- Tamil Nadu also offers 100% exemption on stamp duty on land transactions, for industries that obtain land by sale or lease in the state.

- Uttarakhand offers 50% exemption on stamp duty in transactions for the purchase or lease of land for industrial development/expansion.

- Andhra Pradesh, in the case of mega integrated projects, offers land to dependent ancillary units at the same rates that are offered to OEMs in the area, up to 50% of the land allocated to the OEM. Stamp duty and transfer duty paid on the purchase or lease of land meant for industrial use will also be reimbursed.

- Karnataka offers 100% reimbursement of the land conversion fee for conversion from agricultural to industrial land. In addition, the state offers 100% exemption on stamp duty on lease and sale deeds of land sold by approved industrial estates/parks.

Some states have focused on the creation of EV industrial parks, which incentivize companies to set up manufacturing through the convenience of land parcels equipped with infrastructure and ready to be built upon. Andhra Pradesh and Tamil Nadu aim to develop exclusive EV parks with plug-and-play manufacturing facilities. Kerala and Bihar, too, aim to create EV manufacturing clusters with speedy land allotment, common infrastructure creation, R&D facilities, etc. Telangana and Punjab encourage the setting up of EV manufacturing in existing industrial areas.

Table 10: **Land concessions by industry size**

	MSME	Large	Mega	Ultra-mega
Uttarakhand		15% of land rate	25% of land rate	30% of land rate
Uttar Pradesh			Battery plants - 25% of land cost	
Tamil Nadu	15% land cost subsidy, increasing up to 50% for units in southern districts 20% land cost subsidy for EV battery manufacturing units			
Andhra Pradesh			Mega integrated projects - land to dependent ancillary units at same rates as respective OEMs	

Infrastructure concessions and subsidies

Subsidies on infrastructural services help reduce operational costs through concessions primarily on electricity charges. States such as Andhra Pradesh and Uttar Pradesh offer additional subsidies for overall infrastructure development.

Which states are using it?

- Maharashtra and Andhra Pradesh offer power tariff subsidy of INR 1/unit, while Telangana offers a power tariff discount of 25% for 5 years (capped at INR 50 million for mega enterprises).

- Maharashtra, Punjab, Uttarakhand, Andhra Pradesh, Telangana, and Uttar Pradesh will waive/reimburse 100% electricity duty for varying periods of time.

- Karnataka offers 100% electricity duty exemption for 5 years, only for MSMEs in EV battery manufacturing/assembly and in EV charging/swapping infra equipment manufacturing.

- Andhra Pradesh will further provide all external infrastructure, such as power supply, water supply, roads at the doorstep of the industrial unit, at 50% of cost of the infrastructure, with a limit of INR 20 million per project.

- Uttar Pradesh further offers an infrastructure interest subsidy of 5% per annum for 5 years, as reimbursement on loans taken for the development of infrastructural amenities.

Figure 12: **Battery recycling and reuse solutions**

Battery recycling initiatives

Battery recycling initiatives are necessary for a sustainable circular economy, as EV battery packs have potential second-life applications well beyond their use in electric vehicles. States are well-positioned to encourage the creation of an e-marketplace for the resale of used batteries and to facilitate safe recycling units for EV batteries with suitable incentives.

Which states are using it?

- Delhi's policy promotes the reuse of EV batteries by setting up recycling businesses in collaboration with battery and EV manufacturers through urban mining of rare earth materials from the batteries.

- Punjab will encourage relevant OEMs and private ecosystem players to operate schemes for battery buyback. Further, the creation of an e-marketplace would be encouraged for the resale of used batteries and the establishment of recycling units for EV batteries will be facilitated with suitable incentives.

- The Telangana government intends to facilitate the reuse of EV batteries in stationary energy storage applications, and will enable collaborations between battery manufacturers, EV manufacturers, energy storage operators and recyclers. It is also one of the few states to provide incentives for the mining of rare earth materials and battery recycling businesses that are on par with EV ancillary manufacturing.

- In Uttar Pradesh, large anchor and service units will be provided capital interest subsidy at 50% per annum up to Rs 10 million per year for 5 years, on loans taken for procuring equipment and machinery for battery recycling.

- In Madhya Pradesh, energy operators and battery swapping operators will operate as end-of-life battery recycling agencies, where EV owners can deposit end-of-life vehicle batteries and get a remunerative price. Batteries will be reused as 'power banks' to store renewable energy.

NORWAY SUPPORTS BATTERY RECYCLING PLANT

Enova, a Norwegian government enterprise supporting clean energy and climate efforts, will provide $5 million in support to Hydro and Northvolt (a Swedish battery company) for setting up a plant to recycle used electric car batteries in Norway

Employment incentives

These incentives are offered to manufacturers generating local employment, with the objective of facilitating the creation of good quality, formal economy jobs, as seen by the focus on incentives linked to schemes such as employee provident funds (EPFs). These subsidies are activated only when industries employ a certain threshold of workers from within the state for a continuous period.

Which states are using it?

- Punjab provides direct subsidy to companies at the rate of INR 36,000/male employee per year, and INR 48,000/employee per year in case of female and SC/ST/OBC employees, for a period of 5 years.

- Uttarakhand and Tamil Nadu provide incentives linking job creation to EPF reimbursement. Tamil Nadu reimburses the employer's contribution to the EPF for all new jobs created until the end of 2025, paid for one year and not exceeding INR 48,000 per employee. In Uttarakhand, for every 100 people employed by a company, the state will contribute INR 20 million to the company's EPF.

- Kerala, as per its Industrial Policy, provides 75% of the employer's contribution to the EPF for 3 years for every additional employee hired.

Skill development

In view of the rapidly evolving technologies and the resultant new skills required for the EV sector, states plan to devise skill development programs to align the workforce with the necessary skill sets. Especially where states have stringent local employment requirements for companies to avail of industry incentives, skill development initiatives are a complementary policy to ensure that the local workforce has the required training for employment in the EV industry.

Which states are using it?

- Delhi intends to set up vocational courses to train EV drivers, mechanics and charging station staff in partnership with automobile OEMs and energy operators to make workers industry-ready. It is the only state focusing on service sector job creation in the EV industry, given that it is an urban administrative centre without significant industrial activity.

- Tamil Nadu, Andhra Pradesh and Karnataka provide a stipend or reskilling allowance for the training of employees by companies. While Tamil Nadu offers an unspecified amount, Andhra Pradesh and Karnataka provide up to INR 10,000 per employee per year, to a maximum of the first 50 employees for a single MSME or large company.

- Uttarakhand will provide training reimbursement assistance at the rate of INR 1,000 per trainee for 50 trainees for up to 6 months to units providing skill training.

- The EV policies of Punjab, Maharashtra, Kerala and Madhya Pradesh state that skilling initiatives will be taken up for workforce development. Punjab proposes skill development at various levels, ranging from 3- to 6-month-long industry-readiness courses to master's programs at universities within the state. The other states focus more on vocational courses through Industrial Training Institutes (ITIs) and skill development centers.

R&D initiatives

With a view to *support high-value industrial growth, state EV policies envision Research and Development programs. Initiatives under this umbrella are wide ranging, from the creation of centers of excellence to the setting up of government and academic partnerships for technology development, to *nurturing incubators to promote innovation.

Which states are using it?

- Delhi, Punjab, Maharashtra, Tamil Nadu and Kerala are among the states that aim to set up centers of excellence focused on electric mobility.

- Tamil Nadu, Karnataka and Andhra Pradesh provide incentives to support research and innovation. Karnataka will commission the Karnataka Electric Mobility Research and Innovation Centre as a research hub, and will also set up a venture capital fund and start-up incubation center. Andhra Pradesh will set up a research fund of INR 5 billion to support a center for automotive research and smart mobility.

- Telangana will develop a dedicated facility to house EV-specific R&D centers by domestic and global EV players. This hub is also expected to attract global research and development activities on other emerging mobility trends such as connected and

- Bihar will offer R&D funding for companies which invest 200 crores and generate at least 200 jobs. The government will also encourage companies to establish R&D units within the state.

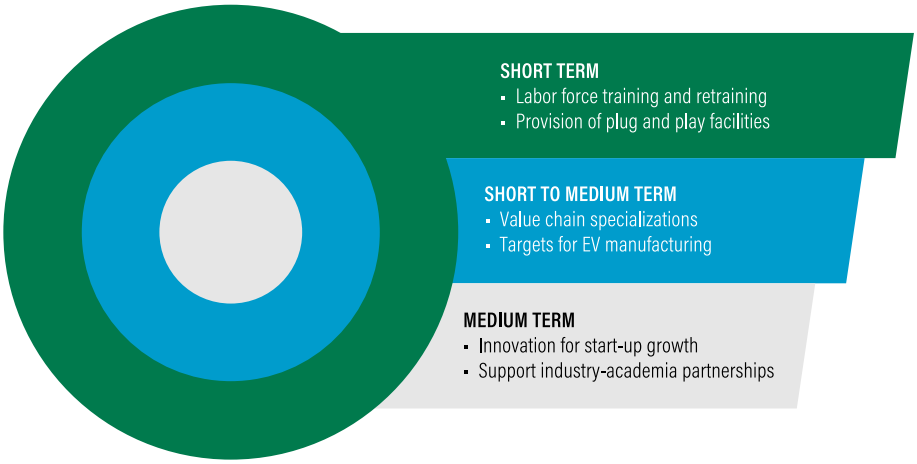
4.1

RECOMMENDATIONS FOR SUPPORTING INDUSTRIAL GROWTH

Taken together, the investment promotion subsidies and the land and infrastructure incentives allow states to create attractive incentive packages for manufacturers. However, monetary incentives are expensive and can only catalyze the ecosystem. Non-monetary incentives such as EV manufacturing targets, set in conjunction with industry, may be other effective measures that states can consider to spur production, especially states with significant automotive clusters. At the same time, an enabling ecosystem requires clear and efficient processes to ensure that companies can set up industries without too many hassles. This requires a planned approach to industrial clusters, which take into account the social and environmental concerns of local populations.

The other set of incentives that states have deployed relate to skill development, employment generation, and research and development. These will be crucial to develop the necessary human resources and move towards higher-value manufacturing. Rather than competing among themselves, states may choose to specialize in certain segments of the EV value chain for greater growth. These and other recommendations are highlighted below, ranging from priority actions to mid-term strategies for states to consider.

Figure 13: **Priority actions for catalyzing industrial development**



1 **Labor force training and retraining:** One of the biggest sectors in the country, the automotive industry, contributes 22% to India's manufacturing GDP. With the coming shift to electric mobility, jobs in the industry will also transform, with some traditional jobs declining, new jobs developing and the nature of other jobs changing. States will need to look ahead to ensure a smooth transition through a considered understanding of the employment landscape and its potential transformation, and the introduction of appropriate training and reskilling programs in partnership with industry. For the benefit of both incoming young workers as well as experienced auto industry workers, governments should streamline skill development and certification processes to an industry-wide standard, to reduce potential economic shocks to communities and improve resilience.

2 **Provision of plug and play facilities:** For states looking to attract mid-sized manufacturing in the EV sector, the ready availability of industrial land parcels and shared infrastructure facilities can reduce set-up costs for companies and improve attractiveness of a given location. Additionally, shared facility requirements specific to EV industries can be better allocated through designated EV clusters or industrial parks.

3 **Value chain specializations:** While state EV policies have focused on incentivizing the overall EV industrial ecosystem, some states provide additional incentives for strategic industries such as battery manufacturing. Two states that stand out in their specialized incentives are Andhra Pradesh and Punjab, which have additionally focused on hydrogen generation and refueling technologies, and on e-tractor manufacturing respectively. Such a stratified approach focusing on specialized components of the EV value chain can help states scale up industrial growth and employment generation by becoming key hubs within the country, and even globally.