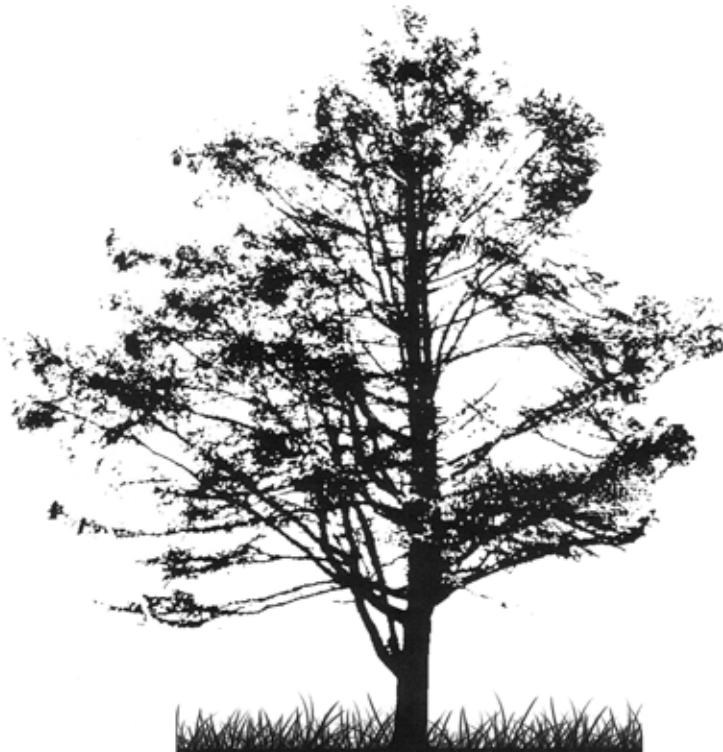


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2010

Sustainability

BETTER CITY, BETTER LIFE SHANGHAI WORLD EXPO 2010 • REGENERATIVE DESIGN QIAOYUAN PARK • FUTURE-ORIENTED DEVELOPMENT
NEW LIVING IN HAMBURG JENEFELD • WATERSQUARES BUFFERING RAINWATER IN CITIES • PARACENTRIC ARCHITECTURE STRATEGIC SOCIAL
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The Carbon Landscape

Using the free market to fight climate change



Large international corporations rebrand their produce policies addressing environmental, community, fair trade and labour practices to meet changed consumer behaviour. Landscape architects could use their market position in order to influence the materials industry, thus reducing the carbon footprint.

One significant problem with a worldwide economic recession is that governments, institutes, firms and individuals go into financial survival mode and subsequently financial security becomes top priority, often at the cost of many other issues including but not limited to the environment. While the global community is redirecting its attention to the financial markets, the rate of climate change is not slowing down, which is illustrated in *The Climate Change Science Compendium 2009 UNEP*. It states that there are "signs that the pace of climate change is surpassing the worst case scenarios scientists predicted in 2007. ... We are headed to very serious changes in our planet and we need to appreciate how serious it is in order to lead support to the transformational policy measures that need to be taken" (Achim Steiner, UNEP's executive director).

If the financial market's relationship to the environment is a dominant one, and this relationship is significantly more out of balance during a recession, then it begs the question: Can marketplace economics (even during a global recession) be directed to become a tool to deliver positive environmental outcomes such as, but not limited to, climate change? I believe it can be, but to answer this question fully there are two issues we need to understand. First, what is our current role relative to climate change and second, if we landscape

architects as a collective were to focus on the market place, what is our market worth?

The research involved in "The Carbon Landscape: Managing the Carbon Impact in Landscape Design," (see *Topos* 61), suggested a carbon footprint of 1,100 tons of carbon per year per landscape architect and that the most significant carbon cost of a landscape architect's work is not in the way they travel or run their office but in the materials they specify. All the more disturbing was that the planting work implemented over the career of a landscape architect is very unlikely to offset the significant embodied energy of the materials specified within their work. Hence, landscape architecture comes with an "avoidable" negative impact on the climate. If you consider the atmosphere as an integral part of the environment that we design within, then as landscape architects our projects are consistently doing more environmental harm than good, even if the project is delivering best international practice in stormwater, community and ecology design and planning.

As a desktop exercise to illustrate the point of what may be the collective carbon footprint of the International Federation of Landscape Architects (IFLA) we have extrapolated that 1,100 tons of carbon across the 45,587 IFLA registered landscape architects which gave us a collective carbon cost per year. Numbers become more tangible if you can visualise the outcome, so we calculated the number of trees IFLA members would have to plant each year to offset their carbon footprint and the area of land IFLA would require if the trees were planted and production forest spacing.

Plants consume and release carbon, which makes them insufficient carbon sinks; they will never be able to offset the much larger carbon production of the typical landscape materials we use. We have to think beyond offsetting and carbon mitigation and more toward reduction of carbon within other work.

It is important to add that as much as carbon has become the poster child of climate change

and is used as a way of illustrating atmospheric pollution equivalences, many solid and gaseous wastes produced by many of the landscape materials that landscape architects specify are not only significantly worse agents of climate change than carbon dioxide but cannot be sequestered by trees or other plantings. We have to be careful: carbon sink landscapes are not in fact the quick-fix mitigation devices that they are popularly held to be – there are bigger picture material profiles to consider.

A collective response to climate change

If we accept that the materials we have access to as designers come with an inherent and significant environmental impact, and this is the core issue of our own professional carbon footprint, then the question becomes: What is the best way to reduce and manage this carbon footprint if mitigating is not the most appropriate first approach?

Is it by better carbon/embodied energy focused education and research, stronger environmental protection of existing environments that sequester carbon, forming lobbies to influence decision makers and developing local environmental material profiles? While each of the aforementioned items are all positive ideas for management of climate change and not mutually exclusive of each other, they all have differing rates of returns in the time frames it takes to achieve positive results and the degree of improvement gained.

I have become increasingly interested in using our marketplace position to influence the materials industry and think that it would have the biggest impact on our carbon footprint in the shortest amount of time. The question becomes, what is IFLA's marketplace value and is it enough to use a tool to engage with industry for positive change?

IFLA as a collective is not necessarily the easiest body of designers to survey, and so to test the idea of IFLA marketplace value, we asked the

New Zealand Institute of Landscape Architects (NZILA) to send a short questionnaire to its members. The survey was written to identify the value of the landscape work implemented during the course of one year. The survey results give a landscape implementation figure per landscape architect, which was then extrapolated across the total number of NZILA members. Included as part of the survey were questions to identify what percentage of the implementation value was hard landscape materials such as, but not limited to, concrete and steel products.

The final NZILA numbers were then extrapolated and applied to IFLA membership to get a rough estimate of IFLA's market value. It was felt that even though NZILA members are not typical of every landscape architect internationally, the New Zealand landscape market could be considered a possible microcosm of the international landscape industry; as New Zealand's landscape market is neither economically strong nor developing, it holds a mid-ground economic position.

I believe it is likely that the numbers are conservatively low for reasons such as: not all qualified landscape architects are members of their local institute or IFLA, there are a large number of expatriate landscape architects who may not show up on institute counts and landscape architects are not the only designers who design within the landscape realm. We need to start somewhere and the production of these rough ballpark figures was a way to daylight the issue of marketplace value as a tool, not for just the design community, but for those who watch from the sidelines and work hard to influence our material selections such as many of the materials lobby groups and materials associations.

Is 11 billion US dollars, internationally, per year enough economic leverage in the market to make industry engage with IFLA in positive environmental dialogue? Would it make the material manufacturing industry consider new direc-

tions for the management of the harvesting, production, manufacture and delivery processes? Would they start considering their materials' abilities to be reused, recycled or biodegraded?

A new landscape/economic paradigm

We know from watching large international corporations that have had little regard for the environment or communities in the past that they rebrand their products and produce policies addressing environmental, community, fair trade and labour practices because they believe that an informed marketplace cares about such issues and that consumers will make a decision to purchase products based on a brand's material production profile. Would landscape materials companies react in a similar way and supply the market with mass-produced, low embodied energy products if they thought the market cared enough?

- If IFLA were to start a meaningful dialogue with, but not limited to, concrete, metals, plastics, cut stone and timber manufacturers about the issues of the environmental impact of material production, and empower its individual members with the information to make informed decisions on the environmental profiles material, I believe it could achieve a positive impact on not only climate change, but also on all pollution production and energy, raw material and water consumption. For this to happen, the following changes would have to occur. Landscape architects would have to be willing to work as a collective to bring to bear their full weight on the issue and less focus on individual marketplace protectionism around research and design details.
- IFLA would have to reconsider its scope as an institute to include issues such as economics if it proves to be a significant environmental tool. One of IFLA's significant values in this process is its ability to deliver information around the world and its ability to collect responses to cli-

mate change that represent tens of thousands of landscape architects.

- Pollution, including carbon within landscape materials manufacturing, is a regional issue. Local institutes could play an important role managing the dialogue between local industry and landscape members and manage the information flow on materials, which could be added to IFLA collective knowledge on materials. In turn, this benefits everyone.
- It would require a redefining of what constitutes a carbon neutral landscape that incorporates not only materials as part of the consideration, but also carbon and pollution issues surrounding the implementation and management of our landscapes and public spaces.
- IFLA does not represent the entire international design industry, which illustrates the need for the intergradations between the different design disciplines and landscape implementation associations if we want to have a significant impact on the collective landscape industries carbon footprint.

I think we have to acknowledge that truly transparent carbon neutral landscapes are unlikely to be achievable for the majority of landscape architects internationally until they have access to a greater pallet of landscape materials with lower carbon profiles. Hence, this makes a logical starting point for developing a new landscape paradigm that includes economics as a tool for positive change.

The advantage with a recession is that industry, as with many businesses, becomes increasingly sensitive to issues such as their marketplace share and their perceived marketplace identity, and consequently will be more willing to have a dialogue with environmentally concerned consumers such as landscape architects. A recession is an opportunity for IFLA, regional institutes and local institutes to introduce themselves to the marketplace and use their economic position for climate change and general environmental good.



IFLA carbon footprint: These numbers may have limited value due to the survey approach, but it is important to note that the carbon value of 1,100 tons was very conservative and that the IFLA membership worldwide only makes up a small portion of the international landscape designer community that is responsible for landscape materials specifications and the associated climate impact.



IFLA marketplace value: The 11 billion US dollars figure is more important than the total landscape implementation figure of 21 billion US dollars as it suggests what market value IFLA has in the carbon heavy "materials" side of the market. The conservative figure of just over 11 billion per year raises the question, if IFLA as a governing body harnessed that economic buying power and started to give its members regional and local driven direction on material selection, would it reduce the carbon impact of landscape design?