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Recommendations for ERMT Implementation

SEC Webinar

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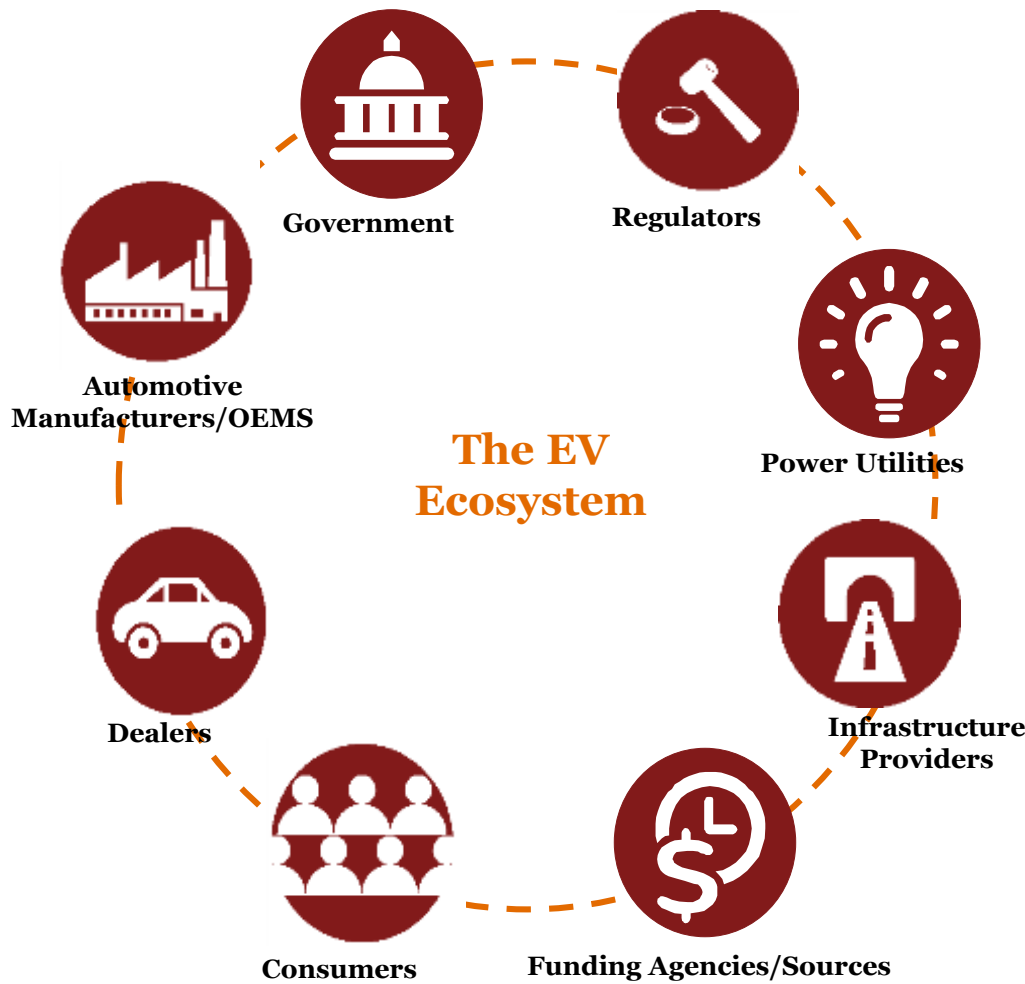
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Need for Ecosystem to build and support ERMT



- The success of implementing ERMT, overcoming the challenges discussed depends on the interaction of each stakeholder enhancing value for each other
- ERMT implementations needs policy push in form of subsidies/non-financial benefits.
- Setup of charging infrastructure needs exhaustive planning and implementation from Power Utilities.
- Funding agencies would support the setup of the ecosystem leading to economy wide transactions among various players which include government and private entities
- Successful implementation of ERMT will create new jobs apart from being eco-friendly

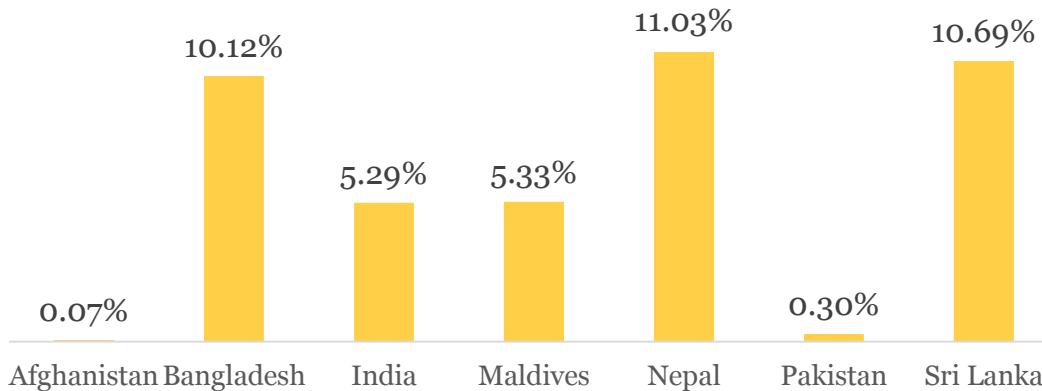
A planned approach is essential for Success of ERMT



Countries need to setup National Targets based on their current expenditures and existing number of buses

Country	Existing Number of Buses
Afghanistan	106,947
Bangladesh	158,517
Bhutan	100
India	1,527,396
Maldives	140
Nepal	57,374
Pakistan	228,588
Sri Lanka	52,203

Expenditure on Transport Sector



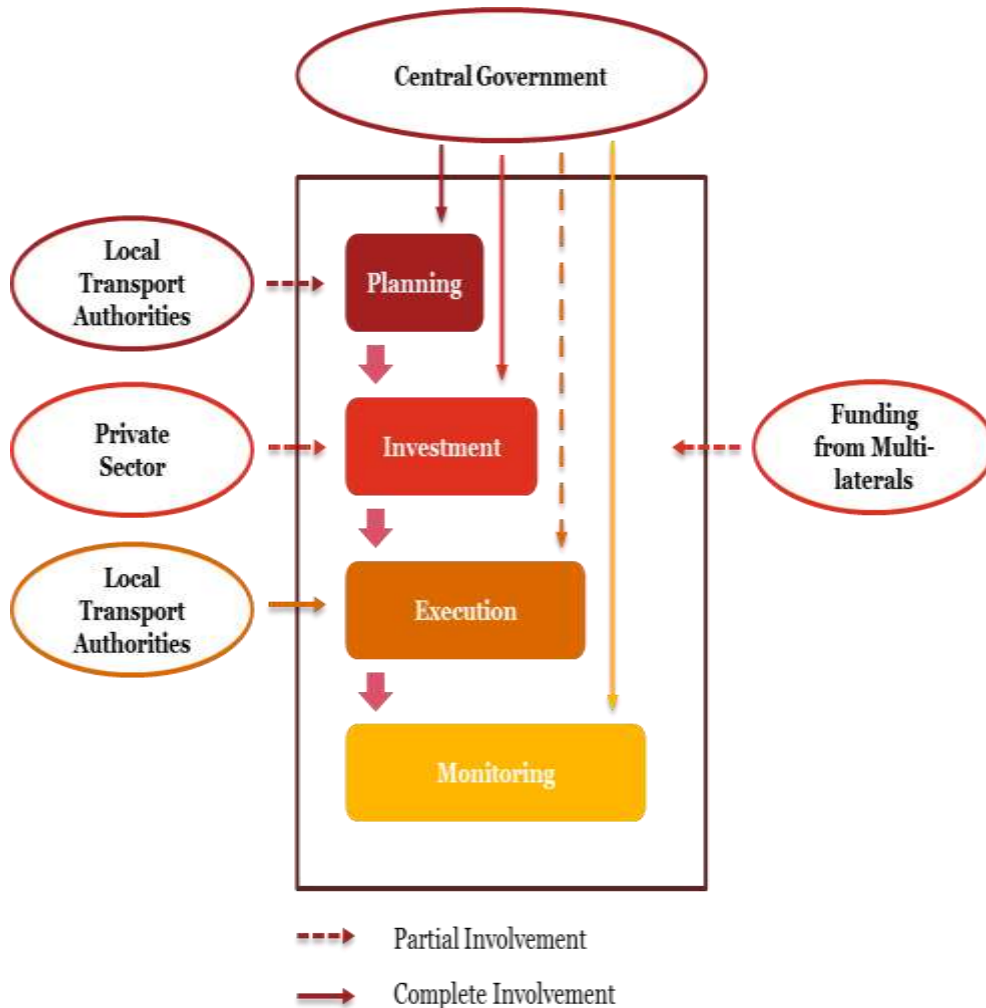
- Introduction of Electric Buses has to be done in a **phase-wise manner**.
- Countries need to set their goals based on transport expenditures and current bus network.
- They also need to consider the state of electrification and infrastructure status
- India and Sri Lanka should have higher targets as they are more prepared for EVs.
- Bhutan and Nepal, though smaller in absolute number, should try and electrify all their buses.
- Afghanistan, Bangladesh and Pakistan still need to focus more on preparing better pre-requisite infrastructure
- Maldives has less number of buses but ERMT would lead a cleaner future

Loans, Investments from private Sector and SAARC Development Fund can help fund ERMT projects

Loans and Grants	Public Private Partnership	SAARC Development Fund	Alternative Sources
<ul style="list-style-type: none"> • Non-political aid • Asian Development Bank (ADB) has set Clean Technology Fund for projects like ERMT • After proper due-diligence, negotiations and approvals, the project gets a financial closure which is then monitored continuously by the agency for effective execution. 	<ul style="list-style-type: none"> • Sustainable model with both parties working towards innovation, risk and return sharing • Increases technical and execution expertise. • Commonly used Build/Rehabilitate-Operate-Transfer and Build/Rehabilitate-Transfer-Operate models 	<ul style="list-style-type: none"> • SDF has multiple windows of Social, Economic and Infrastructure. • SDF considers projects (equity 25%, loan 75%) with project cost ranging between USD 2 - 20 million. • The maximum contribution from SDF is equal to 75% of the total project cost for 7 Years. 	<ul style="list-style-type: none"> • Innovative concepts like that of Green Bond Financing can be considered to attract investor • Levying additional taxes/ duties like that of a clean energy tax.
<p>Philippines received grant for EV Implementation of \$5 million, concessional loan of 100 million and additional loan of \$300 million.</p>	<p>India has successfully commissioned many infra-projects through PPP leveraging the expertise of project implementation.</p>	<p>SDF Infrastructure Window funds fields of Energy, Power and Transportation.</p>	<p>Duties/charges levied on conventional vehicles can be additional deterrent towards them, further attracting EV buyers.</p>

Institutional Arrangement should be centralised for Nations which are smaller in size or population

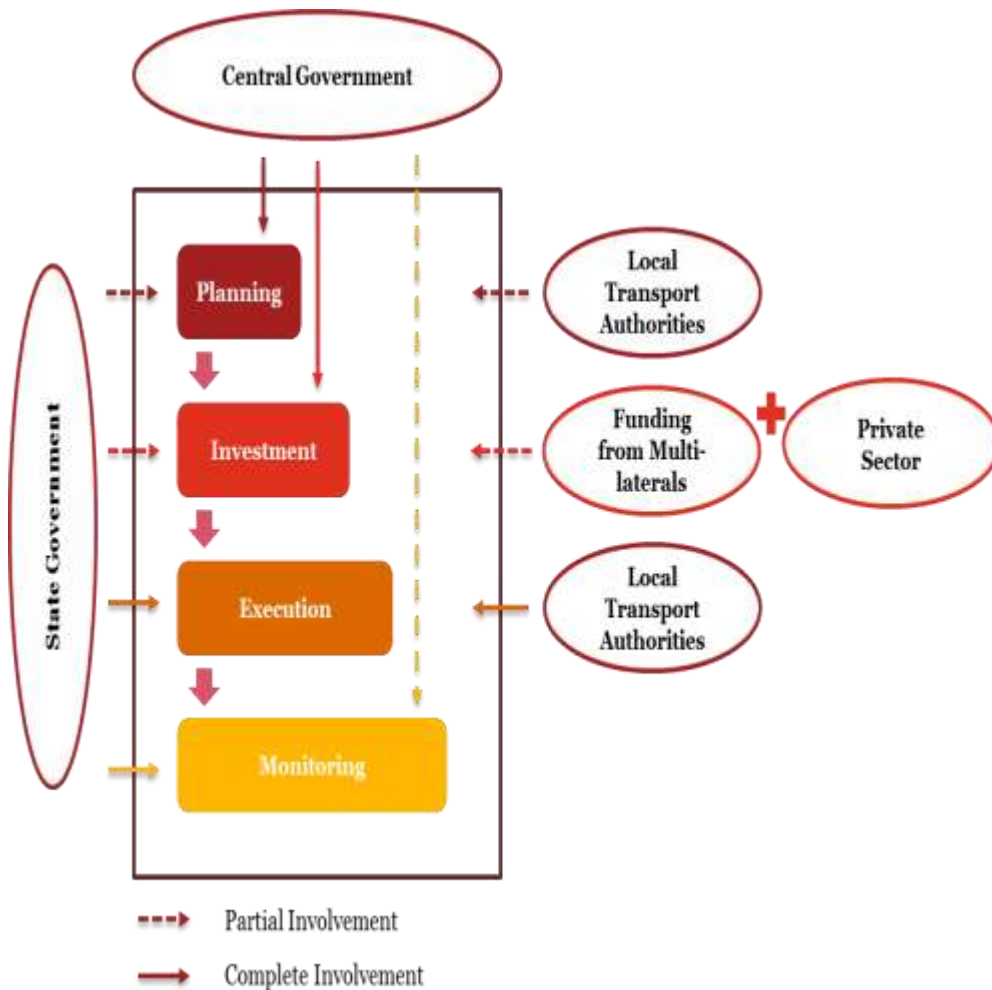
Centralized Arrangement



- Central Government takes concentrated efforts with focus across the phases of Planning, Investment, Execution and Monitoring
- It's responsible for developing the overall policy.
- Seek support from local transportation authorities in order to understand and cater to the local needs.
- Supported by various ministries like that of Finance, Transport, Energy, Urban Development, Industrial Development and Environment Protection
- Local transport authorities could lead the execution
- **Best suited for Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka**

Institutional Arrangement should be de-centralised for Nations which are larger in size or population

De-centralized Arrangement



- Planning and Investments ensured by the Central Government
 - State Government and Local Transportation Authorities will be supporting the Central Government in regional/city level plans.
- State/Provincial Government looks after complete execution.
- Central government, however, monitors the overall implementation status.
- Ensure reach across the country covering large and diverse areas.
- Faster adoption where multiple initiatives are being executed
- **Best suited for Afghanistan, India and Pakistan**

Commercial Viability will be key in ensuring sustainability of ERMT

Choosing Right City for Implementation

- Most important consideration for financially viable ERMT.
- Key parameters include percentage of passengers using public transport, the total population, avg. distance for passenger and avg. occupancy using public transport.

Choosing the most profitable routes

- Need to consider routes which can promise the highest Fare Box Recovery.
- Selection of routes where charging infrastructure can be installed is also necessary

Land Value Capture

- Transport authority will work with the State/ Central Government, plan a new bus route, estimate costs and eventually identify potential sites along the bus route.
- Transit authority will then purchase/lease the land for property development.
- Keeps profits from selling of residential and commercial units.

Additional Social Benefits

- Reduction in pipetail emissions reduces healthcare expenditure.
- While considering the initial capital outlay and operating expenses for ERMT, the social benefits should also be considered

SAARC Nations should pool resources to develop technical capabilities

Research and Development

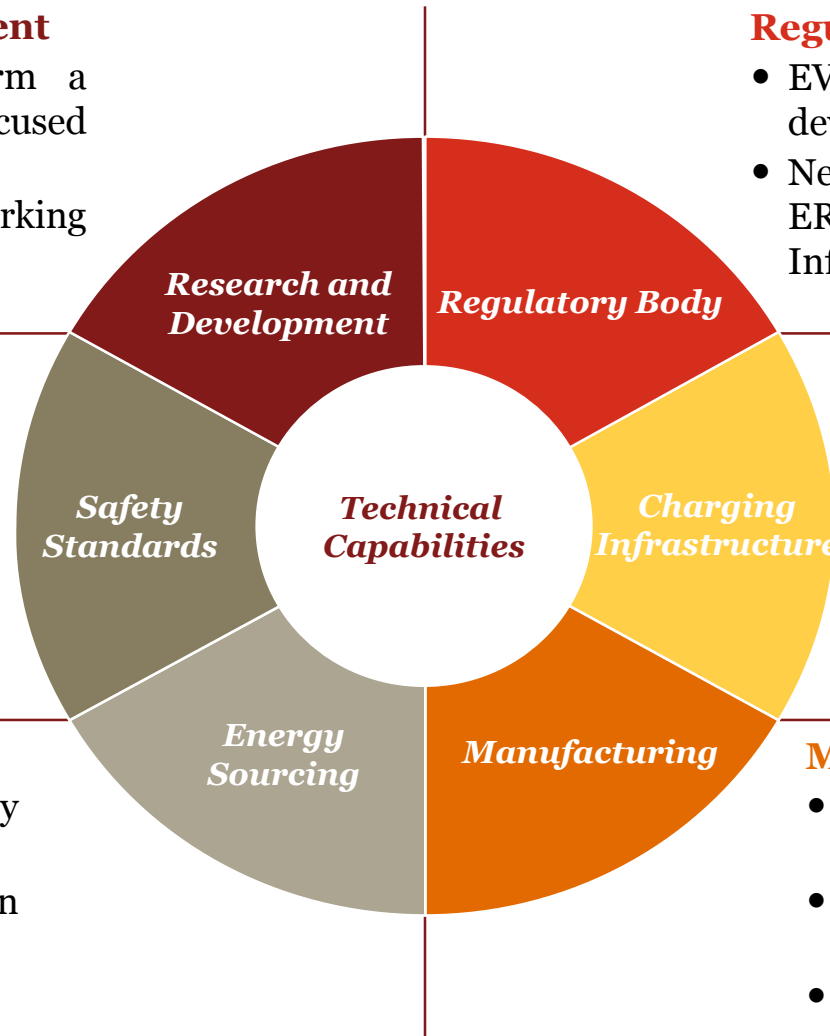
- SAARC nations can form a common pool of funds focused on research in EVs
- Need to develop benchmarking standards

Consumer Awareness

- Gain support for funding ERMT
- Industry interest will increase
- Association of industries will help in collective growth

Energy Sourcing

- Need to develop Energy Generation Sources
- Preference should be given to renewable sources



Regulatory Body

- EV technology still under development
- Need for regulations on safety for ERMT batteries and Charging Infrastructure

Charging Infrastructure

- Fast DC Charges should be installed in phases
- Optimal selection of routes
- Need to consider viability of battery swapping

Manufacturing

- SAARC countries should consider OEM agreement
- Nations divide responsibility of manufacturing components
- Accelerator for industries and employment generation

Focus on Consumers and Industry is necessary to spread awareness about ERMT

Consumers

- Awareness campaigns through online mediums and public advertisements
- Advisement through newspapers, radio, television and online platforms
- Focus on making school and college students aware about environmental benefits

Support to Industry

- Awareness among utilities on ERMT and potential growth in energy consumption
- Implement various techniques that will ensure better grid management
- Provide manufacturers with grants on R&D to develop technology
- Seek other industries segments for potential investments

Association of Industries

- Support formation of an association of segment leaders interested in investing
- Core functional body will have representatives of the industry, the government and even representatives of civil society
- Facilitate two way communication between the government and the industry

Key Recommendations

(1/2)

- **Support from government, investments from private sector and sustained funding to boost and support manufacturing and R&D efforts** will play a key enabling role in implementation of ERMT
- Government across the SAARC Member States should develop a comprehensive policy covering

1 Developing the Automobile Industry

2 Promoting R&D activities

3 Implementing charging infrastructure for operations

4 Ensuring safety parameters are adhered

5 Implementation plan with clear roles and responsibilities of entities

6 Financial and non-financial incentives

7 Encouraging Private Sector Participation

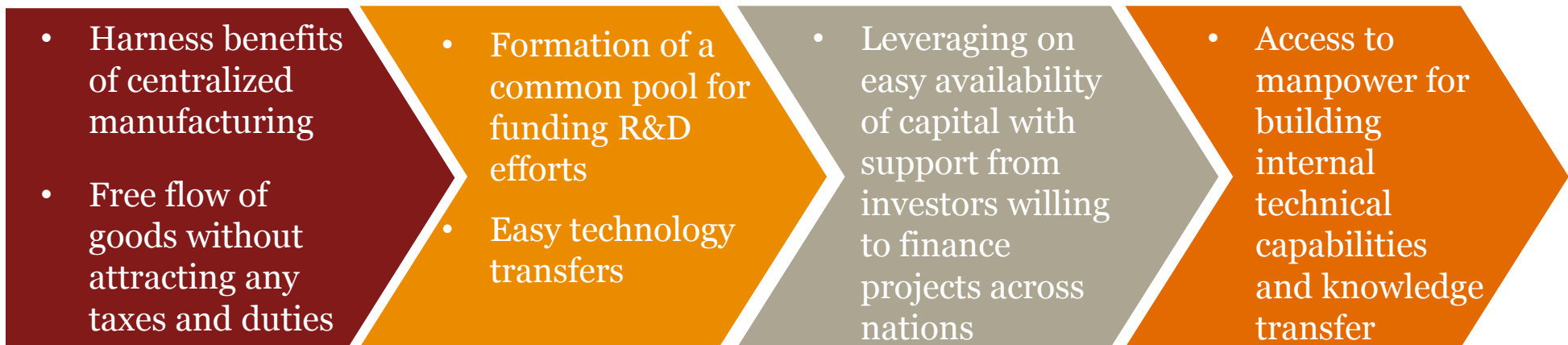
8 Consumer Awareness

- SAARC Member States should **explore both fiscal and non-fiscal benefits** while incentivizing ERMT in particular, and EV in general
- **Private sector participation** is extremely necessary for the success of ERMT

Key Recommendations

(2/2)

- SAARC Member States should **mutually agree upon joint investment into development of electric vehicles and form an association** to share technology and provide support in implementation of ERMT



- SAARC Member States will have to focus on ensuring customer awareness, eventually leading to customer adoption. This will have to be done through targeted advertisement campaigns eventually allowing word-of-mouth promotions leading citizens to adopt efficient and environment friendly public modes of transport.

Thank You !!

