The Andrew Cooper Gazette www.andrew-cooper.com

'Energy and environmental news impacting the built environment'

Welcome to my inaugural quarterly news bulletin which shares news, features, innovations and market developments of importance to the sector. I will also be highlighting some of the more interesting projects that I am, or have recently been, involved in and any lessons learnt.

I hope you enjoy reading it.

All large enterprises to have energy audits by 5th December 2015

In July the government published its Energy Saving Opportunity Scheme (ESOS) consultation in response to a recent EU directive which requires all member states to introduce a programme of regular energy audits.

ESOS requires all qualifying organisations to conduct an energy audit by 5th December 2015 and then undertake one at least every four years after the initial audit.

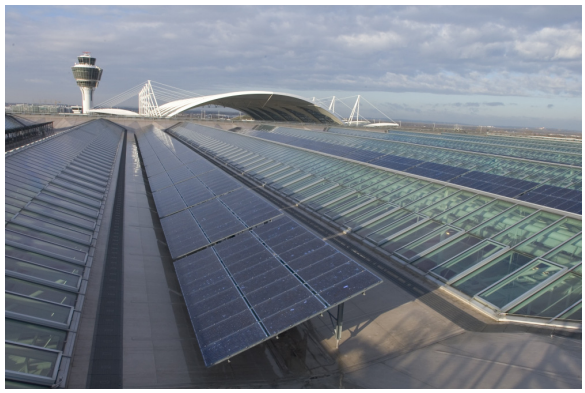
As a member of the Energy Institute's Energy Management Panel, I am involved in discussions between government, EI members and wider stakeholders on the potential implications of the proposed ESOS scheme.

While these discussions are still at an early stage, what is already obvious is that ESOS covers large enterprises which may hold hundreds, if not thousands, of assets. Those assets captured by this directive will all need to be audited in less than 14 months and all those companies affected will need to begin planning for this as soon as possible.

Valuing renewable and LZC technologies

The valuation of renewable and low or zero carbon (LZC) technologies is likely to become one of the big growth areas over the next few years as their use becomes more common. However, as opposed to traditional valuation techniques, renewable and LZC technologies will require specialist knowledge of both engineering and valuation principles. This is because the value of such technologies is often a direct result of their ability to generate energy – which is variable.

This was brought home to me after Andrew Cooper CPEC Ltd was appointed to assist a large consultancy who were engaged on the valuation of an airport. We were asked to review a proposal to develop a 12MW photovoltaic solar park on the airport site. The scheme would cover around 66 acres of land. Amongst other things we analysed:



Photograph for illustration purposes only

- The financial implications of aspects of renewable and LZC technology investments, with reference to the solar farm proposed;
- The financial mechanisms of the investment proposed;
- The various options open to the airport in terms of bringing renewable/LZC forward;
- An indication of the potential net return for the airport on a per annum basis; and
- Any future recommendations/commentary on investor demand.

As part of this review we undertook Internal Rate of Return (IRR) Calculations for the proposed 12MW scheme which would benefit from the Renewable Obligations Certificate (ROC) scheme, and for an alternative scheme with a reduced capacity of <5MW which could instead utilise the Feed-in-Tariff (FiT) scheme.

Technology Strategy Board £4m funding competition in the field of energy management for buildings

Between 14th October 2013 and 20th November 2013 up to £4m in funding is up for grabs for those consortium looking to advance the capabilities of energy management solutions in existing buildings. The Research and Development grants will be provided by the Technology Strategy Board and the Research Councils' UK Energy Programme in an attempt to stimulate innovation in this field and develop solutions that capture a share of the growing UK and global markets. Project costs are expected to be £300k - £1m.

Details are available at https://www.innovateuk.org/-/future-energy-management-for-buildings

The new IES IMPACT tool – trial buildings sought by Andrew Cooper CPEC Ltd

IES, the design modelling software, has launched a unique new product which allows construction professionals to optimise the sustainability of their building design by analysing the embodied impact and life cycle cost of material/product choices, and operational energy efficiency. The tool will be suitable for new constructions and major refurbishments.

This is the first software to come out of the Technology Strategy Board funded IMPACT project, involving the Building Research Establishment, IES, Willmott Dixon and AEC3. The project created the Life Cycle Assessment (LCA) and Life Cycle Cost (LCC) methodology and database so software developers could incorporate them into their tools.

The IMPACT methodology was developed with integration into BREEAM in mind. Two Exemplar Credits in the latest BREEAM 2011 update are available to projects using IMPACT LCA tools, while the IMPACT LCC tool can be used to gain the MAN05 Life Cycle costing credit. Further integration into the core materials credits is planned in the coming years as whole building benchmarking data is gathered through the exemplar credits.

Excitingly, the new tools integrate directly with the IESVE dynamic simulation suite which delivers material and quantity information and operational energy performance details directly from its central 3D model into the analysis. Assessment of other performance metrics such as daylight, Part L and carbon can also be integrated. The suite is also BIM interoperable with gbXML and IFC import connections.

IES has chosen to give away its software tools (CostPlan, LifeCycle & EnviroImpact) for free in the UK so that all a user needs to purchase is a subscription to the relevant Willmott Dixon & BRE datasets.

"A major advantage of these tools is the ability to get rapid feedback on design options so you can assess and reassess right from concept through to detailed design, comments Craig Wheatley, Director, IES. "They will facilitate the improvement in design and decision making for both new design and retrofit projects."

Andrew Cooper CPEC Ltd are users of IES and are keen to speak to companies interested in trialling this new tool.

The 2013 40percent symposium

The third 40percent conference was held on 19th September at the Haberdashers Hall with an impressive list of keynote speakers including the government's former Chief Scientific Adviser Professor Sir John Beddington.

Delegates included investors, occupiers and asset managers representing some of the largest funds and institutions in the UK - all looking for insight into the issues, legislation and examples of innovation when making commercial stock more sustainable.

The opening talk by Professor Sir John Beddington, which outlined the sheer speed of climate change and the urgency needed to tackle it, was more than a little disconcerting.

However, one of the more interesting points came from Louise Ellison, the newly appointed Head of Sustainability for Hammerson who questioned the long term viability of prominent glass tower 'trophy' assets. This is because their high cooling loads and reliance upon mechanical ventilation systems make them vulnerable to the predicted increases to the cost of energy and the carbon agenda. Ellison highlighted the fact that planning for these buildings would have started before Responsible Property Investment thinking became as evolved and informed as it is today.

'Published articles….'

The Estates Gazette

how to...

RAISE FINANCE USING ENERGY SAVINGS

ANDREW COOPER

Many property professionals don't realise that it's possible to convert energy savings into a means of raising finance. But if an investment in property leads to energy savings there are mechanisms available to ensure these savings can be used to generate new sources of finance with both on and off-balance-sheet solutions available.

Options include:

- Grant or subsidy funding: the government will pay for each kW of power generated for some technologies. This helps reduce the payback period, and improve the financial return.
- Financing based on actual or guaranteed energy savings: this is an integrated programme of measures to deliver guaranteed savings. The model is often a tri-party "partnership" between a financier, an energy services company, and the beneficiary.
- Financing based on predicted energy savings: the loan is based on the premise that the repayments will be less than the value of the energy saved.
- Financing backed by specific assets used to achieve energy savings: a loan is made to a company or individual to buy an asset such as a boiler. If the savings are greater than the repayments then a sound business case can be made.

Andrew Cooper is an independent commercial property and energy consultant. www.andrew-cooper.com

Lectures and CPD

Andrew recently provided a lecture to students at the University of Westminster on the impact of sustainability on commercial property.

He is also providing CPD on the Energy Act 2011 and its requirement for minimum energy performance standards to Hampshire County Council.