

RIDING THE ELECTRIC MOBILITY WAVE



Sohinder Gill

Director- Corporate Affairs SMEV

Nepal Power Investment Summit 2018
&

CEO Global Business: Hero Electric Vehicles Pvt Ltd.



HEROeLECTRIC

India's Largest Selling Electric Bikes

14 Slides ~ 15 minutes

sohinder@gmail.com

Hero Group (Est. 1957) Turnover US \$ 7 Billion



Dayanand
Munjal



HEROEXPORTS



HEROELECTRIC



HEROECOTECH



KROSS BIKES

MEDIVA

A2B

SUNBEAM
AUTO PVT. LTD.

Satyanand
Munjal

MUNJAL
SHOWA

MUNJAL AUTO
INDUSTRIES LIMITED

Highway

MAJESTIC

Shivam Autotech

Brijmohan
Munjal



HERO BPO
SMART PEOPLE + SMART SOLUTIONS



Omprakash
Munjal



oma



SMEV

Society of Manufacturers of Electric Vehicles – Est. 2009



- 32 members in India – Hero, Tata, Mahindra, Ashok Leyland, Bosch, Indian Oil e
- The only EV association encompassing, 2,3,4 wheelers and technology/components
- Very closely associated with the Govt of India's and Taiwan Govt's EV mission
- Currently in the advanced stage of formulating India's EV mission for 10 years.
- Helping the govt make EV quality and certification standards.
- Helping the Industry in their business plans
- We are the eyes and ears of the policy makers, certifying the entities wanting to do business in India



Hero Electric Plant – North India Est. 2008



Nepal Power Investment Summit 2018

WHAT'S HAPPENING IN THE INDIAN EV SPACE

Indian E Mobility... For the common citizen



Nepal Power Investment Summit 2018

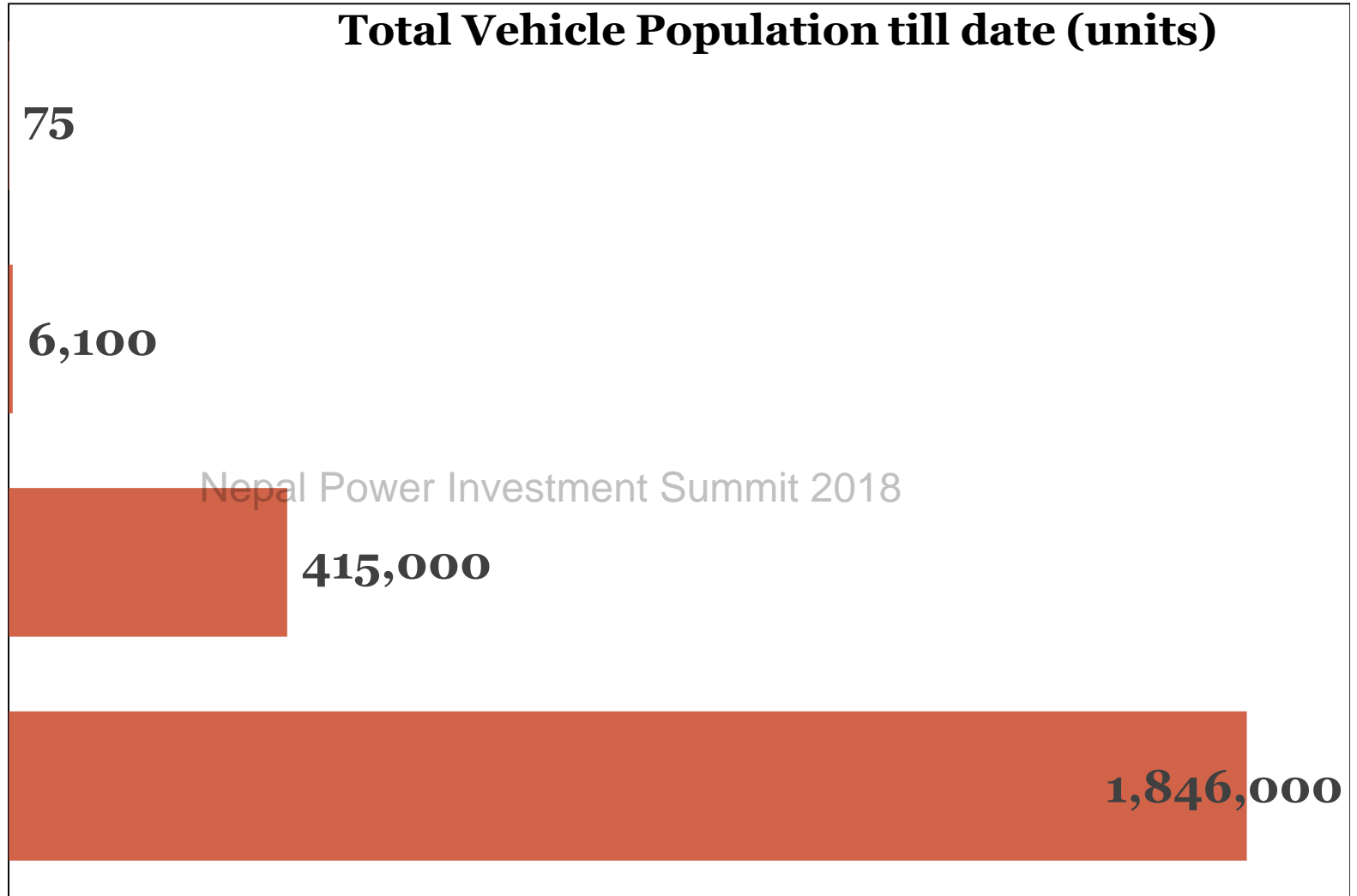
47% population Travel on Foot,
Bicycle & Bus. Population of 57
crore

16% population Travel on 2W, 3W &
Buses. Population of 19 crore

99% of E Vehicles in India are E Scooters and E Ricks



Total Vehicle Population till date (units)



What does the Indian Govt say



Targeting specific electric vehicle market segments based on economics can drive national adoption quickly

ELECTRIC VEHICLE MARKET SEGMENT	PRIVATE VS. FLEET*
2-wheelers	Private
	Fleet **
3-wheelers	Fleet
4-wheelers	Private
	Fleet
Buses	Fleet

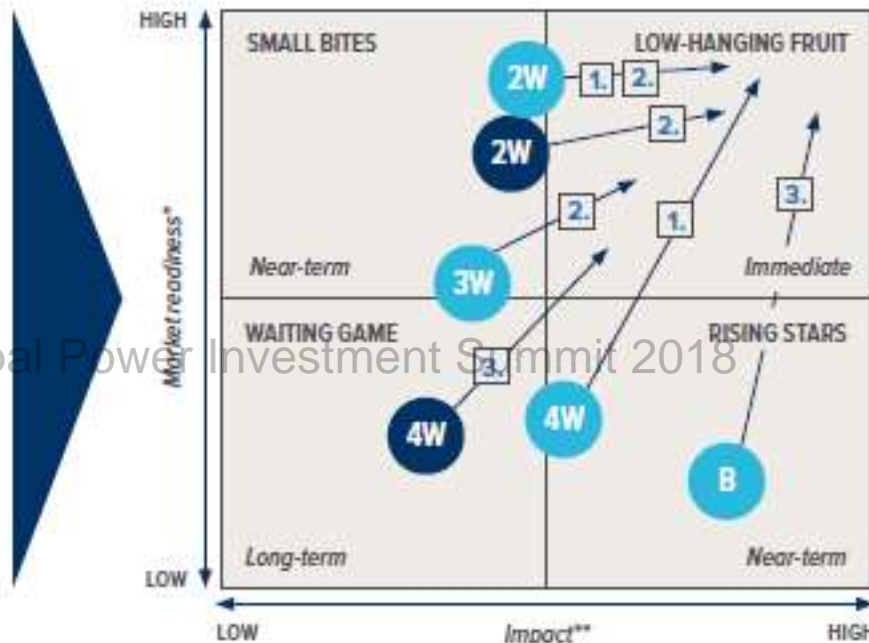


FIGURE 4: REPRESENTATIVE DIAGRAM PLOTTING EV MARKET SEGMENTS BASED ON THEIR CURRENT MARKET READINESS (Y-AXIS) AND IMPACT ON CO₂ EMISSIONS AND PARTICULATE MATTER REDUCTION (X-AXIS)

Several strategies can improve each segment's market readiness and impact:

1. Service strategy: High-mileage electric service vehicles' lower operating costs can offset capital cost premiums
2. Technology strategy: Smart, standardized and swappable batteries could reduce capital cost for electric 2- and 3-wheelers
3. Manufacturing strategy: Private 4-wheelers and commercial buses can become economic as battery prices decline further

2017

PHASE 1

2019

Harvest low-hanging fruit + Enhance small bites + Support rising stars

Battery Swapping – An idea unique to India



Nepal Power Investment Summit 2018

IOC Battery Swapping Station





Nepal Power Investment Summit 2018

What can happen in Nepal EV space

Customers dilemma .Should I...Should I



Customer Expectation –high performance ...low cost



Reality is This is the sweet spot!!



Nepal Power Investment Summit 2018

Nepal E2W roadmap 2020 : Some hard facts

1. Lithium batteries are the costliest part of EVs, higher the speed/range more the batteries. Price today ~250USD/kWhr.
2. An 80 kmph 70 km range Scooter would cost double of petrol scooter and running cost would be similar to petrol scooter – ~700 USD for batteries alone. Not many buyers.
3. A 600W Scooter with a 40 kmph 70kmph range top speed but a high torque would cost 20% higher than the petrol scooter but reduce the running cost to less than 50% of petrol scooter. If the govt gives around 20% subsidy, this 600W scooter will cost similar to petrol.
4. With this equation, there will be a mass shift to “value for money” electric scooters as the customer will save more than Rs.150000 in the “total cost of ownership”.

.

Nepal E2W roadmap 2020 : Catch the low hanging fruits

1. Formulate good quality and certification standards to weed out bad quality
2. Incentivise assembly of such a certified “Value for money” E-Sooter
3. Announce 25% subsidy for E-Scooters in year 1 and taper to 10% in next 3 years.
4. No need of charging infrastructure as portable batteries can be charged at home.
Nepal Power Investment Summit 2018
5. Provide only charging points in offices, shopping centres and public parkings
6. Encourage Local industry players to scout India/China for the right partner.
7. Experiment with limited quantity of mini electric buses and fleet taxis.
8. Spread awareness thru media and government adoption in a big way

NEPAL CAN BECOME A LEADING EV COUNTRY WITH “VALUE FOR MONEY” EVs

Thanks

Nepal Power Investment Summit 2018

Come..... Let's build a new future...together