Pilot assessment M-Benefits **TER-15**

Hera Spa - Italie A safer and more comfortable building for Ravenna's headquarters



M-Benefits analysis conducted by F.I.R.E., Dr Livio De Chicchis, in collaboration with Ing. Marguerita Cumani, Energy Manager at HERA Spa, who approved

We would like to thank HERA for its collaboration on the M-Benefits research project.





This project has received funding from the European Union's Horizon 2920 research and innovation programme under grant agreement No. 785131. This document only reflects the authors' views and EASME is not responsible for any use that may be made of the information it contains.

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Step 1 - Context & Scope

Current situation and problems:

- The building is equipped with a traditional air conditioning system, without automation logic and with conventional control methods (compensation curve and start/stop at programmed times), supplemented by manual control of the emission terminals in the rooms.
- The comfort of the building is poor, as evidenced by frequent complaints from employees.

Energy-efficiency action (EPA) proposed and advantages:

- The proposed system collects a large number of environmental variables (partly through the installation of sensors in the field) and integrates them into a modelling algorithm for the 'buildingplant' system, in order to predictively anticipate optimal operating levels to reduce energy consumption and improve occupant comfort (heating and cooling; humidity; indoor air quality).
- This advanced control system enables remote environmental monitoring and management of the heating system by controlling the building's production, distribution and emissions



Step 1 – Context & Scope

Company's activity:

The Hera Group is a leader in multi-utility services related to the environment, water, and energy. It provides energy (gas, electricity), water (aqueduct, sewerage, and purification), and environmental services (waste collection and treatment).

Municipalities hold the majority of the capital, although the company is publicly traded. The pilot project is being carried out in the Ravenna headquarters building, specifically in the "Warehouse-Factory" building, which includes premises used as offices and work areas organized as warehouses.

Customer segments and value propositions:

- · HERA's customers are individuals and businesses.
- HERA aims to become a benchmark for its customers by developing an original, innovative business model
 that is firmly rooted in the local area and respects the environment. It aims to contribute to the development
 of the cities in which we live by carrying out activities that fully meet the sustainable development goals of the
 United Nations 2030 Agenda.



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Step 2.1 – Energy analysis

Energy analysis

Current energy consumption:

- Energy carriers impacted by the project : électricity, natural gas.
- Annual consumption:

- Electricity: 1'150'000 kWh

- Natural gas: 585'000 kWh

Future energy consumption (after EPA implementation)

- Estimated physical energy savings (30% reduction in air conditioning consumption):
 - 20'700 kWh/year electricity
 - 170'000 kWh/year natural gas
- Energy costs savings: 12'300 €/year



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Operational analysis – Impact of the EPA on HERA's operational excellence:

The 5 PILLARS of OPERATIONAL EXCELLENCE

Step 3 – Operational analysis

 Safety: improved well-being and health for teams thanks to better thermal, acoustic and air quality.

Safety

Quality: improving the comfort, health and productivity of the workforce leads to an
improvement in the quality of the processes carried out in the building (administrative
and storage activities) and, consequently, in the quality of the services provided to
HERA's customers.

Quality

 Reduction in operating costs: increased employee productivity, reduced turnover and absenteeism, complaint management, maintenance, energy. Reduction in investment costs: deferral or reduction of capital expenditure (longer equipment life due to less wear and tear).

Costs

 Reduction in the time spent collecting, checking and verifying building data (tasks automated following the investment); more time available for other tasks (managers). Time

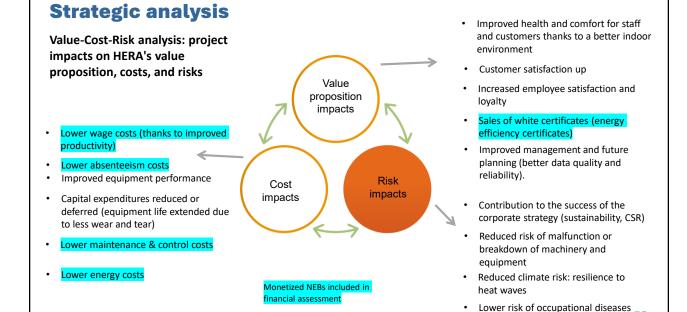
 Energy consumption (mostly fossil fuels) and emissions of CO₂, CH₄, CO, NOx, SOx and dust are decreasing.

Sustainability

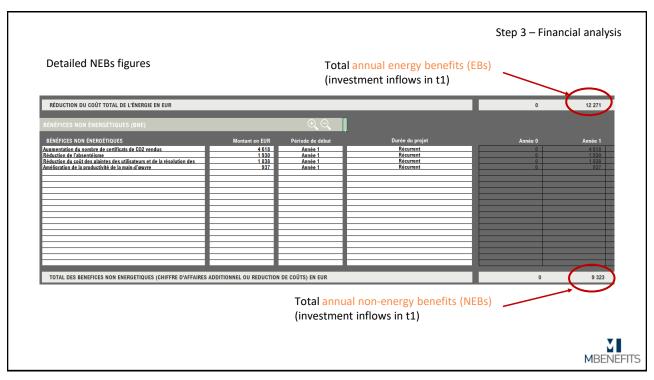
Step 3 – Strategic analysis

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Financial analysis

Energy benefits (EBs) only:

CAPEX : 32'000 €

Investment inflows in t1: € 12'271

NPV : 41'248 €

IRR: 28%

· Simple payback: 4 years

All benefits (EBs + NEBs included):

CAPEX: 32'000 €

Investment inflows in t1: € 21'594

NPV: 89'623 €

IRR: 50%

Simple payback: 2 years

Discount rate: 6 %

Investment duration: 10 years (i.e. the number of years taken into account to compute NPV and IRR).



Step 3 - Financial analysis

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Why this project is worthwhile:

Step 5 - Conclusions and recommandations

Operational impacts

- · Increased employee productivity
- Less disruption due to breakdowns or malfunctions
- · Centralized remote control of facilities and equipment
- Reduced operating costs: data control and harmonization, maintenance, energy

Strategic impacts

- · Contribution to climate strategy
- Improved staff comfort, satisfaction, and loyalty
- Improved customer satisfaction
- Improved governance: better planning
- · Strengthened human, physical, and organizational resources
- Reduced risk of business disruption in the building (breakdowns, heat waves)

Evaluation financière

- Internal rate of return (IRR): 42% Payback: 3 years
- Reduced future investments: reduction in oversizing; longer equipment lifespan



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