

SMEV PRESS MEET –NEMMP2020

Silver Oak
India Habitat Center
22/7/2014



Society of Manufacturers of Electric Vehicles(SMEV)

- Society of Manufacturers of Electric Vehicles, was formed in 2008.
- SMEV is the perfect platform to learn, share and experience as we move forward into an age where Electric Vehicle technology is gaining ground and popularity rapidly.
- SMEV , works towards promoting and creating Awareness about the Indian EV Industry.
- SMEV has worked closely with Govt. Agencies for Subsidy issues.
- **SMEV management committee:** Hero Electric • Mahindra • Avon Cycles • Electrotherm
- **SMEV members:** Ampere Vehicles Private Ltd • Kabirdass Motor • XS Bikes • Ajanta Manufacturing Ltd.(E-Bike Division) • Green Electric Vehicle Pvt. Ltd • Lohia Auto Industries • Palatino • U.L.India Pvt. Ltd. • Axiom Energy Conversion • ACE • Hinode Technology • Fiem Industries • Toshiba India • Rotomag • Morello Yamasaki • Miracle Bikes.

Mission and Vision



SMEV is committed to provide active support to EV industry and Govt. of India in shaping up the right future for Electric Vehicles and to put India on the Global map of EVs. SMEV would assist in creating a comprehensive ecosystem that accentuates the positives and mitigates the negative impact of EVs on our environment and Indian economy.



Objectives

- Assist Govt. in Implementation of NEMMP 2020 plan.
- Assist manufacturers in understanding and implementing the NEMMP to gain optimum benefits.
- Persuade nodal agencies for faster implementation of pilot projects.
- Support the manufacturing sector to gain maximum benefits of Carbon Credit.
- Spread awareness of Electric Vehicles.
- Help evolve practically implementable ARAI standards.
- Help streamline the battery recycling system.
- Encourage and mentor manufacturers to adopt best practices of battery recycling systems.
- Be the knowledge center for promoting indigenization of imported products.
- Assist Exports of Electric Vehicles out of India.



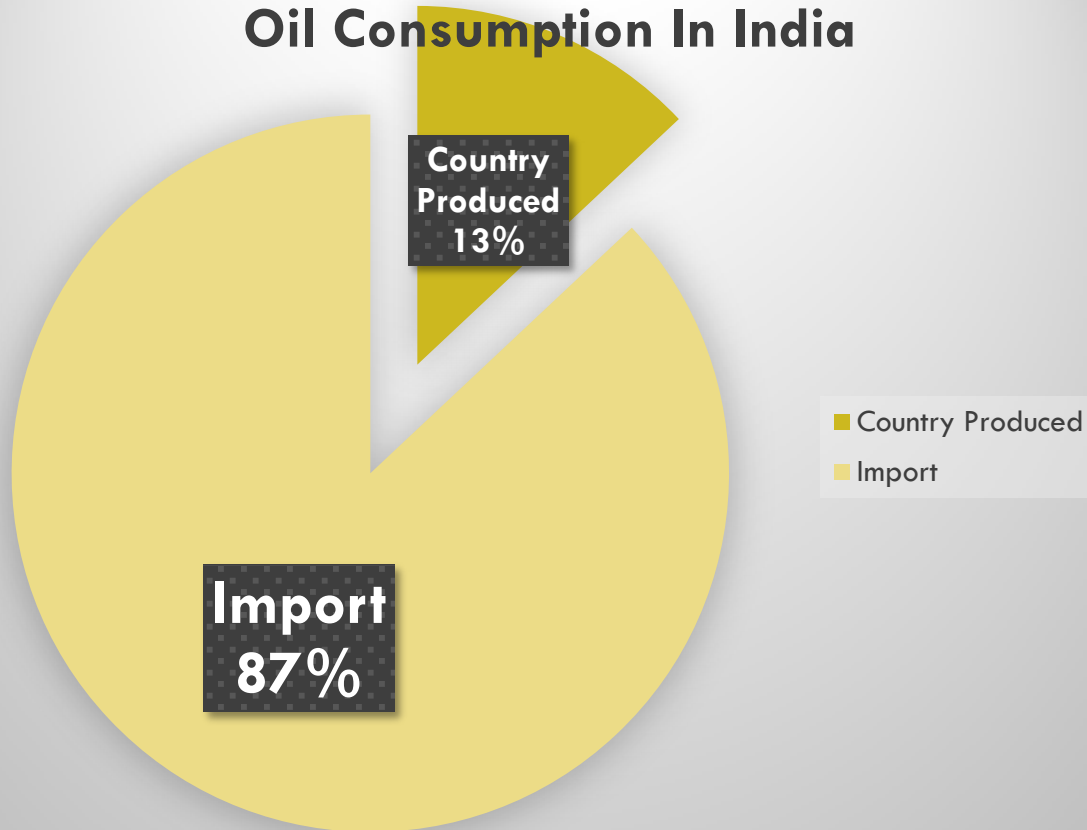
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- Catalyze bulk purchase of Electric Vehicle in Government/Administrative departments and offices.
- Support clear policy frame work on Electric Vehicles to be part of town planning infrastructure.
- Catalyze a favorable business environment to be created for investment opportunities in the Indian Electric Vehicle industry.
- Become a source of authentic and accurate information on EVs.
- Represent EVs in centre/state bodies for benefits and rationalization of rules.



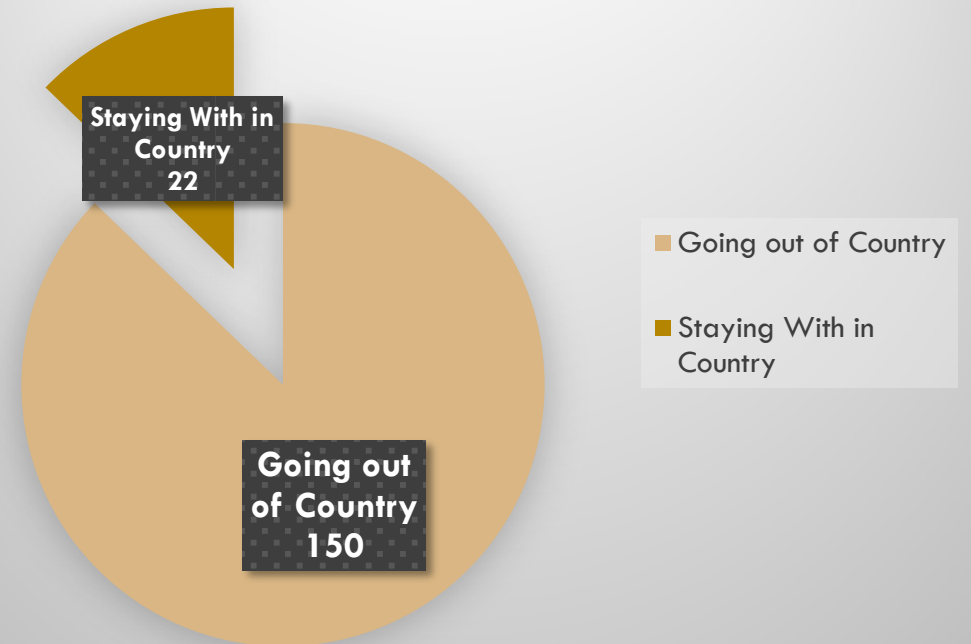
Why Future is Electric

Oil Consumption In India



Out of total oil consumed in India 87% is Imported and Only 13% is produced domestically.

Spending on crude Oil(In USD Billions)

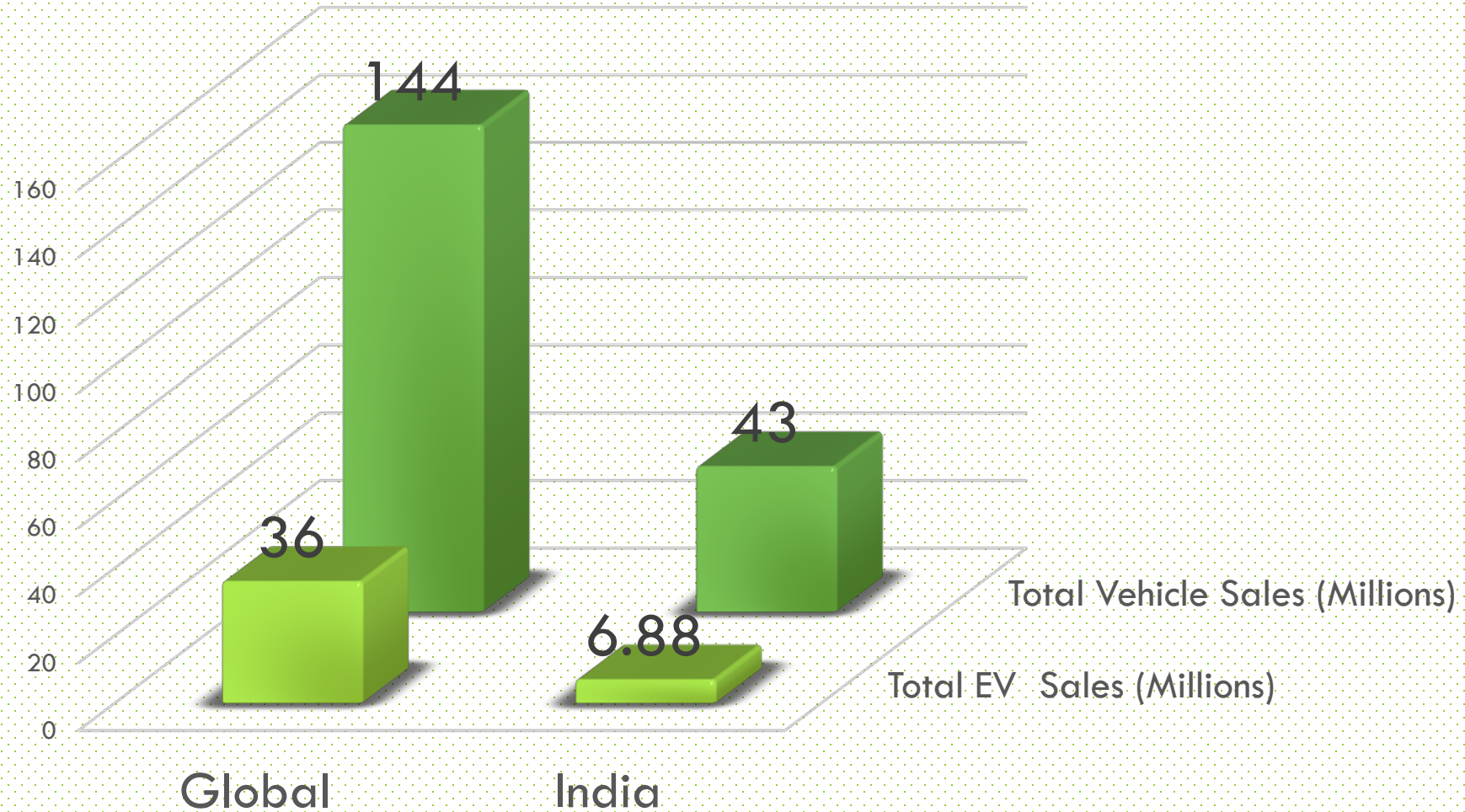


India spend \$ 150 billion yearly on Importing crude oil.

GLOBAL DEVELOPMENTS IN ELECTRIC MOBILITY.

- **China** : Under regulatory norms China sells 24 Million EVs per year and to further increase the number of EVs, they have planned to Invest USD 25 Billions.
- **Germany** : is leading in Europe 400000 Vehicle in 13-14 and target of 1.5 million in four years time.
- **France** : has also invested USD 3.5 Billion to increase Electric Vehicle Mobility.
- **Japan** :Japanese Government has allotted a sum of USD 1.7 Billion for increasing the number of electric vehicles in the country.
- **USA** : government is also focusing on increasing the number of Electric Vehicles, allotting a huge sum of USD 5 Billion to increase Electric Vehicle Mobility.
- Whereas Indian government is also planning to have 5~7 Million Electric Vehicles on road by 2020, with a investment of INR 14,000 Crores (2.3 Billion USD).

India and Global EV demand projection for 2020





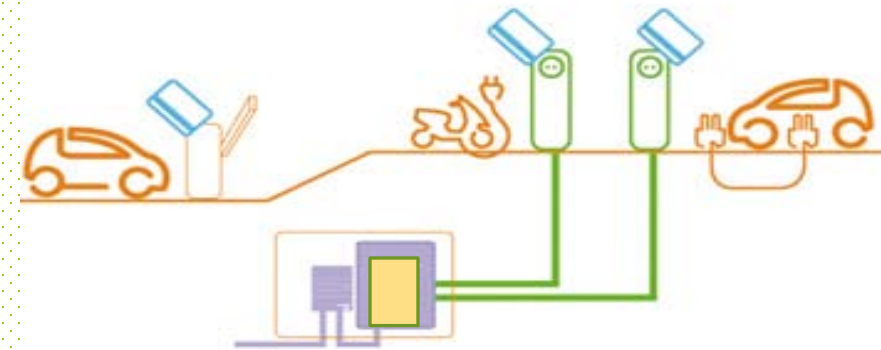
National Electric Mobility Mission Plan 2020

Overview - NEMMP 2020

- In 2009 Prime Minister recognized and recommended that Electric Vehicles (including hybrids) to be adopted as a futuristic technology for transportation.
- National Manufacturing Competitiveness Council (NMCC) held meetings on 13/08/09,20/10/09 and 9/11/2009 and decided to make Department of Heavy Industry the nodal ministry and developer of Policy framework along with Industry representatives (SIAM, SMEV)
- Initiative under **National Mission for Electric Mobility (NMEM)**>**under National Action Plan on Climate Change (NAPCC) > principles documents of National council board for Electric Mobility & National BOARD for Electric Mobility.**
- Scheme is launched to have faster adoption, Domestic technology Development and Manufacturing clearer Electric Vehicle technology Including:
 1. Full/mild hybrid (HEVs)
 2. Plug in hybrid (PHEVs)
 3. Pure Electric (BEVs)thereby creating Globally Competitive, Viable, sustaining Electric Vehicle Industry.

Purpose of NEMMP 2020

- Today 87% of India's fossil fuel is imported with economic growth dependency on imports is likely to increase by 92 % by 2020
- With sharp rise in Vehicle population, as per projections of International Energy Agency (IEA) it is estimated that 3/4th of the projected future increase in oil demand will be from transportation.
- Hybrid and Electric vehicles expected to have 35% to 45% lower emission in comparison with conventional IC engines.

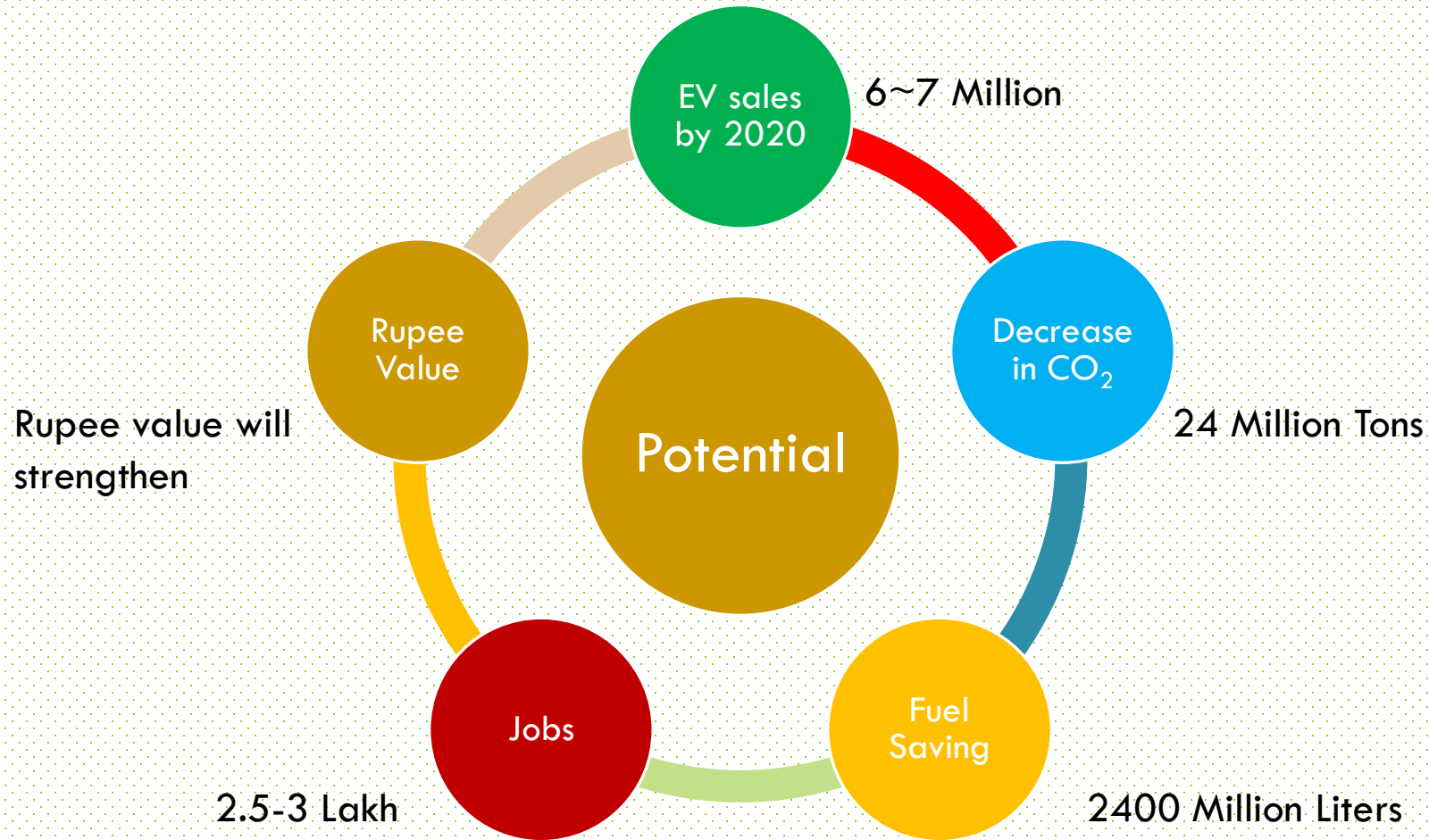


NEMMP 2020- Approach

Types of Incentives planned under the scheme

1. **Demand side incentives** - focused to create demand through incentivizing consumers
2. **Supply side Incentives** - focus to create supply of affordable vehicles into the market
3. **R & D** – focus to create technology capability to achieve localization and domestic manufacturers.
4. **Charging Infrastructure** - focus to create conducive environment for mass adoption of Electric Vehicles
5. **Pilot projects** - focus towards creating awareness, kick start adoption, test market condition, developing conducive business models and product feedback from customers

Overall Positive Outcomes of NEMMP



Individual Carbon Footprint Comparison Petrol vs. Electric

		Electric 2- Wheeler	Electric 4- Wheeler	Gasolene 2- Wheeler	Gasolene 4- Wheeler
Mileage		50.00	120.00	50.00	15.00
Power Available in 1Kg Coal	kW	6.67	6.67		
Co2 Emitted by Vehicle to run 50Km	Kg	1.79	4.26	2.68	8.93
Co2 Emmitted by Vehicle in an Year	Kg	652.60	1556.43	978.20	3260.67
Co2 Reduction		325.60	1704.24		

Crude Oil saving:

From the 2W segment, the fuel saving from 5.5 million xEV over next 5 years will be around 2400 million Liters. Saving 17,134 Crore.(Taking price as petrol @ Rs 71/L, Diesel @ Rs 55/L and CNG @ Rs 40/Kg.)

Fuel Savings (in Million Liters)					
Scooter	2014	2015	2016	2017	2018
Mild HEV - LA	12	26	51	66	77
Mild HEV - Li	3	10	22	31	38
PHEV - Li	1	10	18	17	55
BEV - LA	4	3	8	9	23
BEV - Li	-	14	66	184	298
Sub-Total	21	62	165	308	491
Motorcycle	2014	2015	2016	2017	2018
Mild HEV - LA	23	52	97	112	127
Mild HEV - Li	6	19	41	53	63
PHEV - Li	1	12	13	11	43
BEV - LA	0	0	1	1	0
BEV - Li	-	20	28	50	594
Sub-Total	31	103	179	226	828
				Grand Total	2,413
					17,134

Million Liters
Rs Crore

EV Industry's Contribution to Society - Past 5 years

		Remarks
Vehicles Sold	250,000	
Reduction Co2 Emission (Tons)	247,000,000	
Fuel saving Per year Ltrs.	295,650,000	
Money Saved In INR (Petrol Cost avg.65 per ltr) In Crores	19,217,250,000	1922 Crores INR
Assumption 30 % vehicles are off road	13,452,075,000	1345 Crores INR
Total Savings in Dollars	224,201,250	22 Crores USD
Co2 savings equal to no. of Trees	133,000	
Saving on Fuel subsidy by the Govt. approx. USD 20 per barrel (In INR)	585,387,000	58 Crores INR
If 2020 Is implemented total no. of vehicles will be on road	7000000	
Total fuel to be saved as per NEMMP Plan	170,000,000,000	17000 Crores INR

What can go wrong with NEMMP

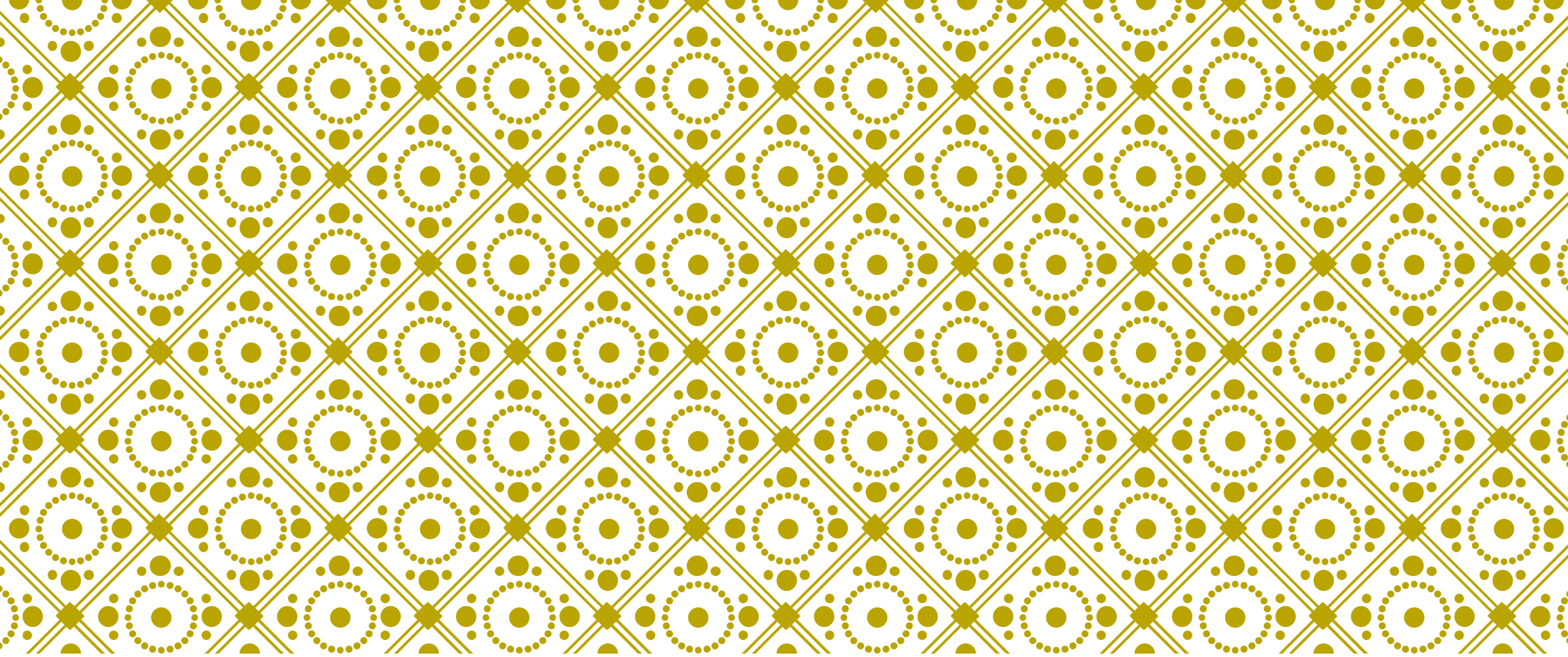
- Hindrance in creating proper charging infrastructure.
- Delay in providing the proposed Incentives/Subsidy.
- Consumer Awareness about Electric Vehicles.
- Consumer not interested due to performance standards of xEVs in comparison to traditional IC engine based vehicle (range, speed, acceleration etc).
- Electricity supply is not good and has frequent interruptions.
- Hindrance in pursuing nodal agencies for faster implementation of pilot projects.
- For Electric Vehicles alone India will require 778 MW to 865 MW of electricity and with current infrastructure India may not be ready for developing the required power Infrastructure.

What has already gone wrong.

- Since the MNRE Subsidy has been withdrawn more than 50% of the manufacturers have shut shop and more will follow soon.
- Thousands of people have lost jobs.
- Capital of over 1000 Crores is at stake.
- Indian Market has become dumping ground for inferior Chinese products.

What is at stake

- Loss of opportunity to be one of the leaders in new Industry which is being adopted by the world.
- Opportunity loss for available talent pool of Engineers, Designers and Manufacturers
- Losing opportunity to become a technology hub for new Industry.
- Opportunity loss to become Export hub for electric vehicles.
- Continue to be a dumping ground for inferior Chinese products.
- Opportunity to control 24 million tons of CO2 Emissions
- Loss of opportunity in earning Carbon Credit benefits.



THANK YOU FOR YOUR TIME

Society of Manufacturers of
Electric Vehicles