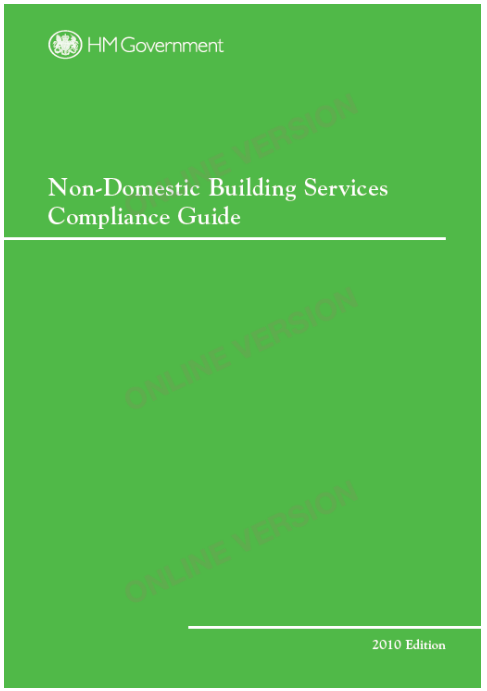
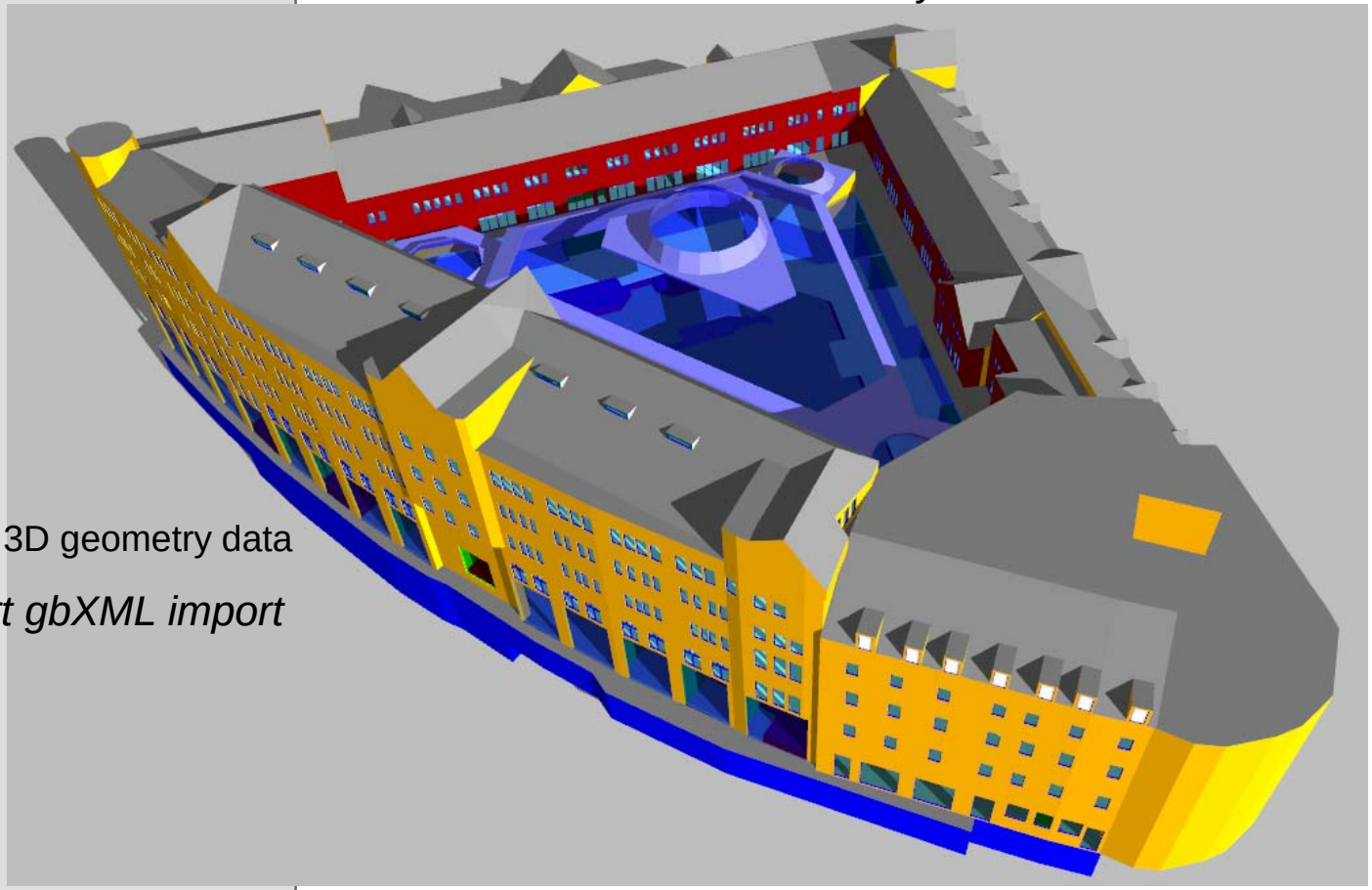
UK Building Regulations 2010 Edition



Part L2 2010

Part L2 2010

Geometry model with full solar analysis

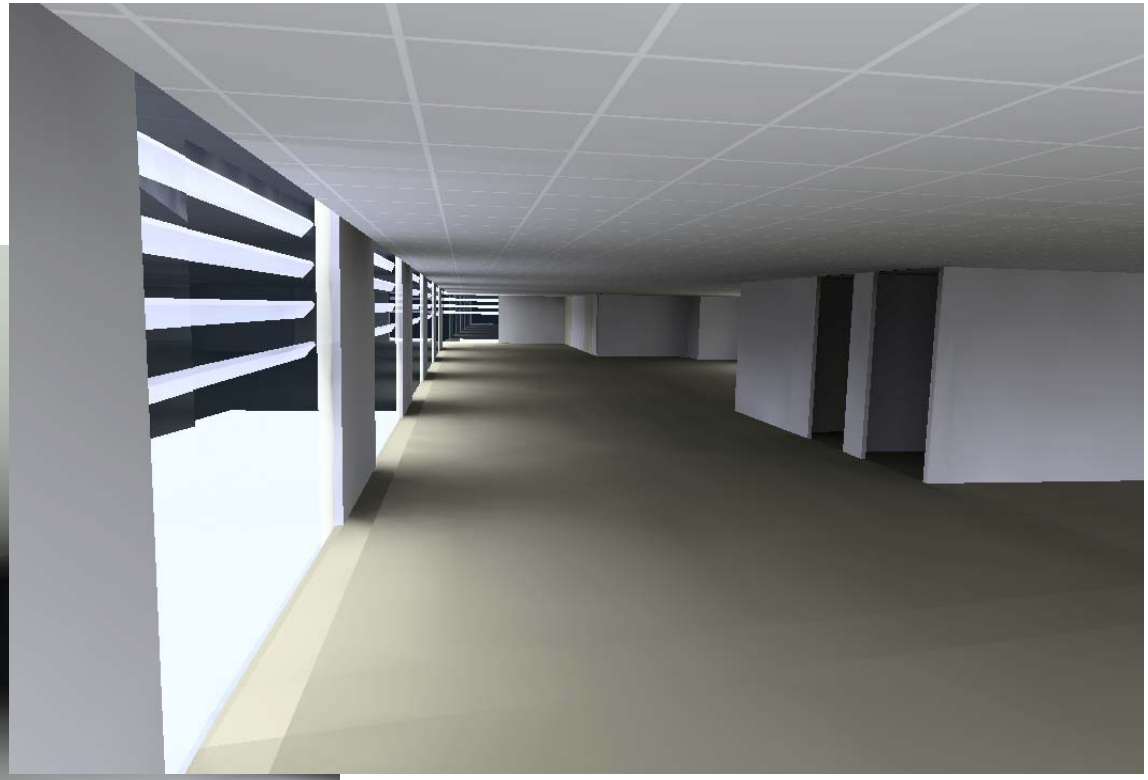


Use REVIT 3D geometry data

using *smart gbXML import*

Part L2 2010

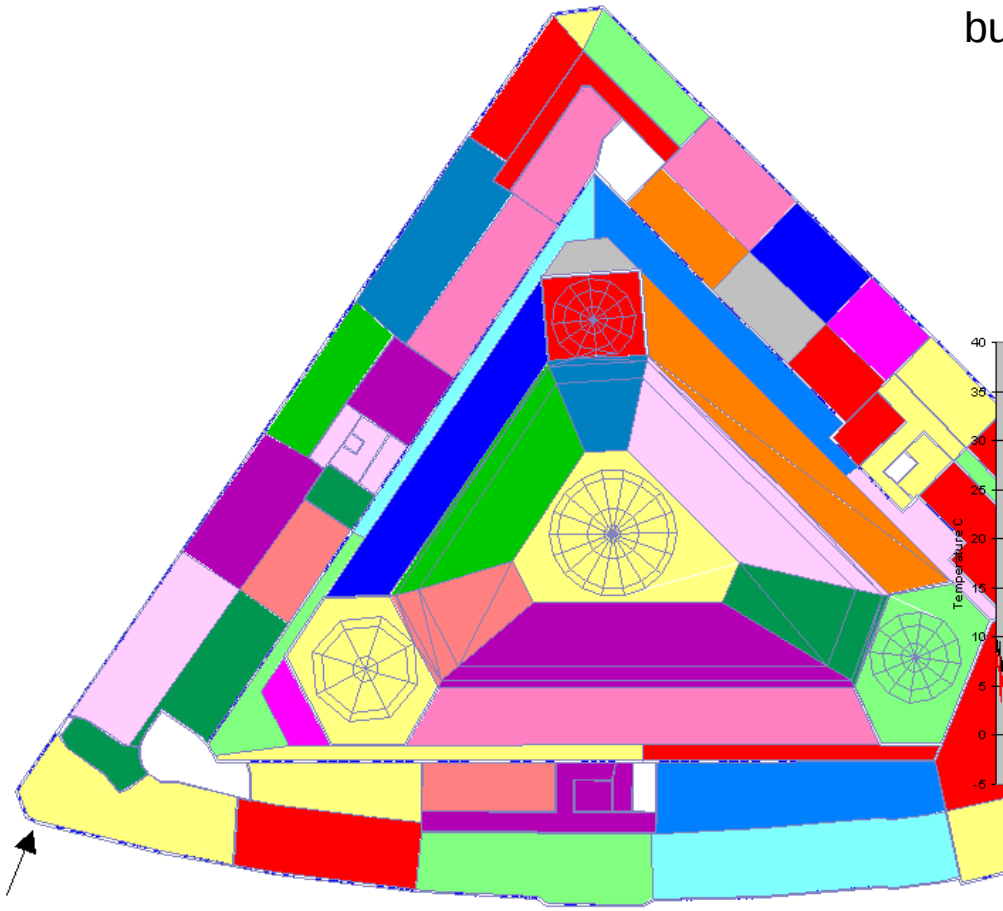
Fast and detailed daylight simulation



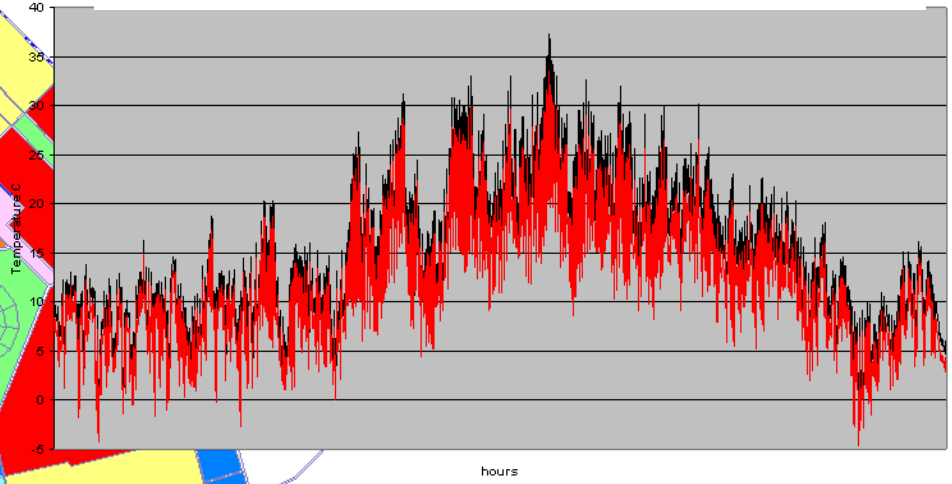
Comprehensive daylight harvesting control logic

Part L2 2010

Analysis zones with occupation schedules and construction details complete the building model

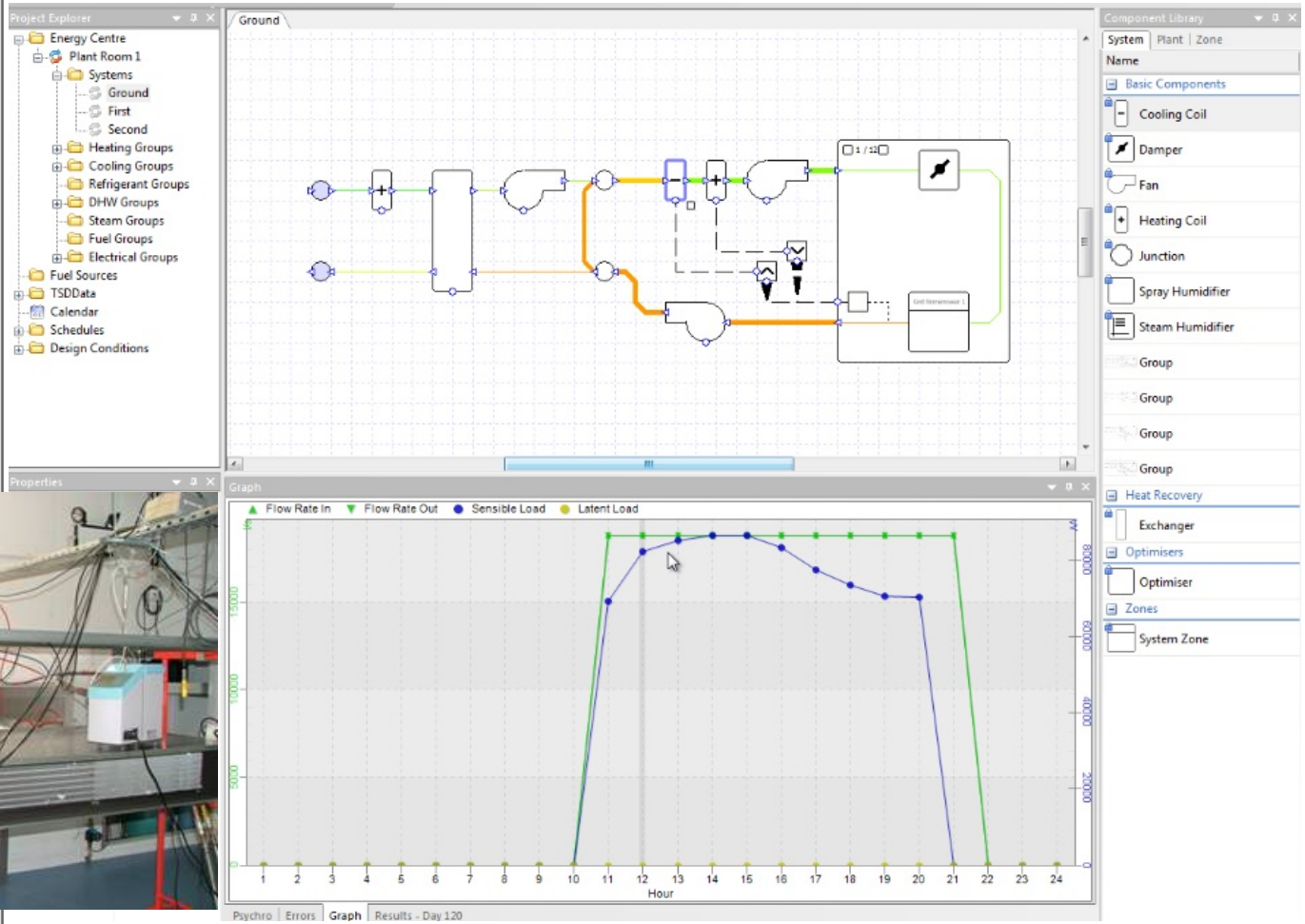


The building model is driven by hourly weather data from CIBSE



Part L2 2010

Component based plant analysis with control logic detail



Components are able to accept manufacturers'

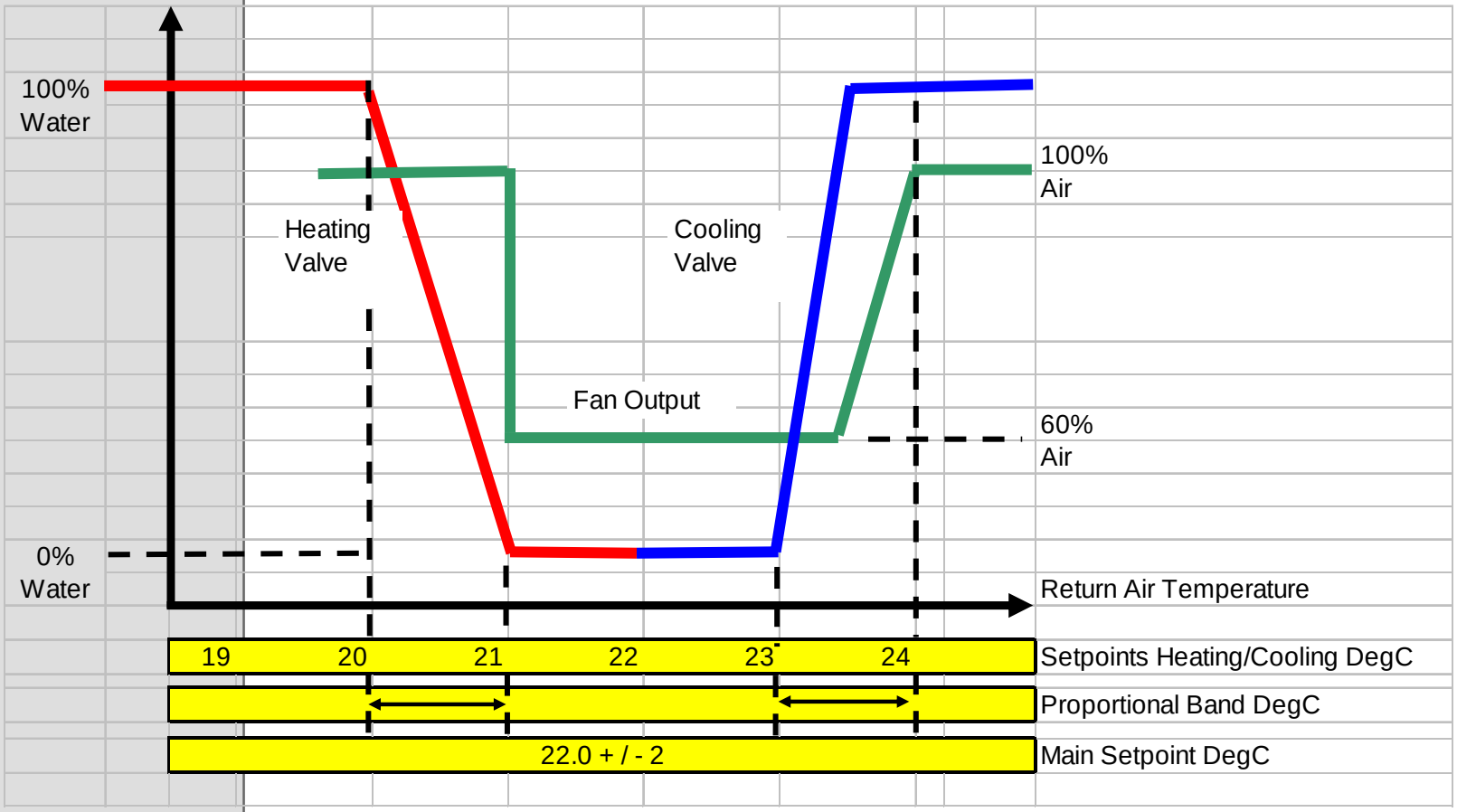
Part load performance data

Trox performance data

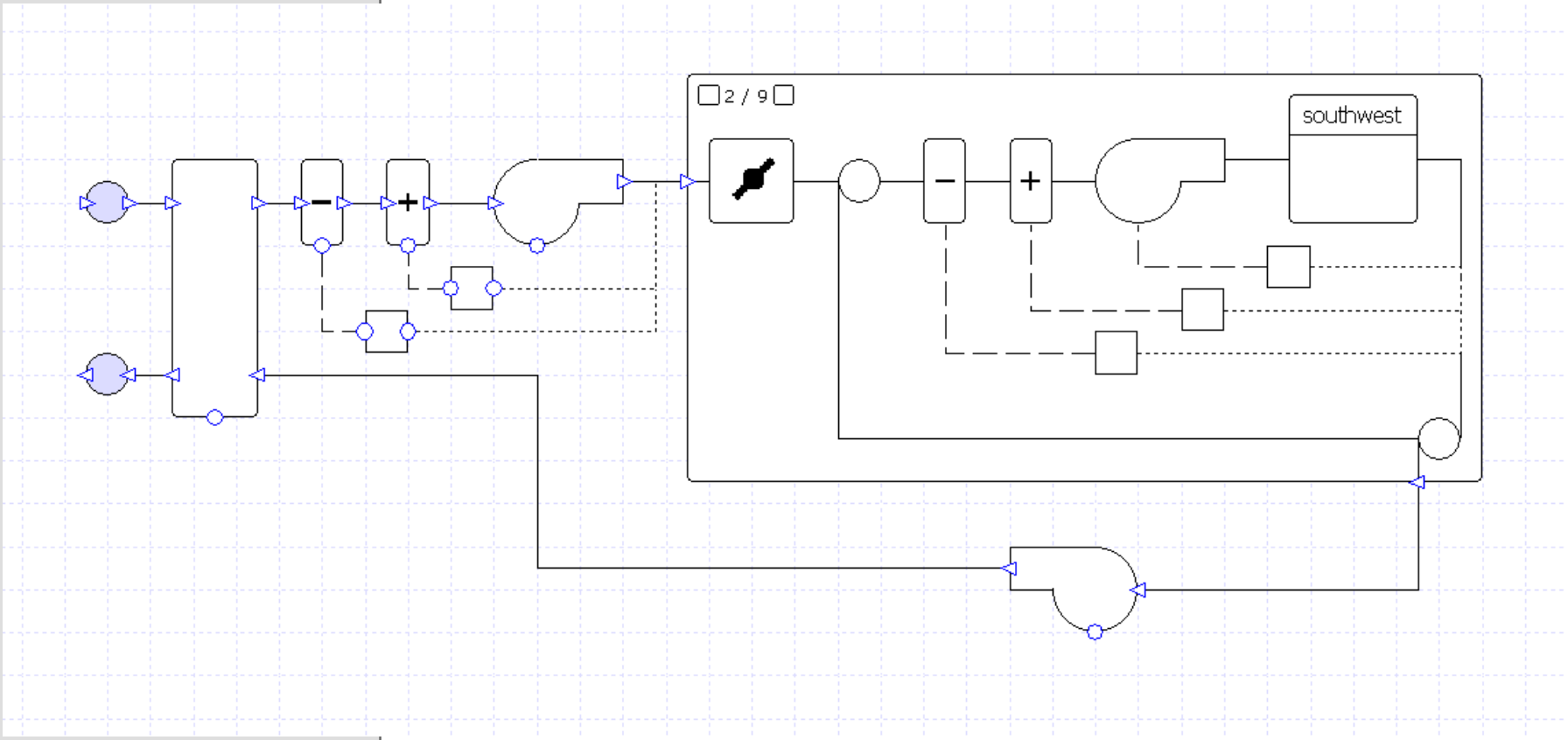
VAV FCU ec motor fan curve and SFP

with contact factor for variable air flow rates

Control Sequence for VAV FCU



System schematic for ec motor VAV CFU



CO2 emissions for AC CAV FCU

BRUKL Output Document

HM Government

Compliance with England and Wales Building Regulations Part L 2010

Project name

Example Project As designed

Date: Mon Oct 04 16:17:03 2010

Administrative information

Building Details

Address: x, x, x

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.2.0"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.2.0

BRUKL compliance check version: v4.0.c.0

Owner Details

Name: x

Telephone number: x

Address: x, x, x

Certifier details

Name: x

Telephone number: x

Address: x, x, x

Criterion 1: Predicted CO_2 emission from proposed building does not exceed the target

The building does not comply with England and Wales Building Regulations Part L 2010

1.1	CO_2 emission rate from notional building, $kgCO_2/m^2.annum$	27
1.2	Target CO_2 Emission Rate (TER), $kgCO_2/m^2.annum$	27
1.3	Building CO_2 Emission Rate (BER), $kgCO_2/m^2.annum$	29.1
1.4	Are emissions from building less than or equal to the target?	BER > TER
1.5	Are as built details the same as used in BER calculations?	Separate submission

FAIL

CO2 emissions for ec VAV FCU

BRUKL Output Document

HM Government

Compliance with England and Wales Building Regulations Part L 2010

Project name

Example Project As designed

Date: Mon Oct 04 16:24:41 2010

Administrative information

Building Details

Address: x, x, x

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.2.0"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.2.0

BRUKL compliance check version: v4.0.c.0

Owner Details

Name: x

Telephone number: x

Address: x, x, x

Certifier details

Name: x

Telephone number: x

Address: x, x, x

Criterion 1: Predicted CO_2 emission from proposed building does not exceed the target

1.1	CO_2 emission rate from notional building, $kgCO_2/m^2.annum$	27
1.2	Target CO_2 Emission Rate (TER), $kgCO_2/m^2.annum$	27
1.3	Building CO_2 Emission Rate (BER), $kgCO_2/m^2.annum$	25.8
1.4	Are emissions from building less than or equal to the target?	BER =< TER
1.5	Are as built details the same as used in BER calculations?	Separate submission

PASS

CO2 emissions for chilled beam

BRUKL Output Document

HM Government

Compliance with England and Wales Building Regulations Part L 2010

Project name

Example Project As designed

Date: Mon Oct 04 16:18:43 2010

Administrative information

Building Details

Address: x, x, x

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.2.0"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.2.0

BRUKL compliance check version: v4.0.c.0

Owner Details

Name: x

Telephone number: x

Address: x, x, x

Certifier details

Name: x

Telephone number: x

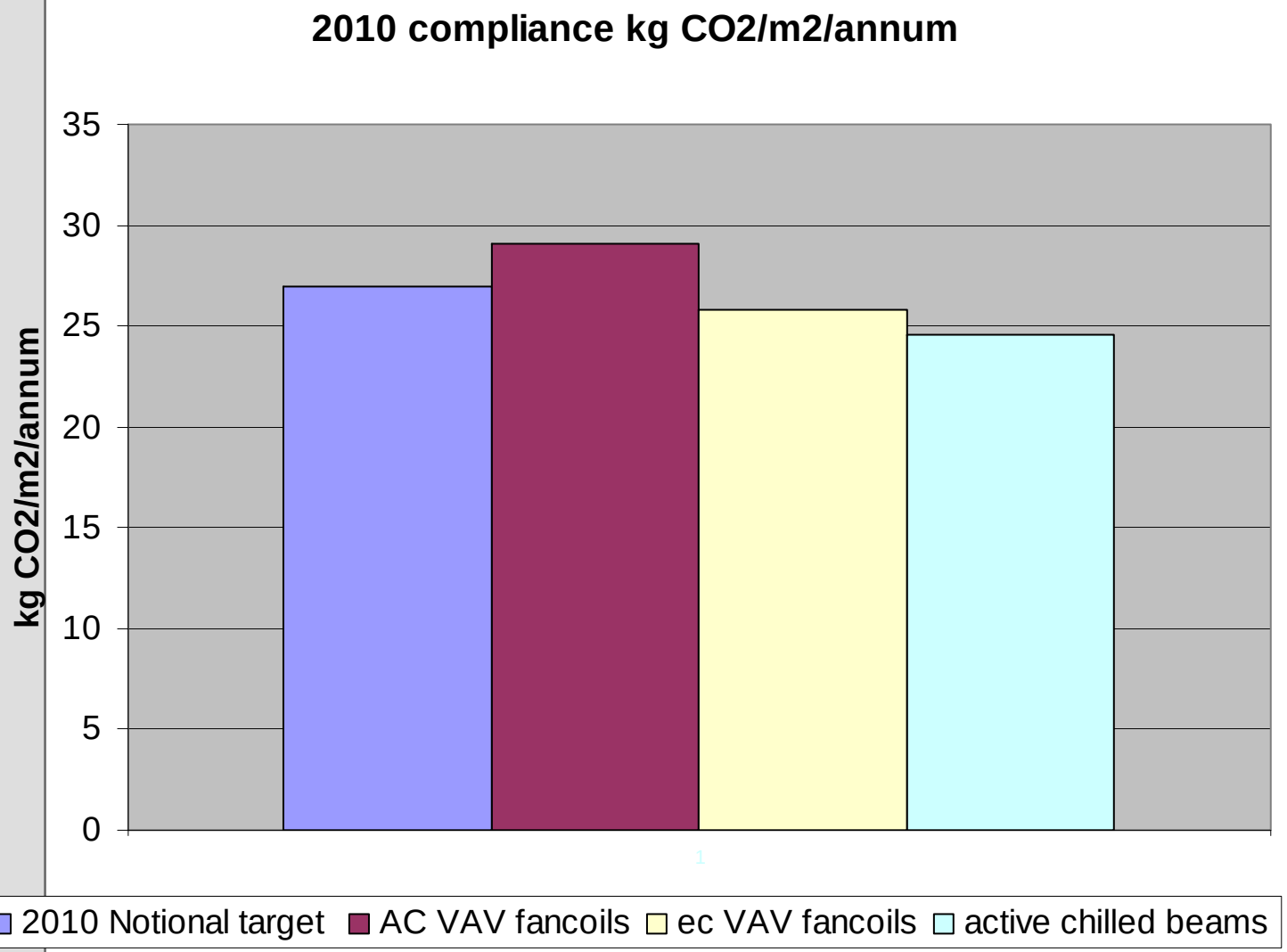
Address: x, x, x

Criterion 1: Predicted CO_2 emission from proposed building does not exceed the target

1.1	CO_2 emission rate from notional building, $kgCO_2/m^2.annum$	27
1.2	Target CO_2 Emission Rate (TER), $kgCO_2/m^2.annum$	27
1.3	Building CO_2 Emission Rate (BER), $kgCO_2/m^2.annum$	24.6
1.4	Are emissions from building less than or equal to the target?	BER =< TER
1.5	Are as built details the same as used in BER calculations?	Separate submission

PASS

CO2 emissions for ec VAV fancoils are 11.5% lower than AC CAV fancoils



Manufacturers' performance data

Innovative equipment part load performance and control logic not modelled by SBEM

TROX TECHNIK
The art of handling air

Carrier
A United Technologies Company

SAINT-GOBAIN

MITSUBISHI ELECTRIC

DUPONT

biddle
CLIMATE SOLUTIONS

passivent

ARMSTRONG
EXPERIENCE BUILDING...

Monodraught

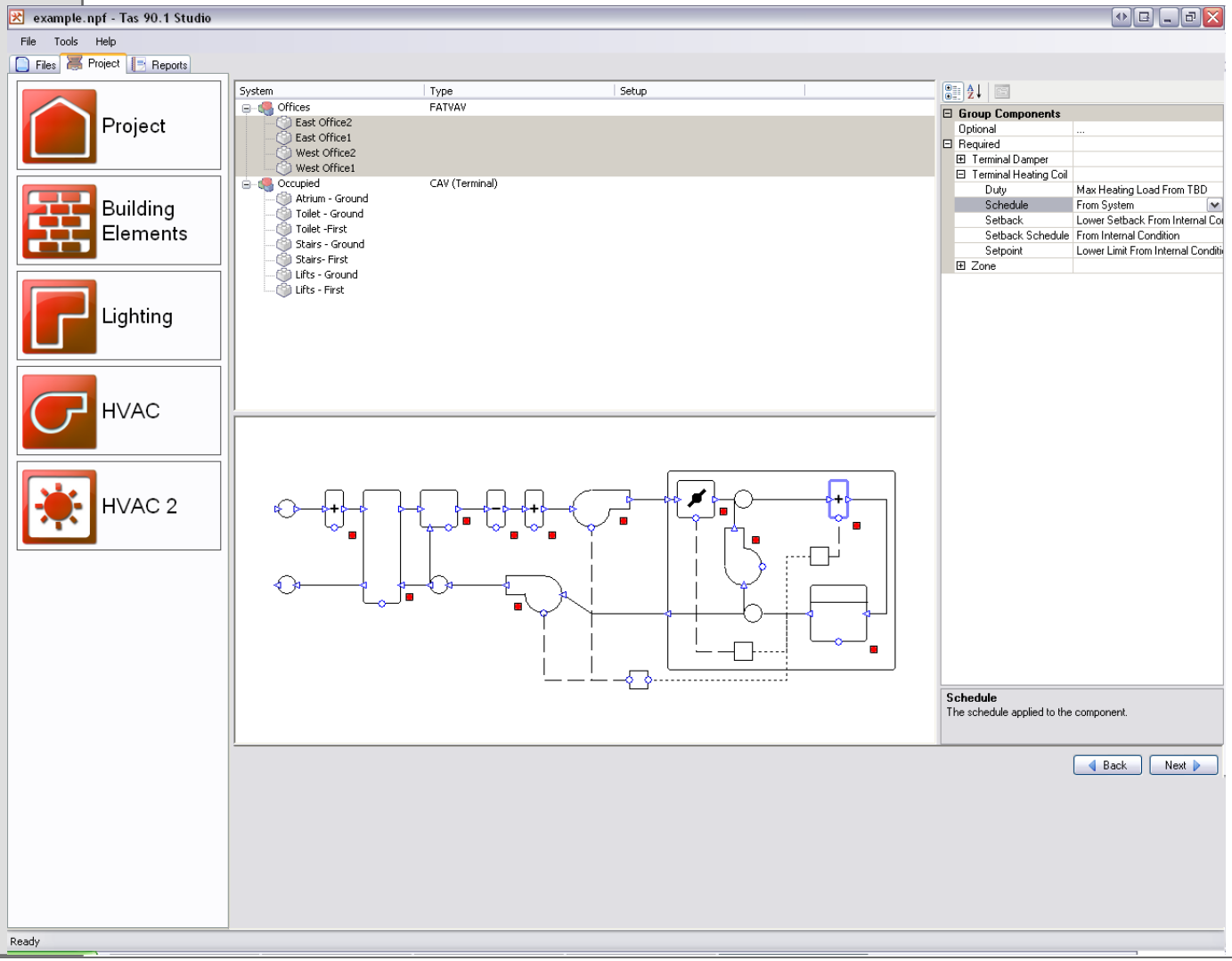
Weatherite

BASF
The Chemical Company

Hoval

ASHRAE 90.1 Studio

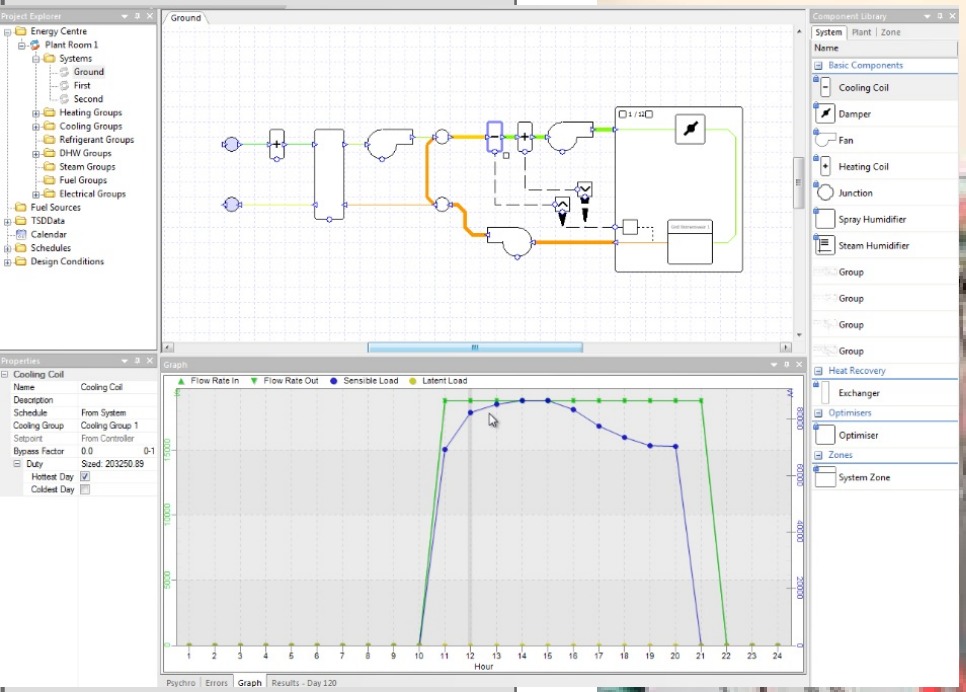
Automatic baseline systems and building generation

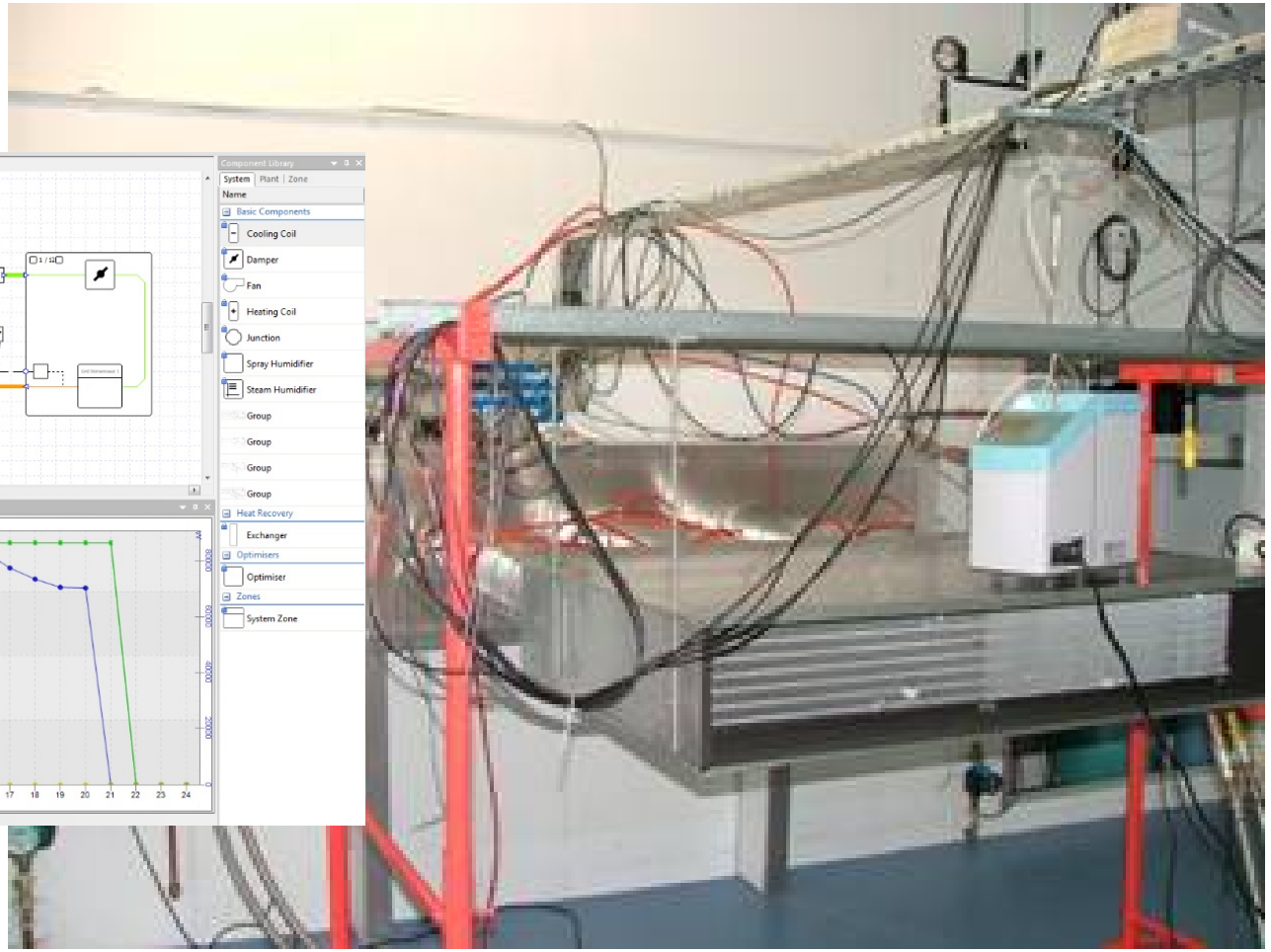


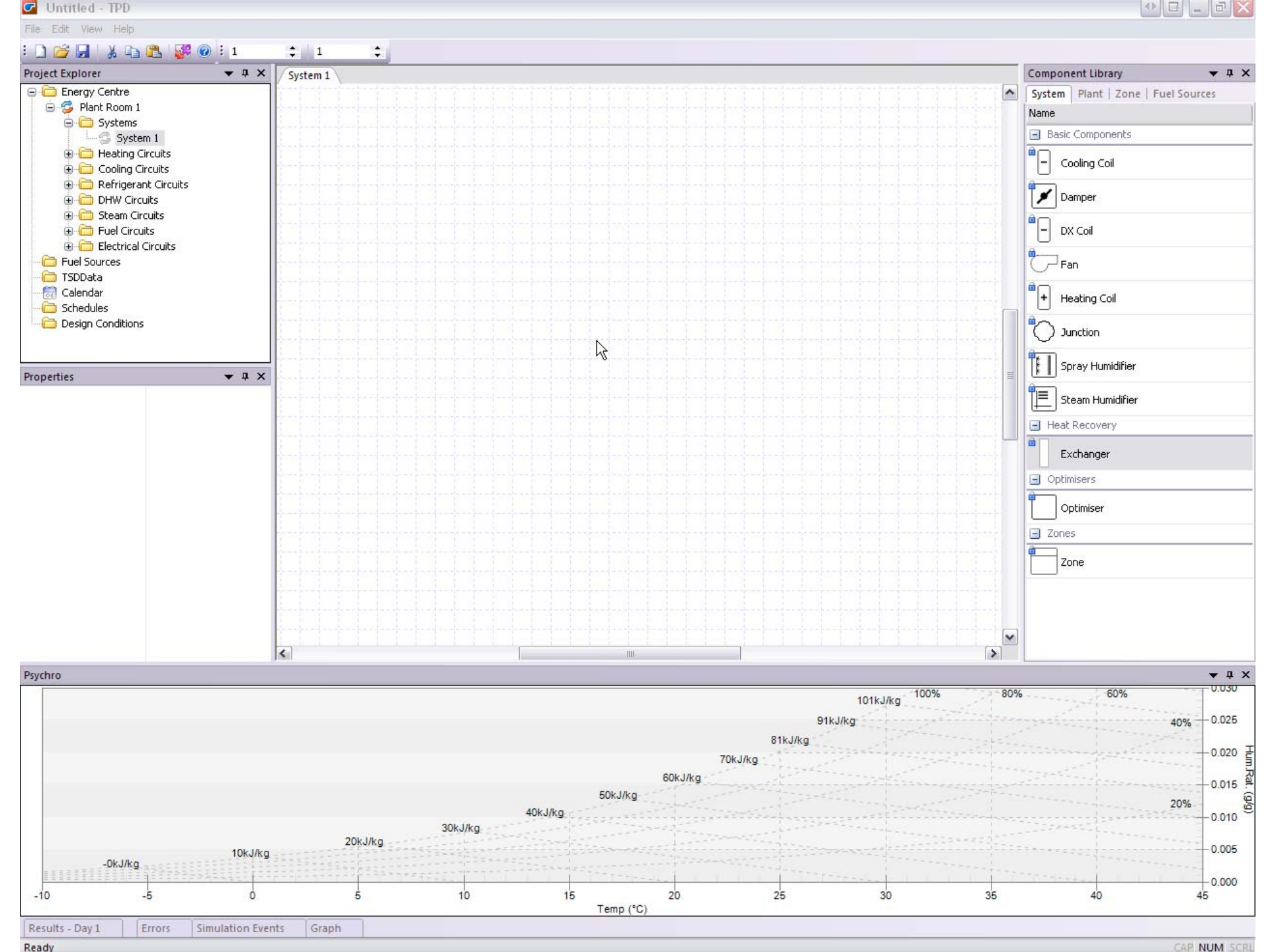
State of the art building simulation software...

Extensive reporting tools…

The way to cost effective compliance- modelling real performance data and control logic






Untitled - TPD
File Edit View Help
Project Explorer
Energy Centre
Plant Room 1
Systems
System 1
Heating Circuits
Cooling Circuits
Refrigerant Circuits
DHW Circuits
Steam Circuits
Fuel Circuits
Electrical Circuits
Fuel Sources
TSDData
Calendar
Schedules
Design Conditions
Properties
System 1
Component Library
System Plant Zone Fuel Sources
Name
Basic Components
Cooling Coil
Damper
DX Coil
Fan
Heating Coil
Junction
Spray Humidifier
Steam Humidifier
Heat Recovery
Exchanger
Optimisers
Optimiser
Zones
Zone
Psychro
101kJ/kg
91kJ/kg
81kJ/kg
70kJ/kg
60kJ/kg
50kJ/kg
40kJ/kg
30kJ/kg
20kJ/kg
10kJ/kg
-0kJ/kg
100%
80%
60%
40%
20%
Hum Rat (g/g)
Temp (°C)
Results - Day 1
Errors
Simulation Events
Graph
Ready
CAP NUM SCRL