The national building, which is one of the largest hall structures in the world, needed a reliable and efficient solution for space heating and hot tap water.

SWEP, with its extensive experience in supplying millions of Brazed Plate Heat Exchangers (BPHE’s) for demanding heating applications, provided a compact yet highly efficient solution with a successful outcome.
Background
In 1999, the building administrators were looking for ways to improve heating efficiency in the enormous structure, both for space heating and hot tap water used daily by thousands of people.

The solution
SWEP's Brazed Plate Heat Exchangers (BPHEs) was chosen for the building as it is designed for high-capacity applications and provides reliable and steady performance for demanding industrial and heating applications. Fifteen BPHEs were installed. Designed for optimal energy efficiency, nine units with 280 plates supply the entire structure with district heating in a water-to-water based system with excellent performance.

Another six BPHEs were installed as replacement units to the old Shell & Tube heat exchangers that were installed in the 50's. The three BPHEs block station units supply hot water to the whole building.

Benefits
The replacement of the old Shell & Tube technology in favor of the modern and compact BPHE’s provided substantial savings such as:

- High efficiency even at low flow rates.
- Compactness for lower space requirements.
- Savings on maintenance and spare parts.

<table>
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<tr>
<th>Quick facts</th>
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<tr>
<td>Heat Load each BPHE: 3000 kW</td>
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<td>Primary Side: in: 115°C out: 70°C</td>
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<tr>
<td>Secondary Side: in: 50°C out: 60°C</td>
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<td>Maximum Pressure drop: 80 kPa</td>
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Historically three types of heat exchangers have been used in District Energy applications; Shell & Tube, Plate & Frame (Gasketed Plate Heat Exchangers or PHE) and Brazed Plate Heat Exchangers (BPHE).

Shell and Tube heat exchangers are rare nowadays, as one of the main objectives has been to replace them with plate heat exchangers. During the last two decades the BPHEs have similarly replaced the plate and frame heat exchangers.

SWEP has supplied millions of brazed plate heat exchangers to the district heating and cooling industry since 1984. Our expertise in large urban district energy solutions is shown in our presence in cities all over the world, like Shanghai, Frankfurt, Vienna, Amsterdam, Budapest, Moscow, Prague and many more.