

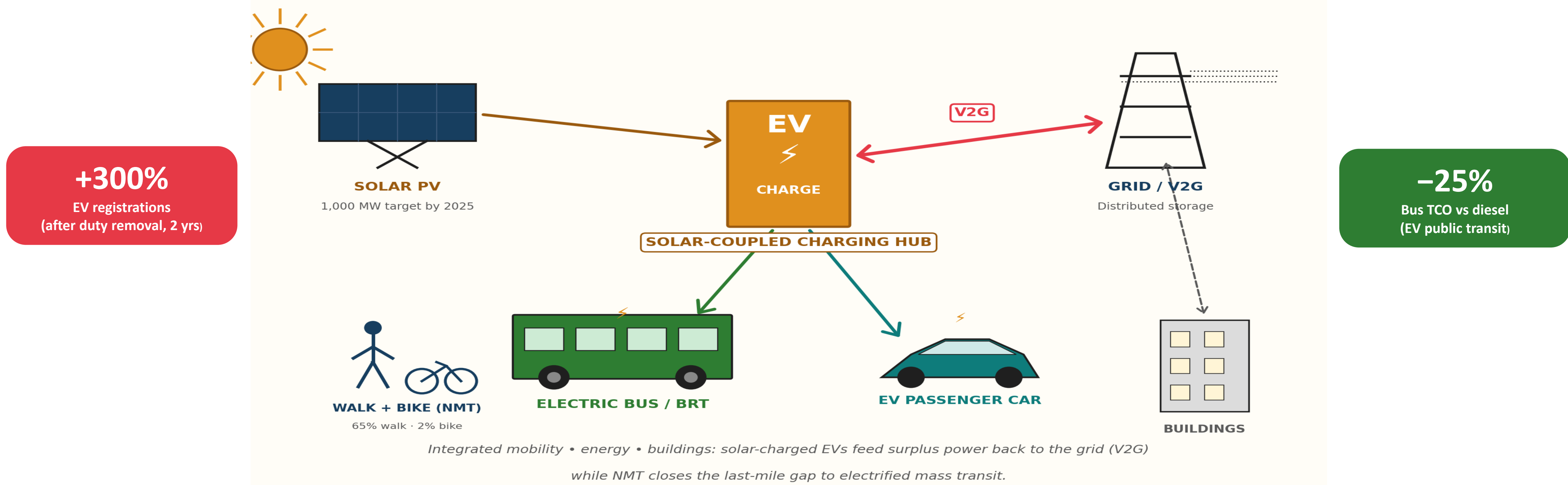
Urban Mobility Electrification and Sector Coupling for Sustainable City Ecosystems in Zambia

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Sector Coupling for Sustainable Urban Mobility — Lusaka

Solar PV • EV Public Transit • Vehicle-to-Grid • Buildings



1 • INTRODUCTION & AIM

- ▶ Lusaka: 2.5 M urban population, 4.9% annual growth — rapid motorisation pressure
- ▶ 65% walk · 23% minibus / taxi · 10% private car · 2% bicycle (modal share)
- ▶ No national e-mobility strategy in National Transport Policy (2019) or 8th NDP
- ▶ Energy sector restructuring: 1,000 MW solar PV target by 2025 to cut hydro reliance

AIM How can Zambia integrate transport electrification with renewable-energy and urban planning to deliver sustainable, accessible city ecosystems?

2 • METHOD

1. Policy landscape analysis

National Transport & Energy Policies, 8th NDP, urban dev. strategies for Lusaka & cities

2. Techno-economic evaluation

TCO of EV vs ICE buses & cars; electricity & fuel rates; incentives

3. Comparative case studies

Kenya BRT, South Africa minibus pilots — lessons transferable to Zambia

4. Scenario modelling + stakeholder interviews

V2G & solar-charging scenarios; ZEMIA, gov't, utilities, transport operators

6 • REFERENCES, ACKNOWLEDGEMENTS

Selected references

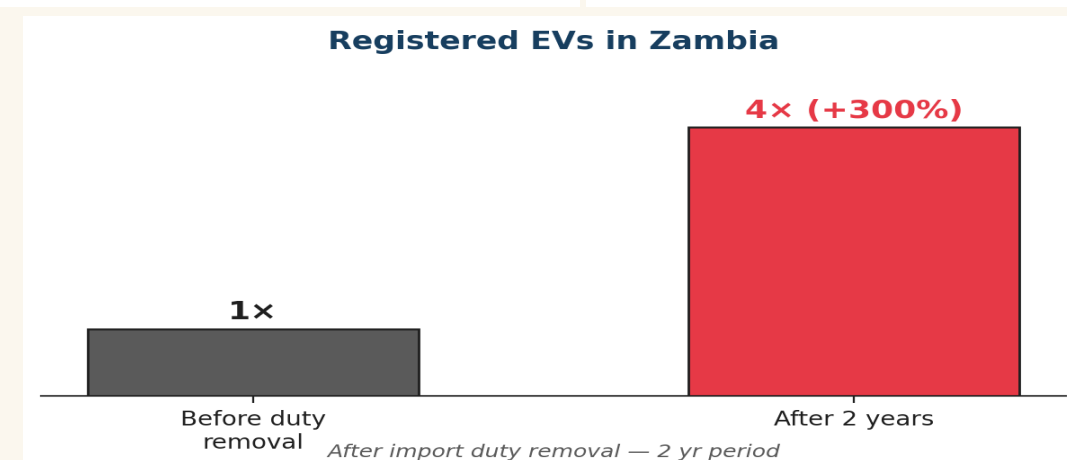
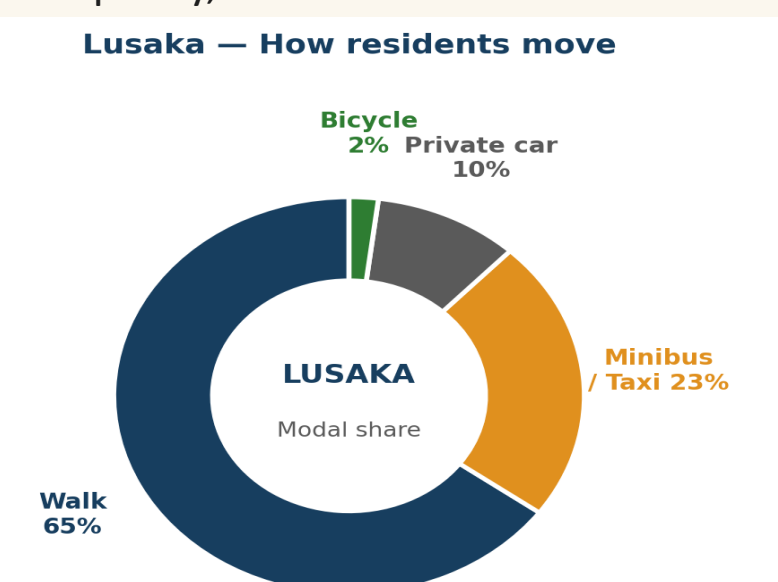
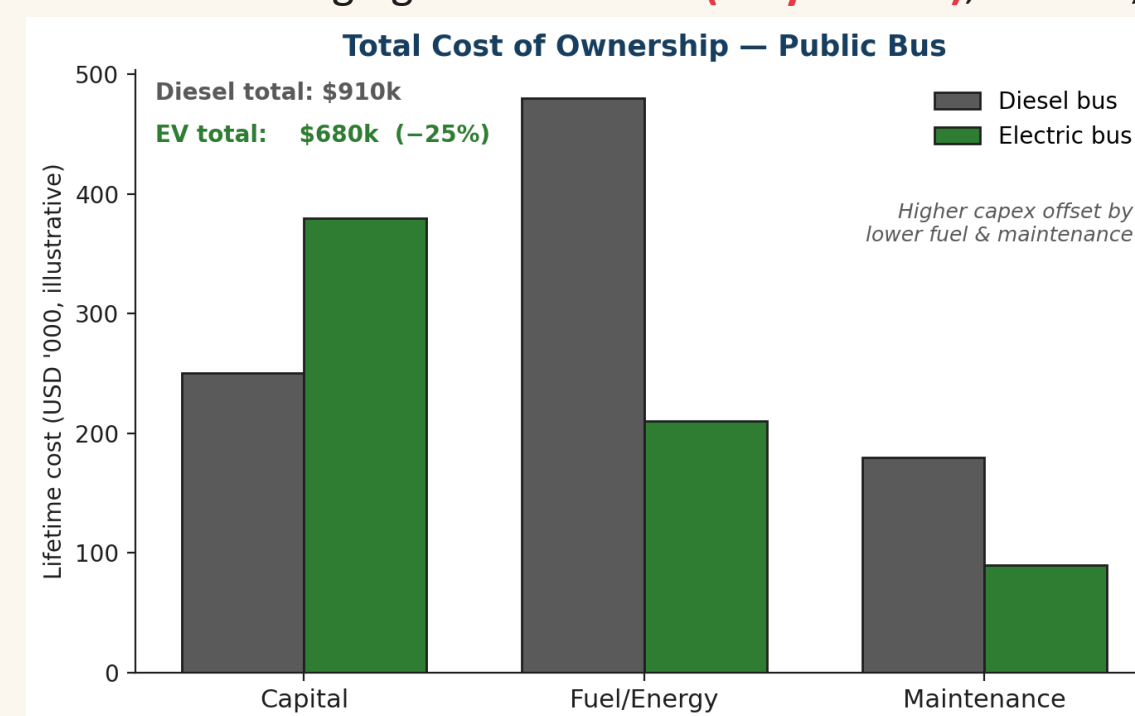
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3 • KEY RESULTS

- ▶ EV import-duty removal → **+300% registrations** in 2 years
- ▶ EV bus TCO **competitive with diesel** — capex offset by lower fuel & maintenance
- ▶ Solar-PV + V2G unlocks **distributed grid storage** — sector coupling
- ▶ Tripartite EV-value-chain pact (**Morocco · DRC · Zambia**) supports tech transfer & local content
- ▶ Barriers: charging infrastructure (**only Lusaka**), finance, technical capacity, NMT under-investment



4 • CONCLUSION & TAKE-HOME MESSAGE

Take-home Couple e-mobility with solar PV, NMT and integrated land-use to deliver accessible, low-carbon, resilient Zambian cities.

- ① Mainstream EV & charging in transport / energy policy
- ② Concessional finance for e-buses + chargers
- ③ Skills for grid + vehicle maintenance
- ④ Plan & fund NMT for last-mile
- ⑤ Solar-charging hubs + V2G pilots on high-frequency Lusaka routes

5 • DISCUSS • SCAN • CONNECT

Talk to us → which lever should Zambia pull first?

- Procure e-buses for Lusaka high-frequency routes
- Roll-out solar-PV charging hubs
- Pilot V2G with utility partners
- NMT investment + last-mile integration
- Concessional finance & duty incentives



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