



PLP/ARCHITECTURE





### PLP/ARCHITECTURE

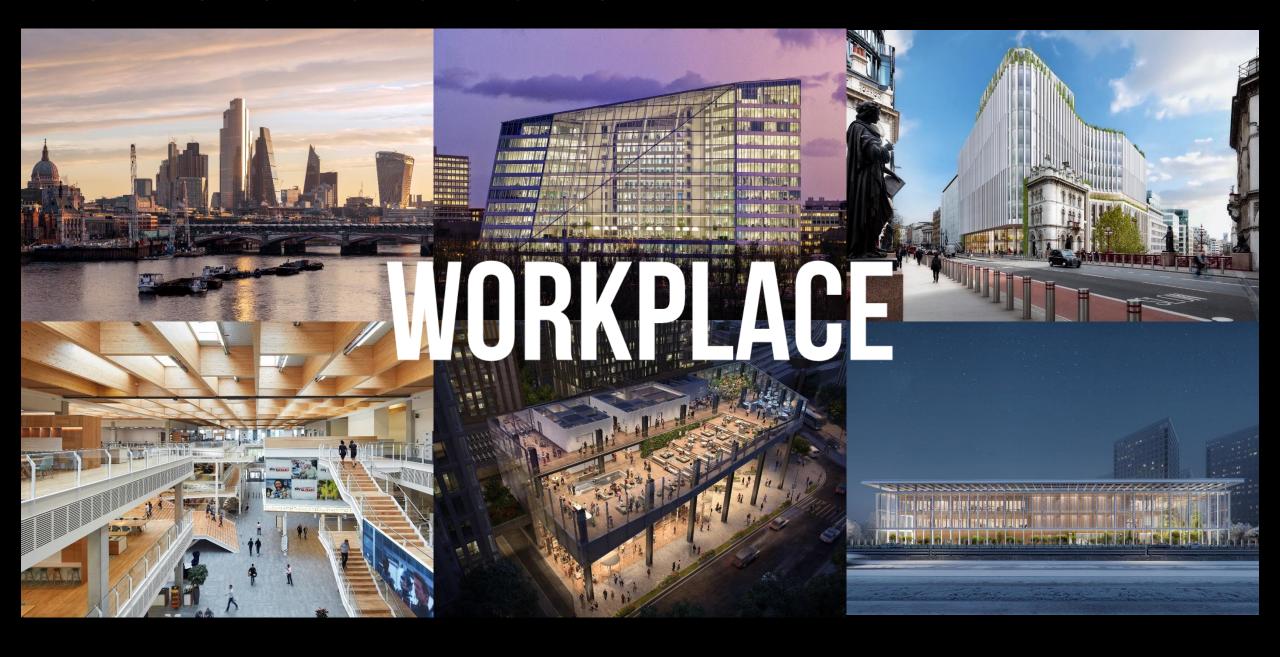
PLP/LABS

DESIGN	RESEARCH	STRATEGY
Urban	The Possible City	Placemaking
Architecture	Digital Design Tools	Positioning
Interior	User Experience	Workplace
Product	Material	Repurposing
Sustainability	Mobility	<b>Product Ideation</b>

### LIFE CENTRIC CITY



### **NEXT GENERATION WORKPLACE – HUMAN ACTIVATION**



### WORLD-LEADING PLACES FOR RESEARCH AND SCIENCE



### **REDEFINDED LIVING**

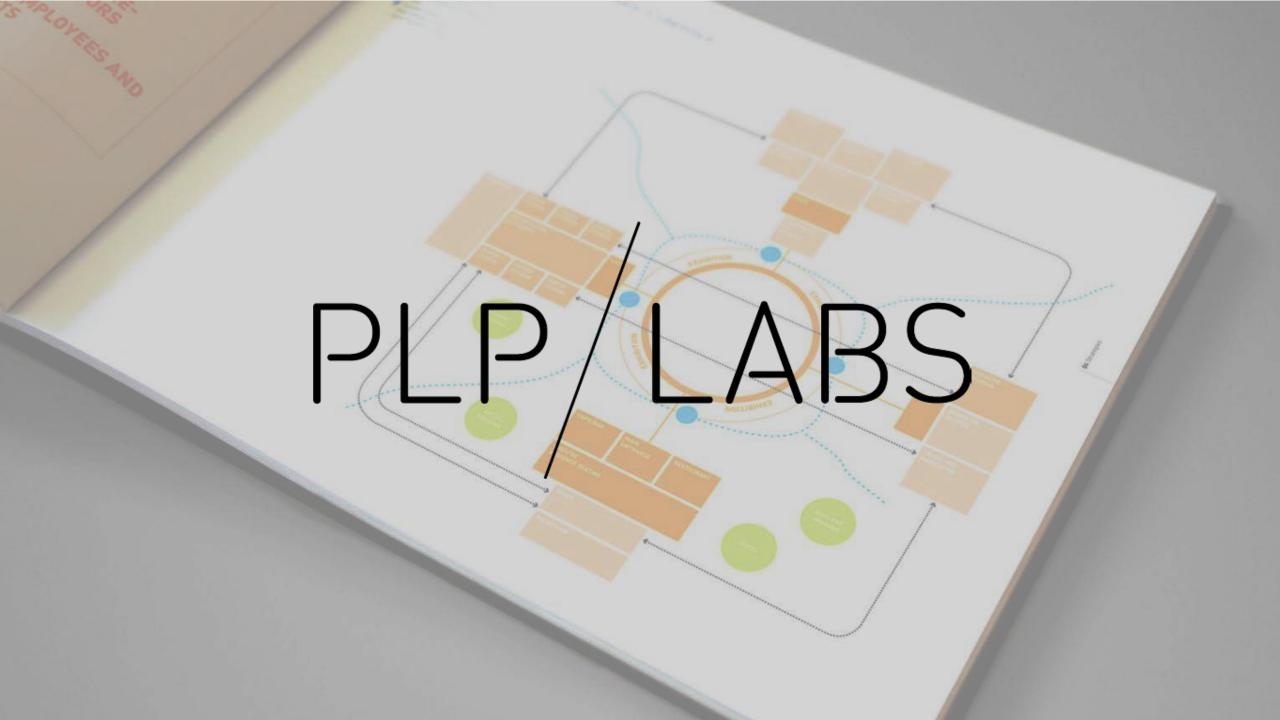


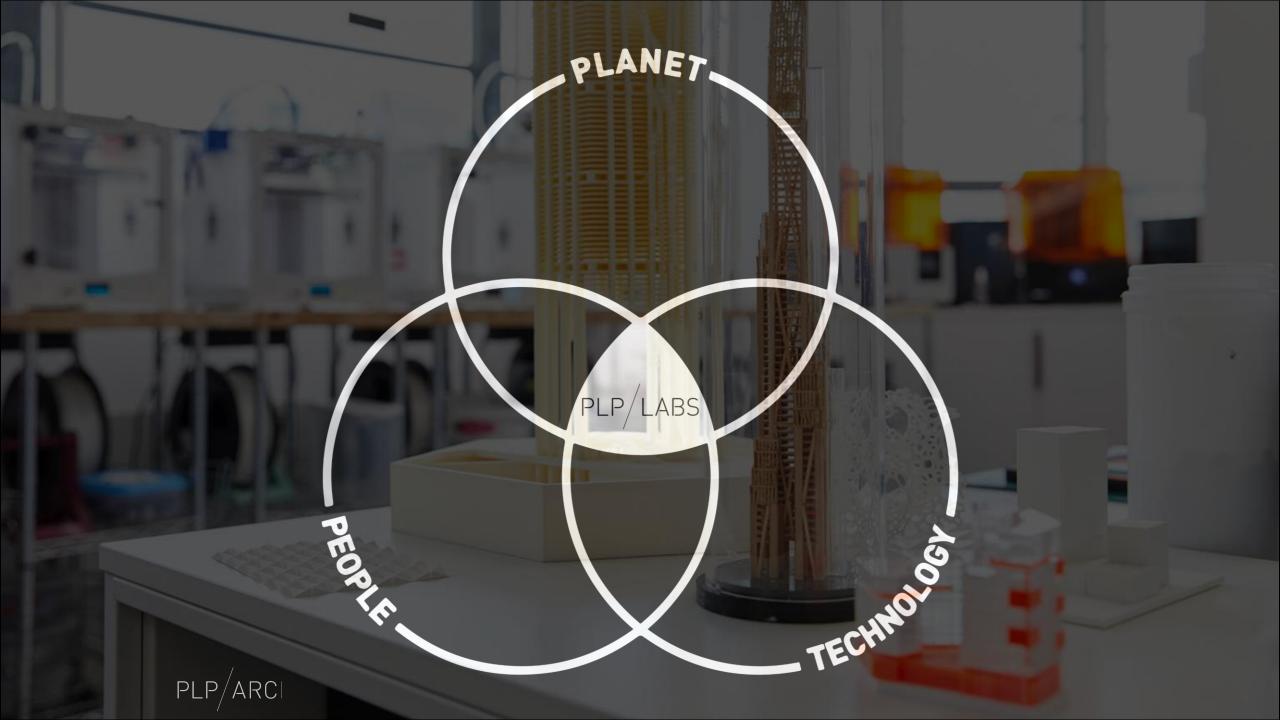
PLP/ARCHITECTURE

### **HOSPITALITY PLACEMAKING**













arthesia

ARUP

BUILT-ID

**COMUZI** 









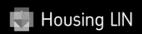


FUTURE\CITY

























Population Ageing













smithandwallwork engineers











### **300m Timber Tower Research**

What is the high-rise tower of the 21st century? Developed in collaboration with specialist institutions such as Cambridge University, the structure/material of the 300m super tower was challenged in timber.





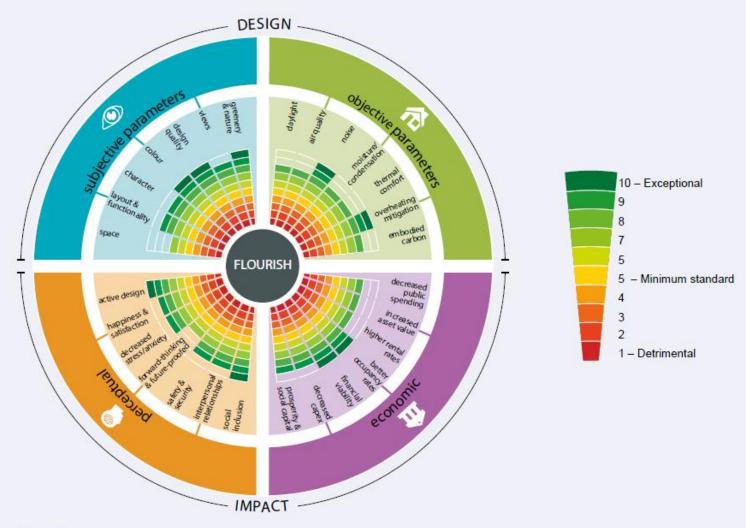
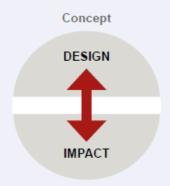


Figure 1
The Flourish model: 26 concept stage
Courtesy of Derek Clements-Croome; illustrated by Marylis Ramos and used by Joyce Chan with PLP Architecture





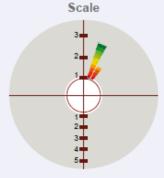
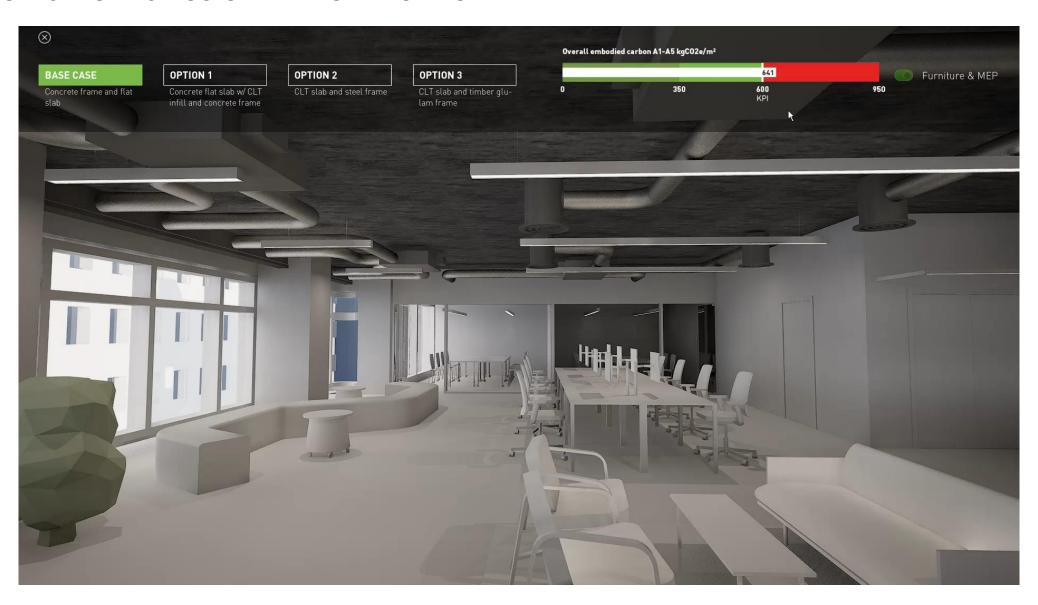


Figure 2 Conceptual diagrams showing how the Flourish model can be applied in practice

#### DATA VISUALISATION – STRUCTURAL EMBODIED CARBON



# HUMAN CENTRIC T0LIFE CENTRIC

# BANKSIDE YARDS URBAN HYPERMIXITY



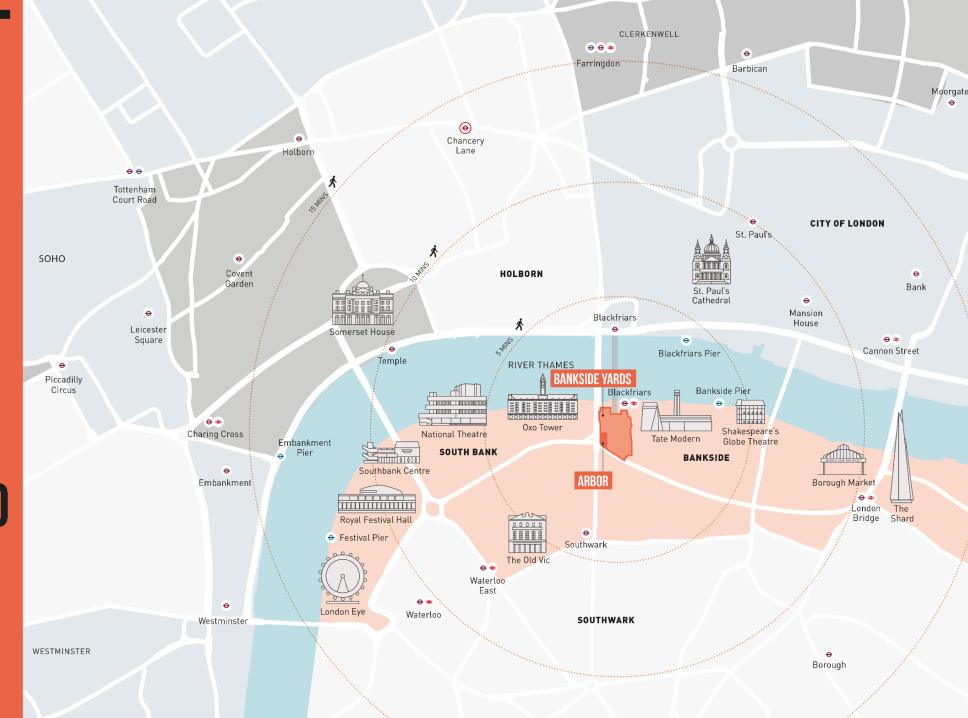


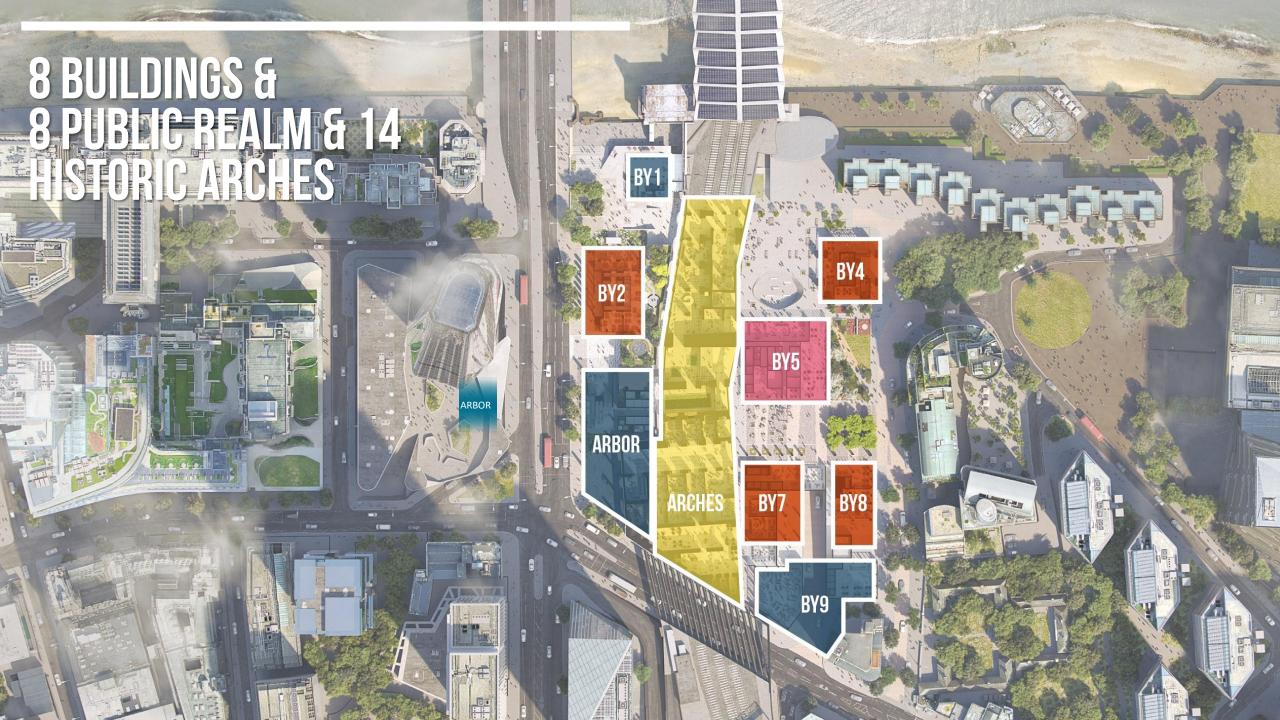




# LONDON MYPER MIXITY

# LONDON'S NEW CULTURAL NEIGHBOURHOOD





## BANKSIDE YARDS

**CULTURE / ART** 

**PUBLIC REALM** 

LIVE / WORK / SOCIAL

WELLNESS / NATURE

LOCAL / GLOBAL











### LONDON - CULTURAL HYPERMIXITY









### BSY - NECKLACE OF HYPERMIX EXPERIENCE

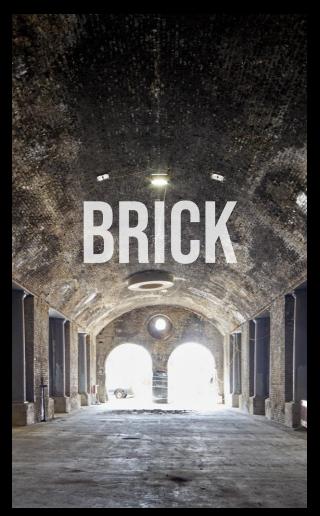








## **BSY CLUSTER - CURATED MIXITY OF ARTEFACTS**

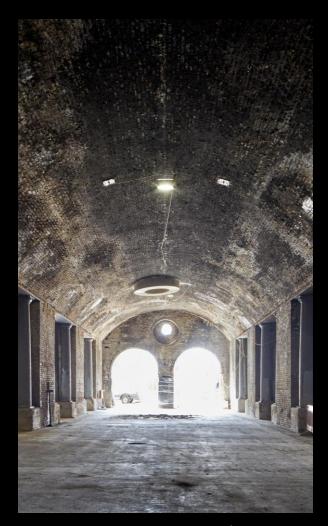








# BSY LOCALITY - CRAFTED FRAMES





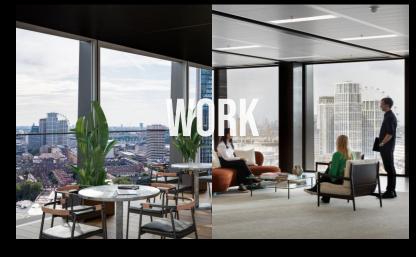




## ARBOR - HYPERMIXITY OF WORKPLACE













## ARBOR - HYPERMIXITY OF WORKPLACE













ENVIRONMENTAL PERFORMANCE



MASTERPLAN WIDE 5TH GENERATION ENERGY NETWORK

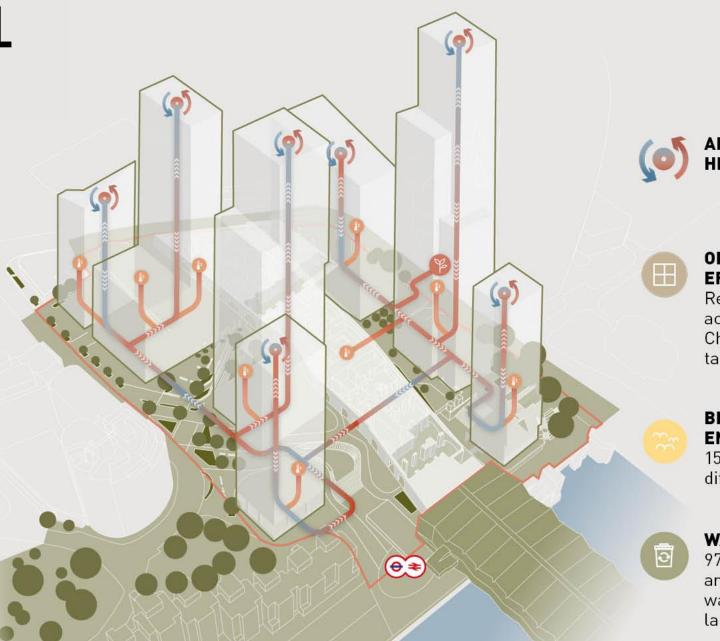


REDUCED URBAN HEAT ISLAND

by re-using waste heat











Residential apartments achieve RIBA 2030 Climate Challenge operational energy targets



150 new trees of 20 different species



97% of demolition materials and >80% construction waste will be diverted from landfill

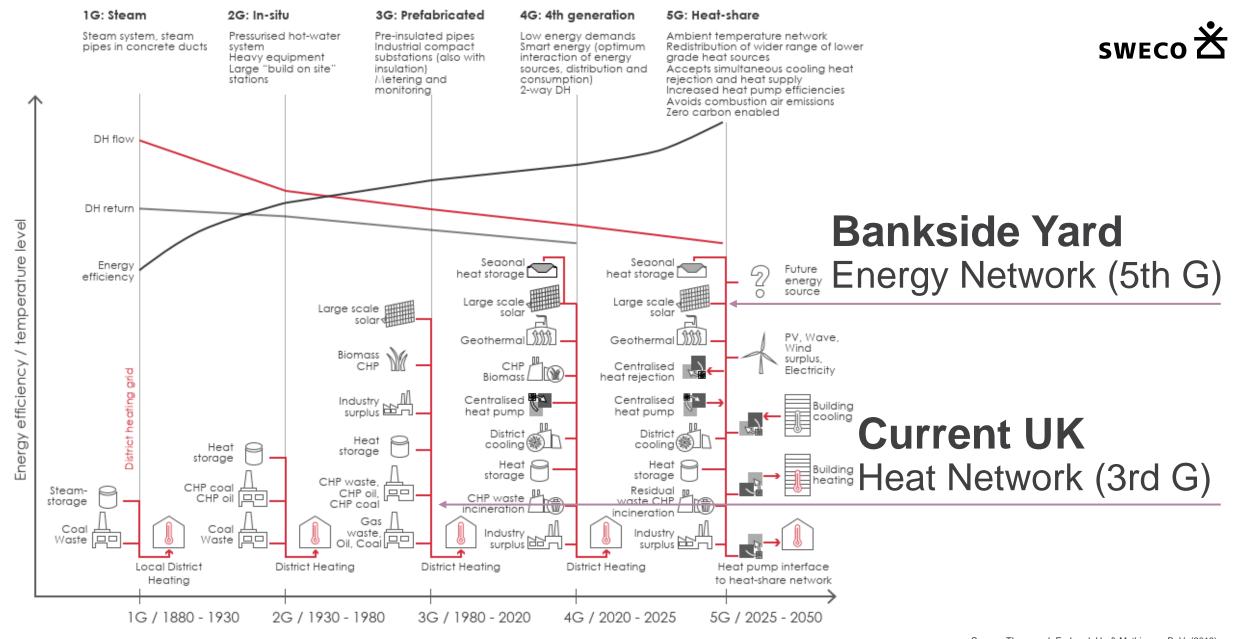


Figure 3.4 - District heating network evolution

Source: Thorsen, J. E., Lund, H., & Mathiesen, B. V. (2018). "Progression of District Heating – 1<sup>st</sup> to 4<sup>th</sup> generation"



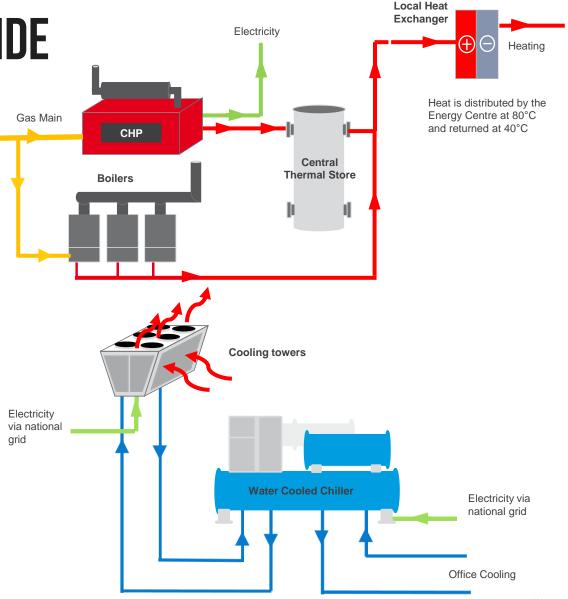
THIRD & FOURTH GENERATION NETWORKS ARE DESIGNED TO PROVIDE HEAT AND COOLING SEPARATELY



Heating Side



Cooling Side



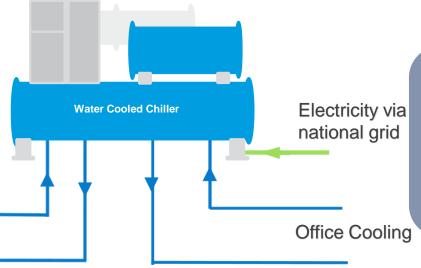


THIRD & FOURTH GENERATION COOLING SYSTEM & GENERATION OF WASTE HEAT

Cooling towers

Electricity
via national
grid

The waste heat is rejected by the cooling system in the atmosphere and fossil fuel (natural gas) is utilised to heat for domestic hot water

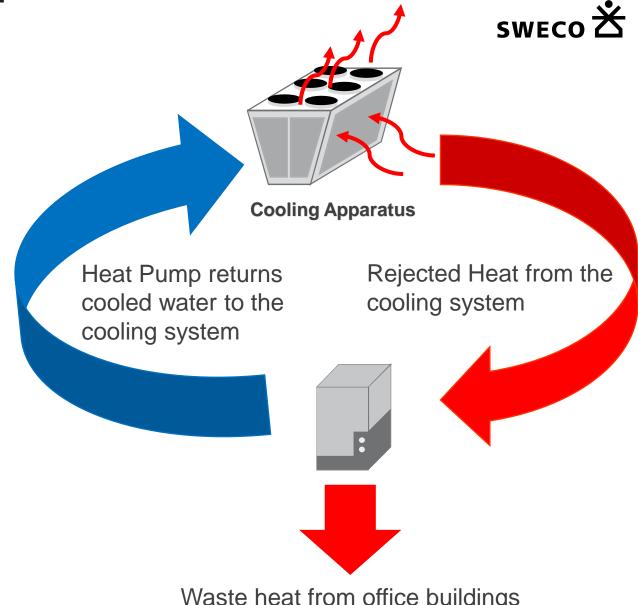


Well insulated building have are enough thermal energy generated by human activity and equipment's to provide for heating majority of the domestic hot water demand.

# HARVEST OF LOW WASTE STREAMS OF ENERGY

 By connecting parts of the mixed used buildings with different needs and balancing the energy between them.

 It will allow effective use of energy and makes it possible to decrease both pollution and the energy consumption.



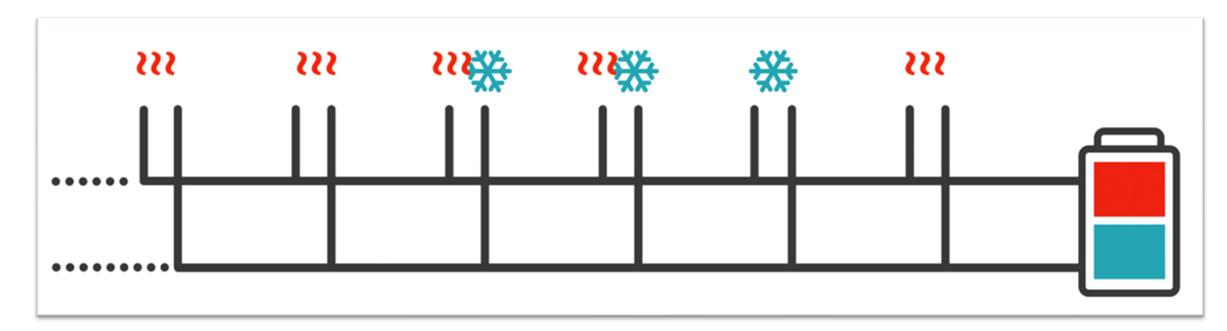
Waste heat from office buildings could turn into domestic hot water for residential apartments



# HOW DOES THE BANKSIDE YARD NETWORK WORKS?

Buildings connected to the same system provide each other with heating and cooling

"By making a loop of thermal energy streams, 5th Generation network helps provide all the heating and cooling necessary for an entire site."



### **SOCIAL VALUE**



(A)

#### **PUBLIC REALM**

makes up 55% of site, with 3 new urban connections



CREATIVE REUSE OF 14
HISTORIC RAILWAY ARCHES

including designated LGBTQ+ cultural space



#### SUSTAINABLE TRANSPORT

1380 cycle spaces and electric car charging



#### TOWARDS HYPERMIXITY

exploring the future of urban mixed use



0

#### **VOLUNTEERING**

with Bounce Back Foundation

**COLLABORATING WITH** 

**BETTER BANKSIDE** 

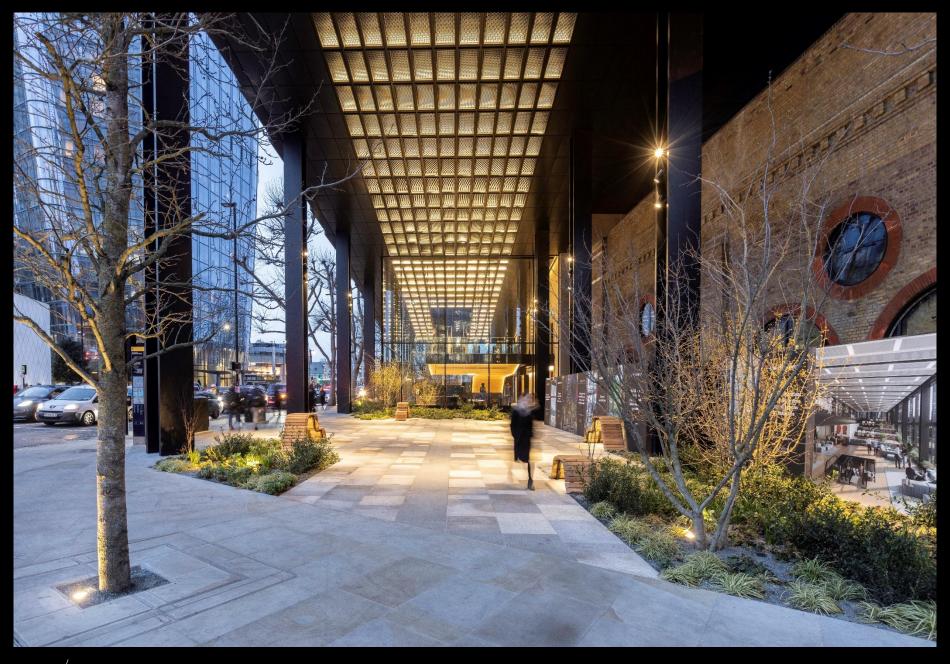


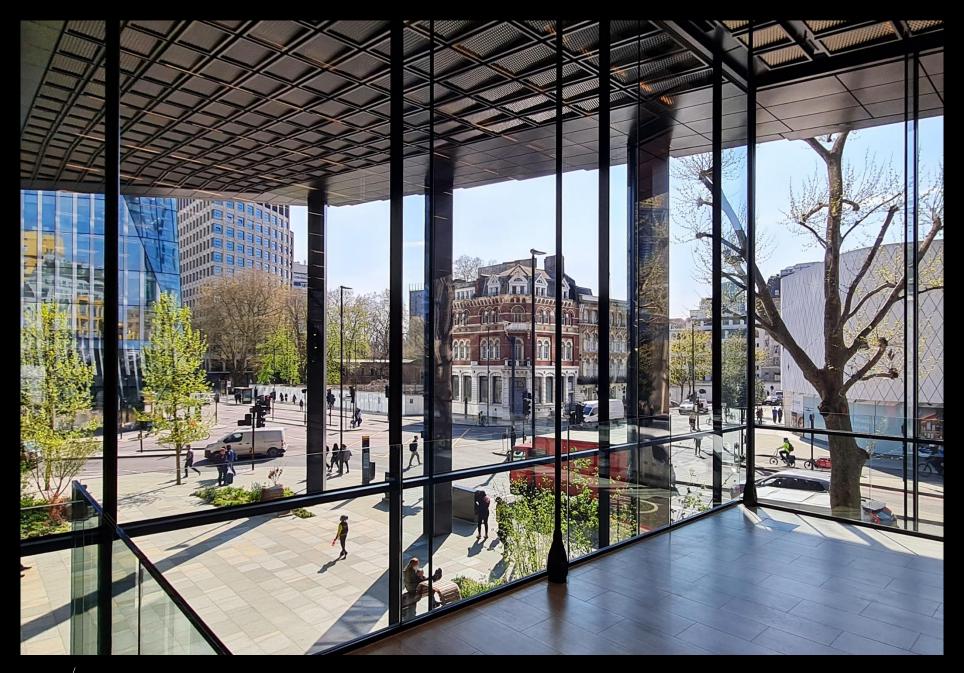


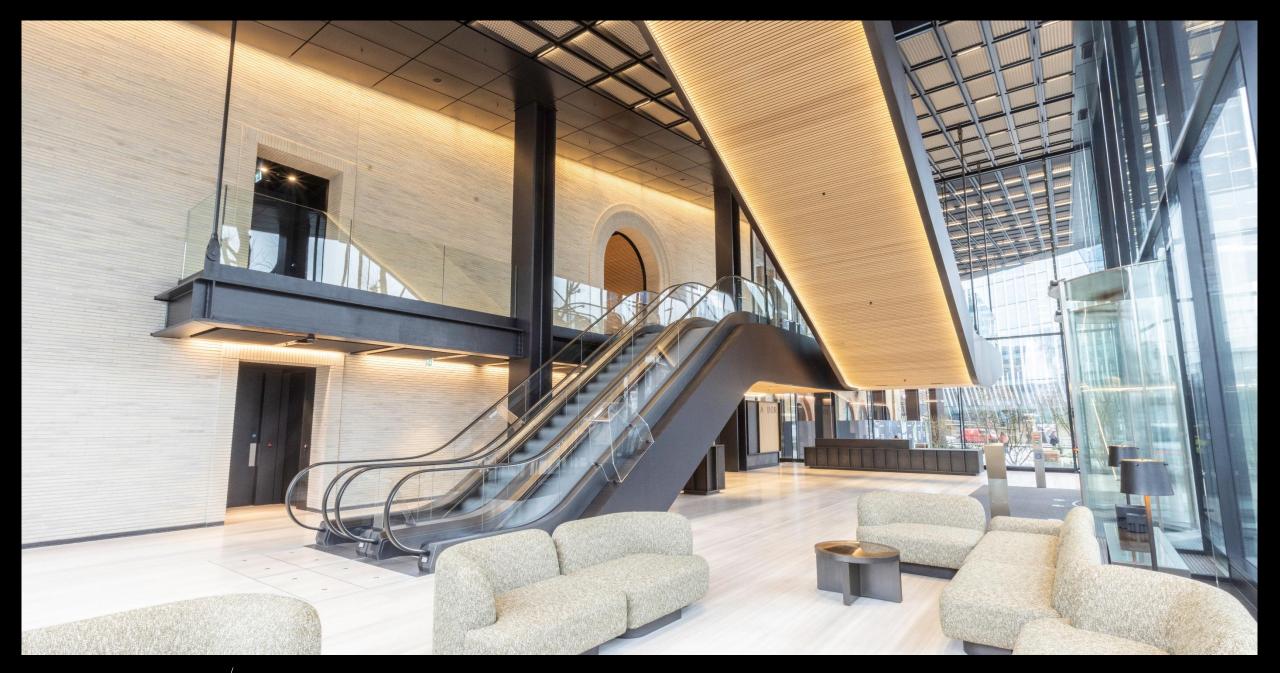


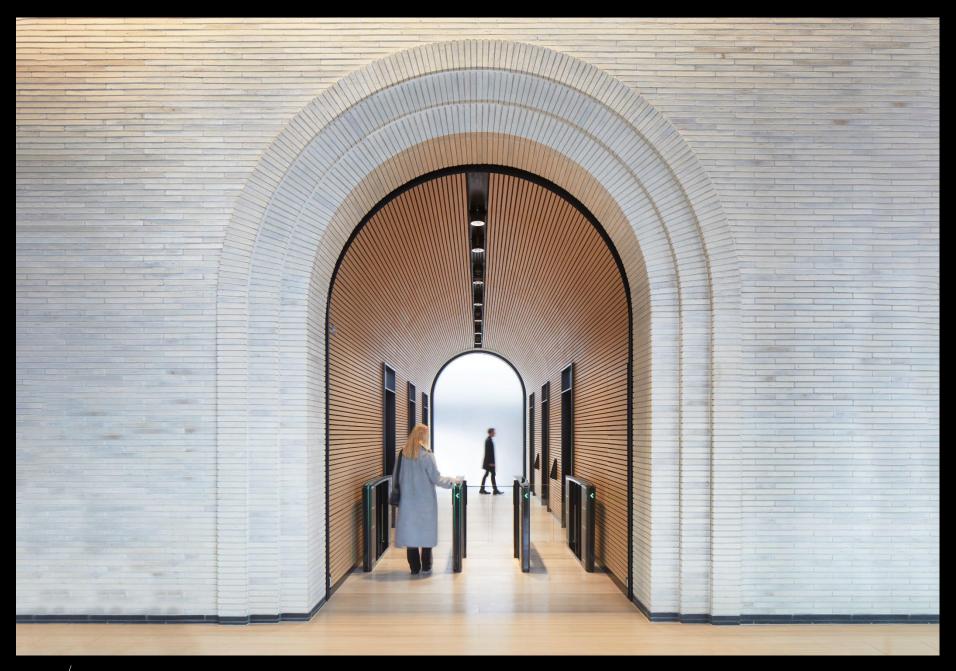


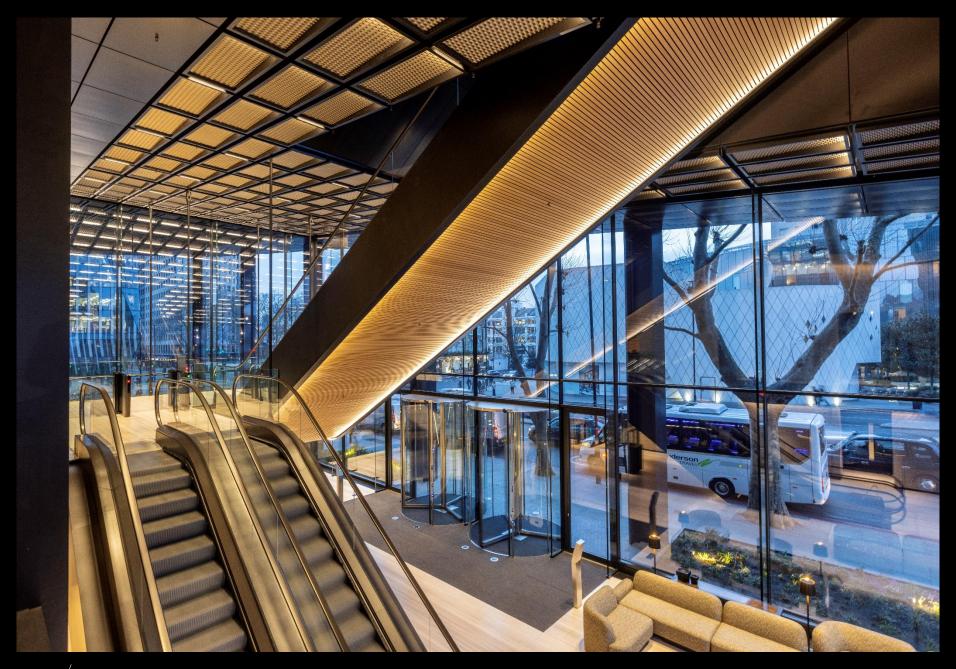




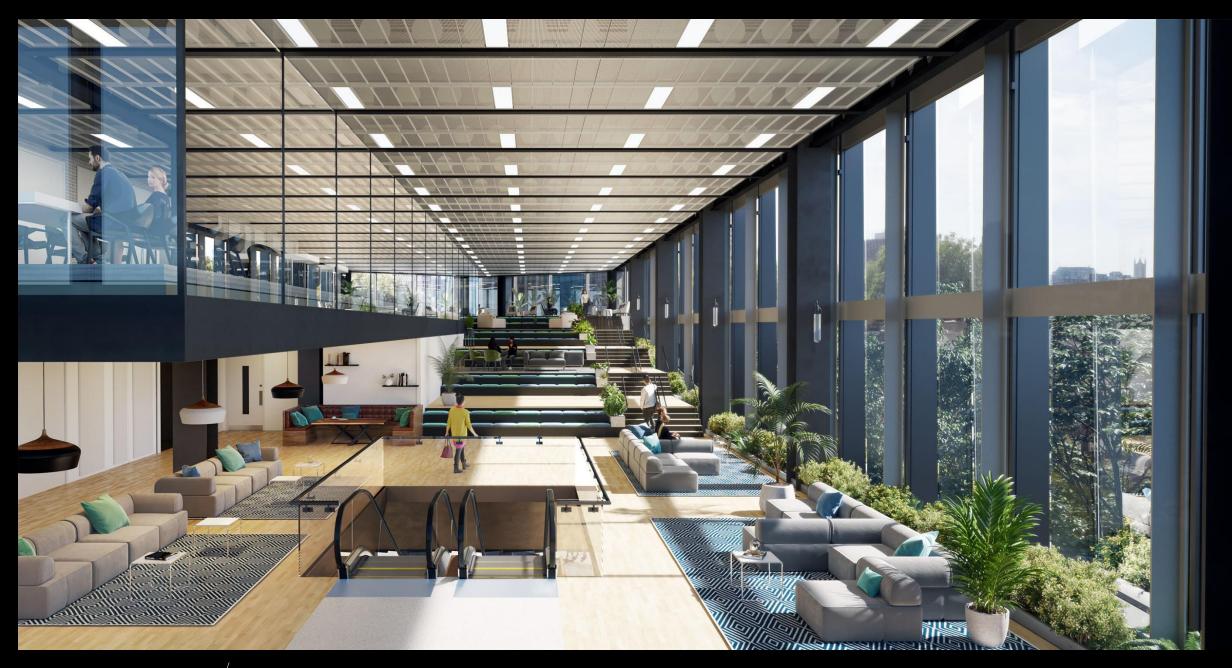


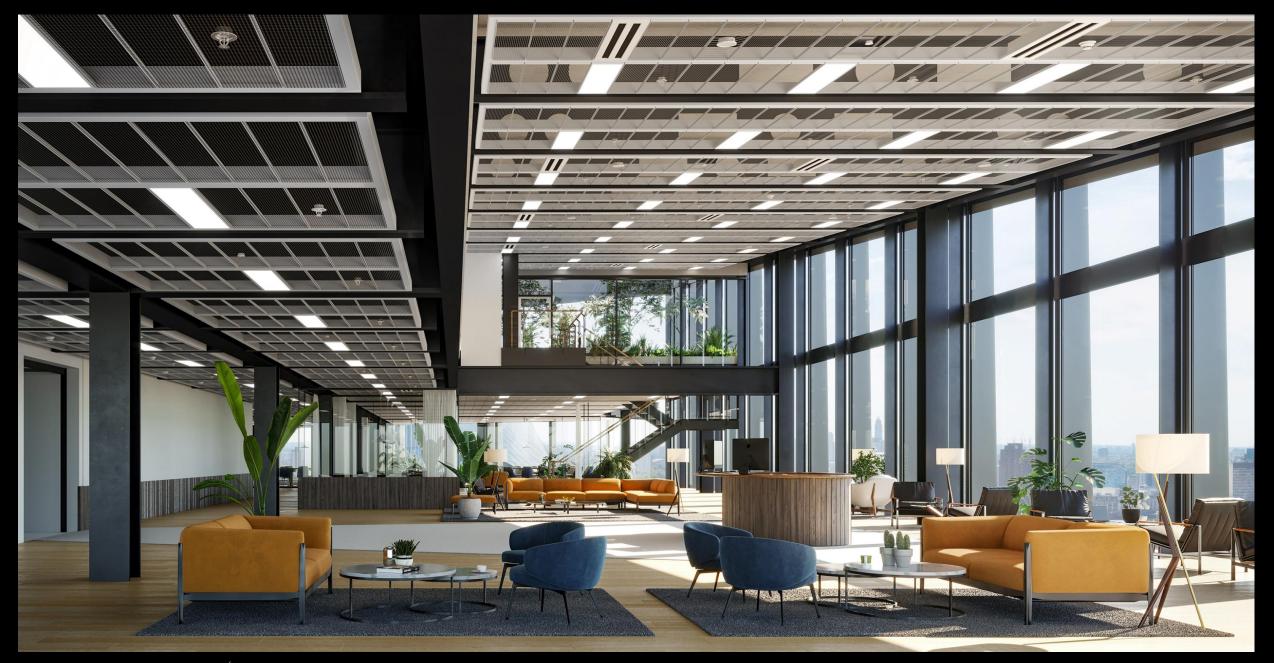












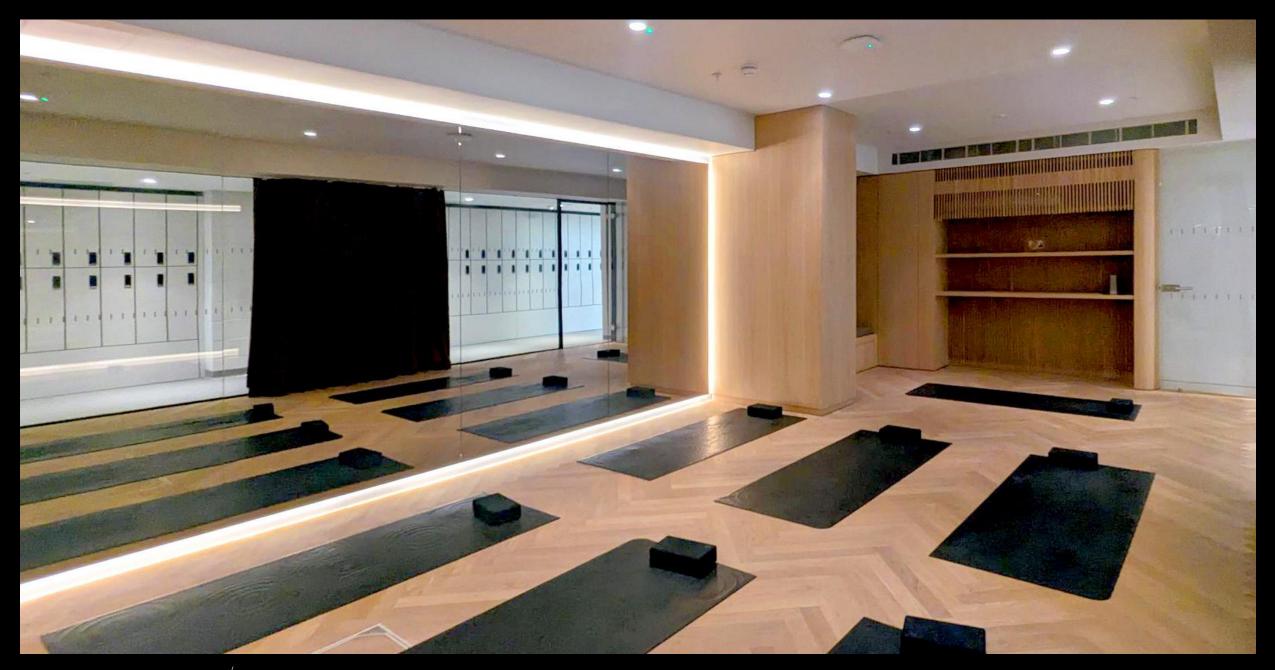


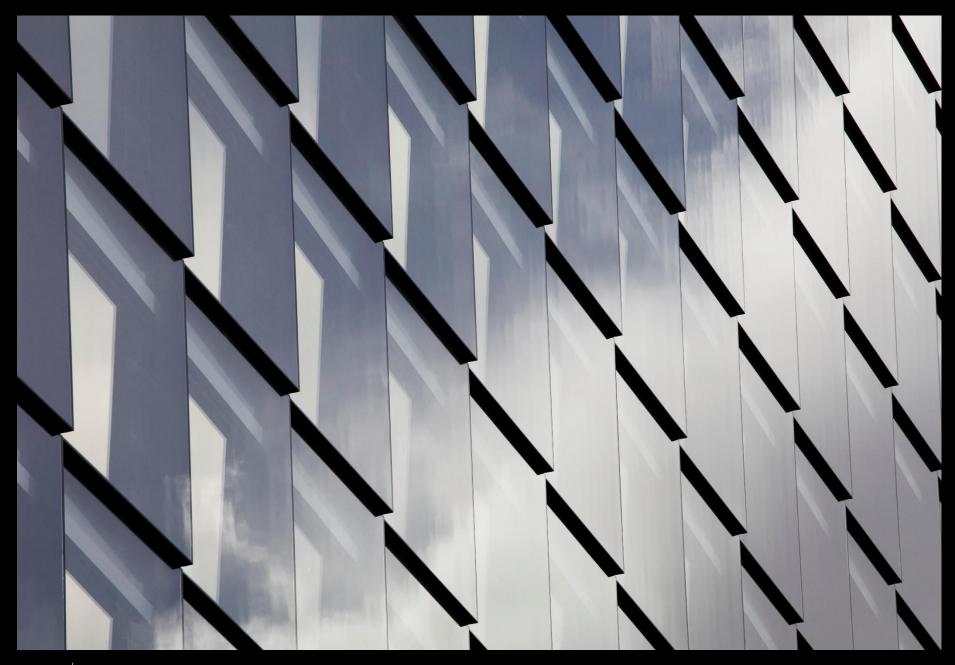


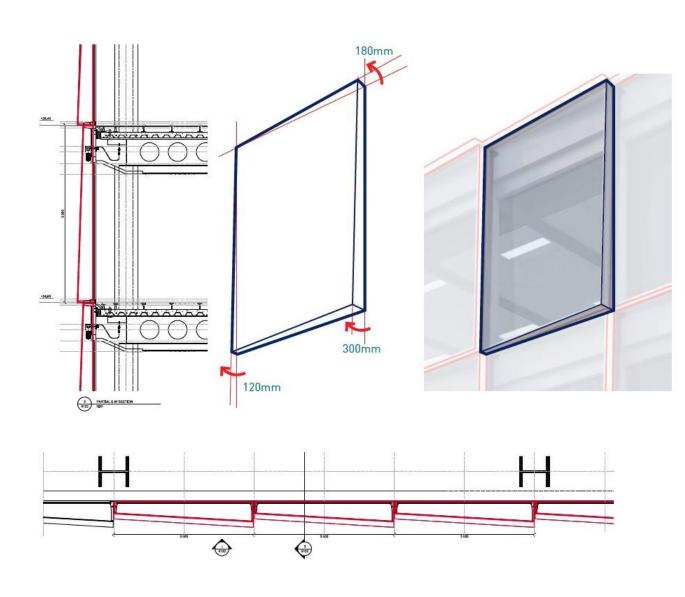


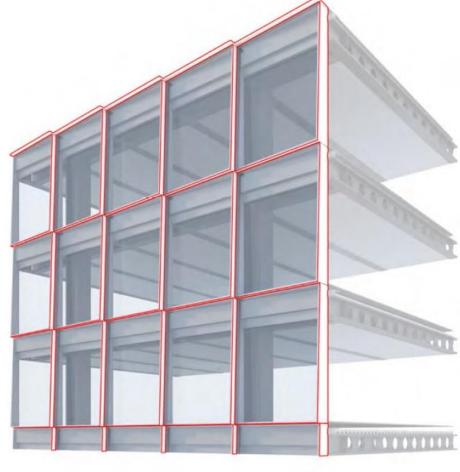
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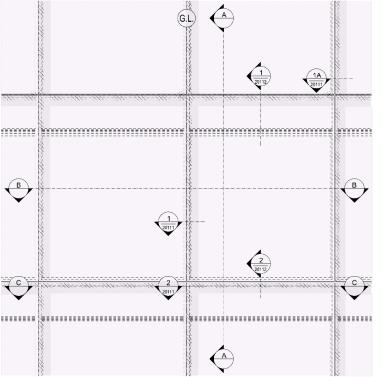




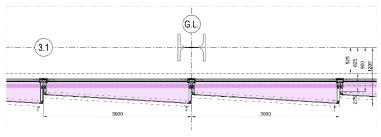




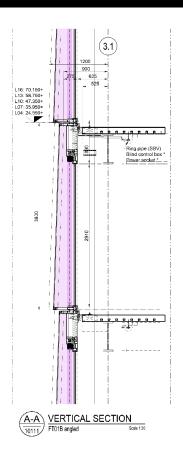
 THE FACADE CONSISTS OF A 3M × 3.8M GRID MODULE USING A PLANAR CCF SYSTEM WITH NO COATING WHICH GIVES MAXIMUM TRANSPARENCY OF THE INSIDE. EACH HUMAN-SCALED FAÇADE MODULE IS INDIVIDUALLY ARTICULATED THROUGH VERTICAL AND HORIZONTAL ROTATIONS ALONG EACH AXIS GIVING THE APPEARANCE OF OVERLAPPING PANELS











#### CCF PERFORMANCE COMPARISON FOR BUILDING BY3

TYPICAL OFFICE GLAZING	
G VALUE	0.25 - 0.30
LIGHT TRANSMISSION	50 - 60%

BY3 BLINDS UP	
0.50	
70%	
BY3 BLINDS DOWN	
0.11	
18%	

AT LEAST 40% MORE DAYLIGHT WITH BLINDS UP AT LEAST 67% MORE BENEFICIAL SOLAR GAIN AT LEAST 56% REDUCTION IN SOLAR GAIN WITH BLINDS DOWN

RADIANCE < 100 W/m<sup>2</sup> WHEN BLINDS ARE ACTIVE



## **ECO CREDENTIALS**



UK's first major fossil-fuel free mixed-use estate.

#### **CARBON ZERO**

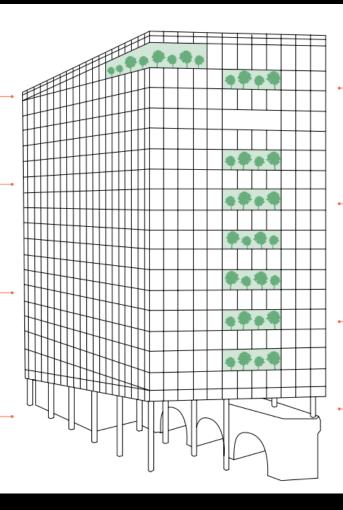
Carbon zero in operation from Day 1.

## **ENERGY SAVING**

Targeting EPC A rating. 30% reduction in energy consumption compared to standard buildings saves energy costs.

#### SMART METERING

Monitor energy consumption in real time to reduce usage and save costs.



#### **BIODIVERSITY**

Bio-diverse green roof to encourage local wildlife and promote ecology.

#### SMART LIGHTING

Efficient LED lights with sensor controls preventing unnecessary usage.

### EFFICIENT VENTILATION

Fresh air up to 13.2 litres/sec/person provides optimal comfort.

#### LESS CO2

Optimised design creates 45% less carbon dioxide in the building's operation – equivalent to 52 return flights from London to New York every year.

