S No	Sector / Sub Sector	Issue	Recommendation	Justification
1	EV Buses	1. EV bus supply chain is badly affected due to COVID-19 related disruptions, with multiple supply chain partners unable to start-up even after end of lock down due to cash flow issues. Due to COVID 19, production delays expected of at least 6- 8 months 2. The FAME 2 scheme for e - buses has largely been less effective due to far more stringent technical requirements and contract conditions	1. Enhanced subsidies for all categories of vehicles is required to improve industry volumes. Higher volumes to be declared in the scheme and higher per unit subsidy to be envisaged, by way of a Booster Incentive 2. Outright purchase of EV buses by Gov. entities to spur demand for EV and put cash in the hands of the manufacturers and its supply chain partners. 3. Current contractual obligations with government entities to be modified to ensure no penalties are levied to manufacturers / bidders / supply chain partners on account delayed deliveries. 4. Enforcement of India specific requirement in consultation with the industry can be explored for participation in e-MOBILITY contracts 5. Make EV a priority lending sector and provide state / Government guarantees to the Public / private sector banks to lend to the EV public transport sector, in the case of GCC mobility contracts being issued	1. To build domestic supply chains for EV, large supply chain investments are required. Clear policy directive with clear milestones for transition to EV is required to drive any further investment in EV sector. 2. Capital subsidy Infusion will increase domestic self-reliance for full EV supply chain

2	EV Three Wheelers	1. Post COVID, shared mobility may take a major hit affecting demand for E3W for 12-18 months 2. Due to very low oil prices, demand for E3W may reduce due to less attractive TCO, vis a vis ICE 3W 3. Customers may turn risk averse in view of economic impact of COVID 19, preferring to buy ICE 3W instead of taking "risk" to buy E3W	1. Continuation of FAME II scheme for 2 more years to 2025 2. Short term 'Booster Incentives' under Fame II for a period of 12 months, in the form of further higher incentives for one year will help to boost demand. It is proposed that the slab of incentives be increased to Rs. 15,000 per KwH of battery on board (from Rs. 10,000 per Kwh). This can be done within the existing overall budget allocation of Rs. 10,000 cr to the scheme as a short term booster incentive to enhance demand, since the current offtake is very low. 3. In order to ensure quality, only manufacturers with DSIR approved R&D center to be qualified to get their products approved under FAME II 4. Promote EV infrastructure creation including subsidy support for battery swapping. Current FAME II subsidy to be made available for E3W, with swappable batteries, with stringent approval criteria 5. Ensure implementation in all States of "No Permit" notification issued under CMVR for electric commercial vehicles (3W and 4W). This is a big area of concern. 6. Push States to implement EV Policies announced. Despite EV policies already announced by States, implementation is	1. E3W are low hanging fruit in terms of rapid electrification of India's public transport sector and with this support, further demand for the same can be generated. 2. Booster incentives for a short period can help sustain demand and attract customers to buy E3W due to more attractive TCO. 3. With subsidy support to Swappable Battery based E3W, affordability and TCO for E3W can further increase leading to creation of demand and eco system. 4. It is also important to promote higher quality, made in India E3W, and discourage poor quality, unsafe vehicles assembled from imported parts. 5. Drastic reduction of air pollution in our cities. 6. Generation of self-employment: once waiver of permits is implemented, many of the youth who lose their livelihoods post COVID can be gainfully self-employed. 7. Lower cost of last mile transport to our citizens.

			poor. 7. Implement annual Conformity of Production (COP) by testing agencies for EVs to ensure quality of vehicles manufactured and sold. Today it is seen that many e rickshaws actually sold are different in specification and quality from their homologation certificate. 8. Have more stringent homologation criteria (relating to safety and performance) for e-rickshaws to prevent poor quality e-rickshaws from running on the road. These are unsafe and also spoiling the image of E3W. A committee to be instituted under Ministry of Road Transport for the same with representation from Industry, Niti Aayog and Testing agencies. 9. E3W customer finance should be part of Priority Sector. 10. To reduce pollution, consider Zero Emission vehicle mandate for E3W in top 40 cities in India in a phased manner. These are also most polluting cities.	

3	EV Two Wheelers	1. EV two wheeler industry had been growing for the last three years, till the discontinuation of FAME I and the COVID crisis 2. Current outlook remains uncertain due to falling prices of petrol and overall customers turning risk averse. 3. EV two wheelers have led the charge in China and have created a rich ecosystem which is now being used to build China into the leader	1. Continuation of FAME scheme for 2 more years. 2. Faster Fame II claim settlement, instant and online refund for FAME subsidy amounts claimed by EV companies. 3. Require local partnership for new international companies entering EV two-wheeler space. 4. Short term 'Booster Incentives' in the form of further higher incentives for one year will help to boost demand. It is proposed that the slab of incentives be increased to Rs. 15,000 per KwH of battery on board (from Rs. 10,000 per Kwh). This can be done	1. Foster innovation: Despite all odds, tough, large incumbent companies the EV two wheeler industry has innovated and brought world class products at lowest prices to market fostering an ecosystem of battery companies, charging companies, motor companies and even service related companies 2. The future of the world is EV two wheelers and MSME Indian EV two wheeler companies are creating right skills and talent for the future 3. The development of EV two wheelers, motors, batteries will also lead to the development of future products that rely on these technologies like drones and renewable energy as we are seeing in China and the USA

		for EV four wheelers and buses	within the existing budget allocation of the scheme as a short term booster incentive, since the current offtake is low. 5. INR 10 crores R&D support towards setting up in-house R&D Infrastructure to come up with Make in India Product and develop advanced technology for EV two wheelers 6. Create easier project financing for EV two wheeler only start-ups that have come into the market and are going up against incumbent industries. 7. Mandate banks to provide retail finance scheme to Finance EV two wheeler vehicles to customers (like Mudra Yojna). 8. EV two wheeler customer finance should be part of priority sector. Banks can provide finance for 100% of the vehicle cost. The repayment period can be 7 years. 9. Income-tax exemption for amount paid on to purchase EV two wheeler can also be provided from 2020 10. Reduced vehicle insurance premium costs for EV two wheelers. Insurance companies can be encouraged by providing incentives	4. Generate productive employment 5. Reduce pollution: The last two weeks of lockdown have shown us how much vehicular movement contributes to pollution and we have a golden opportunity to become leaders in clean air led by clean mobility 6. Reduce dependence on imported oil: Improve our balance of payments and reduce our import bill as two wheelers are the preferred private mode of transport for disproportionately large majority of Indians 7. Generate foreign exchange by exporting: Export incentives and financing support will enable the EV two wheeler industry to develop world class products that can be exported to countries like UK, USA where EV two wheelers 8. Future developments: The development of EV two wheelers, motors, batteries will also lead to the development of future products that rely on these technologies like drones and renewable energy as we are seeing in China and the USA. Mass adoption of EV two wheeler will be stepping stone for development of battery charging and battery swapping infrastructure.

4	Electric Four wheelers	1. Possible reduction in uptake of EVs for Commercial usage (Taxi) - COVID has impacted the businesses of major Taxi aggregators & fleet operators. This will result in difficulty for these aggregators / Fleet operators in proceeding with investments to procure Electric taxis further affecting demand for E4W 2. Due to falling oil prices, demand for EV may reduce due to less attractive TCO 3. Customers may turn risk averse in view of economic impact of COVID 19	1. Government policies should be technology neutral and be framed for promoting national end objectives like energy security, manufacturing competitiveness, job creation, reducing oil import, lowering pollutions and carbon emissions. In case of electrification, low domestic demand is the biggest challenge to develop eco-system for electric vehicle parts manufacturing in India. World over, this was/is being overcome by providing proportionate policy support to all xEVs, including HEVs, as all these technologies have common EV parts (e.g., Thailand, Japan etc. and even China in initial stages). GST rationalization for strong Hybrids (HEVs) to 28% for large cars and 18% for small cars can immediately help develop EV eco-system and contribute to speedier transition to low carbon alternatives and high levels of fuel efficiency in future. 2. Extend the FAME-II Scheme till for two more years (till 2025) 3. Short term 'Booster Incentives' under FAME - II for one year. 4. Duty benefits on CKD, SKD, Battery Pack & Cell and Components under Phase Manufacturing Programme (PMP) before March 2020 should be continued till 2021 (one year extension for implementation of PMP)	1. Currently HEVs are taxed at similar levels to ICE, thereby making this technology unviable. Rationalization of HEV GST will not have any revenue impact as currently volumes of HEVs sold is very low and since it usually takes 2-3 years for new product introduction. In fact, this is a very impactful revenue neutral measure and ultimately taxation (GST) on vehicles needs to be linked to carbon emissions as is the most effective approach to lower fossil fuel consumption while not disrupting the competent existing eco system of auto sector. 2. Extension of FAME scheme will help offset drop in sales in current fiscal 3. Short term 'Booster Incentives' in the form of further higher incentives for one year will help to boost demand. It is proposed that the slab of incentives be increased to Rs. 15,000 per KwH of battery on board (from Rs. 10,000 per Kwh) within the existing budget allocation. 4. This will encourage EV and EV component companies to set up manufacturing bases in India

			5. No new duty/cess till 2023 6. Push States to announce and implement EV policies (this is an area of concern).	

5	EV & EV Components, and EV battery	1. Import Dependence on one country ~~so far~~ for it being the major manufacturer of EV and its components, including powertrain as well as batteries 2. Pollution and environment remains ~~and becoming a~~ larger focus for the world (COVID has been sort of an eye-opener in this area)	1. Worldwide the automobile sector is undergoing transformation with various technologies and it is essential that India is also a part of this change and take leadership role, while enhancing current capabilities. Therefore, for innovative and vibrant industry and to attract investments for newer technologies, it is necessary that Government policies are technology agnostic and framed to meet national end objectives like energy security, manufacturing competitiveness, R&D development, job creation, reducing oil import, lowering pollutions and carbon emissions. For example, in case of electrification, low domestic demand is the biggest challenge to attract investments for electric vehicle parts manufacturing in India. World over, this was/is being overcome by providing proportionate policy support to all xEVs, including HEVs, as all these technologies have common EV parts 2. Areas we should pitch for encouraging existing auto component makers to invest for EV components and for attracting investment in India for EV and EV components, especially Powertrain components are : a. EV components especially EV powertrain: electric motors, controllers, chargers, converters etc. for R&D/development and for local and global supply. Technology /auto component giants in the world in these areas should be invited to set up bases in India for	1. Additionally, it is very important that Govt. policies are holistic, technology neutral along-with balanced approach aimed at realizing National imperatives are essential like energy security, manufacturing competitiveness, job creation, reducing oil import, lowering pollutions and carbon emissions. This will help the country achieve faster demand for electrified vehicles, thereby increasing investments into EV eco-system which at the same time ensure existing jobs and investments in ICE ecosystem are protected. 2. India and the world well positioned to see higher levels of EV penetration. India with its focus on converting 40-50% of its 2W and 3W to EVs over next 10-15 years, will offer a large local market opportunity too - with volumes close to 25 Mn EV sales per year of these categories, plus 4W/Buses as additional opportunity. Thus, a 'Make in India' for EV and its components can be ~~a~~ an opportunity to build scale for ~~service~~ local market and for setting up as a base for global market. 3. India has strong established talent and infrastructure in automobile/auto component manufacturing 4. India must leverage its large local market opportunity to companies to come and sell EV and EV components for local market as well as its strength as a low cost- high skill base for automotive component manufacturing as a dual tool to invite and encourage investments in India in this sector

			above with JVs with local partners/on their own. b. Lithium ion EV batteries- Leading foreign firms should invest in India for battery assembly plants of scale. they currently package/ manufacture EV batteries and BMS in China c. Also invite companies engaged in Lithium ion cell manufacturing in Korea/Japan to set up battery cell and battery manufacturing plants in India, through targeted discussions and incentives. d. Lithium ion battery recycling ventures to be supported e. Research in Energy storage- advanced research in battery chemistries, alternatives like fuel cell technology/ultracapacitors etc. to help India create a long term technology advantage (since China has taken the lead in Lithium ion batteries) f. Promote and support EV infrastructure creation including support for battery swapping and charging infrastructure. g. Announce clear policy and support for battery and battery cell manufacturing in India (pending) to incentivize local players to invest in this area.	

6.	Public Transport Policy	Majority of road-based public transport in the country continues to use large-scale ICE vehicles, including significantly high number of polluting ones. Due to vehicles not being phased out in a timely manner, our cities continue to bear the brunt of polluting vehicles while causing delays in adoption of newer, efficient mobility systems, thereby limiting the overall growth potential of emerging technologies.	1. Outline a clear nationwide policy to phase out ICE vehicles being used in public transport. These are broadly in 3 categories: a. Auto rickshaws (more than 6 million of them) b. City buses (run by STUs) c. Inter-city/inter-state buses (run by STUs/private vendors) d. Commercial passenger 4-wheeler (more than 3 million taxis) 2. Under this policy a set of pilot cities (with most pollution and urban congestion) can be selected with a time-bound policy roadmap to mandatorily phase out above categories of polluting public transport vehicles 3. The roadmap can be designed in a manner to ensure that conversion/migration to electric is implemented in the lowest capital impact category (eg: 3-wheelers), followed by cars and then buses	1. Even at a 10% conversion rate per year of the above-mentioned public transport vehicles will yield in an overall demand of battery capacity of upwards of 3 GWH. 2. A conservative policy-led and mandated (not market-determined) demand of 3 GWH/year for next 10 years, will in turn spur the efforts towards setting up of Giga factories by some of the largest global Battery OEMs in India, in a public-private partnership model 3. Other than this, it will spur massive growth in terms of automobile production, newer jobs and a direct impact on GDP.

7.	Electric Goods Carrier	In addition to the millions of polluting and aged passenger vehicles (public transport), our cities see more than 6 million diesel/petrol-powered intra-city goods carrier (both three- and four-wheelers) With the increasing penetration of e-commerce, overall goods movement in cities is only bound to increase and presents a unique opportunity to ensure that new vehicle growth in this space is all electric – being both cost-efficient and zero emission.	1. Create a policy/guideline to ensure all major e-commerce players convert their last-mile delivery operations to all-electric by 2025, beginning with year-wise targets (20% by 2021, 50% by 2023 and 100% by 2025). 2. Create attractive scrappage policy for goods vehicle owner to migrate to electric 3. Pick up 10 key cities (among most polluting) to pilot this out and basis the results, expand it nationally.	1. With COVID19 creating some irreversible changes in consumer behaviour, e-commerce, especially home delivery of goods will surge. Govt of India must leverage this opportunity to ensure the increased demand is absorbed through newer and cleaner technologies. 2. Even a 10% annual conversion/migration of electric good carrier (esp for intra city), creates an additional demand of another 4 GWH+ battery capacity, resulting in massive opportunity for India to leap-frog when it comes to mass-scale EV adoption.