

# Peter Calthorpe: Embrace of New Urbanism would ease transition to renewables-based society

Monday, 11 July 2011 [Dan McCue](#)

Peter Calthorpe, author of "[Urbanism in the Age of Climate Change](#)," principal of [Calthorpe Associates](#) in Berkeley, California in the US, has long taken the position that redefining the models of growth in America is essential to addressing climate change.



And as the interview below makes clear, he's just as firm in his belief that this process of redefinition is a critical step in the successful adoption and deployment of renewable energy, not just in the U.S., but in any country that takes its future viability seriously.

Reading "Urbanism in the Age of Climate Change," it's little surprise that Calthorpe is a disciple of Buckminster Fuller, the iconoclastic engineer and inventor who advocated and popularized the concept of whole systems design, and of Sin Vand der Ryn, a prime mover in the realm of ecological design and sustainable development.

On page after page of the slim, information packed and richly designed volume he holds that a new form of urbanism – defined by compact and walkable development –will arise naturally if people will only acknowledge and begin to rectify built-in biases in infrastructure investments, financial structures, zoning and public policy.

Further, he says that such urbanism, mixed with conservation technologies, can have a major impact in reducing carbon emissions and the demand from energy from traditional, petroleum-based sources, easing the transition to a wide range of renewables.

As he writes early on, “The urban solution involves both technology and design. For example, we will need to dramatically reduce the number of miles we drive as well as develop less carbon intensive vehicles. It will mean living and working in buildings that demand significantly less energy as well as powering them with renewable sources.

“It will involve the kinds of food we eat, the kinds of homes we build, the ways we travel, and the kinds of communities we inhabit,” he continues. “It will certainly involve giving up the idea of any single “silver bullet” solution (whether solar or nuclear, conservation or carbon capture, adaptation or mitigation) and understanding that such a transition will involve all of the above – and, perhaps most important, that they are all interdependent.”

In many respects “Urbanism in the Age of Climate Change,” is a fitting follow up to his earlier work, “[The Next American Metropolis: Ecology, Community, and the American Dream](#),” a book in which expounded on his concept of transit-oriented development.

Even before the ink was dry on that work, Calthorpe joined in founding the [Congress for New Urbanism \(CNU\)](#) and served as its first board president.

Named one of twenty-five “innovators on the cutting edge” by Newsweek magazine, Calthorpe was just hours away from leaving China as this interview took place, his urban design, planning, and architecture firm having been selected to create a vision for new communities that will un-do some of the mistakes – including, he says, widespread adoption of the automobile -- that the Asian powerhouse has made during its rapid economic rise.

**During our recent interview, the futurist Peter Schwartz was pretty effusive in his regard to your latest book. How has it been doing?**

[chuckles] Well, unfortunately, it’s been one of those slow starters. It is a book with a lot of data in it, which seem to be unpopular these days. The idea of facts no longer seems to have traction in America today; maybe elsewhere there’s still some value to them.

I seem to have hit the whole thing at the wrong moment; nobody is interested in facts and nobody is interested in climate change.

My previous books have all been written for the design community, for urban designers primarily, and they always looked at the question of how to achieve a better outcome in terms of how communities perform. One was “The Regional City,” in which I expressed my profound belief that we need to think and plan and design on a regional scale if we really want to address the issues that are in front of us, and the other one, which I wrote in 1993, focused on the idea of “transit-oriented development”, which is a very popular concept today.

So those had a lot of impact on the planning and design world, and this book was more about “why should we” not “how should we” do these designs, and my target audience, in all honesty, was the environmental community.

The Enviros seem to think that the answer is some technology that you can apply to the problem of climate change. Al Gore’s new book, “Our Choice,” is just a laundry list of technologies. The Enviro mindset is all supply side. It’s all about utilities and industry and cap and trade, and it is nothing about how we live. And in the end, how we live is what drives our carbon footprint.

**And from that perspective, it seems, we don’t live very well... or perhaps a better word is “effectively”...**

Well, what the book tries to show is that it is not just about carbon and energy, it's about what's affordable, what's a healthy lifestyle, what's a socially-robust lifestyle. I mean, there are so many dimensions to the index of how we shape communities, but all of the vectors head in the same direction, interesting enough.

And you don't need to lean on one issue, for instance carbon, in order to justify a complete revision in how we build communities.

**You mentioned the mindset of the “Enviros” about this, why do you think differently than they do?**

Well, there's been a group of us who have thought differently from them for quite some time now. We've known that the post- World War II suburban sprawl [in America] was a big experiment that has largely failed at this point, and certainly the economic collapse and implosion of 2008 was a manifestation of that. We built too much of the wrong stuff in the wrong place, and we were unable to sell it so we have to gimmick it up with a lot of financing tricks, and in the end, people can't afford it – and they don't really want it or need it.

That large lot on a cul-de-sac with a three-car garage, that is kind of an Ozzie and Harriett [the 1950s American TV show that spawned the career of the late singer Ricky Nelson] version of America that went away a long, long time ago.

Today, only three percent of households in America are married couples with kids. Over 75 percent are single people or older couples without kids or younger people that don't have kids yet – they don't fit the model. Yet we have this one size fits all attitude about how we shape the community.

Plus those are communities that are 100 percent dependent on the car. If you don't drive, you don't get anywhere, and that's not only a burden on the young and old who don't want to drive or can't, but it is also a huge and growing economic crisis for many households. People used to travel great distances to get cheaper homes, and they never stopped to think how much that extra distance was costing them.

But every car in America costs the average household between \$5,000 and \$6,000 a year, and when you stack up three of them, you are spending a lot of household income. And then you begin to think about the environmental impacts of driving that much – not just in terms of carbon and energy and imported oil – but in terms of the amount of asphalt we have to put down, the amount of parking structures we have to build, the amount of runoff that we get from all of that hard surface. And the cost of building and maintaining all that is very, very expensive.

So what we've been able to show is that if you live in more walkable, more compact communities, there would be dramatically less land consumed, less infrastructure cost per household, less maintenance cost over time, and services like police and fire are much more efficient in compact communities compared to those that are spread out, and, of course, you have the whole health issue.

People no longer walk, and that's somewhere at the root of our obesity crisis. There are other issues, of course, fast food and all that. It's not the only cause, but it is part of the overall gestalt of the problems that we have.

And then, of course, you have air quality impacts. Even with our higher standards and cleaner burning cars, most regions in the United States are non-attainment. We have huge respiratory and asthma problems. So there are health implications, infrastructure cost implications and there are profound social implications because fewer and fewer households can afford that old and I think, outdated version of the American dream.

**But people are resistant to change. A lot of people talk about urban in-fill and making communities more walkable or bike friendly, but a lot of what's said remains just that – talk – doesn't it?**

I would say that many communities do act on what we're talking about. But it is about making a conscious choice. So for example in 1989, in Portland, Oregon, they had an urban growth boundary and it basically grew out of the environmental goal of preserving woodlands and farmlands from land speculation and high taxes. It didn't have anything to do with walkable communities and transit, but at that point, a group called A Thousands Friends of Oregon asked us to do a regional plan that mapped out a different future which was based more on mass transit and walkable, more compact communities.

That plan was adopted and lo and behold, not only has the average automobile use dropped dramatically there – I think its down 15 percent in Portland, whereas it's up 11 percent across the United States during the same period -- but it is an incredibly desirable place to live. People choose to live there largely because it's a lifestyle that really fits who they are and what they want to do.

So it's a matter of providing real choices, and the barrier to that tends to be outdated zoning codes and ill-conceived infrastructure bias. For instance, here in the US we have a federal highways program and transportation investment that has been throwing money at freeways for decades. Shifting that away from freeways to more transit and more walkable neighborhoods is an institutional barrier; it's not a market-placed barrier and it is not even a social barrier. But we have to change the zoning and we have to change the investment priorities. Then you find that people really are desirous of more choice and more company, healthier communities. But they don't have that choice in many places.

**Peter Schwartz recently described US policy as being “A bigger house and a bigger car for everybody.”**

He's right. In 1961, the average size of a single family home in America was 983 square feet; today it is over 2,300 square feet. The average household had one car in the 1960s and, you know, the 1960s were a golden age, right? It's when it looked like America was leading the world. Now we have two cars per household. Are we better off.? I doubt it, and we are clearly not in an economically sustainable pattern. We can't keep growing these houses and it is unclear that it really leads to either a match for the kind of people we are or an economically viable future or, I think, most significantly, a sustainable environmental future. It provides for none of the above.

But you are correct in saying that habit is a truly profound force in the universe, and habit does drive a lot of what we choose to do.

**How does renewable energy fit into this vision you're putting forth? A lot of architects I talk to talk about the future of energy, in part, as a “back to the future” moment, where we're doing things the way they were done 100 years, or right at the start of the industrial revolution...**

Well, that last part, isn't about really about renewable energy, it's more about conservation: Having good ventilation in a building, having natural light instead of artificial light. But those are the things you should do before you say, “Hey, where's the power coming from?”

When you use natural lighting and natural ventilation, you reduce your heating and cooling and lighting demands, and all of a sudden it becomes more viable to use renewable. Now, let's not forget, every renewable energy source has an environmental footprint. I mean, putting solar collectors over a desert destroys an ecology. As much as many people don't even see it, it impacts everything that lives in that natural landscape. You cannot take the sun away from an ecology and expect that ecology to function. The point is that we have to first find ways to conserve energy – in the way we live, the kinds of buildings we

build and the way we move around. And then, when we've reduced that demand dramatically, then we can talk about the right mix of renewable.

I think we've got it backwards: We're constantly talking about renewable as if we don't have the primary first step of reducing our demand.

**Why is that? Do you feel that this is because renewable are, after all, a business?**

It's partly that, but it is also the mind-set of a lot of environmentalists. It's interesting, they are afraid to confront the issue of changing people's lifestyles. They want to be able to say, "We can live the way we've always lived, we just need a new technology underneath it all?"

You know, McKinsey and Co. does these very famous and very thorough studies of how we can achieve the Kyoto goals. And if you read carefully at the front of these studies they say, "We do not assume any lifestyle behavior changes." So people are driving the same number of miles in cars, it's just different cars with different fuel sources. But, if you reduce that number of miles, you get all kinds of what I call "co-benefits." You reduce the amount of asphalt on the land, you get people walking more and therefore a bit healthier, and as they walk, they create safer neighborhoods because there are more people on the street, and they can have a more robust social life. Some of these things you can measure and some you can't, but it's clear that there are all sorts of other benefits to not thinking about this in strictly technology terms.

**Ok, but there must be renewable that you like?**

I like them all! I Just think that they are going to be more viable, financially and environmentally, if we have to do less of them. If there is some cost premium to shifting to say, solar – and many people say there will not be over time – then having to do less of it is more cost-effective. I mean, that's just arithmetic. There's nothing complicated about that.

You know, there are many environmentalists who understand, "conservation first", but they tend to see that in terms of building technology and they don't think of it in terms of urban design, and that's the ingredient that I'm trying to put into the mix here... because urban design has a huge impact.

Before you start putting solar collectors on a house and extra insulation and so on, if you shift to a townhouse, where you have a much smaller exterior envelope, you've reduced your heating and cooling demand dramatically.

If you shift from a 2,000 square foot house to a 1,500 square foot house, you've reduced you energy demand dramatically – before you get to sophisticated insulation and triple glazing and all that stuff.

So there are these systemic changes that people tend to forget about that are probably the most potent things we can do. And they are the easy ones because they actually fit who we are now. We are smaller households.

As I mentioned before, the average single-family home grew to 2,300 square feet... but at the same time, the average population per household has fallen. So there are fewer people in the house. It's kind of crazy and it's counter-intuitive.

Then, in 2008, we were confronted with the reality that we just can't afford this bloated world that we created.

**It seems to me that people in Europe – and China, which you're leaving to visit tomorrow – get this more than we do here in the US?**

Oh, they do. And it's very interesting, in China, they are very intent and very receptive, not only to carbon reduction – and, you know, they have a huge job to do there because they are so industry heavy – but also on the stuff I'm talking about: walkable communities, bikable communities, because they don't like to be dependent on imported oil.

Unfortunately, [chuckles] they have all the coal they could ever need, but they don't have oil, and they are really being smart – unlike the US – in trying not to become overly dependent on imported oil. They see great value in transit and walkable places. For a number of reasons. They have air quality issues that are just unbelievable. So they are very concerned with all these issues and they seem to be able to take steps to try and mitigate it.

They are adopting policies and having us design pilot new towns to get to... well, actually, to get to where they used to be. Beijing was 60 percent bike, and it dropped to 30 percent in eight years. And it is because they went out and redesigned their street for cars thinking, "Well, we've got to be modern." And it's been a complete disaster; they have gridlock, they have bad air, and nobody can get around, so now they are trying to work their way back.

**Your use of the phrase “work their way back” made me think of retro-fitting, which is what has to happen in many communities if your goal of making them more walkable and so on is going to be met. Realistically, how do you accomplish that? I mean, not only is there existing zoning to consider, but there's funding, there's historic preservation, and so on...**

Let's back up and unpack that. If you're talking about retro-fitting suburban sprawl, it's actually quite easy. Suburban sprawl has as its circulation foundation a bunch of really ugly arterial strips -- big fixed lane arterials with one-story commercial lining it, with enormous parking lots out front. And as we move into the next generation of housing demand, people want higher density and that's all they can afford in many cases.

If you take those arterials and retrofit them for bikes, pedestrians and transit – you have plenty of space in the right-of-ways, though you will have to displace some automobile lanes – and then you rezone everything that lines those arterials from single-story boxes to multi-story mixed use, the property owners are happy to have that happen, because it increases the value of their properties, and all of a sudden you've created a ribbon of mixed use walkability with transit and it sits right next to the subdivision, so the people in the subdivisions get a place to walk to and more services close by and they get a transit system practically at their front door, and nobody invades or violates those subdivisions.

So we have a couple of generations worth of what I call “gray-field” retrofits that will be very easy to do, very profitable and infinitely desirable. Nobody is in love with strip commercial zones near their house. They are not going to fight over changing that. And then when you get to historic cities, that becomes a much more complex set of issues. But the lion's share of what we need to be able to be accomplished very easily.

Now, once again, it comes down to basic policy issues. Are we going to be able to put money in place for new transit systems to convert those arterials, or are we just going to try to build more lanes and fight our way out of more traffic? Are we going to rezone all of that strip commercial to mixed use? Those are the policy decisions that have to be taken. The book I've written tries to lay out the data and the metrics of why we need to do that, what are the benefits to doing all that.

**How do renewable figure in these retro-fits?**

Well, I think that gets down to specifics. Obviously, there are going to be solar farms, and there are going to be places where that needs to happen. My point is you're going to have an easier time getting that put in

place if those are one-third the acreage and they are one-third the acreage because we'll have already done a damn good job reducing the demand.

But there are places where you will have trade-offs – everything I life involves trade-offs. Now, there are those who want to believe that it [solar] can all go on rooftops, and I haven't done all the numbers, but I just don't believe that all the available rooftops will get us where we need to be.

I think wind is a great option, because it can easily – but for some impact to birds – sit lightly on the land. You can take pasture land and farm land, and fairly easily integrate it into what's going on there. So I think that there's going to be an intelligent way of plugging in the renewable and they are still a big part of the story. It's just that the foundation of the story – how we live and what kinds of communities we build, seems to have gotten left out.

**So does it ultimately come back to the question I asked you earlier about thinking differently? When I asked it earlier, I was referring specifically to your thought processes, but does it sounds like what you're saying is, to get the mix of renewables right and to address climate change in a meaningful way, we all first have to start thinking differently about things like roads, housing stock, and so on...**

Yeah, I would say so. We started a group called the Congress of New Urbanism some time ago and it has largely succeeded in that task already. And by the way, it's not a battle of suburbs versus cities. There are good, walkable suburbs, and there are good and great walkable cities. At the same time, there are also sprawling suburbs and there are very large sections of our cities that we've handed over to the car, with urban renewal.

It's the quality of place that matters. And the idea of new urbanism and transit-oriented development has gained a lot of currency over the years, and a lot of people have been able to re-envision what a really great community looks like.

Some of the major developers in the country are well onto this. I worked of a project with Forest City Enterprises, one of the biggest developers in the US, on a project in Denver reusing the old airport in Stapleton, Colo. That was 4,000 acres and we got 10,000 homes there and it is a mixed income, mixed-use, walkable community... it's about four times the density of typical suburban sprawl, but it's also 80 percent single family.

So it's that sweet spot that we used to think of as street-car suburbs and it has been a huge economic success in the marketplace. It went through the economic crisis with the least amount of foreclosures in the region. And now it's back up and running and selling a large number of homes per year.

So not only have these ideas gain currency in people's psyche, they've proven out in the marketplace and in the hard, sharp-pencil world of the developers.

For additional information:

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