RECP Best Practices Catalogue

Study and implementation of a Trigeneration System

Developed within the framework of MED TEST II

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INDUSTRIAL DEVELOPMENT ORGANIZATION

switchmed

The SwitchMed Programme is funded by the European Union

Best Practice - Study and implementation of a Trigeneration System

SECTOR:	**Chemical and Pharmaceutical**
Branch:	Manufacture of basic pharmaceutical products
CATEGORY	Technology upgrade/Eco-innovation
APPLICABILITY	Utilities

COMPANY SIZE	500

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Description of the Problem (Base Scenario):	Considering that the share of energy keeps increasing the cost price and that the plant uses all three forms of energy namely, Electricity, Heat (Steam and Hot Water) and cold (Iced water), it is interesting to study the opportunity for a Trigeneration system.
Description of the Solution	The solution involves setting up a Trigeneration unit (electricity, heat and cold production) by acquiring a gas engine and an absorption machine. There will be gains in the following areas : energy, environment and finance. The annual production of this unit is: • 4,600 MWh of electricity, • 5,400 MWh in the form of hot water (Heat), • 2,500 MWh in the form of iced water (cold).

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Economic Gains	Savings of € 165,000
Environmental Gains	Reduced energy losses, energy savings increased by 41.5% and reduction of 1,078 tons of CO_2 (31.7%)
Health and Safety Impact	-

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Capital Investments & Financial Indicators	€ 755,000 4.5 years
Supplier Information	-
Other Aspects	Possible technical constraints: Heavy investment and need for highly qualified technicians and rigorous follow-up.
Implementation	The Trigeneration unit has been in production since the end of January 2018,

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