

Dear Working Group,

The Electric Vehicle Council welcomes the opportunity to make a submission in response to the proposed model for an Australian Fuel Efficiency Standard for Light Vehicles.

As the national body representing the electric vehicle industry in Australia, the Electric Vehicle Council supports the government's efforts to increase the fuel efficiency of Australia's light vehicle fleet.

Electric vehicles play a key role as an effective way to meet efficiency standards; while providing consumers with access to modern vehicles that are cheaper and healthier to operate. This is a fact acknowledged by major economies around the world, with incentives and national targets signalling a global shift towards zero emissions vehicles.

To facilitate this transition in Australia, fuel efficiency standards must be complemented with a range of initiatives to encourage the initial uptake and secure significant demand for electric vehicles. These initiatives should be directed towards encouraging consumers to adopt electric vehicle alternatives, facilitate growth in associated industries and provide certainty for investment in charging infrastructure.

The Electric Vehicle Council welcomes the inclusion of the additional credits scheme in the proposed model; however, for Australia to effectively encourage the transition to electric vehicles, some initial consumer support is required.

The Electric Vehicle Council recommends that any Fuel Efficiency Standards are complemented with a range of initiatives to support the initial stages of Australia's transition to electric vehicles.

This recommendation is based on the following key points:

- Electric vehicles are a cost-effective measure for meeting efficiency standards
- Short-term incentives are required to encourage a co-ordinated transition to electric vehicles
- Electric vehicles provide a benefit to consumers, society and our economy
- The global economy is rapidly transitioning towards electrification of road transport and Australia is at risk of being left behind.

The Electric Vehicle Council welcomes the opportunity to work with the government on the development of complementary initiatives to bring Australia up to speed with regional and global markets for electric vehicles.

Yours sincerely,



Behyad Jafari
CEO, Electric Vehicle Council



Disclaimer: This submission represents the views of the Electric Vehicle Council; however, it may not necessarily represent the views of individual Council members. Where members of the Electric Vehicle Council, or their nominated representatives, have supplied individual submissions, this submission does not supersede these.

ATTACHMENT A

Recommendation of complementary initiatives

The Electric Vehicle Council welcomes the opportunity to work with the government on the development of complementary initiatives to bring Australia up to speed with regional and global markets for electric vehicles:

1. That the Ministerial Forum works with the Electric Vehicle Council to develop a proposal for the implementation of cost-incentives for electric vehicles
 - a. Suggested incentives include exemptions to charges applied to the purchase of vehicles.
2. That the Ministerial Forum works with the Electric Vehicle Council to develop a government fleet target for electric vehicles
3. Funding and support to implement information, education and awareness initiatives aimed at increasing the adoption of electric vehicles
4. That the Ministerial Forum works with the Electric Vehicle Council to develop its consideration of further complementary measures

Electric vehicles are a cost-effective measure for meeting standards

Under fuel efficiency standards, manufacturers will identify the available efficiency technologies and apply them according to their cost-effectiveness.

For non-electric vehicles, this means seeking incremental improvement in areas such as engine technology, drivetrains and reduction of vehicle weight. The Working Group has assessed the average additional capital cost of these improvements to non-electric vehicles, under Target A, as \$1921 by 2025.¹

Electric vehicles produce no emissions, providing a cost-efficient method of meeting the weighted average standard across all vehicles in a fleet. Analysis of ABMARC's technology cost assessment demonstrates that electric vehicles are vital in meeting emissions standards. Electric vehicles are one of the few technologies that provide substantial emissions reductions at a low cost.

According to the modelling, electric vehicles in 2025 will be able to completely eliminate a vehicle's emissions at a cost of \$55 per g CO₂/km. In contrast switching to a standard diesel engine will only reduce a vehicle's emissions by 16 per cent at a cost of \$103 per g CO₂/km. While a 5 per cent mass reduction provides a relatively cheap way to reduce emissions at \$19 per g CO₂/km, this can only achieve a 3.3 per cent reduction in emissions.

The introduction of additional credits, where sales of vehicles producing 0g/km are counted as three vehicles, will further encourage electric vehicle uptake in the short term. This cost-effective approach has been recognised as an opportunity to reach the objectives underlying fuel efficiency standards while encouraging the early transition to zero-emissions vehicles.

Encouraging this initial adoption is an important policy priority to provide certainty for investment and to ensure an efficient transition to the electrification of road transport.

Projections by Bloomberg New Energy Finance (BNEF) predict reductions in the technology costs of lithium-ion batteries per kWh to fall at an even greater rate, resulting in electric vehicles having lower upfront costs than internal combustion engine vehicles by 2025.² Under this scenario, jurisdictions that have facilitated the initial market for electric vehicles through short-term incentives will benefit from established infrastructure, growth in associated industries, and the presence of increased vehicle model availability, with the prospective of no further need for government incentives.

¹ Improving the efficiency of new light vehicles, Draft Regulation Impact Statement, Ministerial Forum on Vehicle Emissions, December 2016

² Pretty soon electric cars will cost less than gasoline, Bloomberg New Energy Finance, May 2017
<https://www.bloomberg.com/news/articles/2017-05-26/electric-cars-seen-cheaper-than-gasoline-models-within-a-decade>

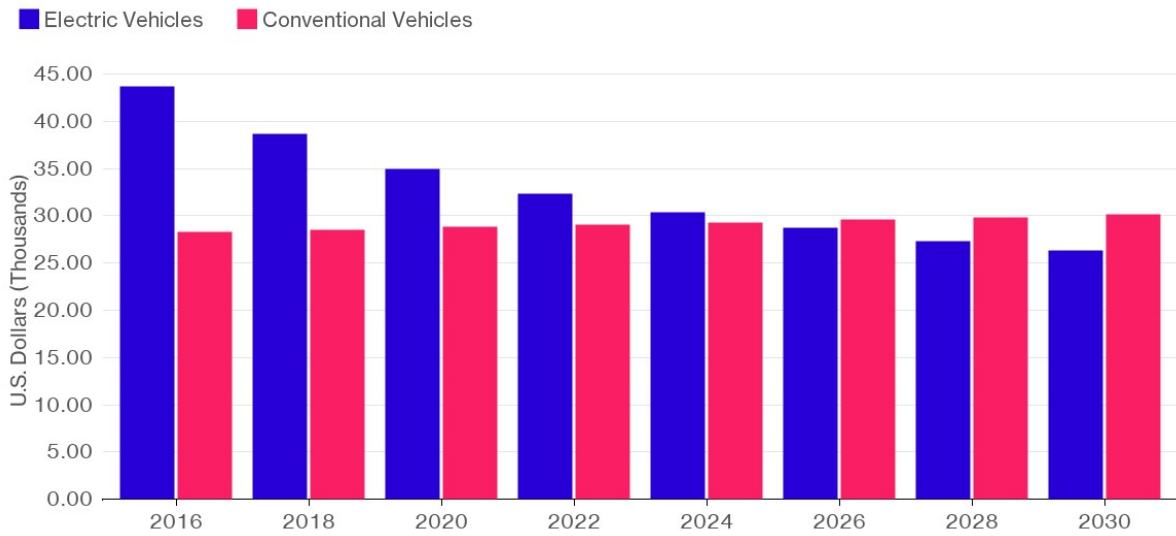


Figure 1. Average electric and conventional vehicle cost comparison (BNEF)

As referenced in the Electric Vehicle Council's earlier submission, research by the ICCT shows that early adoption of electric vehicles will provide the lowest cost opportunity to meet efficiency standards. This is compared to the cost of exhausting the full technical potential of internal combustion engines before ultimately switching to electric vehicles at a later point.³

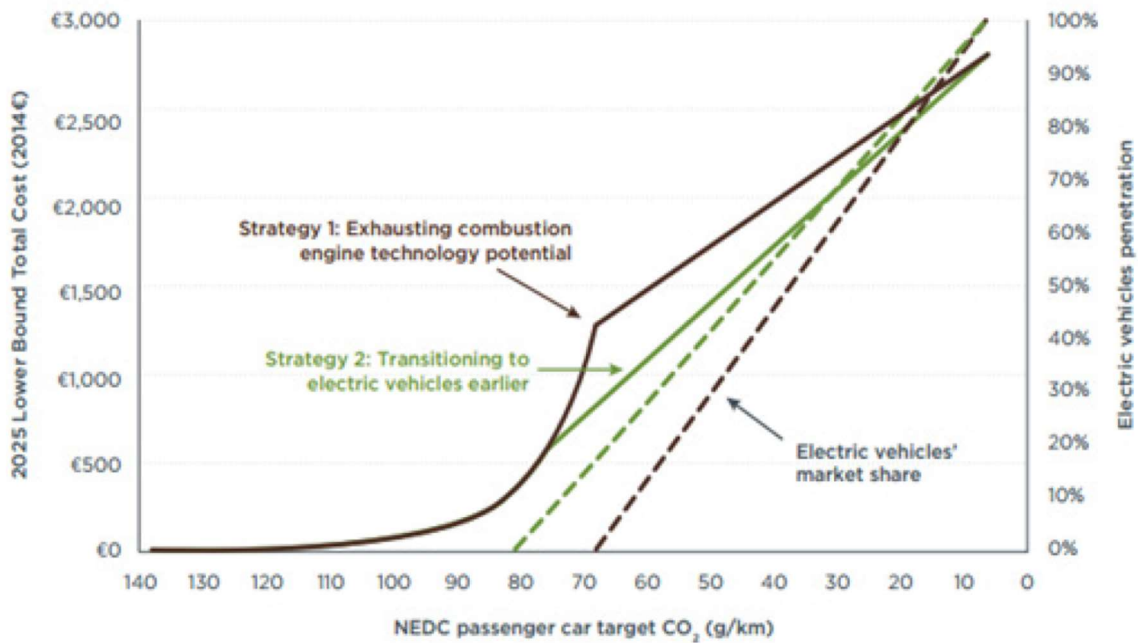


Figure 2. Total incremental cost of reducing CO2 emissions of average passenger car in EU in 2025 (ICCT)

³ Policies to Reduce Fuel Consumption, Air Pollution, and Carbon Emissions from Vehicles in G20 Nations, International Council on Clean Transportation, 2015

Short-term incentives are required to encourage a co-ordinated transition to electric vehicles

A range of incentives and targets has encouraged demand for electric vehicles in major economies around the world. Meanwhile, the lack of an overarching national policy has caused the Australian market to fall behind.

Reporting from BNEF shows that electric cars accounted for 1.35% of new vehicle sales globally in 2016.⁴ In comparison, Australia's electric vehicle market share accounted for only 0.1%. If Australia's market share was equivalent to the global average, electric vehicles would have accounted for almost 16,000 sales in 2016. The actual total that year was merely 1,369.

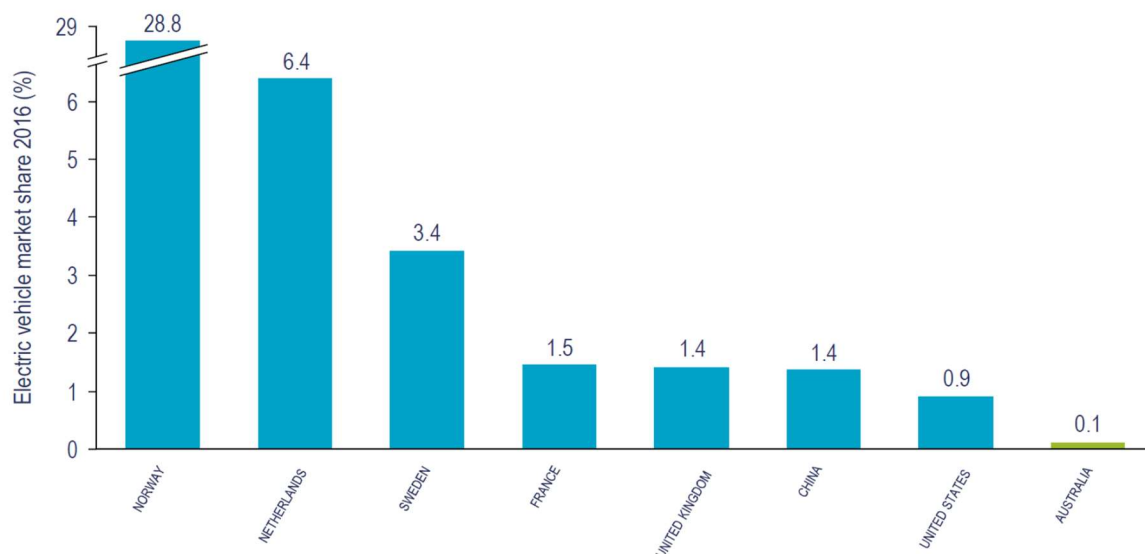


Figure 3. Electric vehicle market share 2016 (IEA, EVC)

The difference in electric vehicle uptake between markets can be largely attributed to the impact of short-term cost incentives to encouraging consumer demand for electric vehicle alternatives. Analysis of global electric vehicle incentives from the ICCT shows a statistically significant relationship between the impact of incentives in bringing electric vehicles to price parity, and the share of new electric vehicle sales.⁵

Incentives, designed to encourage consumers to select electric vehicle alternatives to conventional vehicles, play an important role in providing certainty to increase model variety and economic investment in associated industries.

The current lack of certainty has prevented the availability of electric vehicle model variety and investment in associated infrastructure. This is particularly the case for electric vehicle models in lower price market segments, which rely on a higher number of sales to achieve returns. Incentivising the availability of 'mass market' priced electric vehicle models has a direct impact on total new vehicle sales.

⁴ Q1 2017 Global Electrified Transport Market Outlook, Bloomberg New Energy Finance, February 2017

⁵ Principles for Effective Electric Vehicle Incentive Design, International Council on Clean Transportation, June 2016

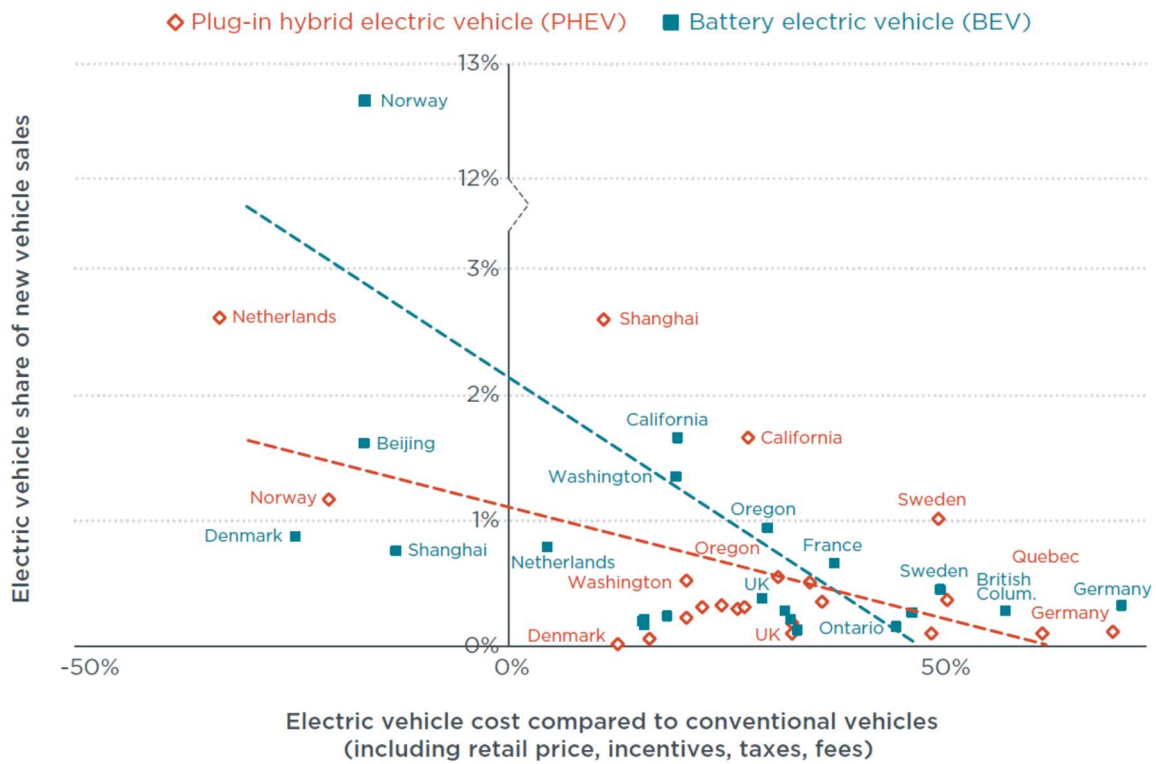


Figure 4. Electric vehicle share of new vehicle sales and average electric vehicle cost difference compared to conventional vehicles (ICCT)

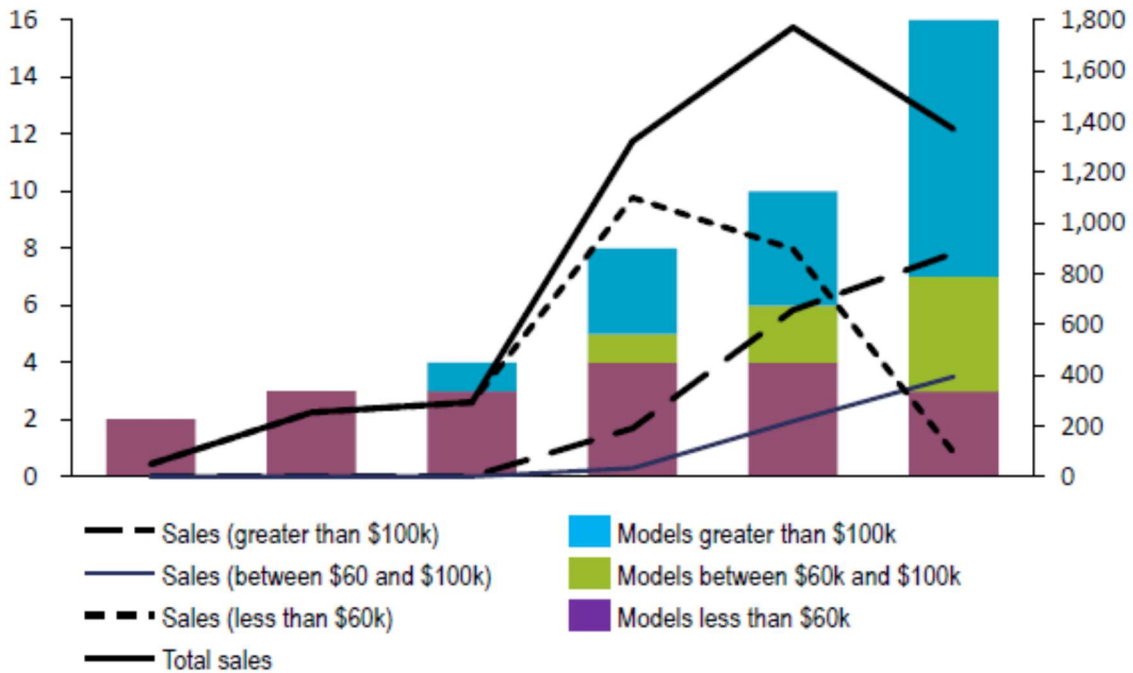


Figure 5. Australian electric vehicle model choice and sales by price segment (CWA, EVC)

Electric vehicles provide a benefit to consumers, society and our economy

The government has appropriately identified the impact to cost-of-living expenses as an important consideration in the design of Australian Fuel Efficiency Standards. Vehicle regulation should be judged on its ability to provide positive consumer, economic and environmental returns.

Analysis from the Australian Automobile Association (AAA) shows that transport costs for Australian consumers are rising:

“The average family in Australia is now paying \$17,464 a year for household transport, an annual increase of \$317 on the previous quarter. The average Sydney family pays the most at \$22,238...”

“Fuel was the number one contributor to the increase in costs over the quarter, with national costs increasing by around \$226 per year for the average household.”⁶

Independent analysis by customer satisfaction research and ratings business, Canstar Blue shows the fuel cost difference of electric vehicles can lead to annual savings of \$1,881.⁷ These savings do not incorporate the reduced maintenance costs or electricity usage discounts and are increased for drivers that travel greater distances.

Benefits through increased air quality and improved public health have been reported by authorities around the world. Further analysis is required to develop an understanding of health impacts for Australia. The Organisation for Economic Co-operation and Development (OECD) found Australia’s economic cost of health effects through air pollution, in 2010, to be \$5.8 billion.⁸

Further benefits through economic investment and job creation are uniquely available to the Australian market if we act early to support the initial uptake of electric vehicles. Australia is well positioned to attract economic investment in industries associated with the transition to electric vehicles. These industries include but are not limited to the manufacture of batteries and components, charging and energy infrastructure, customer service, technology and innovation.⁹

Leadership and innovation in electric vehicle technology also provides significant opportunities for advances in Australia’s electricity network. The Independent Review into the Future Security of the National Electricity Market, (Finkel Review) found that the uptake of electric vehicles, combined with a decarbonised grid, ‘could help to achieve significant emissions reductions in Australia’s transport sector’. The report further discusses the possible future application of electric vehicles as distributed battery storage facilities, improving grid security and reliability.¹⁰

⁶ Transport Affordability Index, Australian Automobile Association, SGS Economics & Planning, March 2017

⁷ How much money can an electric car save you? Canstar Blue, December 2016, <https://www.canstarblue.com.au/energy/electricity/much-can-electric-cars-save/>

⁸ The Cost of Air Pollution, Health Impacts of Road Transport, OECD, May 2014

⁹ The State of Electric Vehicles in Australia, ClimateWorks Australia & EVC, June 2017

¹⁰The Independent Review into the Future Security of the National Electricity Market, Dr Alan Finkel, June 2017 <http://www.environment.gov.au/energy/national-electricity-market-review>

The global economy is transitioning towards electrification of road transport and Australia is at risk of being left behind

Global zero emissions vehicle sales targets*		
France	100%	2040
India	100%	2030
United Kingdom	100%	2040
Norway	100%	2025
Netherlands	100%	2025
Japan	20-30%	2030
China	35 million	2025
Germany	6 million	2030
USA**	3.3 million	2025
New Zealand	24,000	2021

* Incomplete listing

** Combined state level target by California, Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island, and Vermont

Projections for the sales of electric vehicles continue to grow each year. BNEF now predicts electric vehicles will account for 54% of new vehicle sales and 33% of all light vehicles on the road in 2040.¹¹

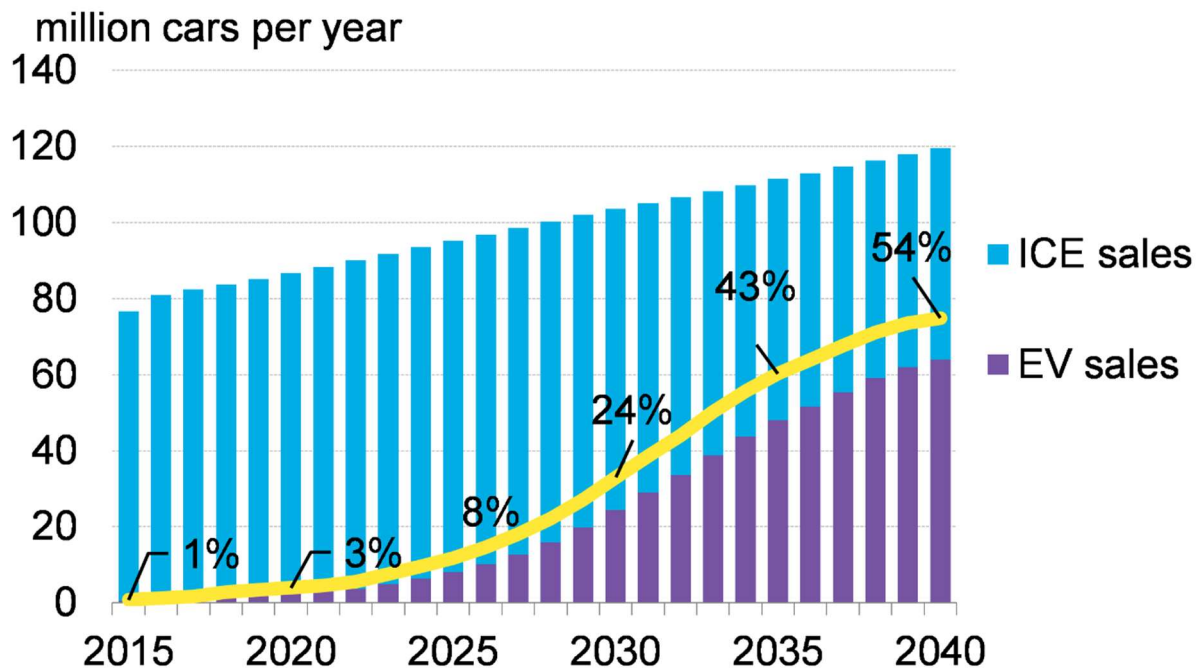


Figure 6. Global light vehicle sales (BNEF)

¹¹ Electric Vehicles to Accelerate to 54% of New Car Sales by 2040, BNEF, July 2017