

# EV Technologies Inc.

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### SPEAKER BACKGROUND

**Co-Founder | CEO**, CHRG EV Technologies Inc.

Supervising SRS, E-Mobility R&D Center Program, DOST-UPD-CSU

**Project Technical Specialist**, Electric Public Utility Bus Project

Technical Consultant, Promotion of Low-Carbon Transportation, UNDP-DOTr

BS Electronics Engineering / MS Electrical Engineering Candidate University of the Philippines Diliman Post-Graduate Certificate in Business, LiF Programme, Royal Academy of Engineering, London, UK, Alumnus, Asian Institute of Management, Leaders in Innovation Fellowship Program Associate Member, Transportation Science Society of the Philippines Member, E-Mobility R&D Group, National Center for Transportation Studies

Team Leader, Electric Vehicle Testing, DTI-Mitsubishi EV Policy Study Lead Design Engineer, Electronics Industries Association of the Philippines Inc (EIAPI), Solar Grid-tied Inverter Project Researcher, E-Mobility Development in the Philippines Project, World Bank Researcher, DOE-NEC Alternative Fuel Vehicles Study



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# **EV** Technologies Inc.

Established in 2019 as a spinoff company from the University of the Philippines Diliman.

Domestic manufacturer of electric vehicle fast chargers and accessories. Provides technology-based products and services to the budding electric vehicle industry in the Philippines.



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EV Technologies Inc.







## 2022 Power Situation REPORT

Photo credits: DOE Philippines

## **Power Situation**

Peak Demand of Electricity per Grid (in MW)

#### Peak Demand



Source: 2022 Power Situation Report, DOE-EPIMB



## **Power Situation**

Grid Mix of the Philippines





Mindanao Gross Generation 7



The Masinloc Battery Energy Storage System (BESS) is the first BESS facility in the Philippines and one of the first in Southeast Asia. Another BESS facility was inaugurated last April 2023 in Limay, Bataan, PH.

These projects are part of the **1000 MW of power** consisting of **32 battery storage stations** being completed across the archipelago by San Miguel Global Power Holdings Corp. (SMGP).

The BESS facilities feature advanced Li-ion battery technologies that store energy from both renewable and non-renewable power sources for later use. The system provides ancillary services to the grid that significantly improve its reliability by regulating fluctuations in power supply.





Photo credits: AboitizPov

49-Megawatt Battery Energy Storage System (BESS) in

Maco, Daveo de Oro, Philippines installed by Therma Marine Inc., a subsidiary of Aboitiz Power Corporation. Debuted 30 November 2022 and is part of a 248MW project involving 12 components for power regulation and contingency reserves.

20-Megawatt Battery Energy Storage System (BESS) in

Magat hydroelectric power plant in Ramon, Isabela, Philippines. A project of SN Aboitiz Power Group (SNAP) expected to be commercially operational in 2024. An initiative aimed at the development of the renewable energy market of the country.



Source: https://aboitizpower.com/news



## **EVIDA**

RA 11697 – Electric Vehicle Industry Development Act

- An act providing for the development of the electric vehicle industry;
- Intended to ensure the country's energy security and independence by reducing reliance on imported fuel for the transportation sector;
- Presents a mandatory 5% EV share in corporate and government fleets;
- Mandates dedicated parking slots for EVs at least 5% if there are twenty (20) or more parking slots. Private and public buildings and establishments constructed after the effectivity of EVIDA shall designate EV parking slots.
- Provides fiscal and non-fiscal incentives to EV manufacturing, importation, and utilization.



## CREVI

Comprehensive Roadmap for the Electric Vehicle Industry

- An essential tool for the Government's top-level action plans in developing the EV industry;
- Provides specific targets and activities to ensure sustainable and just transition to an electrified transport sector in the country;
- The CREVI outlines action plans for four EV industry components:
  - 1. Electric vehicles (EV) and electric vehicle charging stations (EVCS)
  - 2. Manufacturing
  - 3. Human Resource Development
  - 4. Research and Development
- CREVI indicates the timeline for compliance to achieve at least 5% EV share for corporate and government fleets, public transport operators, and industrial and commercial companies at the end of 2034 and increasing to 10% by 2040.

#### BUSINESS AS USUAL SCENARIO: TEN PERCENT (10%) EV FLEET SHARE BY 2040





#### CLEAN ENERGY SCENARIO: FIFTY PERCENT (50%) EV FLEET SHARE BY 2040



Full credits to: DOE EUMB CREVI 2023

\*cars includes sedan, SUVs, and UVs



## DTI-BPS DAO NO. 22-10

Department Administrative Order

- New technical regulation concerning the mandatory product certification of electric vehicle charging equipment and station;
- Primarily aims to strictly ensure that EV charging equipment and stations whether they are imported, manufactured, distributed, or sold in the Philippines meet the prescribed technical regulation;
- Product certification scheme PS Safety Certification Mark Licensing Scheme or PS Licensing Scheme shall be available to both local and foreign manufacturers selling or distributing EVSE and EVCS in the Philippines;
- Import Commodity Clearance (ICC) Certification Mark Scheme available to importers of non-PS certified EVSE and EVCS on a per product per shipment per Bill of Landing/Airway Bill basis. Only covers the particular batch of products applied.



#### **Battery Testing and Characterization**

Battery application for mobility and storage

- Testing of alternative battery storage technologies for storage
- LiFePO4 batteries
- LTO batteries
- Lead-carbon batteries
- Lead-acid for solar PV applications





#### SOLAR-POWERED EV CHARGING STATION WITH BATTERY ENERGY STORAGE SYSTEM

#### UP DILIMAN CAMPUS, QUEZON CITY



#### SOLAR-POWERED EV CHARGING STATION WITH BATTERY ENERGY STORAGE SYSTEM

GK VILLAGE, MIESCOR COMPOUND, GEN. TRIAS, CAVITE



Photo credits: MIESCOR

#### SOLAR-POWERED EV CHARGING STATION WITH BATTERY ENERGY STORAGE SYSTEM



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# DEPLOYMENTS

#### TUGUEGARAO CITY, CAGAYAN

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# DEPLOYMENTS







# DEPLOYMENTS



BRGY. PAYATAS, QUEZON CITY







## THANK YOU!

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