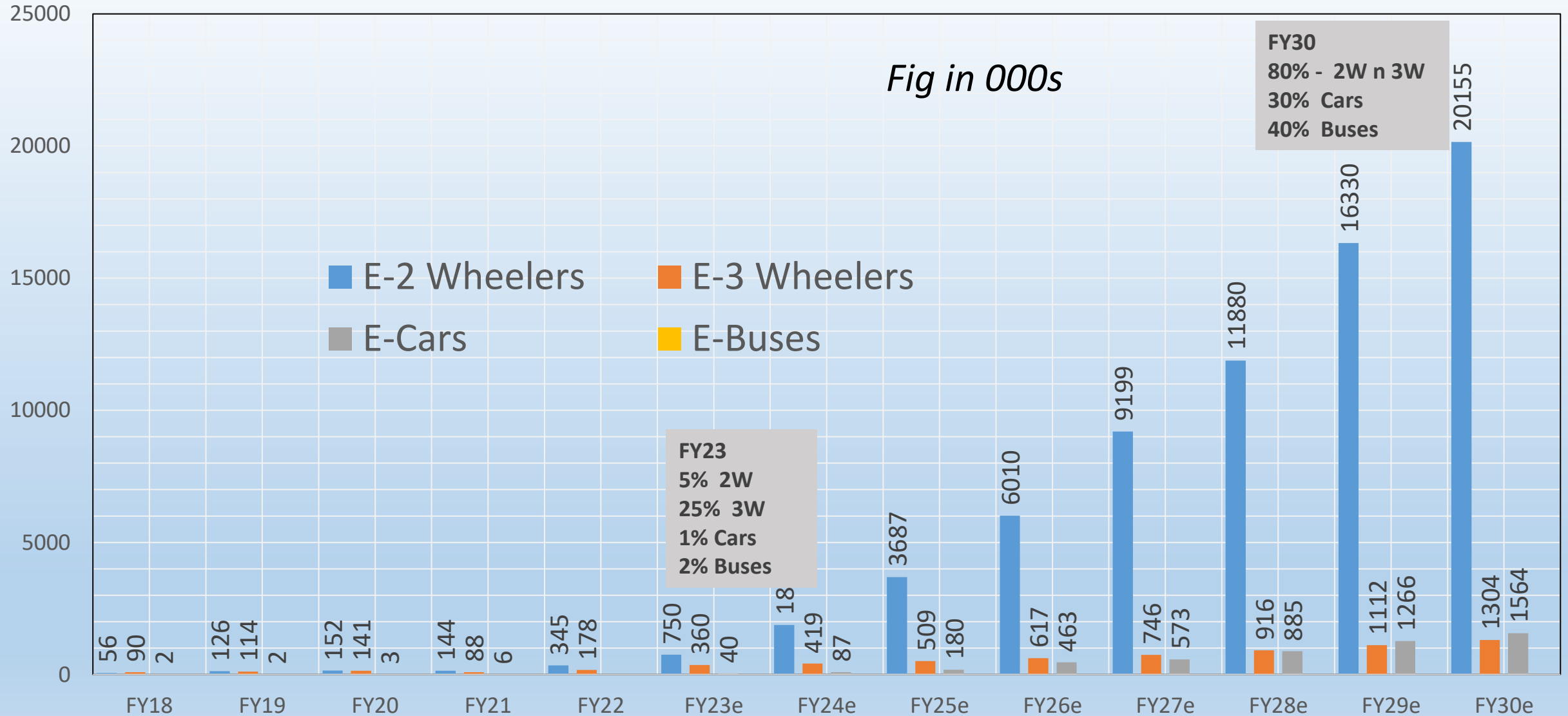




Rajya Sabha Secretariat, PRESENTATION - 10th January 2023

Future

EV Journey in India from 11 Lac to 230 Lac Units in 7 Years- Very Much Possible



E2W-with supportive policies 80% of the Two-Wheelers can become electric by FY30

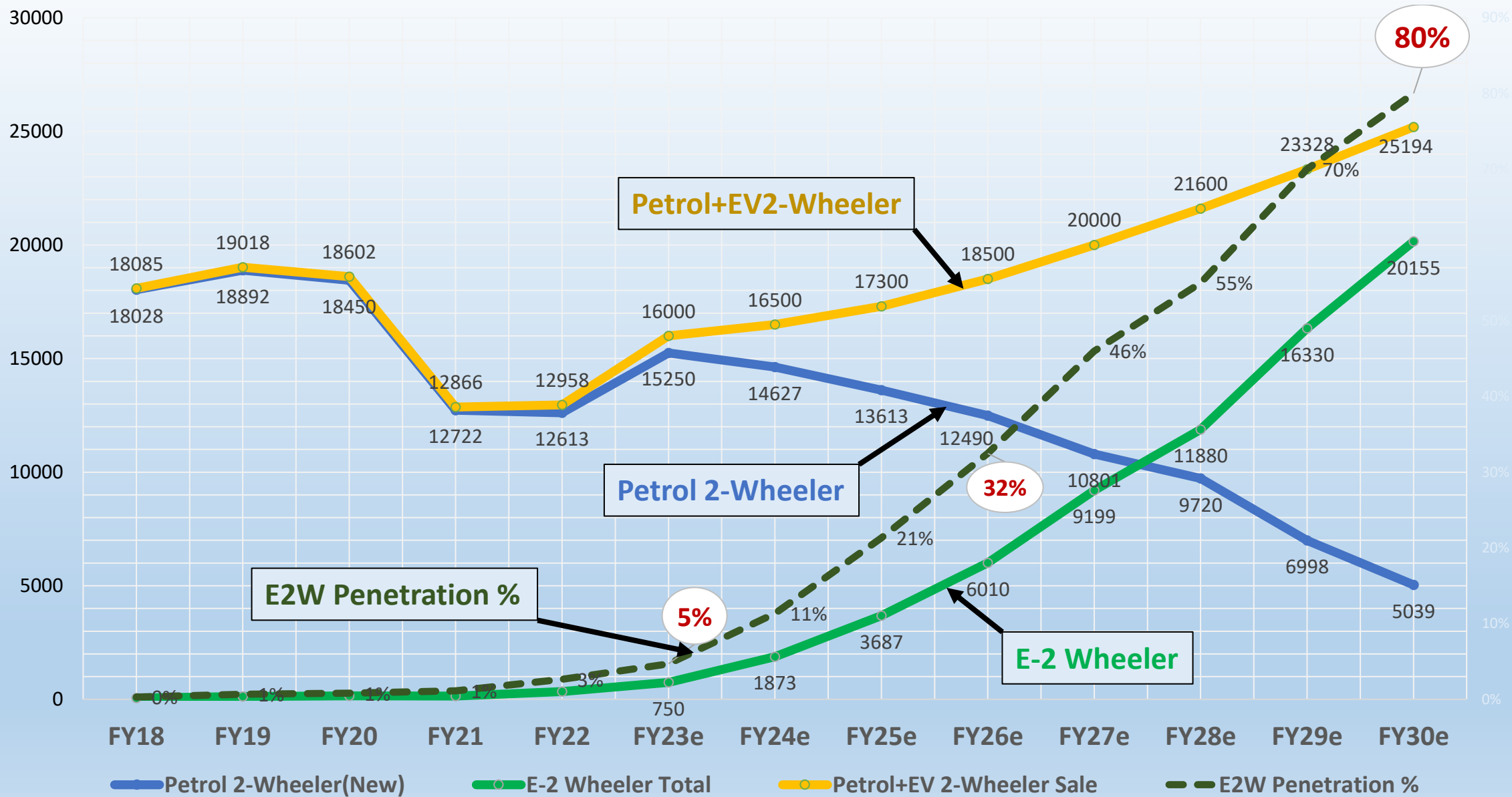


Fig in 000s

By FY30 EVs can save 60% Crude Oil & reduce 58% CO₂ Emissions annually

Fuel Consumption and CO ₂ Emission		FY23e	FY26e	FY30e
Petrol/Diesel Consumption, when NO EVs*	Cr. Litres	882	1000	1275
Petrol/Diesel Saved by EVs	Cr. Litres	29	226	765
Petrol/Diesel Consumed by ICEs	Cr. Litres	853	774	510
Petrol/Diesel Saved by EVs	%	3%	23%	60%
CO ₂ Emission, when NO EVs	Cr. Kg	2296	2707	3538
CO ₂ Emissions saved by New EVs	Cr. Kg	200	750	2233
CO ₂ Emission by ICEs New Vehicles	Cr. Kg	2096	1957	1304
CO ₂ Emissions saved by New EVs	%	4%	28%	58%

*Fuel Consumption by Trucks & CNG 3-wheelers not considered

Lithium Batteries- By FY30, we would need 750 GwHr batteries that will consume 1.2 lac tonne Lithium and produce 100 GwHr recyclable batteries



Lithium Battery Demand Growth		FY 23e	FY 26e	FY 30
Battery Demand(including Battery-As-Service)	GWh	6.0	59	350
Lithium Required(160g/kWh)	Th. Tonnes	1.0	9.4	54
Recycled Batteries Generated	GWh	0.6	3.0	50

Subsidies still required for few years- can be funded through “Green Cess”



Category	Amount Disbursed till Oct'22	Required Subsidy Amount for Electric Vehicles									Conversion from ICE to EV
		Claimable Amount till Oct'22	FY 23 (Nov-Mar)	FY 24	FY 25	FY 26	FY 27	FY 28 (25 % reduced subsidy)	FY 29 (75% reduced subsidy)	FY 30	
	Rs. Cr		Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr	%
e-2 Wheelers	2464	1100	1555	7586	14932	24341	37256	36086	16534	0	80%
e-3 Wheelers	351	1109	390	1092	1386	1754	2250	2184	931	0	80%
e-4 Wheelers	115	1	39	219	505	1451	2002	2121	942	0	30%
e-buses	688	0	83	187	285	440	640	1008	1471	0	40%
Total	3618	2209	2066	9084	17108	27985	42148	41398	19878	0	
Cumulative Total Subsidy Amount Rs. Cr	3618	5828	7894	16978	34086	62071	104219	145617	165495	165495	

Subsidies can be tapered off after FY27 as the momentum would be enough to sustain growth.

Ideal Personal Mobility for Rural India- Low Speed E Scooters



- Low-Speed E Scooters have earned a bad name because of no regulation and consequent poor quality from fly-by-night operators, however low-speed E scooters can be an ideal choice for rural India because of attractive prices, longer battery life and very low running cost
- If decided we must have proper CMVR certification, RTO registration and Insurance etc to ensure good quality and traceability

E2W Low Speed is Not a Low Quality Product				
Description	Unit	Low Speed	City Speed	High Speed
Petrol Bike Price	Rs	55000	85000	120000
E2W Price	Rs	65000	100000	140000
Speed	km/hr	upto 25	26-59	60 & Above
Battery Capacity	kWh	1.25	2	4
Range	kmpc	80	80	80
Battery Life	Years	6	5	4
Battery replacement Cost	Rs	25000	40000	80000
TCO(After 6 years)	Rs per km	1.4	2.3	3.5
Life		Very Long	Long	Medium
Safety		Very Safe	Safe	Less Safe

Low Speed E Scooters Should be fully certified as per CMVR and registered in RTOs