

# Glasgow SWG3 BODYHEAT Project

- The BODYHEAT project captures the heat emitted from SWG3's audience and stores it in the ground using boreholes. In turn, this provides cooling to the event spaces.
- There are 12 boreholes in a U-shape configuration, all drilled to 200 m depth, used for storing this heat in the ground.
- The waste heat is transported to the boreholes using a carefully selected carrier fluid in a closed loop network of pipes, which travels from the heat pumps in the plant room to the boreholes in the ground.
- The captured heat can then be used later (i.e. the next day, the next week, the next month, the next winter season) by reversing the cycle and transporting the carrier fluid from the boreholes to the heat pumps in the plant room.
- The heat pumps upgrade this heat (i.e. the body heat captured from SWG3's audience that has been stored in the ground for some time) to a suitable temperature that can be used for heating SWG3's event spaces.
- Heating (i.e. emitting body heat) or cooling (i.e. capturing body heat) is currently provided to three separate spaces within SWG3 – a 1250-person capacity event space, a 1000-person event space and the main foyer entrance. However, there is a plan to expand on where body heat can be captured and where it can be delivered as renewable net-zero heat.
- Also, one of the heat pumps can provide simultaneous heating and cooling, meaning that body heat can be captured from one of the event spaces and instantly be delivered to the foyer. For example, cooling can be provided to an event space whilst an event is on, whilst also providing heat to the foyer to maintain the desired room temperatures.
- PLEASE NOTE: there is no body odour, sweat or other bodily fluids otherwise transferred, stored, or re-used – it is simply the heat which is extracted from the air and then transported via the carrier fluid, and then delivered back into the air or through the underfloor heating pipes.
- PLEASE NOTE: the system does not generate electricity – it uses a small amount of electricity to run the circulating pumps and heat pumps, but far less electricity than would be used if heating was provided directly with electricity due to the efficiency benefit of using and storing waste heat from dancers.

