



BUILDING EFFICIENCY

ROYAL HEATING

DECARBONISING HEATING IN OLD AND HISTORICALLY SENSITIVE BUILDINGS

STOCKHOLM

5 February 2020 – 09.30 - 16.00

The UK Parliamentary Estate is currently undergoing a major restoration programme. This will involve a significant investment in upgrading the energy efficiency performance of the building and transitioning to a low carbon energy network. Similar projects aiming to decarbonise are underway in cities across the globe, from New York via Paris to Beijing.

Retrofitting energy efficiency solutions and heatnet works in old buildings can be challenging for a multitude of reasons. There are often practical and regulatory restrictions on the options in terms of technologies and approach. Lack of technical standards, experience and limited access to best practice are also slowing down the process. All in all this is driving costs up thereby reducing the scope and pace of decarbonisation.

You are invited to a Master Class in Stockholm organised by the Heat Academy in collaboration with Smart City Sweden, focusing on the opportunities and challenges in retrofitting old and historically sensitive buildings e.g. with district energy and modern energy efficiency solutions. Up-grading old housing stock is a high potential area for investments in decarbonising cities. However, it can prove to be a challenging and costly process. There is much to gain for all parties in establishing collaboration in sharing experiences and replicating best practice.

Sweden has a long and proven experience in installing and operating competitive district energy and energy efficiency solutions. The market share of heat networks is well above 90% in most cities. In central Stockholm more than 98% of the buildings are connected to district heating, including the Royal Castle, the Parliamentary buildings and other high-profile buildings. In the process, Sweden has developed a unique know-how and a tool-box of solutions, which could be of value for other countries now addressing the same topic. At the workshop in Stockholm we will highlight these experiences and technologies. We will also organise a series of on-site study visits presenting some of the experts and operators involved in these projects.

Scope and Objectives of Workshop

Highlighting cost effective and scalable technologies, practices and business models making it viable – technically, politically and commercially – to retrofit energy efficiency solutions and district heating to old and historically sensitive buildings.

The programme will involve study visits of relevant buildings. We will also organise break-out sessions offering opportunities for separate meetings with selected industry professionals and a chance to for more in-depth conversations

Energy efficiency investment projects to be highlighted

- Parliamentary building in Stockholm
- Royal Estate in Sweden
- Parliamentary Estate in London
- Royal Estate in the UK
- Retrofit of old housing areas in New York and in the Netherlands
- British Embassy in Stockholm
- Smart City Development – Hammarby Sjöstad 2.0

Target Audience

Property Managers, Developers, Suppliers of goods and services, Contractors, Energy operators, Political Decision Makers, Staff and Students at Universities and Colleges.

Venue

Teknikföretagen

(The Association of Swedish Engineering Industries)

Storgatan 5

Stockholm

Underground station - ÖSTERMALMSTORG

Fee

- €550 (excl. VAT)

Organised by



In Association with



Registration

Peter Anderberg – Nordic Heat
pa@nordheat.eu
+46 70 56 111 99

Mark Woodward – Smart City Alliance
Mark.woodward@thesmartcityalliance.eu
+44 114 230 4722

AGENDA

09.00 **REGISTRATION & COFFEE**

09.30 **INTRODUCTIONS & OBJECTIVES**

Presentations by key participants – Background and Objectives

ROYAL HEATING – *Setting the Scene*

Opportunities – highlighting potential based on real cases

Challenges – specifying key obstacles to overcome

Strategy – high priority areas with significant impact on financial and environmental performance vs. investments

SOLUTIONS – *Sourcing and distributing heat/ Cooling and enhancing energy efficiency*

Design

Technologies

Installation

BUSINESS MODELLING – *Making it viable*

Commercial Strategies – revenue models and sales strategies

Political Strategies – regulations and subsidies

Financial Strategies – securing funds funding

EXECUTION – *Making it happen*

Programme Management – deliver on time and budget

Operations – operate, maintain and expand

STUDY VISITS & BREAK-OUT SESSIONS – *Making it happen*

Study visits at Royal Castle and Parliamentary Estates

Separate meetings

17.00 **DRINKS**

(Coffee/ Tea and Lunch will be served during the day)

REFERENCE CASES – STOCKHOLM

ULRIKSDALS CASTLE, STOCKHOLM



Castle located close to central Stockholm. Built in 1645 and involves 15 separate buildings, including green house, theatre and residential buildings. Hydronic central heating system installed in 1910 using coal, oil, and later bio-oil as heat source. Retrofit of District Energy began in 2010 – completed in 2014 connecting all 15 buildings:

- Reduced costs of heating – have replaced 200 m3 of oil with fossil-free district heating
- Environmental advantages – locally and globally
- Reduced risk of fire
- Digital surveillance and heat control solutions have significantly improved energy efficiency
- Has received several environmental awards

ROYAL CASTLE, STOCKHOLM



Located in central Stockholm. Original castle, Tre Kronor, established in 13th century. Destroyed in a fire in 1697. Rebuilt shortly after. Total size 42 000 m² divided into 1 420 rooms. Hydronic central heating system installed 1909. District heating system installed in 1990s. Today 100% carbon neutral heating solution.

Further energy efficiency solutions implemented in recent years. Solar panels have been installed.

NATIONAL ART GALLERY



Located in central Stockholm. Built in 1850s. Total size 15 000 m². Building completely refurbished 2014-2018 at a cost of SEK 1 200M (£100M). Significant investments in energy efficiency. Connected to fossil free district heating. Also connected to sea based district cooling system.

Building now certified according to European Green Building system. A key requirement was to reduce energy use by min. 25%.

PARLIAMENTARY ESTATE



BRITISH EMBASSY



THE HEAT ACADEMY offers a modular training concept in a broad range of topics related to development and installation of sustainable city infrastructure. The mission is to address the competence gap in the sector, both in terms of quality and quantity, thereby increasing the capacity of delivering scheduled investment programmes. The Heat Academy is a fully independent organisation.

The training courses are designed along two broad categories

- *Master Classes* focusing on the theoretical aspects of implementing smart energy infrastructure – e.g. political, strategic, legal, financial, commercial, technical, leadership and communication/PR. Since the start in 2014, some 4000 professionals in 12 markets have participated in training sessions organised by HA.
- *Vocational Training* addressing the practical activities related to design, installation, operations and maintenance of systems. The strategy is to establish collaboration with local universities and colleges, as well as the broader supply chain, thereby speeding up expansion in scope and reach.

The Heat Academy is also initiating and leading collaborative *innovation programmes* involving progressive industry partners in the supply chain, universities and industry organisations. Further to that, an *apprenticeship programme* has recently been launched offering trainee programmes and real life work experience in cooperation with industry partners, e.g. energy operators and contractors.

MASTER CLASSES

>4 000 participants
in 12 markets since 2014



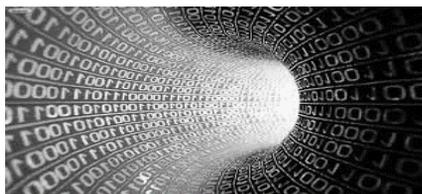
VOCATIONAL TRAINING

In collaboration with local
universities and colleges



INNOVATION

Initiating and leading collaborative
innovation initiatives



PROFESSIONAL LEARNING

Organising exchange programmes
and on-site work experiences



Further Information

Mark Woodward – Smart City Alliance
Mark.woodward@thesmartcityalliance.eu
+44 114 230 4722

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