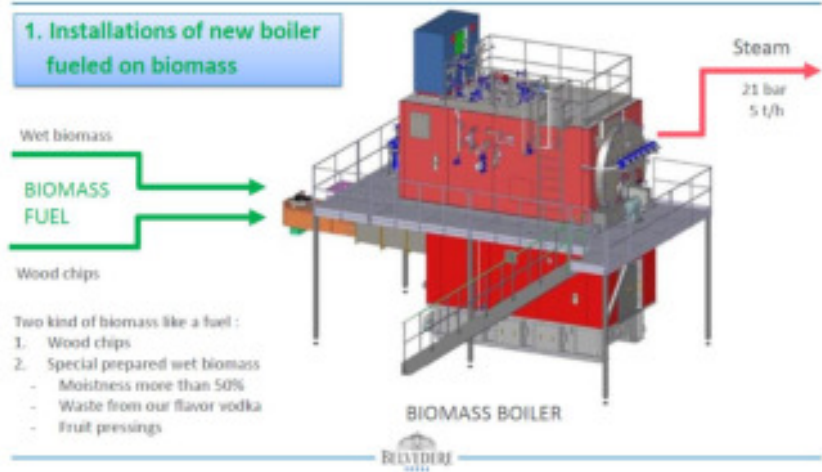
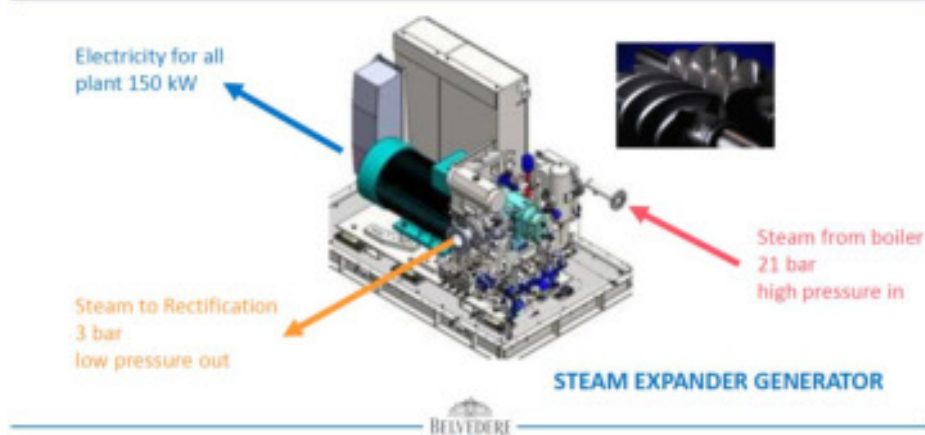


Installation of a biomass power plant in Belvedere's vodka distillery

To decarbonize the energy used by the Polish distillery and reduce its GHG emissions, the Maison Belvedere has installed a biomass power plant to replace its gas needs.

| | |
|--|---|
| Starting date of the project | 2018: launch of the R&D phase 2021: start of operations |
| Project Localisation Places of implementation of the project at this stage and targeted geography if replicable. | The Belvedere distillery is located 45 kilometers west of Warsaw, in Polmos Żyrardów. The equipment can be reproducible for distilleries or industrial processes which require steam and have biomass available (here maceration residues from the manufacture of naturally "flavored" vodka by maceration of fruits, spices, etc. as well. than local wood pellets). |
| Project objectives Type of climate innovation of the project with a description of the problem/issue addressed | The project aims to reduce GHG emissions from the Belvedere distillery in Polmos Żyrardów by installing a biomass power plant to: <ul style="list-style-type: none"> • Replace the use of gas with biomass (renewable) • Be part of the ambitious objectives of ISO 50001 set up on the site |
| Detailed project description | <p>The installation of a biomass power plant will allow the distillery to substitute its needs for natural gas. This biomass power plant hosts the combustion of recycled materials (wooden pallets and macerate residues, etc.) in a boiler, to produce high pressure steam which feeds an expansion steam generator producing low pressure steam (used in the distillery process) and electricity.</p>  |

2. Production steam will be used first on the machine for electricity production and then to rectification process



It is most unusual for such power plant to be built on the scale of a single industrial site, rather than by major electricity companies. This project is part of a long-standing commitment on the part of the House, whose distillery was awarded ISO 50001 certification in 2014 - the first in the Group to receive this recognition.

Preliminary studies were conducted with the three Polish universities of Gdansk, Lodz and Poznan. Given the scale of the project and spread over years, it has been integrated into the LVMH Carbon Fund since the Research & Development phase. The European Union has granted a 40% subsidy.

Carried out in three phases, the project is set to be completed in 2021. We estimate that greenhouse gas emissions are due to ultimately be cut back by 2,600 metric tonnes of CO₂ annually and has been validated by the LVMH Carbon Fund.

Main project's drivers for reducing the greenhouse gas emissions

Enter the information in the appropriate boxes

Reduction levers

- ☐ Energy and resource efficiency (including behaviour)
- ☒ Energy Decarbonisation
- ☒ Energy efficiency improvements
- ☐ Improving efficiency in non-energy resources
- ☐ Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)
- ☐ Financing low-carbon producers or disinvestment from carbon assets
- ☐ Reduction of other greenhouse gases emission

Details on the aspects of the project

- Use of steam produced from biomass
- Use of more energy efficient equipment

Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope

Indicate the aspects of the project that contribute to the reduction of emissions per category of emissions considered (left-hand column) and the quantification of associated emissions.

Indicate the main hypotheses and calculation steps in the intended section (below the table)

For further details, please refer to the methodology guidelines.


Aspects of the project contributing to the reduction of emissions by emission category

Quantification of associated GHG emissions by emission category

Please follow the quantification methodology used in [the Afep guidelines](#).

Reduction of the company's carbon dependency

| | | |
|---|--|-------------------------------------|
| Scope 1 <i>Direct emissions generated by the company's activity.</i> | Use of steam produced from biomass (and no longer natural gas) | - 2,6 kt CO ₂ eq. / year |
| Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i> | | |
| Scope 3 <i>Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.</i> | | |
| Increase of carbon sinks | | |
| Emissions Absorption <i>Carbon sinks creation, (BECCS, CCU/S, ...)</i> | | |
| GHG emissions avoided by the company at third parties | | |

| | | | | |
|--|--|--|--|--|
| | Avoided Emissions <i>Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</i> | | | |
| | Clarification on the calculation or other remarks: Reduction of 2,690 tonnes of CO2 per year and 80% of site emissions. Initially, natural gas consumption is 13,125 MWh per year (2,690 t. CO2 eq.). After the installation of the biomass boiler, all consumption of natural gas will be eliminated. | | | |
| Modality of verification of the quantification. | Calculation standard used (ADEME base, GHG protocol, etc.): Data base from Energy International Agency 2010 Verification of the calculation (internal or external): The energy consumption of the LVMH group sites (including that of Belvedere) is verified by the statutory auditors for reasonable assurance as well as the emission factors. | | | |
| Other environmental and social benefits of the project | The biomass installation project will contribute to the following SDGs: • SDG 7 Clean and affordable energy by producing carbon-free energy; • SDG 12 Responsible consumption and production by reusing waste; • SDG 9 Industry, innovation and infrastructure by offering an innovative distillery system, for self-consumption. | | | |
| Project maturity level | <input type="checkbox"/> Prototype laboratory test (TRL 7) <input checked="" type="checkbox"/> Real life testing (TRL 7-8) <input type="checkbox"/> Pre-commercial prototype (TRL 9) <input type="checkbox"/> Small-scale implementation <input type="checkbox"/> Medium to large scale implementation Remarks: click here to enter the level of maturity of the project | | | |
| Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential | The project is reproducible if the steam and electricity needs are less than 250 kW and if biomass with humidity between 50 and 60% is available. | | | |
| Amount of investment made (in €) | EUR 4.3 million have been invested, of which EUR 1.4 million have been subsidized by the European Union. | | | |
| Economic profitability of the project (ROI) | <input type="checkbox"/> ST (0-3 years) <input type="checkbox"/> MT (4-10 years) <input checked="" type="checkbox"/> LT (> 10 years) Remarks : The biomass power plant will save several hundred thousand euros per year at Maison Belvedere. | | | |
| Engaged partnerships | Partnerships with the Polish universities of Gdansk, Lodz and Poznan have been engaged to carry out studies on biomass analysis, sizing and pre-installation. | | | |
| Open comments from the project owner | / | | | |
| More about the project | | | | |
| Contact the company carrying the project | wkosakowski@belvederevodka.pl kbaranowska@belvederevodka.pl | | | |
| Project URL links | / | | | |
| Illustrations of the project |  | | | |

