

You are here: [Home](#) » [Latest Features](#) » Sustainable Development: An Ex...

## Latest Features

### Sustainable Development: An Experimental Phase

13 April 2008

Antony Wood, Executive Director, Council on Tall Buildings and Urban Habitat discusses whether the international community is doing enough to combat the challenges of climate change.

As the world comes to terms with the realities of climate change, sustainable development is coming increasingly to the fore on the global agenda. Buildings are the largest single contributor to climate change accounting for 40 percent of all energy usage and in excess of 50 percent of all climate change emissions globally. It is clear that CO<sub>2</sub> emissions need to be drastically reduced, energy usage needs to be more efficient and alternative forms of energy need to be utilised.

Opinion is divided over the ability of tall buildings to provide an environmentally and socially sustainable way of life for existing and future cities. Some argue high density living reduces transport costs, prevents urban sprawl and provides economies of scale whereas others argue that the energies utilised in the construction and maintenance of high rise monoliths make them inherently environmentally unfriendly.

At a recent summit held in Dubai – home to some of the most ambitious construction projects in the world - the Council on Tall Buildings and Urban Habitat strongly argued the case for the sustainability of high rises and the incorporation of green aspects into their design. It was mooted that suburbia is an unacceptable and unsustainable way of life, consuming wasteful quantities of energy.

Although there has been a paradigm shift in attitudes towards high rise construction and its impact on the environment, there is still no clear idea of what needs to be done in order to make a significant impact. Design and construction of tall buildings has traditionally taken a very formulaic approach, but now is a time of experimentation in order to harness the natural opportunities and cost benefits high rises present.

This is certainly a global boom unlike anything the international community has witnessed previously. CTBUH Executive Director Antony Wood says: "We are quite clearly in an unprecedented phase of building tall on an international scale. In the late nineteenth / early twentieth century there was a boom in North America up to the war and there have been various booms in pockets of the world since then, but in the last ten years we have seen an unprecedented tall building boom all around the world."

Why do you think this changes is taking place?

"The world is changing and the change has got to happen because of the pressures of climate change ,oil running out, and the need for more sustainable patterns of life. There is a consensus on this amongst the scientific community and amongst tall building professionals."

This leads to several challenges; on the one hand there is the need in certain parts of the world to accommodate rapidly urbanizing populations and at the same time look towards and develop more sustainable building.

Antony Wood says: "We're in a difficult period because we're in an experimental stage. Two things are happening – building professionals are re-educating themselves because the principles of sustainable building were not mainstream education. And we as a building community don't know at the moment what strategies really work and what don't For example we don't know whether putting wind turbines on tall buildings is the most efficient use of wind power, or whether centralizing wind turbines in off-shore farms is the best way forward. We don't yet know which are the best routes to follow, but what we do know is that we've got to go through this and that's why this will be judged by history as an experimental stage."

Due to the fact it is unclear which are the right strategies to follow, this means a cohesive approach and a definitive set of guidelines which can be followed and adapted internationally does not exist. Although

there have been several initiatives such as LEED (The US Green Building Council's Leadership in Energy and Environmental Design) and BREEAM (the UK's BRE Environmental Assessment Methods) to introduce a set of benchmarks and standards, these are by no means the final arbiter in green building design..

Wood continues: "What concerns me at the moment is that there is a lack of community developed around the issues and the sharing of information. Things like LEED and to a certain extent BREEAM are set up with the best of intentions. On one level they are great because prior to that there were no standards.

"But I think the benchmarking energy/carbon usage standards have been set far too low and in actual fact it doesn't take a great deal of sustainable design to achieve these ratings. So although they have been a great tool to some extent, they have also done a great disservice. Developers and others are using these metrics and saying they are sustainable because they have got LEED silver for example. But in some cases this is ridiculous because to face the challenge of climate change we need to go way beyond LEED and BREEAM.."

In addition to the sustainability of building design, there are other aspects which need to be taken into account. It is these areas in which it is vital there is collaboration between the public sector and governments.

"There are so many aspects to sustainability and one of the points that has come up is the need for real social sustainability which works on so many different levels. A lot of the projects we have seen presented here at the congress are aimed at the top echelons of society. Tall buildings historically have been seen, certainly in residential terms, for one of two social types: The top echelons of society or the absolute bottom ends of society. It is either rich, plush apartment towers, or poor social housing. I am very passionate that that should not be the case. It is going to require governments to start investing in tall buildings and the infrastructure of tall buildings.

"City governments have invested in roads, bridges and parks and they need to start doing that in the vertical realm as well. What is required is for a sense of community to develop and the problem is the lack of communal space inside tall buildings. This is often at odds with the developer's vision of the tall building because the developer wants to maximize commercial floor space. So someone else needs to start investing in those spaces. But it is not just about making floor space more dense. If you take the city vertically and put more people up in a tower then you need to start overlaying on that the other aspects of communal spaces."

Although the concept of high rise, dense city living sounds appealing in theory, the fact remains that not everyone wants to live or indeed works in that environment.

Wood says: "There is the point that people want their own space and to own their own plot of land. In the US and also in the UK it is a problem because the closer you are to a city centre there is less available space and the more it costs, those two things are linked. Especially in the States, the American Dream is based on your own plot of land with the big house in the middle of it. And the truth of it is I don't know what it is going to take to get massive wide scale attitudes to change.

"It is starting to change on a small scale. Governments are putting in incentives to bring people back into the city and certain cities have a history of this. If you look at Paris and a lot of European cities, they have a rich history and tradition of inner-city, dense living environments. The inner city population of Paris has dense, residential blocks so there is history to draw upon.

"But it will get to that point when climate concern becomes crisis and so the decisions will be taken out of people's hands. And this is what people are only beginning to realize; that this is no longer a 'should we, shouldn't we' kind of issue. It is not going to be just down to government financial incentives, it is going to be down to not having sufficient energy, water, food and all the other things to support the suburban ideal."

Different countries around the world are following different development plans, sometimes in areas which may be adversely affected by rising sea levels brought on by climate change. According to Wood there are three development models and high risk city growth is not restricted to countries such as India and China.

“One model is in places like China and India where they have rapid urbanization so we are seeing people moving from rural to urban areas with a desperate need to house them and provide schools, office and work space. In another model, for example Dubai, there isn’t an urbanistic need for what is developing, there is not a need to house a rapidly urbanizing population. Here it is based on a different vision which is to build up the city into an entity which will benefit the business model. It is a business model which has made a case for business and for tourism which has proven to be very successful. There is also a third model which is not necessarily very well understood.

“If you take a country like the UK, the population is relatively static. There is immigration to a certain extent from Eastern Europe but essentially it is a static population. It is not moving from rural to urban, there isn’t that dire need that there is in places like India and China. But social demographics are changing— and by that I mean people are living longer and in the South East of England alone it has been calculated that we need to be building 189,000 new homes every year for the next six or seven years to give everybody an affordable place to live. That is an amazing statistic with a so-called static population and if they don’t do that, house prices will get pushed up beyond what anyone can afford because demand outstrips supply. So where do these new houses go? There is one of two options – do they go in the ever increasing suburbs or do they go into the densification of the existing city? So London has got a plan that it is going to develop a vast area of London which is undeveloped now on the outskirts of the Thames gateway. Everybody seems to agree that on one level it is an excellent idea but on another level the area is on a massive flood plain. So the point I am making is that wherever you are in the world and you look at a map to see which places are affected, it isn’t just China or India. It is all over the world, even established cities like London and New York. Should these places be investing in flood defences? Are they? Some are. But this is the enormity of the challenge everyone is facing. We have got to invest in flood defences, we have got to invest in new energy production. We have got to come up with radical new solutions to face the challenges of climate change.

What is absolutely clear is that new and existing cities need to find alternative ways to produce and utilize energy more efficiently, dispose of waste as well as overcome problems such as water scarcity.

“The scale of the task is enormous and that is why I think we will end up approaching more crisis before the radical action that is needed takes place. And we have already seen this, particularly in America, attitudes have changed radically in the last 18 months after the calamities of New Orleans etc.

“Bill Clinton asked the question: Why do people feel threatened about the economics of climate change? What they do not realize that this is the greatest economic opportunity the world has had since the Second World War. The Second World War was a calamity but after the war there was rebuilding. This is the scale of what we have got to do across the world and we all have to pull together.

Wood concludes: “It sounds radical but this is becoming mainstream - governments are realizing it and that is why we are seeing major changes in attitude. But are things being done quickly enough? Probably not. It is like a scientific equation. There is only one of two scenarios that can happen. Humanity will survive or it will be wiped out. Nobody actually knows definitively what needs to be done but that is the scale of what we are looking at. We will either respond to the challenge, evolve into something else or we won’t and we will be wiped out. Period.

**Source:** CMIS