

What makes the JP11 Centre special?

It is a combination of the factors listed in detail below which makes JP II so very different from the average community centre - capable of achieving exceptional energy and CO₂ savings - summarised as 6 key ingredients.

The **6 key ingredients** of green building and how these are applied to the JP11 Centre...

10
tCO₂ /yr
saving

1. Local, sustainable materials



Lightweight construction reduces the depth of the concrete foundations foundations which use a mix of recycled aggregates, helping divert waste from landfill.

The structure is constructed from a combination of an FSC Timber Frame closed panel wall system and prefabricated glulam trusses which span the main hall.

Triple and quadruple glazing for windows and external doors is used throughout.

2. Super insulated



The JP11 Centre has exceptional levels of insulation, from 300mm of Xtratherm rigid board insulation.

This achieve walls with a U-Value of 0.1W/m².K – **three times better than UK building regulations.**

The quadruple glazing incorporates special frame seals which satisfy PassivHaus standards.

3. Air-tight, high quality construction



The JP11 centre achieves an airtightness of 0.6 Ach/Hr in line with PassivHaus Standards; **ten times better than current building regulations.**

The airtightness is achieved through considered design and the precise construction methods.

4. Low energy lighting + appliances



The design of JP11 optimises the use of natural daylighting to reduce the demand for artificial lighting. All artificial lighting is motion sensor (PIR) controlled using low energy LED or compact fluorescent lamps throughout which up save 90% of energy used by conventional bulbs.

5. Mechanical ventilation with heat recovery



The majority of space heating is provided by passive gains from the sun and occupants.

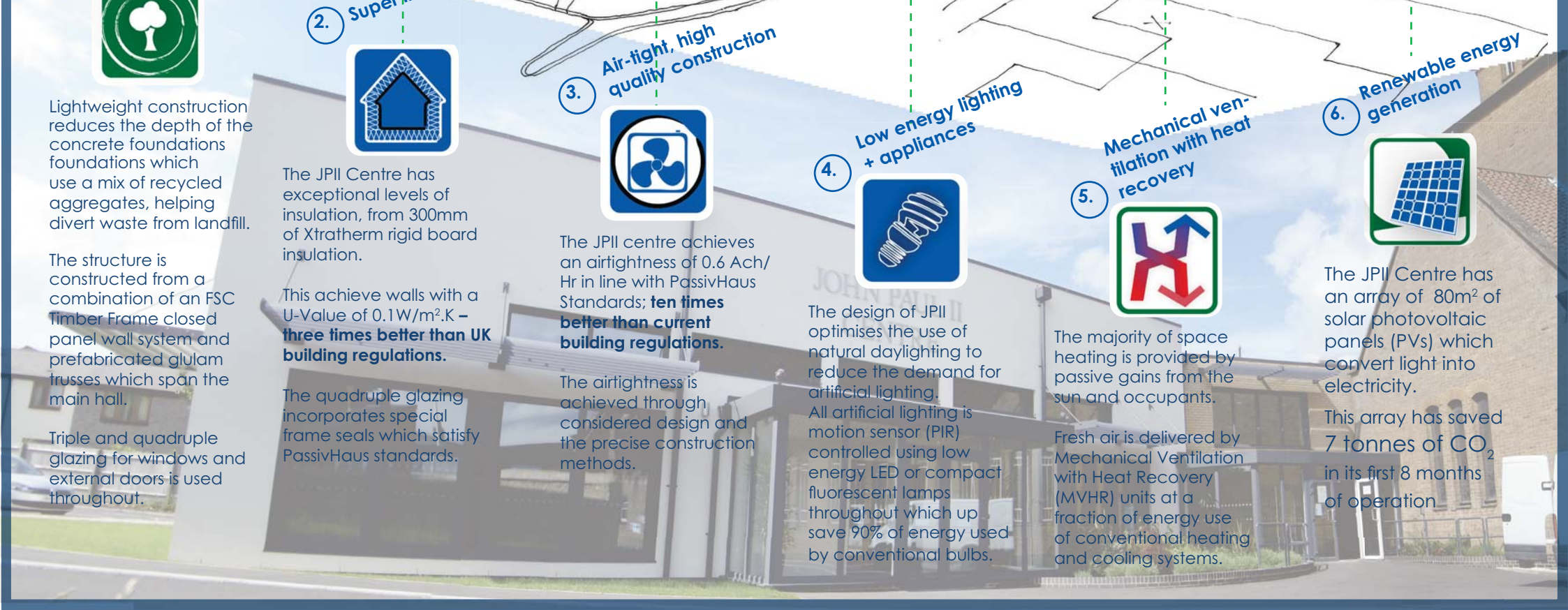
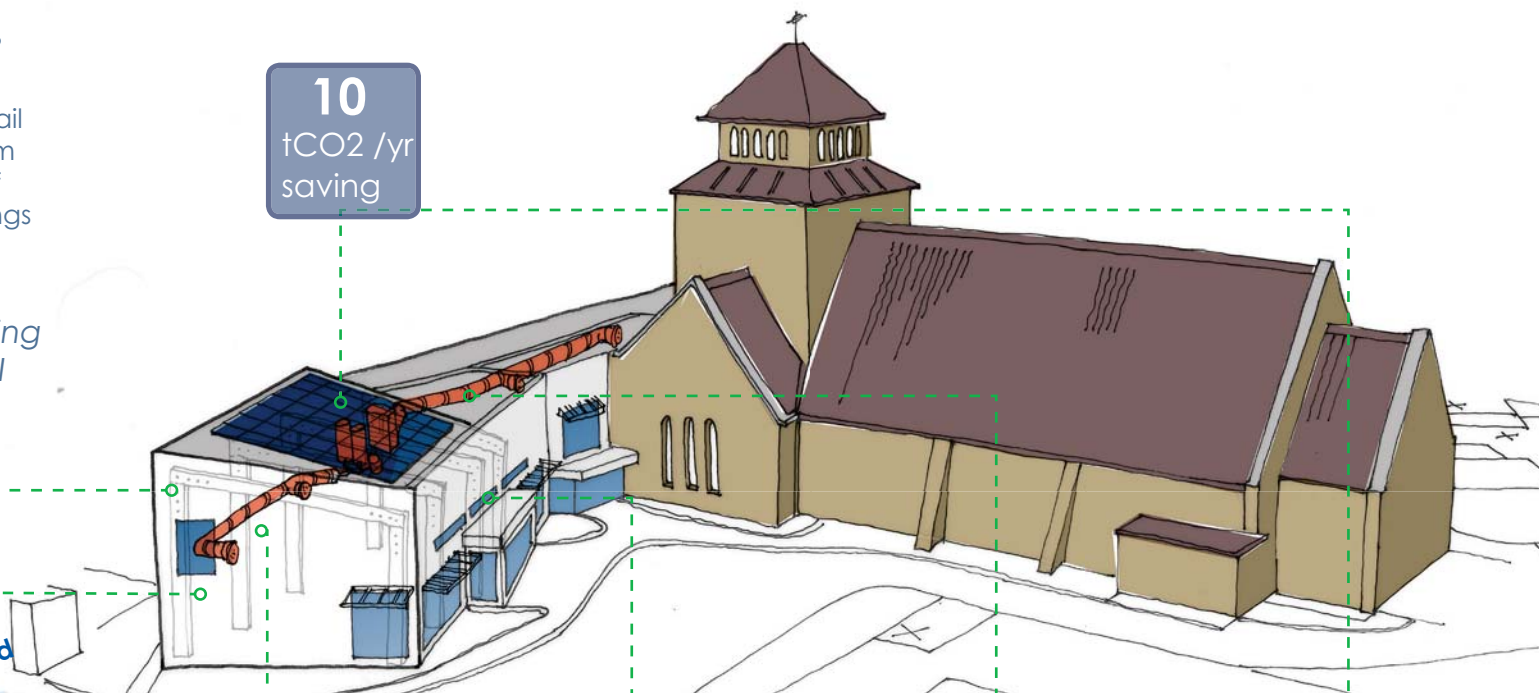
Fresh air is delivered by Mechanical Ventilation with Heat Recovery (MVHR) units at a fraction of energy use of conventional heating and cooling systems.

6. Renewable energy generation



The JP11 Centre has an array of 80m² of solar photovoltaic panels (PVs) which convert light into electricity.

This array has saved 7 tonnes of CO₂ in its first 8 months of operation



What is a Passivhaus building?



Passivhaus is a method of building which has been developed in Germany over almost 25 years, and widely reputed as **the** benchmark for low-energy design and construction. Buildings achieving this standard represent a typical 'in-use' energy saving of up to 90%.

The Centre has been designed and built to achieve full PassivHaus Certification and is being certified by InBuilt RES, accredited Passivhaus assessors.

To be comply with PassivHaus standards buildings must adhere to the following criteria:

- Space heating < 15kWh/m²/year
**an 80% saving compared with CIBSE (TM-46) Benchmark
- Electricity demand must not exceed 120kWh/m²
- Airtightness of 0.6 air changes per hour at 50 Pascals
**an improvement of over 90% on current UK Building Regulations
- U-Values of 0.1 W/m².K for the building fabric
**a 70% improvement compared UK Building Regulations



Underhill Passivhaus, Warwickshire - Passivhaus trust UK

For more information please visit the following websites:

John Paul centre - www.johnpaulcentre.co.uk

Eco Bicester - www.ecobicester.co.uk

BioRegional - www.bioregional.com



JPII under construction - showing Xtratherm wall insulation



John Paul II Community Centre

A world class green building

A space for the whole community



JPII centre - front entrance

The long-standing ambition to build a new community centre in the Parish of the Church of the Immaculate Conception, Bicester, was successfully realised in Autumn 2011.

Opened by HRH the Princess Royal on the 1st November, the building is not only a new asset for the local community, but also a model of sustainable design and construction and the largest civic building in the UK to be certified PassivHaus.

Director of P3Eco and long standing member of the Church of the Immaculate Conception, Ian Inshaw, had a vision that the new facility should be built to the most stringent environmental standards, demonstrating the environmental benefits of an innovative, highly insulated timber frame construction method which will equate to significant financial savings for the Church over the lifetime of the building.

The Parish Centre serves the whole town of Bicester with exemplary facilities to cater for a variety of needs.

Scan this code to find out more information about the JPII centre's green technologies

