AWARD WINNING

ZERO CARBON HOMES BUILDERS

LIVE SMARTER

Douglas Bridge, County Tyrone

Rostrevor, County Down

GREEN FUTURE HOUSE

The first Code for Sustainable Homes Level 6 house built in Northern Ireland

Innovation

- We have set the bar in design and construction of house building
- Inside – Learn about our links with Ulster University

Savings

- Benefit with up to 77 per cent savings on your home energy bills
- A home that requires 10 times less energy

Affordable

- Our unique ideas lay the foundation for sustainable dream homes at conventional prices

SHOW HOUSE Middletown, County Armagh

www.greenfuture-ni.com

Delivering homes of the future, today

With energy efficiency high on the agenda and fuel prices rising, live smarter with a Green Future home

AFFORDABLE

The Green Future House, zero carbon blue-print is similar in cost to traditional building methods.

£300 A Year Energy Bills For A 5 Bedroom Home

Capable of near-zero energy bills, annual energy bills for this 5 bedroom 3089sq ft story and a half home equates to only £300 a year.

The Green Future House which boosts negative C02 emissions is the first home in Northern Ireland to be awarded 5 years no rates under the Governments now defunct 'Zero Carbon and Low Carbon Homes Scheme'.

QUALITY

You want the best possible house?

So, do we. As well as pioneers in zero carbon homes, how we also differ from other self build providers, is the time, care and absolute attention to detail we put into all of our designs.

We don't compromise on the quality of our materials or construction techniques, in fact, you'll notice our award winning high standards right from when you start working with us and in every corner of your home.

The Government's Housing Plan has sustainability at the heart of housebuilding in the UK for the next decade and beyond. With Green Future you can have tomorrow's home, today.

WHY A GREEN FUTURE ZERO CARBON HOME?

A Green Future home delivers home energy savings up to 77 per cent compared to an average home

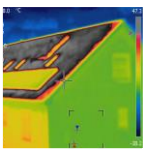
is 8 times more efficient than 2006 UK Building Regulations

uses 10 times less energy than an average UK home

is constructed 5 times faster than a conventional house

Produces negative CO2 emissions. It will produce at least as much energy as it uses

Green Future waste water treatment system uses little electricity and no need for percolation.



has 2 times less heating demand compared to maximum called by The Zero Carbon Hub

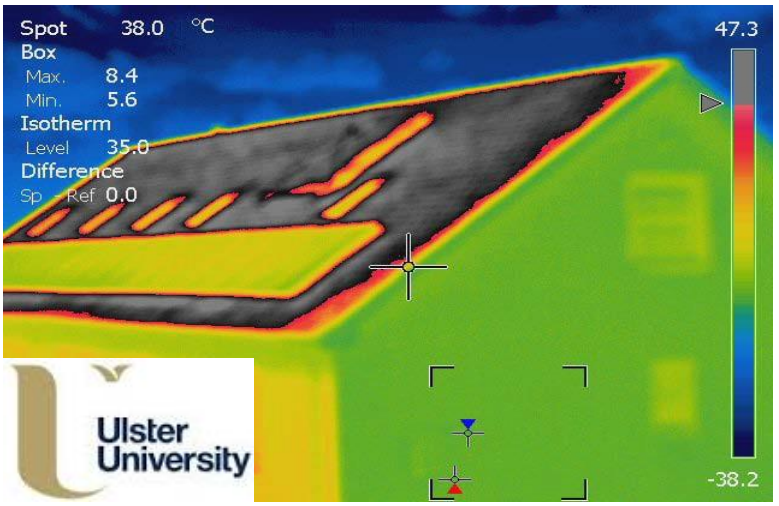
www.greenfuture-ni.com

Innovation

We began with our Green Future® home, Northern Ireland's first zero carbon home, where over a 12 month period, we commissioned Ulster University to undertake an innovative research programme of performance testing and monitoring.

'The **Green Future House** provides for approximately a 77 per cent improvement in thermal performance compared to a traditional house built to the minimum building regulations mandatory requirements.

The image (right) illustrates the infra-red thermography plots which are used to display surface temperature variations that provide information about the underlying structure. The continuity of insulation across the walls and fabric of the ICF construction is apparent and this contributes to minimal energy leakage. The bridge and joins between ICF fabric and windows is also well maintained. This would indicate a high degree of insulation and good workmanship particularly in these areas. The windows appear to show low levels of energy leakage and this contributes to minimal losses.' - *Ulster University, Centre for Sustainable Technologies*



The Technology

For the home of the future, today

Biomass Boiler
The biomass boiler provides hot water and space heating in winter, fuelled by wood pellets.

Photovoltaic (PV) array
PV panels capture energy from the sun to provide electricity to the whole house. Any surplus is sold back to the grid.

Solar thermal panels
The panels generate all the hot water in summer and some in spring and autumn, reducing the demand on the biomass boiler and the amount of wood used, keeping costs to a bare minimum.

Building envelope
Utilising the NRG Block® Insulated Concrete Form (ICF) wall system, the construction method provides the highest level of thermal efficiency and air tightness.

Building fabric
For code level six, the mandatory heat loss parameter standard is very high, placing more demands on the buildings envelope such as insulation, glazing and shading and how these operate with the technological systems of the house.

Heating
The building envelope specification delivers high levels of thermal insulation and air-tightness, so your home will only need to be heated a couple of months in mid-winter.

Smart metering and monitoring systems
A smart meter records energy consumption, to help occupants to identify any wastage and to promote more environmentally aware lifestyles.

Water management
The Green Future Biological Waste Water Treatment System uses very little electricity, requires no percolation and because no chemicals are used, sludge is suitable for fertilizer.

Electricity and glazing
Appliances A++, and low energy technology lighting used throughout with LED. Triple glazing PVC windows U-Value 0.70 / RSI1.43

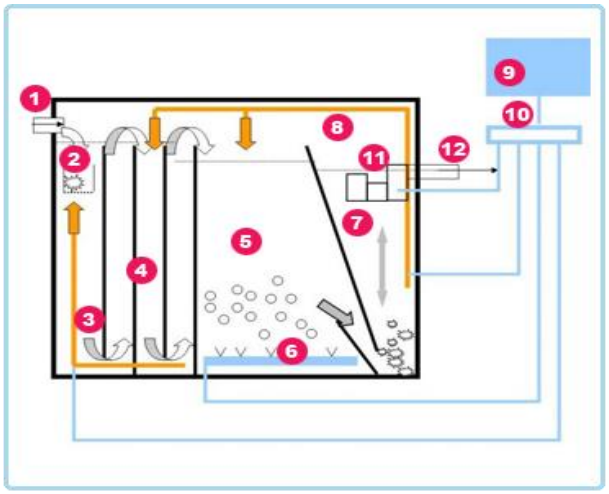
BIOLOGICAL WASTE WATER TREATMENT PLANTS

Green Future waste water treatment units satisfy the highest ecological requirements, and require very little electricity

ADVANTAGES

- High standard of effluent
- No harmful chemicals used
- Sludge is suitable for fertilizer
- Uses very little electricity
- No impact on the vernacular
- No maintenance
- Resistant to chemicals
- Single refill
- Extremely pure water
- Quick and easy to install

With lower installation costs and maintenance expenses, the biologically treated water can be reused because of the high quality of the effluent.



1. Inflow
2. Mechanical treatment
3. Anaerobic fermentation zone
4. Denitrification zone
5. Aeration zone
6. Diffuser
7. Final clarification zone
8. Air distribution panel
9. Air blower
10. Air distribution panel
11. Flow regulator
12. Outflow

AWARD WINNING

THE SUSTAINABLE IRELAND AWARDS 2012 WINNER Sponsored by Energy & Environment Innovation Award Invest Northern Ireland Green Future 2012

4th Annual CIH Northern Ireland Awards FINALIST

UTV BUSINESS EYE AWARDS 2013 FINALIST OF TWO AWARDS

THE SUSTAINABLE IRELAND AWARDS 2012 FINALIST OF TWO AWARDS

SOUTH EAST Economic Development AWARDS 2012 Finalist of Three Awards

Green Future Moves Towards Passive House

The insulated raft

The insulation system made of Peripor® surrounds the part of the building touched by the ground and serves as a foundation. The building insulation above ground continues uninterrupted from the edge of the insulation system.

THE RESULT
Continuous, all-round insulation – without energy-consuming thermal bridges. At the same time, ISOQUICK® protects the construction against moisture and mould growth.

ISOQUICK® The Insulated Raft is a modular system that can be precisely adapted to the various planning requirements and individual architectures. A system which impresses down to the last detail:

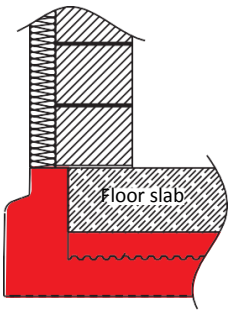
Installation safety ensured by pyramid-shaped lug design
- ❑ Minimum cut-off
- ❑ Fast laying
- ❑ Form-fit
- ❑ Construction free from thermal bridges
- ❑ Angular tolerance

pro PASSIVHAUS

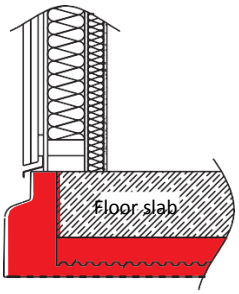
Component Suitable for Passive Houses
Approved Joint
Dr. Wolfgang Feist
valid only in combination with the certificate

Intelligent, complete insulation

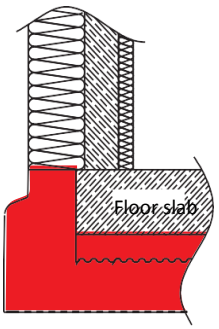
Masonry with exterior insulation system



Timber frame construction



ICF elements



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