

## Sustainable construction to protect the environment



### Sustainability vision

**“Our vision is to be the global leader in sustainable business and establish a leading position in providing sustainable, renewable and affordable best practice solutions for the construction sector.”**

It is in the long-term interests of our business to act responsibly towards the environment and the communities in which we operate. We believe our products, which provide insulation that lowers the energy demand of buildings, can contribute to a more environmentally responsible economy. Sustainability is also becoming a key driver for our customers, who are typically involved across the whole commercial and industrial sector.

Kingspan Insulated Panels is fully committed to developing, researching and investing in environmental standards and practices so as to install a framework for activities, product design, services and decision making that supports the sustainable construction.

## Sustainable insulation achieves energy savings and climate protection

In use energy savings are the most important issue because fossil fuel energy usage is leading to global warming and rising sea levels, raising the very real possibility of catastrophic climate change which may destroy life as we know it.



The Australian Building Codes board has identified increased insulation and higher air tightness as keys to reducing energy use in buildings. This is consistent with their policy to promote sustainable construction principles.

Kingspan Insulated Panels are CFC and HCFC free. That is they have a zero ozone depleting potential. Polyisocyanurate (PIR) is twice as thermally efficient as polystyrene (EPS), mineral fibre and rock fibre insulation.

High thermal performance PIR insulated roof and wall systems optimise thermal efficiency and contribute to air-tightness criteria, thereby preventing unnecessary heat transfer. This provides substantial CO<sub>2</sub> emission savings and contributes to the Federal Government's goals of minimising global warming and consequential climate change.

An additional value of insulated roof and wall systems is that they maintain their exceptional thermal performance throughout their lifetime, which is a key requirement for any sustainable solution.

Kingspan's insulated roof and wall systems can reduce energy use by up to 60%. This enables the design of HVAC systems to optimise energy efficiency and reduce CO<sub>2</sub> emissions.

## Sustainable manufacture and site installation

Off-site pre-fabrication provides factory quality systems achieving higher quality, faster and safer site installation.

Additionally these solutions provide lower site costs, reduced construction programme times and greater certainty in project delivery.

Pre-engineered solutions are delivered to the construction site with the correct dimensions therefore reducing site wastage.

## In use sustainability

### Embodied energy

An important factor in a material specification is the embodied energy of the material. For base construction materials, the replacement of one material with an equivalent with lower embodied energy will reduce the overall energy impact. However, achieving low energy demand in-use is the most important factor in the selection of insulation materials.

The significance of embodied energy can be particularly misleading for energy efficiency materials and systems – where the embodied energy will typically only be in the order of 1%-3% of the energy saved over the building's lifetime.

The chart clearly indicates that thermal efficiency, low air leakages and longevity of performance over the lifespan of the product are the key environmental issues for choosing insulation materials.

