WHAT IS A GREEN BUILDING AND HOW DO KNAUF INSULATION'S SOLUTIONS CONTRIBUTE?

Green Building Councils are non-profit organisations aimed at transforming buildings, communities and users' behaviour towards sustainability. The Europe Regional Network (ERN) consists of more than 30 national Green Building Councils and Knauf Insulation is one of the ERN's regional partners. Below are the ERN's eight key elements of a green building and the ways in which Knauf Insulation can contribute.

A GREEN BUILDING...	HOW KNAUF INSULATION CONTRIBUTES	CASE IN POINT
TAKES AN INTELLIGENT APPROACH TO ENERGY ■ Minimising energy use in all stages of a building's life-cycle, making new and renovated buildings more comfortable, less expensive to run and helping building users learn to be efficient too. ■ Integrating renewable and low-carbon technologies to supply buildings' energy needs, once design has maximised inbuilt and natural efficiencies.	Our products reduce building thermal energy by up to 80% and our Glass Mineral Wool product can save more than 500 times the energy used in its manufacture. Regarding low carbon technologies, we supply to leading European flat thermal solar collector producers. Owing to its thermal insulation properties, high temperature stability and low-organic compound emissions our rock and glass mineral wools are an integral part of flat thermal solar collectors.	In a recent renovation of a terraced Victorian house in the UK, the owners were able to improve the thermal performance of the property by almost 80% through a combination of Knauf Insulation solutions. The overall refurbishment resulted in a reduction in carbon emissions from the house by 1.07 tonnes per annum and financial savings through reduced energy bills of £235 per year.
SAFEGUARDS OUR WATER RESOURCES ■ Exploring ways to improve drinking and wastewater efficiency and management, harvesting water for safe indoor use in innovative ways and generally minimising water use in the sector. ■ Considering the impact of the built environment on drainage ensuring it is not put under stress.	Our Urbanscape green roof solution is an innovative and easy-to-install system with high water retention capacity designed specifically for green roofs as well as landscaping areas such as residential gardens, golf courses, commercial spaces, cemeteries and public parks. A major advantage of green roofs is that a reduction of storm water run off also decreases the burden on sewer systems by between 70-90% in the summer	An Urbanscape Green Roof System using two-centimetre Urbanscape growing media was recently installed in a residence in the Dutch town of Honselersdijk. The system provides good storm water management, reduces CO_2, offers excellent sound insulation, extends the life expectancy of the roof and inevitably provides a great energy saving performance. It looks good too.
MINIMISES WASTE AND MAXIMISES REUSE ■ Using fewer, more durable materials and generating less waste, as well as accounting for a building's end of life stage by designing for demolition waste recovery and reuse. ■ Engaging building users in reuse and recycling.	Through life-cycle assessment we better understand the impacts of manufacturing our products and can manage these impacts by substituting for more durable, readily renewable, lower-impact materials. Regarding the waste we produce through manufacturing, we have achieved zero waste to landfill in our Northern Europe manufacturing sites. Knauf Insulation has also piloted a take-back initiative of pallets.	Through LCA we saw binder in our Wood Wool had an impact on global warming potential, 'abiotic depletion potential' (which measures resource extraction) as well as on non-renewable energy. So, we are substituting our binder to reduce negative environmental impact. This has also had a positive impact on other indicators, so there is no burden shifting.
PROMOTES HEALTH AND WELL-BEING ■ Delivering high indoor air quality, avoiding materials that create harmful emissions while incorporating natural light to ensure users' comfort while cutting lighting energy. ■ Utilising proper acoustics and sound insulation that play a key role in the comfort and enjoyment of a property. ■ Ensuring people are comfortable in their everyday environments by creating the right indoor temperature.	ECOSE® Technology is a revolutionary, formaldehyde-free binder technology, based on rapidly renewable materials instead of petro-based chemicals. It reduces embodied energy and delivers superior environmental sustainability. Buildings play an important role in terms of air quality; the energy used to heat and cool buildings creates air pollution and people spend most of their time indoors. More energy efficient buildings mean less air pollution being produced from and because of buildings.	Knauf Insulation has consistently achieved internationally recognised high standards of certification for its products including: Indoor Air Comfort Gold (Eurofins) for Glass Mineral Wool; Blue Angel in Germany for Wood Wool and Glass Mineral Wool as well as the French product emissions labelling regulation A+ for Glass Mineral Wool and B for Rock Mineral Wool.
KEEPS OUR LANDSCAPE GREEN ■ Recognising that our urban environment should preserve nature, ensuring diverse wildlife and land quality are protected or enhanced, for example by remediating and building on polluted land or creating green spaces. ■ Looking for ways we can make our urban areas more productive, bringing agriculture into our cities.	The landscaping industry is evolving to ensure improved plant growth, environmental stress resistance and soil erosion control. The sustainable aspect of landscaping solutions related to water conservation is also important. Water-saving capability is one of the main advantages of our Urbanscape Landscaping System. Urbanscape substrates are made from rock mixtures that are available in nature. The lightweight open structure of products promotes extensive root distribution and plant growth.	An Urbanscape Modular Green Roof System with a four-centimetre Urbanscape growing media has been installed in a car park roof in the Slovenian town of Škofja Loka. Green roofs such as this can capture airborne particles including smog, cut CO_2, provide a mini eco-habitat, reduce storm drainage runoff that can place a burden on sewerage systems and they are more attractive than acres of concrete.
CREATES RESILIENT AND FLEXIBLE STRUCTURES ■ Adapting to a changing environment, ensuring resilience to events such as flooding, earthquakes or fires so that buildings stand the test of time and keep people safe. ■ Designing flexible and dynamic spaces, anticipating changes in their use over time and avoiding the need to demolish and rebuild or significantly renovate buildings to prevent them becoming obsolete.	The time it takes for a fire in a building to turn into a full blaze has fallen from 25 minutes in the 1950s to about 3 minutes today. The driver behind this is understood to be the increased amount of combustible material in our homes and buildings. That is why it is crucial to pick the right products for every application and not make choices that could increase building fire risk. Knauf Insulation manufactures and distributes a wide range of products especially suited to fire protection applications.	Our unfaced mineral wool products achieve A1 Euroclass for fire reaction. Knauf Insulation's Heraklith® range offers multilayer boards with minimal combustibility, as well as non-combustible boards (both A2 class). They do not melt or produce burning droplets, and are rated best in class in terms of smoke. Our new DRS FIRE BOARD 2D & 3D, meanwhile, are supreme fire-resistant cores for doors.
CONNECTS US ■ Creating environments that connect and enhance communities, such as reducing the stress of transport on the environment.	While our products cannot directly influence this aspect of green buildings, they can be used in infrastructure development.	Acoustic highway barrier from Heraklith in Poland.
CONSIDERS ALL STAGES OF A BUILDING'S LIFE-CYCLE ■ Lowering all environmental impacts over a building's life-cycle through design, construction, operation and demolition and considering all embodied resources – the invisible resources used in buildings such as energy to transport materials.	While continuing to contribute to the reduction of the environmental impact of the use phase of buildings through improved energy performance we, as a construction material manufacturer, are working to reduce the impact the construction and end of life phases.	Our recent life-cycle assessment tool enables us to characterise all our product environmental impact. Knauf Insulation is the first in its industry to produce software that will make LCAs available within a few clicks.

Read more in our **Sustainability Report 2013**

Most popular green building ratings initiatives

Quick guide to Green Building Assessment initiatives

BREEAM

BREEAM or Building Research Establishment Environmental Assessment Method started in the UK in 1990 where it is now a voluntary initiative in the private sector and compulsory in the public sector. Points are awarded in line with sustainable approaches to energy and water use, internal environment, pollution, transport, materials, waste, ecology, management processes and the life-cycle of buildings. A total of 109 credits are available of which less than 30 is a fail, a 'good' is 45, very good 55, excellent 70 and outstanding over 85.

LEED

LEED or Leadership in Energy and Environmental Design started in 1993 in the US and is now popular worldwide as well as in North America. It covers new, existing, commercial and residential property and is concerned with energy, atmosphere, water efficiency, materials, resources and indoor environmental quality. There are a hundred points to achieve. To be certified you need 40-49, to get silver 50-59, gold is 60-79 and platinum is 80 points and over.

HQE

HQE or Haute Qualité Environnementale (High Quality Standard) is a French initiative that started in 1996. Not as widely adopted as LEED or BREEAM, HQE is still committed to common aims including reducing energy and water use, minimal environmental impact on surroundings, a healthy internal environment and the full life-cycle of a building. It covers new and existing buildings from commercial properties to multi-family housing.

DGNB

The Certification System by DGNB (Deutsche Gesellschaft für Nachaltiges Bauen or German Sustainable Building Council) was founded in 2008 and focuses on around 50 criteria ranging from environmental, economic, technological and work process aspects to sociocultural and functional dimensions. "A holistic approach is taken" meaning the system assesses the entire lifecycle of the building. Buildings are awarded DGNB certificates in bronze, silver or gold. In addition, there is the option of simple pre-certification in the planning phase.

KNAUF INSULATION
it's time to save energy