

Heat Pump Awards 2026

Application submission

**3 BIG Aquarena T-CAP M Series R290 units for the Champ Fleuri
Primary School and its Dojo**

Panasonic Heating & Cooling | Building Solutions Award

1. Application overview

Award category	Building Solutions
Title of the project	3 BIG Aquarea T-CAP M Series R290 units for the Champ Fleuri Primary School and its Dojo
Organisation Name	Panasonic Heating & Cooling
Exact address of the project	Grisy-Suisnes, France
Funding	Public
Organisations involved in the project	Engineering consultancy: ACCE / Installer Meldoise d'Energy
Project ending date	01/07/2025
Project website	No answer provided.
Sector of application	Commercial

2. Applicant & EHPA contact details

Full name	Roxane Nicolas
Email address	roxane.nicolas@eu.panasonic.com
Phone number	33619482892
EHPA member involved	Panasonic Heating & Cooling
Role of EHPA member	Heat Pump Solutions provider

3. Project description and benefits

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

As part of a comprehensive renovation project, Champ Fleuri Primary School in Grisy-Suisnes and its adjoining dojo required the replacement of their existing heating system with a solution offering improved environmental and energy performances.

Expected or achieved benefits

The project responds to changes in energy demand as the old fossil energy system is to be replaced by a decarbonized solution with heat pumps.

Obstacles/barriers encountered during development

Champ Fleuri Primary School and its adjoining dojo underwent a complete renovation. The dojo was entirely demolished and rebuilt. As part of these major refurbishment works, the existing gas boiler heating system had to be replaced with a solution that was more energy- efficient, cost-effective, and environmentally friendly. The surface of the school is 786 sqm, and 238 sqm for the Dojo. The school is RT label and BBC renovation. The Dojo is RT 2012.

Why should this project win an award?

The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort.

4. Technical specifications

Capacity of unit(s)	90 kW (3 x 30 kW)
Energy sources used	electricity
Coefficient of Performance (COP)	4,40
Service provided	Heating
Refrigerant type	R290

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

Big Aquarea T-CAP M Series: flexible, compact and energy-efficient solution · Units from 20 to 30kW, up to 300kW in cascade · Up to 75°C water outlet · Quiet operation · T-CAP technology: Maintains output at 55°C down to -15°C · Operation down to -25°C outdoor temperatures · Hot water production at 65°C with compressor only · Easy replacement of other heating sources and integration into existing water systems · Flexible control options and seamless Modbus integration · Panasonic Inverter compressor

5. Renewable energy integration and grid response

Integration of renewable energy sources

No answer provided.

Response to energy demand / smart grid integration

The heating solution is connected to a AHU and a BMS (Building management system)

6. Innovation, monitoring and replicability

General (all awards)

Why the project is innovative *(all awards)*

The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort.

14. Your full name * Roxane Nicolas
15. Email address * roxane.nicolas@eu.panasonic.com
Please enter an email
16. Phone number (including country code) * 33619482892
The value must be a number
17. Name of EHPA member involved in the project * Panasonic Heating & Cooling
18. Role of the EHPA member involved in the project * Heat Pump Solutions provider
Technical details
19. What is the capacity of the unit(s), in kW? Enter the nominal power of the heat pump.
90 kW (3 x 30 kW)
20. What are the energy sources used? Specify if the heat pump runs on electricity, gas, or recycled waste heat. * electricity
21. What is the coefficient of performance (COP)? Please provide the figure, along with the operating conditions it's based on. A higher COP means better efficiency. * 4,40
22. What is the service provided? Specify if the heat pump is used for heating, cooling, domestic hot water, or industrial processes. * Heating
23. What type of refrigerant is being used? * R290
24. Please provide the details of the heat pump(s), including the compressor technology, heat exchanger type/materials, system configuration (e.g. two-stage), and whether multiple heat pumps are used in series, parallel, or a combination of both.
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25. Describe how renewable energy sources are integrated into the system and explain how this integration improves the overall performance and efficiency of the project if applicable. No answer provided.
26. Describe how the system responds to changes in energy demand and integrates with smart grids or load management strategies. * The heating solution is connected to a AHU and a BMS (Building management system)
27. Describe why the project is innovative. E.g., it could involve a new technology, unique materials, new manufacturing techniques improving efficiency or durability.
The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort.

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

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The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort.
28. How do you monitor the heat pump system to ensure it meets performance, cost, and carbon targets? How is the data collected and used?
The heating solution is connected to a AHU and a BMS (Building management system). It allows to collect all the data.

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 is a best practice example, demonstrating that an existing gas boiler can be easily replaced with a high-performance, low-carbon heating system. Panasonic's BIG Aquarea T-CAP heat pumps are also distinguished by their compact design, which enabled them to be installed in a confined space without compromising performance.

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

This project is replicable in all the public projects which need heating and cooling solutions. Heat pumps can easily replace heating and cooling networks for public buildings.

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)*

The project can be further developed by replacing the existing radiators by fan coils or water source heat pumps and adding a domestic hot water storage tank, all connected to the heat pumps. This would provide a complete three-in-one solution, delivering heating, summer cooling, and domestic hot water.

For Innovation Award

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

No

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

The project responds to changes in energy demand as the old fossil energy system is to be replaced by a decarbonized solution with heat pumps. 11. Describe obstacles/barriers encountered in the development of the project. Champ Fleuri Primary School and its adjoining dojo underwent a complete renovation. The dojo was entirely demolished and rebuilt. As part of these major refurbishment works, the existing gas boiler heating system had to be replaced with a solution that was more energy-efficient, cost-effective, and environmentally friendly. The surface of the school is 786 sqm, and 238 sqm for the Dojo. The school is RT label and BBC renovation. The Dojo is RT 2012. 12. Sector of application * Industrial Residential Commercial Other 13. Why should your project win an award? Tell us something cool, surprising or convincing about it. The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort. Your information 14. Your full name * Roxane Nicolas 15. Email address * roxane.nicolas@eu.panasonic.com Please enter an email 16. Phone number (including country code) * 33619482892 The value must be a number 17. Name of EHPA member involved in the project * Panasonic Heating & Cooling 18. Role of the EHPA member involved in the project * Heat Pump Solutions provider Technical details 19. What is the capacity of the unit(s), in kW? Enter the nominal power of the heat pump. 90 kW (3 x 30 kW) 20. What are the energy sources used? Specify if the heat pump runs on electricity, gas, or recycled waste heat. * electricity 21. What is the coefficient of performance

(COP)? Please provide the figure, along with the operating conditions it's based on. A higher COP means better efficiency. * 4,40 22. What is the service provided? Specify if the heat pump is used for heating, cooling, domestic hot water, or industrial processes. * Heating 23. What type of refrigerant is being used? * R290 24. Please provide the details of the heat pump(s), including the compressor technology, heat exchanger type/materials, system configuration (e.g. two-stage), and whether multiple heat pumps are used in series, parallel, or a combination of both. Big Aquarea T-CAP M Series: flexible, compact and energy-efficient solution · Units from 20 to 30kW, up to 300kW in cascade · Up to 75°C water outlet · Quiet operation · T-CAP technology: Maintains output at 55°C down to -15°C · Operation down to -25°C outdoor temperatures · Hot water production at 65°C with compressor only · Easy replacement of other heating sources and integration into existing water systems · Flexible control options and seamless Modbus integration · Panasonic Inverter compressor 25. Describe how renewable energy sources are integrated into the system and explain how this integration improves the overall performance and efficiency of the project if applicable. No answer provided. 26. Describe how the system responds to changes in energy demand and integrates with smart grids or load management strategies. * The heating solution is connected to a AHU and a BMS (Building management system) 27. Describe why the project is innovative. E.g., it could involve a new technology, unique materials, new manufacturing techniques improving efficiency or durability. The technology used in this project is highly innovative. The heat pumps installed in a cascade configuration feature Panasonic's T-CAP technology, which maintains full heating capacity even with extreme outdoor temperatures. This makes it possible to replace an existing gas boiler system with a low-carbon, more energy-efficient solution while delivering the same high level of heating performance and occupant comfort. 28. How do you monitor the heat pump system to ensure it meets performance, cost, and carbon targets? How is the data collected and used? The heating solution is connected to a AHU and a BMS (Building management system). It allows to collect all the data. Large Heat Pump & Building Solutions award categories Evaluated criteria: replicability potential. Answer only if you are applying to the Large Heat Pump or Building Solutions award category. 29. Explain why this project serves as a model for other companies or buildings. This project is a best practice example, demonstrating that an existing gas boiler can be easily replaced with a high-performance, low-carbon heating system. Panasonic's BIG Aquarea T-CAP heat pumps are also distinguished by their compact design, which enabled them to be installed in a confined space without compromising performance. 30. Explain whether the project can be expanded - e.g., implemented in more locations or adapted for different industries and/or buildings. This project is replicable in all the public projects which needs heating and cooling solution. Heat pump can easily replace heating and cooling networks for public buildings. 31. What are the main technical, regulatory, financial, or operational barriers to replicating this project elsewhere, and how could they be overcome? No answer provided. 32. Explain whether this project has business opportunities for expansion, licensing, or commercial production. The project can be further developed by replacing the existing radiators by fan coils or water source heat pump and adding a domestic hot water storage tank, all connected to the heat pumps. This would provide a complete three-in-one solution, delivering heating, summer cooling, and domestic hot water. Innovation award category Evaluated criteria: creativity to solve a unique problem. Answer this section only if applying to Innovations award category. 33. Has a technology/technique/system been developed only for this project? Elaborate. No 34. What differentiates your project from the current state-of-the-art solutions? Where does it sit on the path to market adoption - e.g., pilot, early commercial deployment, or fully commercial? The project responds to changes in energy demand as the old fossil energy system is to be replaced by a decarbonized solution with heat pumps.

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

No answer provided.

Commercial potential *(Innovation Award only)*

There is no estimation so far but there is a lot of buildings and installations in the 36 000 cities in France wich need new solutions for heating and cooling.