Atrium 1

Location: Warsaw, Poland

Atrium 1 is a modern green office building, designed and developed with the ambition of being the most resource efficient building in Central and Eastern Europe.

The building is equipped with the developer Skanska’s Deep Green Cooling™ (DGC) solution, which uses the relatively constant annual ground temperature under the building to provide cooling during summer and to pre-heat incoming air during winter.

The DGC system includes 50 boreholes, 200m deep. The pipes are part of a water-filled closed-loop system that supplies the building’s chilled beams and the Air Handling Units via a heat exchanger. The building also uses a 400 kW free cooling system when the outdoor temperature is around 5°C, which uses 10% of the energy of the conventional cooling system. The DGC and free cooling systems together meet almost the entire cooling requirements of the leasable area, the remainder being provided by regular chillers.

The south and west-facing façades have external blinds that are controlled by light sensors and the Building Management System (BMS) to avoid excessive solar heat gain and reduce the need for cooling. Cooling is delivered through energy efficient chilled beams, which have no moving parts, which reduces maintenance costs.

With thanks to project developers Skanska.