

ELECTRIC MOBILITY IN A  
SMALL ISLAND  
DEVELOPING STATE –  
The Barbados Model


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WHY MOVE TO ELECTRIC MOBILITY?



# THE BARBADOS NATIONAL ENERGY POLICY (BNEP) 2019-2030

“ENERGY SECURITY AND  
AFFORDABILITY THROUGH DIVERSITY  
AND COLLABORATION: ESTABLISHING  
AND MAINTAINING A SUSTAINABLE  
ENERGY SECTOR FOR BARBADOS.”



What is expected with the use of alternative sources of energy?


What are the plans for the island going forward?

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# Barbados National Energy Policy 2030 explored



The Cabinet of Barbados mandated the purchase of a number of electric buses to augment the ageing rolling fleet of the Transport Board.



HOW WILL WE MOVE TO ELECTRIC  
MOBILITY IN THE PUBLIC TRANSPORT  
SECTOR?



THE GOVERNMENT OF BARBADOS AUTHORISED  
THE PROCUREMENT OF A FLEET OF ELECTRIC BUSES.


INCLUDING ALL NECESSARY INFRASTRUCTURE WAS  
PUT IN PLACE, INCLUDING CHARGING STATIONS,  
SPARE PARTS AND TO TRAIN PERSONNEL.

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MILLION





The process for the purchasing of buses included:

- 1.The development of specifications based on the needs of the travelling public
  - 2.A request for proposals for the manufacturing of the buses
  - 3.As a part of the evaluation process the College of Negotiators was conceptualized and appointed
  - 4.The Board of Directors met and reviewed the recommendations of the College of Negotiators and selected the successful tenderer
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Before the awarding of the contract consideration was given to the fact that electric buses would introduce a new technology to this region and specifically into Barbados

It would require modern technical working capabilities and capacities and new repair techniques.





TODAY IS THE FUTURE AND THE FUTURE IS NOW

As we deploy the buses throughout the island we have been receiving positive reviews from the commuters





Alwyn Kirk

TB\_Electric Buses - D1\_ 00:00:00:00



## DINEX™ HAMS 2.0 Main Features

- Provide real time vehicle insights to users.
- Monitor and analyze battery SOC (status of charge) during charging and revenue service.
- Monitor and sends vital stats on bus (i.e. battery, electrical motor, A/C, electrical control and etc.) during revenue service.
- Email and send SMS text messages on vehicle anomalies.
- Provide monthly operational summary report on vehicle performance (i.e. electricity consumption, mileage driven, kWh and etc.)



## DINEX™ ELMS (**E**lectrical **L**oad **M**anagement **S**ystem)

- Control charging from Cloud Server
- Based on available power, limit the maximum number of buses being charged at once
- Prioritize charging based on pre-determined charging station priority or manual override
- Peak-time avoidance



## Diesel Buses fuel cost

- ▶ October  $\$405,699/45 = \$9,016$
- ▶ September  $\$403,814/48 = \$8,413$
- ▶ August  $\$435,169/54 = \$8,059$

## Electric buses fuel cost

- ▶ October  $\$145,737/33 = \$4,416$
- ▶ September  $\$99,498/33 = \$3,015$
- ▶ August  $\$35,568/33 = \$1,078$
- ▶

# COMPARISON BETWEEN DIESEL AND ELECTRIC BUSES.

Total average bus availability

August - Ave 54 Max 80 Min 33

September - Ave 81 Max 92 Min 73

October - Ave 78 Max 87 Min 67

Thank you for your attention

Questions?

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