

# NEW CLEANTECH SOLUTIONS

A nighttime photograph of Berlin, Germany, featuring the Spree river, historic buildings, and the prominent TV Tower (Fernsehturm) in the background. The city lights are visible, and the sky is a mix of blue and orange from the sunset or sunrise.

PAWEL MATUSIAK MEMBER OF BOARD UNI-HEAT  
20.10.2015 BERLIN

Cold thermal energy storages(TES)



extracting energy from wastewater



**-AUDIT  
-DESIGN  
-INSTALLATION**

# Uni-Heat provides 3 types of solutions, in relation to heating and cooling

## PRODUCT



### 1 Membrane + Heat Pump

- When Membrane Collectors are used for heating, production of ice is a side effect
- This provides a free source of cooling for any building through ventilation or for cooling in the same building

### 2 Membrane + Chiller

- When used solely for cooling purposes, Membrane Collectors are connected to chillers
- In that case, ice is produced and stored during night when energy rates are lower
- Ice stored during night is released during day thus allowing saving a portion of the total daily chiller usage time
- Heat production is a side effect





# Uni-Heat is engaged in design, production and installation of Membrane Collectors for heating and cooling purposes

PAIN

## Industry

### Need to be addressed

- Heat for production process
- Space heating
- Space cooling
- Heat recovery from wastewater created on-site

### Currently used ways of addressing the need

- Heat for production process
  - ✓ On site conventional heat production
- Space heating
  - ✓ District heating
  - ✓ On site conventional heating
- Space cooling
  - ✓ Chillers
- Heat recovery from wastewater created on-site
  - x Not widely used

### Key addressable needs

### Key benefits

#### Heat source for heat pumps

- No need to make costly drillings
- Collector occupies smaller surface than in the case of traditional ground source heat pumps
- No dependence on the weather
- Reduction of the required power for the heat pump and improved coefficient for performance (COP)

#### Heat recovery from wastewater created on-site

- Possibility to recover heat from waste water created on-site
- Lower energy consumption and improved coefficient of performance (COP) thanks to waste water higher temperatures

#### Thermal energy storage to support appliance for A/C (chillers)

- Reduction of the required power of the chiller
- Helps relieve the peak time
- Reduction of the costs (the collector works at night, when the price of the energy is the lowest)

## Large-format facilities

### Need to be addressed

- Space heating
- Domestic water heating
- Space cooling
- Heat recovery from wastewater created on-site

### Currently used ways of addressing the need

- Space heating / Domestic water heating
  - ✓ District heating
  - ✓ On site conventional heating
- Space cooling
  - ✓ Chillers
- Heat recovery from wastewater created on-site

## Housing





### Need to be addressed

- Space heating
- Domestic water heating
- Space cooling
- Heat recovery from wastewater created on-site

### Currently used ways of addressing the need

- Space heating / Domestic water heating
  - ✓ On site conventional heating
- Space cooling
  - x Not widely used
- Heat recovery from wastewater created on-site
  - x Not widely used

Thank you  
Any questions?

 [facebook.com/kicinnoenergy](https://facebook.com/kicinnoenergy)  
 [twitter.com/KICInnoEnergy](https://twitter.com/KICInnoEnergy)  
 [linkedin.com/company/kic-innoenergy](https://linkedin.com/company/kic-innoenergy)  
 [youtube.com/user/InnoEnergy](https://youtube.com/user/InnoEnergy)