Retro-fitting for the Future *(w Polsce)*

Last year New York's Empire State Building was awarded a LEED[1] Gold certificate, making it not only the most famous but now also one of the most sustainable high-rise buildings in the United States. The specific LEED rating system applied is known as LEED for Existing Buildings (or LEED-EB), and the green transformation of this iconic structure is an outstanding case study of the integrated approach required by owners, tenants, consultants and contractors to deliver what is known as a green retrofit. You can read more about it on the project's own website[2] . Technical accomplishment aside, this project has huge symbolic significance. Constructed during the Great Depression of the early 1930s, the Empire State Building offered to New Yorkers at that time a beacon of hope. The present $13.2 million retrofit to one of the most internationally recognisable symbols of capitalism takes place during a period of economic fragility comparable to the 1930s. And it sends a clear message that going green is the pathway to lead us out of this present period of economic distress.

Internationally, green retrofitting is fast becoming the most significant face of green building in commercial real estate, which has to date been dominated by new construction. In 2009 LEED - EB certified buildings for the first time exceeded LEED for New Construction (NC) projects. And this should be seen in the context of continuing growth of LEED projects overall – up 40% over the previous year[3].

[1] LEED (Leadership in Energy & Environmental Design) is an internationally recognised green building certification system based in the United States.
[2] www.esbsustainability.com
[3] www.greenbiz.com/greenbuildingimpactreport

So what exactly is a green retrofit and what is its relevance to the Polish commercial real estate market?

Greening existing buildings can mean applying a green fit-out to an existing building shell, or upgrading an older building to meet sustainable criteria such as greater energy efficiency and a healthier indoor environment. This can range from surprisingly minor interventions to undertaking wholesale building refurbishment. Even the former can contribute to the building owner earning a BREEAM[4] or LEED certificate and in doing so enhance occupancy rates, rental premiums and the overall market value of the building. Examples of these interventions include the following (in order of ascending capital outlay);

- adjust the HVAC system thermostat and timer settings
- install energy-efficient lighting
- install CO_2 / occupancy sensors to reduce unnecessary use of HVAC and lighting
- install water-efficient plumbing fixtures
- install more environmentally friendly finishes and furnishings
- carry out re-commissioning of building systems (typically saves 5 to 20 percent in annual energy costs)
- make improvements to natural daylighting (glazing types, shading devices and light shelves) to improve working conditions and reduce energy loads
- install high-performance windows and insulation to reduce heating and cooling loads
- install more energy-efficient mechanical and electrical systems (including energy recovery systems, heat pumps and VAV air conditioning)

No matter what scale of technology is being applied it is absolutely critical that an integrated approach to the project is taken. This means looking at building

[4] BREEAM (BRE Environmental Assessment Method) is an internationally recognised green building certification system based in the UK. In Poland LEED-EB certification is available already, with the equivalent BREEAM In-Use rating system due to come online here in the next 12-18 months.

systems as a whole, as opposed to the usual focus on isolated improvements inherent in normal renovations. For example, this accounts for the effect that better insulated glazing, deep daylighting, and efficient lights and office equipment could have on the cooling load, which in turn could make new cooling equipment markedly smaller (and therefore cheaper) than the original system – saving a sum large enough to pay for the other improvements. Analysis reveals that changing the renovation design to a whole-systems approach dramatically improves comfort and energy efficiency. And if piggybacked onto an ongoing or planned capital improvement program, no extra costs should be incurred. Standard practice is to carry out an initial energy audit of the existing building, as well as a simulation of the proposed green measures. This will give investors highly accurate payback-period information before investing in the retrofitting works and dispel the myth of unproven future benefits.

As mentioned above, LEED or BREEAM certification will come to have a considerable impact on occupancy rates, rental premiums and the overall market value of the building. There are two further reasons why one of these systems should be adopted in relation to retrofitting. Firstly, they provide a framework for the overall integrated approach to the project, ensuring all the green measures feasible to your project are considered. Secondly, they are the only way of objectively establishing if a building really is sustainable. In years to come such certifications will give buildings significant competitive advantage.

So how is all this relevant to the Polish commercial real estate market? There are three important reasons why green retrofitting must now assume a much higher priority in the Polish market;

1. it is a vital part of the overall reduction in national energy use
2. it represents a less risky capital venture in these difficult economic times
3. it will drive Poland's necessary catch-up with other European nations in terms of sustainable building, both technically and by promoting general awareness

The targets set by the Polish Government under the Energy Policy of Poland until 2030 will be largely dependent on improvements in the energy use of buildings, which account for roughly half of the energy consumed in this country. This simple fact is roundly excluded from statements from the government to date on the implementation of this policy. Existing buildings constitute the vast majority of energy-using building stock at any given time. Therefore greening Polish existing building stock must take on a new prominence: retrofitting existing buildings to make them more energy efficient is by far the most effective way to dramatically reduce the energy consumption associated with the built environment.

While they do not yield the same profit margin as do construction projects begun from the ground up, green retrofits do represent a safer play in the current economic climate. Green renovations are generally less risky because they involve fewer material expenses, in many cases tenants are in-place and overall the scale is smaller. It is also a good route for developers to get more from their existing stock, especially vacant rental space. Two significant international studies released last year both agree that green office space yields both higher rentals and occupancy rates[5]. Higher occupant productivity, enhanced staff retention and attraction and corporate social responsibility guidelines are among the main contributors to this. In deciding to reposition their operating assets in this way, investors may also find financiers are more supportive with funding assistance.

Lastly, green retrofits provide an invaluable avenue for Poland to catch up with other countries in terms of sustainable building. This applies to both the development of professional technical expertise and promoting an awareness of sustainability generally in this country. Energy prices in this country will rise in the medium term, though this is only one motivating factor. Developing Poland's sustainable awareness is critical to her future competitiveness, meeting ambitious energy reduction targets being only one example.

[5] *Do Green Buildings Make Dollars and Sense?*, CBRE (Novemer 2009) and *Doing Well by Doing Good?*, RICS (March 2009)

So what's the way forward for Poland? Obviously the government needs to take the lead. A diverse approach is required, encompassing education, subsidies, tax credits, as well as permitting and other regulatory incentives. For larger institutional and corporate investors another viable financing model has emerged for larger buildings in the form of Energy Service Companies (ESCOs). ESCOs sell performance contracts wherein the company that conducts the retrofit charges a lower up-front cost but shares in the financial benefits created by an energy efficient retrofit.

Still I can't help thinking back to the Empire State Building and wondering why an equivalent high-profile project couldn't be undertaken here in Warsaw. An ambitious retrofit of one of the capital's iconic buildings would provide the publicity jolt required to bring green retrofitting into the consciousness of officials, developers and the public. It would also promote Poland's international green reputation. Such an ambitious project would require both state and municipal leadership. It would underline the significance of green retrofits not just to meeting national energy efficiency targets, but also signal a constructive path forward for the Polish commercial real estate sector from the present economic climate.

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