

Future of Sustainable Development
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Introduction

There have been divergent views on outcome from the Copenhagen Conference and the subsequent Cancun Conference. Wild statements forecasting doom at the Durban Conference are afloat. Whatever be the perception amongst different groups, it is undeniable that the businesses and the civil society have launched initiatives world wide to bring down GHG intensity in socio-economic development in developed as well as developing countries. The results in developing countries, mainly those projected as the future polluters, have been extremely encouraging.

The Rio Conference on Environment and Development in 1992 set in motion a global drive towards cleaner production and consumption patterns worldwide. Developed and developing countries realised the importance of renewable energy and environmental protection. In preparation for the Rio Conference in 1992 a number of countries enacted several laws and introduced financial incentives to encourage investments in this sector. The subsequent period say up to 2006, saw investors rush in, encouraged by the market potential and preferential policies. Sectors such as solar panels, bio fuels and wind energy encouraged entry of a number of large, medium and small domestic and foreign producers worldwide. Many of these countries lacked sustainable competitive advantages, but recognised a near-term profit opportunities. Many of these entrants are pure low cost export players.

Future Development will be Different

The World Bank organised a brainstorming session on climate change in Washington, July 2011, inviting about 70 of the world's sharpest mind on climate change to find ways to best support the exploding demand from countries for a low carbon future. They included Nicholas Stern, Professor of Economics from the London School of Economics from the London School of Economics, Christiana Figueres, Secretary General of the UN Framework Convention on Climate Change, Todd Stern, Special Envoy for Climate Change for the US Government, and Kandeh Yumkella, Director General of UN Energy.

The participants emphasised that there is a direct link between climate change and poverty and that these are the two defining challenges of this century. The war on poverty cannot be won without addressing climate change impact and that there is risk of reversing any gains on poverty if climate change is not addressed. Climatising investment plans is fundamental to development and growth. With Asia yet to construct much of its infrastructure over the next two decades, now is the time to incorporate climate change considerations into planning.

The scale of the risks from climate change is so large that there is a need of no less than a “new industrial revolutions” to deal with it.

Nicholas Stern emphasised, “With some climate scientists predicting that the world could be 5⁰C warmer by the end of the century, we may be returning to a scenario not seen in the last 30 million years. This redefines where we live, possibly billions of people will have to move, and this will inevitably lead to extended and severe conflict.”

Emissions need to be cut from nearly 50 billion tonnes of carbon equivalent to below 20 billion tonnes by 2050, and if the world economy grows by a factor of three, emissions per unit of output need to be cut by a factor of eight to keep to a 2 degree C world. There has to be a new industrial revolution that would need to take place across all sectors and all economies.”

Transformation through Cleaner Technologies: “We also need a new narrative around climate change”, he said, “that not only brings home the extent of the risks but also tells the positive story that emerges through transformation. That is a story of development done differently, in which adaptation to climate change, mitigation and development are interwoven. Under this second industrial revolution, “growth is cleaner, quieter, safer, more bio-diverse, inclusive and altogether more attractive,” he said. “Tell that story and why this goal is worth pursuing. We then need good leaders with this ammunition.”

Reasons to be optimistic – Denial to Action: Speaking on reflections since his 2006 Stern Review on the Economics of Climate Change, he said,” there is much to be hopeful about. Since 2006, the attitude of world leaders to the urgency of climate change has shifted dramatically from the ‘denial’ towards ‘action.’ At the country, region, city and private sector levels, efforts to reduce emissions and grow differently are taking hold. One of the boldest of these comes from China through its latest 5-Year Plan which focuses on ambitious emission reduction targets through industrial transformation”.

“Perhaps the most important quantitatively and in radical-ness is China’s 5-year plan... it’s of extraordinary importance where key drivers of change are consumption, clean growth and innovation, radically different from high carbon, high investment and externally – oriented manufacturing.”

And even at the climate change negotiation level – which has been labeled as complex and slow-moving-countries are showing through their reporting that they can pursue low-carbon pathways and potentially reduce emissions much further.

Clean Technology – What Does That Mean

The term clean technology refers to a diverse range of products, services and processes that harness renewable materials and energy sources, dramatically reduce the use of natural resources and cut or eliminate emissions and wastes. Clean technology includes not only renewable energy sources (solar power, wind power, biological power

etc), but also renewable fuels (biomass, bio-diesel, hydrogen fuel, and coal gasification), environmental technology end controls (technologies to remove pollutants from the air, water and soil), materials and resource efficiency, sustainable transportation (including hybrid vehicles), agriculture and water and wastes management.

Thus, clean technologies cover not only the technologies that are dealing with the environmentally benign sources but also the technologies that convert the environmentally polluting sources into environment friendly products and services. This provides an opportunity to make the existing polluting systems cleaner through clean technologies and ensuring that the new systems coming in future are inherently clean.

Resource Efficiency

Until recently, sustainability and greening the supply chain largely meant keeping up with regional, national, and global regulations on carbon emissions, hazardous materials and recycle. Experts are now seeing a major shift away from regulator driven sustainability models to total energy efficiency priority. Gartner incorporated research analysts have spot lighted 9 trends changing the corporate greening many of which will involve goal reassessment and follow-up action from supply chain, operations and manufacturing professionals.

As companies and consumers have become more knowledgeable about green issues and more demanding about what they expect from next generation products and processes, companies today have to go after something other than the low hanging fruits that appeared initial legislative requirements. Additionally, while laws forced green conversations to take place corporate wide, other long term implications have surfaced.

UNEP recognises that investment in a new generation of environmentally sound technologies, clean industrial processes, and cleaner cities has the power to positively transform economies in societies.

Three basic issues emerged:

- i) What if the need to reduce wastes could derive the design and manufacture of better products and services?
- ii) What if cleaner investments could support sustainable incomes, create green jobs and reduce poverty?
- iii) And what if consumers and business alike had the knowledge and skills needed to make environment friendly, informed choices everyday?

Improved productivity and less waste calls for using expertise in science, policy, environment engineering, economics and financing so as to optimise resource use and minimise waste.

UNEP has focused on resource efficiency. It says “economic growth and social development cannot be sustained with our current consumption and production patterns.

Globally, we are extracting more resources to produce goods and services than our planet can replenish, while a large share of an increasingly urban world population is still struggling to meet basic needs.” Resource efficiency represents a critical opportunity to address this unsustainable path, building green economies in which economic growth is decoupled from environmental harm. By enabling the design and production of low impact product and services, resource efficiency can help us meet human needs, while expecting to sustain the ecological carrying capacity of the earth.

UNEP defined resource efficiency from a life cycle and value change perspective. This means reducing the total environmental impact of the production and consumption of goods and services, from raw material extraction to final use and disposable.

UNEP’s Resource Efficiency sub-programme works to ensure natural resources are produced, process and consume in a more environmentally sustainable way, paving the way towards the green economy. This is an economy which yielded opportunities for cleaner investments and green jobs to address poverty and enhance human well-being.

According to Gartner Incorporated the top issues influencing green business decision are as follows.

1. **A focus on cost and overall efficiency throughout the whole supply chain.** This means looking at all water, energy, and waste management practices as opposed to carbon dioxide-only footprint evaluations. Along these lines, capex projects must be more fully explained and justified, and payback and return-on-investment periods better defined.
2. **Energy efficiency is priority.** Within the cost and efficiency focus, energy efficiency gets the most attention. A sharp rise in crude oil, gasoline, natural gas, electricity, and heating oil prices in 2011 and anticipated increases for 2012 are compelling manufacturers to look at usage more strategically.
3. **Continued uncertainty in the regulatory landscape.** There are still many competing loose ends when it comes to figuring out which laws to follow and how to follow them. Regional, national, and global laws are in various states of discussion or implementation, or have been shelved short-term.
4. **Constraints influence.** Other constraints -- particularly growing concerns about adequate water supply -- are gaining attention. A significant supply-demand gap for water exists and will only get worse in the coming decades. Competition for sufficient water allocations for worldwide operations will heat up, and companies need to consider their water use targets.
5. **IT is taking on a new role in sustainability.** Previously, software and tech tools were aimed at compliance and carbon-reduction goals. Today the tools are being used to monitor and manage energy efficiency, track risks, and lower costs.
6. **Heavier focus on product lifecycle accountability.** Companies are going to greater lengths to determine sustainability gaps from design to end-of-life. Again, this doesn't necessarily stem from wanting to be good environmental citizens; it's another way to reduce total operational costs.

7. **The race for clean technology is clearly still on.** Globally, 2010 venture capital investment in clean tech approached high 2008 levels after a dip in 2009. The US and China are driving much of the growth in this space.
8. **Smart, green buildings and cities are a sweet spot.** Although the recession affected the construction market, green building, especially in the commercial segment, was the only growing segment. Companies are looking at ways to retrofit manufacturing facilities, warehouses, and other buildings to save on total energy expenses.
9. **It's still a risky global environment.** Supply chain, sourcing, and manufacturing operations are all global, with each regional location having its own peculiarities. Disasters like an earthquake in Japan or political unrest in countries mining raw materials cast shadows on continuity in sustainability plans.

On one hand, the sustainability conversation move away from compliance-level discussions. It's about time; there is a lot more at stake than following the rules. At the same time, it's disappointing that talks seem to be centred on cost cutting. Money-fuelled initiatives only go so far in changing behaviours. It's fair to say a certain amount of business evolution will be needed to keep the green revolution fired up