


The Bale House

by [Mary Rawlinson](#) / 2021-04-01 12:33:58 / International / 6342 / EN

New Construction



Primary energy need :

20 kWhpe/m².year

(Calculation method : Other)

ENERGY CONSUMPTION

Economical building *Building*

< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

Energy-intensive building

Building Type : Other building
Construction Year : 2019
Delivery year : 2021
Address 1 - street : Lower Coastguard Lane TN35 4AD HASTINGS, United Kingdom
Climate zone : [Cwb] Mild, dry winter, cool and wet summer.

Net Floor Area : 216 m² SHON
Construction/refurbishment cost : 900 000 €
Number of none : 35 000 none
Cost/m2 : 4166.67 €/m²

Proposed by :



General information

The 'Bale House' is the new Visitor Centre in Hastings Country Park. This unique straw building is in one of the most stunning landscapes in the UK. It is the first public straw building in Hastings and will act as a community facility and cafe with interpretation that showcases Hastings Country Park Nature Reserve.

From foundations to facade, it is constructed from natural and recycled materials which are healthy, fireproof, breathable, and they lock up carbon from the atmosphere, recycling agricultural by-products. It requires next to no energy to run and due to the high levels of insulation will need no additional heating to keep people comfortable.

This sustainable and exemplary building was designed by Cave Cooperative architects and built by a consortium of straw building specialists led by Huff and Puff Construction Limited and Green & Castle Ltd.

[See more details about this project](#)

Photo credit

Mind Wick

<https://www.thisismindwick.com/services>

Stakeholders

Contractor

Name : Huff and Puff Construction Limited

Contact : Phil Christopher

<https://www.huffpuff.me>

Construction Manager

Name : Green & Castle Ltd

Contact : Mary Rawlinson

<http://green-castle.co.uk>

Stakeholders

Function : Designer

The Cave Cooperative

Liz Crisp

<http://www.cave.coop>

Architect

Function : Investor

Hastings Borough Council

Murray Davidson

https://www.hastings.gov.uk/parks_gardens_allotments/parks/visitorcentre/about/

Contracting method

Other methods

If you had to do it again?

Architecture: I've learnt that 'value engineering' elements out to reduce the pre tender costings doesn't mean the post tender budget will tally up. It's best to just design simply if the budget is tight and iron out any future variations as much as possible before appointing the contract. Materials: With natural materials, timing and programme are everything, and although we built in a generous contract length, Covid had a big impact on the programme. This meant time was short and risks that we wouldn't normally take were taken. Now we have to re-do some elements, and the lesson is, if something sounds too good to be true, it usually is. Building process: We used a new consortium method to get a group of artisan builders together. We have never used a consortium approach before and if we were to use this again we would interview individual members prior to appointment to ensure strong skills match across the whole build timeline. Energy systems: The natural ventilation unit has been somewhat underwhelming and until we have full data of a year in operation the jury is still out whether this has been worth the time and expense. New technologies don't always live up to the promises as they don't have the proven data to back them up.

Building users opinion

Due to the straw bale construction, the building is wonderfully insulated in winter and remains cool in summer. This makes working and using the centre, not only comfortable but an extremely pleasant experience. Everyone that uses the centre remarks on how comfortable it feels, how light it is and how soundproof it is. The large picture and door windows bathe the interior in natural light.

Overall the internal look and feel of the building is one of remarkable natural ambiance and comfort.

Energy

Energy consumption

Primary energy need : 20,00 kWhpe/m².year

Primary energy need for standard building : 60,00 kWhpe/m².year

Calculation method : Other

Envelope performance

Envelope U-Value : 0,15 W.m⁻².K⁻¹

Indicator : GB/T 7106-2008

Air Tightness Value : 4,00

More information

The house doesn't have a heating source and the only 'regulated' energy being used will be for instant hot water heaters and the lighting, there is nothing else fixed in the building.

Renewables & systems

Systems

Heating system :

- No heating system

Hot water system :

- Individual electric boiler

Cooling system :

- No cooling system

Ventilation system :

- Natural ventilation
- Nocturnal ventilation

Renewable systems :

- No renewable energy systems

Solutions enhancing nature free gains :

Windhive for managing CO2 levels and night time purging is installed.

Environment

Urban environment

Hastings Country Park Nature Reserve is a unique 345ha area of maritime cliff with a cliff top area of maritime acid grassland and heath, gill woodland (including some ancient woodland), scrub, neutral grassland, and amenity grassland. The cliffs at Hastings Country Park Nature Reserve constitute the largest area of the High Weald ridge that meets the sea. This sandstone and clay coastline is uniquely positioned between the alluvial plains of Rye Bay and Pevensey Bay and the chalk of the North and South Downs.

The site is of significant importance both nationally and internationally for its biodiversity and geology and has therefore been granted both Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) status.

Land plot area : 4 213,00 m²

Built-up area : 249,00 %

Green space : 3 450 000,00

Costs

Construction and exploitation costs

Total cost of the building : 900 000 €

Subsidies : 360 000 €

Energy bill

Forecasted energy bill/year : 600,00 €

Real energy cost/m2 : 2.78

Real energy cost/none : 0.02

Health and comfort

Life Cycle Analysis

Eco-design material :

The scheme looks at whole life cycle processes and the circular economy. Using natural materials such as wood, lime, straw and sheep's wool creates new links between the agriculture and construction industries. By using a waste product such as straw as a construction material the building enhances the value of the farmer's crop and reduces the potential for either excess nitrogen in the soils, or increased carbon dioxide in the atmosphere by burning. Furthermore straw and lime sequester carbon in use and so can help with life cycle carbon emissions calculations.

Contest

Building candidate in the category



Energy & Temperate Climates



Low Carbon

