

### Portugal-Baguim do Monte: Refuse and waste related services OJ S 19/2024 26/01/2024

#### Prior information notice

#### Services

#### Legal Basis:

Directive 2014/24/EU

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### Section I: Contracting authority

#### I.1. Name and addresses

Official name: Municipalities Association for Sustainable Waste Management of Greater Porto - LIPOR

National registration number:

501394192 Postal address: Rua da

Morena, 805 Town: Baguim do Monte

NUTS code: PT11A Área Metropolitana do Porto

Postal code: 4435-996

Country: Portugal

E-mail: [hoop-omc@lipor.pt](mailto:hoop-omc@lipor.pt)

#### Internet address(es):

Main address: [www.lipor.pt/pt/inovar/projetos-financiados/hoop/](http://www.lipor.pt/pt/inovar/projetos-financiados/hoop/)

#### I.3. Communication

Additional information can be obtained from the abovementioned address

#### I.4. Type of the contracting authority

Body governed by public law

#### I.5. Main Activity

Environment

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### Section II: Object

#### II.1. Scope of the procurement

##### II.1.1. Title

Innovative system to recover and valorise phosphorus and/or ammoniacal nitrogen from digestate (anaerobic digestion effluent), to complement the future anaerobic digestion plant and its wastewater treatment facility.

##### II.1.2. Main CPV code

90500000 Refuse and waste related services

##### II.1.3. Type of contract

Services

#### **II.1.4. Short description**

Innovative treatment for the liquid fraction of the digestate after dewatering (effluent), to both comply with the discharge requirements and recover nutrients (phosphorus and ammoniacal nitrogen) to make a marketable product.

This prior information notice (PIN) announces an open market consultation (OMC) process and provides information at an early stage on the expected objective of a future public procurement procedure. The PIN is not a commitment to procure.

The aim of the intended future public procurement is twofold: to build an anaerobic digestion plant (with a capacity of 60,000t/year of food waste) complemented by a wastewater treatment facility capable to both recover phosphorus and ammoniacal nitrogen from the effluent to make a marketable product and treat the wastewater to comply with discharge criteria. Similar anaerobic digestion plants have a wastewater treatment facility to treat the effluent. However, wastewater treatment facilities in similar plants remove but do not recover ammoniacal nitrogen and phosphorus.

As a main goal, the challenge to be investigated through the OMC, is related to the treatment of the liquid fraction from the raw liquid digestate (effluent, after the dewatering process) that is not recirculated to the anaerobic digester. A secondary objective would be to investigate if the capacity of the nutrient recovery module could be extended to the entire liquid fraction of the digestate, after dewatering (to include the effluent that recirculates towards the anaerobic digester), in order to improve the control of the digestion process, particularly regarding nitrogen. The solution needs to both comply with the legal discharge requirements and recover nutrients (phosphorus and ammoniacal nitrogen), to make a marketable product. Both nitrogen and phosphorus are valuable nutrients essential for fertiliser products. This is of interest for regional agriculture.

#### **II.1.5. Estimated total value**

#### **II.1.6. Information about lots**

This contract is divided into lots: no.

### **II.2. Description**

#### **II.2.3. Place of Performance**

NUTS code: PT11A Área Metropolitana do Porto

Main site or place of performance: Technologies to be deployed would be integrated in the future anaerobic digestion plant operated by LIPOR, in Baguim do Monte

#### **II.2.4. Description of the procurement**

The EU Bioeconomy Strategy sees cities becoming major circular bioeconomy hubs, where biowaste is a feedstock for safe and sustainable bio-based products.

LIPOR is committed to developing a circular economy strategy in alignment with European and national policies, such as the European Circular Economy Action Plan, Circular Economy Action Plan for Portugal and the 2030 Agenda for Sustainable Development. LIPOR strongly advocates that “waste” should be managed as a “resource”, which would see waste material regenerated and restored, becoming part of the value chain. However, the availability of fit-for-purpose and efficient technologies is still a major gap. Therefore, LIPOR intends to take action to optimize the anaerobic digestion for urban biowaste (mainly kitchen/food waste), and the related wastewater treatment facility, to treat the effluent in a way that the liquid fraction from the dewatered digestate (effluent), that is not to be recirculated to the anaerobic digester, is

treated to both comply with the discharge requirements and to recover phosphorus and ammoniacal nitrogen, producing marketable products. Both nitrogen and phosphorus are valuable nutrients essential for fertiliser products. This is of interest for regional agriculture. Similar anaerobic digestion plants have a wastewater treatment facility to treat the effluent. However, wastewater treatment facilities in similar plants remove but do not recover ammoniacal nitrogen and phosphorus.

LIPOR intends to investigate the state-of-the-art, to find out whether technologies are commercially available or under development and the level of coverage of the desired functionalities and performance requirements. The relevant KPIs and requirements, as well as information about the operational setting are provided in the Technical Prospectus, available at LIPOR's website:

- Every year, LIPOR treats about 500,000t of municipal solid waste (MSW) produced by about 1 million people.
- The future anaerobic digestion plant will have a capacity of 60,000t/year (of food waste)
- The anaerobic digestion plant will produce biogas/biomethane and a raw liquid digestate.
- The produced raw liquid digestate is expected to be about 160,000t/year.
- The raw liquid digestate will be dewatered. The solid part will be composted and used as fertiliser/soil amendment. The liquid part (effluent) will be recirculated and/or treated.
- The maximum estimated amount of liquid part (effluent) is around 150,000 m<sup>3</sup>/y (cubic meters per year). The open market consultation will concern a treatment capacity module of 25,000 t/year (basic solution which only refers to the excess effluent stream) and/or a module of 150,000 t/year (secondary objective which refers to the entire stream of the liquid part).
- Most of the nitrogen in the effluent is in form of ammoniacal nitrogen (NH<sub>4</sub>-N).
- LIPOR plans to recirculate a large part of the effluent back to the anaerobic digester (estimated 125,000 m<sup>3</sup>/year).
- High concentrations of ammoniacal nitrogen can inhibit the anaerobic digestion.
- The untreated effluent (liquid part - effluent) in similar plants has an ammoniacal nitrogen content of 3000 – 4500 mg NH<sub>4</sub>-N/L.
- The untreated effluent (liquid part - effluent) in similar plants has a total phosphorus content of 50 – 250 mg/L.
- The desired solution should optimize the trade-off between high nutrient recovery system and compliance of wastewater treatment with discharge requirements.
- The effluent after nutrient recovery needs to comply with the admission criteria of a standard wastewater treatment plant, that are provided in the Technical Prospectus available at LIPOR's website.
- The effluent after nutrient recovery needs to have a total nitrogen content lower than 40 mg/L.
- The effluent after nutrient recovery needs to have an ammoniacal nitrogen content lower than 30 mg NH<sub>4</sub>-N/L.
- The effluent after nutrient recovery needs to have a total phosphorus content lower than 20 mg/L.
- The desired solution should provide marketable products containing the recovered nutrients, preferably a fertiliser(s) which should comply with one or more of the categories in Fertiliser Product Regulation 2019/1009 and with the Portuguese

Legislation, namely DL 30/2022 and P185/2022.

- The desired solution should be technologically feasible and economically sustainable, both in terms of investment size (CAPEX) and in terms of operational costs (OPEX).
- The desired solution needs to optimize the OPEX for nutrient recovery along the entire life cycle.
- The desired solution should recover at least 40 percent of the ammonia nitrogen and 15 percent of the phosphorus in the effluent.
- The desired solution should ideally not create new waste streams.

Technologies to be deployed would be integrated in the future anaerobic digestion plant operated by LIPOR, in Baguim do Monte.

Pursuant to Article 40 of the Directive 2014/24/EU, related to public contracts, transposed into national legislation, the Decree-Law no. 18/2008, Technical Orientation no. 004/CCP/2019 issued by IMPIC (Institute of Public Markets, Real Estate and Construction) and Technical Orientation regarding Preliminary Market Consultations and establishment of the base-price issued by DGAJ (Directorate-General for the Administration of Justice), before initiating a public procurement procedure and before deciding the tender procedure, LIPOR intends to consult the market with a view to informing economic operators of their procurement requirements and to obtain better knowledge for improved planning and preparation of the tender(s), thus increasing the chances of acquiring with fewer costs and increased quality and suitability.

In compliance with the public procurement principles of non-discrimination and transparency, all interested experts, independent authorities, and economic operators (regardless of their geographic location, the size or governance structure of their organization) are invited to take part in an open preliminary market consultation process.

#### **II.2.14. Additional Information**

The OMC involves the proactive analysis of technology offerings and on-going developments and will provide crucial input to the investment plan. The market consultation aims to:

- Find out whether technologies are commercially available and acquire information about the advantages and disadvantages and the level of fulfilment of the desired functionalities, in order to confirm the assumption for the innovation procurement scope;
- Identify market risks that may endanger business goals and supplier performance;
- Provide an overview on the intended contract objectives, the tendering process and the main clauses of the contract.

The open market consultation will be held in English (and eventually in Portuguese) in the form of:

- open “meet-the-market event” managed in hybrid form, at least 60 days from this notice (the registration to the events will be made available at the HOOP project website <https://hoopproject.eu>);
- on-line market survey (that will be made available at the HOOP project website within 40 days of this notice) to be completed by filling and submitting a questionnaire (under a non-disclosure agreement, the collected info will not be revealed in public during event and/or meetings); dates and deadlines will be announced on the HOOP project website <https://hoopproject.eu>);

The contracting authority reserves the right, at a later time, to plan one-to-one short bilateral meetings upon registration.

All information regarding the OMC including additional meetings, the questionnaire and the information provided during the consultation as well as other background information will be published in due time - at least in English - on the project website (<https://hoopproject.eu>).

Participation in the OMC will not be a requirement to submit a proposal to the planned call for tender, does not lead to any rights or privileges for the participants, and is not part of any pre-qualification or selection process. The contributions are provided free of charge, without any right to reimbursement of expenses. Here, all communication will be carried out in English (and eventually in Portuguese).

### **II.3. Estimated date of publication of contract notice**

30/06/2025

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## **Section IV: Procedure**

### **IV.1. Description**

#### **IV.1.8. Information about the Government Procurement Agreement (GPA)**

The procurement is covered by the Government Procurement Agreement: yes

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## **Section VI: Complementary information**

### **VI.3. Additional information**

This PIN is published to announce an OMC on potential future procurement action and is not a commitment to procure. It doesn't oblige the contracting authority to set limits to the content of the invitation to tender. The contracting authority may decide not to initiate a tender process on one or more or all investment areas considered after the preliminary market consultation. The conclusions drawn from the consultation may, in fact, influence the timing, the type of tender procedure that follows, depending on, e.g., whether the market can present solutions that correspond to the contracting authority's public need.

Participation in the open market consultation will not be a requirement to submit a proposal to the planned call for tender, does not lead to any rights or privileges for the participants, and is not part of any pre-qualification or selection process.

The broad topics of discussion and all answers that were given by the procurer to questions from potential tenderers will be shared in an anonymous form. Furthermore, the open market consultation can be filmed and put online and the names of companies that attend the open market consultation could be published to encourage further networking also between vendors that were not able to attend. Consequently, the participants economic operators are responsible to indicate, in written form, what sensitive commercial information needs to be handled confidentially and are not be able to be made public through the market consultation report.

### **VI.5. Date of dispatch of this notice**

22/01/2024