# Part 2

The Climate Challenge

Part two of the presentation is about Climate Change. Not so much about the science but about the way in which it is handled in the professional and political sphere. Climate change is a world changing issue. If we fail to respond the planet will survive but we may not. This makes it a very emotive subject and that in turn polarises debate which can be unhelpful as described in this section.

Carbon Dioxide Level from the Law Dome Ice Cores

450ppm?
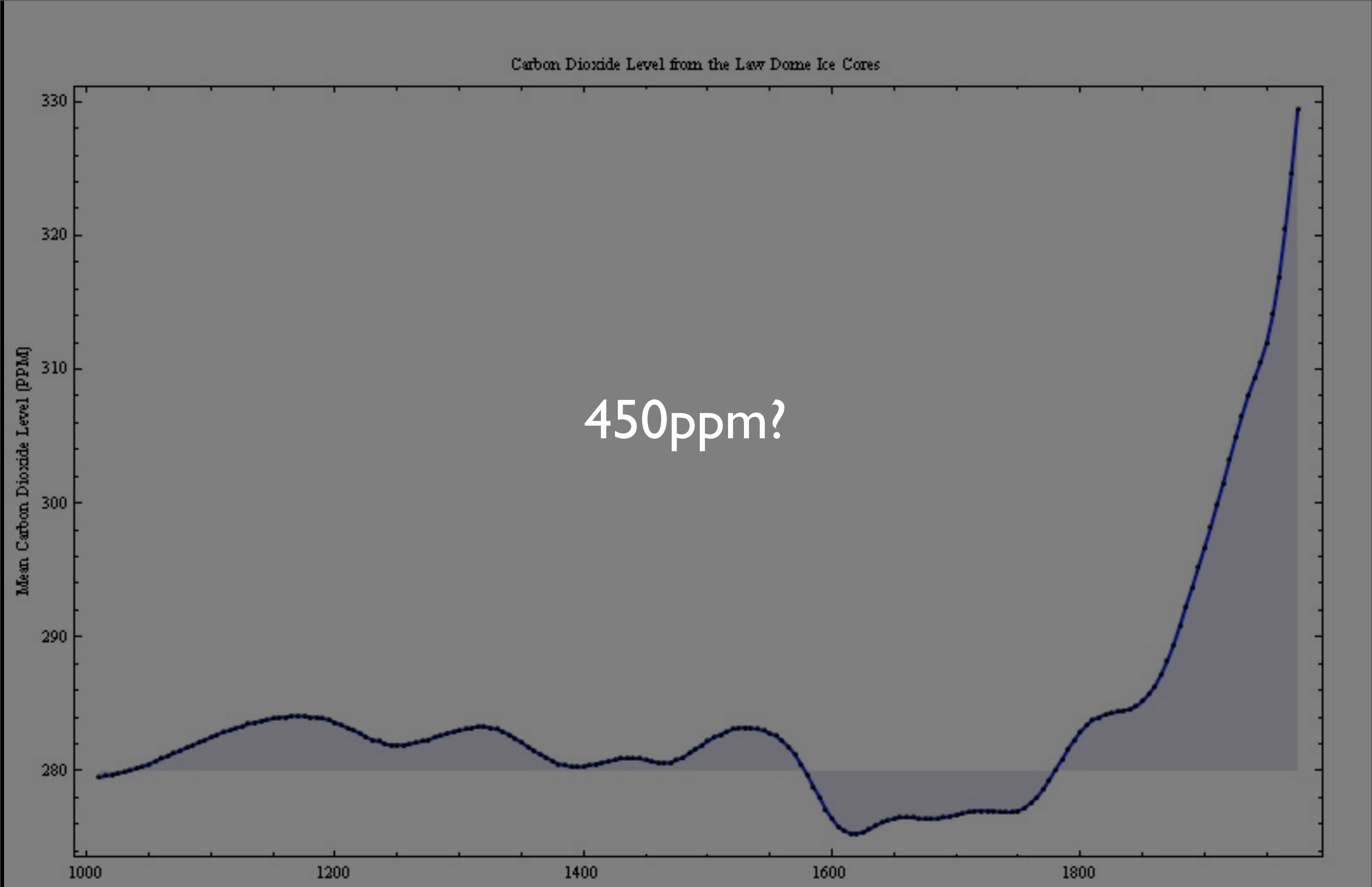
Post Carbon Cities

The first point to make is that this graph is really scary! There is no sign what so ever of us pulling out of this tailspin (the graph is going up but you know what I mean). We are heading rapidly towards the 450 parts per million level of carbon in the atmosphere that the scientific community largely agrees to be the tipping point at which things really start running out of control.

If things run away and cause the land bound polar ice caps to melt then the sea level rise is catastrophic – more than 80m.

So how to respond?

Cutting back?

The first response is to cut back our carbon emissions. This is what we have been trying to do with limited success. The UK has done better than most countries managing to cut CO_2 emissions by almost 20% on 1996 levels. However the reductions needed are more like the 60% in the Climate Change Bill or, many would argue as high as 80%. Depending on your level of optimism you may believe that the UK will achieve this. But on a global level we account for a small proportion of overall emissions and I can see no way that the US, for example will ever achieve this.

Population

One of the big problems is population growth. We may succeed in reducing per-capital CO_2 emissions but the number of people keeps growing and groups like Forum for the Future have therefore focussed on population as a crucial issue.

I had assumed until recently that population would just keep on growing. However it is in fact the case that half of the countries of the wold have birth rates too low to replenish their population including the US, China and Brazil. On current trends world population will plateau and then start to fall, the question is at what level it does this. Population is a huge problem them but not one that necessarily undermines all of our other efforts.

Peak Oil

I have on a few occasions watched the film – the End of Suburbia about how Peak oil will change forever the way we live. While some may see this as a prediction of doom, I have always felt that it is a blessing. Someone should take the oil off us before we do any more damage and, indeed, that is what appears to be happening. Scarcity of oil as we saw from the 1970s oil crisis will impact the world economy. However the concept of peak oil suggests that as peak production passes there will be less oil year on year, the price will rise and there will be intense competition for declining reserves. This is exactly the conditions required to drive innovation into alternatives.

The main cloud on the horizon is shale gas which while less carbon intensive than oil does risk introducing a new source of carbon based energy and undermining the impetus to innovation.

Technology

Which brings us to technology, whether it be renewable energy or carbon capture and sequestration. There is a huge amount of theoretical work about how we might prevent global warming via technology. Human nature is that we need to be close to the brink before we really get serious about preventing ourselves going over the edge. Provided the global warming tipping point is not passed before we realise (which is of course the problem) then the more the effects of global warming are felt the greater the drive to innovation and investment in technology.

Part 3

Post Carbon Cities

So Part three looks at how cities should respond to this post carbon world. The risk is that the seriousness of the problem causes us to prioritise carbon reduction over all other issues. This we have done before, with public health, road safety, child safety, crime etc... All issues that are difficult to argue against but have been responsible for creating dysfunctional urban areas. So lets try and get a few things in perspective.

Contraction and Convergence

Mayer Hillman

Mayer Hillman has argued that we all need to live within our own personal carbon budget. He has estimated that we need to reduce global CO_2 emissions year on year by 10% for twenty years. If you then divided these emissions between the number of people on the planet you get a personal carbon budget. Mayer has calculated his own budget and committed himself to living within it. Flying os obviously out of the question but so is driving and even taking the train regularly. The dilemma is that that you can't really have a city with these restrictions. Yet we also know that the per–capita carbon emissions in cities are far lower than those in the countryside. Unless we are going to return to living off the land – not just the committed few, all of us – then this doesn't really work.

Tecnological tricks

Martin Centre
Project ZED

The next response is the technological one as exemplified by this project developed by the Martin Centre at Cambridge or indeed Masdar in Abu Dhabi. The problem I have with the image above comes with the realisation of where it is – on the Tottenham Court Road in London. The scheme has destroyed one of the liveliest streets in central London in pursuit of the perfect form to reduce emissions. Am I wrong to worry about this? Technology certainly has a role to play – however like all of the issues the trick is not to optimise the solution to the exclusion of all other considerations but to bring together different approaches and look for compromise.

Clockwise from above: Defeating the urban heat island - View from roof garden - View of whole site - raised pedestrian access - Main entrance - Ventilation from South - Ventilation from North - Masterplan.

Urban Form

BEDZED

Which brings us to Bed ZED and its optimised form to capture the maximum amount of the sun. It is a powerful diagram, but one that has been slavishly followed as in the high rise scheme in China above. The problem in urban terms is that all the buildings face the same way, with definition of public and private realm and indeed no ground area which gets any sun at all. Its clever in as far as it goes but if cities were redesigned to follow this principle the consequences would be almost entirely negative. Expressing this does not make one a climate change sceptic.
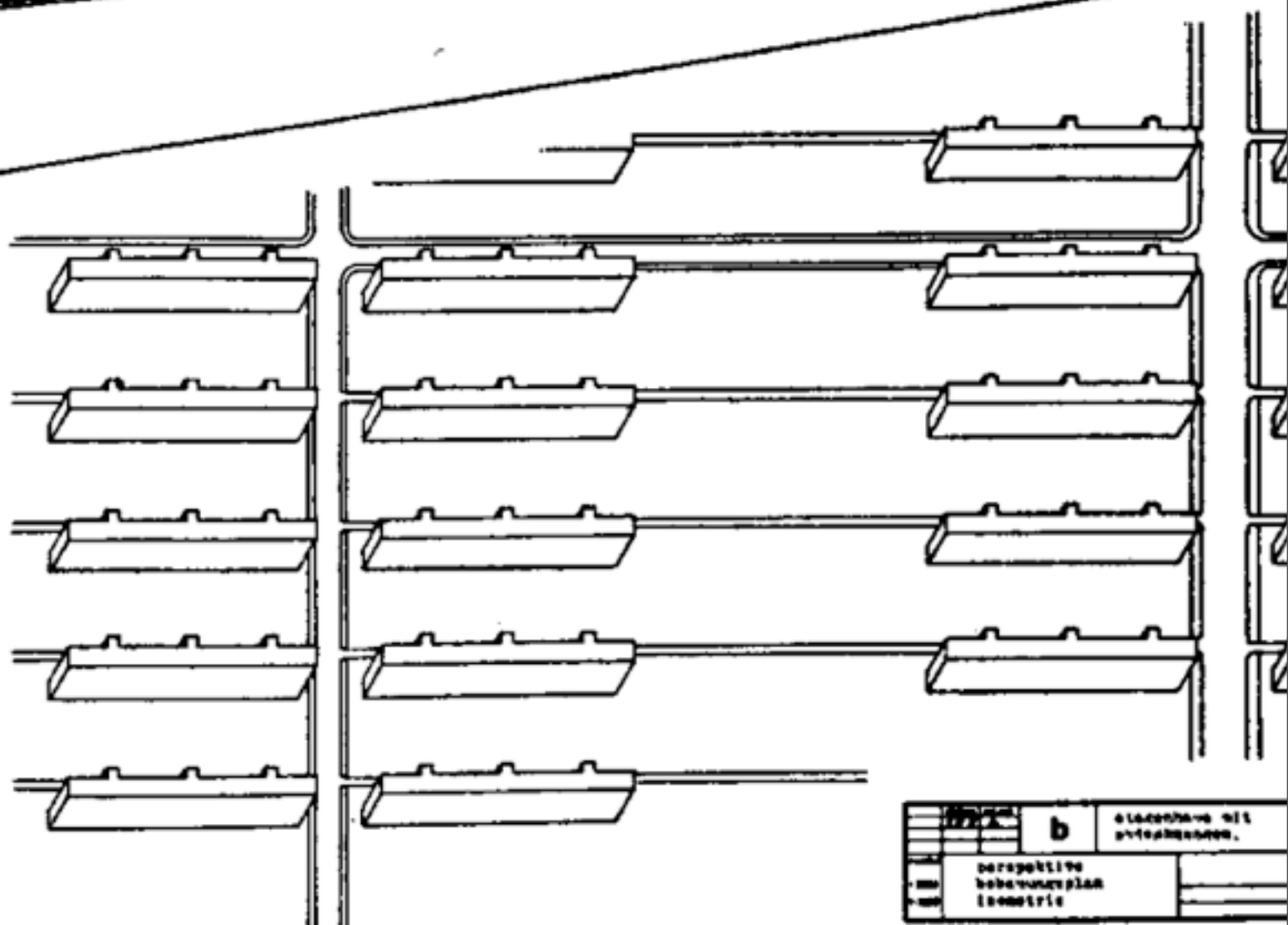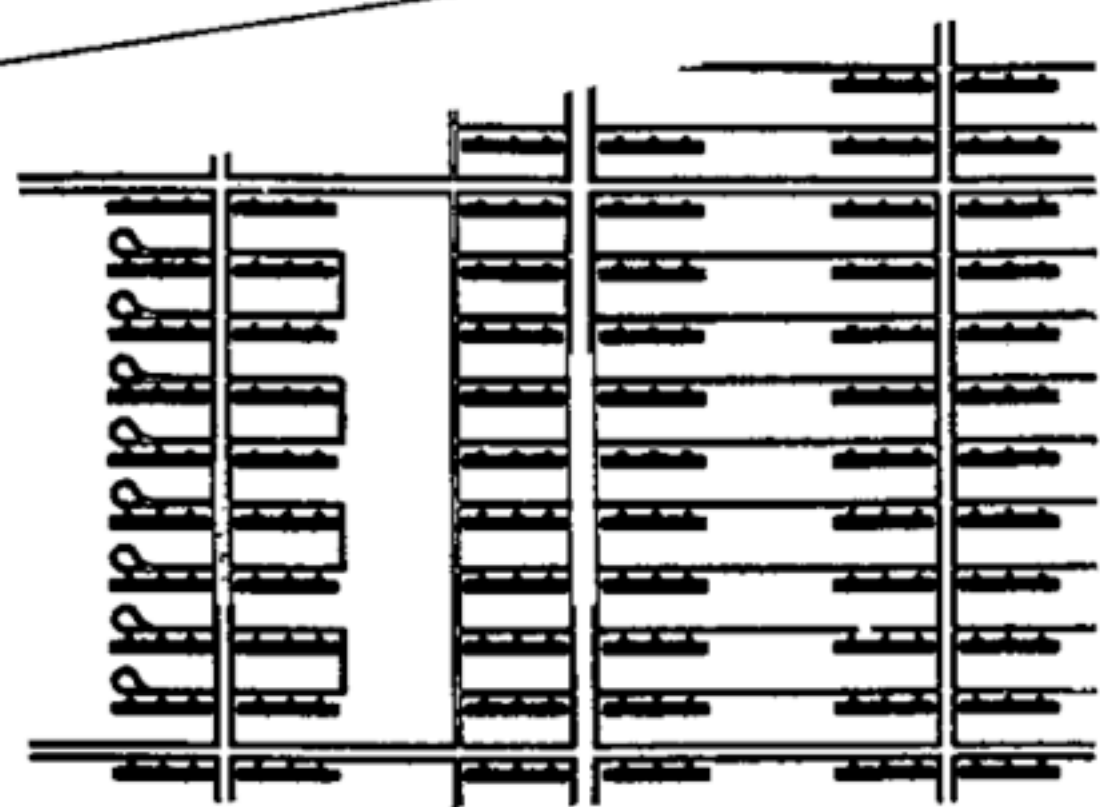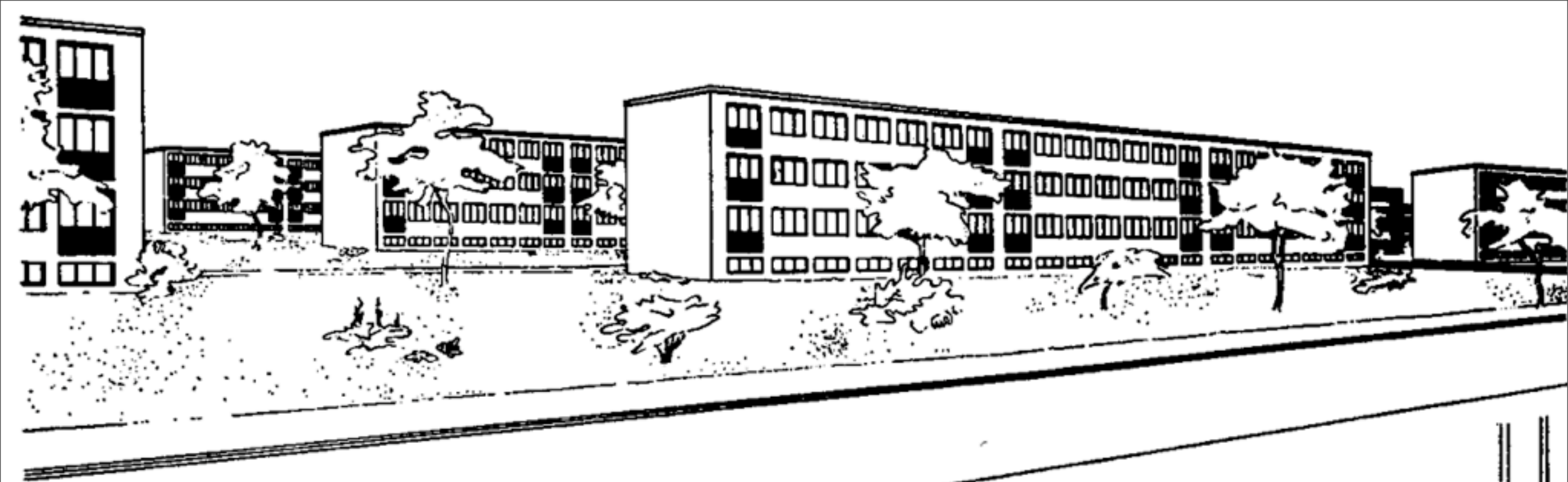
Cameron: Garden cities could hold key to future housing development

Published by Jon Land for 24dash.com in Housing and also in Central Government, Communities, Local Government
Monday 19th March 2012 - 3:19pm

💬 Post a comment | f Recommend | | 🐦 Tweet ⟨ 9 | | 🅖 +1 ⟨ 0 | | ⊕ Share ⟨ 2

Prime Minister David Cameron today acknowledged the need to build more housing and pledged to apply the principles of garden cities to areas with "high potential for growth".

In a speech on infrasatructure at the Institute of Civil Engineers on infrastructure, Mr Cameron also promised to make the planning system "fit for purpose".

"We need homes for people who need them, in the places they want them, while protecting our fine landscapes and preserving the greenbelt," he explained.

There are others like the Town and Country Planning Association who would use sustainability to justify their ideas for garden cities just as we have used it to back my vision for sustainable urban neighbourhoods. Putting to one side for a moment the fact that we are right, this type of advocacy risks falling into three traps:

Moral high ground

The first is the assumption that because your cause is moral, your proposed solution is also right and moral so that those who disagree with you are wrong and therefore – immoral. I remember a certain police architectural liaison officer in Manchester accusing a council officer of wanting to kill children. The officer had suggested that crossroads should not be prohibited and the accusation was not that the officer wanted to kill children but that he was prepared to risk the possibility in pursuit of his urbanist principles – still a pretty serious charge. The disagreement, of course, was about the impact of crossroads on road accidents, but as soon as you raise the stakes and start talking about killing children (or the planet) rational debate becomes impossible.

All good things...

The second trap is one that I fall into a lot. This says that if two things are good then they both must be compatible with each other. I've been struggling for an analogy and the best I can get if that I believe in eating a healthy diet, and I like real ale. So I naturally assume that real ale is good for me, which it possibly isn't! People do this all the time in the field of sustainability – believing in a sustainable future and also in social justice so then arguing that you can't have a sustainable future without social justice. Yet if people are lifted out of poverty their carbon emissions raise, rather than fall. We should in fact be saying that we believe in social justice despite its sustainability impacts.

For my part I need to be careful that my argument for cities being the most sustainable form of human settlement is not just because I believe in cities and in sustainability so I assume that both go together. They do of course, but its important to keep checking.

Single issue urbanism

The final trap is the one that we have been falling into for years. Cities have not been rules by urbanists, they have been ruled by highway engineers, environmental health officers, housing professionals, sociologists, retail consultants, crime consultants etc... Each one has been busy optimising the city from the perspective of their discipline. The problem is that cities are complicated, and if you get one st=ystem working perfectly you invariably find that other systems run less well. Traffic flows beautifully but pedestrians can't cross, subways deal with this but crime goes up etc...

The danger is that sustainability is the new issue that must be optimised (because not to do so means that you want to kill the planet). And just like all of the other issues – if you design a city to optimise for sustainability other systems will start to fail.