TERMS OF REFERENCE

REQUEST FOR BIDS
Supply and Delivery of one Electric Bus with two Charging Stations for the Federation of St. Kitts and Nevis.

Country	St. Kitts and Nevis
Donour	Italian Ministry of Environment, Land and Sea, Government of Italy
Project Name	Pilot Public School Bus Transportation System Using Renewable Energy
Contract Title	Supply and Delivery of Electric Bus (Right-hand drive preferred), Charging Stations and Performance of Related Services for the Federation of Saint Kitts and Nevis
Contract Number	Contract#9/2021/IMELS/St. Kitts/CCCCC
Type of Contract	Supply and Installation
Estimated Start date	March 2021
Duration	10 months
Deadline for Submission of Bids	2:00 p.m. (GMT- 6), Monday 22 February 2021

BACKGROUND

The Caribbean Community Climate Change Centre has received funds under the **Memorandum of Understanding** and the **Addendum** to The Memorandum Of Understanding between the Ministry for the Environment, Land and Sea (IMELS) of the Republic of Italy and the Caribbean Community Climate Change Centre (CCCCC) on Co-operation for the Development of Renewable Energy Sources and Mitigation and Adaptation to Climate Change in the Caribbean Region. The CCCCC intends to use a portion of these funds to finance the Pilot Public School Bus Transportation System Using Renewable Energy Project for St. Kitts and Nevis.

The aim of the project is to support and contribute to St. Kitts and Nevis' transition to a low carbon economy by facilitating a shift from the use of fossil fuel to the use of renewable energy in public transportation. It is expected that such a shift would reduce the importation of fossil fuel for the transportation sector; encourage the wider penetration of renewable energy; contribute to the achievement of the country's Nationally Determined Contribution (NDC); build greater awareness of the benefits of PV systems while promoting the diversification of its use; and promote the use of electric vehicles.

SPECIFIC OBJECTIVE

The overall objective of the project is to develop and implement a pilot initiative in public school transportation with the use of electric buses that are rechargeable by a PV system. The specific objective is to supply an electric bus with two changing stations to the Government of St. Kitts and Nevis.

SCOPE OF SUPPLY

The Supplier is expected to deliver one electric bus with two charging stations to the Government of St. Kitts and Nevis. The Supplier will be responsible for the installation of the charging stations. The bus will be fully electric with no internal combustion engine, and have a seating capacity of 20 to 25 persons with provision for wheelchair accommodations. Other general requirements for the bus include that it should be between 10 to 12 metres long; all electric drivetrain with electric motor (AC Sync Motor) with controller, inverter and battery pack; and reach a maximum speed between 60 to 70 mph/96 to 112 kph.

The Supplier is expected to test and commission the goods upon arrival in St. Kitts, and provide training for the operators and maintenance staff identified by the Consignee/Ministry.

Detailed Technical Specifications are described in the table below.

QUALIFICATION AND EXPERIENCE OF THE BIDDERS

Requirements eligible Suppliers must demonstrate are as follows:

- The Supplier must have been a registered company for at least three years.
- Must be an authorized Dealer for the goods be supplied.
- Provide evidence for the supply and delivery of at least five electric buses with after-sales services in the Caribbean within the last three years.
- Must demonstrate annual turnover of at least US $300,000.00 per year during the last three years.
- Must be able to provide Supplier's Warranty (24 months warranty or 100,000 KM (whichever comes first) on the whole bus after the first registration in the country)
- Demonstrate ability to provide after sales services and technical support (Run-in service at 5,000KM Inspections at 15,000 KM and Servicing every 30,000 KM
- Should be able to deliver the goods, including operating and training manuals, within eight months.

EVALUATION CRITERIA

No.	Description	Score
	Requirements of the Supply	
1	Provision of Manufacturer's Authorization	Y/N
2	Provision of a Supplier's Warranty	Y/N
3	Supplier's Technical Specifications for the electric bus and charging stations	Y/N
4	Provide Sales and Production sheet for the bus	Y/N
5	Provide details of related services including Training (operators and maintenance), Commissioning, and Performance tests, and operating and maintenance manuals.	Y/N
6	Delivery, Performance Testing, and Commissioning of the bus at destination, with installation of the charging stations	Y/N

7	Remote Monitoring Systems	Y/N
8	Eight months delivery period	
9	Must be able to provide Supplier's Warranty (24 months warranty or 100,000 KM (whichever comes first) on the whole bus after the first registration in the country)	Y/N
10	After sales services Servicing and Technical Support (Run-in service at 5,000KM Inspections at 15,000 KM and Servicing every 30,000 KM	Y/N
	Supplier Qualification Information	
11	The Supplier must have been a registered company for at least three years.	Y/N
12	Must be an authorized Dealer for the goods be supplied	Y/N
13	Must demonstrate annual turnover of at least US $300,000.00 per year during the last three years.	Y/N

TECHNICAL SPECIFICATIONS

Technical Specifications for an Electric Bus (Right-hand drive preferred) for the Federation of Saint Kitts and Nevis • The Electric Bus and its components should comply with the following minimum statutory and internationally recognized requirements. • The vehicle must contain no dealer markings or identification of any type, interior or exterior.	
Dimension: Length Width Height Wheelbase Gross weight Ground clearance	 Maximum of 12 m Maximum of 2.5 m Maximum of 3.5 m To be determined by Original Equipment Manufacturer Maximum of 20000 kg At least 140 mm
Performance: Top Speed Minimum driving range Gradeability Approach/Departure Angle	 To be determined by OEM 100 km To be provided by OEM To be provided by OEM

Main Systems	Motor	Type	AC Permanent magnet synchronous in- wheel motor or any other type of AC motor.
		Maximum Power	To be determined by OEM
		Maximum Torque	To be determined by OEM
		Maximum Speed (rpm)	To be determined by OEM
	Motor Controller	Type	To be determined by OEM
	Main Reduction	In-wheel Retarder	
	Battery	Battery type	Lithium Ion and / or Supercapacitors
		Cell Voltage	To be determined by OEM
		Battery Capacity	To be determined by OEM to meet the required minimum range
	BMS	Type	Vehicle with mounting terminal access
	Charger	Power	Level 2 AC charging with DC fast charging being optional.

		Charge Connector	IEC 62196 Type 2 connector (Mennekes) for Level 2 AC charger.
		Charging Time	To be determined by OEM
	Cooling System	Cooling Objects	Motor, motor controller, steering motor controller, DC-DC, batteries and any other system required by the OEM.
		Cooling Fluids types and level	Antifreeze -25°
		Fan	To be determined by OEM
		Radiator	To be determined by OEM
Chassis Configuration	Frame	Material	Carbon Steel
		Corrosion Resistance	Chassis and body
	Suspension System	Kneeling Function	To be provided by OEM
	Steering System	Steering wheel adjustable for front & rear, up & down. Steering column height and angle adjustable	To be provided by OEM
	Braking System	Front and Rear Braking	To be provided by OEM
		ABS	To be provided by OEM
		Electric air compressor	To be provided by OEM
		Tyre	To be provided by OEM
		Brake Pedal	Hanging type brake pedal
		Accelerator Pedal	Hanging accelerator pedal
		Wheel Dimensions and material	To be provided by OEM
		Fender	To be provided by OEM
		Towing Hook	Front and Rear
Vehicle Lighting	Vehicle Interior	LED switch control	
	Front Combination Light	Integrated high beam and low beam lights, daytime running lights, front position lamps, front turn signal light	
	Rear Combination Light	Integrated brake light, rear position lamps, reversing lights, rear turn signal light, rear fog lamp	

	Parking Lamp	To be provided by OEM
	Side Marker Lamps	To be provided by OEM
	Rear Turning Lamp	Two pieces
	Front Turning Lamp	Two pieces
	Rear Compartment Light	To be provided by OEM

Body Special Configuration	Painting	To be provided by OEM and agreed by Purchaser
Warranty	Battery	A minimum of 8 years warranty on the battery packs
	Main Parts	To be provided by OEM
Training	Operator and Maintenance Training	A total of three (3) weeks of operator and maintenance training on the bus is to be provided on site. Two (2) weeks of training is to be provided when the bus arrives and one (1) week follow-up virtual training after six (6) months of operation of the bus.
Installation	Charging Stations	The Supplier will be required to install the two (2) Charging Stations at agreed locations within Saint Kitts.
Additional Tools and Information	Case Study and Performance Information	The supplier shall provide technical information on the performance of the electric bus under real world operating conditions. This information can be presented in the form of a case study. Information on the Total Cost of Ownership (TCO) would be beneficial but not mandatory.
	Diagnostic Tools (Optional)	The supplier can make available the diagnostic software and relevant connectors to allow for remote diagnosis of the bus.
	Charging using Solar PV system (Optional)	The supplier can provide technical assistance, information or experience related to charging the electric bus with Solar PV and present any case studies where their electric bus is being charged using solar PV.

TECHNICAL SPECIFICATIONS FOR ELECTRIC BUS BETTERY CHARGER

Model		Specifications
Electrics	Rated Input Voltage	AC 380V/400V Three phase
	Operating Voltage Range	AC 342 V- 440 V
	Input Current	≤ 126A
	Input Power	≤ 80 KW
	Operating Frequency	50 Hz/60 Hz
	Output Voltage	AC 342 V – 440 V Three phase
	Output Current	≤ 126 A
	Output Power	≤ 80 KW
	Standby Power Consumption	< 10 W
	Output Interface Standard	GB/T20234
Physics	Product Size	400 mm x200 mm x690 mm (length x width x height)
	Net Weight	30 Kg
	Number of Charging Connectors	2
	Length of Charging Cable	5.2 m
Safety	Protection Function	Short Circuit protection/ over-temperature protection/ surge protection
	Certification	CQC
	IP degree for enclosure	IP 55
Others	Noise	≤ 60 dB
	Cooling Method	Natural Cooling
	Operation Temperature	-25° C - +40° C
	Storage Temperature	-30° C - +60° C
	Environmental Humidity	5 ~ 95 % (no condensation)
	Display Method	LED Touch Screen
	Document and Manuals	Use Manual
	Transportation Requirements	Avoid water, bumping, upside down, and handle with care
Installation		Floor Mounted

INSPECTIONS AND TESTS

The following inspections and tests shall be performed:

Detailed factory test must be conducted in accordance with governing international standards to establish that the Vehicles satisfy the: i. minimum technical specifications outlined in Section VII of these Bidding Documents, taking into consideration the road conditions, temperature, typography, velocity, inclination etc. in Saint Kitts; and ii. economic indicators to establish that the Vehicles satisfy the required operating efficiencies.
The Inspections and tests shall be conducted at: The Supplier's or Manufacturer's location with relevant test certificate provided to the Purchaser prior to shipment. Selected supplier shall provide factory test report.
Prior to acceptance of the Goods and final payment, road tests will be conducted in Saint Kitts along the typical route to determine the efficiency and performance of the Vehicles based on local conditions.

APPLICATION PROCESS AND DEADLINE FOR SUBMISSION OF BIDS

The Centre's electronic-procurement system shall be used to manage the Submission, withdrawal, substitution, or modification of Bids.

Bidders must first register by creating a Username, profile and password before accessing the bid submission form at the URL: www.caribbeanclimate.bz/bid-submission.

1. Prior to Bid Submission, Bidders will be required to complete the bid submission form with fields that include:

i. Name of Bidder (Company)
ii. Contract Reference
iii. Contract Title
iv. Name and Email address of uploader

2. Bidders can upload up to **2 files maximum** in one submission with maximum file size of 60 MB per file. The following types of files are currently allowed: JPEG, PNG, JPG, GIF, PDF, DOC, DOCX, PPT, PPTX, EXCEL and ZIP.

3. An automatic receipt time stamped email will be sent to the uploader's email account as a receipt and proof of submission.

4. Each submission will be given a confirmation number.

Submissions of Bids.

i. **Bids must be uploaded as PDF file to** http://www.caribbeanclimate.bz/bid-submission/.

ii. The subject matter of the email must read: **Supply and Delivery of one Electric Bus with two Charging Stations for the Federation of St. Kitts and Nevis.**

iii. Bids must be secured with a password. Such password must be emailed to awilliams@caribbeanclimate.bz no later than 15 minutes prior to the deadline for bid submission. The subject matter for email containing password must read: **Supply and Delivery of one Electric Bus with two Charging Stations for the Federation of St. Kitts and Nevis.** ***[bidder's name]***

Requests for Clarification: email: procurement@caribbeanclimate.bz Attention: **Ms. Allison Williams, Procurement Officer.** Requests for clarification should be received by the Centre no later than: **Monday 8 February 2021.** Consultants are advised that the responses to the requests for clarification will be only posted on
the Centre's Webpage at**:** https://www.caribbeanclimate.bz/category/opportunities/

Deadline for submission: on or before 2:00 p.m. (GMT- 6), Monday 22 February 2021.

The Centre reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, if applicable, shall be promptly returned to the Bidders.