



MINISTERIAL STATEMENT

To the House of Assembly

by

The Hon. Wayne L. Furbert, JP, MP

Minister of Transport

Progress Update on the New Electric Public Buses

Friday, 3rd February 2023

Mr. Speaker, 30 electric pink and blue public buses arrived on our shores last spring, marking an historic achievement for Bermuda in the protection of the natural resources from climate change and environmental issues. Launching the transition from fossil fueled to electric buses with the ambitious conversion of 1/3 of the public fleet of buses has propelled the Government toward the goal of operating an entire fleet of electric public buses by 2030. You may recall that in preparation for this bold move toward energy independence, the Bermuda Government partnered with Rocky Mountain Institute (RMI) to research and pioneer the path to a sustainable future in transportation. It was anticipated that we would see remarkable benefits to going electric and RMI remains a valuable resource for monitoring our progress with a keen eye on performance. I am quite pleased to provide you with an update on the state of the new electric buses.

Mr. Speaker, for nine months we have seen the new electric buses glide from Somerset to St. Georges with but a whisper. Passengers have enjoyed the smooth ride; comfortable air conditioning; sufficiently spaced seating; convenient

USB charging on each row; reduced noise pollution; and more. Those travelling behind and near the electric buses have experienced no toxic fumes; no ambient sound; less intrusion of space; and more. These casual observations are commendable, but I wish to inform you of the exceeding benefits that the data has confirmed.

Mr. Speaker, operating the electric buses has caused the Government to realize a 20% savings in fuel cost, which translates to upwards of \$15K per month. In the past nine months, the Government has saved an estimated \$135K in fuel cost, enough to fund a brand-new electric bus.

Mr. Speaker, the environment has greatly benefitted from the use of the electric buses. Research conducted by RMI indicates that during the first eight months of operation the Government saved the same amount of fuel that is consumed on two eight-hour transatlantic flights. The reduced emissions to the environment, just by operating the 30 electric buses as opposed to the diesel buses, equates to removing 480 internal combustion engine passenger cars from Bermuda's roads. In the past nine months, 45% less carbon emissions have entered the local environment due to the change, an estimated reduction of 450 tons in the first year.

Mr. Speaker, the diesel buses were designed especially for the Bermuda market and have historically cost the Government \$334K per bus. The new electric buses procured from the Golden Dragon Bus Company is a production vehicle, allowing for significant cost savings. With custom features, one Golden Dragon electric bus costs \$132K landed, 60% less than business as usual. Apart from the obvious savings in the purchase of the vehicles, considering the operating and maintenance costs, the total cost of ownership for the Government

is 48% lower than the diesel buses. The first 30 electric buses will save the Government \$10.6M over the buses' 12-year life span.

Mr. Speaker, additional savings are anticipated when the new 60-bus charging facility is commissioned at the Fort Langton depot later this year. Currently, four electric bus charging stations with dual connections are installed at the Department of Public Transportation (DPT) Dockyard depot, plus four at St. George's depot and two at the Fort Langton Headquarters. You may have observed that the headquarters are under construction in tandem with the BELCO trenching along Palmetto Road. The Government has taken the opportunity to optimize efficiencies by connecting with the BELCO substation on Frog Lane, providing the Department with a tremendous boost in secure underground access to the electric transmission network. The purpose of the trenching onsite is the thirty additional dual charging stations that will be installed, powering sixty electric bus charging bays. The installation of a new solar PV system on the roof of the bus garage and the use of programmable charging management software will make way for an efficient charging strategy, which will affect even more energy cost savings.

Mr. Speaker, the new buses are sufficiently smaller and more appropriately sized for Bermuda's roads. In December 2022, the public was canvassed by way of an online survey on forum.gov.bm, to capture the response to the new vehicles. The survey results indicated that 80% of respondents approved of the new electric buses and the electrification program. Comments and feedback from the survey have been considered by DPT to inform improvements in the next order of electric buses.

Mr. Speaker, the staff are continually developed for the transition to a complete electric fleet of buses. A full complement of DPT mechanics have completed electric vehicle maintenance training in the United Kingdom to the Institute of the Motor Industry (IMI) Level 3 and Level 4 Standard with continuing technical support from the electric bus manufacturer.

Mr. Speaker, at the onset of this initiative, our team focused on three main objectives: to decrease air pollution; to reduce costs; and to improve the suitability of the buses for Bermuda's narrow roads. The advancements recorded to date due to the introduction of the new public electric buses have exceeded our expectations. The Government will forge ahead to convert the entire fleet of public buses to electric to maximize the achievements shared today. By retiring 100 diesel buses, we will remove the equivalent of 1600 internal combustion engine cars off Bermuda's roads, avoiding harmful roadside emissions.

Mr. Speaker, the Ministry of Transport recently confirmed a second order of (40) electric buses with Xiamen Golden Dragon Bus Company as part of the Government's commitment to replenish the aged public bus fleet and convert it to 100% electric. Based on experience and the survey conducted, the new buses are the same model electric bus, however they will have a 40% larger battery capacity which increases the operating range from 180km to 250km per charge. This allows the buses to stay operational longer during the service times, hence there is less requirement for recharging. Additionally, one of the main concerns noted within the public survey was the lack of buttons to alert the bus operator to make a stop. We will therefore double the number of alert buttons from 4 to 8 in capacity to ensure the passengers are able to comfortably access the alert button while traveling on the buses.

Mr. Speaker, an internal survey conducted for staff identified a lower turning radius would improve the navigation component of the buses. DPT management is working with the manufacturers to determine how best to improve this feature. It is also important to note, it is intended for an inspection team, which will include DPT staff members, to travel to China to ensure the buses and all relevant changes are being implemented as agreed, prior to completion of the production.

Mr. Speaker, the first order of buses was complete when China was continuing to have challenges with the COVID numbers and as a result, an inspection team was hired to conduct the final checks before shipping the buses to Bermuda. As the concerns of COVID subside, the DPT team are eager to make arrangements with Xiamen to visit the plant and inspect the new electric buses before they are shipped.

Mr. Speaker, with the arrival of the 40 new buses this summer, Bermuda will have a total complement of 70 electric buses, achieving 70% fleet conversion. This will facilitate retirement of the aged diesel buses - improving performance and reliability for the public bus service.

Mr. Speaker, Bermuda is leading the way for other island nations to take charge of the environmental health of their countries. By charting and staying on course, the world will justifiably identify Bermuda as a change agent for sustainable, self-sufficient and responsible living.

Mr. Speaker, I would like to thank the teams at the Department of Public Transportation, Rocky Mountain Institute and the Golden Dragon Bus Company.

Thank you, Mr. Speaker.