

Accelerating Energy Transition



Improve Your Energy Label with EnerTwin

Micro turbine makes
your office building
up to two labels greener





Energy transition and corporate social responsibility

Corporate social responsibility initiatives have become an important way to achieve the climate goals. Although this “movement” started with large multinationals, also smaller and medium sized enterprises require responsible behaviour of their own staff and suppliers. These companies have started a large number of projects to reduce emissions, and the initial results have been accomplished.

Up to two labels higher in one day*

Energy labelling of non-residential buildings is required all over Europe. A greener energy label has many advantages: one does not only save energy cost, but it has also a positive effect on the rent or interest rates that have to be paid for a mortgage. More important, a green energy label gives a positive appearance, making your clients and stakeholders aware that sustainability is highly valued within your company.

A higher energy label can be achieved by renovation of a building. Such intermediate renovation often affects the 10-year maintenance- and upgrade schemes, commonly used by property owners. It is much more attractive to achieve a better energy label with only a few and small interventions and limited investments. How about improving the reputation of your business by improving your energy label by one or two levels, even if it only takes you a day?

Plug & play mini-powerplant

The EnerTwin is a small-scale combined heat and power system: a heating boiler and a small power plant are combined in a single sustainable device. The core of the EnerTwin is a micro turbine that drives a generator. The EnerTwin is the first micro-CHP system based on such micro turbine, which brings major advantages in terms of reliability and service life. Very low maintenance costs, high efficiency and a significant

**Energy Performance Certificate (EPC) rating*

reduction in CO₂ emissions that can be achieved compared to alternative solutions are characteristic for this system. The EnerTwin is Plug & Play (quick and easy installation), does not cause company closure or loss of rent during renovation, and has the lowest TCO (Total Costs of Ownership). This ensures substantial energy cost savings.

Suitable for green gas and biomethane

The EnerTwin is suitable for a number of clean fuels such as green gas, biomethane and natural gas mixed with up to 23% H₂ (hydrogen). Further options are: 100% hydrogen, biogas, LPG, LNG and CNG. Using these clean fuels, your “CO₂ footprint” will further decrease. Just like green electricity, green gas or biomethane is normally available from most energy suppliers.



**Biomethane
Green Gas
Hydrogen**

Emergency power unit

Due to the increasing demand for electricity in combination with fast growing decentralized generation (PV, wind), the electricity grid gradually becomes more unstable and unreliable. By applying the right installation technique, one or more combined EnerTwins can act as an emergency power unit (off-grid). This method of installation allows that the core tasks in the office can be retained in the event of a power failure.

Warranty, installation and maintenance

The EnerTwin comes standard with a 2-year warranty. In addition to product delivery, MTT also provides training for installers in the field of installation and maintenance. In addition, together with the installer MTT offers various maintenance concepts, including second line support, 24/7 remote monitoring and extended warranty.

Energy label calculations

Energy labels are calculated by using simulation software. Although accents may vary per country within the EU, most simulation tools for energy labelling are alike. Energy Performance Advice (EPA) for a greener energy label, in which the EnerTwin is deployed without major renovations. The examples below show some use cases in the Netherlands, where the EnerTwin improves the energy label of office buildings by up to 2 steps:

current situation office

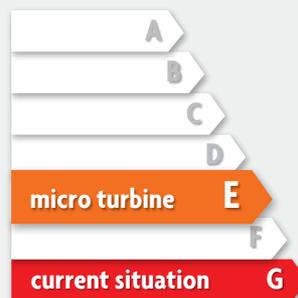
balanced ventilation without heat recovery, non-condensing boiler, compression cooling, construction year <1965

scenario micro turbine

base load heating by EnerTwin, non-condensing boiler for peak loads, construction year <1965

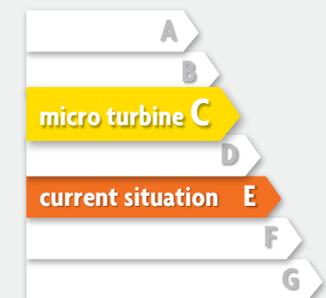
Office 500 m²

From EL 2,01 (G) to 1,59 (E)



Office 2500 m²

From EL 1,57 (E) to 1,29 (C)



current situation office

wall, floor and roof R_c 2.53 and door R_c 0.12, windows: U 2.2 (HR⁺, 30% of façade surface), condensing boiler (HR107), compression cooling, balanced ventilation with heat recovery, hot water from condensing boiler, lighting 10W/m², construction year of building between 1993-2013

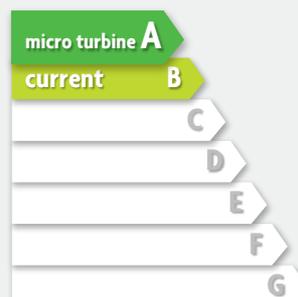
scenario micro turbine

base load heating by EnerTwin, peak loads by HR107 boiler

Office 1500 m²

2 floors

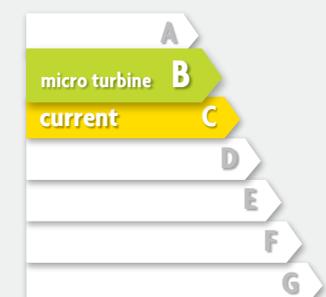
From EL 1,15 (B) to 1,03 (A)



Office 3000 m²

3 floors

From EL 1,17 (C) to 1,06 (B)





Service and warranty

EnerTwin was developed by Micro Turbine Technology (MTT) in collaboration with various research institutes, industrial suppliers, companies from energy and installation sector. This collaboration resulted in a reliable product that meets all modern requirements for decentralized generation of heat and electricity. EnerTwin comes with a standard 2-year warranty, extendable to 4 years when under a full-service contract. In addition to product delivery, MTT also provides training for installation and maintenance to installers. In cooperation with certified installers, we also offer various maintenance concepts, including second-line support and 24/7 remote monitoring.



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