

Brunei to be part of climate-based 'Atlas'

Koo Jin Shen
BRUNEI-MUARA

A GERMAN-BASED research and technology institute is considering Universiti Brunei Darussalam (UBD) as a potential partner for establishing a climate-based 'Atlas' for energy efficient buildings, according to one of its leading researchers in sustainable building design.

Professor Klaus Sedlbauer, spokesperson for the Fraunhofer Alliance Construction and an expert in energy efficient buildings has expressed interest in inviting local PhD candidates from Brunei to be part of a fellowship to do studies on local architecture.

Their work could be included in a world-wide 'Atlas' for climate-adapted design for buildings, a global reference guide for architects to be able to produce energy efficient and environmental friendly buildings based on climate.

While the project was still in its founding stages, Professor Sedlbauer during a public lecture at UBD on "Innovations through sustainability, Building Research by Fraunhofer", said that local German partners have been established and the funding for 12 years of research has already been secured.

They are now looking into establishing partners worldwide for a 'PhD-College'.

"I have been in discussions with Yemen, Mongolia, Dubai and two countries in Africa," said Professor Sedlbauer.

He believed that UBD is also interested in a partnership, after having several talks with its senior officials.

He went on to say that while any country in the Asean region are potential partners, he believed that UBD, with a smaller administration when compared with much larger ones such as Singapore, would be able to conduct their collaborations faster.

He said that the PhD Thesis would involve examining how buildings have been constructed in the old, traditional way, from design to the materials used.

"All over the world, the old traditional method of building has always focused 'low cost' and 'high comfort'. Their traditional designs is something we learn a lot from," said the professor.

After establishing 'traditional' methods, the PhD candidate would



Professor Klaus Sedlbauer, spokesperson for the Fraunhofer Alliance Construction and an expert in energy efficient buildings during the lecture at UBD. Picture: BT/Jin Shen

would require a lot of research, and that the knowledge-sharing and collaboration with an overseas institution would be valuable. "At the

same time, we also have to consider the local environment," he said.

The Brunei Times

Conserve energy first, find alternative later: Expert

BRUNEI-MUARA

ENERGY conservation should come before trying to establish alternative energy sources, said a German expert in energy-efficient buildings.

"The energy consumption worldwide is rising faster and faster," said Professor Klaus Sedlbauer, a leading researcher for the Fraunhofer Institute for Building Physics, which studies energy-efficient building design.

Professor Klaus was in a round table discussion yesterday with several local stakeholders, including energy researchers from UBD and architects regarding innovations in sustainable building development. He had earlier delivered a public lecture in Universiti Brunei Darussalam on the subject.

"We do need to think about renewable energy," he told The Brunei Times in an interview after the lecture. "But to use it, we would need the technology.

"This means you would require less energy to cool the building to a comfortable level using air conditioning," he said.

Another method that could be easily implemented in Brunei was using 'shade' or awnings for windows, which helps reduce the amount of heat entering a building through windows via sunlight.

The professor believed that in Brunei, installing internal insulation for roofs and walls for a building should only add approximately one to two per cent of its total building cost, if cheap, good quality insulation material was used.

Professor Klaus also said that while new buildings should be constructed with those concepts in mind, old buildings should also be renovated to be more energy efficient.

He said that it had become a policy in Europe to have old buildings retrofitted for energy conservation.



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The Brunei Times

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228
ex. B5B, Negara Brunei Darussalam
ei.com

Restaurant

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"All over the world, the old traditional method of building has always focused 'low cost' and 'high comfort'. Their traditional designs is something we learn a lot from," said the professor.

After establishing 'traditional' methods, the PhD candidate would also present modern architectural designs based on the 'traditional' concepts. "He or she will have to present buildings in two different budget groups, low cost and high end," he added.

Dato Paduka Ar Hj Idris Hj Abas, president of the Association of Surveyors, Engineers and Architects, said that collaboration with the institution would definitely be a good idea as producing energy efficient buildings is something Brunei is actively trying to do, and mentioned their ongoing attempt to form a 'green committee' as an example.

Dato Hj Idris said that the area



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"We do need to think about renewable energy," he told *The Brunei Times* in an interview after the lecture. "But to use it, we would need the technology. Developing the technology to do so is about 20 to 40 years away."

"What about the gap between? We need to start to reduce energy consumption first," he said. The professor outlined a few simple methods that could be implemented in Brunei to reduce energy consumption for buildings up to about 90 per cent.

"Insulation is one method," the professor said. "By using multiple layered windows and internal wall insulation, we can prevent heat from entering the building."

"This means you would require less energy to cool the building to a comfortable level using air conditioning," he said.

Another method that could be easily implemented in Brunei was using 'shade' or awnings for windows, which helps reduce the amount of heat entering a building through windows via sunlight.

The professor believed that in Brunei, installing internal insulation for roofs and walls for a building should only add approximately one to two per cent of its total building cost, if cheap, good quality insulation material was used.

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He said that it had become a policy in Europe to have old buildings retrofitted for energy conservation.

"By 2050, we aim to have reduced energy consumption by 80 per cent (in Germany)," he said. He said that buildings in Brunei would be easier to retrofit as "you do not have to use thick external insulation because you don't worry about winters".

"You could do it room by room," he said. "For example, if you just insulate a meeting or conference room from its concrete walls, you can reduce the use of air conditioning of that room because it becomes easier to cool down."

- Koo Jin Shen

The Brunei Times