

IDEAS FOR CITIES: GEOTHERMAL STATIONS WHICH HARNESS HEAT FROM CROWDS

The glow of many a hot and bothered commuter will be harnessed for local heating in Stockholm and Paris.

Swedish realtor Jernhusen is investing SEK 1 billion in the regeneration of Stockholm Central Station, including an innovative geothermal system to capture and channel the body heat of its 250,000 daily commuters.

Heat exchangers in the ventilation system will convert surplus low-grade body heat into hot water, which will then be pumped to heat office space in the nearby Kungsbrohuset building, also owned by Jernhusen. The plans, due for completion in June 2012, also include the replacement of all lighting in the station with LEDs, with the aim of obtaining Green Building certification.

The system could reduce the energy costs of the office block by up to 25% – a significant saving given Sweden's cold winters and costly gas.

The common ownership of the two buildings makes the transfer of energy a clear win, but – says Klas Johnasson, one of the developers – if real estate owners collaborate, there’s no reason why the project could not be replicated on a commercial basis.

A similar initiative is underway in the Paris Metro at Rambuteau station. Warmth generated by passengers in the platforms and corridors, combined with heat from the movement of the trains, will supply under floor heating for a public housing project, topping up the local district heating network. The apartment block, owned by Paris Habitat, is connected to the station via a disused stairwell which will house the pipes, eliminating excavation costs that would otherwise have made the project too expensive to pursue. As a result, Paris Habitat expects to cut its heating bill by up to a third.

Forum for the Future’s Head of Built Environment, Martin Hunt, notes that “Geothermal technologies have been around for a long time and are commercially viable. It looks like this application of heat recapture technology will only make sense in busy public spaces, but if the numbers stack up I can see it could be used on a wider scale.”

Source: <http://thisbigcity.net/ideas-for-cities-geothermal-stations-which-harness-heat-from-crowds/>