

# CONSOLUX

Consolux Ltd | CSX Manchester Ltd

Consolux M&E Consulting Ltd  
(London)  
35 Piccadilly  
London  
W1J 0DW  
Tel: 0207 734 3030  
Email: london@consolux.co.uk

Consolux M&E Consulting Ltd  
(Liverpool)  
7th Floor, Cotton House, Cotton  
Exchange Building, Old Hall Street,  
Liverpool, L3 9LQ  
Tel: 0151 708 9469  
Email: liverpool@consolux.co.uk

CSX Manchester Ltd  
(Manchester)  
M.I.O.C, Styal Road,  
Manchester,  
M22 5WB  
Tel: 0161 641 1184  
Email: manchester@consolux.co.uk

# Introduction

With over 85 years of combined experience, Consolux & CSX specialise in economical, sustainable and high-quality design.

Our team of highly experienced engineers are dedicated to delivering value-driven building service designs for sustainable developments and projects. Our integrated approach encompasses MEP, sustainable and renewable technologies, lighting and smart building systems. By adhering to best practices and local, regional, and national policy guidelines, we ensure a seamless package for our clients.

**CONSOLUX**

Kelaty House,  
London



# Consolux & CSX Services

## Mechanical Building Service

- Air Conditioning
- Heating
- Comfort Cooling
- Ventilation – Heat Recovery, MEV etc
- Utility Services
- Public Health Services
- Drainage Design – Foul & Rainwater

## Electrical Building Services & Design

- Low/Medium/High Voltage Design
- Transformer
- Main and Distribution Switchgear
- Point of Common Coupling
- Final Distribution
- Small Power
- Access Control
- Internal/External Lighting Design
- CIBSE TM 38 Renewable Energy Source
- Viable Renewable Energy Source Analysis

## Electrical Lighting Design

- Retail
- Commercial
- Residential
- Industrial
- Education
- Building Façade Illumination
- External Landscapes
- Ambient Scene Setting

## Utilities Infrastructure

- Gas
- Water
- Telecoms
- Utility Searches for Planning Applications
- Load Analysis & Assessments
- Incoming Services
- Statutory Applications
- Water Byelaw Advice
- Telecoms
- Service Strategy

## Project Management Services

- Site Inspections
- Building Surveying
- Contract Programming
- Progress Reports
- Snagging List
- Budget Costs & Cost Checking
- Dispute Resolution
- BIM Incorporation

## Fire, Security, Communications

- Fire & Intruder Alarms
- Fire Engineering
- Security – CCTV Management Systems
- Voice/Data Communications
- Integrated Reception Services
- Door Access
- Sprinkler Design
- Dry/Wet Riser Design

## Energy Conservation

- Air Conditioning
- Heating
- Comfort Cooling
- Ventilation – Heat Recovery, MEV etc
- Utility Services
- Public Health Services
- Drainage Design – Foul & Rainwater

## Building Inspections/ Survey

- Electrical & Mechanical Services Survey
  - Plant Condition Assessments
  - Existing Utilities Assessment
  - Historical & Heritage Buildings
  - Commissioning
-

# 7 Step Process

1. Initial Surveys & Reports

2. Planning

3. Design

4. Technical Design

5. Construction & Monitoring

6. Commissioning & Handover

7. In-use & Soft Landing

CONSOLUX

# Initial Reports & Surveys

Feasibility & Due Diligence studies

---

Condition surveys & audits

---

MEP cost consulting

---

Utility cost consulting

---

Utility Infrastructure investigation

---

Low & Zero carbon technologies Assessment



**CONSOLUX**

Glasshouse,  
Alderley Park

# Planning Stage

Energy Strategy / Statements

SAP & DSM

Sustainable Construction Statements

Low & Zero Carbon Feasibility Studies

Ventilation & Odour Control Strategy

Overheating/Thermal Comfort Assessment

Air Quality Assessments

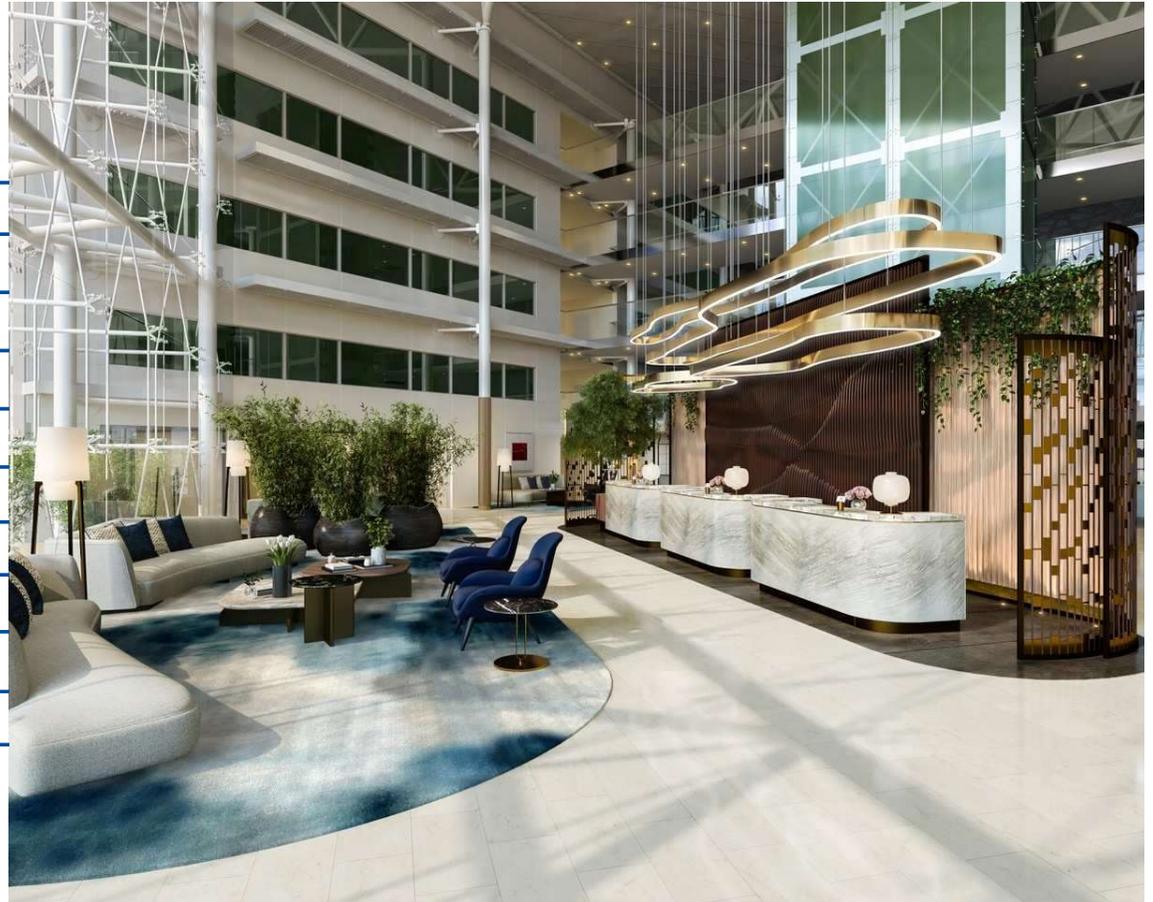
Acoustic Assessment

Daylight/Sunlight Assessments

External Lighting Strategy

Utility Strategy

Building Services Strategy



**CONSOLUX**

Hilton Lobby,  
London Heathrow T4

# Design Stage (RIBA Stage 2-4)

Client brief/brand standards review & derogations report

Utility load calculations

Utility Searches & Applications

Agree Brief/brand sign off

Technical Mechanical & Mechanical design

Technical specifications

Lighting Design

Standard Assessment procedure (SAP)

Compliance Audits & Energy Reports

BREEAM Assessments & Audits

2d AutoCad & 3d Modelling



**CONSOLUX**

Mango,  
Westfield

# Construction Stage (RIBA Stage 5-6)

Design development review & tracking

Provide comment on specialist contractors designs

Installation Monitoring Duties

Site visit reports

Review VE options & associated costs & programme implications

Review Request for information & technical submissions

Clerk of Works role

Energy Performance Certificates

Attendance for defects inspection & defects completion

Witnessing of Commissioning

MEP O+M Manual review & comments

Attendance at system demonstrations & at 12 months defects meetings

**CONSOLUX**



Axis Tower,  
Manchester

# Collaborative Services

Consolux & CSX can review and collaborate with specialists on:

Sprinkler system design & costing

---

Smoke ventilation design & costing

---

Acoustic assessments & reports

---

Air Quality assessments & reports

---

Lift Traffic Analysis



**CONSOLUX**

High Road,  
London

# Residential

## Kelaty House, London

Designed the MEP services to RIBA Stage 5 c/w Part L and Sustainability for the 11 storey 300 bed Kelaty House Hotel and 11 storey 699 bed student accommodation scheme. All bathrooms were of modular construction.



CONSOLUX

## Limes, Didsbury

Designed all MEP services to RIBA Stage 3 for tender, modelled for Part L, reconstruction of a former care home in to 14 apartments and 4 town houses and car parking with EV chargers within the conservation area. Client monitoring through to completion.



# Commercial

## East Road, Hackney

Designed with combined hidden MEP services to RIBA Stage 5 for the 239-bed modular constructed hotel, over 21 storeys with 5 floors of commercial office space.



CONSOLUX

## Llandudno Tudno Castle

Designed all the MEP Services to RIBA Stage 3 for tender, and modelled for Part L, reconstruction of a former listed hotel, to provide a new Premier Inn 100 bed hotel, with branded restaurant and bar, plus shell commercial units and restaurants. Client monitoring through to completion.



# High End Residential/Leisure

## Dukes Lodge

Designed the MEP Services from RIBA Stage 3 to Stage 5 for 25 off super prime residential apartments, basement carpark with lift, lower ground swimming pool, BMS & Home automation systems and leak detection systems.



CONSOLUX

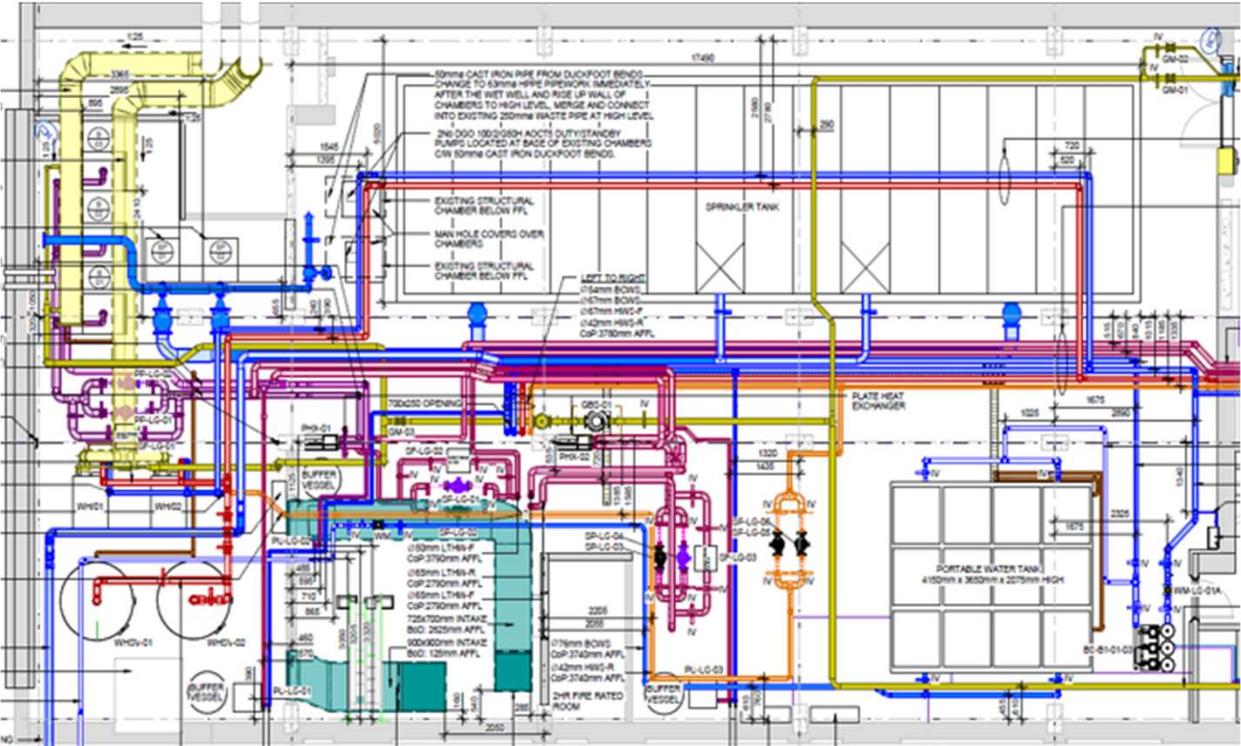
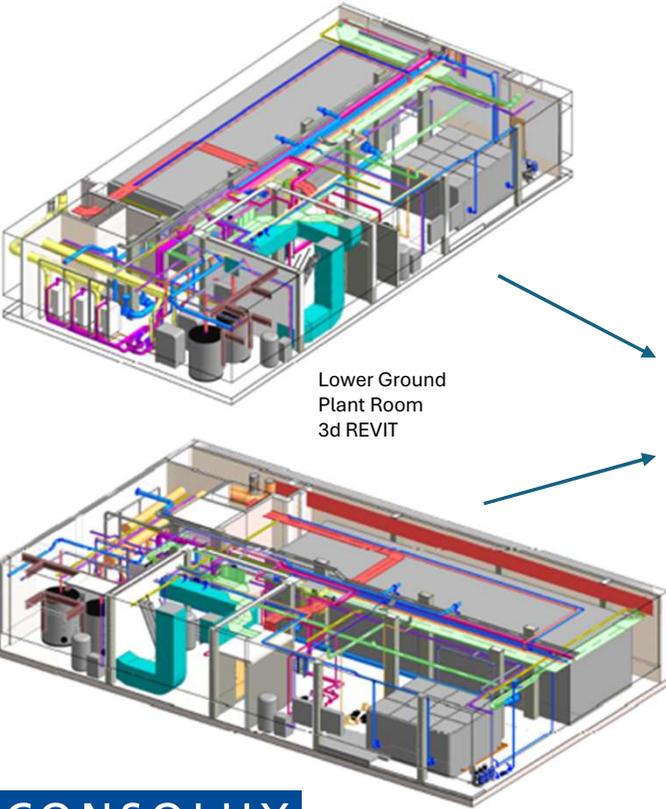
## Legoland Atlantis, Windsor

Designed all the MEP services to a unique combined Lego attraction with large tank for exotic fish, with 'submarines' exploring the underwater realm – included careful consideration of heating and cooling loads and water replenishment needs.



# MEP & BIM Examples & Outputs

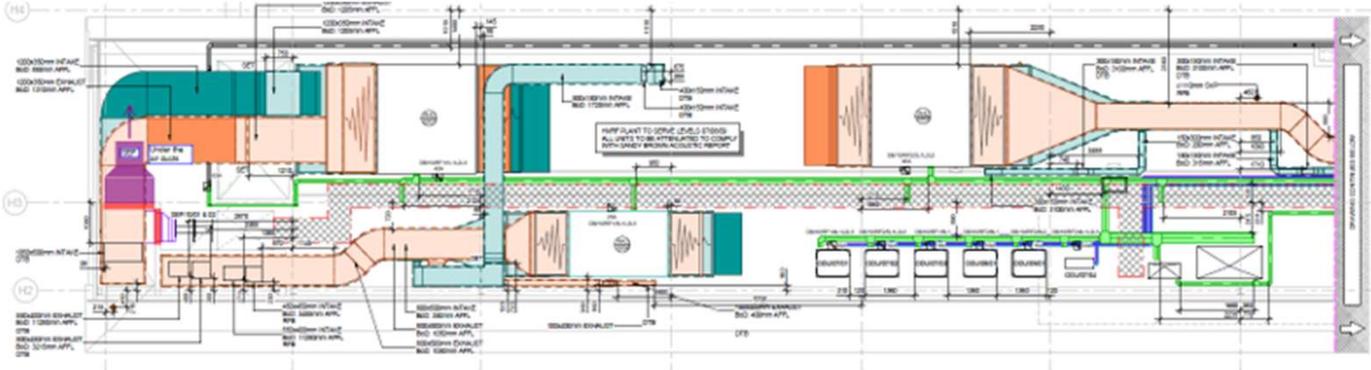
Old Granada Studios



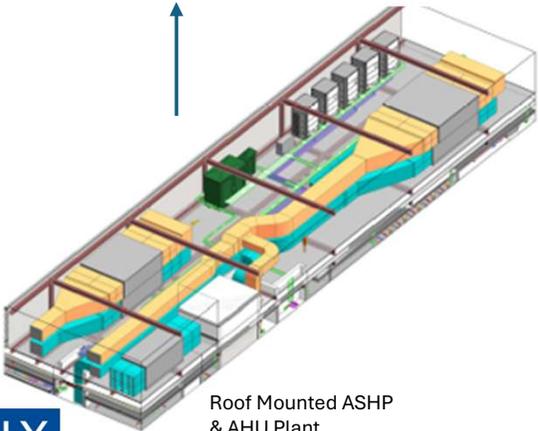
Lower Ground Plant  
Room 2d GA

# MEP & BIM Examples & Outputs

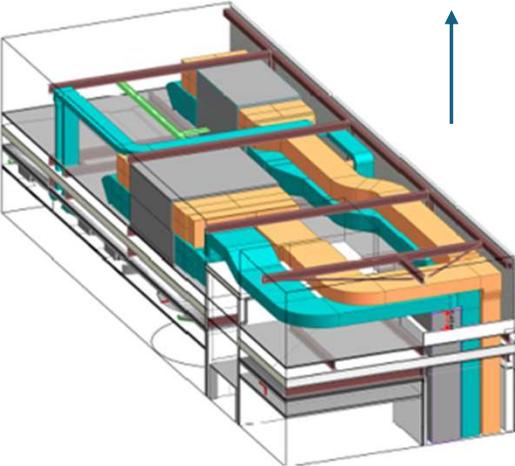
Old Granada Studios



Roof Mounted ASHP & AHU Plant



Roof Mounted ASHP & AHU Plant

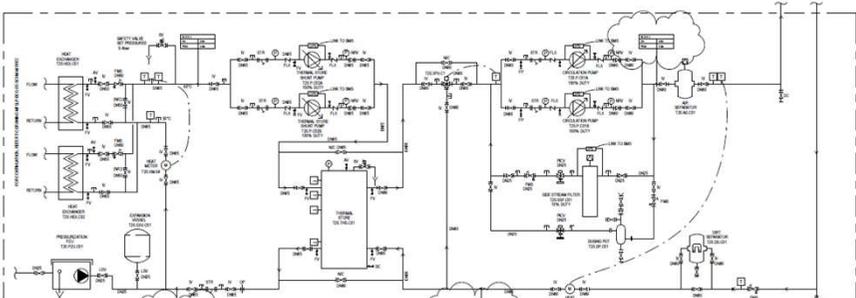


Roof Mounted Ventilation Plant

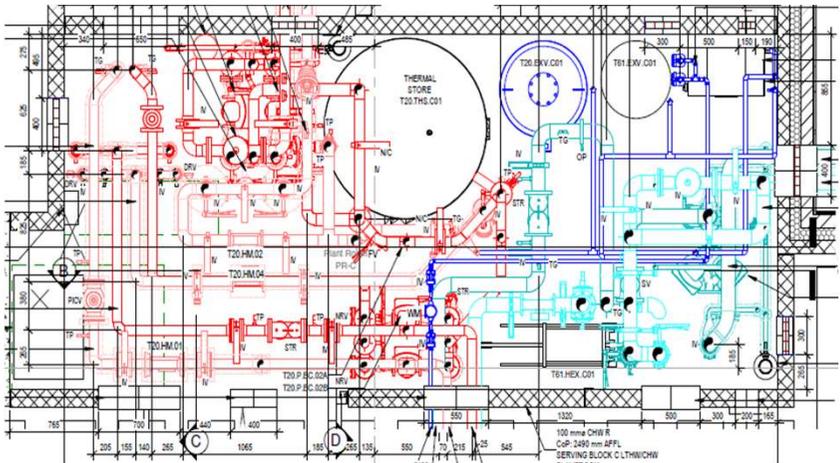


# MEP & BIM Examples & Outputs

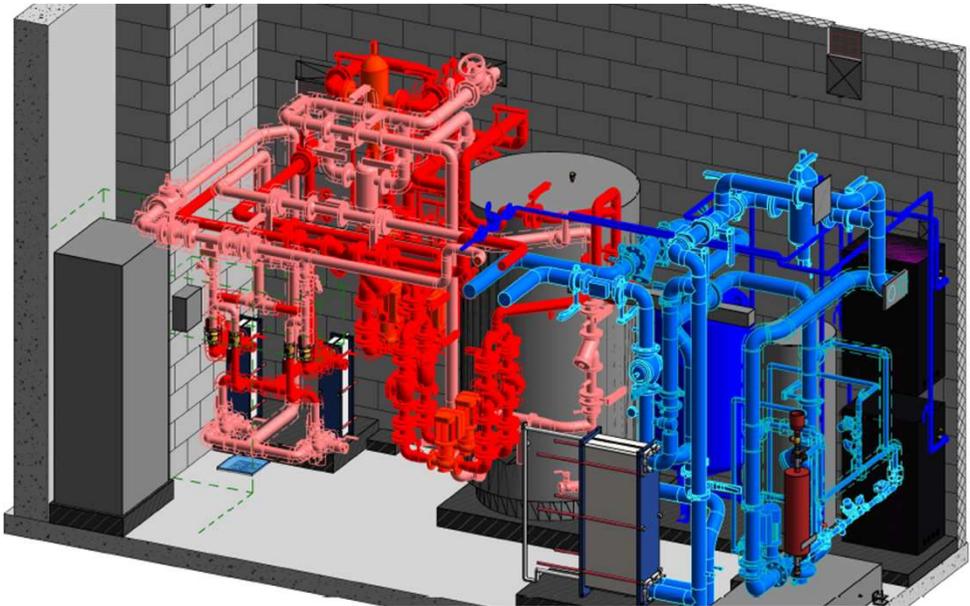
Berkley Homes, Prince of Wales



Plant Room Schematic



Plant Room GA



Plant Room 3d REVIT

# Sustainability

Energy & Sustainability for Planning applications

Sustainability Statement

Energy Statement

Low & Zero-Carbon technologies feasibility study

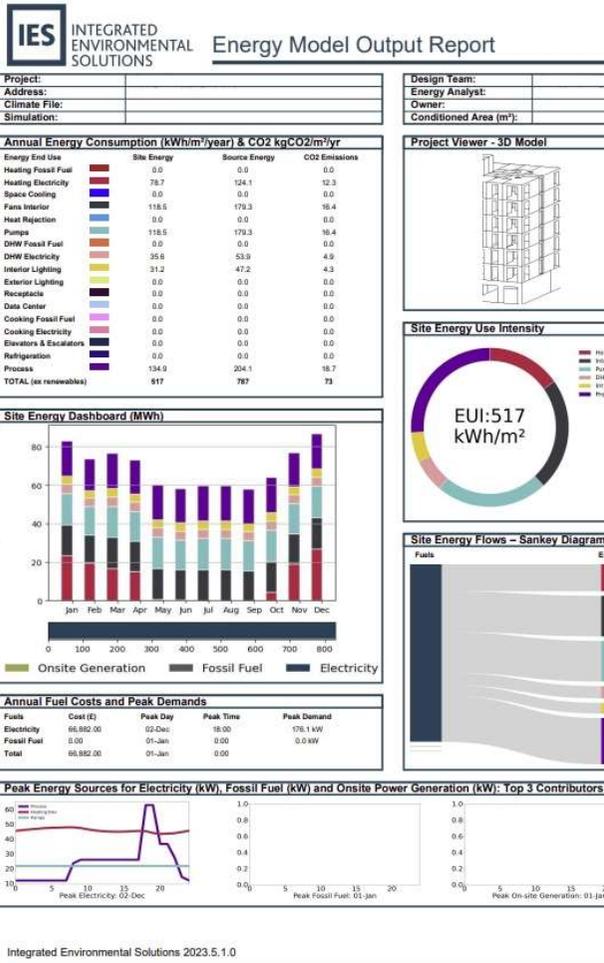
Standard Building Energy Modelling

Energy Performance Certificates

Standard Assessment Procedure

Building energy analysis (CIBSE TM54)

CONSOLUX



## BRUKL Output Document

Compliance with England Building Regulations Part L



**Project name:** [Blank] As designed

**Date:** [Blank]

### Administrative information

**Building Details**  
**Address:** [Blank]

**Certification tool**  
**Calculation engine:** [Blank]  
**Calculation engine version:** [Blank]  
**Interface to calculation engine:** [Blank]  
**Interface to calculation engine version:** [Blank]  
**BRUKL compliance check version:** [Blank]

**Certifier details**  
**Name:** [Blank]  
**Telephone number:** [Blank]  
**Address:** [Blank]

### Criterion 1: The calculated CO<sub>2</sub> emission rate from the building must not exceed the target

CO <sub>2</sub> emission rate from the notional building, kgCO <sub>2</sub> /m <sup>2</sup> .annum	
Target CO <sub>2</sub> emission rate (TER), kgCO <sub>2</sub> /m <sup>2</sup> .annum	
Building CO <sub>2</sub> emission rate (BER), kgCO <sub>2</sub> /m <sup>2</sup> .annum	
Are emissions from the building less than or equal to the target?	BER =< TER
Are as built details the same as used in the BER calculations?	

### Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

**Building fabric**

Element	U <sub>area</sub> Limit	U <sub>calc</sub>	U <sub>calc</sub>	Surface where the maximum value occurs*
Wall**	0.35			
Floor	0.25			
Roof	0.25			
Windows***, roof windows, and rooflights	2.2			
Personnel doors	2.2			
Vehicle access & similar large doors	1.5			
High usage entrance doors	3.5			

U<sub>area</sub> Limit = Limiting area-weighted average U-values [W/(m²K)]  
 U<sub>calc</sub> = Calculated area-weighted average U-values [W/(m²K)]  
 U<sub>calc</sub> = Calculated maximum individual element U-values [W/(m²K)]

\* There might be more than one surface where the maximum U-value occurs  
 \*\* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.  
 \*\*\* Display windows and similar glazing are excluded from the U-value check.  
 N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air Permeability	Worst acceptable standard	This building
m³/(h.m²) at 50 Pa	10	

# Sustainability

Daylight & Sunlight

Right of Light

Average Daylight Factor (ADF)

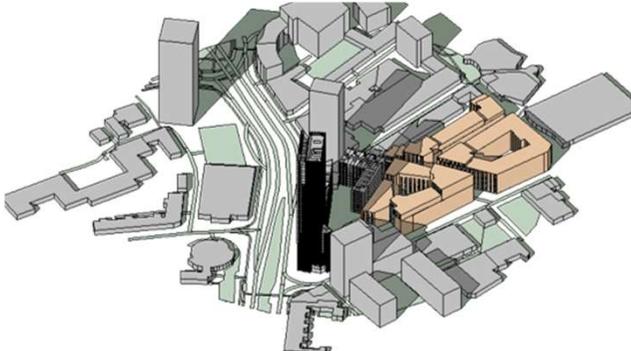
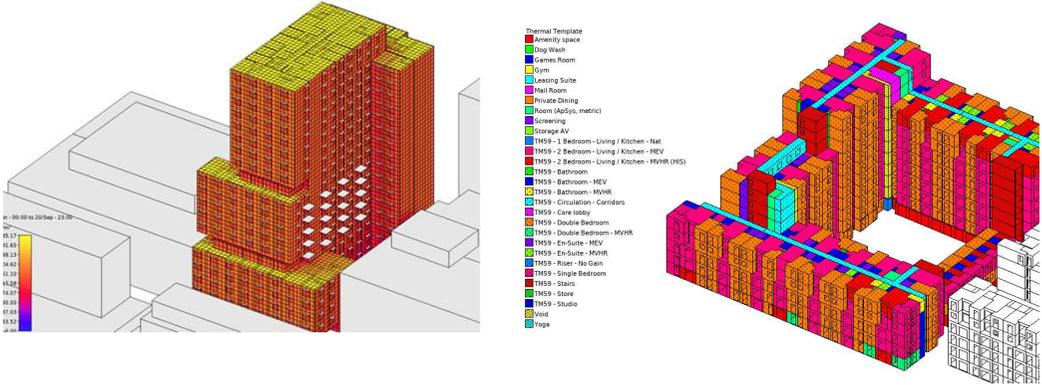
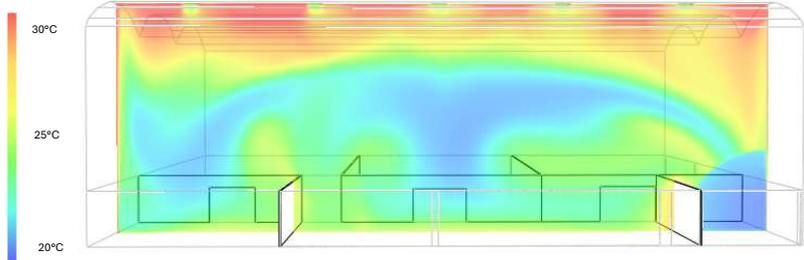
Climate-Based Daylight Modelling (CBDM)

Indoor thermal comfort under current & future climate conditions

Approved Document O – Dynamic simulation

CIBSE TM52 – Non-residential buildings

CIBSE TM59 – Residential buildings



# Sustainability

Sustainable building assessment schemes

Project registration

---

Scheme classification

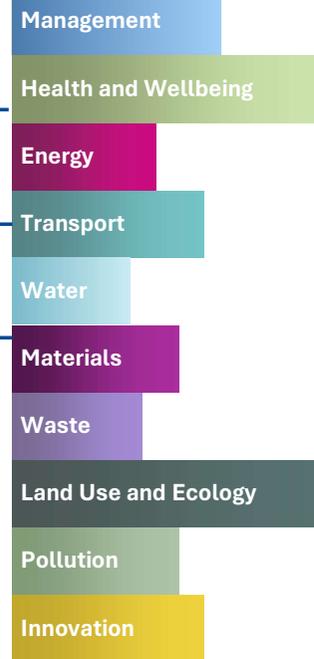
---

Supporting evidence tracking

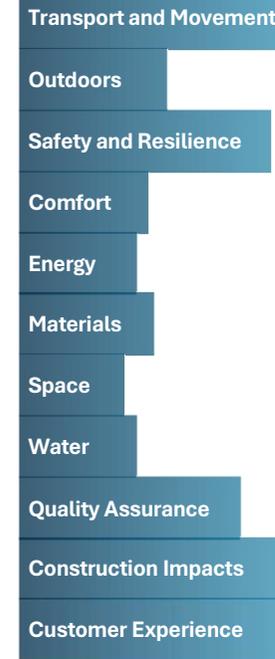
---

Supporting evidence issue

## BREEAM®



## HOME QUALITY MARK



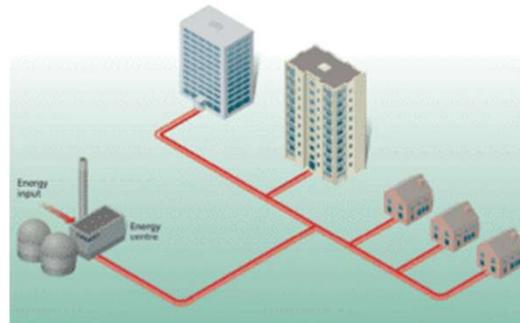
# Heat Network Consultant & CP1

In line with upcoming legislation (Future Homes / HNTAS) Consolux is pleased to offer a certified Heat Network Consultant to assist with all aspects of district heat networks. Whether switching an existing building to a central network or ensuring a new development complies fully with CP1.

CIBSE Certification Heat Networks Consultants have been assessed on their knowledge and understanding of the Code of Practice (CP1). Clients working with CIBSE Certification Heat Networks Consultants can be confident that the Code of Practice will be correctly applied.

CIBSE CP1 (2020) - published January 2021 - draws on industry feedback and research to provide enhanced detail and clarity. It addresses a wide range of project issues, including system sizing and costs, appointing qualified individuals and developing effective customer communications to ensure satisfaction.

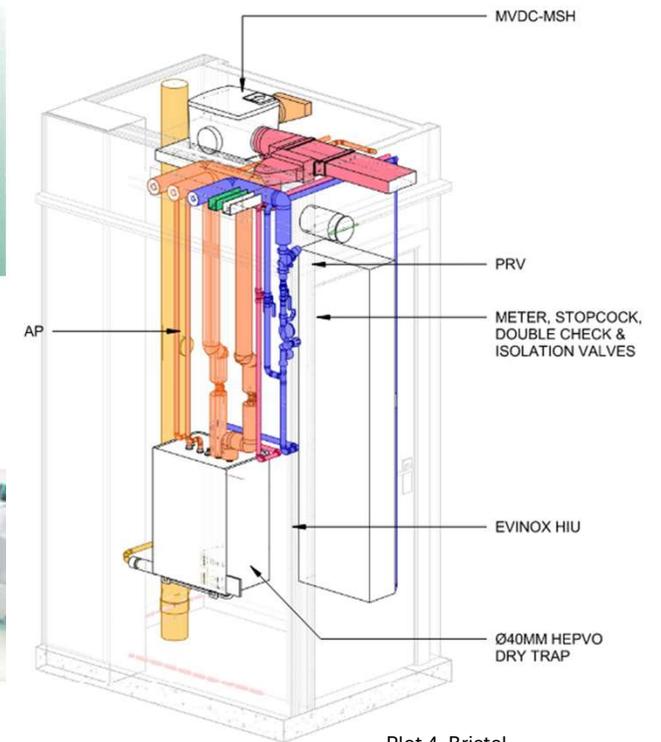
Consolux have been involved in multiple central heat network projects, including both on-site and offsite heat generation.



Source CIBSE CP1  
Heat Networks



Source CIBSE Ireland



Plot 4, Bristol

# Business Structure

