

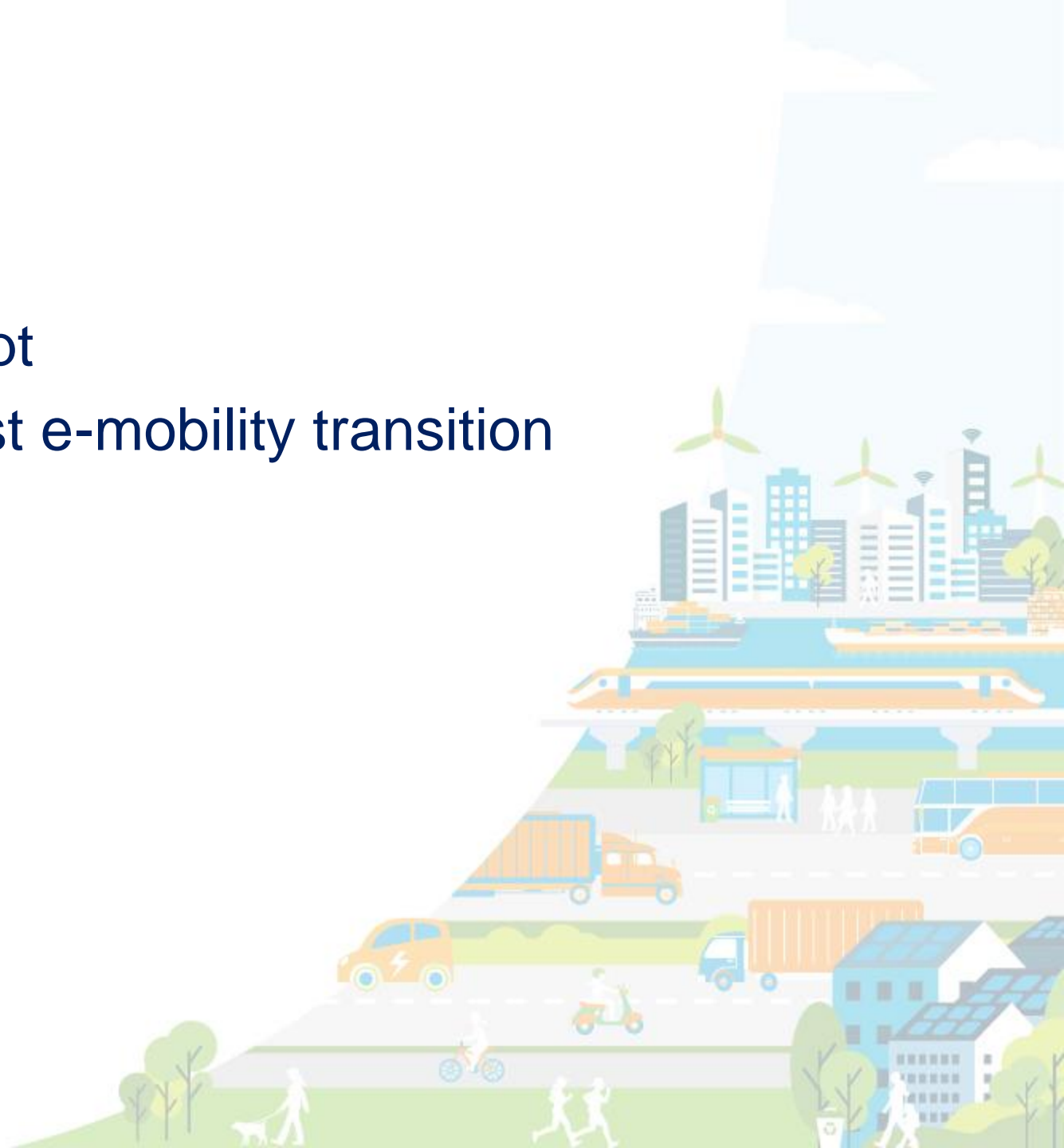
# Leaving no one behind: A Just Transition towards e-mobility

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- Just Transition as a concept
- A jobs perspective for a just e-mobility transition
- Policy implications



**Greening the economy** in a way that is as **fair and inclusive as possible** to everyone concerned, creating **decent work opportunities** and **leaving no one behind.**

- International Labour Organization (ILO)



Illustration: Binh Nguyen/Canary Media

# Why is Just Transition relevant?

- Transitions tend to be disruptive – Just Transition principles can mitigate fear, opposition and conflict that may come along with a low carbon transition
- If embedded in long-term planning, helps decision-makers to simultaneously focus on inclusivity and climate action
- Enables more ambitious climate action and supports meeting the Sustainable Development Goals

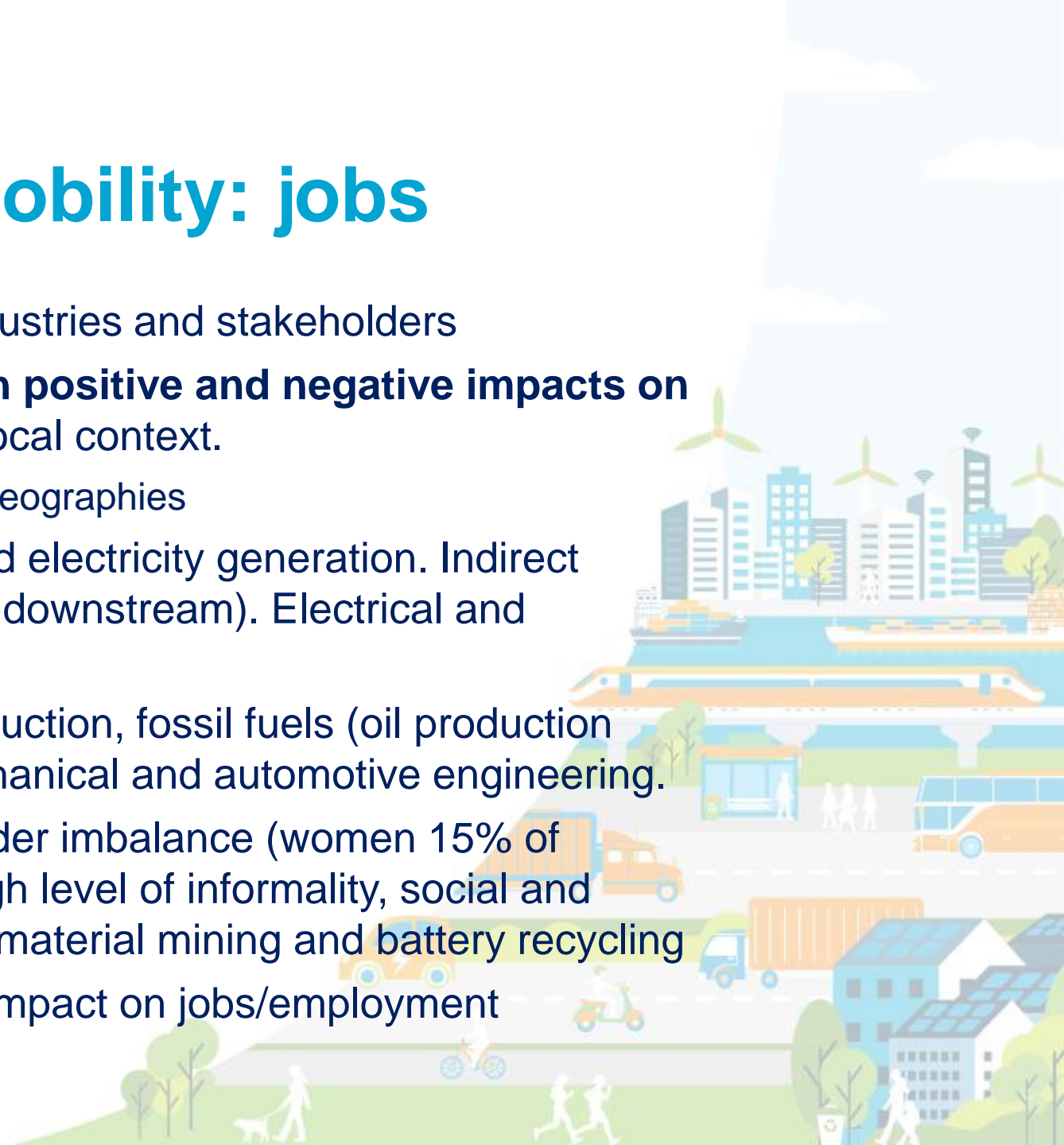


# Just Transition for E-Mobility: A jobs perspective



# Just Transition for e-mobility: jobs

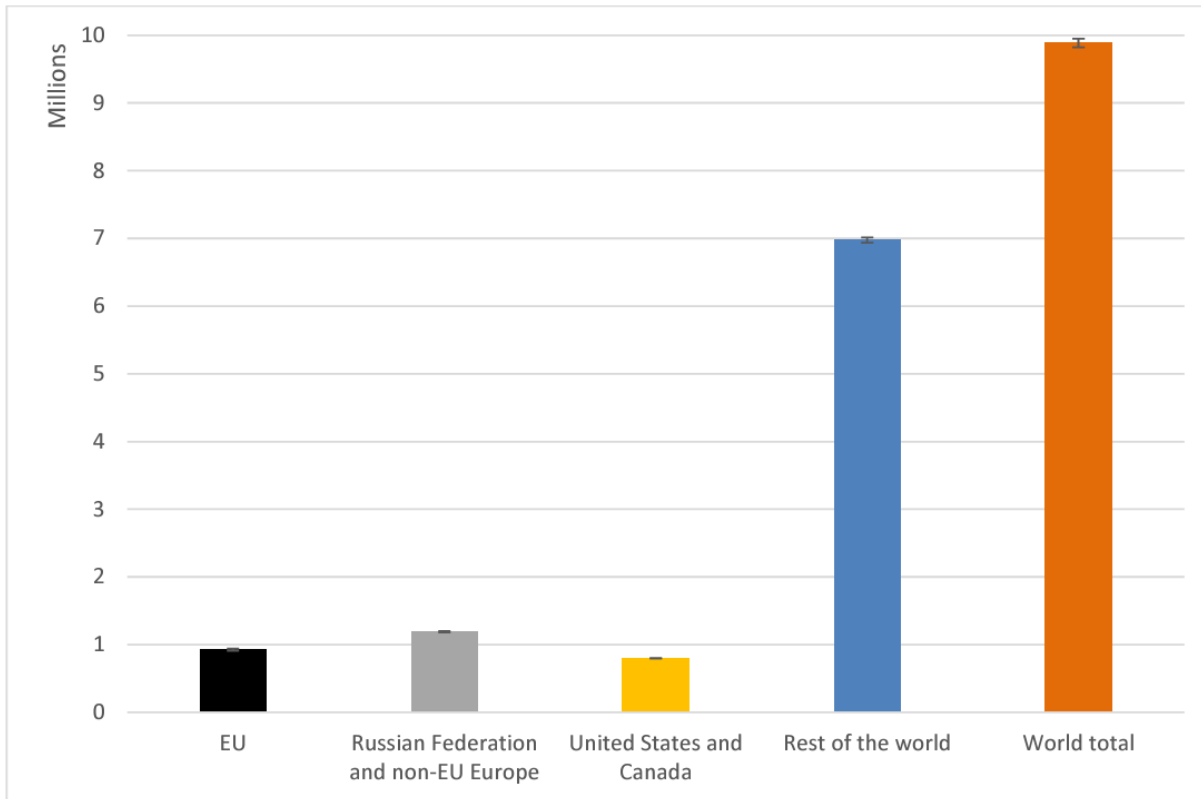
- Complex, involving multiple sectors, industries and stakeholders
- Electrification of transport will have **both positive and negative impacts on employment**. Net impact depends on local context.
  - Jobs re-distributed across sectors and geographies
- **Expected job gains:** EV production and electricity generation. Indirect effects on supply chains (upstream and downstream). Electrical and software engineering.
- **Expected job losses:** ICE vehicle production, fossil fuels (oil production and refining) and related services. Mechanical and automotive engineering.
- **Sources of existing inequalities:** gender imbalance (women 15% of transport sector workforce in APAC), high level of informality, social and environmental concerns relating to raw material mining and battery recycling
- Access to mobility also has an indirect impact on jobs/employment



# EU: UNECE (2023)

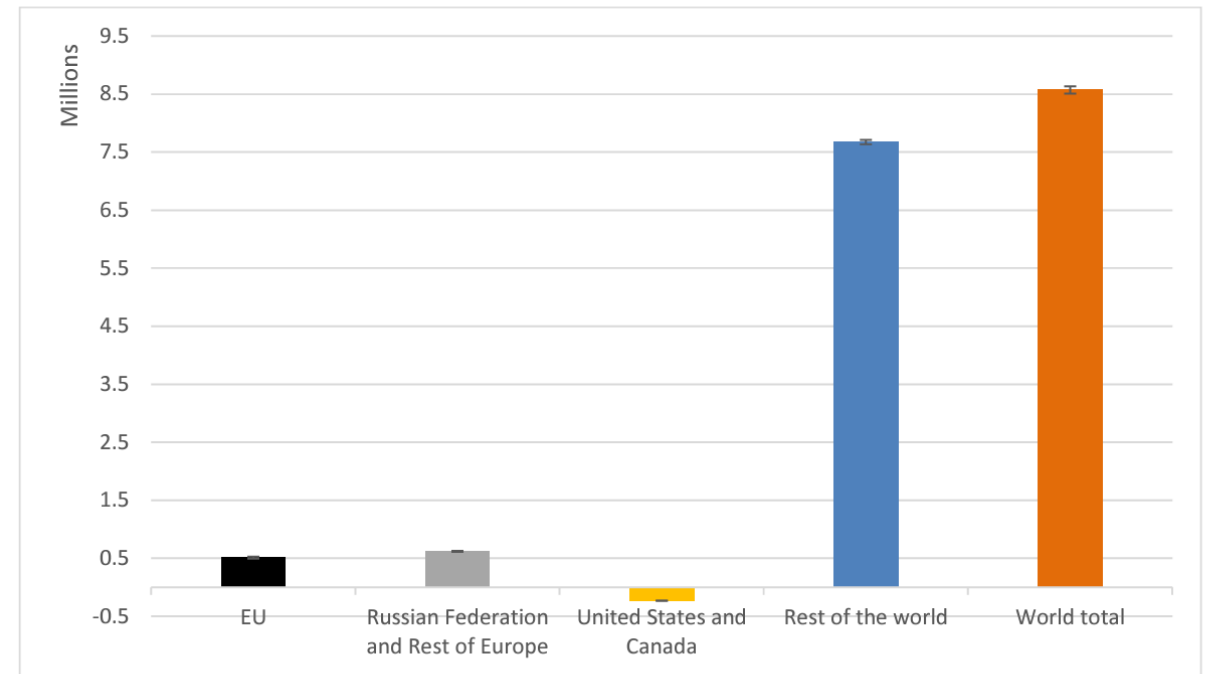
- Asia leading battery and electric component and battery manufacturing – strong growth for suppliers in the region for the EV acceleration scenarios in EU

Figure 3.2. Absolute difference in employment levels between E.3 scenario (50 per cent of vehicles manufactured to be fully electric) and business-as-usual scenario, 2030 (million jobs)



Source: ILO estimates based on EXIOBASE version 3. Whiskers represent high and low estimates.

Figure 3.5. Absolute difference in employment levels between E.4 scenario (100 per cent of light commercial vehicles to be fully electric) and business-as-usual scenario, 2030 (million jobs)

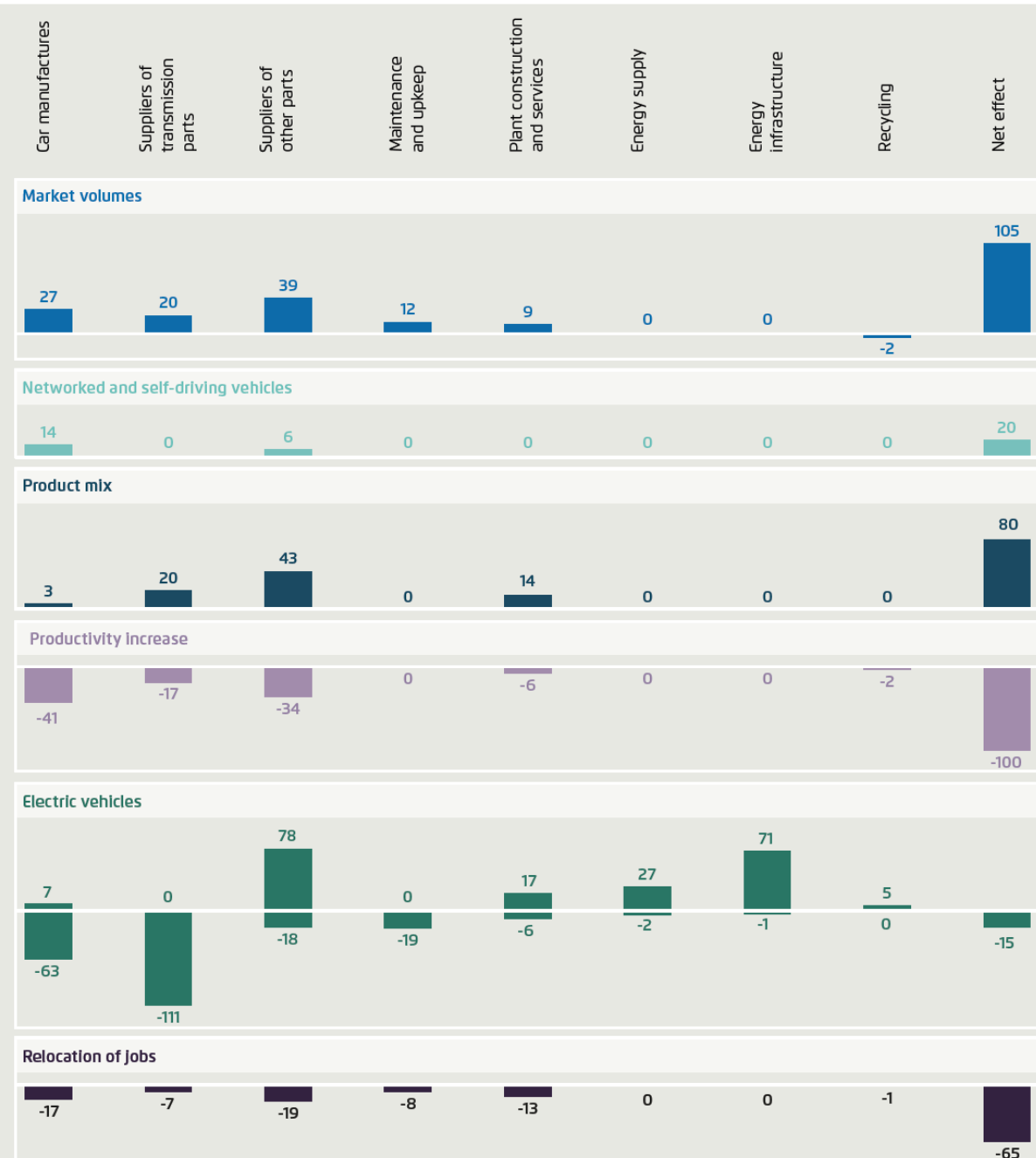


Source: ILO estimates based on EXIOBASE version 3. Whiskers represent high and low estimates.

# Germany: Agora Verkehrswende (2022)

## Study on the employment impact of e-mobility and other trends in the automotive sector by 2030

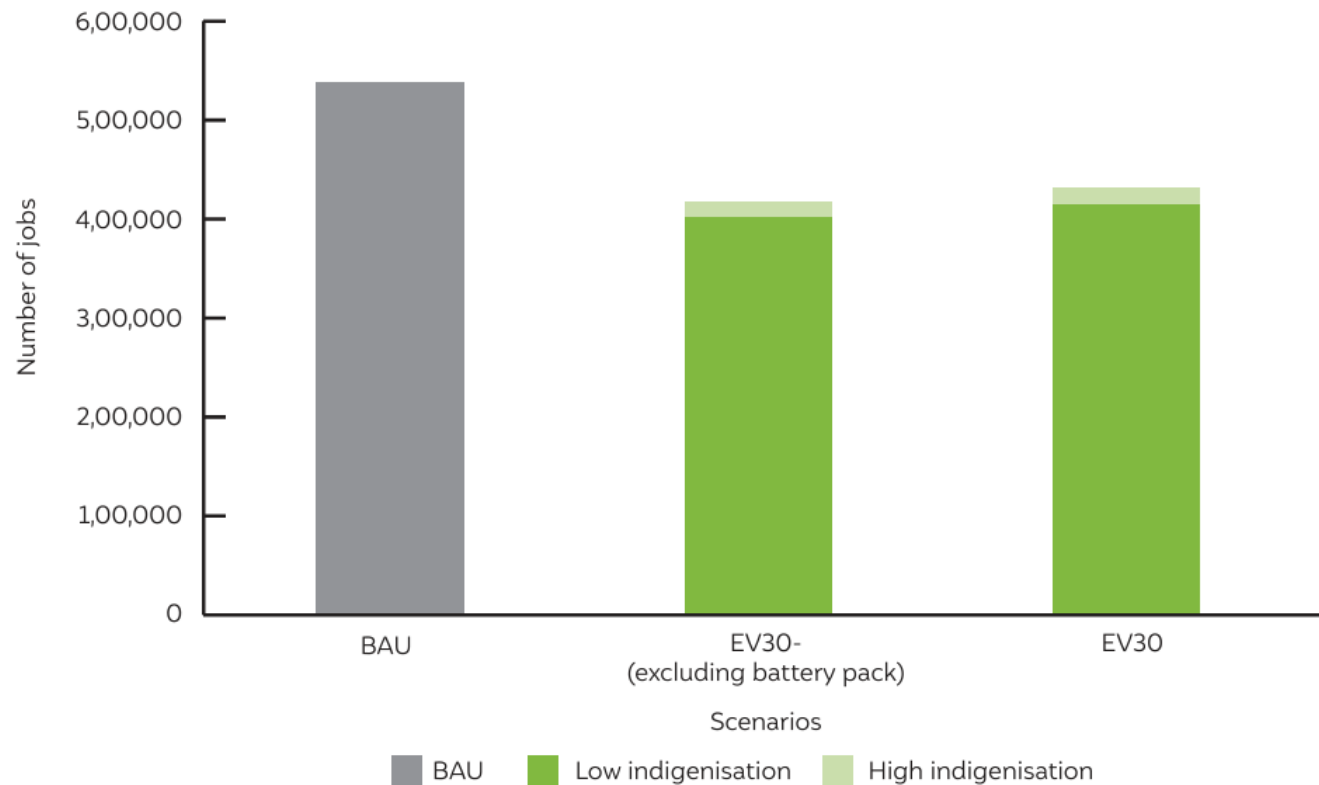
- Employment impact is projected to be net zero
  - Considering: EV uptake, market growth, vehicle digitalization (e.g. autonomous and networked vehicles), trend to higher quality vehicles, productivity gains, relocation of jobs mainly to Eastern Europe
- Significant structural shifts between subsectors
  - Almost half of employees will need reskilling
  - One third will need significant retraining
  - **Jobs lost:** especially for upstream suppliers of ICE vehicle parts, ICE manufacturing
  - **New jobs:** especially suppliers of batteries, digital solutions, energy supply and infrastructure





# India: CEEW (2019)

- Job reductions expected due to the lower value added and jobintensity associated with manufacturing the powertain of an electric car



**Figure 8**

Jobs supported by manufacturing ICE and electric car powertrains will be fewer under the EV30 scenarios in 2030

Source: Authors' analysis

# Indonesia: ILO (2023)

- Sub-sectors with potential job gains and losses in the battery EV transition

Sectors with job growth		Sectors with job losses	
Manufacturing	<ul style="list-style-type: none"> <li>• EV OEM</li> <li>• EV battery cell and pack</li> <li>• EV battery parts (cathode, precursor)</li> <li>• EV component manufacturers</li> <li>• EV assembly</li> </ul>	Manufacturing	<ul style="list-style-type: none"> <li>• ICE OEM</li> <li>• Tier 1 components</li> <li>• Lower tier components</li> <li>• ICE assembly</li> </ul>
Upstream (raw material providers)	<ul style="list-style-type: none"> <li>• Nickel mining and refinery</li> <li>• Electricity generation</li> </ul>	Upstream (raw material providers)	<ul style="list-style-type: none"> <li>• Oil and gas mining and refineries</li> </ul>
Downstream	<ul style="list-style-type: none"> <li>• Construction of charging ecosystem: charging stations, energy storage systems, and battery swap stations</li> <li>• Charging station and battery swap operators</li> <li>• EV dealers and repairs</li> <li>• Waste management</li> </ul>	Downstream	<ul style="list-style-type: none"> <li>• Fuel supply</li> <li>• ICE dealers and repairs</li> <li>• ICE used car market</li> </ul>



# Colombia: Ministry of Environment, UNDP, Anthesis Lavola (2023)

- Economy without a major car manufacturing industry, job losses expected in short term

**Table 1. Impact on jobs for 3 sectors and 3 scenarios**

Note: Low formality refers to less than 30% of workers contributing to pensions, medium refers to 31% to 79% of workers, and high formality means more than 80% of workers contribute to pensions.

	2019		Economic development		Climate change		Decarbonization	
	Employment	Formality	2030	2050	2030	2050	2030	2050
<b>Livestock and agriculture</b>	3,521,000	Low	13%	1%	-5%	-13%	12%	0%
<b>Energy</b>	338,000	High	0%	0%	-1%	-2%	-4%	-5%
<b>Transportation</b>	1,553,175	Medium	-3%	11%	-3%	-9%	-23%	8%

García, H. (2023)

# Policy implications guided by ILO Principles on Just Transition



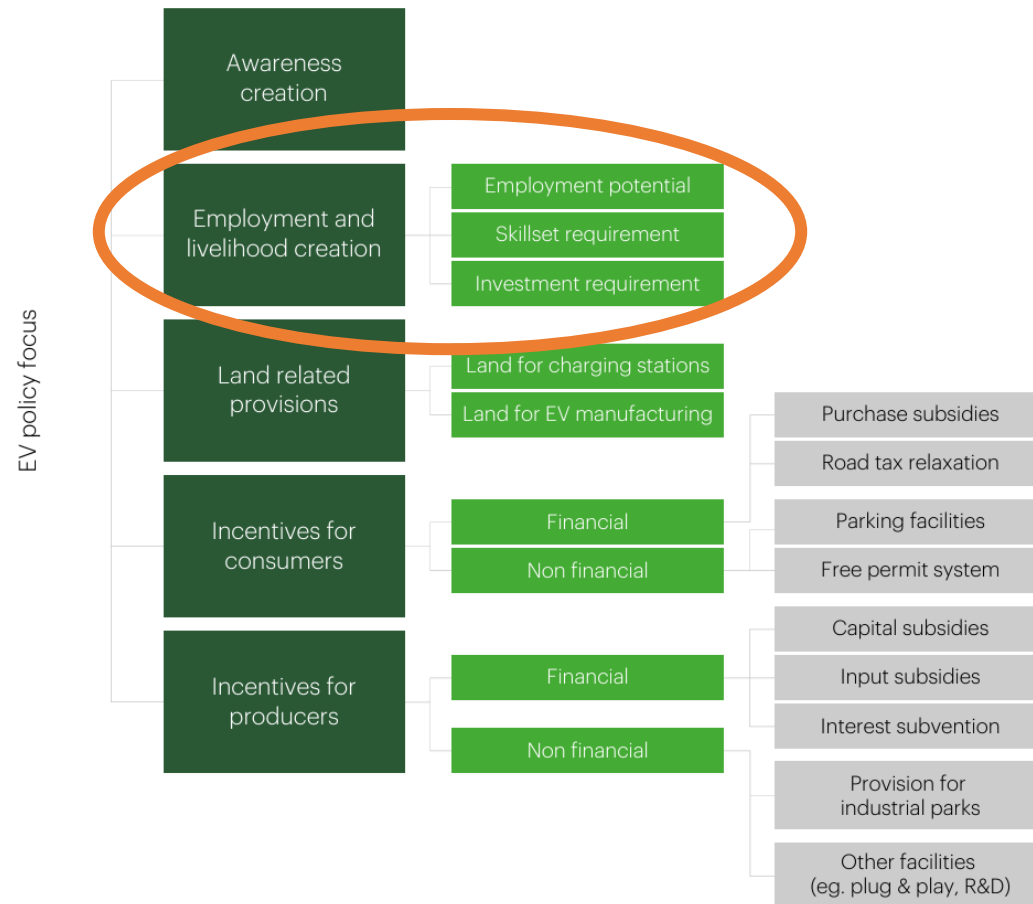
# ILO Principle 1: Strong social consensus on the goal and pathways to sustainability is fundamental

- Establish **working groups and spaces for dialogue across stakeholders and sectors**: A just transition must be based on social dialogue among employers, workers, governments, affected communities.
- Develop a **mix of policies** (macroeconomic, industrial, sectoral and labour) for enabling sustainable enterprises and decent work
- Conduct social and employment **impact analysis** of climate policies
- Incorporate Just Transition into climate policy development and planning:
  - Just Transition roadmaps
  - Incorporate into EV plans and roadmaps
  - Incorporate into long-term climate plans (NDCs and LTSs)
- Philippines: Green Jobs act (cross-sector) – incorporates decent work dimensions
- India: Integration of jobs/skills aspects in state-level EV plans

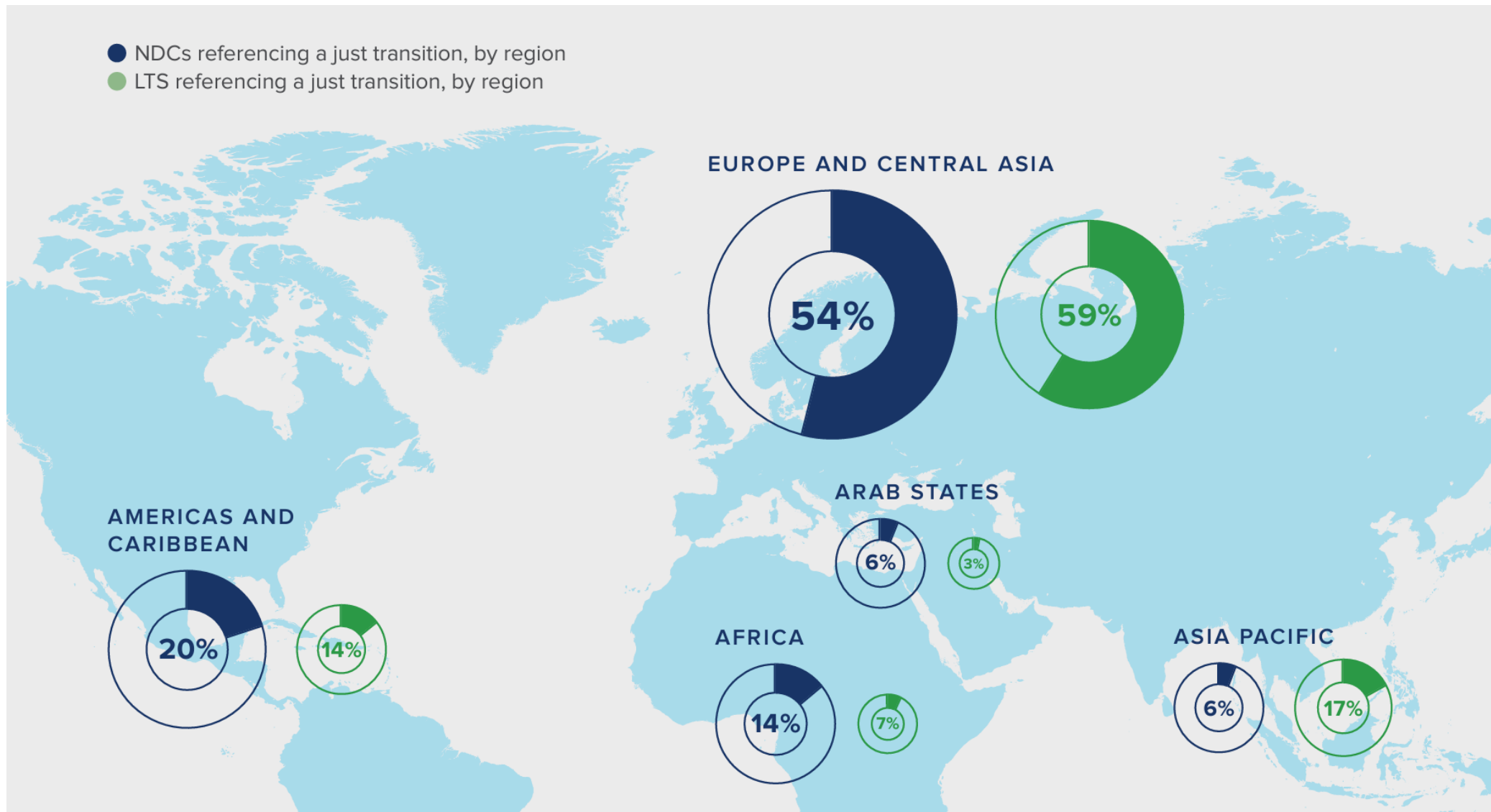


# British Academy (2022) mapping of India's subnational EV plans

Figure 1. EV policy mapping at the sub-national scales



# Just Transition in NDCs and LTSs



Source: UNDP, 2022

# ILO Principle 2: Policies must respect, promote and realize fundamental principles and rights at work

- Level of informality and employment protection low in Asia
  - Only 12 % of unemployed workers in Central and Western Asia receive unemployment benefits (UNECE & ILO, 2023)
  - Formalizing public transport through electrification may lead to job losses in informal sector and will need safeguards, re-skilling, and other support
  - National labour codes should be revised to ensure that fundamental principles and rights at work are upheld in the growing and emerging industries
- Philippines: Energy sector coal mine closures put on hold due to protests from coal workers' unions -> decarbonization not possible without strong Just Transition processes and principles in place
- Philippines: The *e-Jeepney Sustainable Transport Solution for Climate Friendly Cities* project demonstrated a new business model to break the inequitable profit-sharing arrangements between jeepney operators and drivers (Felizco, 2024)





# ILO Principle 3: Policies and programmes need to include a strong gender dimension

- A specific approach on gender, age, and informality needs to be assessed while identifying the challenges of the stakeholders in adopting an inclusive and JT to avoid increasing existing inequalities and instead ensure opportunities for those groups. (Colombia study)
- Leverage the transition to create a more inclusive workforce with adequate representation for women and marginalized communities.
- Address core issues relating to inequalities in the sector
- Thailand: ILO, UNESCO and Ministry of Labour STEM training programme for entry-level women electronics sector workers with low STEM skills (USAID, 2022)
- Colombia: La Rolita e-bus operating company



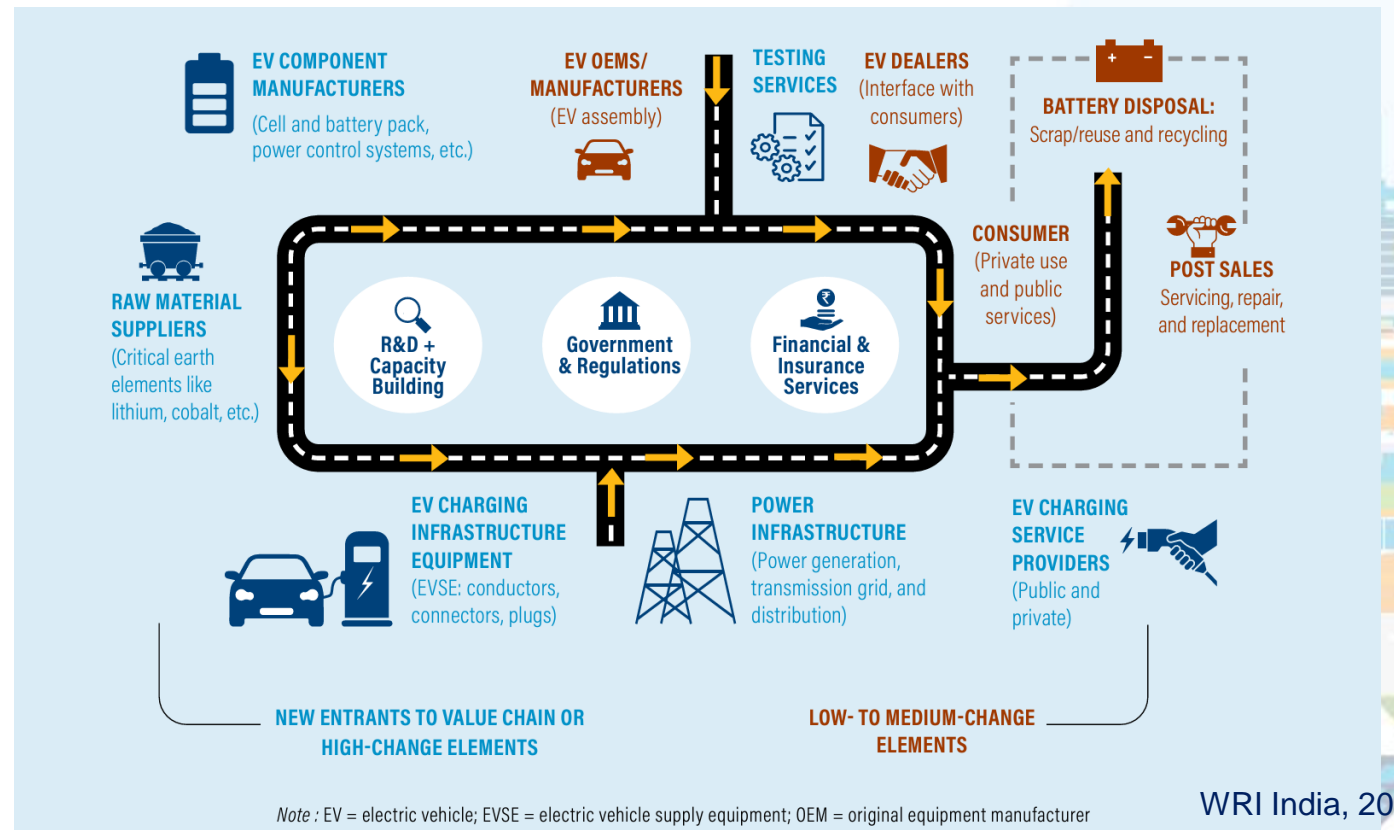
Photo: IDB

# ILO Principle 4: Providing an enabling environment to embrace and drive the transition

- Quantitative projections of employment impact of e-mobility are needed on organization, sub-national and national levels; understanding how many jobs and in which areas will be lost and gained; what are the skill sets needed for the new jobs; and how to ensure skilled workforce is available for the future needs.
  - Cross-sector analysis needed for understanding potential for re-skilling across sectors
  - Analysis should cover formal and informal spheres
  - Also entrepreneurial opportunities to be considered – not just employment
- Realistic and needs-based education, training and retraining/re-skilling plans and schemes
- Academia-industry partnerships to create adaptive skilling and education programs
- India, Karnataka state: re-skilling frameworks driven by private sector (EV manufacturers), government and academia. University/private sector collaborations, cross-sector skills matching schemes by state government (WRI India, 2022)

# ILO Principle 5: There is no “one size fits all”

- Developing a **country- and context-specific** assessments and policies
- Social impacts of climate action will differ depending on economic structure of each country/region
- Just Transition to be considered **across value chain**



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# THANK YOU

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