



GREEN ROOFS ON THE CURVE

September 2007

Like the Spring 2007 *Students on Green Roofs Ramble*, this one again contemplates how the green roof industry can stay ahead of the curve. Having a sense that this theme will persist, I've made this concept an entity of its own, "GREEN ROOFS ON THE CURVE." I'd love to know your thoughts, ideas and comments on any of the content discussed; email me!

Have you heard the term "Peak Oil" lately? A ground-breaking model, the Hubbert Peak Theory, gained wide acceptance in its time, then died down in the societal cycling of ideas. This ramble will revisit the theory and attempt to draw connections between Peak Oil and green roofs, as a way of presenting challenges for the green roof community to stay ahead of the curve. By weaving lessons from the past into our current endeavours, through dialogue and practice, we can each contribute towards the realization of a healthy vision of the future.

The Hubbert Peak Theory refers to a singular event in history: the peak of the entire planet's oil production. After Peak Oil, the rate of oil production on Earth will enter a terminal decline. Without getting into the details of the model, I'll defer to George W. Bush's January 2006 State of the Union address, in which he admitted to "a serious problem: America is addicted to oil."

What does this mean for the green roof industry? Just as Peak Oil will be a major test for our society, it also represents a challenge for the green roof industry. As individuals and "dirty" industries begin to ask themselves how they can reduce their dependence on oil, the green roof industry, too, should examine its relationship to fossil fuels.

First of all, green roofs must become better known for the many solutions they offer. A major barrier to green roof implementation and acceptance is that they are poorly understood. I recently saw "Escape from Suburbia," which featured many great people and projects engaged with their understanding of Peak Oil. The importance of food security received considerable air time, but not a single mention was made of rooftop gardens. Were green roofs absent from the discussion on urban agriculture because the film-makers weren't aware of them, or did they simply not make the cut?

In addition to better representation in the media, the benefits of rooftop greening need to be more fully explored. For example, is it valid to think about green roofs as significant carbon sinks? Will the roofs we're designing and building today support our cities in bumpy times of oil shortage? Do they truly support the triple-bottom line of local economies in their function? Do their embodied energies vindicate their value? And beyond their environmental

benefits, will green roofs help to lead the way towards urban resilience? If so, how will this collaborative role be established and managed?

On the topic of urban agriculture, some developments require a certain percentage of built space to be offset with garden plots. In Vancouver, the new Olympic Village for the 2010 Games will allot 30% of the surface area to garden plots. The Vancouver Green Strategy, due in the near future, is also anticipated to devote a certain percentage to urban agriculture.

As far as economic value goes, we know that rooftops can generate revenue by growing herbs for restaurants, but what about growing cash crops, like cut flowers? If oil really becomes scarce and expensive, then at least the infrastructure would be in place for food production. In the meantime, locally grown flowers would be nice! Certainly the design would be dramatically different from that of an extensive Sedum roof, but many of the benefits could still be maintained and measures taken to deal with anticipated issues, like fertilizer and water use.

Ecologically, if we decide to re-instate ecosystem services and functions to our urban areas, wet roofs could not only close the loop on building water use, but also create valuable habitat and improve the urban climate through greater cooling benefits. Keep your eyes open for the next issue of Green Roofs for Healthy Cities' "Green Roof Infrastructure Monitor" for an article about wet roofscapes. Whatever the system or design on top, connecting a building to its immediate environment through biofiltration can dramatically reduce its ecological footprint.

Peak oil is well underway, and prices will likely continue to rise. The extraction that continues today has a very low 'energy return on energy investment,' and represents the greed of annihilist petrol giants suffering from social and environmental myopia. The green roof community can take the higher path. By integrating sustainability principles into the practical needs of this emerging industry, we can reduce urban dependency on oil. With intent and collaborative genius, green roofs can contribute to a prosperous and secure future for all.

Please email me with any ideas, comments, concerns or questions that this column inspires, or post them on the Forums page!

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STUDENTS ON GREEN ROOFS

