Environmental Defenders Office

Driving Change or Just Filling the Tank?

Unpacking the Greenwashing Tactics of the Automobile Industry (2023)

Contents

Summary

This report has assessed the green claims of several of the largest automobile companies in Australia. It has found misleading and deceptive claims to be common and widespread. These claims can be split into two broad categories:

- **Section 1** explores climate claims, which encompasses net zero claims as well as more general greenhouse gas emissions-related statements.
- **Section 2** explores claims about the sustainability of production of vehicles moving forward, as well as claims about the companies' "green" and "eco-friendly" credentials.

The key findings are:

1. Almost all major automobile manufacturers make representations that raise greenwashing concerns with Toyota, Mitsubishi, Hyundai and Nissan the worst offenders.
2. Greenwashing claims relating to hybrids and plug-in hybrids are the most common. Misleading claims involve comparing them to, and associating them with, lower emitting electric vehicles.
3. Very little attention is given to the entire life cycle of vehicles, with misleading green claims highlighting the relative fuel consumption and CO2 emissions associated with the vehicle and largely ignoring the manufacture and disposal process.

Recommendations

For consumers:

1. Look for meaningful actions: Greenwashing often relies on superficial or insignificant gestures that give the appearance of environmental responsibility. Meaningful actions include reductions in greenhouse gas emissions, water usage and waste, or investments in renewable energy.
2. Research the vehicle's emissions: Look for specific information about the vehicle's emissions, such as CO2 emissions and fuel efficiency. Be wary of vague claims like "greenest car" without supporting data.
3. Assess the entire lifecycle: Greenwashing often focuses on one aspect of a product while neglecting its entire lifecycle. Consider factors such as material sourcing, manufacturing processes, transportation, use and disposal of a product. A truly sustainable product should demonstrate environmental responsibility across its entire lifecycle.

For corporations:

1. Develop robust and ambitious net zero goals: Define measurable, time-bound achievable goals that align with the Paris Agreement target of net zero by 2050 and limiting temperatures to below 1.5°C. Implement strategies that will assist in achieving these goals.
2. Ensure claims are substantiated/avoid vague language: Use precise and specific language in your claims to avoid confusion and misinterpretation. Avoid generic terms such as such as 'green', 'eco-friendly' or 'sustainable' without providing concrete evidence. Clearly articulate the environmental benefits and improvements offered by your vehicles, supported by verifiable data.
3. Focus on the entire product lifecycle: Ensure that claims address the entire product lifecycle. This includes the emissions associated with the production, use and disposal of the product. It is insufficient to isolate parts of its lifecycle that are zero or low emissions.

Context

The Climate Science

Climate change, driven by anthropogenic greenhouse gas emissions, represents a serious threat to our planet. The effects of this can already be seen - heatwaves and extreme weather events are becoming more common, with annual increases in temperature growing and fire seasons becoming longer and more frequent.

Science tells us that to limit the negative impacts of climate change we must keep global warming to below 1.5°C. To achieve this, global emissions would need to peak by 2025, be halved by 2030 and reach net zero by 2050.[1] Oil demand would need to fall by 3 million barrels per day between now and 2025 if the world is to reach net zero by 2070.[2] This would need to be even greater for a 2050 scenario. As it stands, oil use is continuing to rise and likely to continue beyond 2025. Far from being halved by 2030, it is likely to increase.[3] As such, there is a drastic need for strong policy initiatives and behavioural changes that decrease dependency on oil and fossil fuels generally.

Transportation and Climate Change

Transport currently has the highest reliance on fossil fuels of any sector - accounting for 23% of global energy-related CO2 emissions (36% of end-use sector emissions) as well as 60% of total oil consumption.[4] Moreover, between 1990 and 2021, transport emissions grew faster than any other end-use sector, at an average rate of nearly 1.7% per annum.[5] Road vehicles alone make up 70% of all transport emissions and 26% of the world's oil consumption.[6]

To address the environmental concerns of energy use, the International Energy Agency (**IEA**) has developed a roadmap for the global energy sector (**IEA Roadmap**) which details a plan to keep the sector in line with the goal of limiting temperatures to 1.5°C and reaching a Net Zero Scenario.[7] Regarding the transport sector, achieving this would require at least a 20% reduction in emissions by 2030, the rapid uptake of electric vehicles, an immediate reduction in life-cycle emissions and the phasing out of internal combustion engine (**ICE**) vehicles (including various hybrid forms) in the medium term.[8]

What is Greenwashing?

Across the board, consumers recognise that addressing climate change is increasingly pressing. As a result, consumers are voting with their wallets, demanding green products and practices. This push represents a significant and important step in combating climate change as it has the capacity to influence corporate behaviour. However, as of 2021 only 7% of vehicles sold worldwide were low-carbon options, well shy of the 64.5% required by 2030 to remain within a 1.5°C pathway.[9] This gap encourages companies to "greenwash" their climate credentials and their products.

Greenwashing is the use of misleading or deceptive claims to promote the environmental impact of a company or product. By overstating the positive environmental impact of their products (or ignoring the negatives), companies can increase consumer demand without taking legitimate steps to address environmental issues. This not only allows for continued degradation of the environment but also gives the perpetrator a competitive edge over companies that are attempting to do the right thing.

A 2023 review conducted by the Australian Consumer Commission (ACCC) found that 57% of 247 examined businesses made concerning claims about their environmental credentials.[10]

A similar study conducted by the Consumer Policy Research Centre found that only 39 out of the 122 documented green claims provided any evidence or verification of their authenticity.[11]

The EU fares slightly better, with a recent survey finding that 53% of environmental product claims were "vague, misleading or unfounded". Another survey from the same year found 42% of environmental claims to be "false or deceptive".[12]

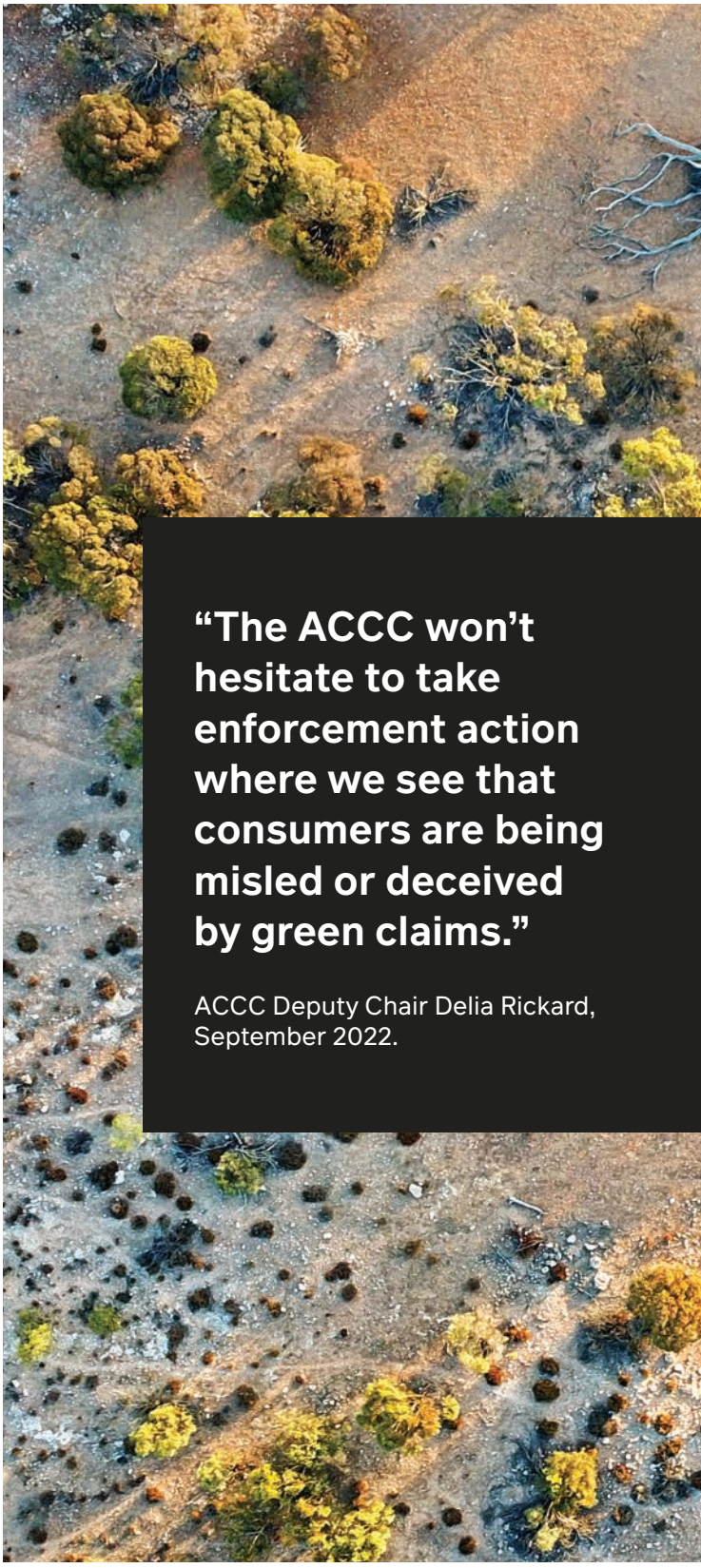
The Law on Greenwashing

In Australia, the law regarding misleading and deceptive conduct is governed by sections 18 and 29 of the Australian Consumer Law (**ACL**) and section 1041H of the Corporations Act 2001 (Cth).[13] The Australian Competition and Consumer Commission (**ACCC**) is responsible for enforcing these laws in relation to consumer products and has the power to take legal action against companies that engage in greenwashing.

The ACCC has also published "Green marketing and the Australian Consumer Law" (**ACCC Green Marketing Guide**) which provides guidance on environmental claims.[14]

The table below contains some guidance from the Guide.

What companies must not do by law	
Mislead people	✗
Deceive people	✗
Make claims that are unsubstantiated	✗
Overstate an environmental benefit	✗
Use environmental images capable of making a sweeping claim of environmental benefit	✗
Make broad or unqualified claims, for example using terms like 'environmentally friendly' or 'carbon neutral'	✗
Be technically or narrowly correct, without looking at the bigger picture	✗
Present claims as universally accepted when the scientific basis is under dispute or inconclusive	✗
Make predictions about future environmental benefits if there are no reasonable grounds for making them	✗
Fail to disclose relevant information	✗



"The ACCC won't hesitate to take enforcement action where we see that consumers are being misled or deceived by green claims."

ACCC Deputy Chair Delia Rickard, September 2022.

Common Misleading Representations

The Best of Both Worlds

The "best of both worlds" slogan is used by several different brands to advertise plug-in hybrid electric vehicles (**PHEVs**) and even some hybrid electric vehicles (**HEVs**) [see **Appendix 1**].

This carries the following imputations:

- PHEVs have all the benefits of an electric vehicle without any of the associated challenges of charging the battery;
- PHEVs are similar in terms of their emissions output to electric vehicles;
- PHEVs can run entirely on electric energy;
- That PHEVs strike the perfect balance between convenience and environmental harm; and
- Irrespective of how they are driven PHEVs are environmentally friendly.

This may be misleading because:

- PHEVs environmental performance is largely contingent on how they are driven;
- In terms of life-cycle emissions PHEVs are at least as far off from electric vehicles as they are from ICE vehicles;
- PHEVs use their petrol engine almost twice as much as expected; and
- PHEVs will need to be phased out along with other ICE vehicles by 2035 to align with the Paris Agreement goal of limiting warming to below 1.5ºC.[15]

"Self-Charging" Cars

Car manufacturers often refer to their HEVs as "self-charging" or suggest that they "charge themself as they drive" [see **Appendix 2**]. The term "self-charging" is used to distinguish hybrid vehicles, which derive their energy from a petrol engine, from plug-in hybrids and electric vehicles which require the battery to be charged externally.

This carries the following imputations:

- Hybrid electric motors do not require any external power source;
- Hybrids do not require petrol to drive;
- Hybrids are not associated with the damaging environmental impact of petrol; and
- Hybrids produce lower emissions, similar to electric vehicles, but require less maintenance and are easier to use.

This may be misleading because:

- In all practical respects hybrid electric motors rely upon petrol to operate; and
- Hybrid vehicles produce significantly higher emissions than electric vehicles over their lifecycle.[16]

The "Electrification" of Hybrid Cars

A major trend in automotive advertising is the use of electric language to advertise hybrid and plug-in hybrid vehicles. This advertising highlights hybrids' electric credentials, stating hybrids are electric, electrified or EV-like, without addressing the role of petrol [see **Appendix 3**].

Representations include:

- Mitsubishi promoting joining the "EV revolution" as part of their advertising of the Outlander and Eclipse Cross PHEVs;
- Nissan describing the X-Trail as "giving you the electric driving experience";
- Lexus using the slogan "live it electric with hybrid";
- Toyota suggesting their hybrid "makes EV driving possible at a wider range of speeds";
- MG advertising their hybrids as "electric for everyone"; and
- Volvo stating "our future is electric – new line of plug-in hybrids".

These carry the following imputations:

- The vehicles in question are electric vehicles and therefore produce no CO2 emission during use;
- Hybrid or plug-in hybrid vehicles are substitutable with fully electric vehicles; and
- The vehicles are innovative, exciting and will play a significant role in the future.

This is misleading because:

- It confuses whether the vehicles in question are hybrids or fully electric vehicles;
- It suggests hybrids are not petrol vehicles when they are;
- Hybrid vehicles are much closer in terms of emissions to full ICE vehicles[17]; and
- Hybrid vehicles will need to be phased out alongside ICE vehicles and thus are not cars of the future[18]

Green, Sustainable and Eco-Friendly

A common thread throughout automotive advertising are claims as to how green, sustainable or eco-friendly the car is or how the car contributes to a green, sustainable or eco-friendly world [see **Appendix 4**]. This is misleading as broad or unqualified headline claims do not provide information as to the actual environmental benefit of the product. As such, a consumer would assume that certain ICE, hybrid, plug-in hybrid and electric vehicles fall under the broad "green" category without having a clear idea of how they benefit the environment.

Climate Claims

Net Zero Claims

What is net zero?

According to the United Nations, net zero is the process where greenhouse gas emissions are cut as close to zero as possible and any remaining emissions are re-absorbed from the atmosphere to ensure that anthropogenic emissions produced do not exceed emissions taken out of the atmosphere.[19] The "net zero" target is premised upon the need to limit warming to below 1.5°C and then maintain that temperature to avoid wide-scale, irreversible environmental harm. To achieve this the world must reach a net zero position by 2050 at the latest.[20] The annual mean global near-surface temperature for each year between 2023 and 2027 is already predicted to be between 1.1°C and 1.8°C higher than the 1850-1900 average.[21]

Net zero pledges represent a crucial step in combating the challenges of climate change. As such, "net zero by 2050" is a stamp of environmental and climate intent. Recent increases in the number of net zero claims are a step in the right direction. As of 2022, net zero pledges cover over 91% of the global economy, an increase from 68% in 2021.[22] The "overall impression" garnered from a net zero pledge is that the maker of the claim is taking genuine, good faith steps to reduce their impact on the planet relative to their contribution to climate change. To claim to be reaching net zero by 2050 whilst acting in a way that is inconsistent with 1.5°C of warming misleads consumers and worse still is resulting in a failure to ensure that genuine greenhouse gas reduction occurs. As such, there is increasing need to ensure net zero claims are genuine.

The United Nations High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities (**UNHLEG report**) provides important guidance to businesses for conducting a comprehensive and strong net zero plan. It outlines 10 recommendations to ensure a credible net zero target. These include:

I. Announcing a net zero pledge
II. Setting net zero targets
III. Using voluntary credits
IV. Creating a transition plan
V. Phasing out of fossil fuels and scaling up renewable energy
VI. Aligning lobbying and advocacy
VII. Avoiding the conversion of remaining natural ecosystems
VIII. Increasing transparency and accountability
IX. Investing in just transitions
X. Accelerating the road to regulations.[23]

These recommendations are not exhaustive, and each goal encompasses several more specific elements. For example, a legitimate net zero pledge under recommendation 1 must:

a. Represent a fair share of the needed global climate mitigation;
b. Contain interim short, medium and long-term targets;
c. Be in line with IPCC or IEA net zero greenhouse gas emissions modelled pathways to limit warming to 1.5°C;
d. Include a decline of at least 50% by 2030; and
e. Reach net zero by 2050 or sooner.[24]

The expert group created these requirements with the goal of preventing the concept of net zero from being undermined by false claims, ambiguity and greenwashing. The report states:

> *If greenwash premised upon low-quality net zero pledges is not addressed, it will undermine the efforts of genuine leaders, creating both confusion, cynicism and a failure to deliver urgent climate action.*[25]

Net zero in the Automotive Industry

In order to reinvigorate faith in net zero claims it is imperative that greenwashing is subject to sufficient scrutiny. The UNHLEG report provides a clear means to do this. When applied to the automotive industry, whilst almost all brands have made net zero pledges, few fulfil the requirements laid out by the UNHLEG report.

Net zero, according to the UNHLEG report, requires manufacturers to be doing their fair share in limiting temperatures to below 1.5°C.[26] Achieving this, or even a 2C limit, would require the rapid uptake of electric vehicles and no new ICE vehicles sold after 2035 as set out in the IEA Roadmap for the Global Energy Sector.[27] As it stands, few vehicle manufacturers have aims to achieve this in Australia (see figure right).

Brand	Commitment to no new ICE vehicles by 2035
Toyota	✗
Mazda	✗
Mitsubishi	✗
Kia	✗
Hyundai	✗
Ford	✗
MG	✗
Subaru	✗
Isuzu	✗
Nissan	✗
Volkswagen	–*
Volvo	✓
Ford	✓
Tesla	✓
Polestar	✓

*Committed to no new ICE vehicles by 2040

Moreover, the UNHLEG report dictates that any net zero claims must include an entity's full value chain.[28] This includes the emissions from the manufacture of a product (scope 1 and 2) and emissions from the use of the product by customers (scope 3 emissions).[29] Given that cars tend to have a lifecycle of over 11 years, it is likely that any ICE vehicle sold after 2040 will still be operational and thus emitting after the 2050 deadline. As such, automotive manufacturers ought to have fully transitioned to electric vehicles by 2040 to be able to claim they aim to be net zero by 2050.

Case Study / Toyota

In its 2022 Sustainability Report, Toyota made a pledge to reach net zero internationally by 2050.[30] Based upon this, it can be inferred that Toyota is taking active steps to reduce its emissions in the short term and changing the nature of its production processes to align with its goal. Whilst Toyota has had some of its short-term emission reduction targets validated by the Science Based Targets Initiative (SBTi) it still has no validated long-term targets.[31] This means that its overall claim to achieve net zero by 2050 does not have a scientific foundation.

A recent report produced by Greenpeace Germany highlights Toyota as by far the worst performer amongst the manufacturers analysed in terms of its plans to reduce emissions.[32] Toyota is expected to produce between 55 and 71 million more cars than its allotted carbon budget allows (38 million), an overshoot of 144% - 188% higher than what is compatible with a 1.5°C scenario.[33] Globally, Toyota produces approximately 9 million vehicles annually, the vast majority of which are ICE (approximately 69%) and hybrid ICE (approximately 29%) with other vehicle types adding up to less than 2%.[34] In Australia, hybrids already accounted for 31% of total sales in 2022 with only 72 electric vehicles sold (by Lexus) and 17 Mirai's (hydrogen) leased out.[35]

In order to stay compatible with its fair share in a 1.5°C scenario Toyota would need to immediately and drastically reduce the production and sales of ICE and hybrid vehicles and replace them with electric or hydrogen alternatives.

Lobbying and Advocacy

Recommendation six of the UNHLEG report highlights the need for non-state actors to align their external policy and engagement efforts to science-based goals in both the short and long-term.[36] Climate policy engagement from automakers is primarily conducted by industry associations.[37] A recent report published by think tank InfluenceMap found that the Federal Chamber of Automotive Industries (**FCAI**), the peak industry organisation representing manufacturers and importers of passenger vehicles, has led a strategic and coordinated campaign to push back against Australian climate policy.[38] This strategy involves:

- Creating a voluntary CO2 standard with no penalties for non-compliance;
- Opposing Paris-aligned climate policies;
- Downplaying the potential of battery electric vehicles (BEVs) and spreading anti-BEV narratives;
- Advocating for alternative technologies and promoting ICE vehicles;
- Lobbying policymakers to adopt weak fuel efficiency standards; and
- Running a PR campaign to ensure the continuation of this weak standard.[39]

The FCAI directly represents and advocates on behalf of the largest automakers. As of May 2023, all of the top 10 best-selling automakers, with the exception of Subaru, were members of the FCAI with several of them having executives on the board.[40] As it stands, the FCAI, far from aligning their lobbying with science-based goals, has actively attempted to disregard them.

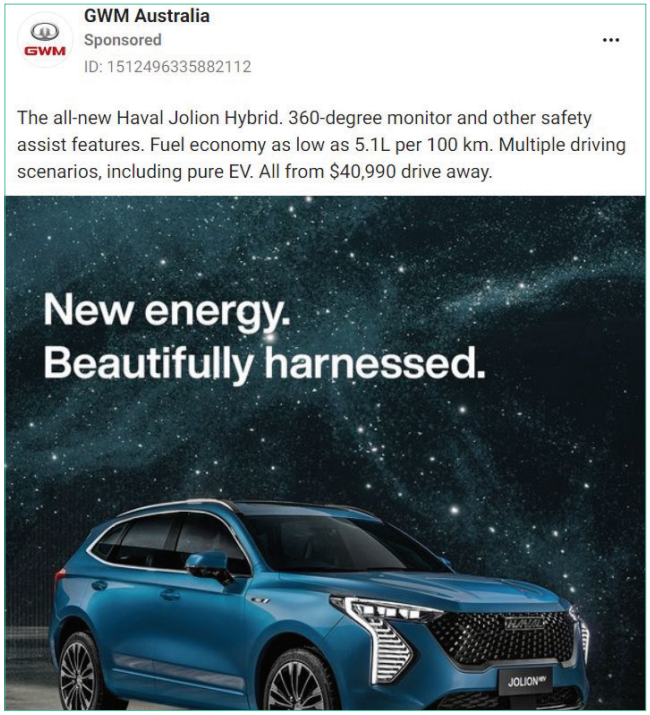
The report highlights Toyota and Hyundai as particularly negative in their advocacy, with Toyota previously being ranked as one of the world's most aggressive anti-climate lobbyists, below only Exxon Mobil and Chevron.[41] Both automakers were found to have pushed for more flexible, less punitive rules and weaker fuel efficiency standards which served to prolong the life of ICE vehicles.[42] As such, Toyota and Hyundai's statements about achieving net zero are likely to mislead consumers into thinking that they are actively attempting to make positive changes to their environmental practices whilst, in reality, they are privately lobbying for the opposite.

Other Sustainability Claims

Emission-Free Mobility

Demand for environmentally friendly vehicles continues to grow in Australia.[43] Customers want to be sure that the vehicle they are driving is not causing harm to the environment. At this stage, only electric and hydrogen vehicles are capable of running emissions-free during the use phase. A survey produced by the Electric Vehicle Council (**EVC**) in 2020 found that 56% of Australians would consider going electric for their next car purchase, an increase from 48% in 2018 and 53% in 2019.[44] This trend shows no sign of slowing down as evidenced by a 65% increase in the market share of electric vehicles from 2021 to 2022.[45] As such, there is an incentive for car manufacturers to market vehicle types that use emission-free fuel sources.

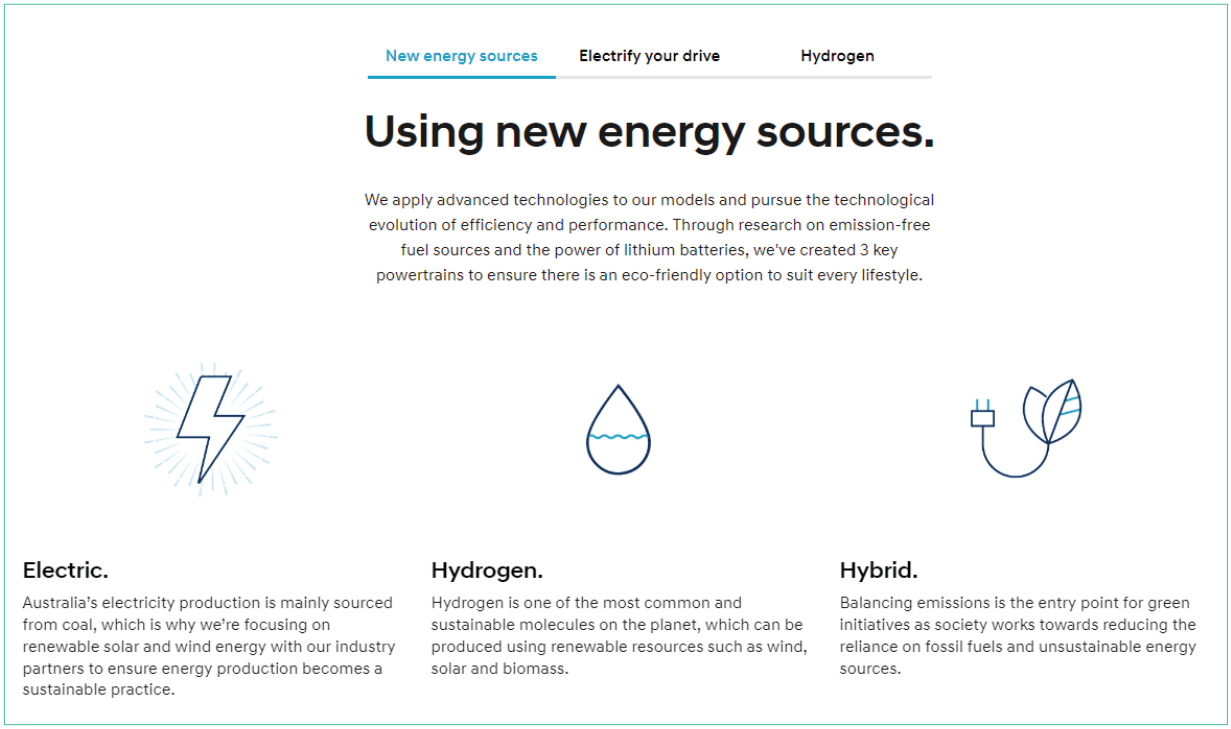
However, there are still several obstacles in the way of the average consumer purchasing an EV such as charge times, accessibility or range anxiety. Automobile companies are fully aware of this clash between convenience and climate consciousness. As such, it is unsurprising that most climate claims in the automobile industry relate in some way to the emissions produced by different drive trains, particularly hybrids and plug-in hybrids. A number of the major car manufacturers attempt to suggest, directly or indirectly, that their vehicles drastically reduce your carbon emissions and, in turn, your impact on the planet. This often consists of overemphasising the electric capacity of a hybrid vehicle or attempting to hide the role of petrol (see Appendix 3). In the example above, GWM imply that their Jolion is "new" and "futuristic", and and as such is capable of "multiple driving scenarios, including pure EV". The suggestion that the Jolion Hybrid can operate as a pure EV ignores that to derive power from the electric battery an initial petrol injection is needed. Overall, whilst both hybrids and plug-in hybrids are greener alternatives to ICE vehicles, both of these drivetrains no longer represent best practice in terms of emissions reduction.



Brand	Representation
Toyota	"At Toyota we've made it our mission to find a way to power the future without fossil fuels. We've committed to powering our entire range with zero emissions by 2050 by developing *electrified** vehicles."
Mitsubishi	"Is it electric or hybrid? It's both."
Hyundai Global	"Our five main areas of interest to achieve carbon neutrality. 1. *Electrification.**"
Ford	"Globally, Ford plans to invest more than $30 billion cumulatively through 2025 to *electrify** our vehicles, making big changes so the company can be carbon neutral by 2050."
Nissan	"A 100% electric motor driven experience."
Haval	"H6 Ultra Hybrid. Go electric without compromising on performance."
Lexus	"The Lexus Hybrid self-selects the best power source for different driving conditions. Like the fully electric EV mode for low-speed city driving with zero emissions."

*Electrified vehicles include hybrids and plug-in hybrids yet are marketed as carbon neutral.

An example of this kind of advertising can be found on Hyundai's eco-initiatives page,[46] pictured below:



This page has a number of potentially misleading elements. The wording in the paragraph entitled "using new energy sources" lacks clarity. The paragraph highlights Hyundai's research into emission-free fuel sources but doesn't explain which of the 3 powertrains are emissions-free instead describing them as eco-friendly. Whilst it is true that, in certain circumstances, electric and hydrogen vehicles can draw their power from renewable sources, this can not be said for hybrid vehicles which rely on petrol. The term "eco-friendly" is equally vague and in combination with the above may mislead the public as to the relative environmental impact of each vehicle type.

In addition, the insinuation that hybrid vehicles are consistent with "balancing emissions" is potentially misleading as it incorrectly supposes that hybrids can achieve carbon neutrality. The only way that emissions can be "balanced" is by creating a scenario in which emissions produced are equal to emissions taken out of the atmosphere. Hybrid vehicles, due to their reliance on burning petrol, are incapable of balancing their emissions. The supposition that hybrid vehicles "reduce *reliance* on fossil fuels and unsustainable energy sources" is equally capable of amounting to misleading and deceptive conduct. Whilst hybrids reduce the amount of fossil fuels used, they cannot operate without them. In combination, these claims potentially create the overall impression that hybrid vehicles are emissions-free and are broadly comparable to an electric vehicle which they are not.

Similar sentiments are expressed by Toyota:

> *"At Toyota we've made it our mission to find a way to power the future without fossil fuels. We've committed to powering our entire range with zero emissions by 2050 by developing electrified vehicles."*[47]

In this instance, the term "electrified" is used as a catchall term to label any vehicle with an electric engine including plug-in hybrids and hybrids. This is supported by the advertising of their hybrid vehicles on their "electrified vehicles" page. As such, this representation creates the dual impression that all electrified vehicles, including plug-in hybrids and hybrids, are a) powered without fossil fuels and b) consistent with zero emissions by 2050. As discussed above, the suggestion that hybrids, including plug-in hybrids (explored below), are consistent with a zero emissions future is alleged to be misleading as they are reliant on fossil fuels for power.

Plug-In Hybrids

On face value, plug-in hybrid electric vehicles (**PHEVs**) have the potential to be the answer to an automotive market that is caught between the emissions reduction capacity of electric vehicles and the convenience of ICE vehicles, particularly in Australia where electric vehicle infrastructure remains underdeveloped. According to car manufacturers, their ability to operate solely off electric energy with the addition of an optional internal combustion engine offers a "best of both worlds" solution (**Appendix 1**). The suggestion is that you get "all the benefits of an electric vehicle with the safety blanket of a petrol tank when you really need it."[48] As this phrase suggests, brands are quick to promote the EV credentials of plug-in hybrids whilst painting the petrol tank as merely a backup plan.

The overwhelming impression created from this rhetoric is that PHEV drivers can "be the change without changing" as MG claim in advertisements for the HS + EV[49] (see image below). This advertisement places these words on top of green imagery to create the impression that simply by driving this vehicle you are making a positive impact. This is consistent with statements made by the CEO of Toyota Research Instititute Gill Pratt who stated:

> *"Cradle to grave, the evidence is that PHEV [plug-in hybrid] and BEV [battery electric vehicles] are very close – certainly close enough to suggest that picking one over the other as the ultimate solution isn't currently always the correct answer and the PHEV more often than not currently is the better choice."*[50]

Both the statement above and the advertisement from MG are alleged to be misleading as the emissions reduction potential of PHEVs are entirely dependent upon the percentage or time spent driving using only the electric motor.

In combination, all of the advertising infers that PHEVs and BEVs are interchangeable insofar as they are roughly even in terms of their emissions output. This statement is alleged to be misleading as the emissions reduction potential of a PHEV is entirely dependent upon the percentage of time spent driving using only the electric engine. A number of factors go into changing this figure including how regularly the vehicle is charged, how fast the vehicle is driven, how far the vehicle is driven and even how warm it is outside.[51] As such, it is particularly difficult to accurately assess the emissions performance of these vehicles, in practical, real-world conditions as they vary wildly from customer to customer.[52]

At present, fuel consumption of PHEVs is assessed in standardised testing procedures such as the Worldwide Harmonised Light Vehicles Test Procedure (**WLTP**) or the New European Driving Cycle (**NEDC**).[53] However, these test procedures tend to rely on outdated information provided by vehicle manufacturers making them prone to an overestimation of value and an underestimation of real emissions.[54]

MG Be the Change without Changing

In fact, PHEVs:

Have 2 to 3 times higher fuel consumption than standardised testing suggests

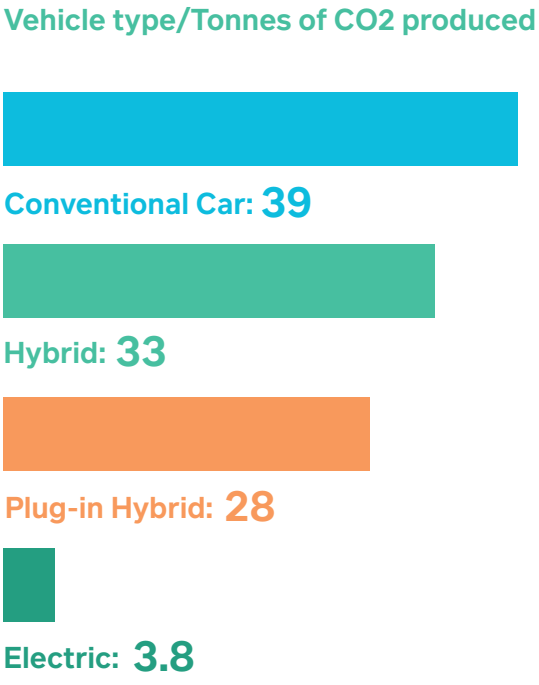
Use the combustion engine about twice as often as assumed in testing cycles[55]

Are only charged 3 out of 4 days[56]

Emit on average between 15 – 55% less tailpipe emissions compared to conventional cars[57]

This is an incredibly wide margin but even in ideal circumstances PHEVs perform significantly worse than an all-electric vehicle.

Vehicles can still contribute to emissions from the process of generating the fuel or electricity. Taking this into account a new PHEV, as of 2020, will emit 28 tonnes of CO2 over its lifetime.[58] In comparison a conventional petrol car emits between 39 and 41 tonnes depending on whether it is run on petrol or diesel and a classic hybrid emits around 33 tonnes.[59] Whilst 28 tonnes of CO2 is better than a conventional car it is significantly worse than a battery electric vehicle which emits about 3.8 tonnes.[60] Considering the whole lifecycle of the vehicle, the ICCT found, PHEVs emissions are on average 34% lower than average new ICE vehicles whilst BEVs are 63% lower.[61] Another study had similar results, finding that these figures were 26% and 69% respectively with conventional hybrids at 21%.[62] A comparison of these life-cycle emissions shows that PHEVs are as far from BEVs as they are from conventional ICE vehicles.[63]



Self-Charging Hybrids

Another reasonably ubiquitous trend in automotive advertising is:

> "...with a whisper quiet hybrid electric system which charges itself whilst you break..." (Toyota).

> "Fast charge in 25 minutes or even while you drive" (Mitsubishi).

> "The self-charging Niro gives modern hybrid technology a sleek new look, bringing the efficiency of a hybrid electric vehicle to a fun-to-drive crossover SUV" (Kia).

> "Our self-charging e-Boxer hybrid means the efficiency of a hybrid, with no strings attached" (Subaru).

> "You don't need to plug me (Honda HRV) in to charge me. I do it all by myself" (Honda).

> "With technology that allows you to charge as you drive there is no need to plug-in" (Lexus).

(see **Appendix 3**)

The term "self-charging" or suggesting that a car "charges itself as you drive" has the potential to mislead consumers (see picture below) as it suggests either directly or indirectly that the car does not require a petrol engine to operate. By describing a hybrid vehicle as self-charging brands are drawing a comparison with electric vehicles and painting hybrids as the easier and environmentally friendlier alternative. This is often coupled with language such as "no need to plug-in" further drawing upon fears and anxieties associated with electric vehicles to promote hybrid products. Ultimately, the combination of these claims creates the potentially misleading impression that hybrid vehicles are able to operate for extended periods of time (or indefinitely) without the use of petrol.

In 2020, the Norwegian Consumer Authority banned Toyota and Lexus from using the phrase "self-charging" to describe their hybrid line.[64] The Authority determined that the commercial practice was misleading on the basis that electricity produced by the car required gasoline or petrol as a necessary condition.[65] Whilst it is true that hybrid electric motors have the capacity to draw upon regenerative energy from the wheels turning, the Authority ultimately determined that in all practical respects such kinetic energy was only possible as a result of the petrol engine.[66] The Norwegian Consumer Authority found that terms such as "self-charging" were capable of influencing consumers to make an economic decision that they would not have otherwise made thus unjustly benefiting them and degrading the quality of green claims more generally.

Case Study / NISSAN E-Power

The marketing strategy employed by Nissan to promote it's 'e-POWER' hybrid drivetrain raises a number of greenwashing concerns. e-POWER is Nissan's next generation hybrid drivetrain. Its main distinguishing feature according to Nissan is that:

> *"In conventional hybrid systems, the wheels are powered by an electric motor and a petrol engine. However, Nissan's e-POWER technology sees the driving wheels powered exclusively by an electric motor. The petrol engine is used only to charge the vehicle's battery when necessary, allowing for a true EV drive experience, and lower fuel use and emissions."*[67]

This has the potential to mislead or deceive consumers by suggesting that a hybrid vehicle is "powered exclusively by an electric motor" or a "true EV drive experience". The distinction between the wheels being either directly or indirectly powered by this engine is largely irrelevant as, fundamentally, the vehicle relies on petrol to operate. Whilst Nissan e-POWER vehicles may derive some of their power from regenerative braking this still requires an initial injection from petrol to operate. Ultimately, the assertion that the petrol engine is only used "when necessary" misrepresents the integral role that petrol plays within the process.

Throughout their marketing Nissan have described e-POWER as "a gateway to fully electric vehicles" and as "leading the way to an electric future."[68] These statements infer that e-POWER vehicles are on the cutting edge of electric vehicle technology and are in some ways a necessary component to an evolving electric vehicle market. Though emissions aren't explicitly mentioned, the focus on e-POWER vehicles being "a 100% electric motor driven experience," equates it with electric vehicles in terms of its emission reduction potential.[69] The suggestion is that despite an initial petrol injection e-POWER vehicles are able to electrify this energy. This allows them to benefit from the positive environmental reputation of electric vehicles and in turn profit off customers being misled about the actual environmental impact of their products.

Sustainability Claims

The production of cars is an extremely resource-intensive process which requires significant amounts of energy, water and raw materials, many of which are non-renewable and finite such as steel, petroleum and aluminium. Moreover, the extraction and processing of these materials can have detrimental environmental impacts that stretch beyond just the production of greenhouse gas emissions, such as land degradation and water pollution. As such, it is imperative that vehicle manufacturers adopt sustainable production practices across the whole lifecycle of their vehicles.

This includes reducing the use of finite virgin materials in the production process, using recycled materials wherever possible and developing plans to recycle products at the vehicle's end-of-life so that materials from old cars can be reused or repurposed rather than ending up in landfill. This is crucial, not just for the environment, but to ensure the long-term viability of the automotive industry.

The Lifecycle Gap

Much of the environmental marketing in the automotive industry is concerned with the emissions produced during the use of a vehicle. Often, this is posed as the fundamental concern. For example, Hyundai states on their eco-initiatives page:

> *"Others talk about change, we're driving it. Driving that doesn't cost the Earth. Future generations shouldn't have to choose their cars or their planet. That's why our long-term aim is to be creating vehicles that have as small an impact on the environment as possible, because their powertrains require no fossil fuels, and they emit no CO2 or other pollutants."*[70]

The idea that vehicles are environmentally friendly or sustainable simply because they emit less CO2 emissions in the use phase is a narrow approach which ignores other aspects of the vehicle's life cycle. The ACCC's Green Marketing Guide helpfully discusses claims relating to the whole product lifecycle that are relevant in these circumstances:

> *"The manufacturing, recycling, destruction, and disposal process should be taken into account before making any environmental claims regarding the relevant characteristic or part. [For example] A car is manufactured to be extremely fuel efficient and advertised as 'green' or 'eco-friendly.' This does not take into account the harm to the environment of the production process or the disposal of the car at the end of its life cycle, which may have a large environmental impact. Advertising the car as being 'fuel efficient' rather than 'green' could held avoid misleading consumers."*[71] [emphasis added]

This is particularly relevant in relation to Nissan's marketing of their electric vehicles.[72]

WHY ELECTRIC IS SUSTAINABLE

The nitty gritty of electric versus petrol driving, how harnessing renewable energy with solar panels can power EVs, and the ins and outs of EV battery power and sustainable battery recycling.

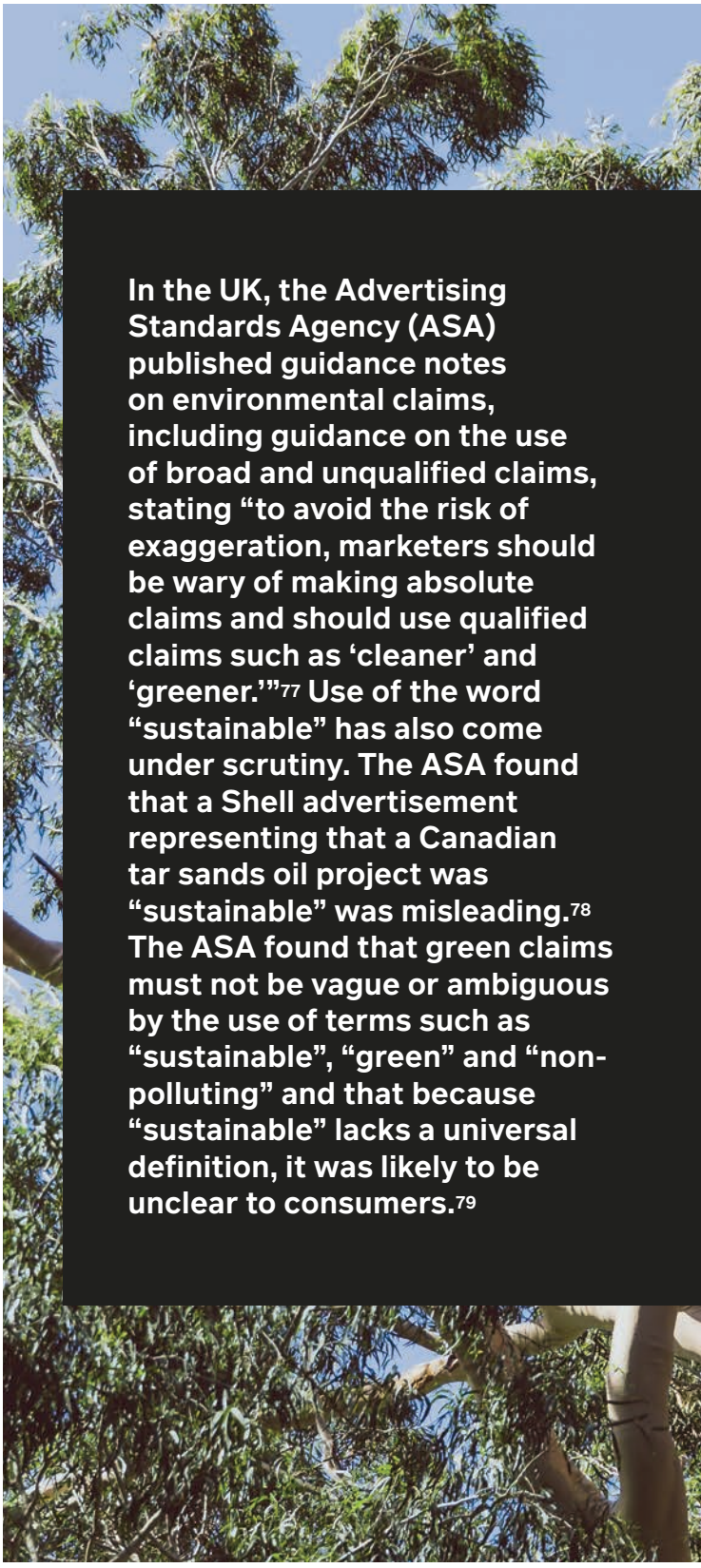
Electric vehicles are currently the best available technology in terms of reducing greenhouse gas emissions. However, current electric vehicles are emissions intensive to produce as they require lithium-ion batteries to run. Moreover, the use of the heading "why electric is sustainable" followed by mention of "sustainable battery recycling" implies that the car batteries are being recycled after use. This may mislead consumers, as while Nissan does have a few small initiatives to recycle batteries, it acknowledges that the "industry is still in its infancy."[73] As it stands, only around 5% of car batteries are recycled across the industry which presents a major problem for ongoing sustainability as significant amounts of waste are destined for landfill.[74]

This is not to undercut the importance of transitioning to electric vehicles from a climate perspective. Brands however cannot isolate certain aspects of a product that are environmentally friendly whilst ignoring others to increase the marketability of that product. It is important that brands are specific with their advertising and adopt a whole-of-lifecycle approach to avoid misleading the public.

Broad and General Claims

The example of a "green" or "eco-friendly" car, as found in the ACCC Green Marketing Guide, highlights a further problem with broad and general language. The Guide states that "broad or unqualified claims can be risky as they are ambiguous and do not explain any specific environmental benefit."[75] It goes on to list common claims of concern:

- Green
- Environmentally friendly or environmentally safe
- Energy efficient
- Recyclable
- Carbon neutral
- Renewable or green energy.[76]



In the UK, the Advertising Standards Agency (ASA) published guidance notes on environmental claims, including guidance on the use of broad and unqualified claims, stating "to avoid the risk of exaggeration, marketers should be wary of making absolute claims and should use qualified claims such as 'cleaner' and 'greener.'"[77] Use of the word "sustainable" has also come under scrutiny. The ASA found that a Shell advertisement representing that a Canadian tar sands oil project was "sustainable" was misleading.[78] The ASA found that green claims must not be vague or ambiguous by the use of terms such as "sustainable", "green" and "non-polluting" and that because "sustainable" lacks a universal definition, it was likely to be unclear to consumers.[79]

Broad claims by car industry

Broad green claims are extremely prevalent in the automotive industry.

Brand	Representation
Mitsubishi	"It's so easy being green." "The ASX range offers a choice of two, green, lean and clean engines." "Green gadgets... easing on the accelerator and squeezing the brakes can reduce fuel use quite dramatically."
Hyundai	"The two greenest cars in Australia are made by Hyundai."
Honda	"Eco-friendly meets exhilarating performance."
Haval	"Hybrids, the eco-friendly, practical alternative."
Toyota Global	"It's no longer just an eco-friendly car. More range, more performance. 100% emissions free."
BMW	"BMW is officially the most sustainable car brand... ok we're not there yet but it is what we're aiming for. The greenest electric car?

This kind of language allows brands to market their products as environmentally friendly without providing any further substantiation. The ambiguity of a term like "eco-friendly" can be used to mask the limitations of the product when being specific would reflect poorly on its environmental claims. For example, where Hyundai claim at the head of their web page to have "the two greenest cars in Australia" a disclaimer reads:

> *"If the vehicle has been used for private and domestic purposes and is not and has not been previously used for a commercial application, including but not limited to taxi, hire, rental, courier, security, driving school, tour, bus operator or emergency vehicle. Vehicles used at any time for "commercial application", as defined in the vehicle warranty policy, are excluded... Commercial application does not include Hyundai Genesis vehicles used for hire/limousine purposes."*[80]

Courts have found disclaimers and small print to qualify a claim can still be misleading or deceptive, especially when the disclaimer is not clearly visible or prominent.[81]

Similarly, Mitsubishi, as part of a marketing campaign for its new ASX range, posted a blog titled "It's so easy being green".[82] Mitsubishi makes a number of representations about its MIVEC petrol engines including "the ASX's MIVEC petrol engines strike a balance between sporty power and savings at the servo" and "the ASX range offers a choice of two green, lean and clean engines." These representations carry with them the imputation that ASX vehicles are fuel efficient, low emitting and have an overall positive impact on the environment. This may be misleading insofar as the relative environmental impact of each engine and thus each vehicle in the ASX range remains unclear in the advertisement. Irrespective of the relative fuel efficiency of the MIVEC petrol engines they will emit more than an electric motor. Moreover, at the time of advertisement, the ASX range was made up exclusively of ICE vehicles. As such, promoting either the engines or the vehicles themselves as "green" and "clean" risks overstating their environmental benefit.

Case Study / KIA Green Imagery

Broad and general claims are not limited to single words or phrases that lack clarity. In fact, green marketing is particularly susceptible to motherhood statements that lack associated concrete plans. Brands recognise that simply associating your brand with green imagery is sufficient to improve your perceived environmental reputation. A recent Kia campaign titled "Discover Sustainability" is an interesting example of this. The page features a video which states:

> *"Ever since the beginning we've found new ways of moving. To see new worlds, live new experiences and discover new perspectives and ideas. But what's so greatly advanced us, has also hurt our greatest source of inspiration, nature. We started moving so fast that we lost sight of where we came from. We took so much but forgot to give back. So, let's step back. Step back and realize we can do better. That more than ever, we need nature to lead the way. The way to a fully sustainable future. Whether we move in small steps or giant leaps, there's only one possible way forward. We must act together. Act, not talk. Because deeds go beyond words. Collaboration goes beyond selfishness. Sustainability goes beyond technology and nature must go beyond profit. It's simple, if nature is the most inspiring force out there, then there's no innovation without it. Inspired by nature."*[83]

The video contains many broad statements and generalisations about sustainability without providing specific details or evidence of how Kia intends its cars to be sustainable. Phrases such as "our greatest source of inspiration" and "the most inspiring force out there" are designed to appeal to consumers emotions rather than provide information about the company's sustainability practices. The lack of information or concrete plans outlined by Kia suggest it is more focused on appearing environmentally responsible rather than implementing sustainable practices. Despite the use of the phrase "act, not talk" there is not a single mention of an action that will be taken to address their environmental concerns. There is also no suggestion within Kia's sustainability plans that it has a strategy that forgoes profit for the sake of nature.

Case Study / MG – Driving Sustainable Change

If you search "MG Sustainability Plan" in Google the first link takes you to a page titled "Driving Sustainable Change". On face value this suggests that MG will be actively taking important steps to address significant concerns in the automotive industry such as reducing carbon emissions or transitioning to electric vehicles. The page reads:

> *"At MG Motor, we are mindfully exploring how to use local strategies to create lasting change. An excellent method to lessen your carbon footprint and make a difference in the world is to give sustainable and organic gifts. For this reason, MG Motor Australia is happy to announce that, starting on July 1 and running through September 30, 2022, we will include an organic gift package with every new car purchase. The organic gift set will come housed in a reusable tote bag bearing the MG Motor logo and will include a bottle of organic wine and a sachet of organic earl grey tea."*[84]

Fundamentally, this offer of organic gifts does not contribute in any meaningful way to the environment. In fact, even though tote bags are touted as an eco-friendly alternative to plastic bags, a 2018 study found that a single organic cotton tote would need to be used 20,000 times (or every day for 54 years) to offset the environmental impact of its creation.[85] Moreover, the bag has MG's logo on it accompanied by leaves and the slogan "driving sustainable change". This creates the overall impression that MG is actively taking steps to make improvements to the environment. In reality, it appears that MG is simply trying to appeal to eco-conscious customers without making any real efforts towards sustainable practices.

Conclusion

“We urgently need every business, investor, city, state and region to walk the talk on their net zero promises. We cannot afford slow movers, fake movers or any form of greenwashing.”

Antonio Guterres,
UN Secretary General

We are at a critical point for climate action. It is increasingly apparent that corporations must take immediate and intense action if the worst effects of climate change are to be mitigated. Australian companies have the potential to drive change and have the financial, technological and institutional capacity to set an example for the rest of the world. Despite this, Australia continues to lag behind. The automobile industry is no exception. Electric vehicles and the associated infrastructure are only beginning to be introduced at scale and as a result the percentage of sales made up of electric vehicles remain significantly lower than in Europe.

It is integral that consumers have the tools to identify greenwashing. It is crucial to look for substantial actions that genuinely reflect environmental responsibility such as deep and immediate reductions in emissions. When examining vehicles, and products more generally, one should assess the complete lifecycle of the product using external sources beyond the promotional material of the company in question and maintain caution regarding unsupported claims that lack verifiable evidence.

To enhance sustainability practices and avoid greenwashing, car manufacturers should establish

robust and ambitious net zero goals aligned with the Paris Agreement targets, including net zero by 2050 and limiting global temperature rise to below 1.5°C. It is essential to substantiate claims with precise language which outlines specific benefits of the vehicle, avoiding vague terms like “green” or “sustainable”. Moreover, advertising should address the entire product lifecycle, ensuring that claims address emissions throughout production, use, and disposal stages, rather than isolating low or zero-emission aspects. By implementing these measures, car manufacturers can drive genuine environmental change throughout their operations.

Appendix 1

Best of Both Worlds

Brand	Model/Type	Date	Representation	Link
Toyota	Electrified Vehicles	Accessed 02/05/23	"Hybrid. The best of both. Combining the power of petrol and the sustainability of electricity, Hybrid technology helps to reduce our reliance on fossil fuels."	Toyota Mobility
Toyota	Hybrids	Accessed 03/05/2023	"Toyota Hybrids. The best of both worlds."	Hybrids
Mitsubishi	Plug-in Hybrid	Accessed 02/05/23	"Gives you the best of both EV types, with a battery supplying energy to the electric motors, backed by an engine."	Mitsubishi Plug-In Hybrids
Mitsubishi	Eclipse Cross – Plug-in Hybrid	Uploaded 17/09/21. Accessed 02/05/23.	"Is it electric or hybrid? It's both."	Eclipse Cross Advertisement
Echuca Mitsubishi	Outlander – Plug-in Hybrid	Uploaded 08/02/23. Accessed 02/05/23	"The EV superpower is here."	Mitsubishi Facebook Post
Mitsubishi	Outlander – Plug-in Hybrid	Uploaded 30/09/22	"With twin electric motors for pure electric driving around town plus a hybrid petrol engine for the best of both worlds."	Mitsubishi Outlander
Hyundai	Santa Fe – Hybrid	Accessed 02/05/23	"The Santa Fe Hybrid combines the power of an electric motor and a petrol engine to deliver a more efficient, economical and sustainable drive. The two powertrains seamlessly combine for fast acceleration and effortless power, providing a best-of-both-worlds driving experience."	Santa Fe

Brand	Model/Type	Date	Representation	Link
MG	HS + EV – Plug-in Hybrid	Accessed 02/05/23	“Enjoy the best of both worlds... for those who want the advantages of electric driving with the practicality of a combustion engine.”	HS+EV Brochure
Volkswagen	Plug-in Hybrids	Accessed 02/05/23	“Volkswagen’s Range of plug-in hybrid vehicles offer the best of both worlds – all the benefits of an electric vehicle with the safety blanket of a petrol tank when you really need it.”	Volkswagen PHEV Range
Lexus	NX – Plug-in Hybrid	Accessed 02/05/23	“The perfect balance of power and sustainability.”	Lexus NX
BMW	Plug-In Hybrids	Accessed 02/05/23	“The best of both worlds.”	BMW Plug-in Hybrids
BMW	Plug-in Hybrids	Accessed 02/05/23	“Experience the best of both worlds with the Mercedes-Benz Power Plug-in Hybrid Range.”	EQ Power

Appendix 2

Self-Charging

Brand	Model/Type	Date	Representation	Link
Toyota	Hybrids	Accessed 03/05/23	"In a hybrid, the battery is recharged as while you drive so it's always ready to go without ever needing to be plugged in."	Hybrids
Toyota	Yaris – Hybrid	Accessed 03/05/23	"Yaris Hybrid charges as you drive, no need to plug-in."	Toyota Yaris
Toyota	Corolla Cross – Hybrid	Uploaded 23/05/22	"Now that's some super self-charging capability."	Toyota Corolla Cross
Toyota	Camry – Hybrid	Uploaded 20/03/18	"I used to think you had to plug your hybrid in and sit and wait for it to charge like a phone. That is not true because there is no plug on a hybrid because it charges itself as you drive." "The hybrid doesn't need to be charged because it charges while you're driving. In this day and age we're all worried about things going flat. Our phones, our laptops everything else but with hybrid cars you don't have to worry about that."	Guy Sebastian Toyota Camry
Mitsubishi	Eclipse Cross – Plug-in Hybrid	Uploaded 17/09/21	"Fast charge in 25 minutes or even while you drive."	How Do You Charge It?
Mitsubishi	Outlander – Plug-In Hybrid	Uploaded 30/09/22	"Can even recharge itself whilst you drive."	Mitsubishi Outlander
Kia	Niro – Hybrid	Accessed 03/05/23	"The self-charging Niro gives modern hybrid technology a sleek new look." "The advanced parallel hybrid powertrains seamlessly blends petrol and electric power – without the need for external charging – for a great ride with outstanding hybrid efficiency."	Kia Niro

Brand	Model/Type	Date	Representation	Link
Subaru	Forester – Hybrid	Accessed 03/05/23	"Self-charging: when not accelerating. When you decelerate or brake, energy from the car's movement that would otherwise be lost is captured and used to recharge the battery." "Our self-charging e-Boxer hybrid means the efficiency of a hybrid, with no strings attached."	Subaru Hybrid
Nissan	Hybrid	Accessed 03/05/23	"Unlike existing hybrid systems, Nissan's e-POWER is a true EV solution, combining the seamless acceleration of an electric motor and high-output battery with a fuel-efficient petrol engine for complete range freedom without ever needing to recharge."	Nissan News
Lexus	Hybrid, Plug-in hybrid, electric	Uploaded 03/06/21	"Lexus Hybrid vehicles charge as you drive."	Lexis Hybrid
Honda	HRV – Hybrid	Accessed 03/05/23	"You don't need to plug me in to charge me. I do it all by myself."	Talking Harvey

Appendix 3

Electrification

Brand	Model/Type	Date	Representation	Link
Toyota	Hybrids, Plug-In Hybrids, Electric, Hydrogen	Accessed 03/05/23	"The first hybrid electric Toyota vehicle was launched over 20 years ago and the technology has proved to be a powerful method in reducing our reliance on fossil fuels." "At Toyota we've made it our mission to find a way to power the future without fossil fuels. We've committed to powering our entire range with zero emissions by 2050 by developing electrified vehicles."	Toyota Electrified
Toyota	Hybrids	Uploaded 08/11/22	"25 years electrifying Australia." "Electric heritage."	Electric Heritage
Toyota	Hybrid	Uploaded 07/06/18	"Makes EV driving possible at a wider range of speeds."	How Hybrid Works
Toyota	General	Accessed 03/05/23	"Toyota's electrification strategy prioritizes hybrid to drive the fastest cumulative emissions reduction, due to their accessibility to customers. Toyota and Lexus HEVs on average emit 30% less carbon than the equivalent ICE vehicle."	Toyota Sustainability Report
Mitsubishi	Eclipse Cross – Plug-in Hybrid	Uploaded 17/09/21	"Is it electric or hybrid? It's both."	How Do You Charge it?
Mitsubishi	Eclipse Cross – Plug-in Hybrid	Uploaded 17/09/21	"How does a plug-in hybrid work? One drive battery. Two electric motors. Plus, one petrol engine. Equals an electric drive with hybrid flexibility."	How does a Plug-In Hybrid work?
Mitsubishi Echuca	Outlander – Plug in Hybrid	Active 08/02/23 – Present.	"The EV Superpower is here."	Mitsubishi Facebook Post

Brand	Model/Type	Date	Representation	Link
Hyundai Global	Ioniq – Hybrid, Plug-in Hybrid, Electric	Accessed 03/05/23	"Starting with IONIQ, we have been proactively promoting a paradigm shift towards electrification and creating a hydrogen society." "Our five main areas of interest to achieve carbon neutrality. 1. Electrification."	Hyundai Carbon Neutrality Vision
Ford	Plug-In Hybrid	Accessed 03/05/23	"Globally, Ford plans to invest more than $30 billion cumulatively through 2025 to electrify our vehicles, making big changes so the company can be carbon neutral by 2050." "Going electric has never been this easy."	Ford Plug-In Hybrids
MG	HS+EV – Plug-in Hybrid	Accessed 03/05/23	"The easy way to EV."	HS+EV
Nissan	E-Power – Hybrid technology	Accessed 03/05/23	"A gateway to fully electric." "A 100% electric motor driven experience." "A thrilling, EV-like drive." "The electric motor powers the wheels." "E-POWER is a 100% electric motor driven system from Nissan that gives you the same high-performance driving experience as an all-electric car. It uses the EV technology perfected in the Nissan LEAF and adds an efficient, petrol engine to charge the lightweight lithium-ion battery pack when necessary."	Nissan E-Power

Brand	Model/Type	Date	Representation	Link
Nissan	E-Power – Hybrid technology	Accessed 03/05/23	"Unlike existing hybrid systems Nissan's e-POWER is a true EV solution, combining the seamless acceleration of an electric motor and high-output battery with a fuel-efficient petrol engine for complete range freedom without ever needing to charge." "In conventional hybrid systems, the wheels are powered by an electric motor and a petrol engine. However, Nissan's e-POWER technology sees the driving wheels powered exclusively by an electric motor. The petrol engine is used only to charge the vehicle's battery when necessary, allowing for a true EV drive experience, and lower fuel use and emissions."	Nissan News
Nissan	X-Trail – Hybrid	Uploaded 06/09/22	"X-Trail's e-POWER system includes two electric motors, a petrol engine and lithium-ion battery to achieve the driving experience of a fully electric vehicle." "100% electric motor-driven system." "Unlike traditional hybrids e-power's electric motors provide 100% of the power to the wheels."	Nissan X-Trail
Nissan	X-Trail – Hybrid	Accessed 03/05/23	"A unique technology that goes beyond traditional hybrids powertrains for a smooth and quiet EV-like driving experience." "Take on new terrains in confidence with Nissan X-Trail's electric-drive four-wheel-control technology."	Nissan X-Trail
Volkswagen	Plug-in Hybrid	Accessed 03/05/23	"Bring a future defined by electrification."	Volkswagen Hybrid

Brand	Model/Type	Date	Representation	Link
Audi	Plug-in Hybrid	Accessed 03/05/23	“Electrifying performance.”	Audi Plug-in Hybrid
Haval	Jolion – Hybrid	No longer available.	“Dedicated hybrid technology for multiple driving scenarios including pure electric.”	No current link.
Haval	H6	Accessed 04/05/23	H6 Ultra Hybrid. Go electric without compromising on performance. The Haval H6 Ultra Hybrid’s 1.5L Turbo hybrid transmission engine is easy on the planet when you need to be, whilst providing petrol power when you need it.”	
Lexus	Hybrid	Uploaded 03/06/21	“The Lexus hybrid self-selects the best power source for different driving conditions. Like the fully electric EV mode for low-speed city driving with zero emissions.”	How Lexus Hybrid Works
Lexus	Hybrid, Plug-in Hybrid	Uploaded 13/12/21. Accessed 03/05/23	“Live it electric with Hybrid.” “Experience the Future of Electrification.” “Lexus electrified.”	Lexus Hybrid NX PHEV
BMW	Plug-in Hybrid	Accessed 03/05/23	“Electromobility.”	BMW Electromobility
Porsche	Cayenne - Hybrid	Accessed 03/05/23	“Electromobility.” “E-Hybrid.”	Porsche Cayenne
Volvo	S60 – Plug-in Hybrid	Accessed 03/05/23	“Our future is electric – new line of plug-in hybrids.”	Volvo S60

Appendix 4

Broad and General Claims

Brand	Model/Type	Date	Representation	Link
Toyota	General	Active 27/09/23 - 27/10/23	"It's in our nature to strive for a cleaner tomorrow."	Toyota Box Car Still
Toyota Global	Mirai – Hydrogen	30/03/21	"With its newly developed air purification system, it promises a cleaner world. It's no longer just an eco-friendly car. More range, more performance. 100% emission free."	Toyota Mirai
Toyota	Hybrids	Accessed 02/05/23	"Today we're still leading the way with our Toyota Hybrid technology for a cleaner, greener future for all Australians."	Toyota Hybrid
Mazda	General	Accessed 02/05/23	"Mazda's Green technology. Discover more about Mazda's Skyactiv-powered vehicles."	Mazda and the Environment
Mitsubishi	Plug-In Hybrid	Accessed 02/05/23	"...for the cleanest, most sustainable way to power your drive."	Plug-In Hybrid EV
Melville Mitsubishi	Outlander – Plug-In Hybrid	Uploaded 29/08/22 Accessed 25/07/23	"The stunning next generation Outlander Plug-In Hybrid EV delivers eco-friendly efficiency plus pure performance on and off the road."	Mitsubishi Facebook Post
Mitsubishi	ASX – ICE	Active 13/12/19. Accessed 02/05/23	"It's so easy being green." "The ASX range offers a choice of two, green, lean and clean engines." "Greening gadgets...easing on the accelerator and squeezing the brakes can reduce fuel use quite dramatically."	ASX - It's so easy being green
Kia	General	Uploaded 27/10/22	"The time is now to create a better future together."	Kia Ocean Clean Up

Brand	Model/Type	Date	Representation	Link
Kia	General	Accessed 04/05/23	"Ever since the beginning we've found new ways of moving. To see new worlds, live new experiences and discover new perspectives and ideas. But what's so greatly advanced us, has also hurt our greatest source of inspiration, nature. We started moving so fast that we lost sight of where we came from. We took so much but forgot to give back. So, let's step back. Step back and realize we can do better. That more than ever, we need nature to lead the way. The way to a fully sustainable future. Whether we move in small steps or giant leaps, there's only one possible way forward. We must act together. Act, not talk. Because deeds go beyond words. Collaboration goes beyond selfishness. Sustainability goes beyond technology and nature must go beyond profit. It's simple, if nature is the most inspiring force out there, then there's no innovation without it. Inspired by nature." "We are taking a proactive approach to engaging our climate crisis. Going beyond our own effort, we'll create a movement where we work towards a sustainable future."	Kia Sustainability
Hyundai	Electric, hybrids	Accessed 04/05/23	"Eco friendly cars. As we strive towards an eco-friendly future, we're excited to announce that our network of EV/Hybrid dealers has grown."	Hyundai Eco Cars
Hyundai	Tucson	Uploaded 06/10/22	"Optimizes both engine performance and fuel efficiency while also being eco-friendly."	Hyundai Tucson

Brand	Model/Type	Date	Representation	Link
Hyundai	Ioniq - Plug-in Hybrid	Accessed 04/05/23	“Ethical sustainability. Ethical Uniqueness shines through beyond impressive EV credentials with the use of sustainable materials inside and out. From vegetable oil bio-paints to recycled PET fabrics the IONIQ 6 is designed for a cleaner, greener and more enriching tomorrow.”	Ioniq 6
Hyundai	Sante Fe – Hybrid	Accessed 04/05/23	“Lean and green. Hybrid not only means lean fuel efficiency, it also means less emissions.”	Santa Fe
Hyundai	General	Accessed 04/05/23	“The two greenest cars in Australia are made by Hyundai.” Fine print: “If the vehicle has been used for private and domestic purposes and is not and has not been previously used for a commercial application, including but not limited to taxi, hire, rental, courier, security, driving school, tour, bus operator or emergency vehicle. Vehicles used at any time for “commercial application”, as defined in the vehicle warranty policy, are excluded. Passenger vehicles that are or have been used for a commercial application are provided with a 5 year/130,000km warranty (whichever occurs first). An iMax that is used or has been used for a commercial application is provided with a 5 year/160,000km warranty (whichever occurs first). An iLoad is provided with a 5 year/160,000km warranty (whichever occurs first) regardless of its usage. Commercial application does not include Hyundai Genesis vehicles used for hire/limousine purposes. Refer to full warranty terms and conditions for details and exclusions.”	Hyundai Eco Initiatives

Brand	Model/Type	Date	Representation	Link
Honda	HRV	Accessed 04/05/23	"Eco-friendly meets exhilarating performance."	HRV
Honda	HRV	Accessed 04/05/23	"Unlike other traditional mild-hybrids, the engine in my e:HEV L grade aids the electric motor, not the other way around. In simple terms? It's greener, it's smoother and it's got tons of vroom." "Good for the planet."	HRV
Haval	Hybrids	Accessed 04/05/23	"Hybrids, the eco-friendly, practical alternative."	New Energy Vehicles
Haval	Jolion	Accessed 04/05/23	"Ultra Hybrid is the smarter, greener and more economical way to drive."	Haval Jolion
BMW	General	Accessed 04/05/23	"BMW is officially the most sustainable car brand." *record scratch* "Ok fine, so we're not there yet but it is what we're aiming for. The greenest electric car? Becoming the most sustainable car manufacturer is an ambitious goal. It's gonna take rethinking every step of the supply chain and the lifecycle of every vehicle. We've invited author, activist, educator and climate optimist Anne Therese Gennari to go on a journey with us to find out its possible Chasing the greenest car. BMW Podcast."	BMW Sustainability

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