

Heat Pump Awards 2026

Application submission

A COMPLEX OF TWO MULTI-FAMILY BUILDINGS

Panasonic | Building Solutions Award

1. Application overview

Award category	Building Solutions
Title of the project	A COMPLEX OF TWO MULTI-FAMILY BUILDINGS
Organisation Name	Panasonic
Exact address of the project	ul. Działkowa, Zbąszyń, Poland
Funding	Private
Organisations involved in the project	ArtDOM-Serwis Sp. z o.o. ADF BUDOWNICTWO Sp. z o.o.
Project ending date	30/09/2026
Project website	No answer provided.
Sector of application	Residential

2. Applicant & EHPA contact details

Full name	Adam Sławiński
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Phone number	48882461868
EHPA member involved	None
Role of EHPA member	None

3. Project description and benefits

Project description (goal, problem addressed, and solution provided by the heat pump)

The objective of the project was to provide heating and domestic hot water for two multi-family residential buildings. Due to site conditions, the investor selected Panasonic heat pumps using environmentally friendly R290 refrigerant as the renewable energy solution.

Expected or achieved benefits

The project provides reliable heating and domestic hot water for both residential buildings, using heat pumps as the sole heat source. It eliminates the need for gas boilers and additional electric boilers, while the decentralized design enables flexible operation and accurate heat metering and billing. The use of R290 heat pumps also provides a renewable heating solution that can be replicated in other multi-family residential developments.

Obstacles/barriers encountered during development

The location of the outdoor unit required a system capable of maintaining a large distance between the outdoor and indoor units.

Why should this project win an award?

This project demonstrates that R290 heat pumps can serve as the sole heating and hot water source for multi-family residential buildings, eliminating the need for gas boilers or additional electric heating. The decentralized cascade system also enables flexible operation and accurate heat metering and billing, offering a scalable model for future apartment developments.

4. Technical specifications

Capacity of unit(s)	20x Panasonic 12 kW Big Aquarea M. Model: WH-WXG12ME8 / WH-SDC0316M9E8.
Energy sources used	Energy source: renewable energy, electrically powered compressor.
Coefficient of Performance (COP)	SCOP at 35°C / 55°C water: 4.73 / 3.65.
Service provided	Heating and DHW.
Refrigerant type	R290

Heat pump details (compressor technology, heat exchanger, system configuration)

The system uses Panasonic Aquarea T-CAP M Series 12 kW Hydrosplit heat pumps (WH-WXG12ME8 + WH-SDC0316M9E8), using R290 refrigerant and Panasonic compressor technology. The outdoor unit and hydronic indoor unit are connected through refrigerant piping, with heat transferred to the building's water circuit through the indoor heat exchanger. Each floor is served by a cascade of two heat pumps, with the units operating in parallel rather than in series. The system is configured as a cascade to modulate capacity according to demand.

5. Renewable energy integration and grid response

Integration of renewable energy sources

No renewable energy sources are integrated into the system. The heat pumps use ambient air as the renewable energy source, with electricity powering the compressors. The solution therefore provides renewable heat without the need for additional energy sources such as photovoltaics.

Response to energy demand / smart grid integration

Each cascade is connected to a buffer tank acting as a hydraulic separator. Energy distribution is handled by circulation pumps in the apartments, while heat meters enable accurate billing for heating and DHW production.

6. Innovation, monitoring and replicability

General (all awards)

Why the project is innovative *(all awards)*

The project uses R290 heat pumps with hydraulic units as the sole heating source in multi-family residential construction.

Monitoring approach (performance, cost, and carbon targets) *(all awards)*

The system is monitored through heat meters installed for each apartment, enabling accurate measurement of heating and DHW consumption and transparent billing. The collected data can be used to track energy use and system performance, while the cascade control system adjusts operation according to demand. Since the system is relatively new, long-term operating cost and carbon performance data are not yet available.

For Large Heat Pump or Building Solutions Award

Why the project serves as a model for others *(Large Heat Pump or Building Solutions Award)*

This project demonstrates that R290 heat pumps can be used as the sole heating and DHW source in multi-family residential buildings, without gas boilers or additional electric heating. The decentralized cascade configuration provides flexibility, reliable operation and accurate heat metering, making the concept suitable for replication in other apartment developments.

Potential for expansion to other locations/industries *(Large Heat Pump or Building Solutions Award)*

The solution can be replicated in other multi-family residential developments, particularly where decentralized heating, individual metering and reliable DHW production are required. The cascade concept can be adapted to different building sizes by adjusting the number and capacity of heat pumps.

Barriers to replication elsewhere *(Large Heat Pump or Building Solutions Award)*

No answer provided.

Business opportunities for expansion, licensing, or commercial production *(Large Heat Pump or Building Solutions Award)*

No answer provided.

For Innovation Award

Technology/technique developed solely for this project *(Innovation Award only)*

No answer provided.

Differentiation from state-of-the-art solutions & market maturity *(Innovation Award only)*

No answer provided.

Regional benefits (energy savings, emissions, jobs, infrastructure) *(Innovation Award only)*

No answer provided.

Commercial potential *(Innovation Award only)*

No answer provided.