



# Energy Efficiency Details

Energy efficiency is at the heart of what we do, meaning all our new homes are A-Rated. This ensures that you can enjoy the many features specifically designed to reduce energy demand and to reduce the cost of heating and hot water production.

Sustainability and energy efficiency are achieved through the following:

## Airtightness

We have incorporated air tightness membranes and other features to ensure that these homes are draft-free and that heat does not escape through the fabric of the building.

## Insulation

All of our houses are constructed with superior levels of insulation and they are carefully designed and detailed to reduce heat loss through floors, walls and roofs.

## Solar Panels

### *Solar Photo Voltaic Panels*

The Solar PV system is mounted on the roof and is linked to the internal mains electricity. The panels will generate power during daylight from Solar Radiation, a “Clean, Green Energy Source”. This is a totally automatic, seamless and synchronised process that does not require any intervention.

### *Kingspan Solar Panels*

These are fitted to the roofs to generate hot water, which is then stored in the hot water cylinder.

## Permeable Paving Driveways

Permeable paving driveways clean and slow rain water to help reduce pollution in our natural waterways.

## Ventilation

### *Mechanical Extract Ventilation*

The ventilation system in the dwelling is a “demand controlled system” which uses a centralised low energy fan located in the attic to extract air from bathrooms, ensuites, utility rooms and kitchens. The system automatically responds to the moisture levels in the dwelling, increasing and decreasing the amount of air being extracted from the house to suit the home owner’s activities.

Fresh air is introduced to the living areas and bedrooms via specially designed grilles in the walls which also respond to moisture levels in the house and ensure that the right amount of air is being introduced at all times. The grilles are also designed to minimise the effects of wind and as a result, reduce cold draughts in living areas and bedrooms.

### *Mechanical Heat Recovery Ventilation*

This system extracts warm stale air from kitchens and bathrooms and supplies fresh air into bedrooms and living rooms. As part of this process the system recovers up to 90% of the heat energy in the exhausted stale air and uses it to warm the fresh air entering the home. The benefits of this system are managed ventilation, reduced heat loss and less dust and pollutants as the fresh air is filtered.

**Castlethorn**