

# **Renewable Systems**

Willow Tree Housing use different types of renewable systems.

## How do they work?

#### Solar thermal panels (hot water generation)

These collect heat from the sun and use it to heat up water that is stored in a hot water cylinder. A conventional boiler or immersion can also be used to make the water hotter, or provide hot water when solar energy is unavailable.

### Photovoltaic panels and battery storage facilities (electricity provision)

These work similar to solar thermal panels but instead they convert sunlight into electricity. The generated electric is then stored in a battery to enable you to use when needed.

#### Air source heat pumps (air to air; and air to water) and ground source heat pumps

They work by absorbing heat from a source and transferring it to a fluid. This is then compressed to increase the temperature further. The heat is typically transferred from fluid into water, which is then used to provide heating and hot water to your home.

### Mechanical ventilation and heat recovery systems (MVHR)

MVHR units work by combining supply and extract in one unit. It extracts moist, stale air from wet areas (kitchens and bathrooms), recovers the heat from this air via a heat exchanger and delivers this air to other areas of the home. It continues to extract air from 'wet' rooms while pulling in fresh air from outside through ducting.

From 2025, WTHP will not be replacing gas boilers. Provision has been made for replacement high performing quantum electric heaters.

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