

## Is modern Architecture sustainable?

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*Is modern Architecture sustainable?* This is not a question, but a *necessity*. For the next generation of Architects, sustainability will be second nature. Sustainable features could become as important as the facades or the roofs that keep out the external elements.

The point is that sustainability is about the practical systems of buildings. *The problem is that it does not always make for great Architecture.*

In our practice we have been interested since the early 90's in the integration of Architecture and Engineering, working primarily with Werner Sobek and Matthias Schuler, referred to this as *Archi-Neering*, by breaking down the barriers, which often exist between these disciplines. If we want to caption all these issues of integrating energy, sustainability and comfort we refer to *Intelligent Design*.

This approach is driven by developing new technologies and concepts. The goal is to make buildings more efficient in their construction and use, conserve resources and make them as much recyclable and sustainable as possible. *Natural resources and comfort are maximized, technical equipment is minimized.*

Analyzing the solutions to these problems the right answers usually involve *daylight, natural air, wind* and *water* as the most efficient energy carrier and through them healthy environmental and mechanical systems.

The resultant buildings are transparent and dematerialized and elevate materials and their construction to a level of art. Aesthetic is not the primary generator, instead attention to performance on all levels drives the process and the final design.

*Daylight, natural ventilation, solar energy and the idea that the skin of the building modulates its own climate* have not been integrated as essential components in commercial design. They result in buildings with high technology and low energy.

The *facades* of those buildings become the most visible expressions of these efforts. Here Architect and Engineer speak the same language.

The point is that the architects think more about the technical consequences of the forms they design and do not just rely on the engineer to make them stand up and work, and the engineers consider the aesthetic results of their concepts and decisions.

- *Bayer*
- *Post Tower*
- *Highlight – Tower*
- *Merck-Serono Headquarters*
- *Suvarnabhumi Airport*

In the latest projects, the architectural and technical components form a totally *integrated design* which maximizes natural resources, reduces technical equipment and generate a significant amount of energy the building uses. This is not about a hype about green roofs, solar collectors, grey water systems, rainwater collection, waterless urinals, underfloor displacement air distribution, on-site co-generation plants, geothermic or ground-, river-, or lake water use for cooling – everyone can or should do this if it is right and feasible, but about integrating site and buildings and their components in a way where they reconcile and reinforce sustainability and architecture.

- *MASDAR*
- *Downtown Jebel Ali*
- *Sanaya Amman*
- *RAK Gate-City Spire*

The biggest savings in energy wastage will be gained through retrofitting, rather than achieving ever-higher standards on the small percentage of buildings which represent new stock.

Perhaps most importantly, what architects can do is bring an attitude of mind to these issues. As we know, an architect's attitude of mind can help to change the world, for better or worse.

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January 2009