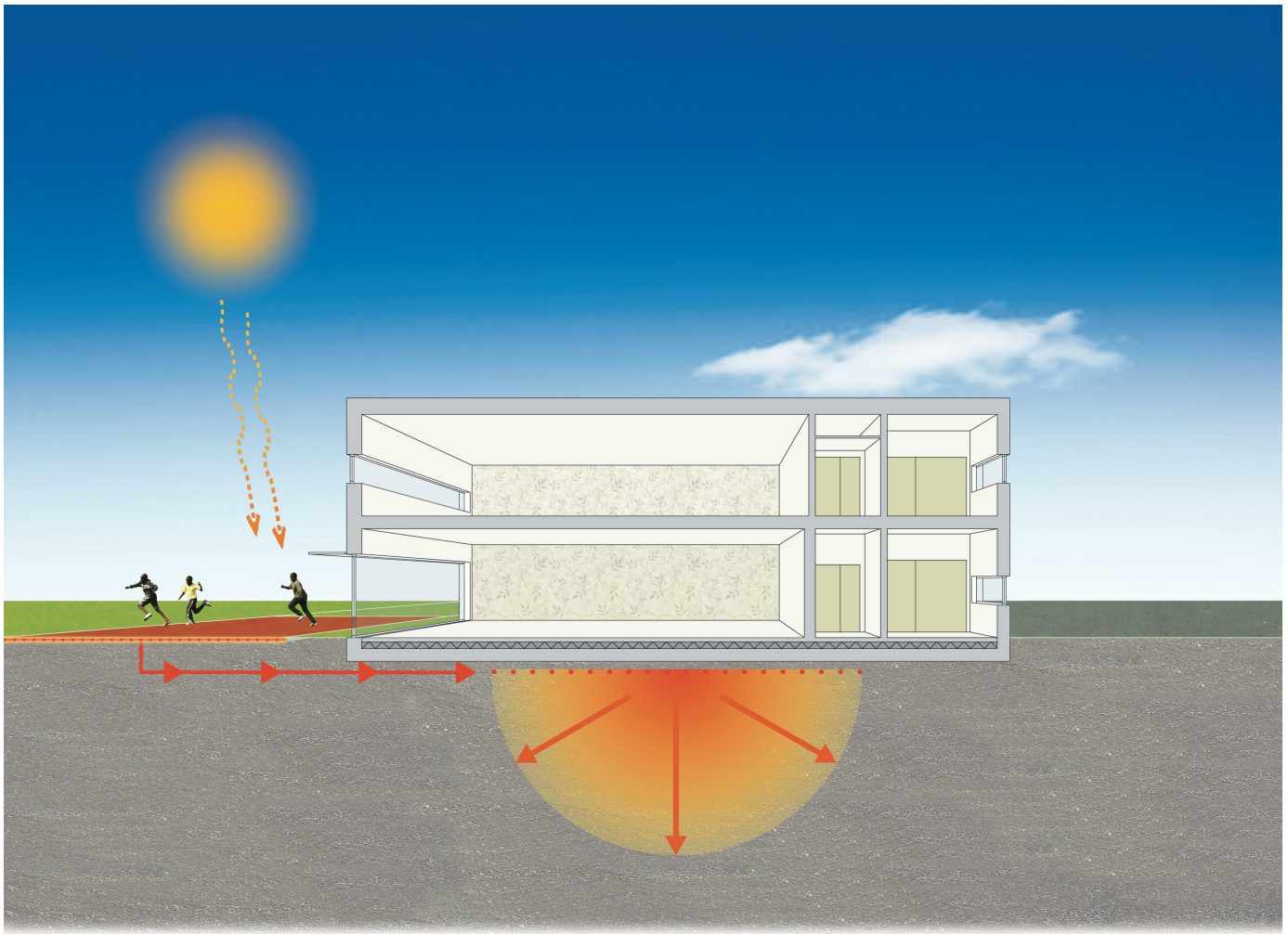
INTERSEASONAL HEAT TRANSFER

THERMALBANKS

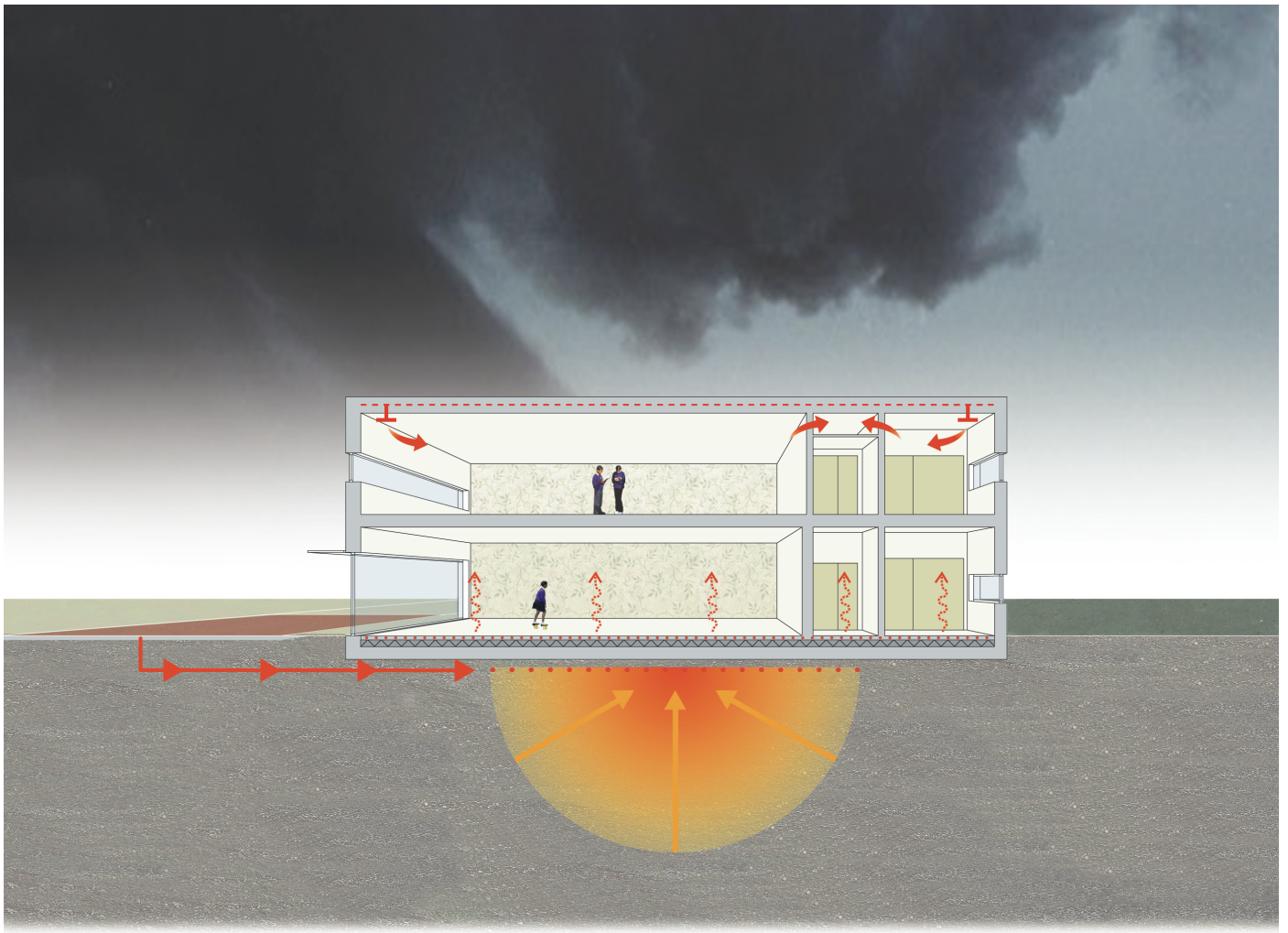
Edward Thompson, Director

ICAX - How Interseasonal Heat Transfer works



IHT collects heat from the Asphalt Solar Collector and transfers it to the ThermalBank beneath the insulated foundation of the building.

ICAX - How IHT works



In winter heat is transferred from the ThermalBank up to the building
- without burning fossil fuels

IHT adds a second function to existing building fabric:

Asphalt roads can act as solar collectors – as well as car parks or playgrounds

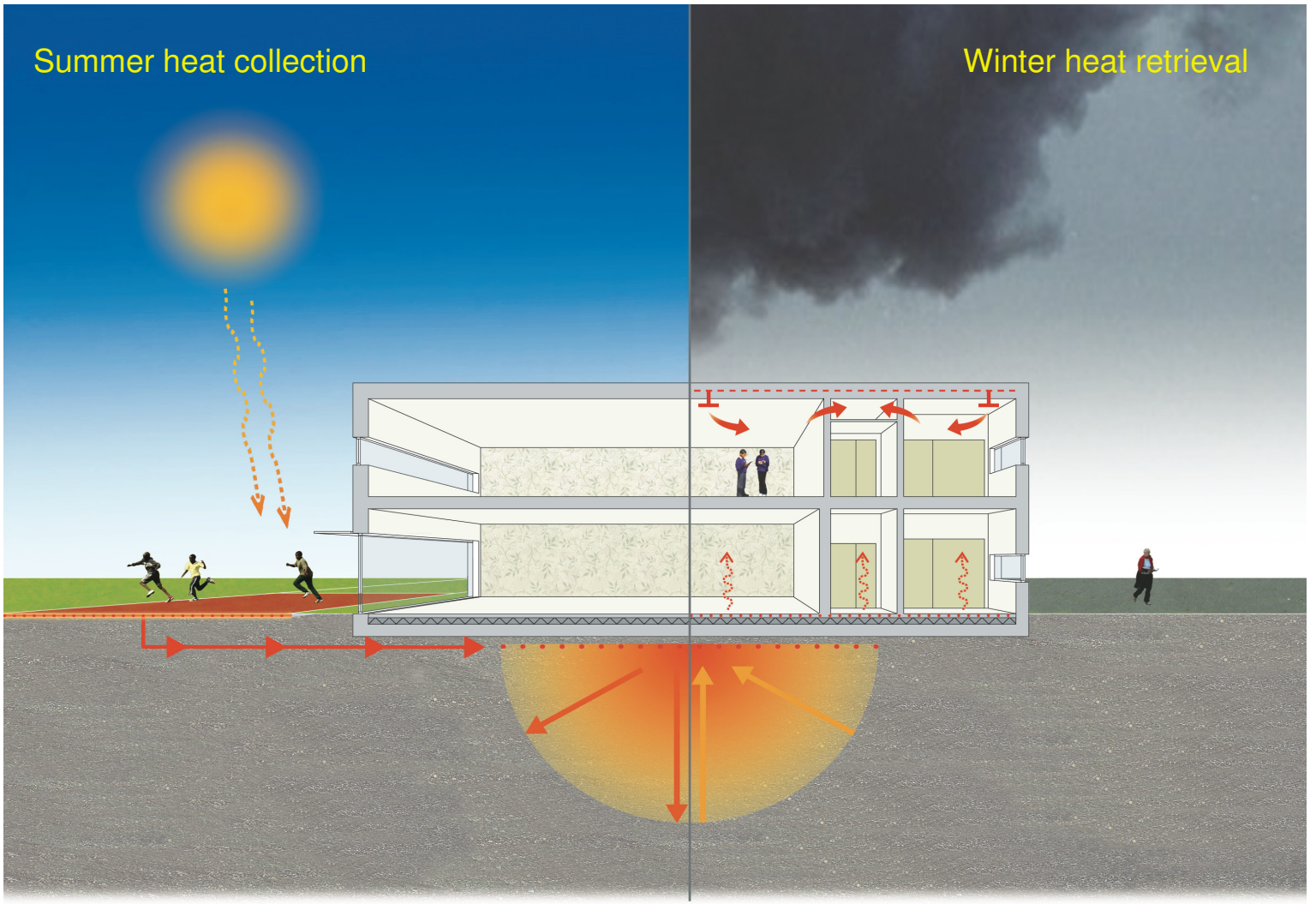
The ground can be made to act as a thermal store – as well as supporting your building

Foundation insulation can contain heat in ground in summer – as well heat in building in winter

Roofs can act as solar collectors – as well as a waterproof seal

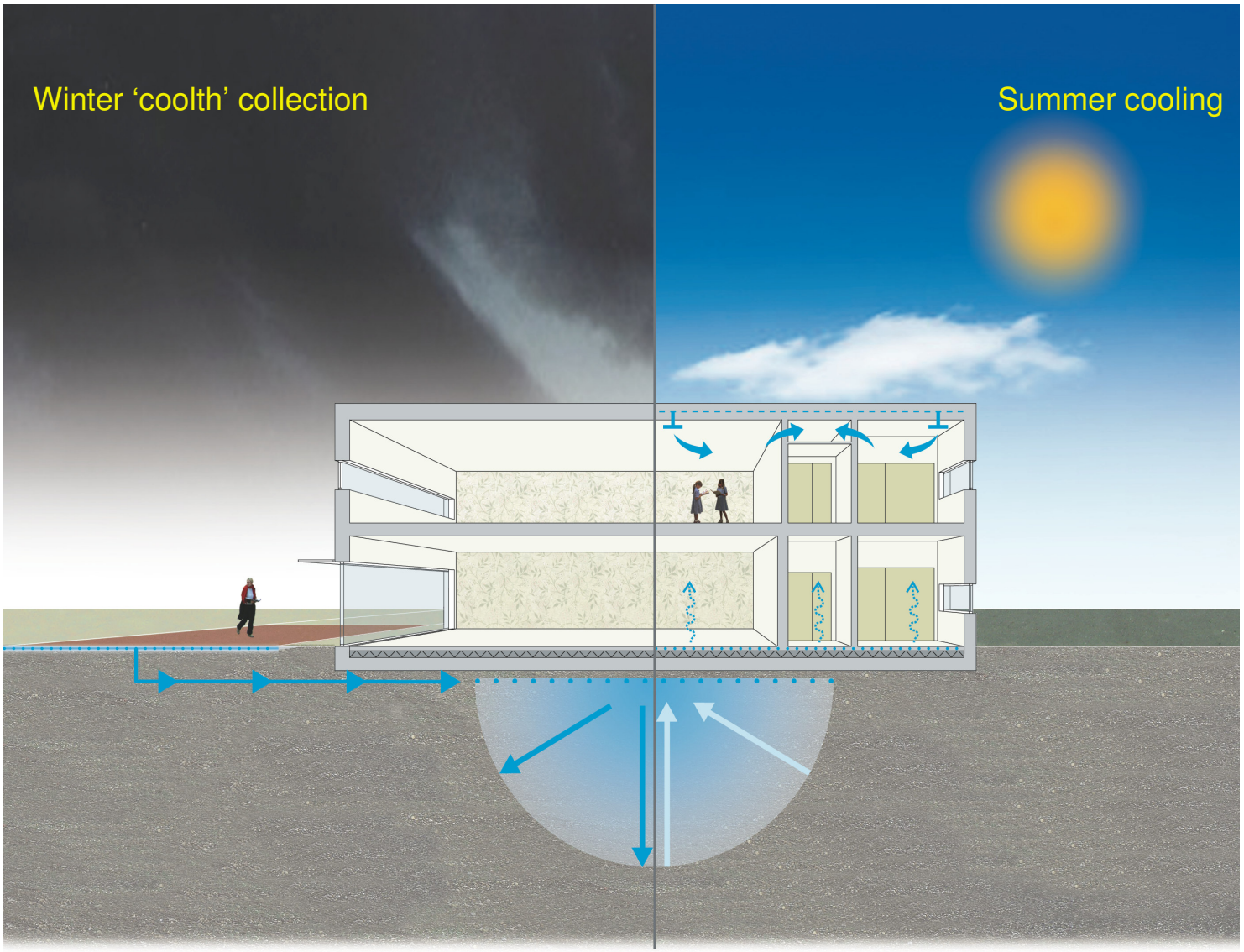
IHT is a complementary fusion of Solar Thermal and GSHP – linked by a ThermalBank

Delivered projects - Howe Dell School, Hatfield



Interseasonal Heat Transfer stores heat
in ThermalBanks

Howe Dell School



Interseasonal Heat Transfer stores coolth in ThermalBanks
to provide cooling in summer

Howe Dell School

Construction of the Solar Collector array beneath the playground

Howe Dell School

Construction of ThermalBank array (beneath the school)

Howe Dell School

ICAX Solar Collector is invisible and silent

no planning permission needed

Delivered Projects - Toddington Demonstration for the Highways Agency

Heat collected in summer is returned to road in winter to prevent ice forming

Toddington Demonstration for the Highways Agency

ICAX Solar Road Systems

Independent monitoring by TRL Ltd confirmed success of ICAX modelling

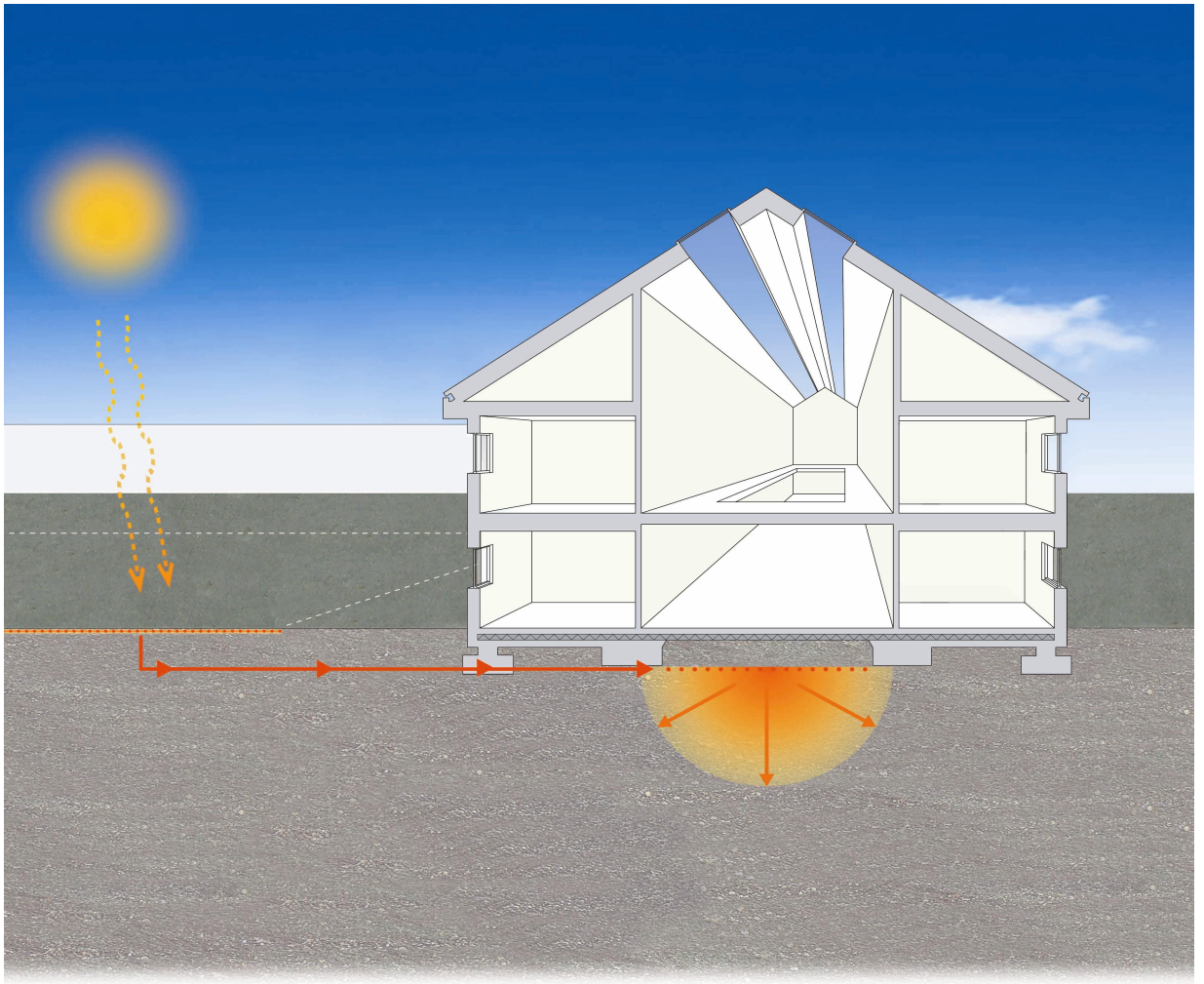
Misawa Demonstration - Hiroshima, Japan

Stored summer heat melts snow in winter

Renewable Heat in the land of the Rising Sun

IHT for Prison House Blocks – HMP Garth, Lancashire

- Improved energy efficiency when GSHP linked to ThermalBank
- IHT doubles the CoP of a GSHP when starting from a warm ThermalBank



Interseasonal Heat Transfer for Prison House Blocks

ICAX Asphalt Solar Collector In construction – capturing Green Heat

On Site Renewable Energy for BSF Schools

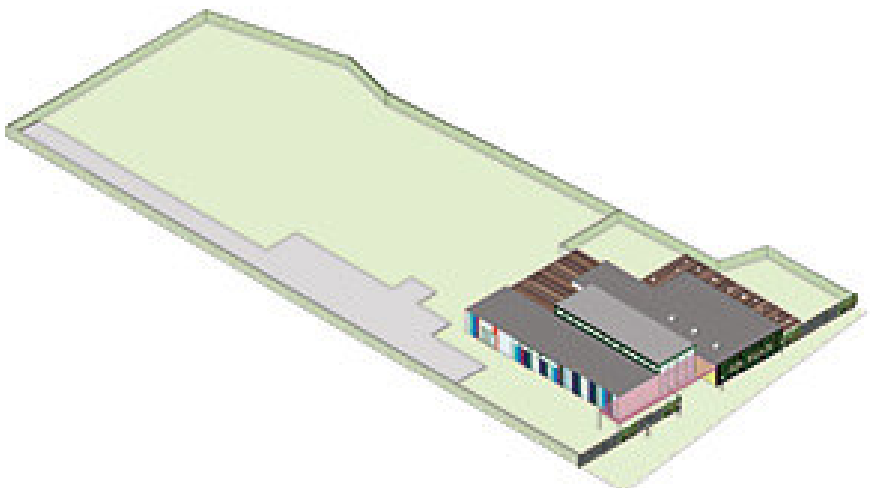
- Recommendations from the Department for Children, Schools and Families (Building Bulletin 101) require that the internal temperature should never exceed 32° C and that there should be a maximum of only 120 hours a year where the temperature exceeds 28° C.
- The Treasury is not willing to fund air conditioning for schools
- Interseasonal Heat Transfer provides "**critical period cooling**" to take the sweat out of exams.
- without the annual cost of running air conditioning & without the capital cost of installing air conditioning

Suffolk One Sixth Form College, Ipswich

- £65 million construction – completion October 2010
- IHT doubles the CoP of a heat pump when starting from a warm ThermalBank

Intergenerational Community Centre, London Borough of Merton

- Heat extracted from building in summer
- Heat saved in ThermalBank over the autumn
- Heat returned to building in winter
- Merton rule requires 10% on site renewable energy
- Interseasonal Heat Transfer provides 44% on site renewable energy
- by not “wasting” the summer heat, but storing it in the ground.



INTERSEASONAL HEAT TRANSFER
cooperates with nature
to provide renewable heating and
cooling without costing us all the earth.

ICAX chooses REHAU to install pipe
arrays for ICAX Solar Collectors and
ICAX ThermalBanks.

ICAX uses Mitsubishi WR2 equipment to extend the principles of IHT (of collecting free heat in summer for use in winter) to allow for sharing of heat *within* a building where there are simultaneous needs for heating and cooling.

The integration of these renewable technologies is a major new step toward the target of achieving Zero Carbon Buildings.

ICAX has developed Solardec:
Watertight Flat Roof Collector.

Solardec extends the range of IHT to
allow solar heat collection from flat roofs
in city centres.

icax™ ltd

REHAU
Unlimited Polymer Solutions

MITSUBISHI ELECTRIC
AIR CONDITIONING SYSTEMS

INTERSEASONAL HEAT TRANSFER

ThermalBanks

Renewable Heat Renewable Cooling

www.icax.co.uk

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INTERSEASONAL HEAT TRANSFER

Gives you the carbon offset you need
to comply with The Merton Rule.

Edward Thompson