

Heaven on Earth in 2050?



Forest in Sahara Desert in 2050

PHAIDON

Does the Earth have any chance of surviving this century? Is there enough conviction among people to prevent its certain destruction? Is everyone waiting for that big catastrophe to happen after which nations will sit up and do something serious? Is there hope that someday the Earth could nearly be as beautiful as it was hundred years ago? Yes, there is hope, but not before it gets really bad.

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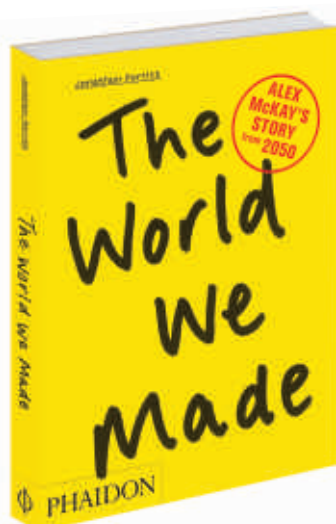
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Sir Jonathon Porritt, renowned environmentalist, has come up with an innovative way to grab everyone's attention to the impending catastrophe. Using fiction, his new book 'The World We Made' imagines extreme suffering before it gets better in 2050.

The book is meant to incite people to demand transformation from policy makers who don't seem to care enough. The book's purpose is to tell the story of how we get our world back from the brink of collapse.

The book answers the big question on everyone's mind and lips today: How does a sustainable world really look like?

So, what does the world look like in 2050? "It's a good world to be living in: massively improved by smart, clean technology, and committed to a much fairer, more sustainable model of economic growth."

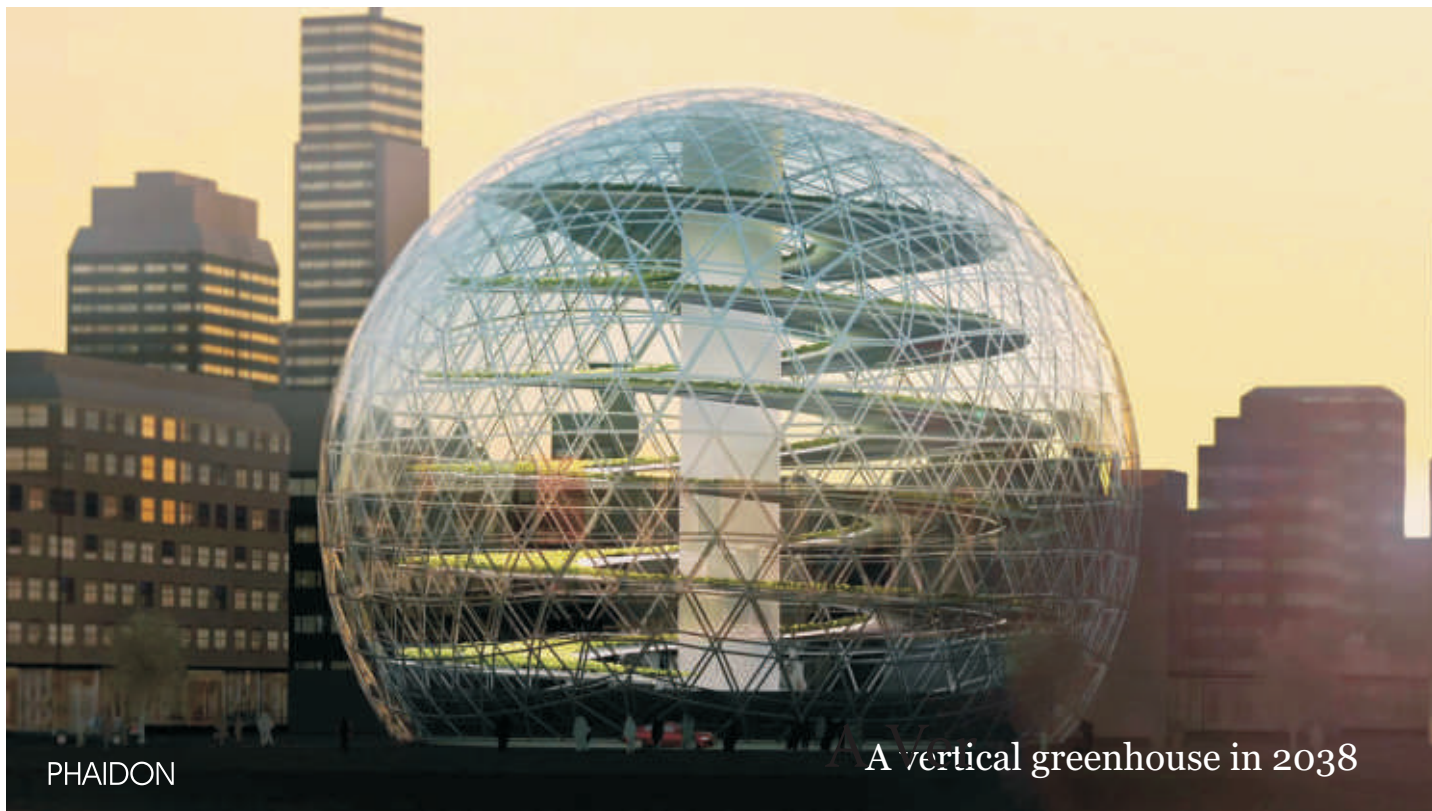


Benedict Paramanand, Editor of SustainabilityNext chats up the author during the book launch at the Infosys campus in Bangalore recently.

Jonathon Porritt is arguably one of the most active and influential in shaping the conversation and policy on sustainable future. His Forum for the Future (www.forumforthefuture.org) is very active in engaging experts, business persons and policy makers to expedite action.

Are people scared enough to live sustainably? Not really. Then, how do we get them to start becoming friends of the Earth? This can happen but "We have to be able to demonstrate just how dynamic and aspirational such a world could be and that we've still got time to deliver it." Unlike all the doom and gloom books, this is perhaps the first positive, actually overtly positive, book.

The author has used the fiction route although the book is heavily based on futuristic science, many of which are already in labs like the MIT. It's told through the words of Alex McKay, a teacher looking back from 2050, to tell the story of how we got from where we are today to an upbeat, dynamic world.



PHAIDON

A vertical greenhouse in 2038

It is part history, part personal memoir, Alex's story charts the key events, technology breakthroughs and lifestyle revolutions that make the world in 2050.

However, the journey to 2050 is terrible. Alex expects lots of 'shocks to the system' along the way - caused by accelerating climate change, threats to food supplies and so on.

The good news is - those shocks massively reinforce the case for radical change. **The tipping point is in 2018 when the world gets as worse as it can get. After that there's a gradual improvement.**

The book will interest those who love to follow how science and technology will radically begin to determine how human beings will eat, learn, sleep and enjoy. It looks ultra futuristic but is backed by believable facts.

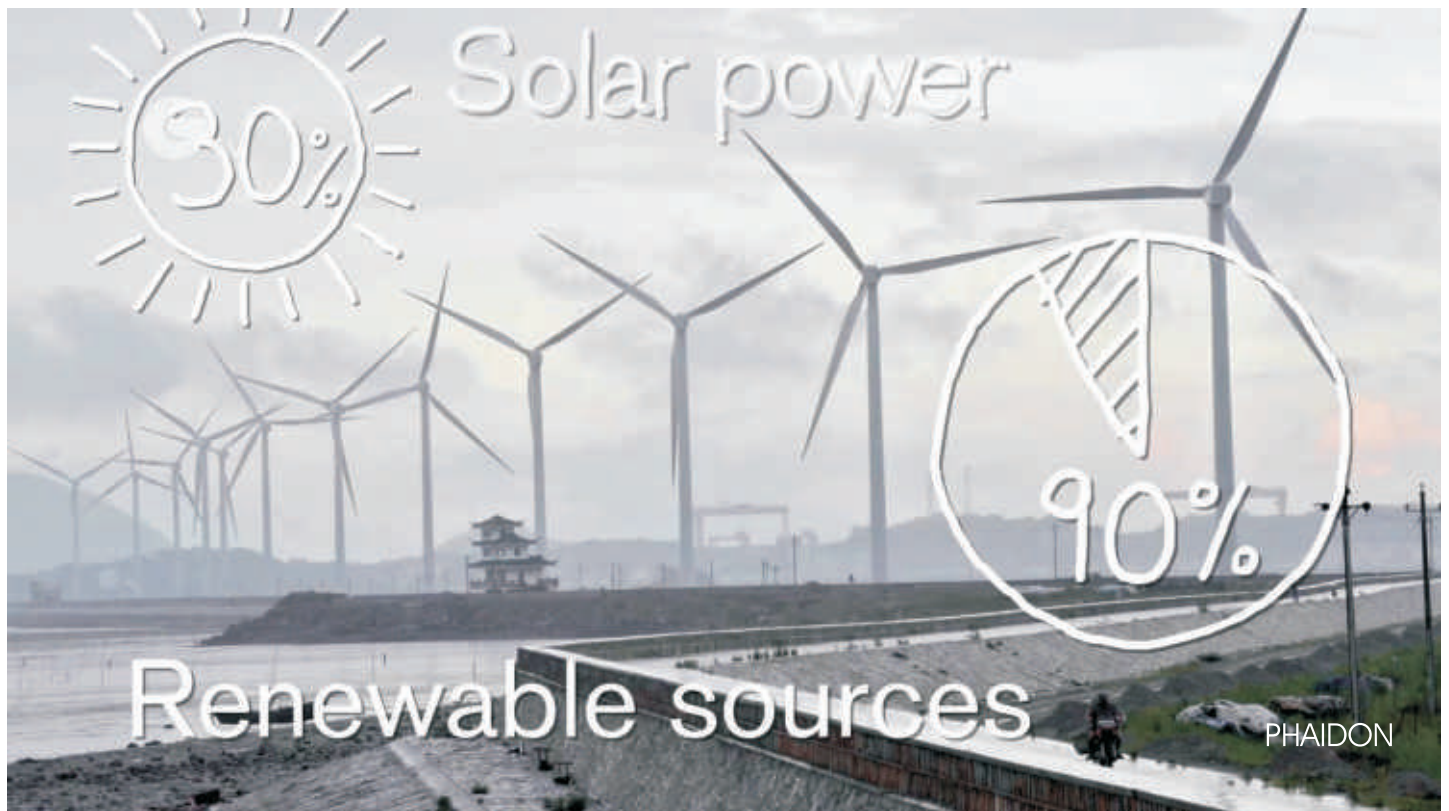
It has taken the fun of imagining the future up many many notches. Richard Branson says: "Jonathon Porritt's book dreams big, as if our future depends on it. And it does."

You have been in this field for 40 years. When was your tipping point of turning from a pessimist to an optimist?

It's not quite like that. I have never been a pessimist. I have always believed that we would understand the opportunity to use technology and use our commonsense and use our ability to foretell.

This is special to our species, it's not often recognized that we would begin to use all of that to change.

Clearly, 2050 is not yet real, but its real as in its deliverables. All the elements in it are also deliverable



I was always hopeful about that but obviously 40 years on, hope gets a little bit frayed around the edges.

The reason that I have done it this way is to remind people of what hope means it means that you hang on to the idea that not only is a better world possible, but it's real.

Clearly, 2050 is not yet real, but it's real as in its deliverables all the elements in it are deliverable.

I think that's missing today, I have never described myself as either optimistic or pessimistic but hopeful. I have been more or less hopeful in different parts in my career, now I am very hopeful.

With this book what do you expect the outcome to be? Do you have a plan of action, is there a starting point?

There is a starting point. I have written the book with reference to three audiences. One are the young people because I want them to get angrier, more committed to change.

Second is the business community because the book is all about how good business thrives as you make this transition and thirdly it's about people you love technology, innovation, invention, creation and all that kind of stuff.

You are steering away from politics, government?

Yes, by and large it's a waste of time. I spent 10 years of my life advising the British government as the chair of the Sustainable Development Commission. I enjoyed doing it but I learnt a lot. I learnt that it's best if you can give politicians permission to do things rather than expect them to do it themselves.

Business is crucial to this because if business says, actually we like this, this is a good way of thinking about creating wealth for the future and politicians somehow take comfort from that.

If young people become much more outspoken in their demands for more sustainability, politicians love to think they are talking to young people.

They will know what language to use and feel that they need to connect with young people.

Policy making comes second and technology comes first? It happened with Internet

It's not always quite as sequential as that because governments still need to frame the market place to encourage those technologies. So if you think in terms of tariffs here in India and the policies being adopted by the government and the state to promote renewable energy, that could have happened a long time ago but didn't, is still very important to getting those technologies come to scale.

If you have to do everything against the market it's very hard to do it. Markets needs to be shaped by governments to promote that transformation.

But the possibility is shown by technology first?

Yes, absolutely. For me the trick is to show politicians what this looks like. We had such a funny example, in Forum for the Future we do a lot of work in community energy.

Last year we took a whole bunch of people, including some NGOs, some politicians to Germany, to show them what was going on in Germany. The politicians said that this is amazing; this is Europe's most powerful industrial nation which is way ahead of most European countries on community energy.

So, if you show them what it looks like the politicians can say, got it, this technology really stacks up, really makes a difference. **You can use technology to inspire politicians to help them frame the markets differently.**

Dharmastala model, have you thought about how this can be scaled?

It depends on how capital markets work, how investment flows into society and what financial instruments do we need to get to scale. Different countries will follow different routes here.

Essentially, around the world, there is no shortage of money to invest in good, bankable, long term propositions.

For me, if governments get behind this, de-risk the investment for investment firms, pension funds and insurance companies, it is possible to scale. **You have to have a conventional investment strategy to get to scale.**

Can micro finance become big scale?

It's pretty big in the world today, it's bigger than people think, and I see no reason why it shouldn't get bigger and bigger.

This is exactly how those assets can be underpinned by community finances of one kind or other. When I talk about community energy which is quite close to micro finance, it depends on getting very small contributions from local people to invest in their solar or wind farms. So I see no reason why it shouldn't.

The only country where I think sustainability will be taken increasingly serious in the next 5 years will be in China

You cannot wish politicians away at the same time you have to move with your starting point; you think we need something like a Jasmine Revolution, student revolutions in Berkley

In 2018, combination of things happen, firstly the gap between the rich and the poor continues to get worse and worse and creates massive tensions in society.

Secondly, the climate change story eventually gets through to young people they realize that this is actually so bad for their future that they have to intervene and make something happen.

I was in Brazil six weeks after the riots, not one single decision maker in Brazil had predicted that they would have riots of that kind.

A small riot about bus prices turned into a vast social outpouring, it was anger about corruption, poor governance and host of other issues.

Millions of people were in the streets; today technology means you can go from a spark to a massive confrontation in an incredibly short period of time.

Young people all over the world rising up and occupying government buildings, media stations, parliament, until such times that decisions are made to change the system.

You may say that's crazy but I don't, I think you only need that kind of determination on part of the young people to change things. So yes I am absolutely convinced that political action is the necessary underpinning for technology breakthrough.

Do you think in the next 5-8 years the leadership profile globally is going to be the youth?

No, I don't think so. That's why we have to have a bit of an uprising in 2018 and it doesn't work first time by the way, they come back for another bite in 2027 because people in power are very good at making as though they are doing something but not really doing it.

The only country where I think sustainability will be taken increasingly serious in the next 5 years will be in China.

The tipping point is in 2018 when the world gets as worse as it can get. After that there's a gradual improvement.

For a very interesting reason that China is very scared about social stability, very nervous about the growing number of people who are now saying - we think it's reasonable to expect to breathe normally, not have our water supply polluted. 48,000 riots in China every year, 60% of them related to the environment.

It's quite clear that the new leadership will have to start addressing these issues. They have already introduced a carbon trading scheme, there is a possibility of introducing an internal carbon trading scheme across the entire country in 2015. This is extraordinary.

Is that the leadership the world is looking at?

Hence, a chapter says China leads the way. That's controversial but China knows what disaster looks like, they know they haven't got enough land to feed their own people, they know that they are running out of water, they know that climate change is already eroding their productive farming. Most of them are engineers, they don't deny facts like politicians in most countries including India, who actually tend to deny empirical evidence because it doesn't fit the model.

Where does India fit into that model now?

Being absolutely honest with you I don't see India playing a leading role on the global stage. I think the hope has to come through two areas, scaling up stories from renewable energy.

That could be the nub of this incredible change process and secondly there is no reason why India shouldn't use its extraordinary advantages in IT, biotechnology and the whole host of high tech solutions to the world's problems that would give it a position in the global economy.

India is in a good position on renewable energy. It may even help in future energy security as well.

You think solar cost will become a tipping point?

I do. I have spoken to the Chinese manufacturers; they are amazing, every year for the last 3 years in Abu Dhabi, the world future energy summit.

The big Chinese manufacturers, every single one of them is now saying that there is no reason why cost won't continue to fall for the next 5-10 years.

They see continuing cost reduction 6-7% cost reduction in the next 5 years that's staggering. Then you are way beyond a dollar a watt, the grid parity moment.

So you imagine the point at which solar, PV in particular, CSP is going to be more expensive.

Imagine if every single community can be installing that in ways that out-compete conventional energy systems, why would you do it?



Jonathon Porritt, Co-Founder of Forum for the Future, is an eminent writer, broadcaster and commentator on sustainable development.

Established in 1996, Forum for the Future is now the UK's leading sustainable development charity, with 70 staff and over 100 partner

organizations including some of the world's leading companies.

He is also a Non-Executive Director of Willmott Dixon Holdings.

He is a Trustee of the Ashden Awards for Sustainable Energy, and is involved in the work of many NGOs and charities as Patron, Chair or Special Adviser

His new book, *The World We Made*, was published in October 2013. His recent books are *Capitalism As If The World Matters* (Earthscan, revised 2007), *Globalism & Regionalism* (Black Dog 2008) and *Living Within Our Means* (Forum for the Future 2009).

In conversation: Jonathon Porritt and the narrator of 'The World We Made'

Forum for the Future's Founder-Director discusses how things have changed with Alex McKay a 50-year-old history teacher, living in 2050, and the narrator of his new book, 'The World We Made'.

<http://www.forumforthefuture.org/greenfutures/articles/conversation-jonathon-porritt-and-narrator-world-we-made>

NTPC's Pilot Plant to Mitigate Co2 with Micro Algae

NTPC and IOCL set up a pilot plant for bio-fixation of CO₂ from flue gas through micro algae at NTPC Faridabad. Two conjoining algae ponds were constructed to draw CO₂ from stacks at the project. The project, commissioned in 2010 is said to be ahead of its schedule in January 2014

This project is part of NTPC's plan to adopt latest environment practices and protection systems to minimize the impact of power generation on environment.



Co₂ is a major green house gas contributing to more than 50% to the total predicted warming of the earth's atmosphere.

NTPC is pursuing the objective of environment protection as one of its prime responsibilities and focuses its efforts to mitigate the impact of its operations on surroundings - around 12-15% of the project cost is spent on environment protection equipment.



Wockhardt Foundation Wins CSR Award at Asian CSR Leadership Awards

Wockhardt Foundation was awarded the “Best CSR in Healthcare” at the Asian CSR Leadership Awards held in Dubai in September 2013. This Award is given to outstanding organizations that have played a meritorious role in healthcare Development.

Wockhardt Foundation has embarked on a path-breaking ambitious social growth program of providing free, primary healthcare to the rural and remote parts of India through its “Mobile 1000” initiative. Mobile 1000 operates in 11 states.

Beside Mobile 1000, its other program like Bio-Toilet, SHUDHU water purification tablets, The Word Peacekeeper Movements, POSHAK malnutrition supplement and Khel Khel Mein have also started making significant impact.

Wockhardt Foundation is governed by the 3 B's BIG, BEST, and BOLD. BIG is to implement program which have national scale, BEST is its program must measure up to the highest levels of quality implementation, and BOLD is to operate its social development program where the need and poverty is the most.

It is a nation-wide team of more than 350 rapidly growing who are rendering full-time service to the Foundation that translates the motto of “where every smile counts” into reality.

Sustainability Museum in Chennai



Energy Alternatives India (EAI), a renewable energy research firm, has launched the country's first sustainability museum in Chennai to create awareness among people about eco-friendly products and practices.

Suseum (sustainability museum) exhibits a range of eco-friendly products and processes, including compostable plastic cups, a vertical garden and advanced clean technologies such as flywheel energy storage and vertical-axis wind turbines.

Visitors to Suseum can see, touch, and feel these products and technologies through various displays and exhibits. They can shop for eco-friendly products at the Suseum store, discover a wide range of providers for sustainable solutions and learn about the most exciting sustainability hotspots in Chennai.

"Our vision is to promote widespread and increased adoption of renewable energy and clean-tech in India. With this new initiative, we are proud to explain sustainability in new, interesting and practical ways," said Narasimhan Santhanam, co-founder and director, EAI.

"Visitors not only get to learn about sustainability but also get a hands-on-approach in practicing sustainable, eco-friendly activities," he added.

EAI is a research and consulting firm for the renewable energy and clean technology industries, founded by IIT and IIM alumni. The organization works with businesses, industry stakeholders, and government bodies to accelerate adoption of clean technology in India. www.eai.in

Amul Adopts Green-tech in Chocolate Plant

Amul chocolates will be manufactured with green technology. The Kaira District Co-operative Milk Producers Union Limited (KDCMPUL), popularly known as Amul Dairy has adopted low carbon technology at the Amul chocolate plant at Mogar in Anand district.

The technology, commissioned by the dairy co-operative, is first of its kind in Gujarat. The district dairy union's initiative comes after its green initiatives involving lakhs of farmers to plant over 312 lakh saplings to make Green Gujarat and its green project at Virar in Maharashtra - the first of its kind in country's dairy sector.



The Electric Heat Pump (EHP) system installed at Amul's Mogar Food Complex was commissioned recently.

This project is being executed by Amul, The Energy and Resources Institute (TERI), New Delhi, the Institute of Global Environment Strategies (IGES), Japan and the Japan International Cooperation Agency (JICA). EHP system was installed by engineers from Mayekawa Manufacturing Company Limited, Japan under a four year research project.

The pilot project is expected to result into energy saving of around 47 percent and reduction in CO₂ emission by 39 percent which corresponds to the monetary saving of Rs 20 lakh per annum besides reducing reliance on fossil fuels.

KPMG Takes Sustainability to Lady Sri Ram College

KPMG in India last week launched its nationwide initiative aimed at environmental sustainability at the Lady Sri Ram College in New Delhi.

To celebrate 20 years of KPMG in India and keeping with their endeavor of working towards a sustainable future, a number of environment projects (solar and rainwater harvesting projects) are being inaugurated across ten locations in India at various schools, colleges and NGOs.

KPMG hopes to raise environmental awareness and a feeling of collective responsibility amongst the student community. It provided Lady Sri Ram College with a solar power plant of 75 wp. Also, Miranda House and Shri Ram College of Commerce have been provided solar street lights of 75 wp each by KPMG.

World Bank Pledges 10% Emissions Reductions by 2017

The World Bank has set a new emissions reduction goal from its owned and managed facilities by 10 percent from a fiscal year 2010 baseline by fiscal year 2017. This goal, published is the second voluntary goal set by the World Bank.

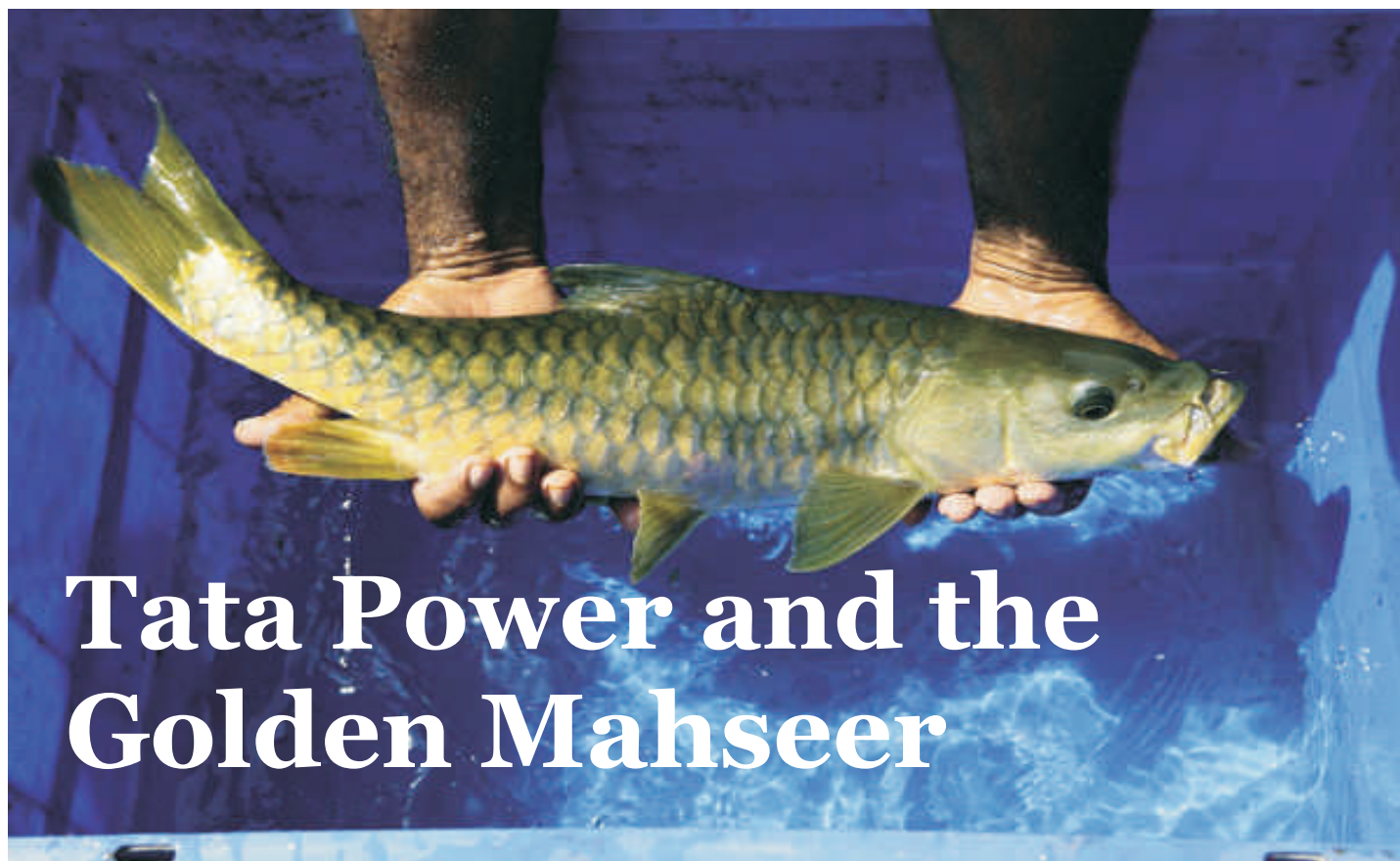
Its initial goal, set through the EPA's Climate Leaders Program was to reduce emissions by 7 percent from its Washington, DC, facilities from 2006 to 2011, and was successfully achieved.

The World Bank is currently working with 130 countries helping cities to adopt green growth strategies and develop resilience to climate change, developing climate-smart agricultural practices, finding innovative ways to improve both energy efficiency and the performance of renewable energies, and assisting governments to reduce fossil fuel subsidies and put in place policies that will eventually lead to a stable price on carbon.

Additionally, with its green bonds, the World Bank also helped start the development of the expanding green bond market that will support future climate finance.

The World Bank's paper use has decreased by 49 percent since fiscal 2007, the 2013 report says. The institution says this is due in part to smarter printing practices, the increased use of digital communications, and improved efficiency efforts by the Bank Print Shop.

Also, electricity use in Washington, DC buildings decreased by more than 2 percent from fiscal year 2012 to fiscal year 2013, because of the improved operations in World Bank facilities and the installation of LED lighting in many applications, the report says.



Tata Power and the Golden Mahseer

Tata Power is India's largest integrated power company with a significant international presence. The company has an installed generation capacity of 8,521 MW in India and a presence in all the segments of the power sector i.e. generation (thermal, hydro, solar and wind), transmission, distribution and trading.

It is one of the largest renewable energy players in India and commissioned country's first 4,000 MW Ultra Mega Power Project at Mundra (Gujarat) based on super-critical technology.

Tata Power's international presence includes strategic investments in Indonesia through 30% stake in coal mines and a geothermal project; in Singapore through Trust Energy Resources to securitize coal supply and the shipping of coal for its thermal power generation operations; in South Africa through a joint venture with Cennergi to develop projects in Africa; in Australia through investments in enhanced geothermal and clean coal technologies and in Bhutan through a hydro project in partnership with The Royal Government of Bhutan.

Excerpts of the interview with SustainabilityNext

What are Tata Power's unique sustainability policies?

Tata Power is poised for a multi-fold growth and committed to its motto 'Lighting up Lives Sustainably' for generations to come. Our Sustainability policy only integrates the Triple Bottom Line of the company but also advocates how stakeholder engagement is important for a holistically achieving the Sustainability agenda.

Details of how Tata Power has implemented its sustainability strategy?

Sustainability has been strategically integrated in all business operations and decision-making processes and workforce is sensitized and aligned to the cause. It integrates economic progress, social responsibility and environmental concerns with an objective of improving quality of life.

- **Sustainability has been strategically integrated in all business operations and decision-making processes and workforce is sensitized and aligned to the cause.**
- **Tata Power won the CII ITC Sustainability Award, 2012 as well as Sustainability Plus Gold rating for strong commitment in terms of its policy and processes.**
- **Tata Power Club Enerji sensitised around a million citizens and saved more than 1,456,850 million units of energy in the city of Mumbai alone, which can light up 682 houses.**
- **The company has till date produced in excess of 10 million seed of Mahseer and distributed them all over India.**

What are the sustainability challenges specific to a power generation company?

The power sector is facing several challenges. A key issue is fuel shortage. Despite the huge domestic coal reserves, the power sector is facing shortages and has resorted to coal imports to meet its requirements.

Tata Power has conducted identification of Sustainability issues/ Material Issues for business continuity and these are in sync with business strategy and capable to make a major difference to an organization's performance.

What is the sustainability challenges facing the power sector in India?

The power sector has gone through a lot of turbulence in the past few years. There were clear indications of the sector struggling due a number of factors like fuel supply shortages, an unprecedented hike in coal prices in international markets and the poor financial health of the power sector in India.

Despite grappling with challenges, the level of determination exhibited by the private sector to contribute to the growth of the power sector is highly commendable. The private sector has added around 15,00020,000 MW of new capacity in 2012.

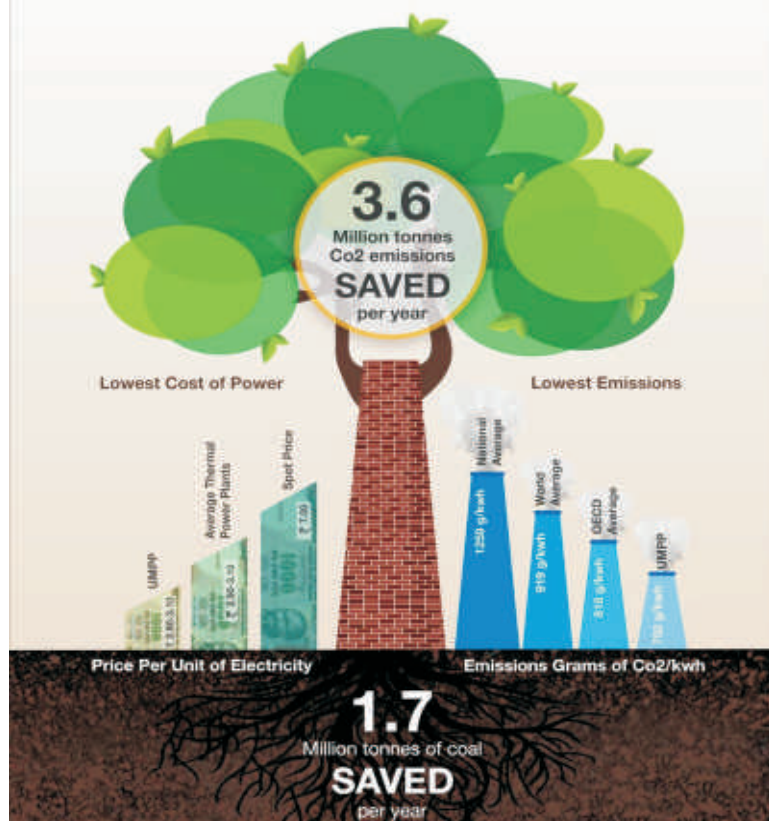
India is yet to achieve greater energy independence and security of energy infrastructure. This will be more important in future with growing transition of transportation fleet away from oil toward other energy sources, including electricity.

Enhancing the reliability and resilience of the electricity grid to withstand major equipment outages, weather effects, and potential terrorist attacks is also gaining attention.

Ability to secure energy and deliver power reliably depends upon a mix of regulatory, economic, environmental and social factors. In the absence of any other promising fuel apart from coal, the India's generation capacity is expected to remain roughly the same in coming years resulting in increased dependence on coal-based power.

It would, therefore, be important to make the right choices in selection of technologies that would enable the plants to operate in energy efficient and environment friendly manner.

The political scenario in India is also critical and experiencing the inefficient allocation of coal blocks to public and private companies

UMPP's:**Efficient, Economical, Environment Friendly Power****What have been Tata Power's achievements so far?**

Mahseer Conservation- As part of an eco-restoration and eco-development project for the lakes, farming of mahseers and the Indian trout was undertaken in the 1970s by Tata Power.

The world famous Golden Mahseer was one of the four Mahseer species that were bred.

Tata Power accomplished quite remarkable in conservation with this endeavour and continue to be recognized for this achievement. In the years since Tata Power started breeding the Mahseer, simple breeding and hatchery technology has been developed on a large scale basis.

The company has till date produced in excess of 10 million seed of Mahseer and distributed them all over India.

It is the only breeding centre till date which breeds and supplies fingerlings to various states in India Maharashtra, Karnataka, Punjab, Rajasthan, Andhra Pradesh, Haryana, Assam.

Club Enerji - Tata Power also strives to reduce the indirect energy consumption through spreading awareness on energy conservation through its remarkable initiative Club Enerji.

In line with its philosophy to curb wastage of energy and spread awareness about energy conservation, Club Enerji, Tata Power's nationwide energy and resource conservation movement spearheaded by school children, has gained momentum across the nation. In the year 2012-13, Tata Power Club Enerji sensitised around a million citizens and saved more than 1,456,850 million units of energy in the city of Mumbai alone, which can light up 682 houses.

The units saved by the Club are equivalent to saving around 1457 tonnes of CO2 emissions. Tata Power's nationwide movement propagating energy and resource conservation had its enthusiastic members pledge continuing commitment to the cause they have embarked upon.

What are your future plans?

As per Tata Power's growth plans it is in the process of developing one of its largest photovoltaic based solar power plants with an installed capacity of 28.8 MW in the Satara district of Maharashtra.

Tata Power has aggressive plans of generating 26,000 MW of power by 2020, and intends to have a 20-25% contribution through a mix of clean energy sources that would include hydro, solar, wind, geo-thermal, and waste-gas generation. The company has a dedicated team that looks for opportunities in renewable energy projects and clean technology development.

Presently, Tata Power has an installed capacity of 1,106 MW from clean energy sources. Also, Tata Power intends to increase its footprint in new geographies and developing economies like Africa, West Asia-Turkey, SAARC region and South East Asia.



Are you a Pessimist or an Optimist?

“This planet came with a set of instructions, but we seem to have misplaced them,” Paul Hawken told the graduating class of the University of Portland in 2009. “Civilization needs a new operating system. You are the programmers, and we need it within a few decades.”

Paul Hawken is an environmentalist, entrepreneur, journalist, and author. Starting at age 20, he dedicated his life to sustainability and changing the relationship between business and the environment. His practice has included starting and running ecological business, writing and teaching about the impact of commerce on living systems, and consulting with governments and corporations on economic development, industrial ecology, and environmental policy.

From 1979 to 1993, Hawken led the garden lifestyle brand Smith & Hawken along with Dave Smith. But in fact, it was his writing after he moved on that led to his selection as a Pioneer. He tells us in the interview, “Writing is my way of diving deep into an issue. My approach is to watch, read, and listen, sometimes for years, in order to grasp the dynamics, resistance, and patterns of thought that repeat and impede progress and breakthrough. What I try to do is reframe the issue, and in order to do that I have to give up the idea that I know something or am “right.” It means finding a path to see things in a completely novel way, to make the familiar new and, if possible, fascinating.”

“Business is the only mechanism on the planet today powerful enough to produce the changes necessary to reverse global environmental and social degradation.”

Creating a Revolution

Seldom does any single book create a revolution, especially so in the field of business. And yet, *The Ecology of Commerce* stands as an extremely influential book. Indeed, of all the moments that awakened fellow Pioneer Ray Anderson, reading *The Ecology of Commerce* was like a “spear in the chest” for him. The connection between these two Pioneers was so strong that Hawken eulogized Anderson at his funeral, stating that if his book were only read by one person, Ray Anderson, it was worth writing. But the book wasn't an immediate success far from it. Hawken remembers giving a speech to a business audience as he was writing the book. He recalls that some in the crowd reacted angrily and even a few individuals left the

Measuring Success: An Inherent Problem

Yet, Hawken also sees a fundamental problem with the way our economic system is measured. “As long as we study what's being bought as opposed to what's being fulfilled, we'll always come to the wrong conclusion,” he said in an interview with the Global Oneness Project. “Really, the proper study of economics is fulfillment, not consumption... It doesn't even matter if it's a green product or a green house...”

It's still consumption. What matters in this world is the fulfillment of people's needs and the fulfillment of their aspirations.” However, the barriers to attaining this state are systemic.

As he wrote in the preface to the revised edition of *The Ecology of Commerce*, “Business will need to integrate economic, biologic, and human systems to create a sustainable method of commerce. As hard as we may try to become sustainable on a company by-company level, we cannot fully succeed until the institutions surrounding commerce are redesigned... where... everyday acts of work and life accumulate into a better world as a matter of course, not a matter of

“Business will need to integrate economic, biologic, and human systems to create a sustainable method of commerce...”

Are We Part of the Momentum?

To put it simply, according to Hawken, piecemeal sustainability is actually unsustainable. Instead, he wants us to realize a fluid, interconnected world, and in the process, connect the consequences of our actions on the ecology and our communities, thus compelling action.

Progress is already being made. As he mentioned in his University of Portland speech, “Humanity is coalescing. It is reconstituting the world, and the action is taking place in schoolrooms, farms, jungles, villages, campuses, companies, refugee camps, deserts, fisheries, and slums... When asked if I am pessimistic or optimistic about the future, my answer is always the same: if you look at the science about what is happening on earth and aren't pessimistic, you don't understand the data. But if you meet the people who are working to restore this earth and the lives of the poor, and you aren't optimistic, you haven't got a pulse.” But as Hawken would likely challenge us: are we a part of that momentum?

Excerpts from PIONEERS OF SUSTAINABILITY | LESSONS FROM THE TRAILBLAZERS published by Weinreb Group.
www.weinrebgroup.com

Oil from Shampoo Sachets

By Martin Wright



Selling small quantities of products like shampoo in tiny sachets for a few rupees each is one way of bringing them within reach of the poor. But what happens to the sachets when the product's finished? A few decades ago, waste was virtually unknown in villages.

Now, litter, especially discarded packs and wrappers, is an all too common sight. As one of the companies which has gone down the 'small is affordable' route has drawn its share of flak.

Surely it would be simpler just to sell small quantities from a bulk dispenser?

"We have actually developed a machine for refill options", responds Meeta Singh, "but we're concerned about tampering, which is a big issue in India. There is so much contamination, and we cannot risk people losing trust in our products. So, for the moment we've parked it."

Instead the company's embarking on an ambitious waste recovery programme. "We're looking at ways of collecting the spent sachets, and using pyrolysis to produce oil which can serve as a diesel substitute. Eventually this could be extended to all our flexible packaging."

Meanwhile, they've launched a pilot with by which customers bringing in recoverable waste to one of 30 Delhi stores receive an INR5 voucher redeemable against any Unilever product.

It's early days, says Singh, but if the concept works in practice, it could be a solution which could be applied more widely. "We should be able to process any flexible waste: it's not as though we'll say, 'Oh, that's one of our competitor's sachets, we're not taking that!' Long term, we want to make sure that all waste has a value: that there's no such thing as waste at all, basically."

This feature appeared in 'India: Innovation Nation'
<http://www.forumforthefuture.org/greenfutures/s-hop/special-edition/india-innovation-nation>

Coca-Cola India Develops Solar-Powered Coolers for Rural Areas

Coca-Cola has started distributing its solar-powered “eKOCool” cooler developed specifically for retailers in rural areas. Rooftop solar panels are linked to the chest-style coolers installed inside the store below.

The sustainable innovation helps shopkeepers sell ice-cold drinks a bit of a novelty in “off-the-grid” communities without ice or electricity.

The “eKOCool” coolers also feature ports for charging lanterns and mobile phones. Villagers walk in to charge their phones and, while waiting, end up spending more.

The lucky shopkeepers keep their shops open even after dark. The “eKOCool” project is part of Coca-



From Concept to Cooler

The “eKOCool” project was conceived several years ago when Atul Singh, president of Coca-Cola India, discovered that rural outlets in Uttar Pradesh and other remote areas were using conventional ice chests with very little ice to stock and sell beverages.

The Coca-Cola India technical team partnered with Mumbai-based Western Refrigeration to develop the prototype before launching a series of pilot tests. Sales at participating retailers have increased significantly since installing the units.

“The model is helping create a market in areas where Coke has not been present at all.”

More than 1,000 solar coolers have been installed in India, to date, boosting Coke's presence considerably in rural areas.

“These coolers are bringing first-time customers who never tasted our beverages before,” says Asim Parekh, vice president, Technical, Coca-Cola India, who notes that markets such as South Africa and Turkey are adapting and testing the units.

[Http://www.coca-colacompany.com/stories/coca-cola-india-develops-solar-powered-coolers-for-rural-areas](http://www.coca-colacompany.com/stories/coca-cola-india-develops-solar-powered-coolers-for-rural-areas)



Discovering True Value

"Cost is a fact; price is a policy; and value is an opinion," said Wheldon's book on Cost Accounting in the early 1950s. In the last two columns I covered the first two. Here, allow me to dabble on the third assertion that 'value is an opinion'.

Value is a concept beyond costs or a process of pricing a commodity or service. From a producer's position it shifts completely into the realm of what the customer and society opines about a product or business.

What meaning does a mobile phone bring to you? What ultimate purpose drives you to serve a company as an employee or supplier? From mere financial outcomes or results like salaries or profit we move on to the larger impact anything makes on quality of our lives.

And this idea of Value emerges in a societal domain and also endorses the need to realise that, Value is an aggregate of opinions of everybody in society call it reputation in one sense.

A business may start mining in an area where the tribal inhabitants have their opinion which may conflict head on. So for Value to be lasting, opinions have to first converge and consorted action should best co-create (rather than create) sustainable Value.

Rig Veda aptly puts it: "Let it be good for me, let it be good for you, and then let us together do good for all; but in the process let us not part ways on the trivial differences that may arise".

In the last decade, despite the Symantec, sustainability had taken to social mobilisation and civil society movement. But since the downturn and the resultant trust-deficit it left behind, investors and financial accountants are challenged by a new reporting-revolution of sustainable Value.

Furthermore, the concept of 'money' is now transforming into its new avatar beyond itself and the question to ask is: What is the purpose of Profit? Henry David Thoreau said: Rather than money or fame, give me truth.

The balance sheet, which would faithfully tally the debit with credit sides, would now have to reflect a much wider aperture and an integrated picture of the true complexity of decisions.

The big global sustainability consultancy firms came to a consensus that Environment, Social and Governance (ESG) areas should come on the balance-sheet in an integrated form at a given point of time.

Value Reporting

Harvard Prof Robert Eccles, Davis Phillips and others from PwC brought out the concept of 'Value Reporting' in 2001. This widened the scope of risk-management; it pronounced the recognition of finance professionals that maximising the share-earning game in isolation was over.

Businesses have to become proactive and provide Value-relevant impact quantified as reporting information. It provides an all-rounded support to decision-making.

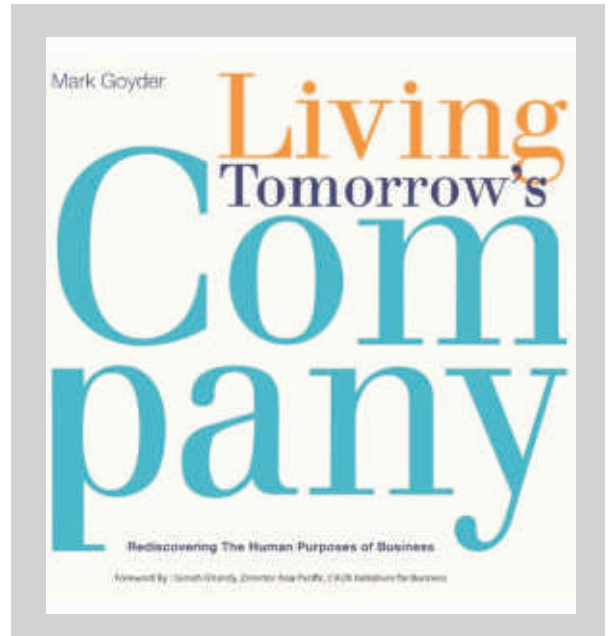
Jeff Swartz, the CEO and President of Timberland, while speaking at a lecture series in 2005, urged business leaders to look around and connect deeply with realities of the people.

The Founder of Tomorrow's Company, who was one of the supporting hosts, said that in a couple of decades one had never seen hundreds of people - all comprising opinion makers and CEOs in the UK - give such a respectful standing ovation! Swartz concluded with a question: Whose job is it to feed children in hunger? Is it the church? Is the business of business is just earning quarterly returns and move on?

Tony Manwaring, Chief Executive of Tomorrow's Company, UK, argues that future stewardship is the kind that is able to look back and learn, be grateful and respect the views of previous generations; is determined to create a legacy that constantly builds enduring engagement and relationships with all concerned stakeholders in society and the business must strive to leave that legacy for its future generations.

Building Tomorrow's Company on Sanskar

By Sangeeta Mansur -
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Charles Handy's famous question "what's a company for?" has triggered deep reflection in the last few decades. Mark Goyder's 'Living Tomorrow's Company: Rediscovering The Human Purposes of Business' (Knowledge Partners, 2013) is perhaps the best of the lot.

Goyder is the founding director of Tomorrow's Company, a UK-born, global think-tank. This is the Indian edition of Goyder's earlier work, and is a result of the urging, as he says, by Anant Nadkarni, former VP, TCCI (Tata Council for Community Initiatives), Tata Group, for taking it to Indian and Asian audience.

This is not one more book in the genre of futuristic business books. It's rather an outcome of thought at a very fundamental level of mental modes of thinking about tomorrow's business, and being it and living it, today.

Goyder presents several choices in our outlook on key constructs in business: money, market, people, value, responsibility, regulation.

The point that we have very clear categorical choices to make is effectively made here by busting some myths.

The book redefines the current lexicon of business, broadening and deepening key constructs at the same time something that Tomorrow's Company, as an institution, has grown quite adept at.

Practicing Inclusiveness

Since the philosophy conceptualizes a Company as a 'living organism' rather than as an 'organization' and redefines 'success' in terms of relationships, the practice of a Tomorrow's Company is set in the mould of inclusivity (interconnectedness being an innate nature of an organism).

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Mark Goyder expounds on The Inclusive Approach in much depth and detail, dwelling deep on purpose, values, stakeholders, and components of success and co-creation of value.

He puts these ingredients together to present what a 'clear success model' is, just as he says a success model is much like a recipe.

The toolkits given here are not of the borrow-and-apply kind of quick-fixes but are meant for deep and possibly painful self-inquiry for self-transformation of organizations.

No real work in transformation can spare us the pain of self-inquiry: this book is meant for businesses on the journey of real transformation.

The way Communication and Inclusive Reporting are dealt with here is quite a refreshing change from the way these ideas are usually presented.

For instance, dialogue with stakeholders, we learn here, is to be used as an opportunity to listen, learn and grow, and reporting is to tell our stories of unfinished journeys.

The next part, **Ownership**, is about Trusteeship and Stewardship - words we Indians once heard from Gandhi and Jamshedji Tata, thanks to our contemporary quarter-to-quarter sprinting for profits.

But future often owes a lot to history, and we get to learn here how these age-old philosophies can train us for a future marathon.

Goyder blends the Gandhian Trusteeship and the British and the American Stewardship by placing them in their common origin of an inclusive philosophy of business, distills them into clear principles and demonstrates how they are the underpinnings of success models of Toyota, Tata and others.

The reader cannot but appreciate how meaningful and doable these higher plateaus in ownership can be.

Indian connection

While the current policy environment tends to offer punitive regulation as an answer to the failings of the efficient markets hypothesis, Goyder draws our attention to the potential of Sanskar, instead.

This Indian concept of value-based cultural upbringing finds unexpected room in Goyder's vision of transformation of businesses:

here, policy and regulation evolve themselves to groom and promote sustainable businesses where the purpose of business extends beyond profits in an inclusive space.

“Inclusive approach is more Niyat than Niti”, says Goyder, drawing from the constructs 'Niyat', 'Niti' and 'Nyaya' of Prof. Amartya Sen. The goal of Niyat and Niti is Nyaya.

While Nyaya is the grand goal of justice, Niti is about external norms, codes, standards and compliance, and Niyat is an outcome of internal realization that manifests as proactive, voluntary choices of a higher order.

Goyder's work succeeds in bringing our attention to the much overlooked construct 'Niyat' and on how it can humanize capitalism.

Brandishing no formulae that claim to work magic to clear us of the current mess nor getting preachy about what it has to say, Goyder simply focuses on how long term business success works at a very fundamental level, and shares this realization in an unpretentious way.

Wisdom often sounds contradictory to what we hold dearly as knowledge. This one is a book of business wisdom, for it shows the higher level choices we can make as organizations, and attempts to raise business consciousness to a level which businesses are yet to realize they are capable of. Food for the Corporate Soul, finally!

The toolkits given here are not of the borrow-and-apply kind of quick-fixes but are meant for deep and possibly painful self-inquiry for self-transformation of organizations.

INVISIBLE GIANTS: CHANGING THE WORLD ONE STEP AT A TIME

By Lindsay Levin,
Vala Publishing Co-operative Ltd, 2013

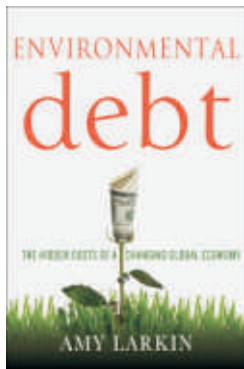


Invisible Giants is a book about leadership, choices in life and the potential within everyone to make a difference. Lindsay Levin, who founded the social enterprise Leaders Quest in 2001, tells the remarkable stories of some of the people she has met through her work and their impact on the world.

These Invisible Giants are grassroots leaders who have overcome numerous hardships to re-energize their communities and business leaders who strive to integrate purpose alongside profit. They are female activists in slums campaigning to end the exclusion of girls from school and environmentalists who are tackling the effects of industrialization on the world's ecosystem. They are also the people we meet every day, who are revisiting their life choices. Inspiring and moving, this is also the story of Lindsay's own quest to ask what really matters. And figure out where the answers can take her.

Environmental Debt: The Hidden Costs of a Changing Global Economy Hardcover

By Amy Larkin,
Palgrave Macmillan, 2013



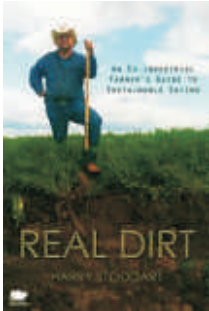
For decades, politicians and business leaders alike told the American public that today's challenge was growing the economy, and that environmental protection could be left to future generations. Now in the wake of billions of dollars in costs associated with coastal devastation from Hurricane Sandy, rampant wildfires across the West, and groundwater contamination from reckless drilling, it's becoming increasingly clear that yesterday's carefree attitude about the environment has morphed into a fiscal crisis of epic proportions.

Amy Larkin has been at the forefront of the fight for the environment for years, and in Environmental Debt she argues that the costs of global warming, extreme weather, pollution and other forms of "environmental debt" are wreaking havoc on the economy. Synthesizing complex ideas, she pulls back the curtain on some of the biggest cultural touchstones of the environmental debate, revealing how, for instance, despite coal's relative fame as a "cheap" energy source, ordinary Americans pay \$350 billion a year for coal's damage in business related expenses, polluted watersheds, and in healthcare costs. And the problem stretches far beyond our borders: deforestation from twenty years ago in Thailand caused catastrophic flooding in 2011, and cost Toyota 3.4 percent of its annual production while causing tens of thousands of workers to lose jobs in three different countries.

Provocative and hard-hitting, Environmental Debt sweeps aside the false choices of today's environmental debate, and show how to revitalize the economy through nature's bounty.

Real Dirt: An Ex-Industrial Farmer's Guide to Sustainable Eating

By Harry Stoddart,
Iguana Books



Harry Stoddart has developed a farming system he believes is the starting point for genuinely sustainable agriculture. A sixth-generation farmer, Harry bought his parent's swine confinement animal feeding operation two decades ago. He converted the farm to certify organic and then to a new system he feels will transform the way we raise and grow our food. In *Real Dirt: An Ex-industrial Farmer's Guide to Sustainable Eating*, Harry tackles the major food industry problems, delving into the science and economic issues surrounding sustainable farming.

He navigates through the "whys" and "hows" of GMOs, resistance-building doses of antibiotics, pesticides, and confinement animal housing, while elaborating on how he damaged the environment more in his first years as an organic farmer than as a conventional farmer. Harry skillfully educates eaters about how they can individually participate in and demand sustainable agriculture. *Real Dirt* challenges consumers to choose a better future for food production.

Consumed: Food for a Finite Planet

By Sarah Elton,
University Of Chicago Press



By 2050, the world population is expected to reach nine billion. And the challenge of feeding this rapidly growing population is being made greater by climate change, which will increasingly wreak havoc on the way we produce our food. At the same time, we have lost touch with the soilfew of us know where our food comes from, let alone how to grow itand we are at the mercy of multinational corporations who control the crops and give little thought to the damage their methods are inflicting on the planet. Our very future is at risk.

In *Consumed*, Sarah Elton walks fields and farms on three continents, not only investigating the very real threats to our food, but also telling the little-known stories of the people who are working against time to create a new and hopeful future. From the mountains of southern France to the highlands of China, from the crowded streets of Nairobi to the banks of the St. Lawrence River in Quebec, we meet people from all walks of life who are putting together an alternative to the omnipresent industrial food system. In the arid fields of rural India we meet a farmer who has transformed her community by selling organic food directly to her neighbors.

We visit a laboratory in Toronto where scientists are breeding a new kind of rice seed that they claim will feed the world. We learn about Italy's underground food movement; how university grads are returning to the fields in China, Greece, and France; and how in Detroit, plots of vacant land planted with kale and carrots can help us see what's possible.

Defining Sustainable Development for Our Common Future: A History of the World Commission on Environment and Development (Brundtland Commission)

By Iris Borow,

Routledge, 2014

The UN World Commission on Environment and Development, chaired by former Norwegian Prime Minister Gro Harlem Brundtland, alerted the world to the urgency of making progress toward economic development that could be sustained without depleting natural resources or harming the environment. Written by an international group of politicians, civil servants and experts on the environment and development, the Brundtland Report changed sustainable development from a physical notion to one based on social, economic and environmental issues.

Meanwhile, the central message of the Commission the need to make inconvenient sustainability considerations a part of global politics as much as of everyday life has been side-lined. The book thus assesses to what extent the Brundtland Commission represented an immense step forward or a missed opportunity.

Sustainability: If It's Everything, Is It Nothing? (Critical Issues in Global Politics)

By Heather M. Farley, Zachary A. Smith ,
Routledge; 2013



Humans are not living within our ecological means. We are using the earth's resources at a pace that cannot be maintained. We have already seen evidence of the fallout associated with ecological overconsumption and continued abuse of environmental systems will create increasing challenges both today and into the future.

Our depletion of natural systems minimizes the possibilities available to future generations who are expected to somehow rely on innovation and ingenuity for their survival. Yet, despite the challenges we face, governments, individuals, non-profits, educational institutions, and corporations are all heralding the promise of sustainable development to save our environmental systems from collapse while allowing for uninterrupted economic growth.

Today, the concept of sustainability is a widespread goal that nearly everyone supports. At the same time, almost no one means the same thing when they use the term. Sustainability is so broad and overly used that it seems to mean everything to everyone. The result is that the concept has lost its meaning. In this book, the authors examine the misuses and abuses of "sustainability" and seek to refine and clarify the concept.

The authors offer a new definition of sustainability what they call neo-sustainability to help guide policies and practices that respect the primacy of the environment, the natural limits of the environment, and the relationship between environmental, social, and economic systems.

The Logical Environmentalist: 10 Meaningful Tips for Green Living (Sustainable Living)

By Doug Mazeffa,
Unlimited, 2013

This brief guide is designed to help readers logically approach environmental conservation as well as provide context and some discussion to several of the biggest sustainability issues plaguing consumers today. Some of the topics introduced include eco-labels, green marketing tactics, sustainability, life cycle assessment, green washing, and many others.

This guide is a great read for anyone interested in environmental conservation, but who may not have much experience in the green marketplace. Likewise, even seasoned environmentalists could benefit from this text, as it also attempts to dispel several myths present in the environmental community.

The author, Doug Mazeffa, is one of the most widely cited experts in environmental impact assessment in the US. In this text he applies his experience having assessed local, national, and international companies in over 200 different industries. His press credentials include being quoted as an expert in leading media outlets such as BBC, CNN, USA Today, NBC, CBS, as well as many TV and Radio appearances. He has written several other eBooks including "Learning to Shop Sustainably: The Consumer Guide to Environmental Impact Assessment" which has reached as high as the #2 Conservation book on Amazon.

Making Sustainability Stick: The Blueprint for Successful Implementation

By Kevin Wilhelm,
FT Press; 2013



This book provides the blueprint for implementation, breaking down barriers, and the steps required to integrate sustainability successfully into any business. It is laid out in easily digestible chapters, with action steps backed up from interviews with sustainability thought leaders, case studies, and the real life experience of the author, as well as over 40 interviews with CSR and Sustainability Directors at various companies on how to "get things done" based on their successes and temporary setbacks.

It provides the step-by-step roadmap for implementing sustainability successfully and focuses on "how" companies can realize the benefits of sustainability by engaging the head, heart, and hands of their employees. Also included is a checklist for implementation and tips on how to regain momentum or get "un-stuck" at the end of each chapter as well as additional helpful resources and exercises to overcome the most common barriers towards implementation.

3rd to 5th January 2014	International conference on Environment and Sustainable Technologies - 2014 Manipal, Karnataka - http://conference.manipal.edu/icet2013/
9th to 10th January 2014	International Conference on Renewable Energy and Sustainable Development (ICRES D 2014) Pune - http://iset2014.com/icresd.html
16th - 18th January 2014	The GRIHA Summit 2014 India Habitat Centre, Lodhi Road, New Delhi 110003 http://www.teriin.org/index.php?option=com_events&task=level
17th to 18th January 2014	International Conference on "Applications of Advanced Materials for Sustainable Development" Nagpur - http://dacngp.ac.in/uploaded_files/pdf_format.pdf
28th to 30th January 2014	4th International Conference on Solid Waste Management, IconSWM 2014 Hyderabad - http://iswmaw.com
29th to 31st January 2014	Harnessing Natural Resources for Sustainable Development Guwahati, Assam - http://hnrsd.cottoncollege.org.in
30th January 1st February 2014	National Conference on "Environment: Pollution & Protection" Durgapur, West Bengal http://www.nitdgp.ac.in/all_pdf/ees/NIT_Brochure_Geology.pdf
6th - 8th February 2014	Delhi Sustainable Development Summit (DSDS) 2014 Taj Palace, New Delhi http://www.teriin.org/index.php?option=com_events&task=level
13th to 14th February 2014	International Conference on Sustainable Development Jabalpur, Madhya Pradesh http://www.ximj.ac.in/ICSD/Conference.html
12th to 14th February 2014	4th International Conference on Climate Change and Sustainable Management of Natural Resources Gwalior, Madhya Pradesh - http://www.itmuniversity.ac.in/TIMS/
21st to 23rd February 2014	2014 International Conference on Renewable Energy (ICRE 2014) Pune - http://www.saise.org/icre2014
8th to 9th March 2014	International Conference on Research and Sustainable Business IIT Roorkee, Uttarakhand http://www.iitr.ac.in/departments/DM/pages/Index.html
18th December 2013	Conference on SMART SUSTAINABLE CITIES Hotel Radisson, Noida
19th -20th January 2014	Advanced Training Programme on Green Building Rating Systems Hyderabad Hyderabad CII-Sohrabji Godrej Green Business Centre, Seminar Hall, Survey No -64, Hyderabad, Andhra Pradesh
19th February 2014	Session with the Blacksmith Institute on Toxic Sites New Delhi - http://www.aspenindia.org/upcoming_programmes.aspx