# MYZSA

## A BETTER TOMORROW TODAY

**Passivhaus | Build | Consulting**

myzsagroup.com

hello@myzsagroup.com

# Who We Are

At Myzsa, we have combined 60 years' of experience delivering **sustainable building solutions** across the UK and Mainland Europe. We are dedicated to creating unparalleled projects. We bring together **experienced craftsmanship**, **building science**, and **project management expertise** for every undertaking. We are passionate about building the best of the best.

Our focus is to deliver **high-quality**, **cost effective projects on time** with exceptional workmanship and **professional integrity**. Through strong team collaboration and a commitment to honesty, we provide outstanding service and customer care.

Just as "mysa" reflects coziness and presence, we embody this by creating spaces that offer **more than just buildings** — they are **homes that foster well-being and relaxation.**

## Mission

To lead the market in sustainable building solutions in North Wales, by delivering superior projects that combine innovation, craftsmanship, and energy efficiency, while creating environments that foster comfort and well-being.

Our goal is to build lasting client relationships while advancing modern construction methods, ultimately reducing living expenses and enhancing quality of life.

## Vision

Our vision is to lead in energy-efficient construction, promoting sustainability and well-being.

Myzsa is dedicated to delivering high-quality, comfortable homes that prioritize Passive House principles, addressing both ecological and social needs while driving the future of sustainable building practices.

# Core Values

## 1 Comfort

We design spaces that foster relaxation and enhance well-being, creating homes that are not only sustainable but also serene, relaxing environments.

## 2 Advancement

Embracing cutting-edge technologies and modern construction practices, we provide innovative solutions that sets new industry standards in energy efficiency and design.

## 3 Responsibility

We take responsibility for minimising our environmental footprint, as our industry is one of the worst polluters. We focus on sustainability through energy-efficient designs, sustainable materials and ethical building practices.

## 4 Excellence

Our commitment to excellence is reflected in every project, where superior craftsmanship ensures the highest standards of durability, aesthetics, and functionality.

## 5 Service

We prioritise service by building trust through transparency and honesty, while maintaining integrity to ensure projects are delivered on time, within budget, and with ethical accountability.


Comfort Advancement Responsibility Excellence Service

# Passive House

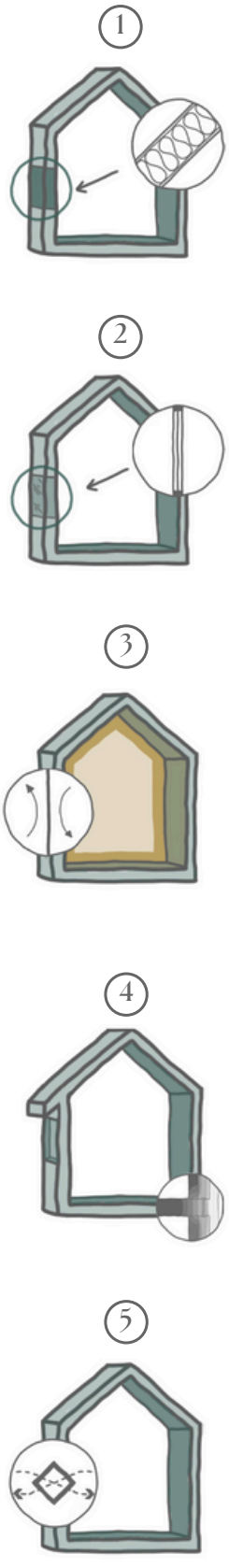
*Passivhaus Principle | Design*

In the UK, where energy costs continue to rise and climate change is a pressing concern, **Passive Houses** offer an internationally recognised standard for the design and build of energy efficient buildings.

> *"The world's most rigorous quality assurance standard for energy efficient buildings."*
> (Passivhaus Trust)

These ultra-low energy homes are designed using the **Passivhaus principle**, which focuses on **energy efficiency, superior insulation, and airtight construction**.

This approach ensures high levels of comfort and minimal environmental impact. By maintaining a stable indoor climate throughout the year, Passive Houses drastically reduce heating and cooling costs, making them a practical and eco-friendly choice for the UK.

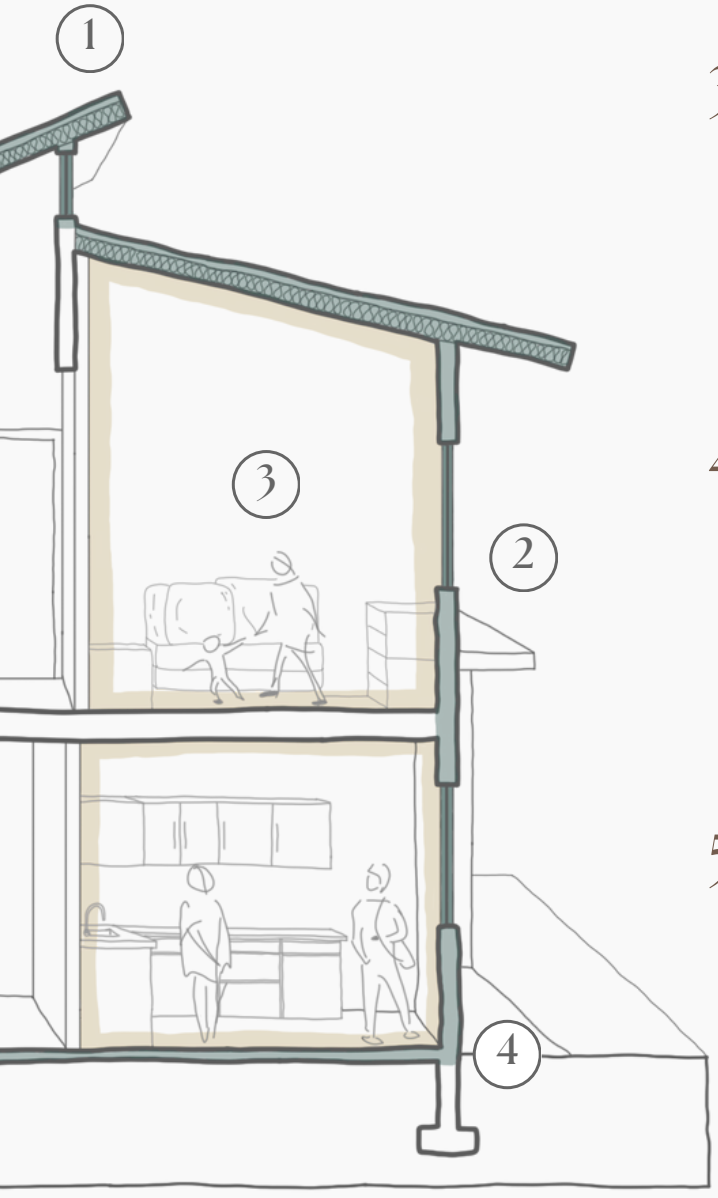


# Passive House Principles

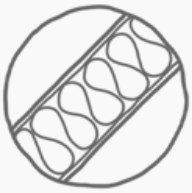
[*Passive house*] Noun

Passive House design helps us to manage moisture, thermal transfer, air, and sunlight to create comfortable, healthy, super-efficient buildings.

The "five core" principles help guide both new construction and retrofits to differentiate a "normal" building with one where thermal comfort is maintained solely by heating or cooling the incoming fresh air required for adequate indoor air quality, eliminating the need for additional air-circulation.




## 1. Continuous insulation



Made from various materials, it regulates temperature, prevents condensation, and eliminates thermal transfer for year-round comfort and moisture control.

## 2. High performance windows + doors

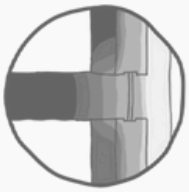
Essential for airtightness and thermal efficiency, they optimise solar gains and reduce thermal transfer for a comfortable, energy-efficient indoor space.

## 3. Air-tightness

Using seamless membranes and tapes, it prevents air, moisture, and thermal transfer.

Verified by a blower door test for energy efficiency.

## 4. No thermal bridges



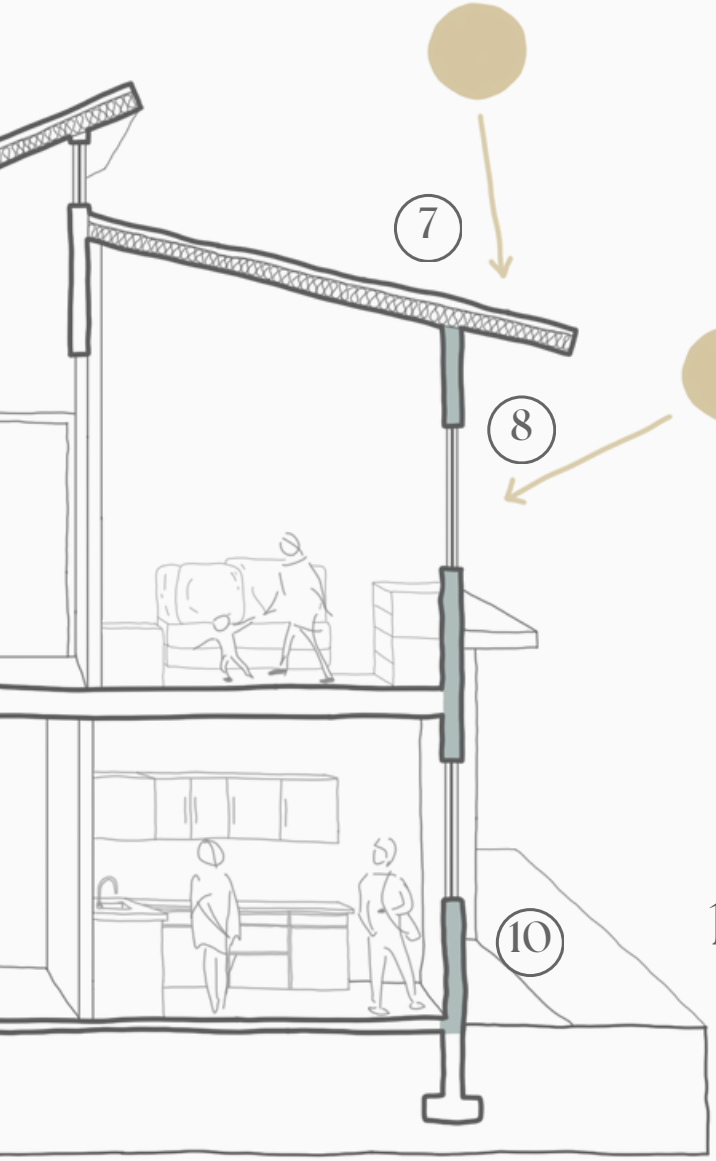
Thermal bridges allow heat transfer, risking condensation and moisture issues; eliminating them enhances energy efficiency, comfort, and building durability.

## 5. Fresh Air with Heat Recovery

Filtered fresh air with heat recovery in Passive House buildings provides clean air and energy efficiency, ensuring optimal indoor air quality.

# Passive House Principles

The "five core" priciples are joined by an additional five principles that help create durable, high performance buildings that are designed to encourage relaxation and enhance well-being.




## 6. Orientation + Form

A well-oriented building maximises daylight, minimises thermal bridges, and uses simple forms for an effective air barrier and energy savings.

## 7. Shading

Effective shading, like deciduous trees and overhangs, manages solar heat gain, maximising comfort and natural daylighting while minimising glare.

## 8. Day lighting + Solar Gain

Natural daylighting and passive solar heat gain provide energy benefits in Passive House design, optimising sunlight and reducing artificial lighting needs.

## 9. Efficient Water Heating Distribution

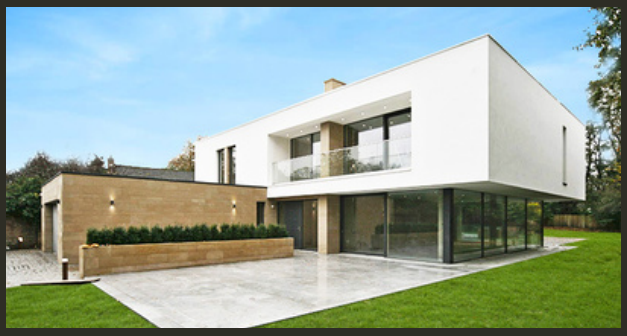
Super-efficient water heaters and small, well-insulated pipes minimise energy use by reducing the distance between the heater and fixtures.

## 10. Moisture Management

Heat and moisture behavior in building assemblies is analysed to prevent condensation and bulk water intrusion, ensuring durability.

# Certified Passivhaus

## Redwalls, Knutsford



A 789m², architecturally designed, seven-bedroom detached house built to Passivhaus standards. This stunning design was created by a certified Passivhaus architect in collaboration with Myzsa's Passivhaus designer and approved tradesmen.

**Airtightness result:** 0.17 ACH @ 50 Pa
**Certified**: Yes

# Certified Passivhaus

## Andrew Cresent, Chester

Andrew Crescent, originally a 1960s dwelling, was demolished and rebuilt into a modern 3-bedroom Passivhaus-certified home.

Designed with an insulated raft foundation, solid walls, triple-glazed windows, and exceptional airtightness, the low-energy house features Solar PVs for electricity and a Mechanical Ventilation with Heat Recovery (MVHR) system for heating and cooling.

**Airtightness result:** 0.5 ACH @ 50 Pa
**Certified**: Yes

# OUR WORK

*All our project are built to Certified Passive House Standards or Low Energy Building Standards.*

# Project Management

(Certified Passivhaus)

## Harris Academy, Sutton Secondary School


As the UK's first secondary school built to Passivhaus standards and the largest in the country, this top-quality building sets a benchmark for low energy use and user comfort.

Joshua Day (Myzsa) served as the Passivhaus Champion, managing Quality Control and Airtightness to ensure certification by WARM.

The design includes a combination of concrete and timber completed with a variety of non -structural high performance essential elements. The basement and ground floor are reinforced concrete, with Cross Laminated Timber for the first to third floors. Internally there are exposed timber and concrete walls, soffits, columns and beams.

**Airtightness result:** 0.30 ACH @ 50 Pa
**Certified**: Yes

# OUR WORK

*All our project are built to Certified Passive House Standards or Low Energy Building Standards.*

## Low Energy Home

### Lang Lane, West Kirby

Featured on the BBC, this home was built to meet the rigorous Passivhaus standard using solid wall construction with external wall insulation finished in silicone render. It includes solid intermediate floors, triple-glazed windows and doors, and a mechanical ventilation heat recovery (MVHR) system.

The house is equipped with an air-source heat pump and photovoltaic panels to generate electricity. The architect and owner designed the home with the goal of achieving zero running costs by building to Passivhaus standards and integrating renewable energy sources.

**Airtightness result:** 0.4 ACH @ 50 Pa
**Certified**: No

## Luxury Eco Home

### Marl Cottage
### Cwm, North Wales

An outstanding contemporary home, built in an elevated hillside position with stunning woodland views. Constructed with modern methods, it features solid walls, external insulation, zinc roofing, solid intermediate floors, underfloor heating, MVHR, air source heat pumps, and triple glazing. Finished to a high specification, it meets Passivhaus standards.

**Airtightness result:** 0.65 ACH @ 50 Pa
**Certified**: No

## Low Energy Eco Home

### Croft Dive, Caldy

A modern contemporary home built to high Passivhaus standards, featuring an insulated raft system, timber frame, external render, timber cladding, triple glazing, underfloor heating/cooling, ground source heating, photovoltaics, and smart home technology.

**Airtightness result:** 0.6 ACH @ 50 Pa
**Certified**. No

# Our Services

As specialists in Passive House principles and low-energy design, we guide clients from concept to completion, ensuring a collaborative, client-centered approach.

With regular communication and transparency, we empower clients to shape sustainable, comfortable spaces, building trust and aligning each project with their vision and environmental goals.

At Myzsa, the design and build process is more than just constructing a house—it's about creating a home that reflects the values of well-being, innovation, and integrity, fostering **a better tomorrow, today.**

1. **New Build Construction**
2. **Retrofit (EnerPHit)**
3. **Conversions, Extension and Remodelling**
4. **Building Fabric and Renewables upgrades**
5. **Consulting**
6. **Project Management**
7. **Passivhaus (certification) and Quality Control management services**

hello@myzsagroup.com