[PRESS RELEASE]

Waste heat recovery from buildings using thermoelectricity

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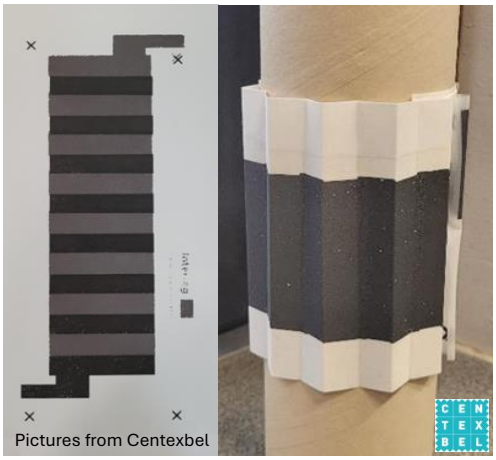
Nowadays energy efficiency has become a global issue; the building of the future will thus have to be thought in the context of sustainable development and the circular economy. The ThermoHarv project aims to recover waste heat and convert it into electricity that can be used to power objects connected to the Internet (IoT).

The building of the future will have to be imagined with a more global approach to reduce energy consumption, no longer focusing solely on thermal insulation, but also integrating renewable energy sources and recovering energy from waste heat. In this context, the ThermoHarv project proposes to build up a strong cross-border expertise in the recovery of thermal energy and its conversion into electricity by exploiting thermoelectricity and pyroelectricity. These two concepts enable waste heat to be converted into electricity. Thermoelectricity uses a spatial temperature gradient, while pyroelectricity uses a temporal heat gradient.

The materials used for thermo/pyroelectric properties will combine a conducting charge with flexible polymer matrices, enabling them to be adapted to the target installations (geometry, size). Polyurethane is the matrix of choice for this project, not only because it is a polymer commonly used in the building industry, but also because it can be easily modified chemically and structurally. In this project, the materials and processes used can be transposed to industrial production (plastics processing, coating, 3D printing, etc.). Recycling of materials is also an important aspect and contributes to the ecological values of the project.

To develop solutions that can be integrated into the buildings of the future, R&D will therefore be carried out according to specifications established by the industrial sector. To this end, a questionnaire is currently diffused online by our partners and associates to gather information on the real needs and constraints present in industrial, tertiary, data center and residential buildings .

You are concerned by waste heat? Please feel free to complete our survey: Questionnaire ThermoHarv (FR) or ThermoHarv Vragenlijst *(NL). You would like to know more about it? Get in touch with us to follow this project more actively and possibly take part in validating the prototypes produced.*



Pictures from Centexbel

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