

PASSIVHAUS

PRESENTATION TO HAMMAR

02.03.2023

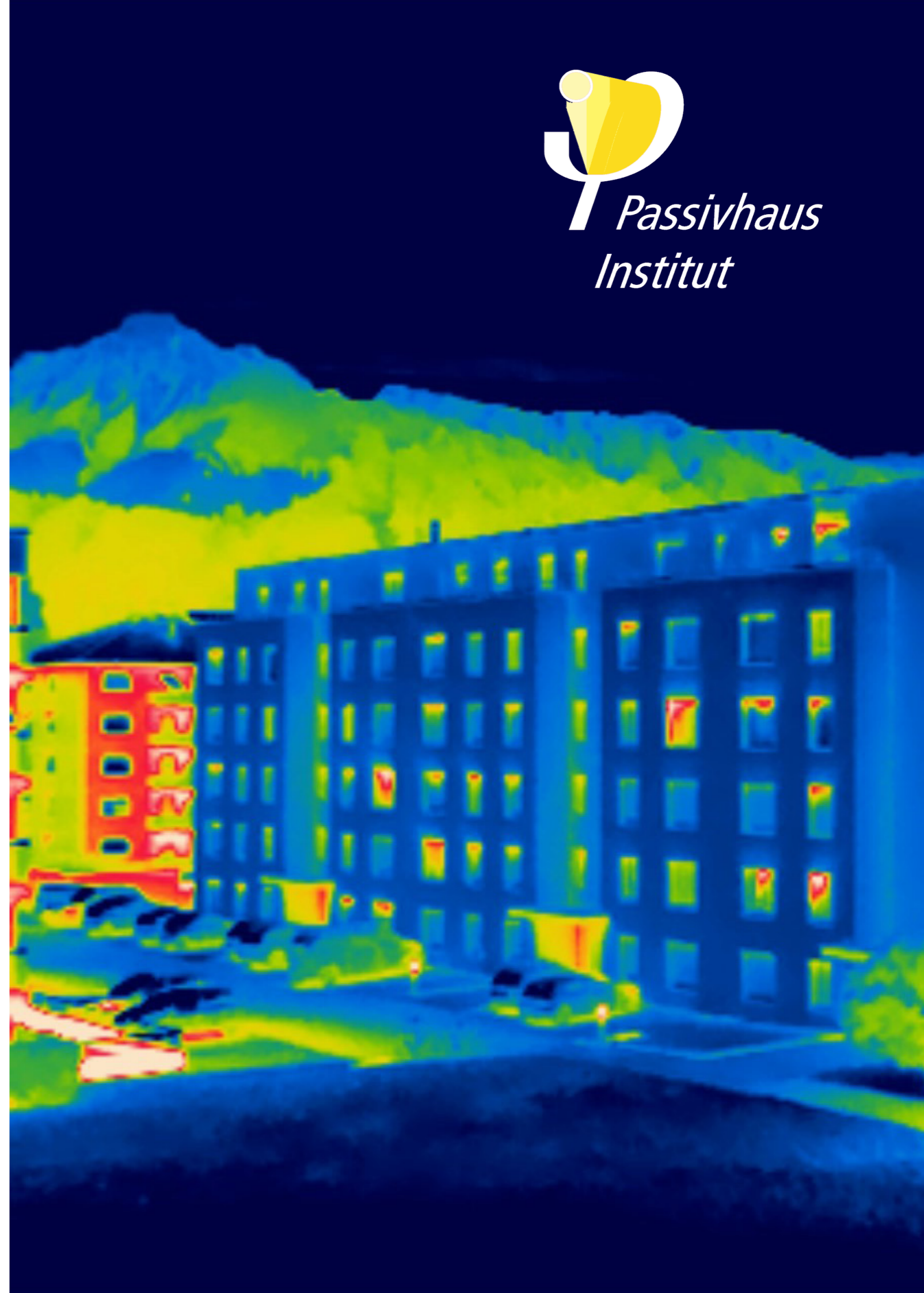


GOLDSMITH STREET, NORWICH
MIKHAIL RICHES ARCHITECTS



CONTENTS

4	INTRODUCTION TO EP PROJECTS
5	WHAT IS PASSIVHAUS?
6	PASSIVHAUS CRITERIA
7	PASSIVHAUS PRINCIPLES
8	PASSIVHAUS AND SOCIAL HOUSING
10	CASE STUDY - GOLDSMITH STREET
12	ACHIEVING PASSIVHAUS
13	CHALLENGES TO OVERCOME
14	CONCLUSION



INTRODUCTION TO EP PROJECTS



Gary Wilburn
Managing Director



Mike Tivey
Director / Steward



James Lemanis
Director of Architecture



Tristan Salkeld
Senior Technologist /
BIM Manager



Nathan Froud
Sustainable
Architectural Designer



Rupert Wilson
Sustainable
Architectural Designer



NET ZERO :: POSITIVE IMPACT :: REGENERATIVE

VAUBAN, FREIBURG



*Passivhaus
Institut*

 ep projects

WHAT IS PASSIVHAUS?

PASSIVHAUS CRITERIA

Airtightness

< 0.6 h⁻¹ @ 50Pa

Window surface temperature

> 17°C

Summer Comfort

No more than 10% of the year > 25°C

Ventilation

~30 m³.h⁻¹ per person

Space Heating

Heating demand < 15 kWh.m⁻² pa @ 20°C

Peak heating load < 10 W.m⁻²

Primary Energy

< 135 kWh.m⁻² pa

Primary Energy Renewable

< 60 kWh.m⁻² pa

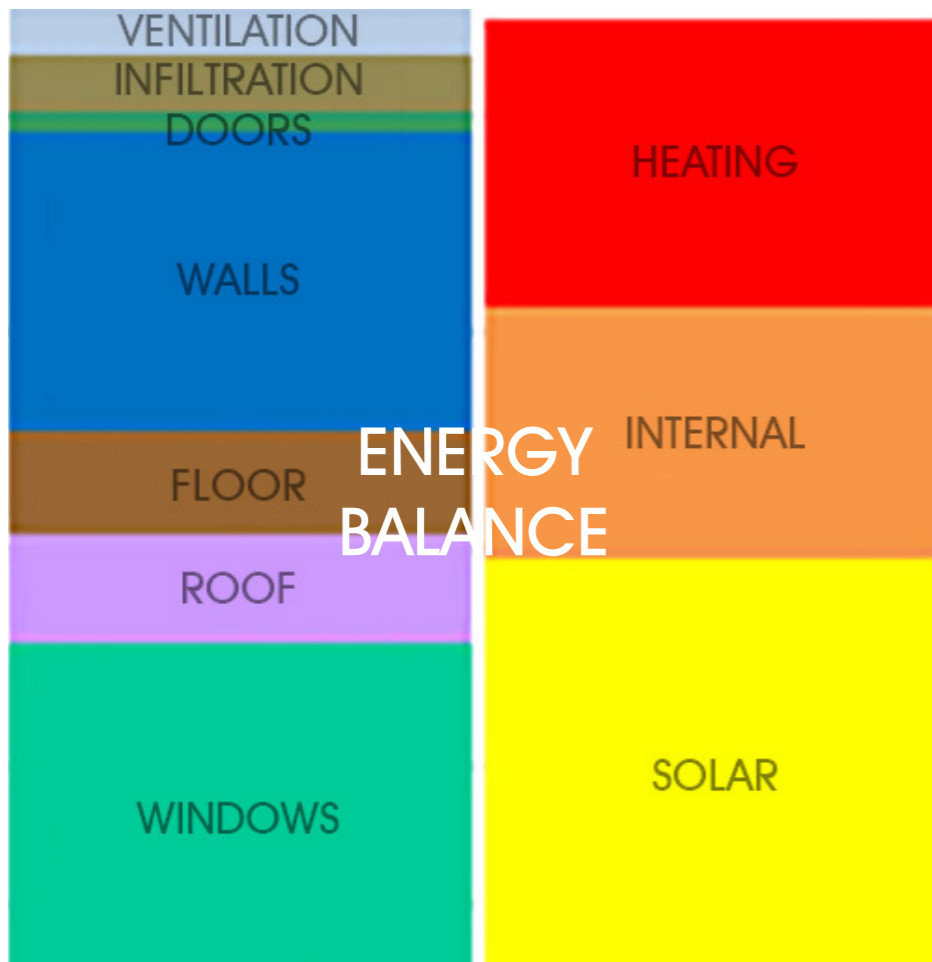
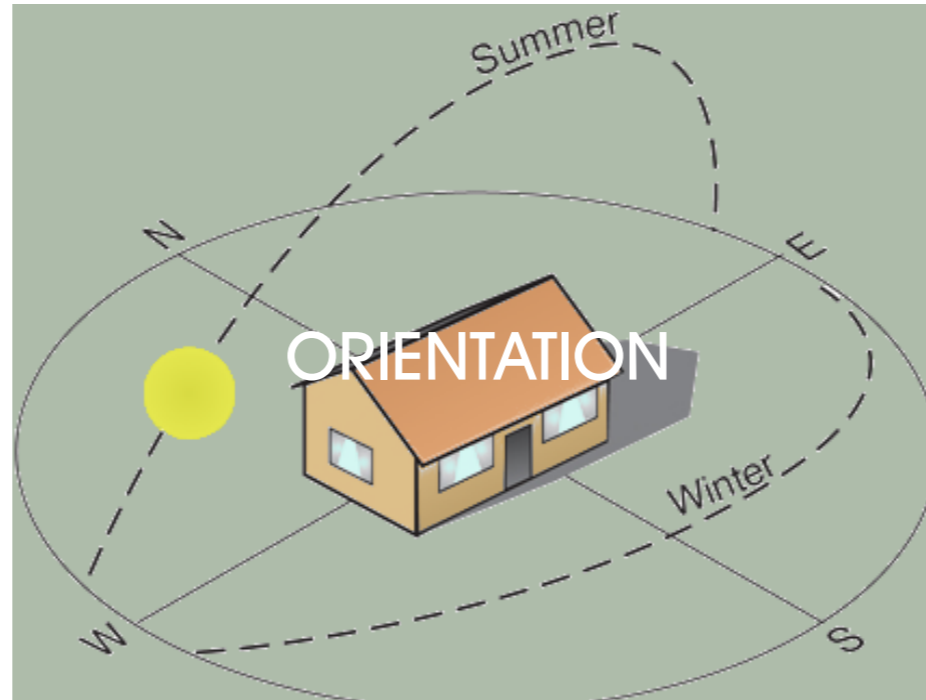
HANSE HOUSE, SOMERSET
SIMMONDS MILLS ARCHITECTS



PASSIVHAUS PRINCIPLES



SUPER INSULATION



PASSIVHAUS AND SOCIAL HOUSING



BURNHAM OVERY STAITHE
HASTOE HOUSING ASSOCIATION
PARSONS + WHITTLEY ARCHITECTS

PASSIVHAUS AND SOCIAL HOUSING

ELIMINATE FUEL POVERTY

heating demand reduced by 90%

HEALTHY INDOOR ENVIRONMENT

no mould growth

PROVEN PERFORMANCE

...and no performance gap!

NEW BUILD AND RETROFIT

Passivhaus / EnerPHit / flexible design

CERTIFICATION OF STANDARD

high quality / low maintenance

FUTUREPROOFING

Net Zero by 2030

TITLE

GOLDSMITH STREET, NORWICH



GOLDSMITH STREET, NORWICH



ACHIEVING PASSIVHAUS

CLIENT BUY-IN

implementation at Stage 1

PHPP MODELLING

predicting performance at design stage

SUBCONTRACTOR COMMITMENT

everyone is responsible

CONTROL AND MONITORING

recording work and checking details

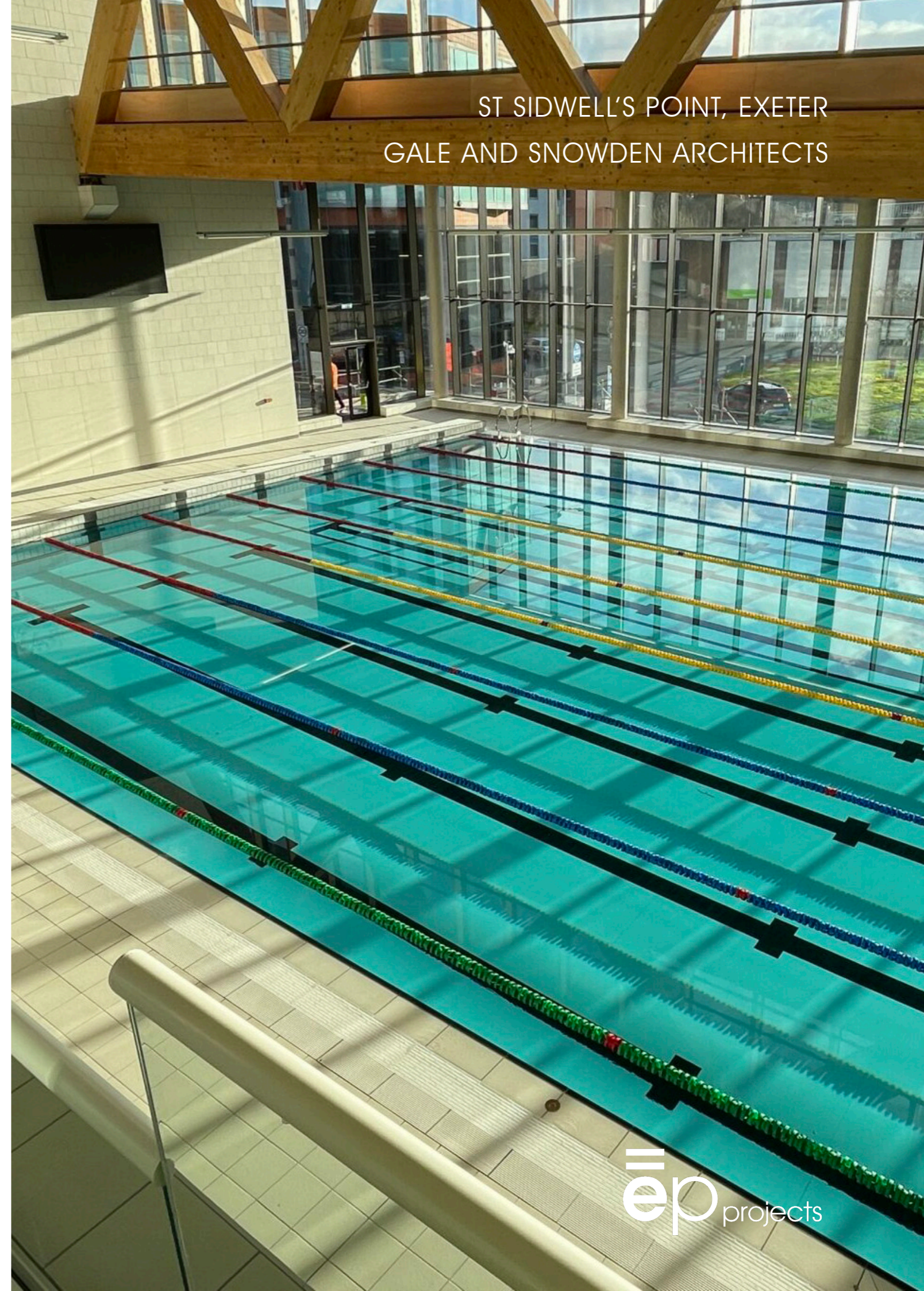
AIRTIGHTNESS

testing during and after construction

POST OCCUPANCY EVALUATION

learning from mistakes

ST SIDWELL'S POINT, EXETER
GALE AND SNOWDEN ARCHITECTS



ALPINE PASSIVHAUS, WHISTLER, CANADA
ARCHITRIX DESIGN STUDIO

CHALLENGES TO OVERCOME

HUMIDITY

humidification of air in cold / dry climates

OVERHEATING

modelling / shading / energy balance

EMBODIED ENERGY

flexibility of design using low-carbon materials

SKILLS GAP

training + monitoring / using existing expertise

COST

early commitment / keep it simple

CONCLUSION

VANDOME CLOSE
DELTA Q ARCHITECTS



PASSIVHAUS

PRESENTATION TO HAMMAR

02.03.2023

Contact Details

Company	ep projects ltd.
RIBA No.	20048526
Address	7 Bell Yard, London, WC2A 2JR
Email	projects@energyproltd.com
Website	www.epgroup.com
Telephone	0208 938 3674

