



# 03.

## Our operational environment

Climate change,  
energy security,  
economic growth

# Acting on climate change

Much more needs to be done by the EU, starting now.

Europe is missing a historical opportunity to pursue an ambitious and sustainable long-term climate policy. To date, it has set a very weak energy efficiency indicative (non-binding) target of only 27% by 2030. Europe should

review its position and aim for an ambitious energy efficiency targets by 2030. Our climate is changing at a pace no one could imagine. Mankind in general should think globally. Much more needs to be done at a much faster pace, than previously thought.

Unfortunately, as a global community, when it comes to climate change, we behave as if we had alternative options of solving the current crisis, other places to move to when our planet is made uninhabitable, and time. It's painful to observe how humanity tackles, or better said, ignores, the biggest crisis we have ever faced. Currently, we have none of these three things. What we do have is - urgency, and a huge amount of work to be done.



Europe should go for binding energy efficiency 2030 targets.

Europe is believed to be at the vanguard of the global climate policy. So, the unambitious level of 2030 targets are even less understandable. There is enough economic substantiation and scientific evidence suggest that more energy efficiency would bring great benefits to the society.

Eurima, the European Insulation Manufacturers Association, of which URSA is part, struggles to understand the economic, political or social rationale behind such a low-level of ambition on energy efficiency. At a time when Europe is likely on the brink of an acute energy security crisis, economic recovery once again shows signs of stalling and millions of vulnerable consumers are facing an increasing risk of fuel poverty. "It is mind-boggling" said Jan te Bos, Director-General of Eurima, "to see how our leaders have missed a historic opportunity to show leadership, vision and ambition. Instead, they have decided to hide behind short-term national interests and to continue doing business in the past, rather than in the future. Considering the multiple crises we face, this is outrageous".



The climate is changing at a pace no one could imagine. Mankind in general should think globally. Much more needs to be done at a much faster pace, than previously thought. Europe should set the pace.

Source: Eurima.

# The best way of securing our energy future is to reduce energy demand

Europe is obliged to import the lion's share of its energy needs. In 2012, EU Member States collectively spent €421bn on energy imports – €1.1bn a day, mostly wasted on inefficient buildings. An amount of less than a quarter of what is spent on energy imports would be sufficient to roll-out a deep energy renovation program in the EU.

The greater part of energy imports comes from countries with political instabilities. This poses a serious risk to EU's energy security. Recent developments in Russia and Ukraine have shifted focus towards the need to reduce the EU's dependency on external suppliers of energy carriers.

A recent paper by Ecofys, a consultancy in energy and climate policy, addresses current European dependence on energy imports and how deep renovation of buildings contributes to reducing such dependence.

At present, the EU's demand for natural gas is the largest in the world, with a consumption of around 4,700 TWh per year and a net import share of around 65%. With oil, import dependency is even higher.

Domestic production of oil and natural gas modestly contributes to the EU oil and gas consumption. In 2011, 76% of all gas and oil (65% of gas, 85% of oil) was imported from outside of the EU. About one-third of these imports originates from Russia (25% of all imported natural gas, 32% of all imported oil).

Source: Ecofys research – "Deep renovation of buildings: An effective way to decrease Europe's energy import dependency".

'Deep renovation' means a high level of energy efficiency improvement at a rate of 2.3% of the building stock, with a high focus on the efficiency of the building envelope and high use of renewable energy. This policy would lead to a 75% reduction in final energy use by 2050 (compared to 2010). Including cooling, the present study estimates that the energy demand will be reduced by at least 66%.

Deep renovation of Europe's building stock is a sound and sustainable pathway to EU's energy security. An amount of less than a quarter of what is spent on energy imports would be sufficient to roll-out a deep energy renovation program in the EU.



Today's European energy security crisis is a reminder of the scale and nature of what is at stake: a large proportion of our energy imports – as much as 61% of the imported gas – is being used in buildings.

Ambitious, deep renovation of the building stock would enable the sector to reduce its own imports by 60% by 2030 and 100% by 2050.

## Deep renovation of EU building stock should be a priority.

The present political crisis involving Russia and Ukraine has again highlighted the geopolitical risks of imports and the vulnerability of the EU economy. Focusing on its significant amounts of imports of gas and oil, Europe has been rethinking energy strategy.

Regarding the building sector, more than 1,700 TWh of energy is imported to Europe in total. 31% of all net imported oil and gas is consumed in the building sector (61% of all imported gas and 14%

of all imported oil). Russia and Norway account for about 1/4 of the imports each.

A 'deep renovation' policy in the buildings sector could quickly reduce the need for gas and oil, bringing back dependency on imports to zero by 2050. The deep renovation scenario shows a reduction of gas consumption by 95% and of oil consumption by 97%.

It is striking that an amount of less than a quarter of what EU Member States currently spend on energy imports would be sufficient to roll-out a deep renovation program in the EU.

# Fuel poverty: An acknowledged problem, tackled wrongly



## Between 50 and 125 million people in Europe are fuel poor.

The study published by BPIE found that energy subsidies and direct financial support for household heating cannot provide a long-term solution to the fuel poverty problem. However, deep energy renovation of building stock is a long-term answer to fuel poverty. Case studies of EU countries financing measures against fuel poverty indicate that - even though energy efficiency measures have proven to be the most sustainable solution to the fuel poverty problem - they receive lower funding compared to income and fuel price support schemes.

Unfortunately, there is more. Poor housing conditions can also have a serious negative impact on health and well-being. For example, the health of elderly people, mental disability, respiratory and circulatory problems are adversely affected by fuel poverty. As a result, poor indoor climate causes significant losses for entire economies, as it decreases productivity and burdens public finances due to the requirement for increased medical assistance.

The solution is deep energy renovation of the European building stock and a higher allocation of EU Funds to renovation programmes targeting fuel poor, low-income and vulnerable categories of people.



## URSA offers a solution - energy efficiency in buildings and thermal and acoustic comfort.

URSA is entirely dedicated to the production and commercialisation of glass mineral wool (GMW) and extruded polystyrene (XPS) as thermal and acoustic insulation materials for buildings.

### \_ GMW: Glass Mineral Wool:

The main raw material of GMW is silica sand, one of the most abundant minerals on Earth. To produce GMW we also use a large percentage of recycled glass.

GMW combines a unique set of thermal, acoustic and fire safety benefits. It also has a very positive environmental profile

Life cycle assessment of GMW shows that the energy needed for its production can be saved more than 500 times. Also, due to the inorganic origins of its main raw materials, GMW is naturally non combustible and parasite-repellent, without the need for additives. GMW rolls and panels are compressed, allowing for more efficient transportation, and reducing environmental impact.

### \_ XPS: Extruded Polystyrene:

The main raw material of XPS is polystyrene. XPS offers high levels of thermal resistance, making it a great thermal insulator. It also achieves unparalleled levels of compressive strength and water resistance. This makes it an ideal choice for technically challenging building insulation applications like flat roofs or perimeters.

Fuel poverty is a major social problem in Europe, which requires action across a range of policy issues and at all political levels. Even though there is no common European definition of fuel poverty, it is generally accepted as the condition of being unable to afford to keep one's home adequately heated. Normally, fuel poverty results from a mix of three key factors: low household income, poor heating and insulation and high energy prices.

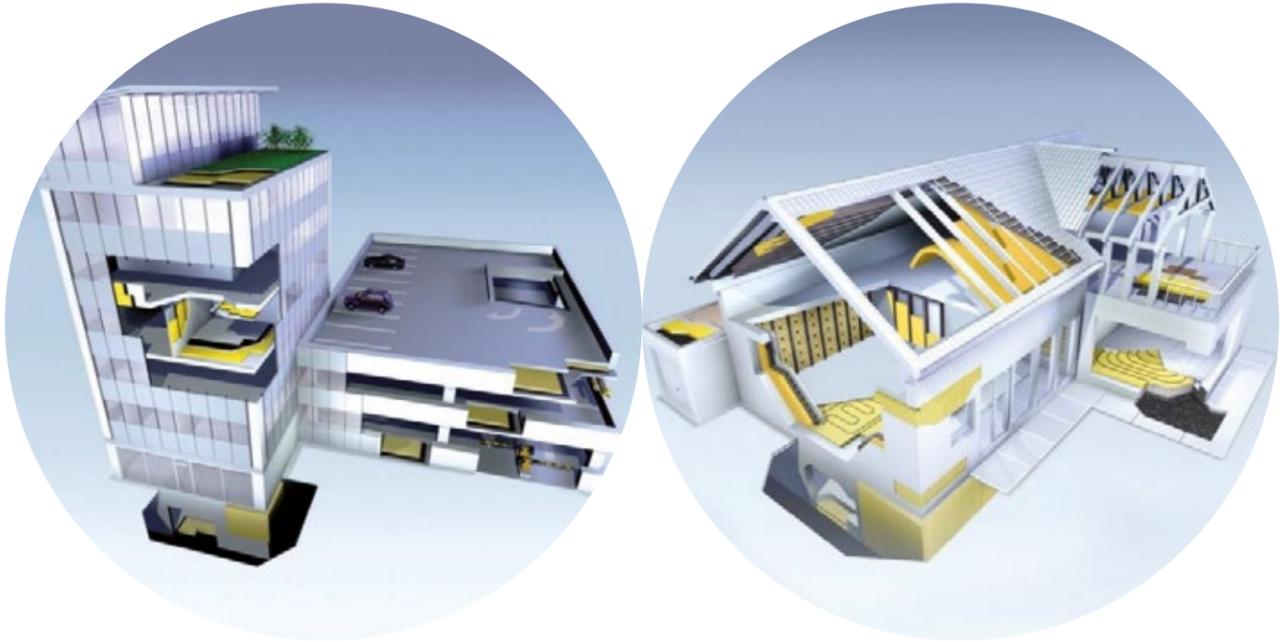
Research by the Building Performance Institute Europe estimates that between 50 and 125 million people in Europe are fuel poor.

This important social need is addressed by URSA's solutions. Our products help reduce the risk of fuel poverty by lowering energy consumption for heating and cooling and cutting energy bills significantly, while improving health.

The European Commission estimates that energy efficiency in buildings could save €600 per household by 2020.

# Our products save energy and provide comfort in all building applications

URSA's strong and consistent brand portfolio more than meets the energy efficiency and acoustic comfort needs of our customers. Our wide portfolio also allows for a balance of different applications and segments.



GMW and XPS are used mainly in residential and commercial buildings to prevent heat transfer and offer acoustic comfort.

Our key applications are:

- \_ Pitched roofs.
- \_ External walls.
- \_ Partition walls.
- \_ Flat roofs.
- \_ Flooring.
- \_ Ceilings.
- \_ Foundations.
- \_ Air conditioning ducts.

## URSA PureOne.

Soft, formaldehyde free and durable URSA PureOne is our premium brand and probably the best product on the market. Due to its acryl based technology, it is a durable solution that helps to greatly increase Indoor Air Quality.

## URSA GEO.

This high-quality and cost-effective mineral wool has outstanding thermal and acoustic insulation properties. Fire resistant, it's ideal for safe thermal and sound insulation of pitch roofs, partitions, external walls and ceilings.

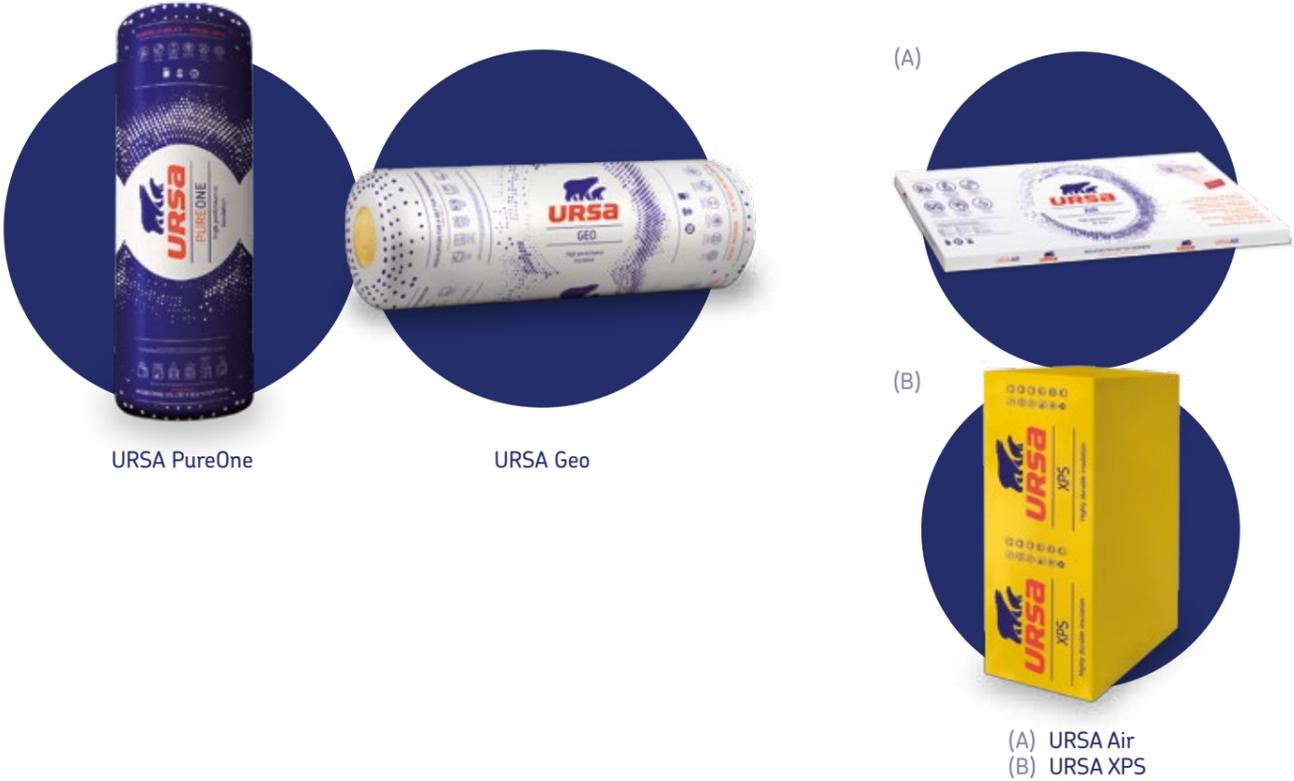
## URSA AIR.

When it comes to energy efficient air conditioning, URSA AIR is the most effective solution. The rigid and high-density panels of URSA AIR are specially designed for self-mounting insulation of air-conditioning shafts and ducts. URSA AIR is quick and easy to install and more flexible than traditional metal ducts.

## URSA XPS.

This product is ideal for technically demanding applications such as flat roofs or cellars, being able to resist high pressure loads and where resistance to moisture, water and salty or acidic soils is required.

(Please bear in mind that our products may have different brand names in certain markets.)



URSA PureOne

URSA Geo

(A) URSA Air  
(B) URSA XPS

# The three pillars of sustainability are addressed at product level

Our insulation materials contribute to sustainable development on three levels and most importantly help tackle climate change.

## Environment.

- \_ Resource efficiency because less energy is consumed, a smaller transportation infrastructure is necessary and fewer CO<sub>2</sub> emissions are generated. A higher amount of recycled content is used and there is a reduced need for virgin raw materials.
- \_ Thermal insulation in buildings generates substantial energy savings. 1 sq. m. of URSA glass mineral wool can save the equivalent of around 400 litres of oil during its life cycle. The same square metre of glass wool insulation could prevent the emission of 343 kg of CO<sub>2</sub> during its life cycle. (1)



## Social benefits. Health, comfort and security.

- \_ Thermal insulation makes homes and offices more comfortable, contributing to higher productivity and better public health.
- \_ URSA's glass mineral wool products offer high levels of acoustic comfort as well as security in case of fire. Glass mineral wool and extruded polystyrene also help improve indoor thermal and air quality comfort.
- \_ More energy efficient building stock would reduce Europe's dependence on energy imports and provide more energy security.

## Economy.

- \_ Deep energy efficiency renovation would generate jobs, economic growth, and save money for governments and individuals. 1 euro invested in insulation = 7 saved!
- \_ For consumers, insulation also saves money. Every euro invested in insulation will save 7 Euros over the product's lifetime as less energy is used to reach a higher level of comfort.

# Energy efficiency of our products: from production to use phase

## Saving energy through thermal insulation.

URSA's products help save more than 500 times the energy required in their production. Our portfolio addresses the biggest energy waster of all - buildings - and helps tackle climate change by enabling the more efficient use of energy.

## Avoiding CO<sub>2</sub> emissions.

During the lifetime of our products, CO<sub>2</sub> emissions are reduced because less energy is wasted. Savings are 250 times greater than the CO<sub>2</sub> generated during production and transportation.

## Efficient use of raw materials and high recycled content use.

The resources used in manufacturing our products are more than outweighed by a building's use phase, thanks to their unique way of saving energy. A high amount of recycled content is used in producing both GMW and XPS. With GMW, recycled glass is used and damaged products are reused, minimising production waste. To make XPS we use a considerable amount of recycled polystyrene, and recycle products that didn't pass internal quality checks.

## High compressibility.

GMW, a significant part of our offering, is highly compressible, which allows for major benefits in terms of transportation. An unpacked roll can be compressed more than 10 times. So, fewer trucks are necessary to transport more energy saving products and we can store more of our product on a warehouse floor than non-compressible materials.



Recycled content	2012	2013	2014
Glass Mineral Wool	39%	38%	49%

(1) The reference product is 1sq. m of URSA GEO with lambda 0,032 W/(m·K) and thickness of 100mm.

# URSA products are leading in sustainability assessment

It is part of URSA's strategy to promote the use of Life Cycle Assessment and the generation of Environmental Product Declarations (EPD). We believe this is a truly objective way to compare products. Many environmental labels focus on a very limited number of indicators. For this reason we have certified a large number of our products according to respected EPD schemes in different markets. We will continue to do so, contributing to transparency in sustainability.

## The Ecomaterial Absolute award (Russia).

Ecomaterial Absolute is the highest Ecostandard rank in Russia for environmentally friendly products. URSA has reached the top level of this very demanding certification.

The award is based on a LCA. The certificate specifies that URSA's glass mineral wool product is highly recommended not only for housing construction and renovation, but also for the construction and renovation of buildings that require the lowest environmental impact such as schools, hospitals and other medical institutions.

## European Environmental Product Declaration (norm 15804).

URSA is proud to be the first company to receive a European Environmental Product Declaration TYPE III according to new EN 15804.

## Environmental Product Declarations (France).

Fiches de Déclaration Environnementales et Sanitaires (FDES) des Produits de construction is a French scheme generating Environmental Product Declarations. A number of URSA products have been certified and corresponding documents are publicly available at [www.inies.fr](http://www.inies.fr).

## IBU and DAPc (Germany and Spain).

We have also made Environmental Product Declarations according to the German Institut Bauen und Umwelt (IBU) scheme and the Spanish Declaración Ambiental de Productos de Construcción (DAPc), two national schemes that standardise the generation of environmental product declarations.



## Rheinau Art Office -Cologne-

Headquarters of Microsoft Germany. URSA's products were used in this project.