ATH Bioenergy

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Public consultation on the design of the Programme of Activities (PoA): "Sustainable production of biofertilisers and biogas from organic matter waste. Canary Islands"

Document prepared by ATH Bioenergy in collaboration with Off Carbon

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1. Context and Objective of the consultation

The public consultation held on 22 April 2025 aimed to inform citizens, institutions, companies, and other interested parties about the programme of activities (PoA) that will consist of the implementation of four sustainable biofertiliser and biogas production plants, aimed at managing organic waste and reducing greenhouse gas emissions and which will be developed in Gran Canaria. Tenerife, Lanzarote and Fuerteventura, under the Gold Standard scheme. As part of this public consultation, the first VPA (Voluntary Project Activity) or activity adhered to the program, corresponding to the plant that will be installed on the island of Gran Canaria, was deepened. **We are interested in receiving your feedback on the design of the Program of Activities (PoA) in this initial design phase, with the aim of being able to improve the design.**

Below you will find a non-technical summary of the program.

2. Project Description

ATH Bioenergy is promoting the implementation of a programme of four organic waste recovery plants in the Canary Islands with the aim of transforming the waste generated in the hotel, commercial and agri-food sectors into biomethane and high-quality organic fertilisers with the use of CO2. This initiative represents a firm step towards the energy transition, the decarbonization of the territory, the promotion of a real circular economy in the archipelago, and the contribution to the achievement of the Sustainable Development Goals to which the Company is committed, positively impacting the local community.

The Programme of Activities will have an initial duration of 20 years. The first plant, located in the municipality of Agüimes, in Gran Canaria, is expected to come into operation in October 2025, at which time a three-month operational test phase will be carried out to guarantee the efficiency and safety of the process. The implementation to obtain emission reductions is estimated in the first quarter of 2026.

This first plant will be located next to the Southeast treatment plant, in the port free zone of Gran Canaria, which will facilitate its logistical integration and connectivity with distribution channels. It will be designed to manage up to 31,000 tonnes of organic waste per year, from which approximately 2,242 tonnes of biomethane per year will be produced, equivalent to 31,141 MWh of energy. This production of this energy vector represents a sustainable alternative to about 2,832 tons of propane gas or more than 3,090,000 liters of diesel per year, which will allow a significant reduction in the use of fossil fuels and polluting gas emissions and contribute to local climate and energy governance. Similarly, the facility on the island of Tenerife will be of the same size, will also handle 31,000 tonnes/year and the same amount of biomethane will be produced. It is estimated that it will be operational by the end of 2026. As for the two facilities to be built on the islands of Fuerteventura and Lanzarote, these will be slightly smaller in terms of management capacity, estimated at about 25,000 ton/year, and proportionally each will produce

about 1,800 tonnes of biomethane annually. It is estimated that the Fuerteventura facility will be completed and operational by the end of 2027 and the Lanzarote facility by 2028.

Among the key components of the project, the production of biomethane as a renewable substitute for propane gas and diesel stands out, as well as the generation of liquid and solid fertilizers with high agronomic value, as well as how bioCO_2. In addition, the project has the collaboration of scientific and technological entities such as the Technological Institute of the Canary Islands (ITC) and the Canary Islands Institute of Agricultural Research (ICIA), with whom trials will be carried out to evaluate the effectiveness of the fertilizers generated.

The plant will also incorporate an advanced digitalisation and intelligent traceability system for waste, which will allow real-time monitoring of the entire recovery cycle, ensuring transparency, efficiency and regulatory compliance.

This programme has not benefited from any ODA Official Development Assistance mechanism.

3. Technical Process: Biomethanization

The technological process that underpins this plant is based on **anaerobic digestion**, an advanced biological technique that allows organic waste to be transformed into high-value resources. In this stage, organic **waste** is introduced into **airtight digesters with gas-impermeable membranes**, where a **specialized microbial flora** acts in the absence of oxygen, decomposing the organic matter in a controlled manner.

As a result of this digestion, **biogas** is generated, a mixture rich in methane and CO2 that is subsequently subjected to a **purification** process to remove impurities and obtain **high-quality biomethane**. This biomethane is finally **bottled in metal cylinders**, which facilitates its storage, the logistics of its **distribution** and its use as **a renewable fuel**.

In addition, the **CO_2 generated during the process is also captured and purified**, reaching a **quality suitable for food applications**, which makes it a useful input for sectors such as the **carbonated beverage industry such as brewing, applications in microalgae cultures** or multiple industrial uses such as **industrial welding,** etc.

In parallel, anaerobic digestion results in an **organic digestate** that is separated into a **liquid fraction** and a **solid fraction**, both intended for the **production of agricultural fertilizers**. These fertilizers, which are sustainable and rich in primary organic nutrients, help close the resource loop and promote **regenerative agriculture**.

4. Environmental, Social and Economic Impacts

The project promoted by **ATH Bioenergy** generates a comprehensive set of **environmental, social and economic benefits** that make it a model of sustainable development for the region.

Environmental Impacts

From an environmental point of view, the plants will contribute significantly to the **reduction of emissions**, avoiding the release of approximately **10,000 tons of CO_2[1] equivalent per plant each year**. This is achieved mainly by **replacing fossil fuels** with **renewable biomethane**, thus reducing the carbon footprint of the local energy system as well as by diverting organic matter to the ATH plant that would otherwise have been buried in landfill with the consequent avoidance of diffuse emissions due to its decomposition.

In addition, the application of the **resulting organic fertilizers** promotes the **regeneration of agricultural soils**, improving their health and structure, which favors a more resilient and sustainable agriculture. Thanks to its advanced technology, the waste recovery process reaches an **efficiency of up to 95%,** which minimizes the generation of waste and maximizes the use of resources.

Likewise, the recovery of bioCO_2 from biogas purification is intended to replace another of unsustainable origin for industrial uses and biomass production (microalgae cultivation).

Social Impacts

In the social sphere, the project has a positive impact on **air quality**, as it significantly reduces the emission of **methane, CO2, and other GHGs, from the leakage and combustion of the fossil fuels it replaces (diesel-oil, propane, ...)**, gases that affect both climate and respiratory health. In addition, as biomethane is a fuel with a high degree of purity, it mitigates the emission of microparticles (PM5, PM10), VOCs that other less clean fuels generate with their use.

Likewise, an important **educational and environmental awareness work is contemplated**, with **school visits** and pedagogical programs in the facilities, promoting a culture of sustainability from an early age, understanding the importance of the circular economy and the proper management of residual waste.

Another key social pillar of the Project is the **active inclusion of the local community**, promoting **gender equality**, access to **specialized technical training** and the **generation of employment** in the immediate vicinity of the plant.

Economic Impacts

From an economic perspective, the project as a whole (the entire PoA) that includes the construction and commissioning of the four facilities on the islands of Gran Canaria, Tenerife, Fuerteventura and Lanzarote, represents an **investment of more**

[1] Indicative estimate

than 100 million euros, consolidating itself as a driver of development in the archipelago. It is estimated that its implementation will allow the **creation of approximately 213 direct and indirect jobs**, contributing to the dynamism of the local labor market.

In terms of production, it is expected to generate **around 4,000 tons of solid fertiliser and 8,000 tons of liquid fertiliser annually in Gran Canaria**, figures that could reach between **30,000 and 35,000 tonnes per year** if the model is expanded to the four islands as a whole.

All this reinforces not only **regional energy security**, but also structural **support to the agricultural sector**, offering sustainable inputs and reducing dependence on external products.

The following table assesses the safeguarding principles, according to the requirements and principles of the Gold Standard:

Safeguarding principles	Evaluation
Human rights	The project respects internationally proclaimed human rights and is not complicit in acts of violence or human rights abuses of any kind, as defined in the Universal Declaration of Human Rights. The project will not discriminate in terms of participation and inclusion.
Gender Equality and Women's Rights	Another key social pillar of the Project is the **active inclusion of the local community**, promoting **gender equality**, access to **specialized technical training** and the **generation of employment** in the immediate vicinity of the plant.
Community Health, Safety and Working Conditions	The project has a positive impact on **air quality**, as it significantly reduces the emission of **methane, CO_2, and other GHGs, from the leaks and combustion of the fossil fuels it replaces (gas-oil, propane, ...)**, gases that affect both climate and respiratory health. In addition, as biomethane is a fuel with a high degree of purity, it mitigates the emission of microparticles (PM5, PM10), VOCs that other less clean fuels generate with their use.
Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	The plant will be located next to the Southeast treatment plant, in the port free zone of Gran Canaria, which will not have an impact on cultural heritage, indigenous peoples, nor will it imply the displacement or resettlement of people.
Corruption	The project does not involve, nor is it complicit in, nor does it inadvertently contribute to corruption or corrupt projects.
Economic Impact	From an economic perspective, the project as a whole, (the entire PoA) represents an **investment of more than 100 million euros**, consolidating itself as an engine of development in the archipelago. It is estimated that its implementation will allow the **creation of approximately**

Safeguarding principles	Evaluation
	213 direct and indirect jobs, contributing to the dynamism of the local labor market.
Climate & Energy	From an environmental point of view, the plant will make a significant contribution to reducing **emissions**, avoiding the release of approximately **10,000 tonnes of CO_2-eq each year**. This is achieved mainly by **replacing fossil fuels** with **renewable biomethane**, thus reducing the carbon footprint of the local energy system, as well as by diverting organic matter that would otherwise have been buried in landfill to the ATH plant with the consequent avoidance of diffuse emissions due to its decomposition.
Water	Positive impact, through the **generation of reclaimed water** during the anaerobic digestion process, which can be reused in agricultural or industrial uses, reducing the pressure on natural water resources.
Environment, Ecology and Land Use	The application of the **resulting organic fertilizers** promotes the **regeneration of agricultural soils**, improving their health and structure, which favors a more resilient and sustainable agriculture. Thanks to its advanced technology, the waste recovery process reaches an **efficiency of up to 95%,** which minimizes the generation of waste and maximizes the use of resources.

5. Carbon Credits – Gold Standard

The project developed by **ATH Bioenergy** will be registered in the **Gold Standard for the Global Goals**, one of the most recognized and rigorous mechanisms globally for the certification of emission reductions with a positive impact on sustainable development and the local community.

Eligibility Criteria

The project must meet a number of **strict eligibility criteria**, including:

- The **real and verifiable reduction of greenhouse gas emissions**, either by **direct avoidance** or by the **substitution of fossil sources with renewable energy**.
- Project additionality: Additionality means that reductions or removals of greenhouse gas (GHG) emissions generated by a project **would not have occurred in the absence of financing from carbon credits**.

- The **demonstrable contribution to at least three Sustainable Development Goals (SDGs),** ensuring that the project's impact is not limited to the environmental level, but also encompasses social and economic dimensions.
- The existence of **transparency and traceability in the process**, supported by independent audits carried out by **third-party verifiers**, which ensure the validity and credibility of the results.
- The ownership of the carbon credits will belong to the promoter ATH Bioenergy, so they could not be claimed by other agents participating in the VPA (Voluntary Project Actions) to avoid double counting of these, this being contractually reflected with the customers.

Operating Mechanism

The operation of this standard requires the initial registration and **validation of the project by an independent entity**, followed by **annual verifications** that allow the issuance of **carbon credits associated with the mitigation of emissions derived from the project**. It should be noted that the **credits will be generated once the first operational year has elapsed** and supported by **real data that supports the effective reduction of emissions**.

In addition, the project is subject to periodic renewals every five years, accompanied by mandatory interim audits, ensuring continuity in compliance with environmental and social criteria throughout its useful life.

It is envisaged to use the methodologies of the MDL, AMS. I.C (Thermal energy production with or without electricity --- Version 22.0) y AMS. III.G (Landfill methane recovery).

Use of Credits

The **carbon credits generated** by the project can be acquired by **companies that, on a voluntary basis, seek to offset the emissions that they have not been able to reduce endogenously in their entirety, and wish to reduce the residual**, thus offering a concrete tool to advance in the fulfilment of their climate commitments.

In no case will they serve to promote or maintain activities based on fossil fuels.

The ownership of the Carbon Credits will belong to the promoter ATH Bioenergy, so they could not be claimed by other agents participating in the VPA (Voluntary Project Actions) to avoid double counting of these, this being contractually reflected with the customers.

6. IMPACT ON THE SDGS

The project promoted by **ATH Bioenergy** is fully aligned with the **2030 Agenda** and contributes directly and indirectly to the fulfilment of several **Sustainable Development Goals (SDGs)** established by the United Nations, consolidating itself

as an initiative with a positive impact in the environmental, economic and social spheres.

Among the SDGs to which it intends to contribute are:

- SDG 6: Clean water and sanitation, through the generation of reclaimed water during the anaerobic digestion process, which can be reused in agricultural or industrial uses, reducing the pressure on natural water resources.
- SDG 7: Affordable and clean energy, through the production of renewable biomethane, which replaces traditional fossil fuels such as propane or diesel, reducing emissions and improving energy security.
- SDG 8: Decent work and economic growth, through the creation of local employment both directly and indirectly, and the promotion of training and capacity building in green technologies.
- SDG 9: Industry, innovation and infrastructure, with the incorporation of advanced anaerobic biodigestion technology, biogas purification systems and digital tools for waste traceability.
- SDG 11: Sustainable cities and communities, by improving the management of urban organic waste and reducing the negative impacts associated with its accumulation or inadequate disposal.
- SDG 12: Responsible production and consumption, promoting a circular economy model in which waste is converted into useful resources, such as energy or fertilizers.
- SDG 13: Climate action, as the project is a verified source of emission reductions, which makes it a main way for the generation of carbon credits, within international schemes such as the Gold Standard.

This comprehensive approach makes ATH Bioenergy a benchmark in terms of sustainable projects that not only provide technological solutions but also generate shared value for society and the environment.

Some measures used for project monitoring include:

#7 Affordable and clean energy: The tons of biomethane and biogas to be generated will be measured, and how much clean energy they represent

#8 Decent work and economic growth: The number of employees to be hired for the development of the project will be included in the project, as well as the way to promote gender equality and continuous training.

#13 Fight against climate change: The tCO2eq to be reduced by the project will be calculated.

7. Mitigation Measures and Participatory Process

With the aim of guaranteeing the integral sustainability of the project and its adequate integration into the environment, ATH Bioenergy has evaluated both the impacts of the environment on the project and the effects of the project on its social,

economic and environmental environment. In this framework, different stakeholders were identified, including **local and regional authorities, non-governmental organizations, private companies and citizens in general**.

Based on this analysis, a series of **mitigation measures** were considered aimed at preventing or minimizing the potential impacts that could arise from the start-up and operation of the plant. Among the main areas addressed are:

- The management of possible **nuisances generated by operations**, such as noise, odours or traffic.
- The **prevention of conflicts related to the use of land or natural resources**, through coordinated and transparent planning.
- Integration **with other local initiatives**, such as **community composting projects**, ensuring that the project does not interfere with, but rather complements existing efforts.

In addition, during the public consultation process, it is highlighted that the project maintains an **open and flexible structure**, willing to **incorporate adjustments based on the suggestions or concerns collected**, promoting an attitude of **active listening from the earliest stages of design**.

8. Communication Channels and Continuous Participation

To strengthen the bond with the community and ensure **informed and continuous participation**, ATH Bioenergy has enabled various **accessible and permanent communication channels**, including:

- A **physical form** given to attendees during the initial participatory meeting, allowing opinions and questions to be collected directly.
- A **website with information about the project** (www.athbioenergy.com) and an email box (participacion@athbioenergy.com), which facilitate interaction with interested people at any time.
- The availability of the **ATH offices in Las Palmas** (c/ León y Castillo 248, pl. 6. 35005 Las Palmas de Gran Canaria, tel. 928 230 003) for face-to-face attention by citizens or groups.
- Public **access to relevant documentation**, including technical, environmental and social information of the project, as well as the certification standard in which the project will be registered.

This participatory structure reinforces the company's commitment to **transparency and dialogue,** ensuring that the project evolves in harmony with the expectations and needs of the environment in which it is developed, thus promoting active listening.

Implementation Plan

- PoA Design Consultation: April – June 2025
- Public consultations first VPA (Gran Canaria): April-June 2025

- Next VPA public consultations (Tenerife, Fuerteventura and Lanzarote): September 2025 – 2026
- PoA and First VPA Registration: Q4 2025

9. Conclusion

The ATH Bioenergy project represents a strategic commitment for the Canary Islands towards a **fair energy transition**, an **effective circular economy**, and **real environmental and social sustainability**. It meets the technical, economic, social and climate criteria necessary to generate carbon credits and contribute significantly to the island's decarbonisation commitments.

10. Question Round

QUESTION 1 - Female Gender

a) How is the project compatible with the new regulations on the reduction of food waste? What percentage of the input comes from hotels?

(b) What studies have been carried out on the marketing of the resulting fertilizers?

c) Are you studying the improvement in the CO_2 sink capacity of the soil thanks to the fertilizers generated? Are you doing it in collaboration with the ICIA?

a) The waste received comes directly from food waste from hotels and large producers in the food distribution chain and agricultural remains: food remains, food preparations, spoiled food; in short, waste from the food sector and its production (peels and peelings, uneaten remains, expired food, etc.). Hotels already implement measures to reduce waste through control software, efficient menus and preparation in kitchens adjusted to the forecast of consumption according to guests.

ATH's model or project design does not contribute in any way to promoting or perpetuating unsustainable waste production, consumption and generation habits in hotels and other large producers but offering an efficient solution for improved management to its customers for the organic waste they inevitably generate.

In fact, the plant has a limited capacity to admit biowaste, which only accommodates material from a certain number of hotels and agro-waste with a prior management agreement. For example, if the endogenous measures to reduce the generation of waste in hotels produce a smaller amount of waste than expected, it could be considered to accommodate more hotels in the plant, but totaling the same amount of annual organic matter to be treated, since it is limited by the capacity of the plant. which would allow other hotels to join the model, with the aim of carrying out improved voluntary management of their waste.

b) Pilot tests are being carried out in collaboration with public research bodies, such as the Canary Islands Institute of Agricultural Research, to evaluate different alternatives for the use of fertiliser. Likewise, the provisions of the regulations on

sustainable soil nutrition and the prescriptions for the preparation and registration of fertilising products in Europe and Spain will be followed. Fertiliser products have been assessed as compatible for use in organic farming. For the commercialization of fertilizers, in the case of solid organic amendments, in the Canary Islands, despite being cultivated soils characterized by a low level of organic matter, there is some reluctance in areas of the agricultural sector due to some bad experiences with industrial compost that is not properly processed and low attractive, so ATH wants to reverse this perception through real demonstration tests with farmers.

c) Regarding the improvement of the soil as a carbon sink, initiatives are being developed together with the ICIA. In fact, a recent European Regulation encourages the creation of national or community reference schemes that allow the certification of permanent fixations of organic carbon in soils. The substitution of conventional fertilization, based on synthetic products, by organic fertilization such as the one proposed by ATH with its products, not only represents a paradigm shift in soil use, but combined with improved agricultural management practices, contributes to the increase of total carbon in the soil. The latter fact can be verified by means of evidentiary schemes and could, if all the rigorous requirements are met, lead to the emission of carbon credits by nature-based solutions. Likewise, the lower carbon footprint associated with ATH fertilizers will help reduce the carbon footprint of farms that use it.

QUESTION 2 - Male Gender

Has it been taken into account that Gran Canaria generates more than 300,000 tonnes of organic waste per year? What does this mean for environmental complexes?

How are the 10,000 tonnes of CO_2 avoided calculated if biomethane is also burned?

Will the plant be energy self-sufficient or will conventional energy be needed?

How is the water contained in waste recovered?

a) **Reduction of pressure on environmental complexes:**

Yes, one of the indirect benefits of the project is to reduce the load on environmental complexes, which improves system efficiency and reduces diffuse emissions. This also contributes positively to the island's environmental image and its sustainability as a tourist destination. This voluntary initiative constitutes a private infrastructure for the management of organic matter that contributes to improving the environmental results of the VPA of Gran Canaria and the four Canary Islands as a whole.

b) **Calculation of avoided emissions:**

The data offered is a basic estimate, as the sum of the avoidance of emissions by two CO2-eq mitigation pathways: one derived from the avoidance of the tonnes of organic matter sent to landfill and the other by the substitution of fossil fuel by biomethane. It is calculated on the treatment of a mix of organic municipal waste in the amount of 30,000 Tn / year, compared to its associated emissions called diffuse

emissions, and another fraction from the Tn CO2-eq by the substitution of fossil fuel with biomethane, approximately in equal parts.

To do this, the methodologies and values of the IPCC are used, which considers that 1 ton of methane is equivalent to 28 tons of CO_2. By preventing waste from going to landfill and replacing fossil fuels, the emission of methane and CO_2 into fossil fuels is avoided.

c) **Energy consumption of the process:**

Electricity consumption will be 100% from renewable sources through a PPA (Power Purchase Agreement). In the design of the project, maximum heat recovery has been sought. The consumption of fossil fuel in the plant is estimated at 1095.4 MWh/year, out of the total. **As a modification in the design of the project, a redesign is being evaluated in this aspect, so that a part of the biomethane generated for the provision of thermal services is consumed in the plant**. In this way, engineering is considering two alternative consumption points, mainly to meet the thermal demand of the digester.

d) **Water recovery:**

Regarding water management, its use and responsible consumption, it should be noted that the ATH process has been designed to be capable of producing 25,000 m3/year, of which approximately half is reintroduced into the process and the other part is available with irrigation water quality (reclaimed irrigation water according to RD 1084/2024). Not surprisingly, the Company is committed to SDG 6 Clean Water and sanitation.

After a process of separation and reverse osmosis, a part will be reintroduced into the process, avoiding the consumption of input water and the rest will be made available to the community, for irrigation, gardening or industrial uses.

QUESTION 3 - Female gender

Is it true that only long-term carbon sequestration can generate credits?

Or is it enough to reduce emissions, meet SDGs and be transparent?

Which entities verify these credits and are they legally recognized?

There are multiple ways to generate carbon credits: both natural sinks (forests) and emission reduction projects (such as ATH). The key is first that the project is eligible and then that it meets technical requirements and demonstrates real results.

ATH adheres to the Gold Standard, which validates projects only after verifying results. Unlike the Spanish national scheme — which only admits forest sinks — Gold Standard allows for mitigation credits. In Europe, there is a new regulation that recognises new pathways (carbon in products, soils, etc.).

Verification entities are accredited by each standard (such as Gold Standard), and their job is to audit and certify the results. Each project is registered in public registers with data such as: location, duration, technology used and volume of credits.