

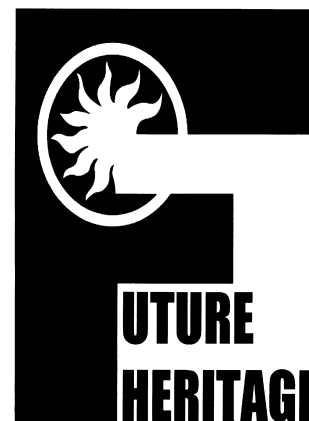
# FUTURE TENSE – GREENHOUSE GALLERY



***Global Warming is the biggest challenge facing mankind  
Embracing the scientific concept of climate change and  
its usefulness to us in creating a sustainable future –  
strengthens the need to learn and act***

***Sharing and engaging with the priorities we face enables  
us to understand and be involved with the globalised  
world in which we live and the changes we can all make***

Sir John Houghton, the founding chair of the International Panel on Climate Change (IPCC) and Scientific Assessment Working Group commenting on the fact that the IPCC panel has no remit to produce and publish data on fossil fuels: "It's a pity that this has never been addressed, but it is not a science question. Climate science is concerned with gases. From the very outset the climate change narrative has been divorced from energy demand, use, waste, efficiency, lifestyle and impacts."



**The Greenhouse Trust promotes 'Future Heritage' highlighting that Norwich has over 1500 old and/or listed buildings in the city, all of which must be redesigned if we are to end the use of fossil fuels and tackle Climate Change.**

## **CLIMATE SCIENTISTS 1.5C LIMIT ON WARMING IS CLOSE TO BE BEING BREACHED**

The decision to try to limit warming to 1.5C, measured in relation to pre-industrial temperatures, was the headline outcome of the Paris climate negotiations last December. The 2015 talks were hailed as a major step forward by scientists and campaigners. 1.5C target has the capacity to avoid catastrophic desertification, heat-waves and flooding. Eight months later, with environmental records shattering as climate change 'plays out before us' with temperatures, sea levels and carbon dioxide all hitting milestones amid extreme weather in 2015.

The Paris summit first agreed to limit global warming to 2C above pre-industrial levels and then decided to try to keep it below 1.5C. This latter limit was set because it offered the planet a better chance of staving off catastrophes such as the melting of polar ice, which would no longer be able to deflect solar radiation and allow even greater global warming.

Met Office data – prepared by meteorologist Ed Hawkins of Reading University shows that average global temperatures were already more than 1C above pre-industrial levels for every month except one over the past year and peaked at +1.38C in February and March. Given these rises, keeping within the 1.5C limit will be extremely difficult.

“If the world puts all its resources into finding ways to generate power without burning fossil fuels, and if there were international agreements that action must happen instantly, and if carbon emissions were brought down to zero before 2050, then a rise of no more than 1.5C might just be achieved,” said Dr Ben Sanderson of the National Center for Atmospheric Research in Boulder, Colorado. “That is a tall order, however.” “It means that by 2025 we will have to have closed down all coal-fired power stations across the planet,” said John Schellnhuber, director of the Potsdam Institute for Climate Impact Research. “And by 2030 you will have to get rid of the combustion engine entirely. That decarbonisation will not guarantee a rise of no more than 1.5C but it will give us a chance.”

**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**

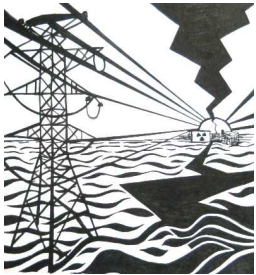


***Most of the existing buildings we live and work in were constructed before the human impact on the climate began to be understood***

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

***“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”***



*“If an architect conforms to the conservation department’s whims to hide solar panels on buildings that reduce their efficiency, then the energy generation problems are automatically sent offsite to centralised coal, gas or uranium fuel power stations”*

**Bill Dunster, Zed Factory**

## ***This is the only generation that can avert the climate catastrophe***

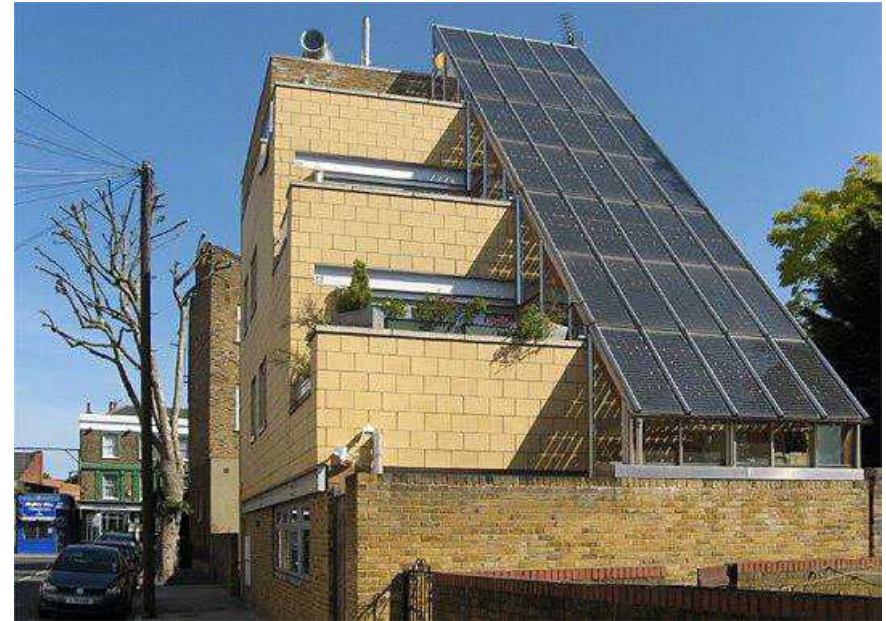
***Future generations will suffer the consequences of inaction but will have no ability to undo the impacts of the current profligate waste of fuels***



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.



***“We need progressive designs, that celebrate life and the future of our heritage. Such designs are key to creating a 21<sup>st</sup> century vernacular, expressing optimism for a future that works without waste, pollution and provides a future for the next generation”***

Financial support for such schemes can be provided by low interest loans, council tax rebates and grants which will make low carbon choices possible for all.

***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 use of (*low embodied energy*) insulation materials (*to reduce energy waste*) Installing local renewable energy generation means we can end fossil fuel use and CO<sub>2</sub> 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**

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.



**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 CO<sub>2</sub> emissions, reduce the waste of energy and engage consumers with every aspect of energy design and use

***“The mantra that change is out of character with the building or landscape is part of the suicide pact being clung to by those who continue to deny climate change or who will not accept that the end of oil, and the major waste of fossil fuels must end within a decade***

***Planning must embrace renewable energy technologies.”***

**Bill Dunster – Zed Factory**



## **FUTURE HERITAGE THE CLIMATE CHANGE CHALLENGE**

There are more than 1,500 listed buildings in Norwich – 85% of these existing buildings (extreme weather permitting) will still be standing by 2050. Cutting CO<sub>2</sub> emissions generated by the energy wasted from space heating (estimated to be 27% of UK CO<sub>2</sub> emissions) is one of the keys to preventing run-away climate change.

**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.**

Imagining how old buildings must be re-designed is part of the Trust's Climate Change Challenge. Dramatically reducing CO<sub>2</sub> 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.



## **THE SOLAR REVOLUTION IS ..... ONGOING THE GREENHOUSE**

**SET THE PRECEDENT FOR SOLAR  
PANELS ON A LISTED II\*  
BUILDING IN NORWICH  
23 YEARS AGO**

**THIS YEAR THE GREENHOUSE IS  
INSTALLING A NEW ARRAY OF  
SOLAR PANELS ON THE FRONT OF THE  
BUILDING IN ORDER TO CONTINUE ITS  
PROMOTION OF SOLAR TECHNOLOGY ON  
OLD/LISTED BUILDINGS**

## **PLEASE HELP BY MAKING A DONATION**

**Make a direct donation or sign up to Good Energy via the  
Greenhouse Website, Good Energy donates £30 to the  
Greenhouse**

[www.Greenhousetrust.co.uk](http://www.Greenhousetrust.co.uk)

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