Woods Bagot and Buro Happold Unveil 'ZERO-E' to Lead Zero Carbon Economy Drive

Joint pilot project advances construction industry's contribution to achieving a zero carbon economy by 2050

Caption: Rendering of the ZERO-E pilot study project. (Credit: Woods Bagot / Buro Happold)

[Shanghai, 8 June 2010] Global companies – design practice Woods Bagot and multi-disciplinary engineering consultancy Buro Happold have announced 'Zero Emissions Design' (ZERO-E) – a new model for large-scale sustainable development that significantly advances the construction industry's contribution to realizing a zero carbon economy by 2050. The announcement was made at the 2010 Bloomberg BusinessWeek Global Green Business Summit in Shanghai.

Involving the expertise of multi-disciplinary teams, underpinned by cutting-edge parametric technologies and based on a comprehensive approach to sustainability, ZERO-E was created to deliver on the promise of zero carbon and zero emissions development. While current approaches to sustainable development reduce the environmental harm caused by the construction and operation of new buildings, ZERO-E goes beyond reducing the impact of new development to creating buildings that contribute to the healing of compromised human and ecological systems.

The joint initiative represents an emerging, revolutionary approach to sustainable design and challenges the industry to fulfil its leadership role in support of the UN Compact on climate change and China's commitment, made last November, to reducing carbon dioxide emissions per unit of GDP by 40-45% by the year 2020, compared with 2005 levels. As their "test case," the joint team has chosen a typical development type for China.

Ross Donaldson, Global Executive Chairman and CEO of Woods Bagot said, “The construction industry has known for some time that increasing the sustainability of buildings and cities is key to turning the tide on climate change. The ZERO-E pilot project confirms that using the expertise and tools available to us today far greater advances in building performance—those that comprise zero emissions design—are currently within the industry’s capabilities. This joint initiative is not only an entirely new model for sustainable design, it is also a call to action and an invitation to our development and construction partners to join us as we lead the way to a truly sustainable future.”

Gavin Thompson, Buro Happold’s Managing Director, expressed, “As an industry we must take urgent steps to change the planning, design and construction of the built environment if we are to help deliver a zero carbon global economy. ZERO-E demonstrates the power of combining our significant expertise, blurring the boundaries between architect and engineer and represents a watershed moment for our industry. ZERO-E is evidence of our joint commitment to this once-in-a-lifetime opportunity to address climate change.”

The ZERO-E pilot project examines the development potential of an industrial site on the Yangtze River in Chongqing, China. The study scheme proposes a 450,000-square-meter mixed-use development, featuring an 82-storey office and hotel tower, which will continually monitor and react to internal and external climatic conditions for maximum performance. A ‘holistic resource system’ integrates photovoltaics, solar thermal panels, absorption chillers, a biogas fuel cell and an anaerobic waste digester into a closed-loop system that greatly improves the building's operational performance while minimizing resource consumption and waste production. Beyond the technological advancements, ZERO-E’s systems approach encompasses the human dimension of sustainable development, seeking to create socially and economically thriving communities that:

- Produce zero emissions
- Create more energy than they require on an annual basis
- Process their own waste and release only beneficial output
- Release cleaner air than they takes in
- Heal compromised sites and ecosystem
- Restore natural habitat
- Reconnect humans and nature
- Increase occupant health
- Build financial value with ecological value
- Exhibit material integrity
- Delight and beautify their surroundings
- Supply 100% of their water needs using collection and closed loops

Woods Bagot and Buro Happold undertook extensive research, including the development of new parametric modelling, tools to design and test ZERO-E concepts. In the pilot project’s next phase, the partnership will collaborate with development partners in the application of ZERO-E solutions.

Since establishing its presence in Shanghai, China, last year, Woods Bagot has continuously brought its knowledge and expertise to the market in order to further raise the overall Chinese architectural benchmark, both in terms of design innovation and environmental sustainability. The launch of the ZERO-E pilot project further demonstrates how the company is working to benefit the long-term well-being of people in China.

Woods Bagot and Buro Happold have drawn upon the expertise and experience of their array of multi-disciplinary design experts in developing the ZERO-E project.

Woods Bagot's notable sustainable design projects include Australia's benchmark Green Star Five Star-rated commercial building, City Central; Melbourne Convention and Exhibition Centre, the world's most sustainable exhibition centre, and Eversheds' BREEAM Excellent-rated headquarters in London.

Buro Happold has similarly delivered some of the world's most sustainable projects such as the Genzyme headquarters building in Boston which, at the time, was the world's largest LEED Platinum-rated building.

Both practices are dedicated to assuming the responsibility for sustainable development with the vision of building a better future by developing better buildings, which perfectly complements the Shanghai World Expo 2010 theme – "Better City, Better Life".

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About Woods Bagot

Woods Bagot is a leading global architectural practice, with a team of architects, interior designers, urban planners and consultants across North America, Australia, Asia, Europe and the Middle East. The firm provides its clients with innovative design solutions that are both functional and inspiring. This is demonstrated by the successful delivery of a range of high profile projects within the commercial workplace, hospitality, mixed-use, education and science sectors. The firm's diverse portfolio of high-profile projects includes: 10 Trinity Square and Eversheds in London, Qatar's Science and Technology Park (QSTP), Melbourne's Convention and Exhibition Centre (Joint Venture Architect NHArchitecture), Adelaide's City Central and the Nakheel Tower in Dubai. With a 140-year legacy of design excellence, Woods Bagot was recognized with nearly 30 global awards in 2009, including AJ 100's International Practice of the year and the Asian Most Admired Knowledge Enterprise (MAKE) award.

With offices in Hong Kong, Beijing and Shanghai, Woods Bagot Asia is composed of architects, urban planners and interior designers, who have emerged as a regional leader in the design of hotels and resorts, retail development, high-density mixed-use commercial and residential complexes, education projects, and corporate and hospitality interiors.

About Buro Happold

Established in 1976, Buro Happold is a renowned international multi-disciplinary practice of consulting engineers, with 27 offices located across the globe.

Our aim is to produce high quality engineering design in concept, in detail and in execution, on time, to programme and delivering excellent value for money. Our distinctive culture and ethos is still based on the same principles of care, value and elegance that were established when the practice was founded.

We offer structural, building services, civil, infrastructure and façade engineering, as well as a broad range of specialist consultancy services including sustainability, ground and environmental engineering, fire and security design, health and safety management, inclusive and urban design, project management, and specialist CAD and computer simulation provision.

The consultancy works on a wide range of high profile, innovative projects, with particular specialism in the education, healthcare, sports and leisure, cultural, civic and aviation sectors. Projects currently include the Grand Museum of Egypt, the Louvre (Abu Dhabi), the Aviva Stadium in Dublin, the London 2012 Olympic Stadium, King Abdullah Financial District, Heathrow airport's Terminal 4 and the Royal Shakespeare theatre in Stratford.

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