

# Athena, Eddington Avenue – CB3 0QZ

Code for Sustainable Homes Level 5 show home by Hill at Athena in Eddington

## Meet your hosts, Hill

The show home at Athena on Eddington Avenue is part of the largest Code for Sustainable Homes (CSH) Level 5 development in Britain, which in turn is part of the new University of Cambridge neighbourhood Eddington.

## What is the Code for Sustainable Homes (CSH)?

The CSH is an established measure of environmental quality that goes way beyond current Building Regulations in relation to energy efficiency and environmental performance generally. There used to be six levels but the first three were incorporated into compulsory Building Regulations and the equivalent of level four is required in some developments. Levels five and six are exemplary. Code Level 5 homes are required to be twice as efficient thermally. What this means in practice is a house with very low levels of energy consumption and one that delivers significant environmental benefits beyond energy consumption, in relation to energy generation, water use, contribution to air quality and so on.

## What is Eddington?

Eddington is a new neighbourhood by the University of Cambridge that offers a range of apartments and houses available for sale plus also accommodation for the University's students and staff. The attention to detail you'll find in the new homes by Hill are reflected in the whole of Eddington and the environmental benefits go way beyond the household. For example, the whole of Eddington has a rainwater harvesting system that collects and filters rainwater to be used in toilets and washing machines in the Athena homes.

In addition there is a collective computer controlled waste and recycling collection system, that negates the need for wheelie bins and reduces the number of costly and energy consuming collections. Beyond the house infrastructure, Eddington has also been designed to encourage cycling, walking and connection with nature, with a nature reserve also providing pond infrastructure for the rainwater harvesting.

## Energy

This community wide approach extends to heating and hot water systems. Each apartment and house draws hot water not from a boiler in the home but from a district heat main connected to a large gas powered combined heat and power unit. Each house still has maximum control though, as there is a thermostat and smart control system in each room, allowing the occupants to choose room by room temperatures. The heat demand is metered as it enters the home, so you only pay for what you use.



[www.openecohomes.org](http://www.openecohomes.org)

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District heat systems are cheaper and more cost effective than individual boilers, and all maintenance is the responsibility of the energy provider. The one main disadvantage is that you are tied in to a contract with one supplier – in this case Vital Energy, which is contracted to supply through the University of Cambridge. The other is that you couldn't add solar water heating or a wood stove if you didn't want to use gas.

However, the Athena homes are built with an expectation that there will be very little heat demand, even in the middle of winter. All the houses have an EPC A rating, the apartments either an A or B rating. Each property has 140mm of cavity wall insulation and Low G triple glazing. The underfloor heating also requires less heat energy than radiators for the same amount of warmth.

In addition there are Vent Axia mechanical ventilation and heat recovery units in each property. These take heat from stale air as it is pumped from the house (in particular from the kitchen and bathroom) and uses it to warm fresh cool air brought in from the outside. The houses come with A rated washer/driers with any excess moisture removed by the MVHR unit.

Each individual home and each apartment block has PV as standard. Home owners will get Feed-in tariff rebates for the solar they export to the grid. Apartments owners will get cheaper bills instead.

## Other features

All the taps and showers are fitted with water flow regulators and the toilets are low-flush. There are also low capacity 140 litre baths and the whole house is designed to minimise water use to less than 125 litres per person per day. There are bike racks in each garage, LED lights as standard and sedum roofs.

**Property age:** 2018

**Type:** End terrace

**Wall type:** Cavity with brick and concrete block

**Floor area:** 212m<sup>2</sup>

**Cost of build:** n/a

**Occupants:** n/a

## Key features

### Insulation and Glazing

- Cavity wall (Recitel 140mm thick), floor and roof insulation
- Low G triple glazing for passive solar gain regulation

### Heating/energy

- LED lighting and A rated appliances
- Underfloor heating
- Heating and hot water via a district heating system
- Individual room temperature and time control
- Mechanical ventilation with heat recovery (MVHR)
- PV system
- Uprated socket within garage as provision for charging electric vehicle

### Other features

- Rainwater harvesting and filtering for washing machines and toilets
- Low flush toilets and low capacity bath
- Taps & showers fitted with flow regulators
- Sedum roof
- Bike racks

## Key contacts

- Hill – Developer
- PTE – Architects
- ABA – Architects
- Bailey Garner – SAP and CfSH Assessor

All the details about the show home, Hill's development at Eddington and the wider Eddington project can be found via [www.athena-cambridge.co.uk](http://www.athena-cambridge.co.uk)

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