

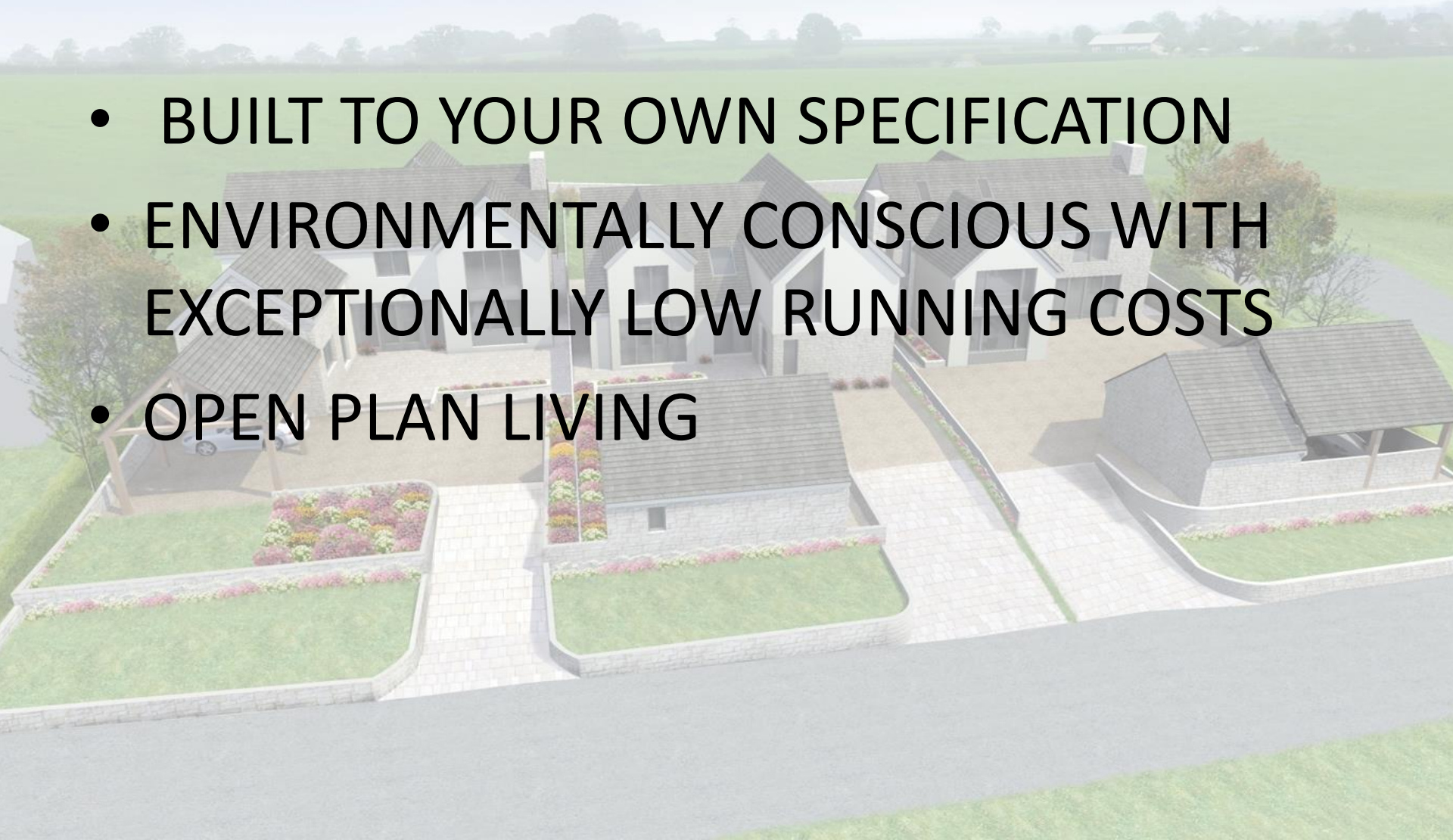
The Old Orchard



**‘ESCAPE TO THE COUNTRY’ TO A
‘GRAND DESIGNS STYLE HOME’**

Orchard House

- BUILT TO YOUR OWN SPECIFICATION
- ENVIRONMENTALLY CONSCIOUS WITH EXCEPTIONALLY LOW RUNNING COSTS
- OPEN PLAN LIVING



Energy Saving Technology

- **TRIPLE GLAZING**

High performance glazing for the best thermal performance available.

- **HEAT RECOVERY VENTILATION SYSTEM**

Providing filtered fresh air, heated through a recycling heat-exchanger, recovering 90% of heat usually lost in traditional buildings.

- **AIR SOURCE HEAT PUMP**

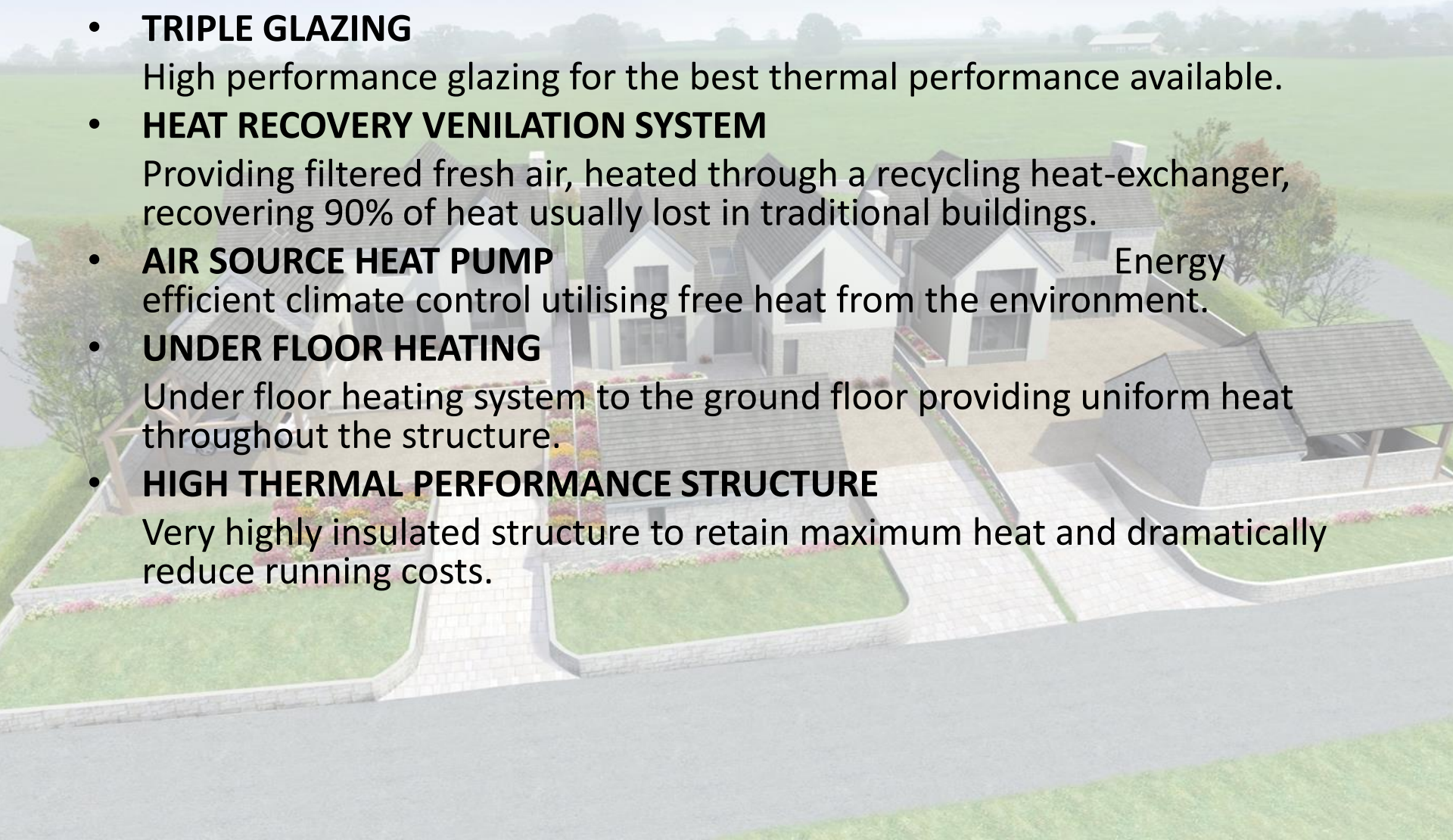
Energy efficient climate control utilising free heat from the environment.

- **UNDER FLOOR HEATING**

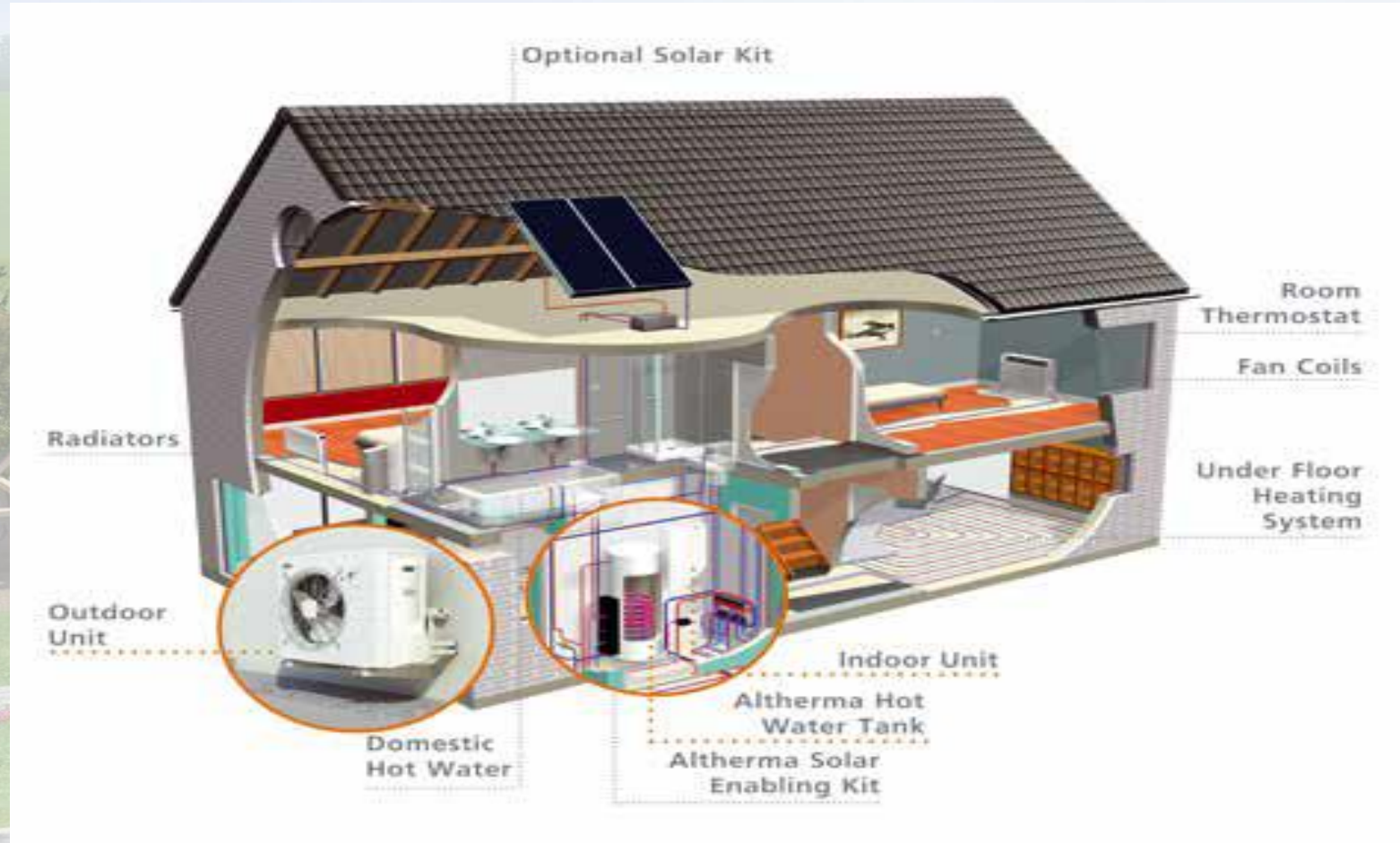
Under floor heating system to the ground floor providing uniform heat throughout the structure.

- **HIGH THERMAL PERFORMANCE STRUCTURE**

Very highly insulated structure to retain maximum heat and dramatically reduce running costs.

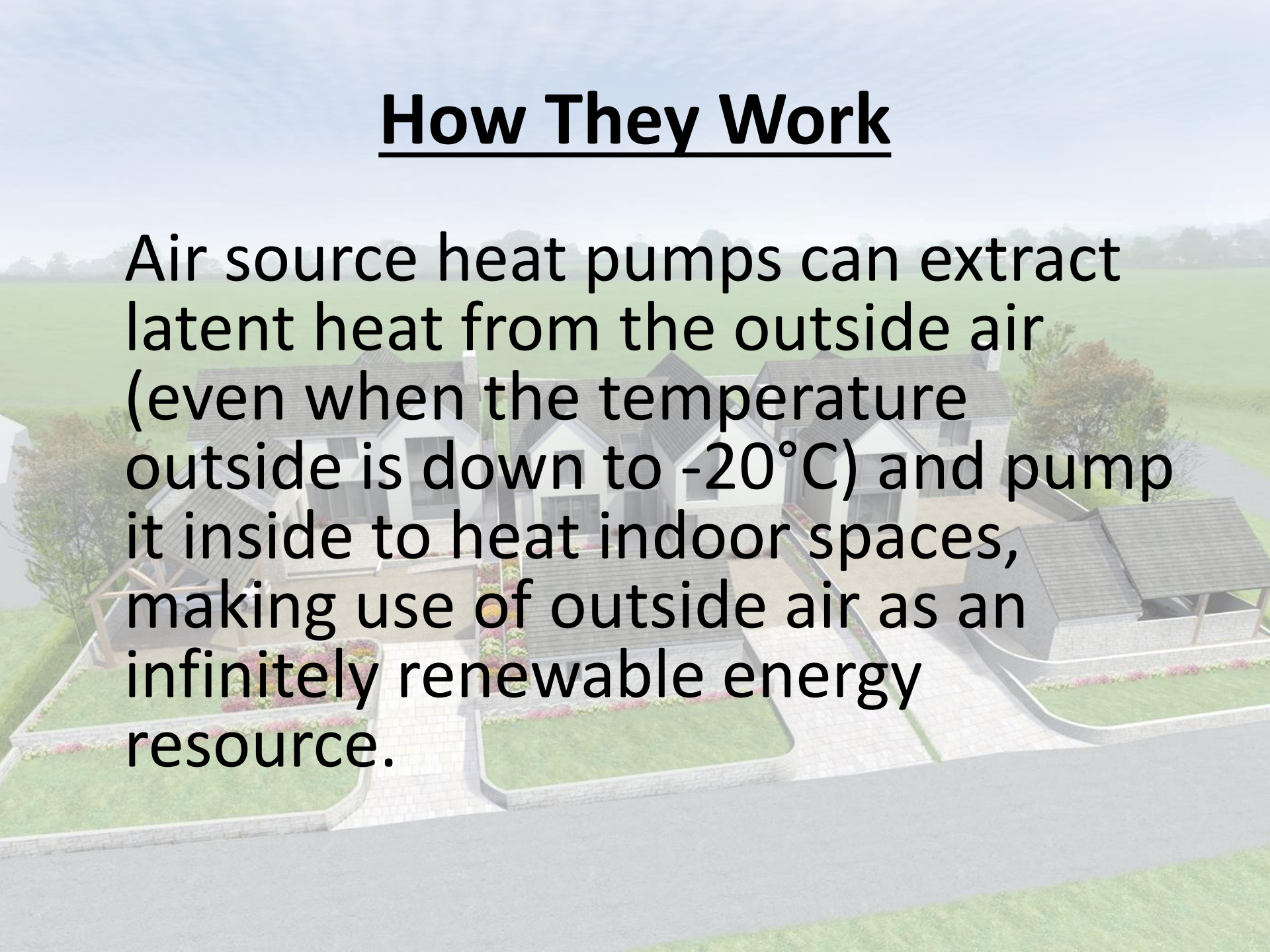


Air Source Heat Pumps



How They Work

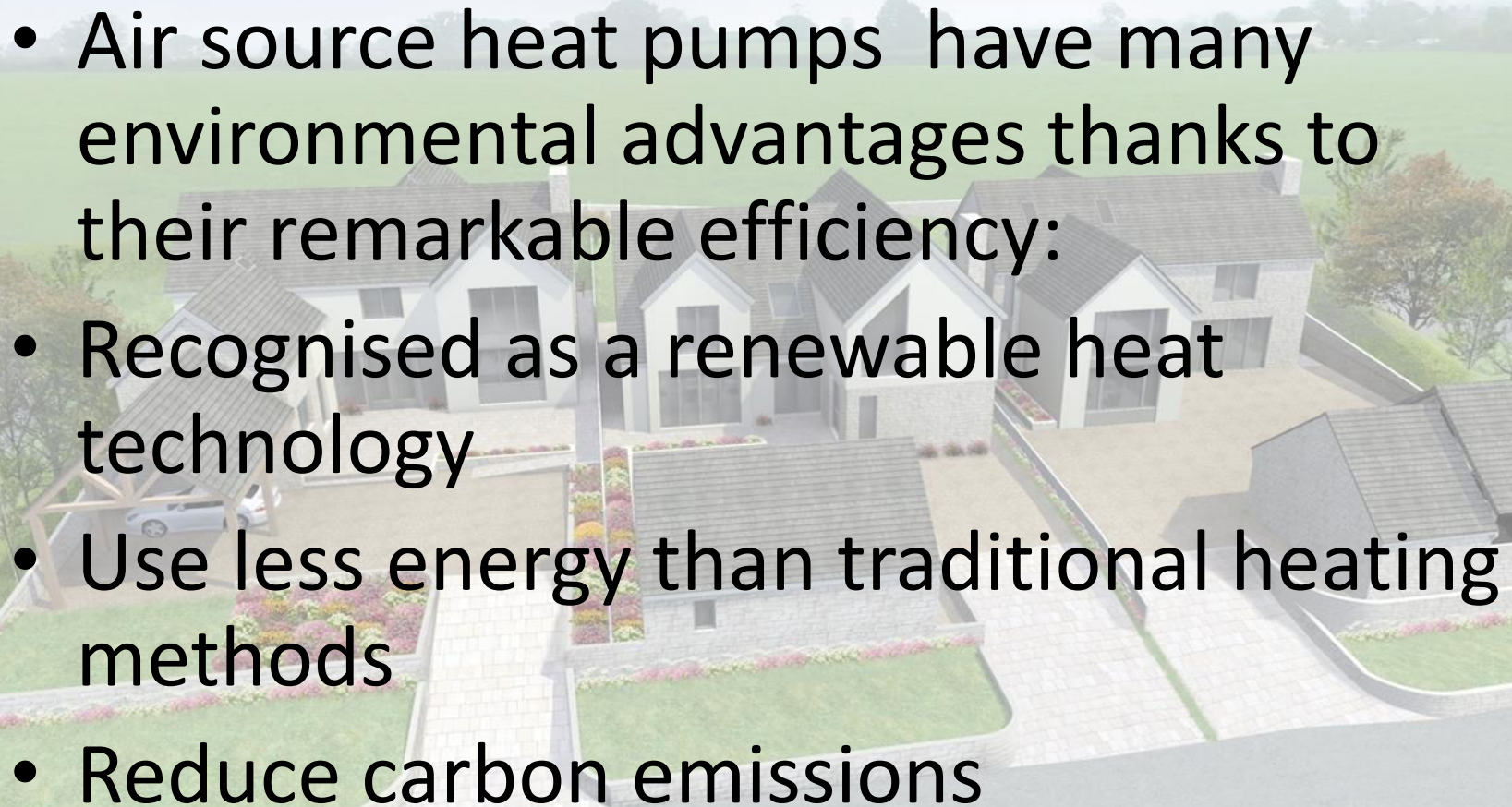
Air source heat pumps can extract latent heat from the outside air (even when the temperature outside is down to -20°C) and pump it inside to heat indoor spaces, making use of outside air as an infinitely renewable energy resource.

An aerial, slightly faded view of a residential neighborhood. Several houses with grey roofs and white walls are visible, arranged around a paved driveway and walkways. The houses have small front yards with green grass and some colorful flowers. The background shows a line of trees under a light blue sky.

Extracting latent heat from the air

Air source heat pumps represent a major step forward in energy efficient climate control, because they utilise free heat from the environment, rather than generating it solely from traditional fuel sources such as gas, oil or LPG.

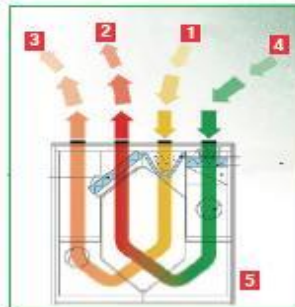
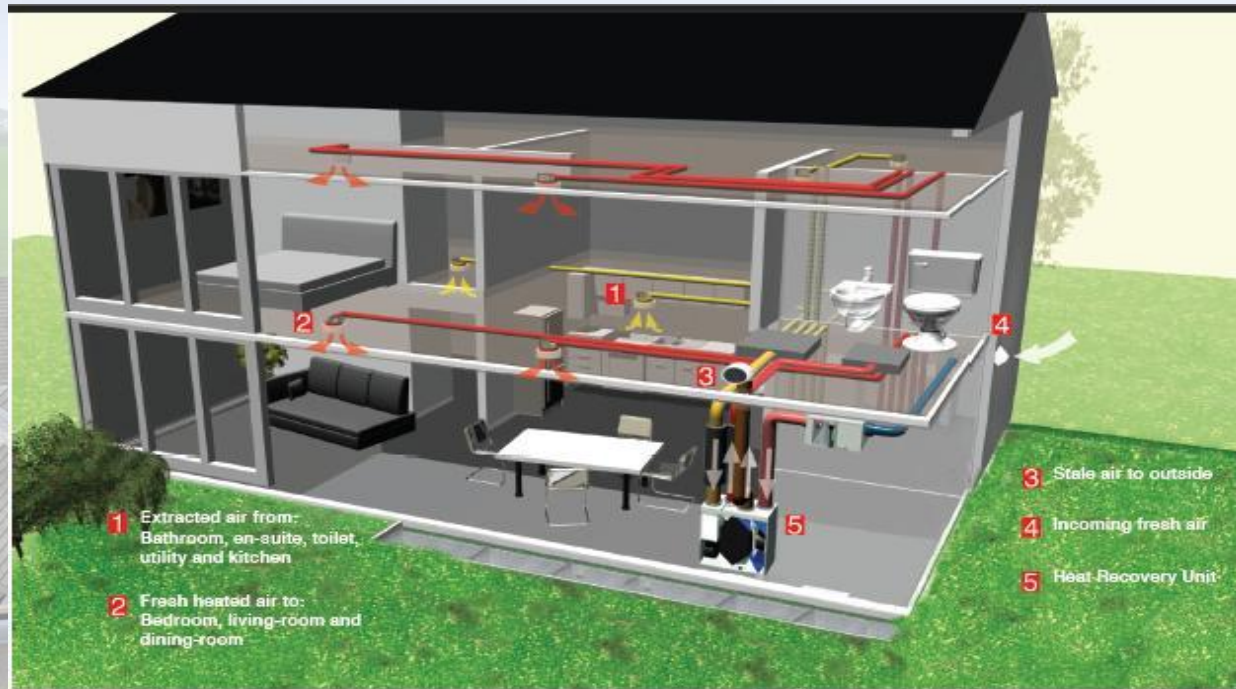
Reducing cost and CO2 emissions

- Air source heat pumps have many environmental advantages thanks to their remarkable efficiency:
 - Recognised as a renewable heat technology
 - Use less energy than traditional heating methods
 - Reduce carbon emissions
- 
- An aerial, slightly faded view of a residential development. Several modern houses with grey roofs and light-colored walls are visible, arranged around a central paved area. A driveway leads to a garage on the right. The houses are surrounded by green lawns and some trees. The overall scene is presented in a semi-transparent, light grey overlay.

Cost efficient operation

- Because they consume much less electricity than the heat they generate, heat pumps have significantly lower running costs than traditional energy sources.
- Their status as a renewable energy technology also renders them eligible for many tax benefits and government support from the Domestic Renewable Heat Incentive scheme (domestic RHI).

Mechanical heat recovery and ventilation



How MHVR works

- Air is extracted from all living areas.
- The heat from that air is used to heat fresh, filtered air from the outside via a heat exchanger.
- Heated fresh air is circulated throughout the house.
- When there is no demand for heat (during the summer), the warm air is extracted and the heat from it allowed to dissipate and fresh filtered air at the ambient temperature is circulated.

Saving Energy Using MVHR

Let us consider the following scenario:

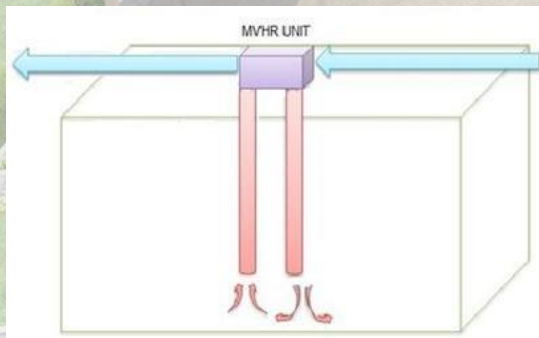
A family with 4 members in an open plan environment with a room temperature of 22°C

Minimum average ventilation requirement is 200m² approx. 300m³/h fresh air.

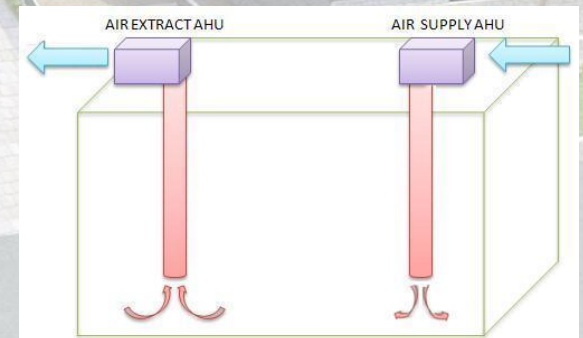
Winter season ambient temperature of 2°C and a desired supply air temperature of 20°C

2400 kwh = Average additional winter heating cost of £330

Apply Duplexvent high efficiency MVHR and that cost can be cut to £60 whilst maintaining a supply air temperature of 20°C



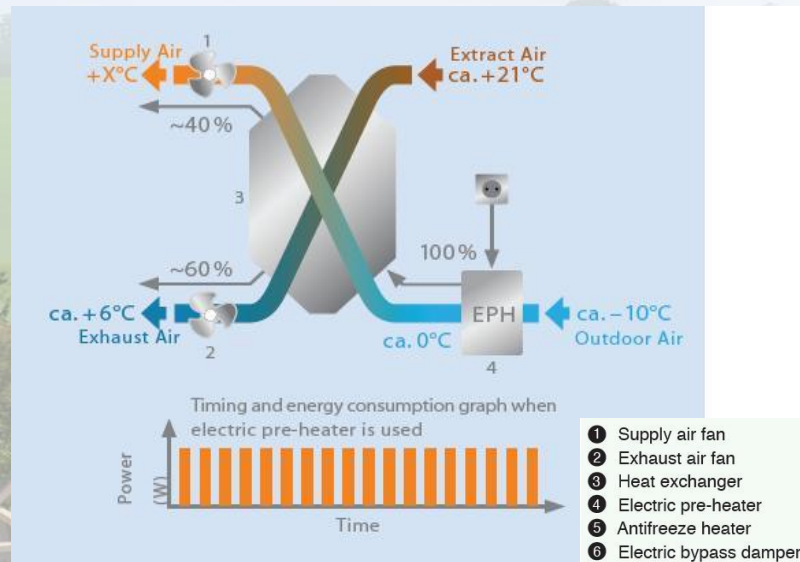
VS



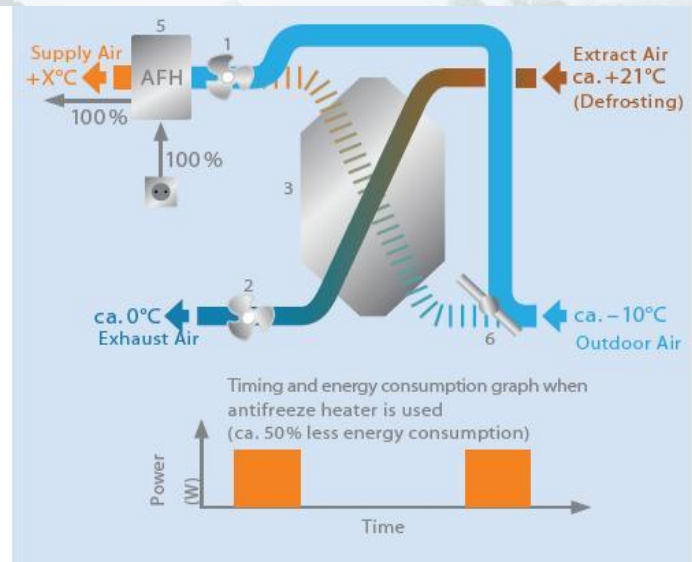
Saving of approximately £270 per season

New Smart Frost Protection

Traditional Frost Protection



New Smart Frost Protection



Thanks to the new smart frost protection facility the heater works only when it is needed thus consumes much less energy.

This way the unit fully benefits from the heater with less individual pulses but longer running cycles.

Triple Filter

Duplexvent Professional Line Units are the only MVHR units in the UK
which incorporate triple filter providing clean air to the dwelling at all times.



How important is the cleanliness of the air you
and your family breath in?