly, zero-emission systems:

Hyundai Battery Electric Vehicles (EV)

Hydrogen Fuel Cell Electric Vehicles (FCEV)

Before we delve a little deeper into how they work technically, here's how they work in a functional sense.







## How our EV works.

A Hyundai electric vehicle (EV) has a high-voltage battery that is charged when plugged into a power point. Electricity stored in the battery cycles an electric motor, generating the power necessary for driving.

In 2021, Hyundai revealed its first model to run on the electric-global modular platform (E-GMP).

E-GMP is a platform dedicated solely to electric vehicle drivetrains to aid future development. E-GMP gives the flexibility to allow an EV-optimised structural design using a standardised high-capacity battery system giving longer range. It even has the ability to house futuristic interior designs and maximise cabin spaciousness in a revolutionary way.





## **Hyundai's clean mobility approach** The next generation of eco-friendly motoring

#### E-GMP Electric vehicle platform

Range of 460-500kms (WLTP)\* depending on body style, battery size and driveline configuration and can be changed up to 80% in 18 minutes by high-speed charging.

World's first multi-charging (400V/800V) and bi-directional power conversion function.



\*Range is based on WLTP (Worldwide Harmonised Light-Duty Vehicles Test Procedure) static laboratory combined average city and highway cycle test, which measure, energy consumption, range and emissions in passenger vehicles, designed to provide figures closer to real-world. Real life driving results will vary depending on a combination of driving style, type of journey, vehicle configuration, battery age and condition, use of vehicle features (such as heating and air conditioning), as well as operating, environmental and climate conditions.

# How our EV works for your fleet.

Apart from being completely emission-free, a Hyundai EV's motor is virtually noise-free, meaning a more tranquil ambience in the cabin – and a more peaceful space to think throughout the working day.

Range anxiety is now a thing of the past thanks to ever-extending driving ranges. In fact, the Hyundai Kona can now reach an impressive 484km (WLTP)\* on a single charge. And with new charging stations being deployed all over the country each day, it means employees can be out on the road doing what they need to, without fear of losing charge.

Plus, being a battery electric vehicle means that practically anywhere there's a power point, you now have a charging station.

Then there's the drive itself. Electric motors can produce maximum torque right away, meaning instant acceleration from low speed. Having the battery under the floor also lowers the center of gravity, enhancing cornering performance.

### Ţ 3.7 -7.7kW 7.7kW 50kW 350kW 22kW Range added per 10 minute charge 4km 7km 22km 49km 3.7-7.7kW Charger 7.7kW Charger 22kW Charger 50kW Charger 350kW Charger Charging speeds and outcomes are indicative. Actual charging speed and vehicle battery capacity depends on the vehicle being charged. Actual results will vary from vehicle to vehicle. TRITIUM

Battery electric vehicle Recharging

A wide range of charging options - plug in anywhere; at work or home

tritium.com.au © 2019 Tritium Pty Ltd



## HYUNDAI MOTOR GROUP BATTERY ELECTRIC MODELS BY 2025

\*Range is based on WLTP (Worldwide Harmonised Light-Duty Vehicles Test Procedure) static laboratory combined average city and highway cycle test, which measure, energy consumption, range and emissions in passenger vehicles, designed to provide figures closer to real-world. Real life driving results will vary depending on a combination of driving style, type of journey, vehicle configuration, battery age and condition, use of vehicle features (such as heating and air conditioning), as well as operating, environmental and climate conditions.



# IONIQ – A new electric mobility era.

In 2020, Hyundai launched IONIQ as a sub-brand, exclusively for a new family of EV models. It comprises three IONIQ variants, including:

IONIQ 5 – a compact utility EV

IONIQ 6 – a midsize sedan EV

### IONIQ 7 – a large sports utility EV

Each IONIQ will be built upon the Hyundai global E-GMP platform, allowing us to push the boundaries of both design and drivability as we journey towards our 2025 target of 25 battery EV line models and sales of 1.5 million.

According to Thomas Schemera, Hyundai's Executive Vice President and Global Chief Marketing Officer, the IONIQ 5 promises to 'change the paradigm of electric vehicle customer experience' offering 'a space where you can spend quality time... providing a wide range of customisable interior options, as well as all the benefits of eco-friendly mobility'.







# Spotlight on IONIQ 5.

- 3,000mm wheelbase (100mm longer than the flagship 8-seat Hyundai Palisade)
- 470-480km (WLTP)\* maximum driving range
- Available in long range (72.6-kWh) and standard range (58-kWh) battery
- 2WD or AWD
- Ultra-fast charging, from 10% to 80% in 18-minutes
- 12-inch customisable digital instrument cluster
- Next-level Hyundai SmartSense™ safety technologies
- Eco-friendly materials and nature-inspired colours throughout the interior
- Universal island movable centre console
- Completely flat interior floor for greater space and comfort

View the launch video here:

hyundai.com/worldwide/en/ioniq5

\*Figures for overseas model shown. Australian specifications may differ. Range is based on WLTP (Worldwide Harmonised Light-Duty Vehicles Test Procedure) static laboratory combined average city and highway cycle test, which measure, energy consumption, range and emissions in passenger vehicles, designed to provide figures closer to real-world. Real life driving results will vary depending on a combination of driving style, type of journey, vehicle configuration, battery age and condition, use of vehicle features (such as heating and air conditioning), as well as operating, environmental and climate conditions.







# Your Australian charging partner.



To ensure your fleet is supported with the very best charging infrastructure, we have teamed up with Jet Charge, Australia's most experienced EV charging specialist. Jetcharge.com.au 1300 856 238 info@jetcharge.com.au



**ADVICE** – Jet Charge supply the widest range of hardware in Australia and utilise in-house electricians, nationwide.



**DEPLOYMENT** – Jet Charge EV solution designers and electrical engineers ensure your fleet is set up properly, with the future in mind.



**MANAGEMENT** – A full suite of reporting and billing services is provided by Jet Charge's sister company, Chargefox, as well as comprehensive maintenance services.

## "By demonstrating that lower-emission technology is cost-effective, the Palaszczuk government will lead the way in cleaner transport solutions while delivering value for money to taxpayers."

Minister for Energy, Renewables and Hydrogen, Mick De Brenni, 4 December 2020

"The fact that drivers can travel approximately 1800km, from Coolangatta to Cairns, using the latest EV charging technology gave Hyundai the impetus it needed to invest into bringing its IONIQ electric vehicle to Australia."

Minister for Transport and Main Roads, Mark Bailey, 28 November 2018

"We've got a QFleet Electric Vehicle Strategy in place to boost the number of EVs in the Government fleet, our commitment is to double the number of EVs in QFleet each year, a target we are on track to meet."

Minister for Energy, Renewables and Hydrogen, Mick De Brenni, 3 December 2020

# How our FCEV works.

A Hyundai fuel cell electric vehicle (FCEV) has a hydrogen tank and a fuel cell that produces electricity, and is refueled at a Hydrogen station.

Just like EVs, FCEVs use electricity to power an electric motor. But instead of that electricity being provided by battery, the electricity is generated from the electrochemical reactions between hydrogen and oxygen in a fuel cell stack. Incredibly, the only by-product is pure, distilled water. Air drawn into the FCEV passes through an air purification system, removing particulates and other unwanted matter, leaving the air clean. In fact, the Hyundai NEXO removes 99.9% of all the fine particulate matter from the air it draws in.





# How our FCEV works for your fleet.

Just like an EV, an FCEV is majestically quiet to drive, offering an equally serene environment for your employees.

An FCEV spends minimal time at the hydrogen station, which fills the fuel cell tanks with just over 6kg of hydrogen in only three to five minutes. This means your fleet can fill and get back to work sooner.

Notably, the driving range is also extensive. The Hyundai NEXO, for instance, has a range of more than 660km (WLTP); allowing for extended periods between fills. What's more, commercial hydrogen infrastructures for FCEVs continue to be deployed across Australia. In fact, Australia's first demonstration hydrogen station for light vehicles was built at Hyundai Australia's HQ in Macquarie Park, Sydney in December 2014. Australia's first commercial hydrogen station was officially opened in Canberra in March 2021 and by the end of 2021, hydrogen stations will be operating in several major Australian cities.

Another remarkable quality of an FCEV is that it purifies the air as it drives. So your fleet is actually removing harmful pollutants from the air of our cities.

The FCEV will also be the future of larger commercial vehicles, such as trucks and buses. Hyundai Motor Company is currently collaborating with provincial governments in Korea on a pilot operation of hydrogen buses in Ulsan, Changwon and Busan. It it also deploying fuel cell-powered commercial vehicles, such as large haulage trucks and garbage collection trucks.

## Hydrogen technology extends beyond light cars

### From 2018 to 2021

## Hydrogen bus

FCEV buses began operating in Ulsan first, then Changwon and Busan; will spread to Seoul, Gwangju and across Asia soon.





## Hydrogen garbage collection truck

About to be deployed in the

## From 2021 to 2022 Hydrogen truck

About to begin pilot operation between Gunpo and Okcheon and the Metropolitan area.



\*Range is based on WLTP (Worldwide Harmonised Light-Duty Vehicles Test Procedure) static laboratory combined average city and highway cycle test, which measure, energy consumption, range and emissions in passenger vehicles, designed to provide figures closer to real-world. Real life driving results will vary depending on a combination of driving style, type of journey, vehicle configuration, battery age and condition, use of vehicle features (such as heating and air conditioning), as well as operating, environmental and climate conditions.

# Hitting the hydrogen road.

Twenty Hyundai NEXO SUVs have already landed in Australia and been deployed across multiple departments within the ACT Government. They will be followed by another five NEXO SUVs heading to the Sunshine State to join the Queensland Government fleet around a newly installed hydrogen station in Brisbane.

These FCEVs represent a historic shift in Australian fleets as they transition to eco vehicles, and will no doubt create a new appetite for hydrogen vehicles for not only government fleets, but business fleets across the country. With more hydrogen stations planned in capital cities and regional areas around Australia, FCEV passenger cars, trucks and buses are set to become a common sight on roads across Australia.

Hydrogen not only has vast potential for roadways, but also tramways. Hyundai Rotem is currently testing Korea's first hydrogen-powered tram, in the city of Ulsan.<sup>^</sup> The project will include a fuelling station and railway depot for a line spanning 4.6 kilometres.



South Korea's first hydrogen fuel cell tram from Hyundai Rotem



March 2021 opening of the Canberra commercial H2 station



20 Hyundai Nexo FCEVs arrive in Australia for the ACT Government Fleet



Queensland Premier visits HMC Fuel Cell R&D centre



# Hyundai hydrogen highlights.

Hyundai continues to lead the way in the large-scale deployment of fuel cell electric vehicles, both locally and globally.



2013 – The Hyundai ix35 FCEV was the first FCEV to be mass produced.

(1<sup>st</sup>)

2014 – Hyundai was the first to import an FCEV into Australia.



2014 – The first light vehicle H2 station in Australia was built by Hyundai Motor Company Australia.



2018 – NEXO is the first FCEV fully certified for sale in Australia.



2018 – NEXO is the first FCEV in Australia to be awarded a 5 star ANCAP safety rating.



2020 – Hyundai deployed the world's first commercial fuel cell truck.



2020 – Global sales of NEXO FCEV exceeded 9,024 units. NEXO is the number one deployed FCEV globally.



2019 – Hyundai Motor Company Australia registered the first two full production Australian compliant NEXO FCEVs for industry, Government and media engagement.



2021 – First 20 ADR compliant FCEVs deployed into an Australian government fleet.

## Playing our part in accelerating the eco transition.

Hyundai Motor Company Australia is proud to be the founding member of the Global Hydrogen Council, co-founder of the Australian Hydrogen Council and a member of the Australian Electric Vehicle Council. We also sit on the board of all three organisations to provide leadership on the rapidly changing mobility landscape. Hydrogen Council

Co-chair



**Co-founder & Director** 



Director

# Australia and renewable energy.

Australia has some of the best renewable energy resources in the world, with the highest solar radiation per square metre of any continent, combined with vast wind energy potential. Renewable energy use is on the rise, with a fifth of our energy consumption coming from renewables in 2019, with large-scale solar up 135%.<sup>#</sup>

Australia is also seen as a world leader in building new renewable energy generation infrastructure, resulting in lower greenhouse gas emissions and falling electricity prices. This means cost-effective green electricity is becoming increasingly available, making it easier to power EVs and to generate hydrogen to fuel FCEVs cleanly. Which also means drivers of zero emission cars benefit through lower running costs.

#### Why hydrogen? Most common substance No areenhouse Produced from many in the universe emissions energy sources G 0 Can be made Higher energy density than Can be stored cleanly using water batteries when compressed as a liquid or gas 010 Can be stored. Can provide energy to Just as safe as petrol transported & exported or diesel fuels all parts of the economy Where hydrogen comes from? Wave Natural gas Wind Electrolysis н Hydroger Reformation/ Electricity Water Solar PV gasification Oil $2H_0 + 0_0 = 2H_00 + electricity$

Coal

**Biomass Gasification** 

Hydro

Geothermal

Biomass

# Lowering running costs.

Just as for conventional vehicles, it is important to compare eco fleet vehicles on their total cost of ownership, rather than on their upfront cost.

There is a strong business case for electric vehicle fleets, when you consider the significant savings from recharging with electricity, and the substantially reduced cost of servicing and maintenance compared with a conventional vehicle. To help with your own comparisons, head to the ChargeTogether website, access the Better Fleet calculator, then input your current fleet data and compare vehicles. Designed by fleet and sustainability managers, it's there to help you build the business case for transition (in less than 15 minutes).



fleets.chargetogether.org

# Lead the charge today.

It's time to flick the switch on your fleet eco transition.

To learn more about FCEV, including infrastructure requirements, contact BusinessSalesAdmin@hyundai.com.au

To learn more about EV, we have a host of Hyundai Blue-Drive dealerships at the ready to provide you with expert advice, infrastructure assistance, test drives, and driver education.



## Hyundai Blue-Drive Dealerships

### NSW

Paul Wakeling Hyundai, Campbelltown Pennant Hills Hyundai, Pennant Hills Booth's Hyundai, North Gosford Col Crawford Hyundai, Brookvale Tony Leahey Hyundai, Orange Wagga Motors Hyundai, Wagga Wagga Ryde Hyundai, Ryde Parramatta Hyundai, Parramatta

### VIC

Doncaster Hyundai, Doncaster Chadstone Hyundai, Oakleigh Essendon Hyundai, Essendon Fields Werribee Hyundai, Hoppers Crossing Lakeside Hyundai, Caroline Springs Dandenong Hyundai, Dandenong Baker Hyundai, Wodonga South Morang Hyundai, South Morang

### QLD

Gold Coast Hyundai, Southport Zupps Hyundai, Aspley Dc Motors Hyundai, Rockhampton Springfield Hyundai, Springfield West-Star Hyundai, Toowoomba Sunco Hyundai, Maroochydore Metro Hyundai, Windsor Keema Hyundai, Mount Gravatt

### SA

Maughan Thiem Hyundai, Cheltenham Stillwell Hyundai, Nailsworth

#### WA

Wild West Hyundai, Wangara Osborne Park Hyundai, Osborne Park John Hughes Hyundai, Victoria Park Morley City Hyundai, Morley

### TAS

Hyundai Hobart Motors, Hobart

ACT Lennock Hyundai, Phillip

# Useful Resources.

### **Australian Websites**

Australian Electric Vehicle Council electricvehiclecouncil.com.au

Australian Hydrogen Council h2council.com.au

Better Fleets evenergi.com/betterfleet

Jet Charge jetcharge.com.au

Chargefox chargefox.com

Evie goevie.com.au

## **Global Websites**

Global Hydrogen Council hydrogencouncil.com/en

Californian Fuel Cell Partnership cafcp.org

Hydrogen Mobility Europe h2me.eu

H2 Mobility UK ukh2mobility.co.uk



# "I have had staff come back to tell me that it was the best vehicle they've driven."

John Barlow, Senior Manager Fleet Operations NSW Dept. of Planning, Industry and Environment

"There is also a social conscience element and the sale of our vehicles into the used car market will allow families who may not be able to afford a new EV to acquire one."

Peter Bowker, Manager Fleet Services, Transport for NSW

"They'll be seamlessly introduced into the QFleet range of vehicles and people can also understand that hydrogen can be used safely." Cameron Dick MP, Qld Treasurer

"There are many benefits with Hydrogen fuel cell vehicles like these. They have short refuelling times, can be powered hydrogen made from renewable-energy and they also purify the air as they drive which will help remove harmful particulates produced by petrol and diesel vehicles."

Shane Rattenbury MLA, ACT Minister for Climate Change and Sustainability



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