



# ENERGY AND SUSTAINABILITY

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Frankham Consultancy Group provides a full range of design and consultancy services to the built environment. The company exists to improve the surroundings in which we all live and work.



FRANKHAM



# ENERGY AND SUSTAINABILITY AT FRANKHAM

At the Frankham Group, we promote a sustainable approach to everything we do.

Our solutions are designed to meet the requirements of our clients, enhance the wellbeing of the communities they serve and work within the boundaries of our natural environment in the long term.



# OUR APPROACH

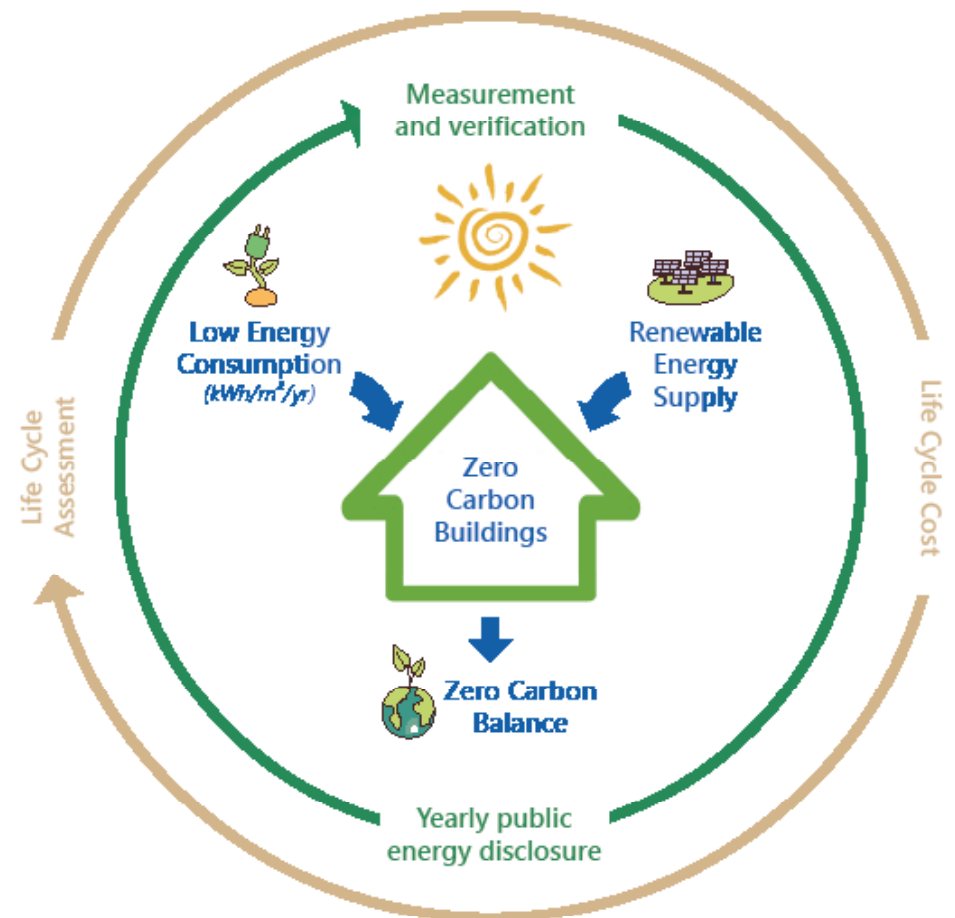
## ENERGY AND CARBON EMISSIONS

The UK government has pledged to become Net Zero Carbon by 2050 as a response to the 2015 Paris Agreement on Climate change. Buildings in the UK are responsible for 49% of annual carbon emissions, therefore we must take rapid action to decarbonise this sector.

Our solutions seek to firstly reduce the energy consumption of your building. There are various aspects to review and priorities would respond to the particular situation of the building. Passive solutions like orientation, shape, optimization of window/wall ratios, air tightness, daylight maximisation, solar radiation and shading options, would be the first point of call. Maximising the energy efficiency of the building systems (heating, hot water, ventilation, lighting, lifts, IT equipment and appliances) shall also be considered to bring the total energy use to its minimum.

Having an assessment of energy consumption, the aim is to serve the demand through a set of zero carbon, renewable, technologies. Ambient loops, air, ground or water source heat pumps, solar photovoltaics, battery storage, shall give the zero carbon balance your building needs to be fit for the future. If an offset is required, offsite energy capacity or a renewable energy power purchase agreement must be in place.

A carefully designed set of controls and metering strategy will allow your building to keep track of energy consumption, easily locate areas of concern and be able to measure, manage and report its operational energy consumption.





# OUR APPROACH

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## MATERIALS EMBODIED CARBON AND RESOURCE EFFICIENCY

We support our clients to aim for a more wholistic goal and achieve whole life zero carbon buildings.

As the operational energy consumption of a building decreases due to highly efficient fabric envelope, systems and renewable energy supply, the carbon emissions associated with the building construction elements, usage, and maintenance during its life time becomes more significant.

We consider the embodied carbon of our proposed systems and building equipment. Environmental performance declarations are requested for all our proposed equipment and plant seeking to achieve low embodied carbon within the building and minimise material waste.

Working along the wider design team, we can carry out life cycle assessment to measure embodied carbon emissions of the building's structure, foundations, envelope, frame, etc. from product source through to construction, maintenance, repair, deconstruction, reuse, recovery and recycling.



# OUR APPROACH

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## WATER USE AND CONSERVATION

Water is the number one natural resource to all of us. The scarcity of it is a serious matter we must address.

At Frankham, we ensure water efficiency in our designs by promoting the use of low flow rate water fittings throughout. In addition, we encourage the specifications of water sub-meters to better account for water consumption, monitor local usage patterns and maximize savings wherever possible.

Water leaks in buildings are not only responsible for damages to the property but also wasteful. It is important to ensure water leaks are detected and controlled on a building level as early as possible to avoid major repair costs, water spillage and resource waste.

Depending on the building's scale and site opportunities, water recycling strategies including Rainwater Harvesting and grey water recycling are also considered to reduce overall water consumption.





# OUR APPROACH

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## HEALTH AND WELLBEING

### Daylight

Our designs maximise the the benefits of available daylight resource. Good levels of daylight support mental wellbeing, improve people's mood and increases productivity. Maximising exposure to natural daylight, we reduce the need of artificial lighting, reducing operational costs and environmental impacts.

### Thermal comfort

Effective temperature regulation is an integral part of ensuring a healthy and comfortable internal environment. Our designs aim to achieve thermal comfort allowing for seasonal changes and occupier preferences.

### Air quality

The indoor environment of a building can have an impact on occupant health. Considering this, our designs lead to the specification and installation of ventilation systems that minimise indoor air pollution, reducing the presence of air pollutants such as carbon dioxide, nitrogen dioxide and volatile organic compounds.



# OUR SERVICES

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## Low Energy Building Design

- Energy demand reduction - Façade optimisation
- Solar gains and shading options study
- Adaptation to climate change, including CIBSE TM52 and TM59 Overheating assessments
- Daylighting calculations
- Ventilation strategies
- Design to Passivhaus standard

## Building Performance

- Energy consultancy and low carbon building design
- Building physics/Dynamic simulation
- Operational energy calculations CIBSE TM54
- Post occupancy evaluations
- Low and zero carbon feasibility studies
- Digital Twins

## Whole Life Carbon Calculations

- Life cycle assessments
- Life cycle costs

## Compliance and Planning

- Energy strategies for planning
- Sustainability statements
- Part L Compliance assessments and consultancy (incl. SBEM, SAP & EPCs)
- Minimum Energy Efficiency Standard (MEES)

## Environmental Certification

- BREEAM Assessments
- BREEAM Accredited Professional services

## For more information please contact:



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Our belief is simple:

Use intelligent ideas to create human benefits.

From environmentally sustainable buildings to individual commissions, our projects have one thing in common.

They improve peoples' lives.

We employ only the most talented staff and use their vast range of skills and expertise to make our combined visions your reality.

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#### Accreditations and Awards

Frankham Consultancy Group Limited is recognised as a quality driven organisation



Regulated by RICS



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