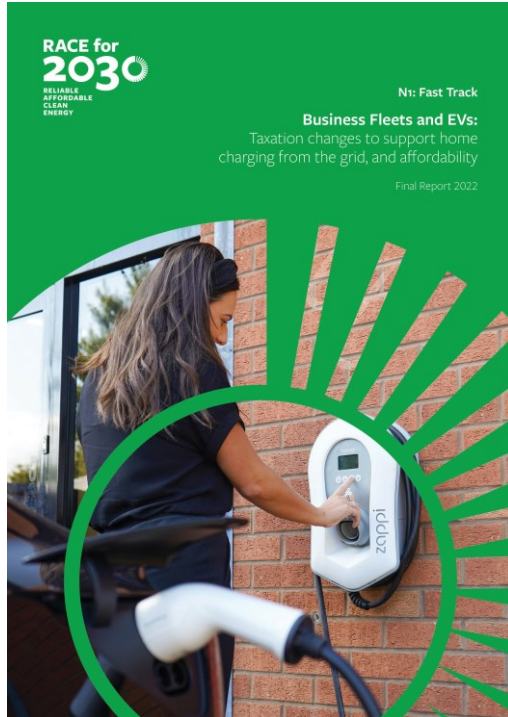




Why Industry Fleets in Australia Aren't taking up EV's? Affordability, Infrastructure and Home Charging

Dr Anna Mortimore | Griffith University, Australia

Business Fleets and EVs: Taxation changes to support home charging from the grid, and affordability



Project Leader: Dr Anna Mortimore (Griffith Uni) researcher: Dr Diane Kraal (Monash Uni) supported by **Project Partners:** Griffith University, Monash University, State Governments (SA, VIC, NSW) AGL Energy; AfMA; and Energy Efficiency Council



Outline of presentation

Why industry fleets in Australia aren't taking up EV's?

- Compared to select EU jurisdictions: The Netherlands, UK, Germany, Norway
- Fleet manager interviews on workplace charging infrastructure and home charging
- Affordability of BEVs
 - Under the current federal tax regime (ITAA, GST, FBT)
 - Under the current tax regime for select EU jurisdictions
 - Will tax reform to current tax regime, make a difference to Total Cost of Ownership (TCO)? Modelling: recommended tax changes for FBT



Business fleets are an effective pathway to the early adoption of BEVs in European jurisdictions

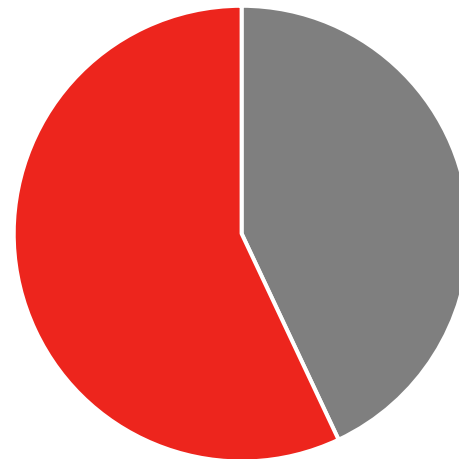
Companies/business play an important role in electrifying the fleet

57%

of EVs acquired by business

43%

of EVs acquired for private use

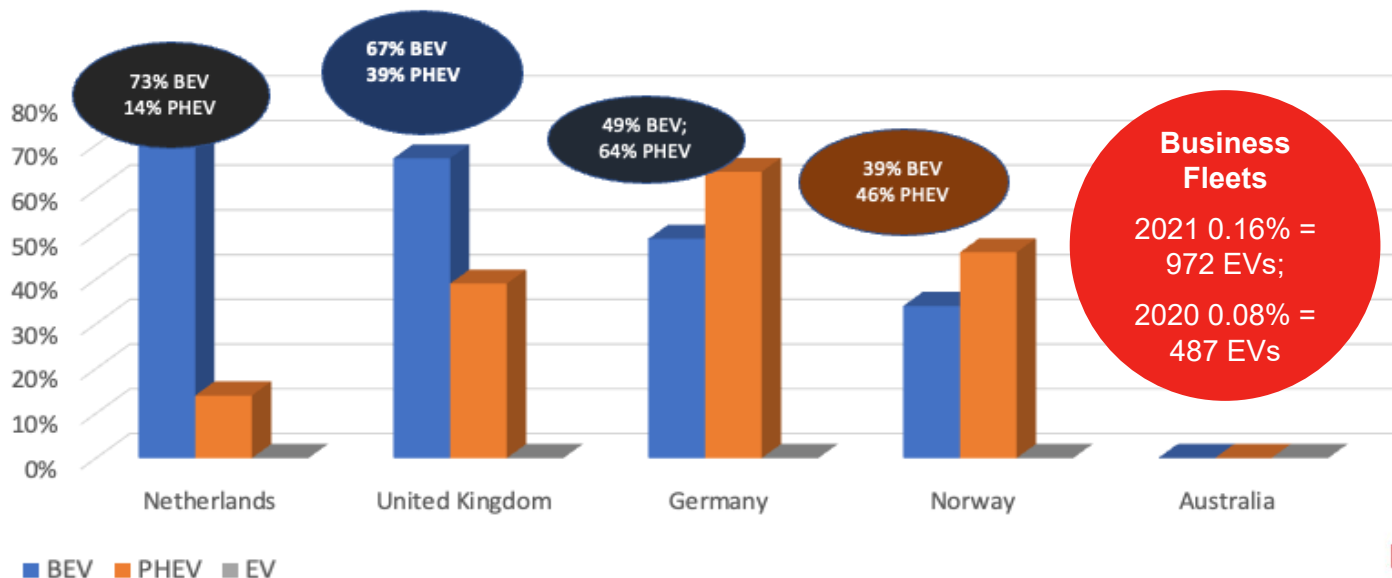


■ Private use ■ Business use

Business fleets are an effective pathway to the early adoption of PEVs... **but NOT in Australia**

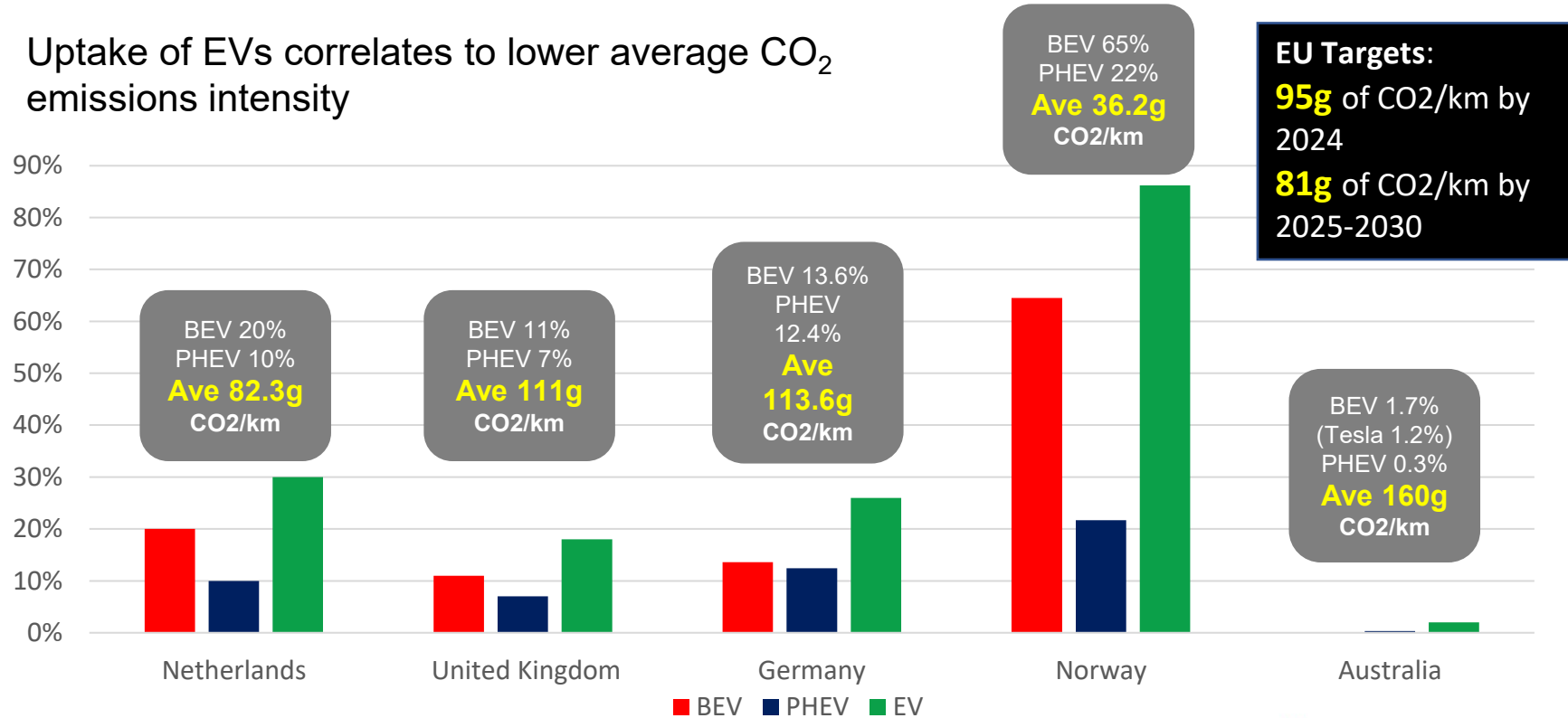
2020: Update of PEVs by business in 'select countries' compared to Australia

2021: Netherlands 95,464 passenger PEVs (population 17 million)



2021 International uptake of EVs compared to Australia

Uptake of EVs correlates to lower average CO₂ emissions intensity



Uptake of PEVs and 2030 target

Year	Tesla	Non-Tesla	Total PEVs	Business fleets Over 43% of light vehicles acquired by business
2020	3.5% 3,430 BEVs	3.5% 1,778 BEVs <u>1,692</u> PHEVs 3,470 PEVs	0.7% 6,900 PEVs	0.08% 487 PEVs
2021	1.2% 12,094 BEVs	0.8% 5,149 BEVs <u>3,372</u> PHEVs 8,521 PEVs	2.0% 20,615 PEVs	0.16% 972 PEVs
2030 Labor Govt campaign target			89% of new car sales will be electric? (AFR July 2022)	PEVs rolled over into 2 nd market in 3 to 4 years?

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**Business Fleets
and EV's: Taxation
changes to support
home charging
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affordability**



RACE for 2030 project: Business Fleets and EVs

- **Fleet manager interviews** (Section 3)
- **Case study:** KONA Battery Electric Vehicle (BEV) compared to its equivalent KONA combustion engine vehicle. (ICEV)
 - Applied Australia federal taxation laws to the case study.
 - Applied select EU jurisdictions taxation measures and tax rates to case study.
- **Modelling** recommended tax changes to case study



RACE for 2030 project – Workplace charging Infrastructure?

Fleet manager interviews

- Workplace charging infrastructure is low
- Business **will not invest** in workplace charging infrastructure when fleet managers are not choosing BEVs
 - Based on Total Cost of Ownership (TCO)
 - BEVs are not cost competitive
 - Lack of affordable “**best fit**” BEVs for business



Workplace charging not required for:

47% of “work fleets” that are home garaged (2020 Survey AfMA & AGL)

- Fringe Benefits Tax (FBT) applies
- Logbook maintained – low private usage, means low FBT

Can home garaged ICE vehicles transition to BEVs?

- Work fleet BEVs will not return to base to be charged if they can be home charged?
- Around \$2,300 to install a smart charger – tax implications?

Race for 2030 project examined tax changes to work fleet vehicles to improve affordability, accelerate the uptake of BEVs and encourage home charging.

AFFORDABILITY – Modelling: Kona BEV/ICEV case study

Reviewed the impact of federal taxation law on the Total Cost of Ownership (TCO) for the following Kona case study:

Case Study details	KONA BEV Range: 415 kms	KONA ICEV* Emissions: 144g CO ₂ /km
Cost (including stamp duty and delivery charges)	\$64,037	\$31,329
Home charging installation and smart meter (work fleet)	\$2,300	
Total cost (estimate)	\$66,337	\$31,329
Cost gap	\$35,008	

FINDINGS:

Current federal taxation law can **increase the cost gap**, and advantage ICEVs. The RACE for 2030 CRC project proposed recommendations for tax changes

AFFORDABILITY – Fiscal tax disincentives

	Norway	Netherlands	UK	Australia
GST/VAT exempt for ICEVs (including PHEVs)	✗	✗	✗	✓
Road/fuel taxes apply to BEVs	✗	✗	✗	✓ Vic
IAWO applies to ICEVs (capital allowance)	✗	✗	✗	✓ (Cap \$64,741 inc GST)
FBT rate fixed at highest marginal tax rate (not included in personal ITR)	✗	✗	✗	✓
FBT method: Operating cost method/logbook method applies to ICEVs	✗	✗	✗	✓
Installation of home chargers and smart chargers are not tax deductible	✗	✗	✗	✓

AFFORDABILITY – Select countries incentives for uptake of BEVs and home charging

Federal tax measures	Norway	Netherlands	UK	Australia
Consumers: VAT 25% exempt for all BEVs to 31.12.22	✓	✗	✗	✗
Business: VAT/GST for ICEVs (BEVs exempt)	✓	✓	✓	✗
Consumers: BEV/EV subsidy (Subject to conditions and caps)	✗	✓ \$6,290 new \$3,145 used	✓ 35% cost of an EV (max \$5,560)	✗ (limited to State govts)
Business subsidies	✗	\$14,823	10% of list price or \$7,852 cap	(limited to State govts)
Capital allowances/IAWO for BEVs	✗	36% amount invested in EV	100% (cap at \$74,000)	Instant Asset Write Off (expires 30 June 2023)
Fuel taxes based on CO ₂	✓	✓	✓	✗
Home charging subsidy, rebates/grant	✓	Focus on business charge pts	Home EV charging grant up to 75% of cost and installation	✗

AFFORDABILITY – Modelling TCO: FBT tax changes for Kona BEV v Kona ICEV

Modelling: what combination of recommended tax changes are most effective in offsetting the cost gap and incentivize uptake of BEVs?

Case study: Estimate TCO if BEV is **exempt from FBT** and compare to 3 FBT scenarios for the Kona ICEV :

1. FBT under the statutory formula method;
2. FBT under the operating cost (log-book: 75% business)
3. No FBT, as Kona ICEV is a pool vehicle and exempt

Assume: TCO over a 3-year period and resale value is 50% of WDV



AFFORDABILITY – Modelling TCO: FBT tax changes for Kona BEV v Kona ICEV

Comparative costs of ownership for Hyundai Kona BEV vis-à-vis ICEV Kona under various FBT regimes and operating conditions (AUD)

Cost component	BEV no FBT	ICEV statutory FBT	ICEV op cost FBT	*ICEV no FBT
Car acquisition cost	64,037	31,329	31,329	31,329
Home charger	2,300			
Operating costs	9,997	13,934	13,934	13,934
Resale value (revenue)	-32,215	-17,123	-17,123	-17,123
Income tax (saving)	-11,411	-7,585	-7,585	-7,585
FBT		16,235	8,017	
Total cost of ownership	32,708	36,789	28,572	20,555

*Note: Refers to ICEV pool vehicles and work fleet vehicles subject to no FBT

AFFORDABILITY – Modelling TCO: FBT tax changes for Kona BEV v Kona ICEV

Comparative costs of ownership for Kona BEV versus Kona ICEV under following FBT scenario's
(3 year total ownership period)

COST	BEV No FBT	ICEV Statutory method	ICEV Log book method	ICEV Pool vehicle no FBT
Total cost of ownership	32,708	36,789	28,572	20,555
Cost gap			-4,136	
Cost gap				-12,153

Above shows the importance of reforming the ICEV log-book method and only exempting BEV pool vehicles. Additional tax changes will reduce the cost gap further.

Recommended tax changes

The project recommends **12 short-term** and **5 long-term** tax changes and fiscal subsidies (for home charging) to accelerate the uptake of BEVs in business fleets and support home charging of business fleets.

12

Short-term tax and fiscal subsidy changes recommended

5

Long-term tax and fiscal subsidy changes recommended



Thank you

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