

ELECTRIC VEHICLE WORKSHOP



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Tuvalu Electricity Corporation (TEC)
Suva, Fiji
13th – 15th January 2025



Sharing Tuvalu EV Development Strategies and Experiences



National Energy and GHG Target

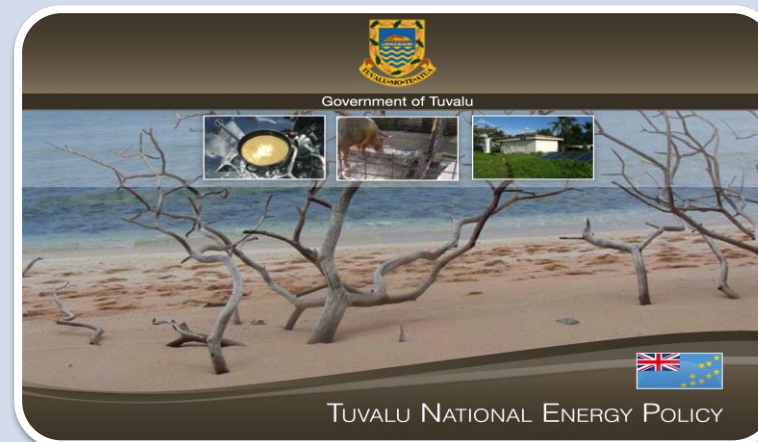
Relevant Legal Frame Work:



National Strategy for
Sustainable Development
2021-2030

Key Strategic Action

5.19.2 – Strengthen efforts on decreasing the high dependency on costly fuel imports.



TNEP under review

Old Version - 3.0 Transport

Policy 3.1

Ensure that the sea and land transport sectors promote fuel conservation and efficiency measures.

National Energy and GHG Target

Government of Tuvalu Updated Nationally Determined Contribution (NDC) Nov 2022:

An update to its existing NDC pursuant to Article 4.11 of the Paris Agreement that includes:

- Tuvalu commits to the reduction of greenhouse gas (GHG) emissions from the electricity (power) sector by 100%, i.e., almost zero emissions by 2030.
- Increase energy efficiency in Funafuti by 30%.
- Tuvalu's indicative quantified economy-wide target to reduce total GHG emissions from the entire energy sector to 60% below 2010 levels by 2030.
- Zero carbon development pathway by 2050.



- This include Land and Sea Transportation.
- Not much work seen in these sector.

Customs Excise Duties Order 2021

ENVIRONMENTALLY FRIENDLY, RENEWABLE & ENERGY EFFICIENT GOODS & PRODUCTS				
E-vehicles, e-bikes (solar charged only)	85415000	0%	0%	0%
E-bikes (solar charged only)	85414000	0%	0%	0%
Renewable energy products	85414000	0%	0%	0%
Energy efficient products e.g. LED lights	94053000	0%	0%	0%
4 stroke outboard motor	84072100	0%	0%	0%

SCHEDULE

Customs Excise Duties Order 2021

Refrigerator (EE & ODS compliant)	84181000	0%	0%	0%
Chest freezers (EE & ODS compliant)	84183000	0%	0%	0%
Air-condition units (EE & ODS compliant)	84151000	0%	0%	0%

Draft Energy Bill

- Drafted done and yet to be presented to Parliament for endorsement

Part 8: Miscellaneous

60. Regulation

- The Minister may make regulations for the proper administration of this Bill and to achieve its objectives including but not limited for:
 - ✓ Electro-mobility transport



- Unfortunately, endorsement of the Bill is stall for some reasons

On-going & Planned EV Pilot / Demo Projects

■ **PILOT 1 - E-BIKE**

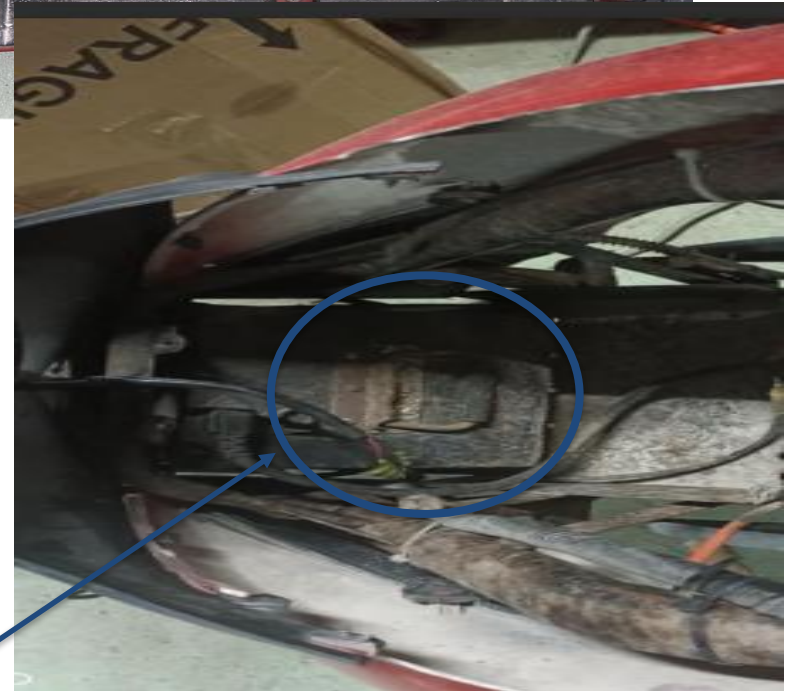
- ✓ Funded by – World Bank
 - ✓ Total Landed Cost - USD\$35K (including spare parts, tools and training)
 - ✓ Supplier – EastWest, China
 - ✓ No of e-scooters – 12
 - ✓ Started in December 2022
-
- **PURPOSE** - The project aims to evaluate the technical and economic feasibility of deploying e-mobility at a larger scale while creating synergies with the renewable energy power plants in a harmonized energy system



On-going & Planned EV Pilot / Demo Projects

■ CHALLENGES

- Weight limitations – 150kg
- Not to be used under the rain
 - ✓ water got easily into the battery compartment and failed (*this has been resolved by relocating the battery, now under the seat*)
- Not able to start during the battery cooling off period
- Battery replacement, covers have to be removed.
- Sound Proof
- Battery (lithium) not available in the country



Battery now sits under the seat.

On-going & Planned EV Pilot / Demo Projects

- **TECHNICAL EVALUATION OF E-MOBILITY IN TUVALU THROUGH THE E-BIKE PILOT**
 - Funded by the World Bank
 - Consultant Firm – TTA of Spain
 - Strongly advisable to expand the e-bike system, and
 - Focus on securing funding and raising awareness about the advantages of e-mobility



On-going & Planned EV Pilot / Demo Projects

■ PILOT 2 - E-CARS

- ✓ Funded by – GEF thru FASNETT Project
- ✓ Total Landed Cost – USD\$???
- (including charging stations)
- ✓ Supplier – Leaf, Fiji
- ✓ No of e-cars – 2

■ OTHER INFORMATION

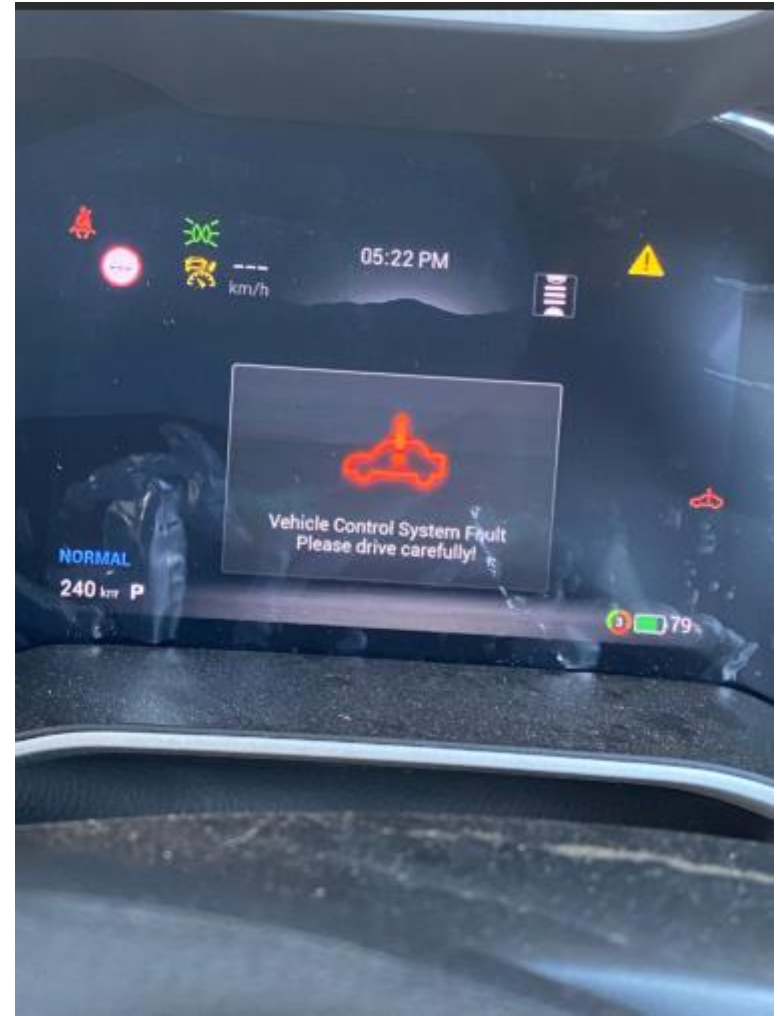
- Have the latest technology
- Lithium Ion Batteries
- For 1-Charge:
- ✓ No of Hours – at least 4hrs
- ✓ No of kms – 198km
- ✓ No of days usage – over than week (with AC on).



ELECTRIC VEHICLES
MG ZS EV
PSA GROUP: 3/UN 3171/
CLASS 9CHASSIS NO/V.I.#
LSJW74095PZ178034 YEAR OF
MANUFACTURE : 2023

On-going & Planned EV Pilot / Demo Projects

- CHALLENGES
 - ✓ Lack of local expertise - knowledge and skills to diagnose faults
 - ✓ Availability of Spare parts
- DIAGNOSING FAULT
 - ✓ Need a ODB2 (On-Board Diagnostic 2) – It is used to access a vehicle's computer to extract diagnostic trouble codes to verify the fault.



VEHICLE CONTROL SYSTEM FAULT

On-going & planned EV pilot / demo projects

- **PILOT 3 -GOLF CARTS & E-BOATS (Main Island):**
 - ✓ Golf Cart – 2
 - ✓ E-Boat – 2
 - ✓ Charging Stations – 2
- Part of a Larger RE Project, 1MW Floating Solar PV funded by ADB.
 - ✓ Invitation for Bids – November 2024
 - ✓ Dateline for Submission of Bids – 28 February 2025@10am Tuvalu Time



Why Golf Carts & E-Boats?

- ✓ We believe Golf Cart have a robust framework and may suits Tuvalu salty environment.
- ✓ For the 1 x E-boat, for transportation of kids from other islets to and from school.
- ✓ 1 x E-boat for maintenance of Floating Solar PV



Main Island

On-going & planned EV pilot / demo projects

- **PILOT 3 -GOLF CARTS & E-BOATS (3 x Outer Islands):**

- ✓ Golf Cart – 6 (2 per island)
- ✓ E-Boat – 6 (2 per island)
- ✓ Charging Stations – (2 x island)

- Part of a Larger RE Project, replacement of lead acid batteries to Lithium ion and funded by ADB.



On-going & planned EV pilot / demo projects

■ **IN THE PIPELINE - CLIMATE CHANGE DEPARTMENT**

- ✓ Climate Finance Network Advisor, currently working with the Climate Change Department (CCD).
- ✓ Focus is on mobilizing funds for climate-related projects in Tuvalu.
- ✓ She been collaborating with stakeholders to align climate finance opportunities with national priorities, particularly those outlined in the NDC, and to secure donor support for these initiatives.
- ✓ UNEP is implementing the "EFID11075_Global Programme to Support Countries to Upscale Integrated Electric Mobility Systems" under the 8th cycle of GEF funding.
- ✓ And through her discussion with Jamie, the Ag Director CC, E-mobility is one of the key priorities for Tuvalu, particularly e-bikes, which are a more suitable option for the country.
- ✓ Tuvalu is eligible for USD 8 million under GEF funding.
- ✓ Climate Change Office is working with the Climate Finance Network Advisor on the Proposal to be submitted to UNEP.

THANK YOU