

## Terms of Reference

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UNDP/GEF Project: Moldova Sustainable Green Cities – Catalysing investment in sustainable green cities in the Republic of Moldova using a holistic integrated urban planning approach

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### Development of the Electric Vehicle charging infrastructure in Moldova

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**Duty station:** Chisinau, Moldova  
**Contract type:** Low-Value Performance-Based Payments Agreement

In Moldova, the transportation sector is responsible for 14% of all greenhouse gas emissions. Moreover, transportation is the main contributor to the air pollution and currently air pollution that comes from the transportation sector is much higher than from industry ([https://www.climatelinks.org/sites/default/files/asset/document/2017\\_USAID\\_GHG%20Emissions%20Factsheet\\_Moldova.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID_GHG%20Emissions%20Factsheet_Moldova.pdf)). At the same time, considering growing tendencies of national economy, the number of cars on the road is increasing. According to official statistics, by the end of 2018 there were 984.993 vehicles registered in Moldova (out of which 210,334 were in Chisinau), and by 2020 it is expected that the number will increase over 1 Mn vehicles. 83 % of the existing vehicles are of 11 years of age or more (out of which 50% are 20 years old or more). The aging vehicle park increases the air pollution and premature death among Moldovan population. It is estimated that the economic costs of the premature deaths are 3.2 Billion dollars according to the WHO. At the same time, there were 8,970 hybrid vehicles registered in Moldova at the end of 2018 (of which 3,482 were registered during 2018), and 99 fully electric vehicles (EV) at the end of 2018 with an increasing trend for both types of vehicles. From the existing number of 99 EV's, 67 units are between 0-5 years old, 31 units are 5-10 years old and one unit is more than 10 years old. The increase in hybrid and EV interest is linked to customs incentives: hybrids receive a tax deduction of 50%, while EV's are exempted from any taxation. Also, the cost of second-hand EV (ex. Nissan Leaf or Renault Zoe) is not relatively higher than an ordinary gasoline vehicle. The major problem for the electric vehicle or plug-in vehicle users is the lack of proper charging infrastructure, which ultimately decreases the attractiveness for this type of transportation.

Electric Vehicles (EV), with zero emissions, are the most environmentally friendly option currently available on the market. For the last 10 years, the global development of the EV infrastructure increased substantially. Statistics report an increase in registration of electric cars in recent years. The sales of new electric cars have reached a new global record in 2018, with 1.26 million units sold worldwide, or 74% more than in 2017, when 727,000 units were sold. The EV segment has thus recorded one of the largest increases in all segments of the car manufacturing, a growth that motivates car manufacturers to invest in this direction. EV import in Georgia, for example, only between 2017-2018 increased from 63 EVs to 1423 EVs. This massive jump occurred as a direct result of the development of charging stations (since the end of 2016).

In comparison, as of now, there are only, 13 public charging stations in Moldova, 11 of them are located in Chisinau, one is located in Leuseni and one in Orhei city.

## II. Project Background Information

The goal of this assignment is to select a responsible party (private sector company) based on a competitive process willing to participate in the development of the Electric Vehicle charging infrastructure in Moldova in partnership with the UNDP-GEF Project titled: **Moldova Sustainable Green Cities – Catalysing investment in sustainable green cities in the Republic of Moldova using a holistic integrated urban planning approach (further in the text as MSGCP)**. The proposed project is linked with the joint UNDP - Energy Efficiency Fund Project “Development of the Electric Vehicle charging infrastructure in Moldova” aiming at promotion of the electrical vehicles use through installation of at least 20 charging stations in the country.

During the duration of this partnership, the selected responsible party will report to the Green Cities Project Manager, Project board and to the Environment, Climate Change and Energy Cluster in UNDP Country Office.

## III. Duties and responsibilities:

The responsible party will collaborate with Green Cities Project in development of the Electric Vehicle charging infrastructure in Moldova by installing, maintaining and managing of at least 20 charging stations in the country. The UNDP and responsible party will collaborate in the framework of the project proposal developed by responsible party based on the Low-value, Performance-Based Payment agreement. Performance-based payments are a type of agreement between UNDP and a responsible party to provide funding upon the verified achievement of an agreed measurable development result. No advances are provided, rather payments are made only upon the verified achievement of agreed results. The responsible party under this Agreement shall self-finance all activities until the Result(s) are achieved and validated by the Project board. Early termination of the agreement can be envisaged if certain milestones/timeframes/etc are not met. Early termination may also be triggered through lack of adherence to UNDP's Social and Environmental Standards. The responsible party will be capacity assessed (according to UNDP policies), and a due diligence exercise will be done for private sector entities. The responsible party shall get into partnership (if needed) with local public authorities and/or private sector companies for project implementation.

The responsible party will have the following responsibilities:

1. Propose the exact locations for 15 EV chargers outside Chisinau and 5 EV chargers in Chisinau, according to the developed criteria and proposed locations as per Annex 2. The proposed locations will be validated with UNDP prior to Agreement signature and constitute an integral part of an Agreement.
2. Follow all legal steps needed for installation and operation of the EV charging stations.
3. Ensure procurement of 20 EV charging stations and all related safety kits following the minimum technical specifications listed in Annex 1.
4. Ensure on its own cost installation and operational management of the 20 EV charging stations as part of this project (15 in the country and 5 in Chisinau), including incorporation of a unified billing system.
5. Ensure the design of the parking lot, the charger itself and information panel.
6. Contribute to the EV charging system expansion in the country by installation (from its own sources) and operation of additional 10 fully operational, charging stations with an incorporated billing system (with the same equipment technical compliance, or different but with the similar financial value). The location of the charging stations will be determined by responsible party itself with the condition that it respects the developed criteria for installation and will constitute an integral part of an Agreement.
7. Provide a written assurance to UNDP that the responsible party will successfully operate and maintain the installed 20 charging stations during 5 years after project end. Non respecting of this clause will lead to reimbursement to the UNDP the allocated financial resources.
8. EV charging stations should provide monthly data in Excel or other agreed formats to the MSGCP. The data should cover the number of charging's per station, the number of charging's per total, consumed kWh per station, per vehicle and total, each vehicle charging time, and average charging time.

9. Provide logistic and other type of support to the evaluation committee, comprised from UNDP and project board representatives, at the end of the project implementation, in order to assess the quality of the performed works.
10. Develop monthly reports on the work performed and a final report which should be presented to the project board.
11. To assure that all civic and commissioning works, as well as final receipt will be performed based on national requirement /legislation/normative acts.
12. Minimum 3 years of warranty for provided equipment.

UNDP Moldova through the Green Cities Project will ensure cost coverage for procurement of 20 EV charging stations hardware and safety kit (type B protection).

**Note:**

- a) Any intention to install additional charging stations, in addition to above mentioned, or installation of higher power chargers (ex. CHAdeMO/ CCS with higher power) will be considered an advantage.

### **Criteria for selection and installation of the charging stations in Moldova**

A charging station for electric vehicles shall meet the following requirements:

- Charging stations should be publicly accessible to all users and work in 24/7 regime.
- A dedicated enough parking space should be delimited (approx. 2 car parking places), so that electric vehicles with charging sockets installed in different parts of the vehicle can have access the electrical charger;
- The charging station must be easy to use to ensure relatively high mobility of electric vehicles.
- The selected place should be visible and accessible to EV users. An information board should be installed containing the instructions for use, as well as MSGCP, GEF, Government and UNDP logos. Also, the parking lots should correspond to the draft design template for information board and the parking lot provided in Annex 3.
- All wiring and power-up works to install the charging station and ensuring billing of charging service shall be conducted by responsible party. At the same time, to ensure security and accessibility, it is necessary to equip the station with security and lighting systems. At the same time, to ensure the functionality of the data transfer, it is necessary to provide access to the internet network.
- At the time of installation of the electrical equipment, all safety rules must be observed in accordance with existing regulations and by observing the installation requirements prescribed by the manufacturer. Supervision of compliance with mandatory requirements will be entrusted to an authorized technical officer.
- EV charging stations should be accessible for people with special needs. These include the height and location access.

## **IV. Expected Deliverables and estimated timing**

The assignment will be carried out in maximum **6 months** after signature of the agreement. All the deliverables shall be submitted within the timeframe shown in the table below:

### **Result(s) and Performance-Based Payment Terms**

<b>Result(s)</b>	<b>Expected Date of Achievement</b>	<b>Eligible Cumulative Payment (USD)</b>	<b>Value Payment of</b>	<b>Penalties</b>
<b>Result 1</b>				

Indicator 1.1 - At least 15 EV charging stations fully operational, including a unified billing system in the country according to the minimum <b>equipment</b> technical specifications (Annex 1) and indicated locations (Annex 2) and criteria	By November 30 2019	50% of contract value		If the milestone/target results are not achieved, no payment will be given.
Indicator 1.2 - At least 5 fully operational charging stations in Chisinau municipality (one per each city district), incl. a unified billing system according to the minimum <b>equipment</b> technical specifications (Annex 1) and proposed criteria				
<b>Result 2</b>				
Indicator 2.1 – At least 10 additional fully operational, charging stations with incorporated billing system ( <b>with the same equipment technical compliance, or different but with the similar financial value</b> ) installed in the country	By November 30 2020	50% of contract value		

## V. Institutional arrangements:

The responsible party will work under the direct supervision of the MSGC Project Manager. The responsible party shall take overall responsibility on the quality and timeliness of project implementation process within its competency.

### • Staffing

The responsible party shall indicate lead experts per areas of expertise. If the qualifications of certain expert correspond to the requirements of more than one area of expertise, than the expert can be proposed for that respective area, too. The Company will ensure that all other necessary staff and additional technical resources required for efficient finalization of the work will be provided (e.g., logistical support for organizing various meetings and conducting field work).

### • Timeliness and quality

The responsible party's performance shall be assessed based on timeliness and quality of services. The responsible party shall be notified of any deviation from the agreed schedules and standards, pursuant to which it will be required to remediate its performance. In case no satisfactory remediation shall be obtained UNDP reserves the right to terminate the contract.

### • Language

The draft project proposal and all its complementary documents shall be endorsed in English or Romanian. The final reports shall be submitted in English or Romanian.

- **Legal and other requirements**

The content of the requested documents shall conform to the pertaining relevant legislation in the country and the international best practices and models.

- **Methodology**

Interested responsible party should provide in their project proposal the Methodology of EV chargers project implementation. Sufficient detail should be given to technical and safety parameters of the equipment, places for charger's installation, billing system. The responsible party should demonstrate that the proposed project will be sustainable in time (min. 5 years after project end up). The responsible party will ensure that all other necessary staff and additional resources required for efficient finalization of the work will be provided (e.g., logistical support for organizing various meetings and conducting field work).

- **Additional costs**

UNDP will cover only the costs for equipment: EV charger hardware and safety kit. The costs associated with installation of EV chargers, maintenance, billing system or other operational/management or other types of costs should be covered by the responsible party from their own resources.

- **Submission of data, reports and other material produced**

The responsible party will report on its progress in achieving all agreed objectively verifiable indicators and minimum progress thresholds in accordance with the reporting schedule and format specified in the Results Reporting Format as part of the Agreement. Progress reports will include financial and narrative information; final report will contain evidence of results achievement. All primary data, reports, and other documentation produced during this assignment shall be made available to UNDP in appropriate electronic format (word, excel, PDF, etc.) depending on the nature of its content.

- **Consultations process**

The responsibility for facilitating the consultation process for the purposes of completion of tasks outlined hereto will be primarily responsibility of the responsible party.

- **Sustainability of results**

UNDP must be able to demonstrate that the results to be achieved are sustainable and of demonstrable quality. In this respect, post agreement covenants may be necessary to conclude in order to ensure the continuation of activities and results following the conclusion of the agreement.

## **VI. Minimum qualification requirements:**

- At least 5 years of experience in the electric equipment market, **services in electric installations** and providing services in this area of interest;
- Proof of all necessary licenses and authorizations for electric works;
- Minimum 5 projects implemented in the past 3 years rendering an investment of at least 75,000 USD or equivalent;
- Proof of available locations for EV chargers installation (Contract, Partnership agreement, Intention letter, etc.). Failure of provision of such documents will lead to responsible party disqualification.
- The responsible party can propose the installation of the required additional 10 EV charging stations together with 20 EV charging stations that should be installed in 2019.

## **VII. Project proposal**

The project proposal should contain the following minimum information:

- Company profile, history and Registration certificate, and other relevant certificates
- Detailed description of the methodology of work, collaboration between partners, opportunities and risks.
- Proof of available locations for EV charger's installation (Contract, Partnership agreement, Intention letter, etc.).
- Proof of all necessary licenses and authorizations for electric works;
- Technical description of the proposed equipment (including safety related equipment).
- Quality certificates of the proposed equipment
- Description of the billing system operation. Responsible parties and distribution of responsibilities (e.g. if the billing system will be integrated in the existing billing system of any partners, then a proof of agreement between responsible party and location owner on integration of EV charger into its existing billing system (or similar) is requested).
- Changes in EV information board, station and parking lot design (if any).
- Proof of available financial resources to implement the project and deliver the results.
- A proposed business vision and plan that will ensure sustainability of the project for a minimum 5 years from the project end.
- A detailed estimated budget of works per 1 EV charger.
- A detailed budget for the whole project.

For any additional information on the call for proposals, please contact Mr. Simion Berzoi, Business Development Officer, Moldova Sustainable Green Cities, via e-mail: [simion.berzoi@undp.org](mailto:simion.berzoi@undp.org), mob.: (+373) 79575707.

**The Application Form and package with documents shall be submitted electronically** to the following e-mail address: [simion.berzoi@undp.org](mailto:simion.berzoi@undp.org). titled in the message subject line as "EV Chargers Green Cities Moldova, [responsible party's name]".

**The deadline for submitting the project proposals is June 17, 2019, 14:00 (GMT +2).**

### Technical specifications of the EV chargers

Technical parameters	Value
Input voltage according to the power supply network	380 V
Power (KW)	22 kW (per station)
Charging mode	Mode 3 (additional Mode 2 is encouraged)
Connector type	Type 2
Charging current	32 A
Grounding	TT, TN-S, TN-C-S
Frequency	50 Hz
Min. working temperature [°C]	(- 25)
Max. working temperature [°C]	+ 50
Protection class	IP54/IP55 and IK10.
Humidity relative rate	5-95 without condense
Safety	Type B protection included.
Configurations	<ul style="list-style-type: none"> <li>- User identification;</li> <li>- Minimum 2 output antivandal sockets;</li> <li>- Floor mounting (with pedestal)</li> <li>- Editable metal case (ready for branding)</li> <li>- Ergonomic design</li> <li>- Visible, simple and easy to understand use instructions.</li> </ul>
<b>Network connection and Certifications</b>	
	TCP/IP
	FTP, SMTP or data recovery through HTTP
Operations	<ul style="list-style-type: none"> <li>- user authentication</li> <li>- resending data to record upload data</li> <li>- monitoring the status of the charging station</li> <li>- possibility to optimize charging time</li> <li>- remote (free) access</li> <li>- incorporated billing system</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>- Mandatory CE certification mark (IEC 61851-1 and IEC 61851-22 standards)</li> <li>- Other standards will constitute an advantage example: EV/ZE ready, IMQ IDIADA etc.</li> </ul>

**Note:** Technical solutions that will add value to the proposed technical specifications will be considered an advantage.

## Indicative suggestions for locations of the EV Chargers on national roads deleted.

### Locations of the EV Chargers

Considering that the main goal of the project is to ensure that EV owners can drive and charge their cars all over the country and to ensure the transit corridor between Romania and Ukraine for EV owners.

15 locations are proposed:

	Location	Road	Existing infrastructure
1	Briceni city	Crossroad M14 and R11	Petrom; Lukoil; Tirex Petrol;
2	Otaci city	Crossroad R8 and R9	Rompetrol; Lukoil; Tirex Petrol;
3	Soroca city		Main street in Soroca Infrastructure: HoReCa, Victoriabank, Soroca fortress
4	Bălți city	Crossroad R14, R13, R15, M14	Metro; Linella; Lukoil; Petrom; Bemol; VictoriaBank; MAIB; HoReCa
5	Rezina city	R13	Bemol; Tirex Petrol; VictoriaBank; Linella
6	Călărași city	Crossroad R1 and R20	Petrom; HoReCa
7	Sculeni, r. Ungheni	Crossroad E58 R16 and R1	BEMOL, HoReCa
8	Cahul city	R34	Lukoil; Petrom; Bemol; Tirex Petrol; VictoriaBank; MAIB; Linella; HoReCa;
9	Giurgiulești, r. Cahul	Crossroad E584 and E87	Petrom; Rompetrol; Lukoil; Tirex Petrol Le bridge Duty Free
10	Comrat city	Crossroad E584, R37, R35	Bemol; Rompetrol; Lukoil; Linella; VictoriaBank; MAIB; HoReCa
11	Hîncești city	Crossroad R3 (E584), R44 and R33	Petrom; Lukoil; Vento; Rompetrol VictoriaBank; MAIB; Linella; HoReCa
12	Căușeni city	Crossroad R26 and R30	Bemol; Tirex Petrol
13	Stefan Voda City	R30	
14	Suruceni, r. Ialoveni	E581 Chișinău - Leușeni	Bemol; Lukoil; Restaurants;

15	Criuleni city	R4 Chişinău – Criuleni - Dubăsari	Petrom; Tirex Petrol. HoReCa;
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**Note:** The proposed locations are indicative, and the responsible party should indicate the exact location where the chargers will be installed. **A different location can be proposed in a range of 20 km, the responsible party should provide a detailed explanation which should be validated by UNDP.** The list excludes the locations where EV chargers with the same technical compliance are already installed (e.g. Leuseni and Orhei).

## Draft design for Information board and parking lot

