ASIA AND THE PACIFIC TRANSPORT FORUM 2024

CLEAN TRANSPORT FOR ALL

14–17 May 2024 | ADB Headquarters, Manila, Philippines

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Components of e-Mobility Program with GCF

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Contents

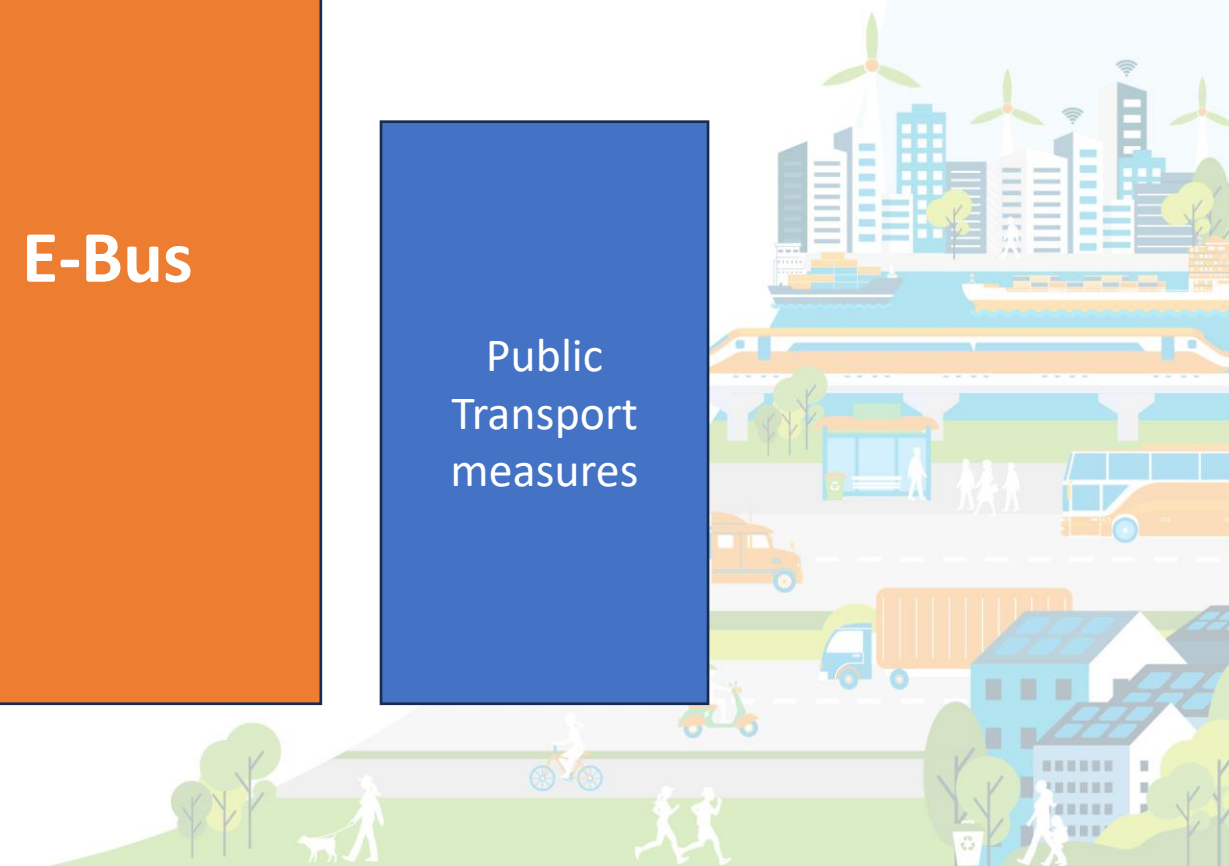
- Components
- Adaptation
- Public Transport measures
- E-Bus

Components

Adaptation measures

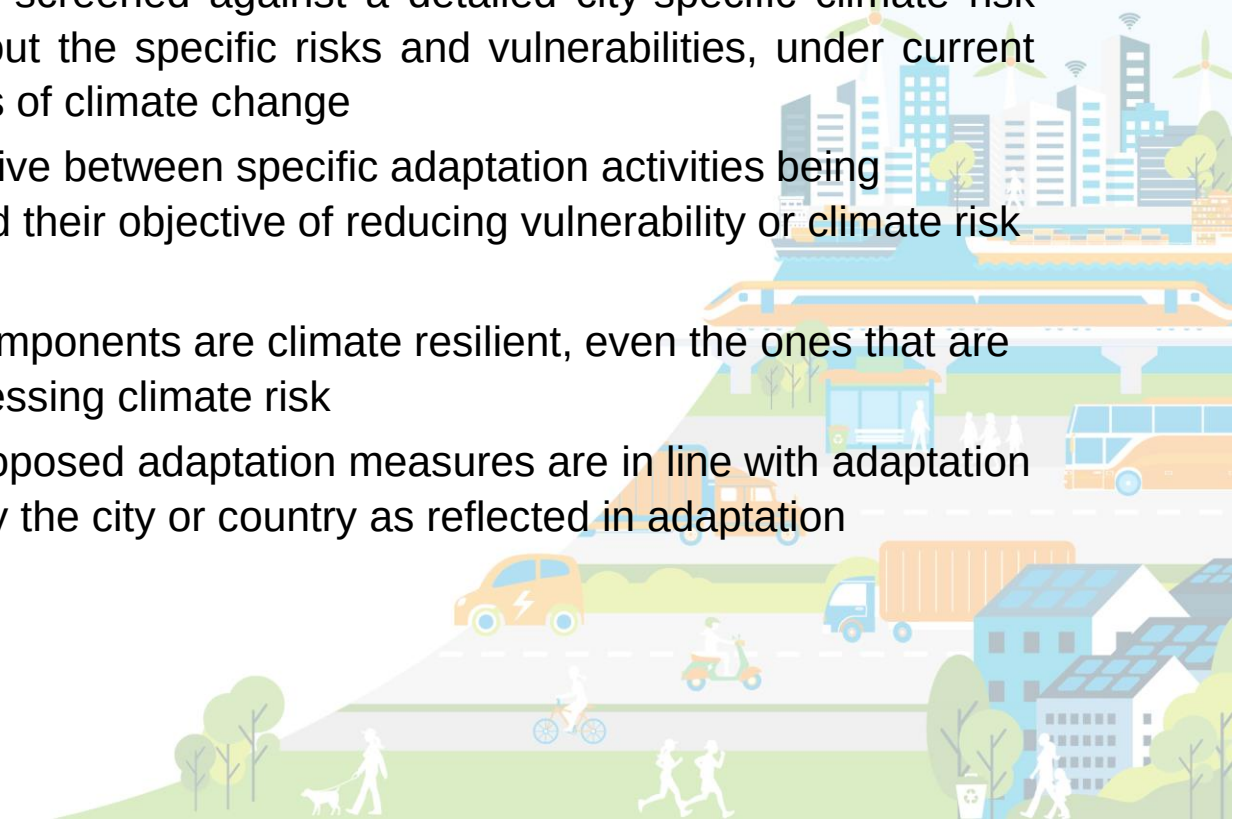
E-Bus

Public Transport measures



ADAPTATION: Eligibility Criteria

- Projects need to be screened against a detailed city-specific climate risk assessment to set out the specific risks and vulnerabilities, under current and future conditions of climate change
- A clear causal narrative between specific adaptation activities being financed by GCF and their objective of reducing vulnerability or climate risk needs to be shown
- Ensure all project components are climate resilient, even the ones that are not specifically addressing climate risk
- Demonstrate that proposed adaptation measures are in line with adaptation priorities identified by the city or country as reflected in adaptation strategies and plans



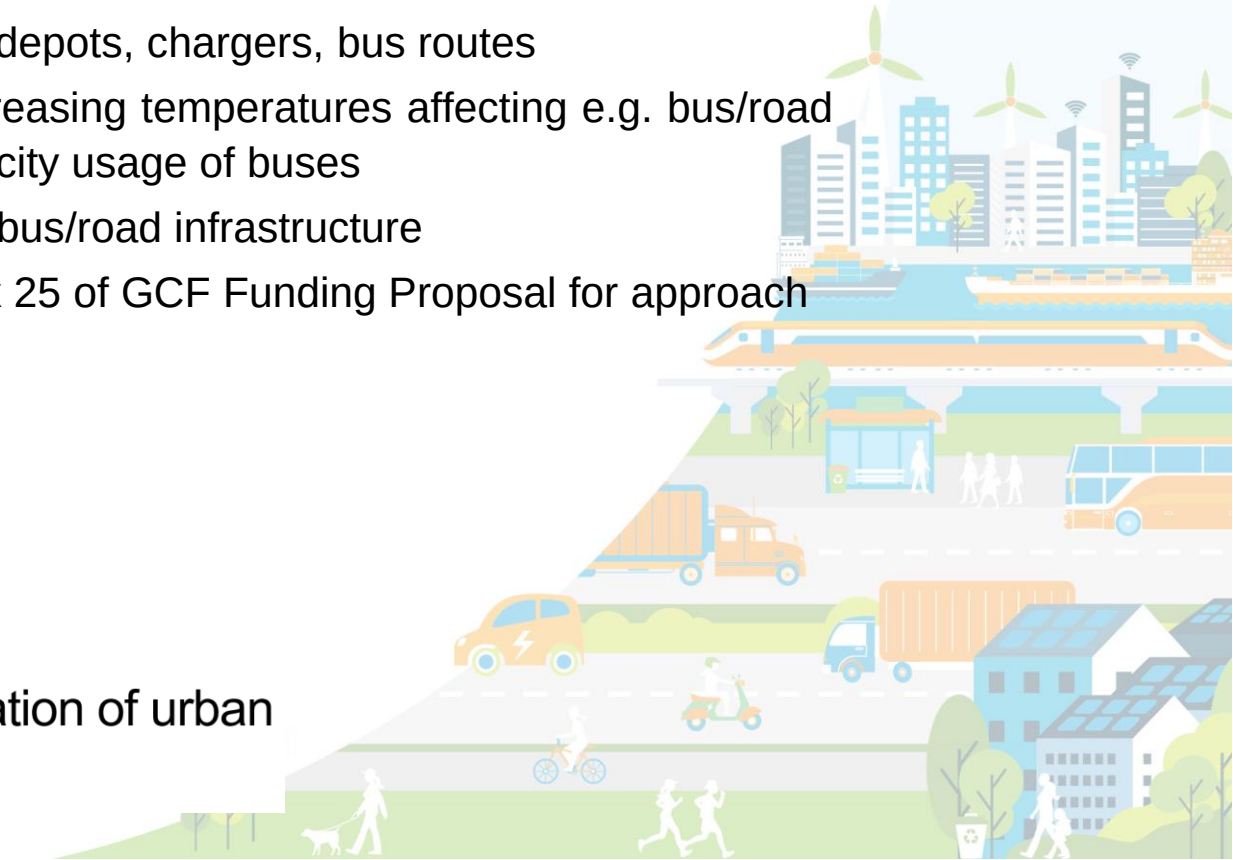
ADAPTATION: Typical Vulnerabilities

- Flooding e.g. of bus depots, chargers, bus routes
- Heat waves and increasing temperatures affecting e.g. bus/road infrastructure, electricity usage of buses
- Landslides affecting bus/road infrastructure
- Take a look at Annex 25 of GCF Funding Proposal for approach

ADB ASIAN DEVELOPMENT BANK

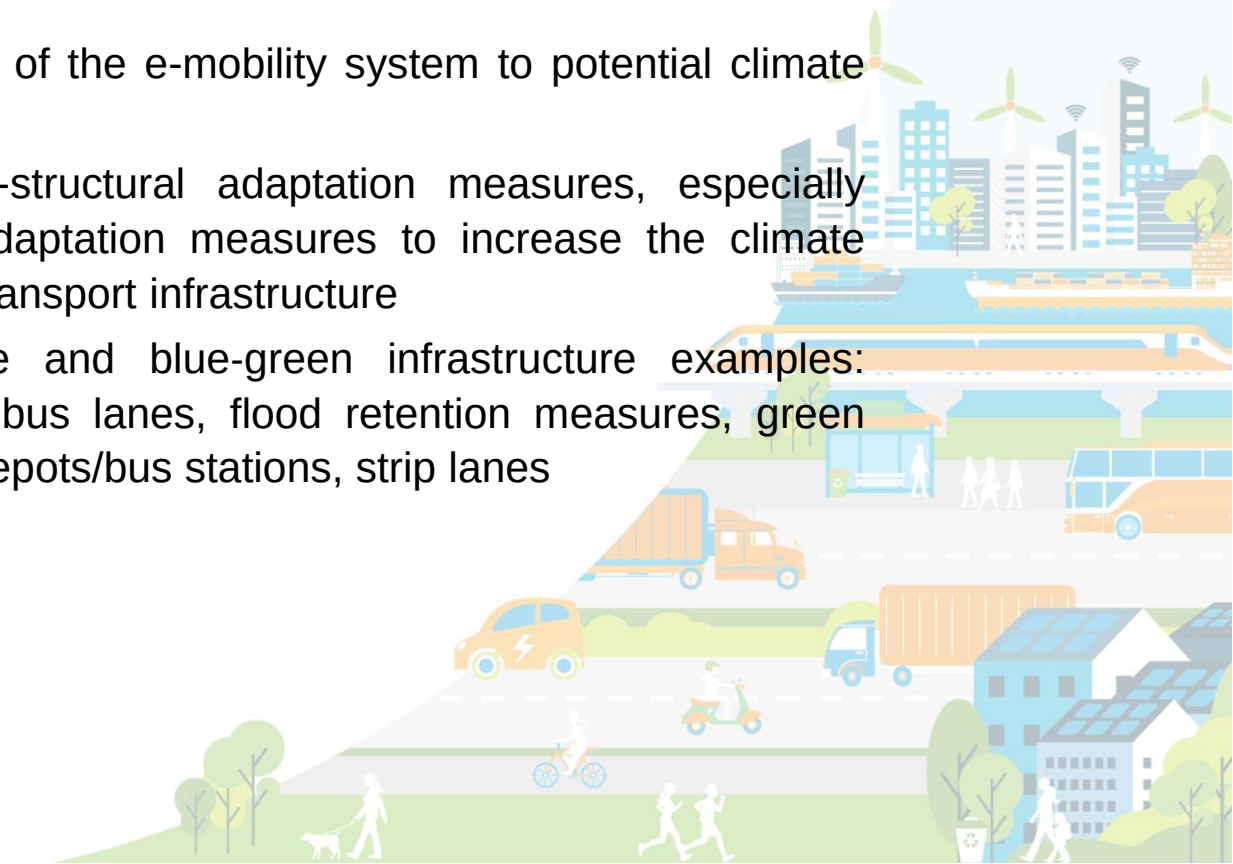
Annex 25

ADB climate adaptation of urban transport



ADAPTATION: Potential Investments

- Adapting the design of the e-mobility system to potential climate associated risks;
- Structural and non-structural adaptation measures, especially ecosystem-based adaptation measures to increase the climate resilience of urban transport infrastructure
- Green infrastructure and blue-green infrastructure examples: green corridors for bus lanes, flood retention measures, green roofs and walls on depots/bus stations, strip lanes



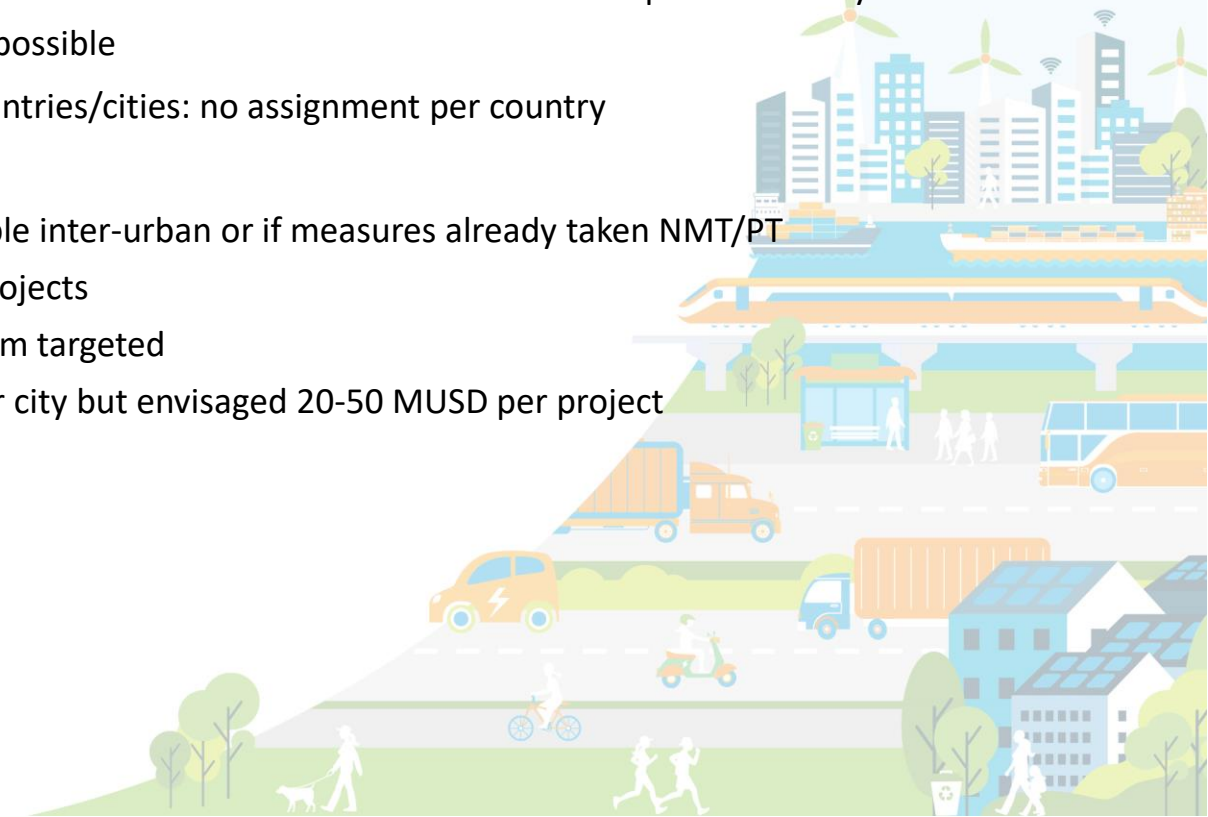
PT MEASURES: Main Principles

- **Sub-components:**
  1. Cycling lanes /Non-Motorized Transport (NMT)/micromobility (targte min. 20km cycle lanes)
  2. General urban mobility measures suchas as pedestrianization, bus lanes, route re-structuring
- **Finance:**
  - **Sub-component 1:** GCF grant 10 MUSD; ADB 6 MUSD grant and 4 MUSD loan; **total 20 MUSD**
  - **Sub-component 2:** GCF grant 5 MUSD; GCF loan 23 MUSD; ADB 4 MUSD grant and 35 MUSD loan; country 7 MUSD in-kind; **total 74 MUSD**
  - Additional finance ADB, 3rd parties, country are possible based on loans and/or grants
- **Countries:** open for all countries/cities
- **Application:**
  - In urban e-bus projects PT should always be included: however, if the city already has comprehensive NMT and PT measures in place no additional investment is required
  - Inter-urban bus projects do not require such investments
  - No minimum size per city but envisaged 10-20 MUSD per project
  - NO stand-alone PT/NMT projects: MUST be linked with e-bus project

PT MEASURES: Potential Investments

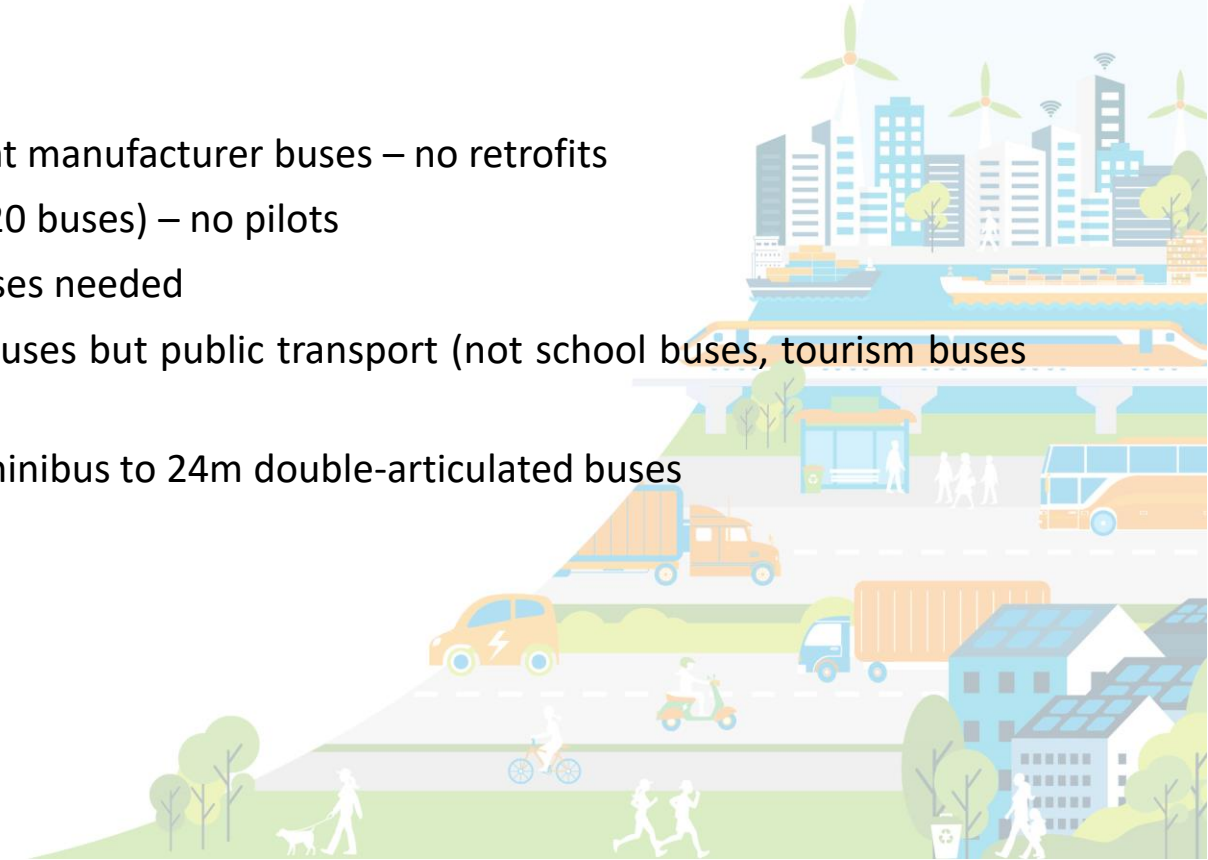
E-BUS: Main Principles

- **Finance:**
  - 303 MUSD of which 82 MUSD GCF loan and 201 MUSD ADB loan plus in country
  - Additional co-finance possible
- **Countries:** open for all countries/cities: no assignment per country
- **Application:**
  - Stand-alone is possible inter-urban or if measures already taken NMT/PT
  - Component for all projects
  - 7 projects as minimum targeted
  - No minimum size per city but envisaged 20-50 MUSD per project



E-BUS: Eligibility Criteria

- Only battery electric buses: no hybrids, plug-in hybrids, hydrogen or conventional trolleybuses
- Only new buses
- Only original equipment manufacturer buses – no retrofits
- Only fleets (minimum 20 buses) – no pilots
- No scrapping of old buses needed
- Urban or inter-urban buses but public transport (not school buses, tourism buses etc)
- All bus sizes from 6m minibus to 24m double-articulated buses

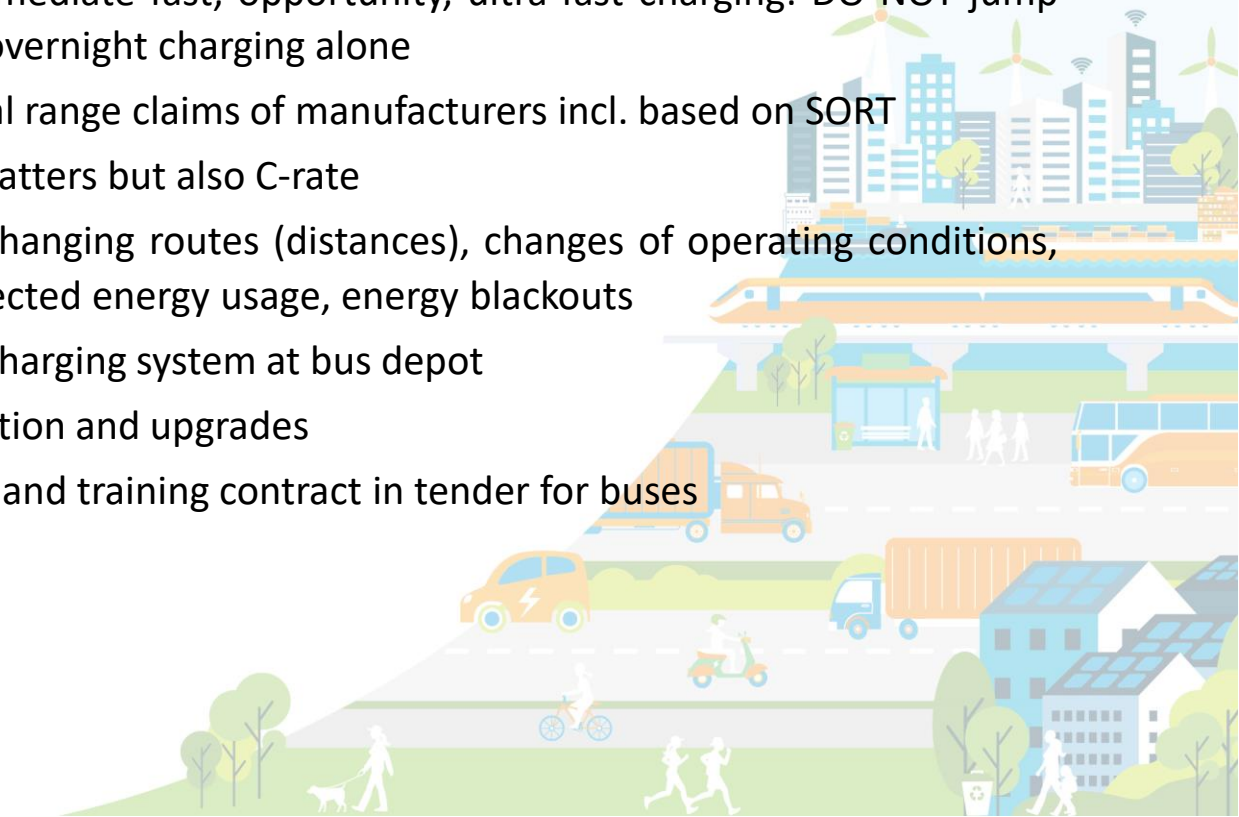


E-BUS: Components

- E-buses
- Charging infrastructure
- Grid upgrades and grid connection
- Bus depot upgrades required for e-buses

E-BUS: Core Steps

- Assess bus system options and identify optimal system:
  - Overnight, intermediate fast, opportunity, ultra-fast charging: DO NOT jump inmediately on overnight charging alone
  - Beware of critical range claims of manufacturers incl. based on SORT
  - Batteries: size matters but also C-rate
  - Assess risks of changing routes (distances), changes of operating conditions, higher than expected energy usage, energy blackouts
  - Assess optimal charging system at bus depot
  - Assess grid situation and upgrades
- Include maintenance and training contract in tender for buses



THANK YOU!

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