Scott Nargar

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WE MEET SCOTT NARGAR, WHO IS IMMENSELY PROUD OF HIS ORGANISATION, AND PASSIONATE ABOUT HIS FUTURE-FOCUSED ROLE AT HYUNDAI MOTOR COMPANY AUSTRALIA. HE IS COMMITTED TO A MORE EFFICIENT AND SUSTAINABLE FUTURE FOR THE AUSTRALIAN AUTOMOTIVE INDUSTRY.

NCR: By way of introduction, tell us a bit about your background.
SN: I started my automotive career as an apprentice motor mechanic at Sinclair Ford and Sinclair Hyundai in 1990 and worked my way up by taking every opportunity that came my way, becoming a service advisor.

I then went to work for NRMA as a vehicle inspector for both new and used cars, and also did post-crash analysis, engine inspections, including preparing comprehensive reports.

I then became a motoring journalist and a judge for Australia's best car awards with the NRMA , testing new models at Oran Park Raceway and, of course, on the road with both a city cycle and a country cycle to cover all aspects of the car.

Whilst at NRMA I became involved with the ANCAP crash-test program both here and in South Korea. In 2008 I got to see what was happening in Hyundai's R&D centres, which gave me an insight into where the technology was headed. It was then that I got my first exposure to and became fascinated with fuel cell vehicle technology in their early days.

NCR: Now that you're working with Hyundai Australia, what are the primary responsibilities in your current role?
SN: I joined Hyundai just under 10 years ago. I began pushing both EV and hydrogen fuel cell eco-vehicles for Australia and worked closely with government and the industry. In fact, I imported the first hydrogen fuel cell vehicle and also installed the first hydrogen refuelling station in our Lane Cove head office here in Sydney back in 2014.

Fundamentally, the role is to prepare the market for EV and hydrogen fuel cell vehicles, liaising with governments and industry partners. We interact with energy companies, who of course supply the electricity or hydrogen, gas companies who manufacture the hydrogen and other organisations who are involved in EV charging technology. It's been a great challenge but, notwithstanding the impact of COVID-19, 2020 has been a year of great progress in our sector.

For example, earlier this year the federal government announced a $300 million commitment from the Clean Energy Finance Corporation and $70 million from the Australian Renewable Energy Agency. In addition, around the country, the states and territories have all announced various hydrogen energy projects. This is the culmination of a great body of work that's involved communication, education, collaboration and the realisation that

The Hyundai NEXO Fleet.

this is one of the greatest opportunities of our time.

NCR: Tell me more about the Australian Hydrogen Council.
SN: As a co-founder of the Australian Hydrogen Council we set out to accelerate the commercialisation of new hydrogen fuel cell technologies for transportation, provide a forum for effective communication and collaboration of all stakeholders and progress Australia's shift towards a future hydrogen society built upon clean and renewable energy technologies. This, of course, requires us to ensure we have the necessary codes and standards in place, which we will pick up from the rest of the world rather than reinvent the wheel.

Key stakeholders include car manufacturers, oil companies, gas companies, energy companies, the CSIRO, universities, technology companies and, of course, governments. Ironically, as we are about 10–15 years behind Europe and North America, we have the advantage that much of the early hurdles have already been overcome, and we pick up more mature technology and roll it out in a more cost-effective way.

To some extent, I believe the above-mentioned commitment is based on the understanding that we have some of the world's best overlaps of both wind and solar in the one place with our vast coastline, which means we are better positioned than most to utilise these renewable resources.

In addition, most of our northern neighbours are all transitioning away from fossil fuel-based economies to a renewable energy basis, which of course includes transport. This presents a great export opportunity given our natural resources in this sector.

Through Austrade, we also have exposure to several other economies that have, or are building, hydrogen strategies, and it's clear we have the capacity to supply much of what they will require. For example, we already have the infrastructure to distribute hydrogen, in the form of ammonia, an existing tradeable commodity.

The Council now has some 45 members representing all the stakeholder groups, many of whom are major national and international organisations, all looking to get cleaner road transport in Australia. Most importantly, this is not an association responding to changing regulation, this is an industry-led initiative that has continued to advance despite the COVID-19 impact to the economy.

NCR: So, how safe is this technology?
SN: The hydrogen is stored in carbon fibre tanks, pressurised to 10,000psi, but is released through the regulators at 230psi then down to 20psi, which is essentially atmospheric pressure, and goes into the fuel cell stack under the engine bay. These vehicles are certified across Europe, North America, Korea and Japan and, of course, are fully certified here in Australia. The tank testing regime is far more stringent than either an existing LPG or petrol tank, including over-pressurisation, drop testing, fire and, believe it or not, bullets being shot at the tank. The tanks are very safe indeed.

In addition, a lot of work has gone into ensuring safety information is shared across our network, including dealerships, Fire and Rescue and the motor clubs like the NRMA, who will provide roadside assistance. If ever there was a scenario that further supports a ban on grey imports, it's the rapidly increasing technology in the vehicles of today and tomorrow.

Training and development of the network will also be critical, and in the first instance the vehicle will need to go back to the dealer to have the hydrogen gas evacuated, with the right equipment, procedures and training. We, like several other manufacturers of hydrogen vehicles, do this throughout the world, where we have dozens of dealerships, so we know what we are doing.

Our intention is to establish service workshops where we deploy refuelling stations so that we create a network that can fully support the fleet as it develops. We have one already in the ACT at Lennock Hyundai, with plans for both Brisbane and Melbourne in the foreseeable future. We plan to control the roll out of the vehicles as we install the necessary support.

One of the other impacts will be that service stations of the future are likely to be quite different and more than likely will be contactless, something to which we are currently adjusting for quite different reasons, of course.

As we do with our EVs, we will use QR codes to give first responders immediate access to the emergency response guides, including how to deactivate and disarm the high voltage system. This information is also accessible on the Hyundai Australia website.

NCR: So, what is the realistic timeline for hydrogen fuel cell vehicles?
SN: We are still at the early stages, and what makes it difficult is that the infrastructure is still more expensive than that of EVs. However, the time will come when we will be refuelling our hydrogen vehicles just as efficiently as we do with our petrol vehicles today. EVs today take longer to recharge and still do not have the range of hydrogen or petrol vehicles. The constraint is the investment in infrastructure, so putting a timeline on it is still very difficult. However, the plan is to focus on clusters, as is the case in California and some places in Europe. We will have a station operational in the ACT prior to year-end and ultimately clusters of stations in the right locations around the country will give us the footprint we will need.

Back to the timeline. We know that some European countries and other places around the world are planning to ban internal combustion engines in both light and heavy vehicles by 2025. At the end of September this year, the Californian Government announced that it will ban internal combustion sales from 2035 and the UK moved its ban down to 2030. It is on this basis that Hyundai is planning to have 44 new eco-drivetrains available for global markets by the middle of the decade. The other major driver is tightening emission regulations around the world, which will "force the issue". Hyundai has several agreements with other manufacturers that will allow us to develop cost-effective drivetrains through technology collaboration.

Perhaps the best way to look at it is that the replacement for petrol engines will be EVs and the replacement for diesel engines will be hydrogen fuel cells. There are hydrogen trucks, buses, trains and ferries in various places around the world, and here in Australia we will see hydrogen buses and trucks on our roads within the next 12 months.

In addition, one of the big opportunities for fuel cell vehicles is the forklift industry, removing the need to recharge batteries or the issue of LPG emissions in warehouses, compared to water vapour and purified air emissions from the fuel cell.

NCR: What can you share about Hyundai's investment in hybrid and EV technology?
SN: Both technologies are a great way for corporates to drive down their fleet emissions and, as targets reduce significantly in the coming years, hybrids and EVs will become much more attractive. Hybrid technologies operate best with high quality fuels, but this will be problematic here in Australia until our low-quality fuels are replaced by 2027 – so, we're a bit behind.

However, at Hyundai we are not waiting for the regulations to change. We have two full battery electric EVs, a hybrid and a plug-in hybrid on the road now, with more EVs coming in each of the next few years, as well as further deployment of our hydrogen fuel cell vehicles in Australia. We plan to be ready to go when the inevitable change to the regulations occurs.

In addition, Hyundai will be a key driver of change across the industry in relation to infrastructure, fuel security and industry collaboration. We need and want more competition in this space, as the more players there are, the more rapidly we will facilitate the necessary changes, increase demand, bring down prices in the mass-market and help Australia catch up with the rest of the world. More awareness and more choice means more investment in the infrastructure.

Hyundai's Eco-Mobility Hub.

NCR: And you are also involved in autonomous vehicle technology?
SN: The real thrill in my role is working on the latest technology and working with like-minded people who are committed to developing the infrastructure for the cars of the future. Regarding AV's, the biggest challenge is the different regulations in the different states and navigating these are a key part of my role.

At Hyundai we already have AV technology built into our vehicles and Hyundai Australia was fortunate enough to provide a 240km demonstration of our technology across Korea, starting at the Pyeongchang Winter Olympics site in 2018, with international delegates, including those from Australia. The exercise was seamless with no driver input whatsoever.

So in Australia, when industry is ready and the infrastructure is in place, our telecommunications are reliable and secure, and the regulations have been developed, we at Hyundai will simply turn on the technology.

NCR: So, what does it all mean for the collision repair industry?
SN: The key is training – we will continue to work with TAFE and other RTOs to develop the understanding of this new technology. In the last decade Hyundai has donated almost 70 vehicles to TAFEs, trade training schools, medical research and to Fire and Rescue for research around Australia to ensure they are all working with the latest technology.

We are aware that there are several EV training courses available today, and we are looking at developing hydrogen fuel cell courses in the coming years. This is how we will prepare tomorrow's technicians for our technology.

NCR: And a final message to our readers?
SN: Even if we never see emission regulations here in Australia, the industry and the technology will drive us down the path and our automotive industry will be shaped by the technologies from Europe, North America and, of course, Asia.

The Australian car industry is to be congratulated as they work towards a voluntary code that has been introduced by the FCAI – even without legislation, we are holding ourselves to account.

The automotive industry is ever evolving and there is no doubt that this will continue at an even greater rate. At Hyundai, we are not just a car company, we are a multi-divisional global multinational organisation that is very much focused on the future. Our goal is to ensure our vehicles can be driven safely and can be safely and properly repaired in the event of a collision. We all have families and we all want to go home to them at the end of the day – this is what it's all about at Hyundai.