

ELECTRICITY GENERATION: WHRU

REVALORIZING YOUR WASTE HEAT



HEAT-R
AEInnova
LIFE Project



OBJECTIVE

Direct conversion of waste heat into electricity

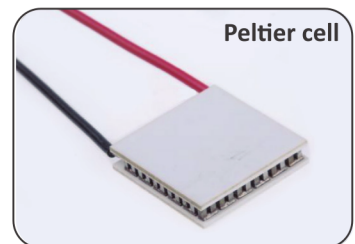
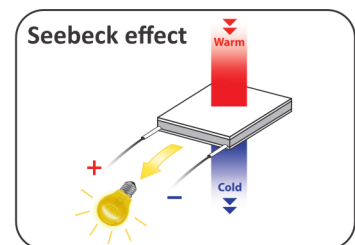
Industries lose up to 70% of its energy in the form of waste heat. In Europa alone, 140 TWh of this lost energy could be recuperated every year using energy harvesting techniques. Put into perspective, this is over the annual electricity consumption of a country like Ireland and it is equivalent to € 2.1 billion.

WHRU is a modular system composed of recovery units capable of converting residual heat into electricity and re-injecting it into the organization's network. The easiest, cheapest and most efficient way to recover your waste heat and increase your commitment to energy efficiency and sustainability.

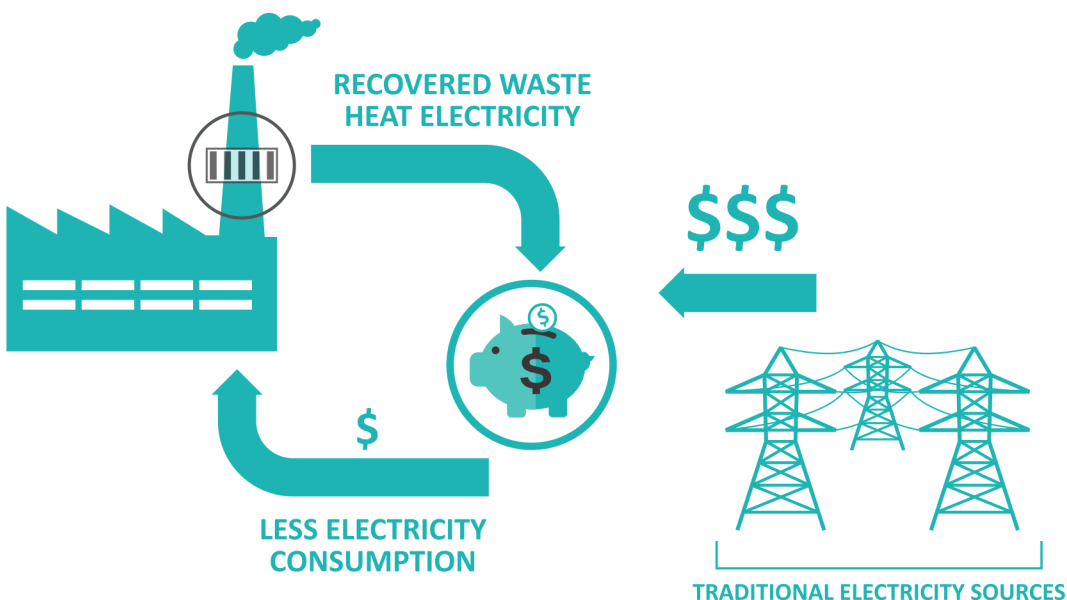
TECHNOLOGY BASICS

The foundation of our technology is the well-known **Seebeck effect**. This effect allows the creation of electrical energy when a certain alloy of materials is put under a temperature gradient.

These materials are commercialized in the form of TEG cells (Thermoelectric Generator) and in AEINNOVA we have developed a **patented microelectronic technology** that allows to connect an unlimited number of TEG cells and get the maximum performance of each of them.



SYSTEM DESCRIPTION



FEATURES

- Carbon-negative electricity
- Very low maintenance
- Easy to install (Plug&Play)
- Fully scalable and monitored
- ATEX and CE Compliant

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TECHNICAL INFORMATION

Waste heat recovering unit (WHRU)

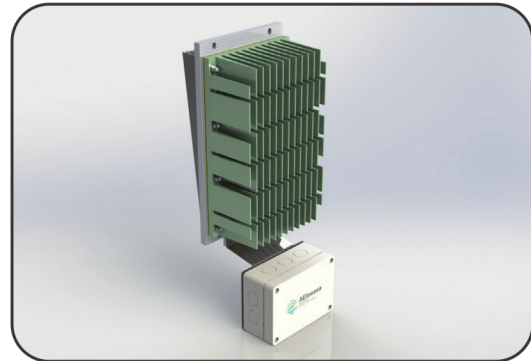
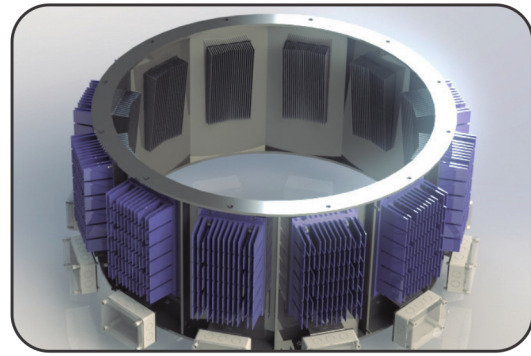
- Up to 25 W peak generation
- From 160 °C to 550 °C
- 12 VDC or 230 VAC output
- Up to 87 Kg CO₂/year compensation
- SCADA Integration
- ATEX and CE Compliant

Suitable for:

- Energy efficiency improvements
- Industry 4.0
- Cooling and temperature reduction
- UE and COP21 directives compliant

Success story

A WHRU was installed in a plant of one of the biggest European automobile manufacturer



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