

Most of the existing buildings we live and work in were constructed before the human impact on the climate began to be understood

Nearly a third of UK household greenhouse gas emissions come from burning fossil fuels to provide energy and space heating. We must reduce consumption by 80% through concerted efficiency savings and a switch to renewable energy.

Norwich's built environment has been constructed over many centuries and without any understanding of the impacts of burning fossil fuels. Our heritage can be viewed as poorly insulated, inefficiently heated spaces, designed and constructed without consideration for the sustainable use of resources or the protection of the global environment.

There are more than 1,500 listed buildings in Norwich – 85% of which (extreme weather permitting) will still be standing by 2050. Cutting CO₂ emissions generated by the energy wasted from space heating (estimated to be 27% of UK CO₂ emissions) is one of the keys to preventing run-away climate change.

Only a bold, zero-carbon approach to retrofitting and adapting our heritage will meet the energy and climate change challenge

Imagining how old buildings must be re-designed is part of the Trust's Climate Change Challenge. Dramatically reducing CO₂ is a key way in which we can achieve the reduction targets agreed by 190 nations of the world in Paris in 2015, and at the

same time generating an opportunity to place social and environmental justice at the heart of architectural and planning practice.

Energy should be seen as an integral aspect of design not as a commodity that can be wasted indefinitely with all the disastrous climatic impacts that burning/wasting fossil fuels is having.

Creating localised energy is a fast and efficient way to cut CO₂ emissions, reduce the waste of energy and engage consumers with every aspect of energy design and use

It is clear that no other investment can achieve so much to help stimulate the local and national economies, create jobs and improve peoples' health and living standards so dramatically and directly.

Alongside the economics, it is vital that design advice actively encourages and supports the transformation of existing buildings. The Greenhouse building is just one award-winning example of how our heritage can be redesigned for the future.

Alongside the use of *(low embodied energy)* insulation materials *(to reduce energy waste)* installing local renewable energy generation means we can end fossil fuel use and CO₂ emissions from buildings fast enough to stop the planet overheating



Micro-generation in the form of solar hot water and photo-voltaic electricity generation needs to be integrated into building and site design across the city



Accepting that energy generation will automatically be sent 'off-site' locks us into coal, gas or uranium fuel burning. Worse still, it is the current waste of fossil fuels on which international aggression for the control of these pollutants are centred

The terrifying environmental impacts and human consequences

of which we can see unfolding daily around the world.

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“The architects of the past have no monopoly on beauty, natural materials, elegant proportions, walkable neighbourhoods or mixed-use streetscapes

In fact it is a major fallacy of the current conservation concept, that old buildings were not subject to alteration and improvement ”



This *is* the only generation that can avert the climate catastrophe Future generations will suffer the consequences of inaction but will have no ability to undo the impacts of the current profligate waste of fuels.