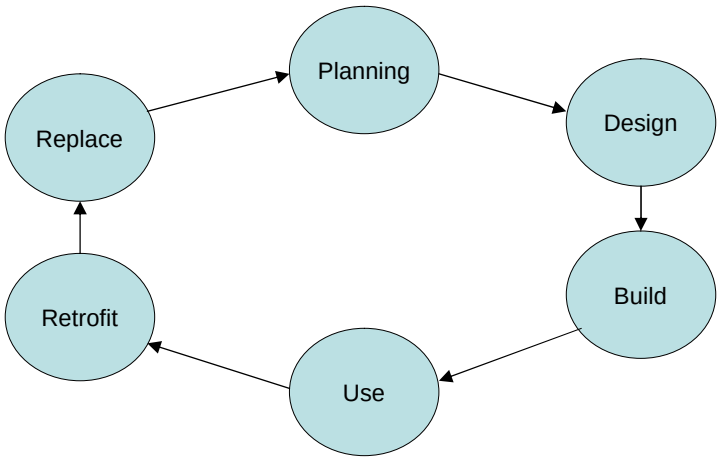
The Future of Sustainable Construction

'We cannot move to a positive future without revolutionizing construction'

What is the impact of Construction on the state of the world and how has the economic crisis impacted this issue?

DEFINITION: Sustainable construction goes beyond the activities on the building site and embraces the following cycle of activity:



The social, environmental and economic consequences of this construction cycle are considerable and have a global impact:

- Contributes 5-44% of national GDP
- Affects 40% of the global GHG
- Affects 70% of cities GHG
- 40% of its waste goes to landfills
- Consumes 12% of the world's water
- Major impact upon the quality of life (we spend a considerable amount of time indoors)
- Employ's 10% of the world's work force
- Is the largest employer of micro-firms (less than 10 people)
- Has broad social, labour & human right Impacts
- Occurs in hazard prone geographies
- Sits typically on the most productive land (~250 million hectares world wide, most of it primary agricultural land)
- Contributes to loss of biodiversity and ecosystems
- Consumes 30% of worlds resources

The way construction is delivered affects all issues of the councils in the Environment and Sustainability clusters as well as of many other Councils.

The current global financial crisis has already and will continue to have a major impact in the following ways

- Impact the budget of the construction industry and create a significant slow-down in private sector development and focus attention on short-term horizons.
- Initiate a redirection of capital into public infrastructure in an attempt to initiate economic recovery

The global slow down provides a breathing space to reexamine the direction, role and impact of the construction industry so that the mistakes of the past may be avoided.

We should take this opportunity to move to a new future vision by revolutionizing the construction cycle to enable net *positive* impacts on all aspects of our lives; the economy, society, the environment and its ecosystems.

This process must begin by recognizing the difference between good (net positive impact) and bad (net negative impact) infrastructure solutions with our goal to encourage investment into Positive Infrastructure Initiatives

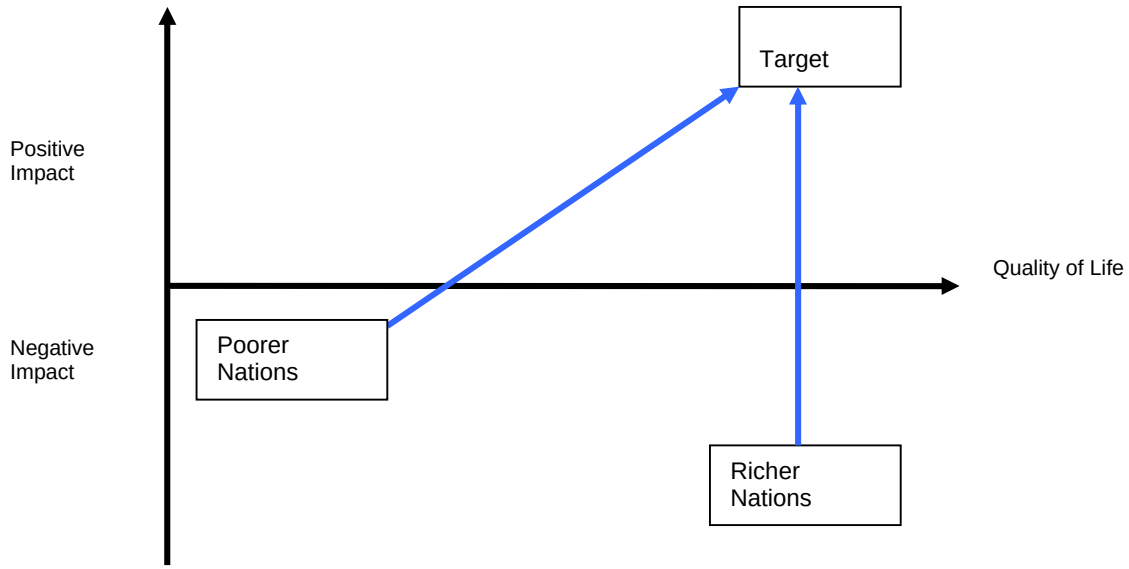
- Optimizing low carbon logistics
- Optimizing Existing Infrastructure
- Retrofitting and upgrading existing buildings, particularly in making them radically more resource efficient. (Residential/ Commercial/ Mixed Use etc)
- Improving Healthcare and Education facilities (and making them disaster-proof)
- Enhancing or restoring natural infrastructure such as flood plains, mangrove forests, watershed restoration and aforestation,
- Energy efficient and decarbonized energy infrastructure: Renewable Energy sources such as wind parks, sensitive hydropower, utility grids that allow for feed-in and decentralized electricity generation.
- Avoiding where possible new roads, airports and traditional power plant/ utilities
- Expanding Public/ Mass Transport
- Creating integrated energy, water and waste utilities
- Creating sustainable waste management solutions
- Optimizing Urbanization (optimal density of ~150 people per hectare, residential/ work/ leisure/ services and connectivity)
- Reducing the impact of the Supply Chain
  –Only Certified Timber - Forest Stewardship Council
  –Low carbon life cycle material
  –Carbon positive data centers
  –Non-toxic, safe and renewable materials

What should be done to improve the state of the world on Construction?
The future depends on sustainable construction. This revolution is founded on a construction cycle that is integrative and regenerative. Decision makers must plan at a macro and micro level, monitor and report against those plans whilst respecting limits and embracing opportunities.

Sustainable Construction will support a more resilient society, if these 10 biomimicry-based principles are applied:

1. Enhances the systems of which it is part (financial, human and natural capital)
2. Runs on clean, renewable energy
3. Recycles and reuses everything
4. Uses only the resources it needs (better than zero carbon, water neutral)
5. Contributes to biodiversity and food security
6. Celebrates form and function in response to environmental forces

7. Makes the best use of local resources
8. Adapts and evolves with climate, economic and social change
9. Ensures human health and well being
10. Facilitates the effective movement of people and goods



The work leading up to The Annual Meeting 2009 includes:

- Expand the definition of *positive infrastructure* and add further to the list of possibilities
- Translate the principles above into goals, strategies and metrics
- How do we make Positive Infrastructure happen? What is the deal flow to support the implementation of this? (ie. Incentives, regulation, new market models)

The idea's for Davos

1. Given that with the economic slowdown there will be a higher volume of public spending on infrastructure, there is a tremendous opportunity in making sure positive infrastructure is being built (i.e., infrastructure that does not lock us into resource consumptive life-styles but reduces our resource dependency)
    a. What is positive infrastructure?
    b. How can we make sure investments will flow to positive, rather than negative infrastructure projects?
2. Develop the guiding principles into a structured delivery plan that can be developed by government and planners worldwide.