SONAE CAPITAL

ENERGY

GREEN BOND FRAMEWORK

July 20

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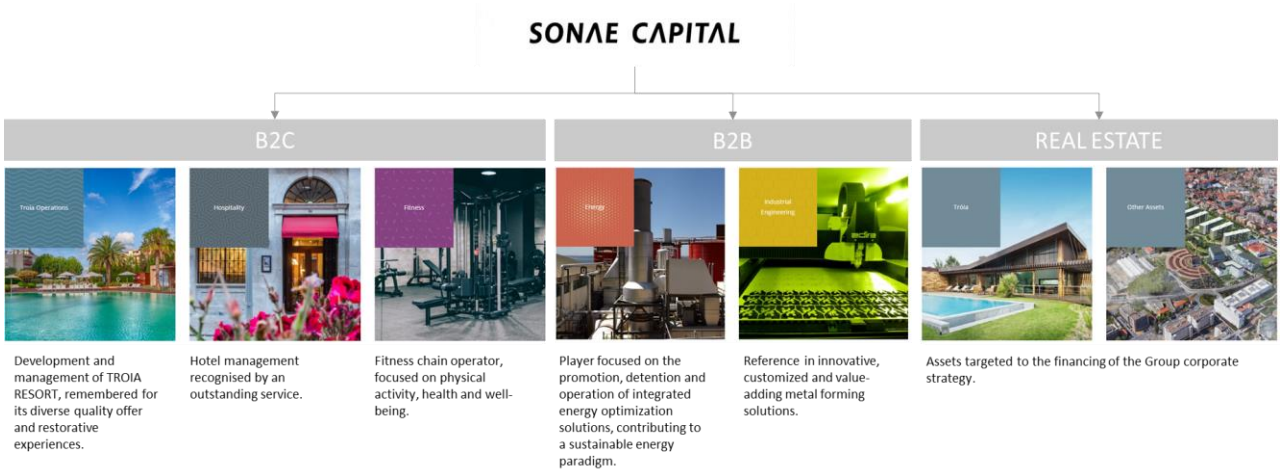
INTRODUCTION

Sociedade de Iniciativa e Aproveitamento Florestais – Energia, S.A. ("SIAF") is a Portuguese company, 100% directly owned by Capwatt, SA (Capwatt), the subholding dedicated to Energy business of Sonae Capital, SGPS, SA ("Sonae Capital"), a Portuguese public company listed on Euronext Lisbon.



Capwatt, Sonae Capital's Energy business, holds and operates decentralized energy production projects through cogeneration and renewable sources (solar, wind, biomass and biogas). Thus, the cogeneration - decentralized and simultaneous generation of electricity and thermal energy - stands out for the savings of primary energy and, consequently, the reduction of the emissions of gases with greenhouse effect, namely CO_2. The cogeneration plants held by Capwatt are made up of engines or turbines, use natural gas or biomass as a primary source of energy and are have a high overall efficiency, which translates into primary energy savings of about 20% on average.

Regarding the prevention and control of pollutant emissions to the atmosphere, and in accordance with the applicable law, the monitoring of gaseous effluents is carried out and its results are communicated to the responsible governmental entity. Paying attention to the preservation of operating conditions and respecting the equilibrium of the human-environment binomial, the emissions of gaseous effluents resulting from the production of energy complies with the legal requirements for concentration limits and pollutant emissions into the atmosphere. This is achieved by using best in-class available techniques, in order to develop an integrated policy for the prevention and control of air pollution.

In addition to projects of solar and wind electricity generation, energy efficiency, energy storage and EV charging, the portfolio of Capwatt also includes two differentiating projects based on the use of biofuels. Thus, Capwatt's first investment in the area of biofuels emerged in 2017, with the integration in the portfolio of an electricity production facility based on the use of biogas. This project has an installed capacity of 1 MW and is located in Chamusca, Portugal. Using a system that collects and cleans the biogas generated in a municipal solid waste landfill – mainly composed of methane, a gas with an extremely powerful greenhouse effect -, this gas powers a motor similar to those employed in the cogeneration plants, generating electricity, actively promoting a circular economy and significantly decreasing the amount of greenhouse gas emissions.

The year 2017 also proved to be a landmark for Capwatt because of the development of the first large-scale biomass energy project, in Mangualde, Portugal, through its subsidiary SIAF. This biomass plant, which represents an investment of approximately 53,4 million euros, is expected to enter into operation scheduled for the first half of 2020, will use by-products of wood processing industries and forestry biomass as fuel, thus providing another important practical contribution to a more circular economy. It is also noteworthy that this installation will recover the heat produced for the production process, so it will achieve a very high overall efficiency.

The main objective of Capwatt is to provide a global energy solution to its partners, supplying their electricity and thermal energy needs, always raising their awareness for a rational energy consumption.

Another environmental aspect that remains properly controlled is the management and treatment of the waste generated by Capwatt's activity, with the objective of minimising its production and having an appropriate final destination. The waste generated

is forwarded to entities licensed for this purpose, and its quantities reported to the Portuguese Environment Agency on an annual basis. In 2018, 92% of the Capwatt's waste was recovered, a value that compares with 87% in 2017.

Our employees are aware and motivated to the adoption of ecological practices, so that the rational use of natural resources is achieved. Several actions have been developed to raise awareness for the rational use of resources, as well as selective sorting practices at source, in order to encourage waste recovery through flows and sectors, maximizing the environmental benefit.

With regard to Fluorinated Greenhouse Gas (F-GHGs) and in accordance with current legislation, maintenance and leak detection are carried out, and this data is reported annually to the Portuguese Environment Agency.

Capwatt is aware of the risks inherent to its activity, focusing on prevention through systematic evaluation and implementation of appropriate control measures. In 2018, it was obtained the Environmental Certification according to ISO 14001:2015 and certifications according to ISO 45001:2018, Safety and Health Management Systems at Work and ISO 9001:2015, Quality Management Systems.

BRIEF DESCRIPTION OF THE PROJECT

Capwatt promotes integrated solutions for decentralized energy for industrial and services customers, with emphasis on high efficiency cogeneration and renewable generation, taking responsibility for all activities inherent to its implementation, starting with design, licensing and construction, up to operation and maintenance throughout the useful life of the assets. Capwatt complements its integrated offer through its activities of energy commercialization and energy efficiency services, also assuming the role of energy manager of its customers, using a digital multiplatform where it continuously monitors the consumption and decentralized production of customers, proposing actions to improve efficiency.

In terms of sustainability, Capwatt contributes to reduce the ecological footprint of its customers by implementing measures to improve energy efficiency, integrating decentralized renewable production, implementing mechanisms for carbon sequestration and boosting electricity consumption.

The new biomass plant is a clear example of all these benefits. This unit will make an important contribution to the optimization of forest management in the region and consequently to the minimization of the risk of forest fires, as well as, with the use of by-products of the industrial process, promoting the circular economy with all the associated environmental benefits, while contributing to job creation and economic growth. With an electrical power output of 10 MW, located in Mangualde, it will also recover heat produced for Sonae Arauco's production process, thus achieving very high global efficiency.

It should be also bared in mind that this biomass based electricity generation project is part of the strategy defined for the Portuguese National Energy Policy, through the construction of a power plant operating from the energy recovered from forest biomass waste, with a thermal power of 91 MWt and a net electrical power of 10MW, selling around 83 GWh of electricity a year to the Public Electricity System ("PES") network. Thus, the biomass plant will contribute to the pursuit of a structural energy policy of reducing the external energy dependence and greenhouse effect resulting from the use of fossil fuels.

Finally, because the production of the biomass plant is not dependent on the availability and intermittency of the primary source of renewable energy – unlike wind and solar -, thus operating 24/7, this project provides a rare, but much-needed, renewable baseload production to the national grid and, therefore, a valuable contribution to the security of the electricity supply.

The net proceeds from the Green Bonds issuance will be used in the financing of the existing and on going investments of Sociedade de Iniciativa e Aproveitamento Florestais – Energia, S.A. ("SIAF"), a Portuguese company, 90% indirectly owned by Sonae Capital, SGPS, S.A. ("Sonae Capital"), which support the diversification and increased resilience of the electricity supply to include renewable sources such as biomass and to reduce greenhouse gas emissions, fostering a renewable and clean energy production environment.

BIOMASS POWER PLANT

Overview

SIAF is primarily engaged in the design, construction, operation and maintenance of a biomass powered plant located in Mangualde, Portugal, with 90 MWt thermal input a net 10 MW electrical output.

SIAF will produce thermal energy from by-products resulting from Sonae Arauco's industrial process and forest biomass waste, in the form of steam and thermal fluid, which will be delivered at Sonae Arauco's industrial unit process and, at the same time, it will generate electricity, which will be injected into the Portuguese Electricity System network.

The plant will consist of a boiler with a dynamic air-cooled stepgrate, a solution designed especially for forest biomass. The combustion unit, due to its sizing and control, will allow the use of fuel with enormous variation in moisture content and granulometry. Regarding the biomass fuel that is too small to be burned on the grate, it will be burned in suspension by specific burners.

The steam production is made by tubular exchanger and the superheating will be carried out by a modular superheater with a water injection system to ensure the effective control of the steam temperatures and the durability of the superheater.

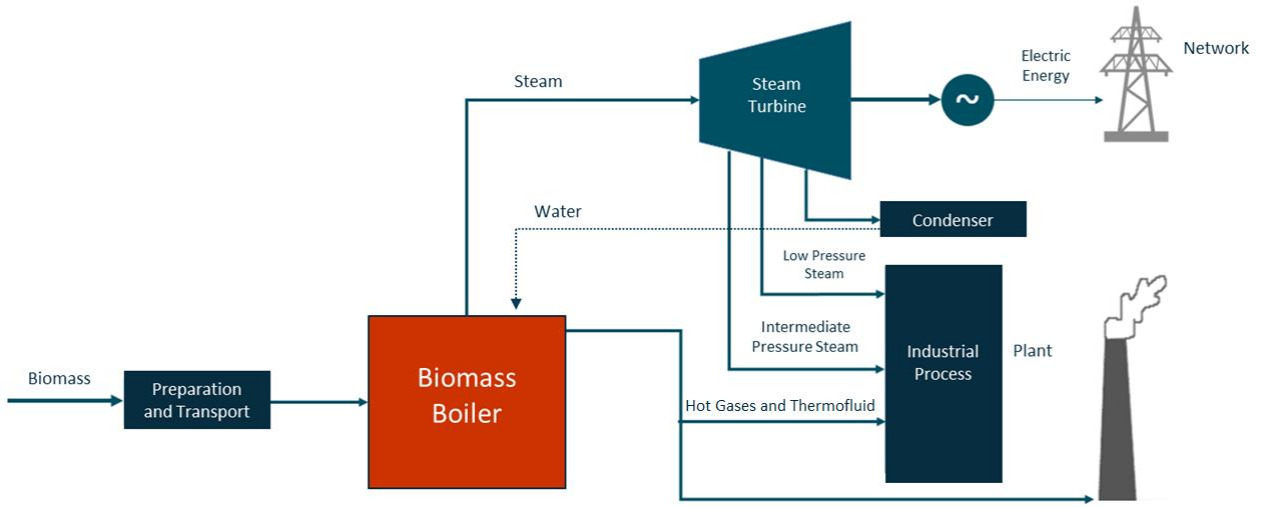
Before entering the steam generator, the treated water for steam production will pass through a preheater, a degasser and an economizer. The preheater and the degasser are heated by energy obtained from the steam from the turbine extractions (condensation and specific extraction for sealing and preheating), ensuring excellent thermal utilization and electrical performance. The economizer raises the water temperature, extracting energy from the flue gases and thus improving the efficiency of steam production. In addition, the energy of the high pressure steam that drives the condenser ejector, ensuring its depression, will be used to heat the water that feeds the steam generator.

The combustion gases, after passing through the superheater, steam generator and economizer, will leave at around 170ºC and will be used to feed the wood drying unit, in the process of the industrial unit, reducing or replacing fossil fuels and thus avoiding emissions to the atmosphere.

Only a negligible part of the energy that will enter in the form of biomass will be lost by radiation, ashes and steam condensation at the exit of the turbine, meaning that the project has an excellent electrical efficiency, but also an excellent thermal use and overall efficiency.

The vast majority of the waste forest biomass will be received pre-treated (with dimensions suitable for the boiler), but it can be classified and crushed, if necessary. Park storage will guarantee sufficient quantities for continuous and efficient operation, not allowing, however, the degradation of biomass by fermentation or self-combustion. From that park, it will pass to a silo with a removable bottom cover that will dose the next amount of biomass to be transport to the boiler feed hopper.

The steam generated will feed a high-performance condensing turbine with high availability and efficiency. This turbine is prepared to work in island mode supplying the power plant's auxiliary equipment. Thus, in the event of a break in the interconnection to the public electricity network, the power plant will not shutdown, allowing reconnection as soon the conditions of the electricity network are re-established, instead of requiring a complete restart of the installation. This system can significantly increase the effective availability and efficiency of the plant.



On Site Certifications

The plant is expected to obtain the same certifications that Capwatt currently has, like the Environmental Certification according to ISO 14001:2015, certifications according to ISO 45001:2018, Safety and Health Management Systems at Work and ISO 9001:2015, Quality Management Systems.

Biomass Supply

Sonae Arauco Portugal (SAP) undertakes to deliver the biomass necessary for the operation of the SIAF plant. The biomass to be supplied by SAP to SIAF comes from its industrial process, as well as from forest biomass waste acquired by SAP from third parties.

In order for an efficient management of the biomass to be delivered, SIAF must communicate to SAP the biomass needs expected for the next 12 weeks on a rolling basis.

Power Plant Figures

SIAF biomass power plant figures:

Annual working hours	8.280 h/y
Thermal input power	91 MWt PCI
Biomass consumption	300.000 t/y
Steam production	85 t/h
Heated thermal fluid	750 m^3/h
Combustion gases	152.550 Nm^3/h
Electricity production	12 MWh/h or 99 GWh/y
Internal consumption	2 MWh/h or 17 GWh/y
Electricity sale to the grid	10 MWh/h or 83 GWh/y
Estimated reduction in CO_2 equivalent emissions	154 $ktCO_2e/y$

GREEN BOND FRAMEWORK

As part of the drive, by different power sector participants, to push forward the decarbonization of the economy, SIAF believes that the issuance of green bonds is an important tool to encourage the transition to a low-carbon economy, giving financial backing to existing projects or new ones aimed at bringing about this transition.

SIAF's Green Bond Framework is based on and aligned with the latest version of the Green Bond Principles (GBP) published by the International Capital Market Association (ICMA).

Accordingly, this Green Bond Framework is based on the following 4 pillars:

1. Use of proceeds,
2. Project evaluation and selection,
3. Management of proceeds,
4. Reporting,

To confirm such alignment, SIAF has engaged Sustainalytics as an external reviewer to provide a second party opinion on this framework.

Summary

1. Use of proceeds	2. Project evaluation / selection	3. Management of proceeds	4. Reporting
The proceeds of the bond will go exclusively to financing the construction of the biomass power plant project, which will provide clear environmental benefits. The eligible Green Project categories are the following: ▪ Renewable energy production; ▪ Pollution prevention and control.	The list of selected eligible projects is set up by Sonae Capital´s Corporate Centre, which integrate core functions such as Sustainability, Finance and Risk Management. The list of projects is then submitted to the Board of Directions for approval on proposal of the Executive Committee.	The net proceeds of green bonds issued will be managed on a single project basis, according to the rules set in the Project Finance Facility Agreement. The Finance Department will guarantee the allocation of net proceeds by following an internal management system that aims to define the destination of cash flows, set reserved accounts for not invested funds and adjust periodically the net proceeds. Proceeds not immediately disbursed will be held and not invested in non green projects, GHG intensive activities, nor controversial activities: proceeds not disbursed shall be invested according to SIAF's liquidity and/or liability management activities, following the market best practices.	In accordance with the Green Bond Principles, SIAF will provide an annual update on the activities related to its Green Bond issuance. In such updates SIAF will seek to provide information on the allocation of the use of proceeds as well as relevant impact metrics.
Positive impacts ▪ Energy efficiency; ▪ National energy bill decrease; ▪ Decrease of the carbon intensity of the national power grid; ▪ Job creation and economic growth;			

▪ Reduction of forest fire risk; ▪ Enhance circular economy.			

Use of Proceeds

The net proceeds from Green Bonds issuance will be used exclusively to finance the biomass power plant project, which includes the design, construction, operation and maintenance biomass plant located in Mangualde, Portugal, with 91 MWt thermal input capacity and 10MW net electrical output power.

The Eligible Green Project is deemed to provide environmental benefits (avoidance or reduction of greenhouse gas emissions) in alignment with CapWatt's strategy and sustainability goals as previously outlined.

Project Evaluation and Selection

Projects are evaluated and selected based on compliance with the Eligibility Criteria described above, with Capwatt's strategic sustainability objectives and in compliance with applicable national, European and international environmental and social standards and regulations, to ensure a stringent management of any potential negative environmental and social impacts. The list of selected eligible projects is set up by Sonae Capital´s Corporate Centre, which integrate core functions such as Sustainability, Finance and Risk Management. The list of projects is then submitted to the Board of Directions for approval on proposal of the Executive Committee.

In this case, the project is clearly identified: SIAF's biomass power plant.

Management of Proceeds

The net proceeds of green bonds issued will be managed on a single project basis, according to the rules set in the Project Finance Facility Agreement.

Reporting

In accordance with the Green Bond Principles, SIAF will provide an annual update on the activities related to its Green Bond issuance.

Such updates we will seek to provide information on the allocation of the use of proceeds as well as relevant impact metrics.

The information will be made publicly available via Sonae Capital´s website.

The relevant information provided will include:

Use of Proceeds

A breakdown of proceeds in accordance with the areas highlighted under Eligible Activities

- The amount of unallocated proceeds
- A closer description of some of the activities financed.

Impact reporting

- The actual impact will be reported when relevant according to the proposed metrics outlined in the below table.

Use of Proceeds category	Examples of proposed impact metrics
Renewable and Clean Energy	▪ Installed renewable energy capacity (MW) ▪ Expected annual renewable energy generation (MWh)

	▪ Estimated annual GHG emission avoided or reduced (tCO_2e)
Integrated Pollution Prevention and Control	▪ Reduction of biomass waste in the forest ▪ Estimated annual GHG emission avoided or reduced (tCO_2e) ▪ Emissions of nitrogen oxides (NOx), sulphur dioxide (SO_2), hydrochloric acid (HCl), hydrofluoric acid (HF) and Suspended Particles

The group-level sustainability KPIs are published annually in our Sustainability Report and demonstrate our continuous commitment to sustainability. SIAF will develop relevant KPIs as the market and standards develop. Such KPIs are proposed in Table 1 but may change over time subject to providing a relevant understanding of the impact.

External Review

Second Party Opinion:

SIAF has appointed Sustainalytics to provide a Second Part Opinion ("SPO") on its Green Bond Framework ("GBF"). The Second Party Opinion and the Green Bond Framework will be available to the green bond investors on Sonae Capital's website at [x]

Verification:

An independent external party will verify the internal tracking method and allocation of the funds until the full allocation of the outstanding green bonds.

SONAE CAPITAL

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