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Office Buildings: Developer's Requirements – Consultant's Solutions

Sustainability has recently become a recognized feature in office developments. This lecture will focus on the motivation for a developer to introduce sustainability to a project and also on the approach of MEP consultants to match the new requirements. From a developers point of view many design decisions are based on cost issues. If "sustainable systems" match or exceed other solutions in terms of low investment costs, minimal space requirements or operating costs it is very likely for these systems to be introduced to projects.

With the recent interest of tenants in "green issues" sustainability is now also being used as a marketing point for developments. This new market interest has arrived from almost no-where. In a market research from Vivico from (2004) our "typical" tenant did not show any great interest in ecological issues. These new requirements in general demand a quick adaption from investors.

Vivico has always shown a great commitment to sustainability. Our track record shows a sound knowledge with technical solution such as geothermal energy systems or developments following comprehensive sustainability criteria from the scheme design through to fit-out. Vivico was also involved in pilot certifications for the German EnEV (European directive on energy performance of buildings).

Another important motivation for energy-saving solutions are new government regulations, such as the German EnEV. The focus within project developments is to achieve good energy rating. Unfortunately, the government's perspective of the EnEV is based on an overall value, the primary energy consumption of a building. As for example the primary energy factor in case of district heating is very much dependant on the "energy quality" of local utility suppliers, this overall value of the EnEV is not only dependant on the commitment of an investor to energy-saving solutions, but also to factors outside his reach.

In order to be able to introduce even more "sustainability" to projects, some current problems have to overcome. German legal requirements define summer indoor temperatures and a non-compliance can lead to rent reductions or lease terminations. A softer approach as far as defining temperatures in working environments is concerned could help introduce other energy-saving systems. Some tenant target temperatures are even fixed within the lease contract over and above the legal requirements. If more of our tenants understood the impact of such requirements, provisions for overcapacity within cooling systems could be reduced.

The technical part of the lecture gives a brief overview of current options to reach energy efficient and sustainable building solutions.

It will be distinguished between active and passive means; for example the reduction of energy usage by using good building design concepts, or using natural resources and highly efficient building technologies to save fossil fuels. New technologies will also be highlighted with a view to future developments.

Based on the various options described, a current Vivico Real Estate development, with Ebert-Ingenieure as their MEP-consultants, will be presented. The design process from the first steps and considerations through to the final solutions will be described.