



## energyPRO Energy Systems Modelling Training

Date: 6/7/19

Venue: Energy Institute, 61 New Cavendish Street, London W1G 7AR

**energyPRO**



### Day 1 Agenda

09:30 Arrival/ Setup/Coffee

09:40 Introductions, overview of agenda

09:50 energyPRO Overview

- Explanation of each module
- Installing energyPRO & upgrades
- Getting Help: accessing help menu, tutorials, technical support

10:00 Creating a base case

- Creating a simple project - using natural gas, a boiler, a heat demand
- Understanding automatic operational strategy
- Modifying heat demands using fixed profiles and weather dependency
- Accessing weather data using energyPRO
- Inserting half-hourly demand data
- Economy - adding in revenues and operational expenditures
- Adding emissions: CO2 & NOx

### 10:45 Coffee Break

11.00 Creating a base case Continued

- Adding an electricity demand
- Flat rate electricity market/Fixed tariff market
- Adding cooling demands & electrical chillers
- Understanding the reports
- Creating a custom report

### 12:45 Lunch

1.30 Modelling alternatives to the base case

- Adding CHP & thermal stores
- Adding heat rejection
- Adding absorption chillers
- Adding associated revenues and costs
- Understanding the operational strategy for cooling

### 3:00 Coffee

3:15 Developing and refining the business case

- Modelling, inflation, capital investments, loans and other financial elements
- Modelling ESCOs

4:30 Day 1 Finish

## Day 2 Agenda

09:30 Arrival/ Setup/Coffee

09:35 Overview of agenda day 2

09:40 Biomass

- Adding biomass & biomass boilers
- Modelling fuel delivery and storage limitations
- Modelling RHI payments for biomass

### 10:45 Coffee Break

11:00 Other generation & storage technologies Solar Thermal, PV, Wind & Heat Pumps, different fuels

- Modelling heat pumps
- Using formulae to vary the COP of a heat pump
- Adding solar thermal

### 12:45 Lunch

1.30 Other generation & storage technologies Continued

- Adding PV
- Adding Wind

3:00 Coffee

3:15 Interface Module, Compare Module, More Formulae, Multiple Units and User Defined Operational Strategies

- Understanding Interface Module – batch processing of scenarios
- Understanding the Compare Module
- Formulae: Power led control strategies, user defined energy conversion units, parasitic loads
- Dual fuel, Adding multiple CHP, dependency of units, user defined operational strategies
- The Region Module - Adding new sites, adding interconnections

### 4:30 Finish