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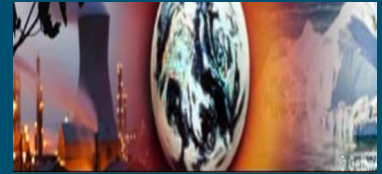
What is the  
business of  
21st Century  
business?

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In the 20th Century, companies succeeded by innovating products and services that customers' needed using "lean manufacturing" techniques and "mean supply chain" practices with command and control disciplines borrowed from the military. They paid little attention to the environment and the society, within which they operated, often taking advantage of cheap labour around the world, extracting every ounce from their suppliers, and where possible, bypassing regulations and safety measures. But, the business landscape of the 21st Century is changing, and the "business as usual" is no longer an acceptable practice to stakeholders. Today, shareholders, partners, customers, suppliers, employees are demanding more responsible and ethical practices from business leaders, not because of political correctness or philanthropy but for survival, and to bringing in a new era of business practices or next practices for better corporate performance. Governments are also legislating for it, smart companies are coming round to it, and the society now expects it. In the new business climate, CEOs need to challenge the "business as usual" culture and develop an operating strategy that is fair and profitable to all stakeholders, and truly serves the society within which companies operate. Find out how smart companies are crafting out road maps for a more profitable and enduring future.



In the last six decades of the 20<sup>th</sup> Century, successful companies have evolved as institutions embedded in the macro economy and capital markets. The main purpose of these successful companies has been making profit solely for the benefit of their shareholders. That approach is obviously critical to an understanding of how businesses continue to operate today or what we call "business as usual" culture. However, over the last few years, many companies fashionably bolted on corporate social responsibility (CSR) to their publicly stated strategy. In most cases, CSR has been a public relations exercise to fend-off critics and outside pressure groups. It is not uncommon to find well-known companies with publicly declared CSR policies, still behaving unethically and contributing very little to the economic development of the local community and the environment within which they operate to generate profit. Famous business leaders in the 20<sup>th</sup> Century stood for something in their company and in their industry but rarely made similar telling contributions to the environment despite having searing insight to build profitable companies. But, they were the leaders of the 20<sup>th</sup> Century. The DNA of 21<sup>st</sup> Century businesses is more complex and needs different type of leaders who go beyond just delivering quarterly profit. This handful of business leaders deliver profit to shareholders and other stakeholders in a balanced manner, and create companies that endure in a sustainable business climate. They recognise that the business of a tomorrow's

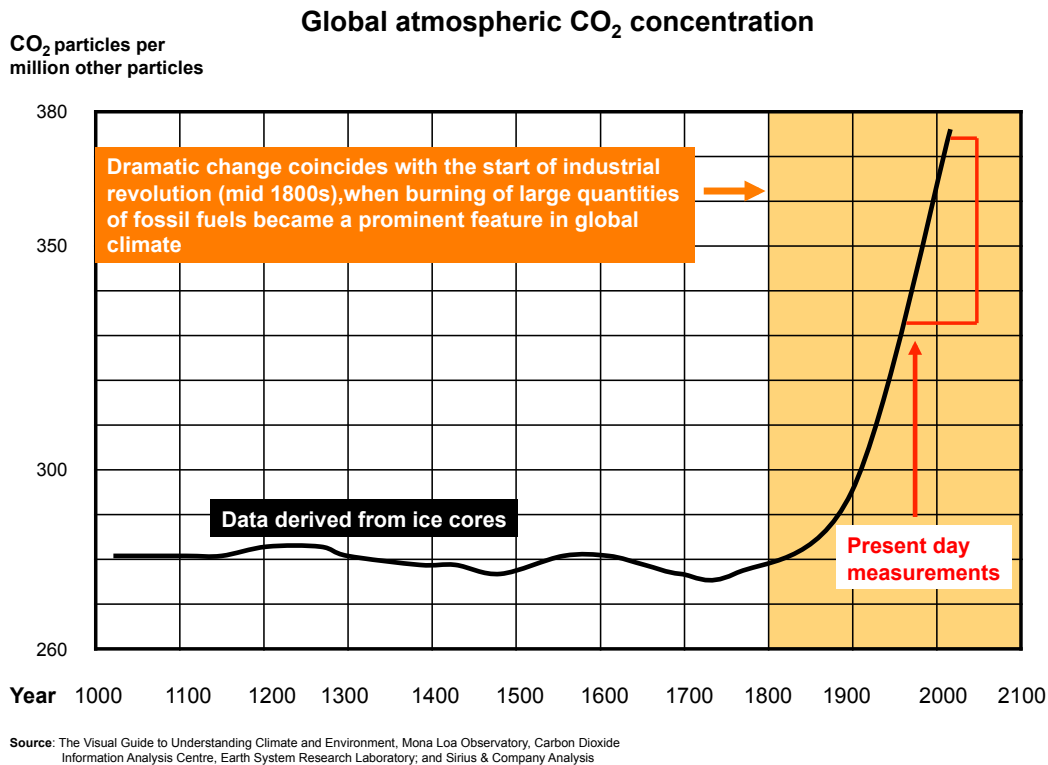
business is not just one dimensional excellence in delivering profit but measurably contributing to the sustainable climate in which their businesses function, and as direct result they carry far more responsibilities than their 20<sup>th</sup> Century predecessors.

### Trouble with "business as usual"

The basic premise of the "business as usual" mode is that the climate has not changed that much, and even if it did, it does not pose a serious problem for the future profitability of companies.

This assertion is as wrong as any assertion could possibly be, because the build-up of greenhouse gases in the atmosphere is changing the earth's climate at a rate unprecedented across the last 1000 years (see Figure 1). Today, earth's atmospheric CO<sub>2</sub> concentration, according to our estimate, is to be around 37% above the average of pre-industrial age. So, is it the industrialisation of manufacturing in the 1930s, and the recent industrialisation of services that lie behind this phenomenon?

The year 2005 was the warmest on record, and the ten warmest years have all occurred since 1980. Ice in the Arctic, the Antarctic, and Greenland is melting, and virtually all of the world's glaciers are shrinking. Numerous studies suggest that the warming of the earth's oceans has resulted



**Figure 1:** CO<sub>2</sub> emission then and now

in more-powerful tropical storms, which generate their energy from warm ocean waters. In fact, global data show that storms, droughts, and other weather-related disasters are growing more severe and more frequent. These effects are the result of a roughly 1° Fahrenheit warming of the earth, an increase that would accelerate under current emission trends, thereby increasing the pace of physical and biological changes (see Figure 2).

Half of the fossil fuels ever burned have been used since the end of World War II, and emissions continue to rise rapidly. In order to halt the build-up of greenhouse gases in the earth's atmosphere, global emissions would have to stop growing at all in this decade and be reduced by an astonishing 60% from today's levels by 2050<sup>[6]</sup>.

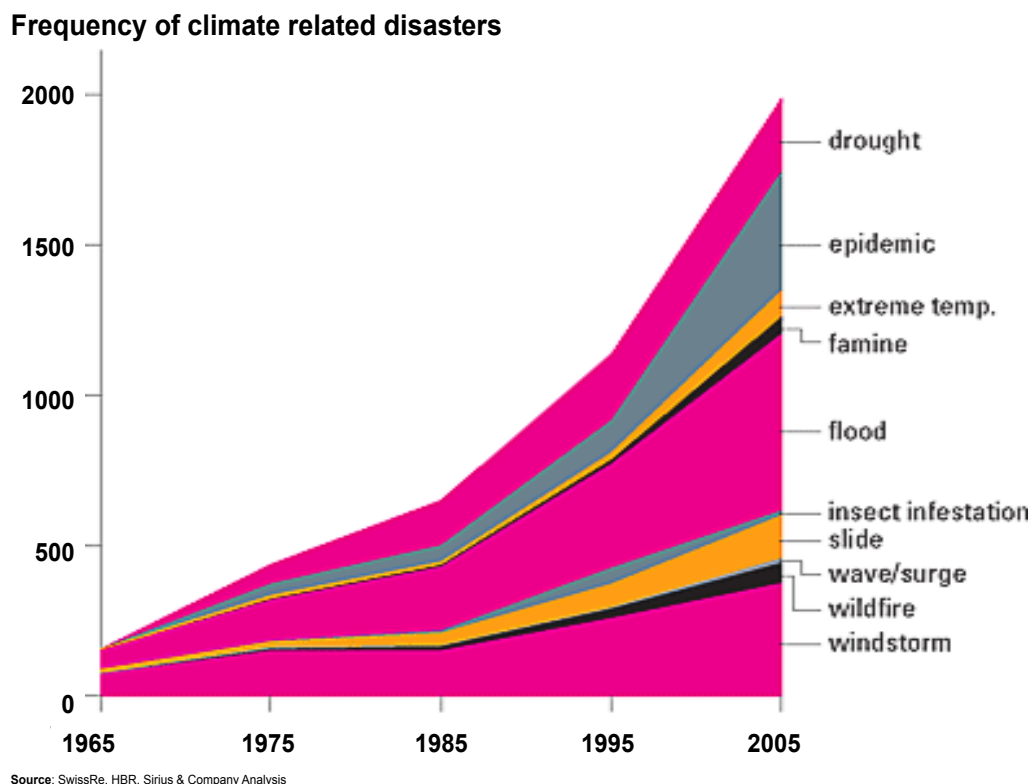
## Who are the biggest polluters?

The politics of pollution has also been brought home earlier this year with the publication of the report by the United Nations containing a fresh and unwelcome focus on China and India. The UN report signals a decisive shift in the debate, drawing attention not just to overall levels of carbon emissions released into the atmosphere over time – largely from developed countries, led by the US, but also to the rising flow of greenhouse gases from big developing nations<sup>[5]</sup>.

Despite rising CO<sub>2</sub> emissions in China and India, CO<sub>2</sub> per capita in these two countries remain a tiny fraction

of those from developed countries. For example, China's cumulative emissions are only 33% of those of the US and 17% of those of all the developed countries grouped in the Organisation for Economic Co-operation and Development (OECD). The cumulative emissions of India, which has a higher energy efficiency rate than China, are about 10% of the US (see Figure 3). In the developing world, China and India are the biggest polluters. For example, India is expelling 5% of the world's CO<sub>2</sub>. India has no binding emission reduction targets under Kyoto but knows that in the next stage of tackling climate change it will have to play a more active role. Both China and India suffer from acute air and water pollution. In 83 Indian cities for which air quality monitoring data are available, more than 84% of the population in 2004 was forced to inhale poor, bad or dangerous air. Only 3% had access to air that was rated good. China is home to 16 of the world's 20 most polluted cities, with dirty air causing the premature deaths of 400,000 people a year. About 340 million people, or 25% of the population, do not have access to clean water. This means that companies need to change the way they have been conducting business there. It is also the unbridled luxury consumption of its affluent classes in the developed and emerging countries that is driving the steep rise in China and India's greenhouse gas emissions.

Business leaders who treat climate or social issues affecting their stakeholders as either irritating distractions or simply



**Figure 2:** How much warmer can it get?

unjustified vehicles for attacks on their business are simply burrowing their head in the sand and failing to take advantage of these issues that have the potential to alter the strategic future of their companies in fundamental ways.

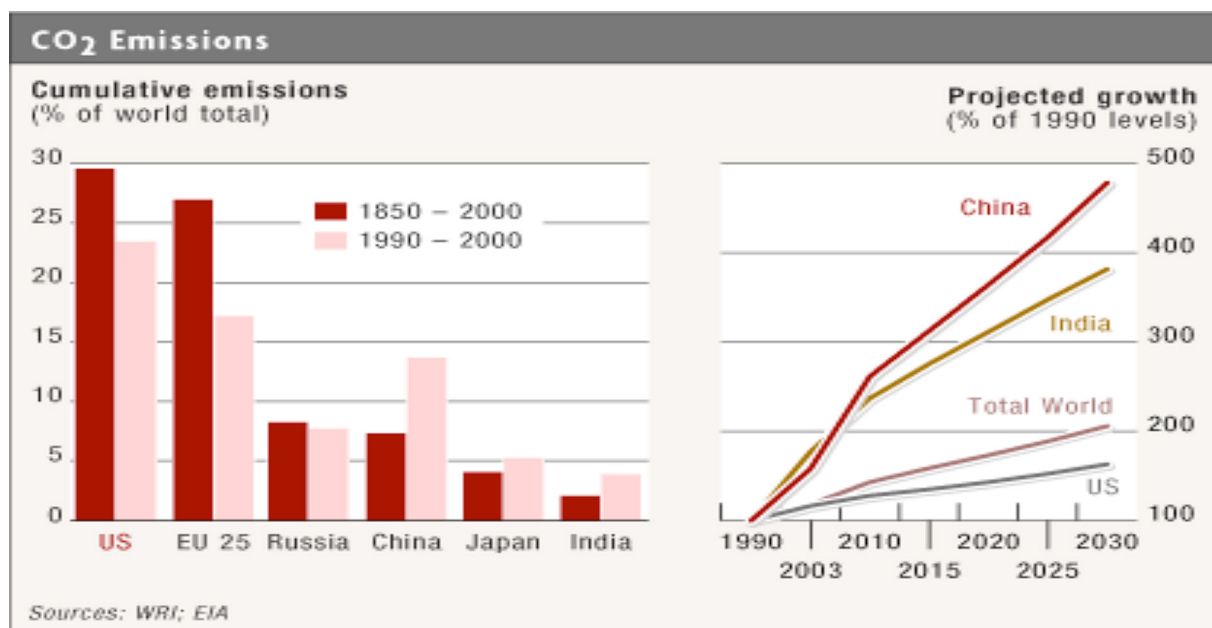
## HIV/Aids spread among workforce – reluctant to make commitments

Consider HIV/Aids – a major problem in the emerging countries, such as India, which has a direct and profound impact on the foreign companies' profitable operation. Foreign companies in India have been slow to wake up to the fact that the spread of HIV/Aids will start to hit the bottom line soon. It is still a fairytale for foreign companies operating in Indian and Chinese cities, but when they see the palpable difference, they will be horrified. The Confederation of the Indian Industry's social development and healthcare group has so far managed to persuade only 600 of its 5,000 members to sign up to its HIV/Aids code. Many foreign businesses have been reluctant to make such voluntary commitments to non-discriminatory treatment of HIV-positive employees, often because there is a serious shortage of skilled employees and they are unable to recoup the cost of HIV/Aids related healthcare from company insurance policies. Only 1% of companies in India acknowledged that HIV was happening within their

workforces. The number of HIV-infected persons exceeds 5 million and is expected to quintuple to between 20 million and 25 million by 2010 according to the National Council for Applied Economic Research (NCAER) in India. With the population of 1.1 billion, India has already overtaken South Africa as the country with the biggest number of people affected by HIV. HIV/Aids statistics are fraught with difficulty the world over, but especially in India. Data are patchy and politicised. Some states such as Bihar offer hardly any. For example, 66% of cases are occurring in six "high-prevalence" states, where HIV has spread to the general population and where infection rates among high-risk groups, such as people working in offshore call centres, exceed 5%. Of these six states, four are contiguous southern states – Tamil Nadu, Maharashtra, Karnataka and Andhra Pradesh – where many foreign companies moved their back-office operations to cut costs. Based on our field research, we found no foreign companies taking an active initiative to tackle the HIV/Aids issue facing their companies in India. And, business leaders continue to do "business as usual" in these states with their one dimensional focus on profit growth.

## Child labour – an inconvenient truth

In the last few years, the trend towards offshoring business functions and manufacturing activities by companies in the



**Figure 3:** Biggest polluting countries are not the ones you would expect to capture value from IT investments

developed countries continued to gather pace to cut costs. Popular offshore locations, such as China and India are also where child labour is most prevalent. For example, India has the world's largest number of child labourers under the age of 14, according to Unicef. The International Labour Organisation estimates India has 44 million child labourers. But child workers exist not only behind closed doors, they work openly in India's major cities. An estimated 12.6 million children are engaged in hazardous occupations, such as the construction of buildings and cleaning offices occupied by foreign companies in major cities like Bangalore, Hyderabad, Chennai, Bombay and Pune, with Uttar Pradesh (home of the call centre industry operated by many of FTSE 100 companies) topping the chart with 1,927,997 child workers. According to the Minister of State for Labour and Employment of India, a total of 27,235 child workers were rescued in 2006-07. These include 13,479 children in the age group of 5 to 8 years. Another 13,756 rescued child workers in the age group of 9 to 13 years<sup>[3]</sup>.

And, profit focused companies from the developed countries conduct "business as usual" in these locations turning a blind eye on child workers. Yet, the same companies continue to pontificate the CSR initiatives in their sleek website or through their public relations arm. The average customer, however, is unaware of such practices by companies. It is easy for these companies to point finger to the relevant government saying it is the government's responsibility to address issues that fuels child labour – an easy escape route to defend an undefendable practice for the quest of pleasing shareholders.

## Safety of workforce and community – cutting corners

Companies operating far and away from their country of origin need to pay necessary attention to the safety of their employees and the impact of their business on communities in foreign locations. The oil company BP will now be aware of the pitfall because of Texas City refinery accident, where 15 people were killed and 500 injured in and around the site on March 23 2005. Subsequently, the investigators found a lack of operating discipline, toleration for serious deviations from safe operating practices and complacency toward serious process safety risks at each of BP's refinery in the USA. Not surprisingly, investigators also discovered that cost-cutting by BP at the refineries had drastic effects, and as a result maintenance and infrastructure deteriorated over time, setting the stage for the disaster.

But, not many other companies in the developed world, like BP, have learnt from the past disasters. Union Carbide, a wholly owned subsidiary of The Dow Chemical Company in the USA, caused an accident on 3<sup>rd</sup> December 1984 in the heart of the city of Bhopal, in the state of Madhya Pradesh, India. Conservative estimates cite 20,000 deaths. Over 560,000 people continue to suffer from the effects of the disaster, such as breathing difficulties, cancer, serious birth-defects, blindness, gynaecological complications and other related problems. Again, a series of cost-cutting measures introduced by Union Carbide from around 1982 was the cause of the disaster.



The problem that led to the Texas City incident and the findings by the US Chemical Safety and Hazards Board (CSB) are an indictment of the very attributes for which CEOs used to be lauded for their “business as usual” mode of operating: acquiring companies for growth; quest for higher production; cutting corners in the hope of improving profit. For these CEOs, there is a constant battle to save money regardless of the outcome. However, the perils of squeezing costs too hard are rarely as high – in real terms – as those faced by Union Carbide, BP and their rivals. The conclusions of the CSB are echoing beyond the CEOs big chemical and oil sectors.

In both cases, companies faced the threat of lawsuits similar to those common in the tobacco, pharmaceutical, and asbestos industries. These companies also face judgment in the court of public opinion, where they can be found guilty of selling or using products, processes, or practices that have a negative impact on the employees, environment and the local community. The potential for customer or shareholder backlash is particularly high in markets where brand loyalty is an important attribute of corporate value. However, companies can turn reputational risk into an opportunity by leveraging responsible culture that show them to be using modern business practices within the society and environment they operate.

## What are the policymakers doing?

In March 2007, the European Union has agreed to cut greenhouse gas emissions by 20% by 2020 compared with 1990 levels. This agreement goes beyond the 8% by 2012 that Europe signed up to at Kyoto. The EU agreement also imposes targets for renewable power, energy efficiency and biofuels. There is no agreement on how to divide up the 20% amongst the EU members. What is worse, the EU is proposing to regulate its way to the target, rather than rely on market mechanisms. However, Europe cannot solve climate change alone and there is a danger of other nations free-riding on European efforts, or exploiting Europe’s pre-commitment at negotiations in the future. The EU is offering a carrot to the rest of the world by suggesting it will cut emissions by 10% if others follow suit. But it needs to show a stick as well, and make it clear that European action beyond 2020 depends on others contributing as well <sup>[4]</sup>.

Beneath the EU’s 20% target there are a set of mini-targets. For example, 20% of European energy to come from renewable sources; improvements in energy efficiency; a minimum 10% use of biofuels in transport and so on. There are problems with having lots of targets. First, it is more bureaucratic to make them work. A lot of effort will now

have to go into counting renewable generation, regulating energy efficiency and fiddling with the biofuel industry. Second, companies simply do not know at this early stage which way of cutting carbon emissions will turn out to be most efficient, because the technologies are changing all the time. Therefore, the policymakers should concentrate instead on imposing a consistent price for emitting a tonne of CO<sub>2</sub> or its equivalent. The market will then work out the best way to make cuts. The policymakers can either expand and upgrade its existing Emissions Trading Scheme for industrial polluters or member states can tax carbon. The rest - renewables, biofuels and efficiency - should follow. Europe has taken a great symbolic step. Now its nations must take their share of the challenge and focus on effective policies in working out the best way to cut emissions.

It is clear that facing up to climate change is going to mean that both consumers and companies will have to conduct business differently. Yet the differences are sometimes exaggerated. For example, a tax or permit price of £25 per tonne of CO<sub>2</sub> would put about £10 on the price of a short haul flight, no more than the current air passenger duty. The EU has also adopted a proposal to cut cars’ CO<sub>2</sub> emissions to an average of 120grams per kilometre by 2012 from more than 160gramms per kilometre now. Manufacturers will have to reduce average emissions to 130grams per kilometre, with the remaining 10grams per kilometre cut to come from the increased use of biofuels and other complementary measures. Car manufacturers estimate the costs of meeting the 120grams per kilometre limit at €600 - €3,000 per unit. Most European volume carmakers operate on margins of 1 to 3%, which translated into an operating profit per vehicle of less than €500. This means, the European carmakers will have to change their manufacturing process to balance the risk to their financial performance and creditworthiness against cutting their cars’ CO<sub>2</sub> emissions. Car companies, mostly operating on razor-thin margins, will have to invest in their manufacturing facilities to comply with the proposed new standards; otherwise they will be hurt by a consumer shift toward smaller vehicles with less CO<sub>2</sub> emissions. A sensibly designed environmental policy need not be impossibly arduous.

The piecemeal approaches on offer for attacking the climate change problem at present in the UK promise to be both costly and ineffective. Politicians in the UK do not seem to have much interest in how to address climate change at the lowest possible cost to consumers and companies, and they have to get away from their obsession with the distributional effects of any particular green tax. The answer is neither elusive nor complex. Either a carbon tax, or a credible emissions trading scheme that produced a predictable carbon price, would discourage

wasteful activities and encourage innovation to cut down on CO<sub>2</sub> emissions. The UK tax system as a whole should be progressive, but not every measure needs to be. The potential pain of green taxes could be offset if politicians promised to offset them with tax cuts elsewhere.

While the challenges for the EU members are to figure out the ways to implement the climate change target, the world's biggest polluting countries, such as the USA, China, Japan, and India, are continuing to do "business as usual". Within the developed world, the USA seems unwilling to take effective actions against the climate change, despite the fact that 76 percent of Americans believe global warming is a serious problem, and 50 percent believe it is a very serious one. For most businesses in the USA, a comprehensive federal policy concerning climate change is necessary to a patchwork of state and local regulations. Recently, leading US financial investors (Merrill Lynch, Calpers, Allianz and Calvert) joined some of the USA's largest companies (such as Alcoa, BP America, DuPont and PG&E Corporation) and urged their government to follow Europe by setting mandatory targets to reduce USA carbon emissions. Perhaps, business sense will prevail in those countries and one day they will follow the EU.

It is not rocket science to conclude that any workable climate change policy must be global; it must create stable incentives; it must be administratively simple; it must include investment in creation and dissemination of new technologies; and, not least, it must allow people to get on with their lives with as much freedom as possible. Uniform prices on emissions - ideally, through taxation - will do most of this job. Almost everything else is unnecessary or counterproductive.

## What are the implications of doing "business as usual"?

Based on our research, we found business leaders manage environmental risk as a threefold problem: regulatory compliance, potential liability from industrial accidents and pollutant release mitigation. But, climate change presents business risks that are very different in characteristics, because the impact is global, the problem is long-term, and the harm is essentially irreversible. Furthermore, government policies of the developed countries have offered business leaders little or no guidance as to how environmental policy may change in the future. Ignoring the financial and competitive consequences of climate change could lead a company to formulate a flawed operating strategy with inaccurate risks management, resulting ultimately in poor valuation. This has been the case for utilities and energy-intensive industries like chemical

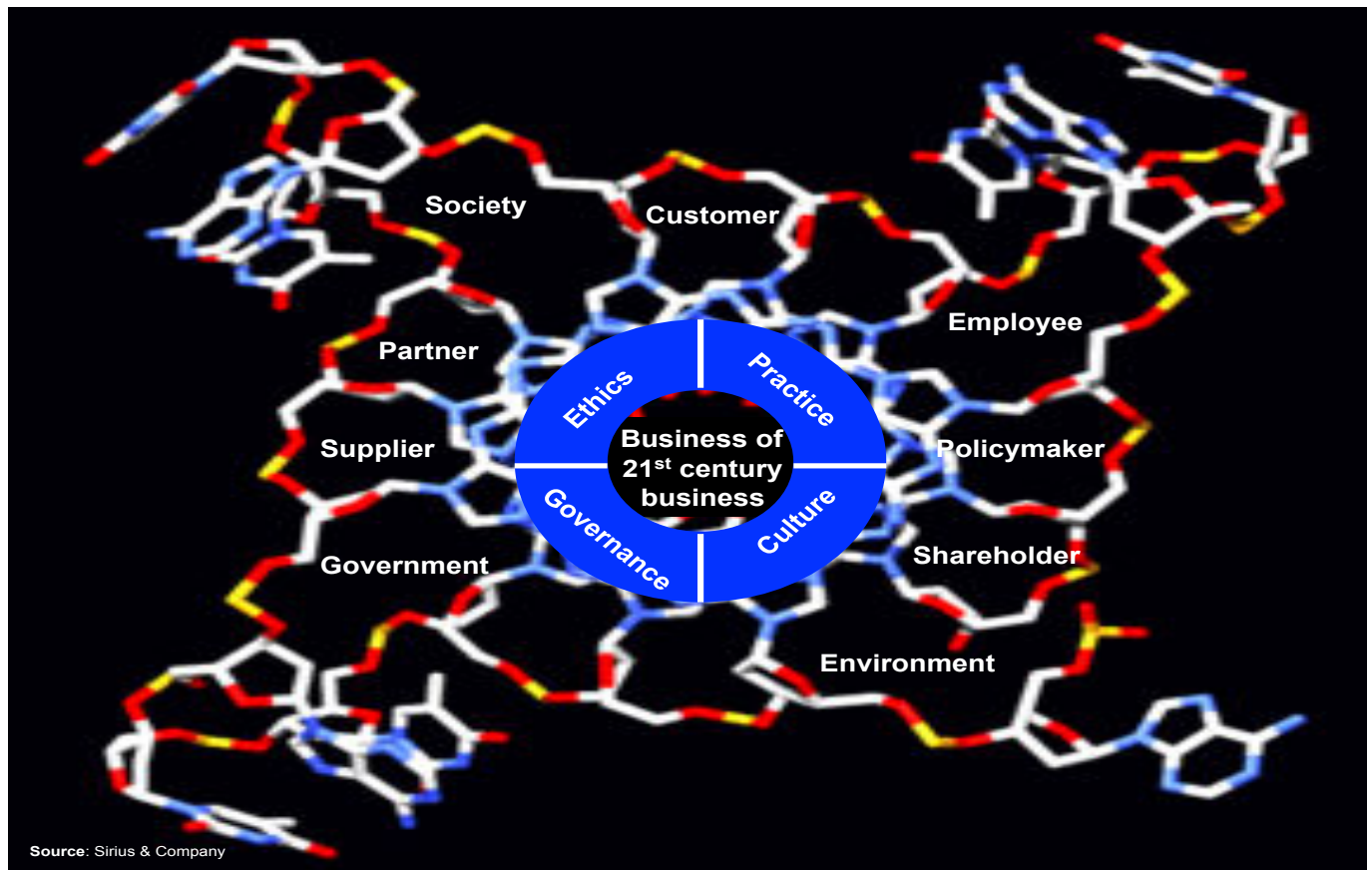
manufacturing, it now holds true for most industries. In fact, the most important distinctions to be made when considering environmental risk assessment are not between sectors but within sectors, where a company's climate-related risk mitigation and product strategies can create competitive advantage<sup>[1]</sup>.

## Smart CEOs are leading and Governments are legislating

Government regulators are not the only ones keeping an eye on individual companies for inadequate climate-related practices and their hollow CSR campaigns. Some institutional investors are beginning to demand more disclosure from companies. Similarly, investor coalitions are filing shareholder resolutions requesting more climate risk disclosure from companies. More than two dozen climate-related resolutions were filed with companies in the 2004 to 2005 period, triple the number from 2000 to 2001.

But smart companies are not hiding behind the CSR initiatives in their sleek websites. For example, Marks & Spencer CEO, Stuart Rose announced a £200 million, five-year plan to make the company carbon neutral earlier this year. Under his "eco-plan", the company will cut energy consumption; stop using landfill sites and stock more products made from recycled materials. The company believe the project would "change beyond recognition" the way the company operated. Stuart Rose made it clear that extra costs under the plan would not be passed on to customers. He went on to say that "responsible business can be profitable business; we don't have all the answers but we are determined to work with our suppliers, partners and government to make this happen; doing anything less is not an option." As well as cutting energy and using more renewable materials, Marks & Spencer will aim to source its food from the UK and the Republic of Ireland as a "priority" in an attempt to reduce air freight. Labels will identify food that has been flown into the UK. Under its plan, much of the company's polyester clothing will be made from recycled plastic bottles, instead of oil, and millions of garments will be made from fair trade cotton. The company will also trial the use of food waste to power its 500 stores across the UK.

The far-reaching effects of climate change on business become clearer when business leaders, such as Stuart Rose of Marks & Spencer, start to think about the different kinds of risk, most of which can be transformed into opportunities, and how they could affect the valuation of their companies.



**Figure 4:** The DNA of 21st century business

## DNA of a 21<sup>st</sup> century business

The DNA of a 21<sup>st</sup> Century business is very different from a successful business of yesterday where short-term financial performance was the only indicator that financial markets demanded. Thinking about the DNA of a 21<sup>st</sup> Century business, as opposed to short-term performance, helps business leaders understand how to look after companies today in a way that will ensure that they remain strong and profitable in the future. It focuses the mind on what must be done today to deliver the outcome of long-term performance.

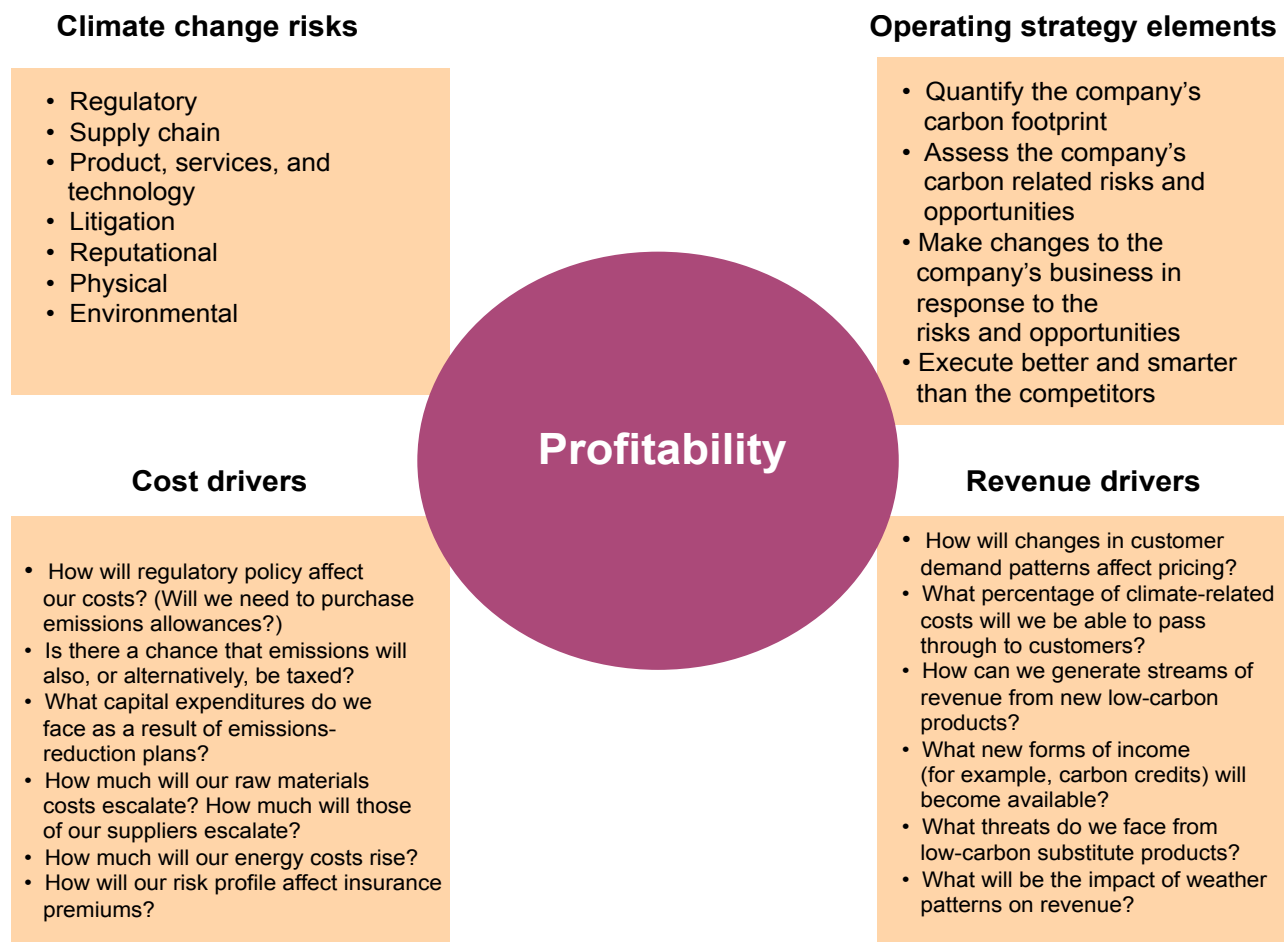
Today, companies are not focusing enough on managing the medium to long-term wellbeing of their businesses – because financial markets only provide lip service to the real long-term health of companies. It is the onerous demand of what financial markets want that contributes to the short-termism at the expense of companies' fair, ethical, and responsible practices to serve their shareholders as well as the other stakeholders in the society and environment they operate. It has always been the shareholders who come first. But times are changing, and under-serving customers, the society and paying lip service to the environment will no longer allow companies to fulfill their

obsession to satisfy the wishes of their shareholders alone in the 21<sup>st</sup> Century. Let us make it clear, if it is not already, about the DNA of a 21<sup>st</sup> Century company: business is not just to make profit to please only the shareholders, but tomorrow's business is about making profit responsibly, giving maximum consideration to ethics, progressive culture, next practices and effective governance. There are several components which uniquely identifies a 21<sup>st</sup> Century business – a well crafted strategy; productive, well managed assets; innovative products, services; modern and responsible practices that value long-term health of the business and due care for the environment within which it operates; delivering profit in an ethical manner; an excellent reputation with customers, suppliers, partners, regulators, policymakers, governments, and other stakeholders; and the ability to attract, retain, and develop high-performing and talented employees (see Figure 4).

## Managing climate change for greater profitability

Visionary business leaders of the 21<sup>st</sup> Century will manage climate change risks for better performance and greater profitability by assessing how climate-related forces will





**Figure 5:** Integrating climate change risks into the operating strategy

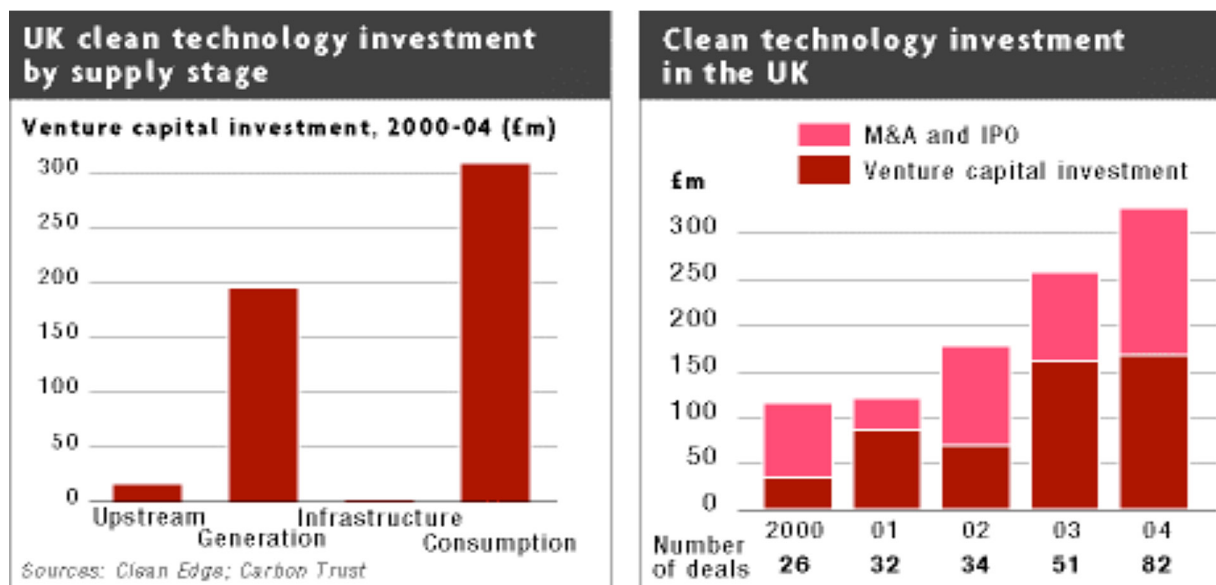
affect their companies in terms of costs, customer loyalty and revenue opportunities. In that processes, they will identify that a company's ability to prosper in the 21<sup>st</sup> Century's carbon-constrained world will depend on its business leaders' skill at hedging against physical climate risk, mitigating regulatory costs, avoiding expensive litigation and other threats to corporate reputation and brand loyalty, managing climate risk in the supply chain, investing capital in low-carbon assets, and innovating new technology, product, and service opportunities that customers prefer (see Figure 5).

One way to assess the effect that climate-related forces will have on a company is to consider their direct and indirect financial impact. A company can look at the "carbon intensity" of its profits. In other words, what percentage of profit is derived from products with high CO<sub>2</sub> emissions? Or the company can look at ways in which climate change could affect its revenues and costs. On the cost side, climate change may drive increases in raw material costs, direct regulatory costs, capital expenditures (e.g., new facilities with lower emissions levels); insurance premiums for assets located in at-risk areas of the world, and possibly

even new tax liabilities. Revenues will be affected by a company's ability to improve productivity, modern best practices, and possibly pass a small part of the cost on to customers through new pricing structures (with superior services) while exploiting new market opportunities and maintaining market share.

The interplay among the various elements of climate-related risk affects a company's cost of capital and ultimately its valuation. Soon, investors will factor a company's climate exposure into estimates of its future cash flow streams. The degree to which cash flow is sensitive to climate risk will also affect how much cash is available for interest expense and amortization of a company's debt, ultimately affecting its ratings on bonds and bank debt. Calculating the impact of climate risk on cash flows and costs of capital is critical to understanding a company's ability to compete in a carbon-constrained world of the 21<sup>st</sup> Century<sup>[1]</sup>.

All the environmental, social, and business issues we highlighted, billions of pounds of shareholder value have been put at stake that ultimately feed into the core drivers of corporate performance. All most all cases of "business



**Figure 6:** Business have been slower to take up clean technology

as usual” outlook have blinded companies to a narrow set of financial results at the expense of what is right for customers, employees, partners, other stakeholders, and the environment.

## Prudent use of technology reduces CO<sub>2</sub> emission

Businesses across the developed countries have been slower to take up clean technology, although a handful of high-profile companies have shown an interest. For example, in the UK, BT, the telecommunications company, became the biggest company to commit to taking all of its energy from renewable or environmentally sound sources. Other UK companies, such as HSBC, Barclays subsequently followed BT’s example.

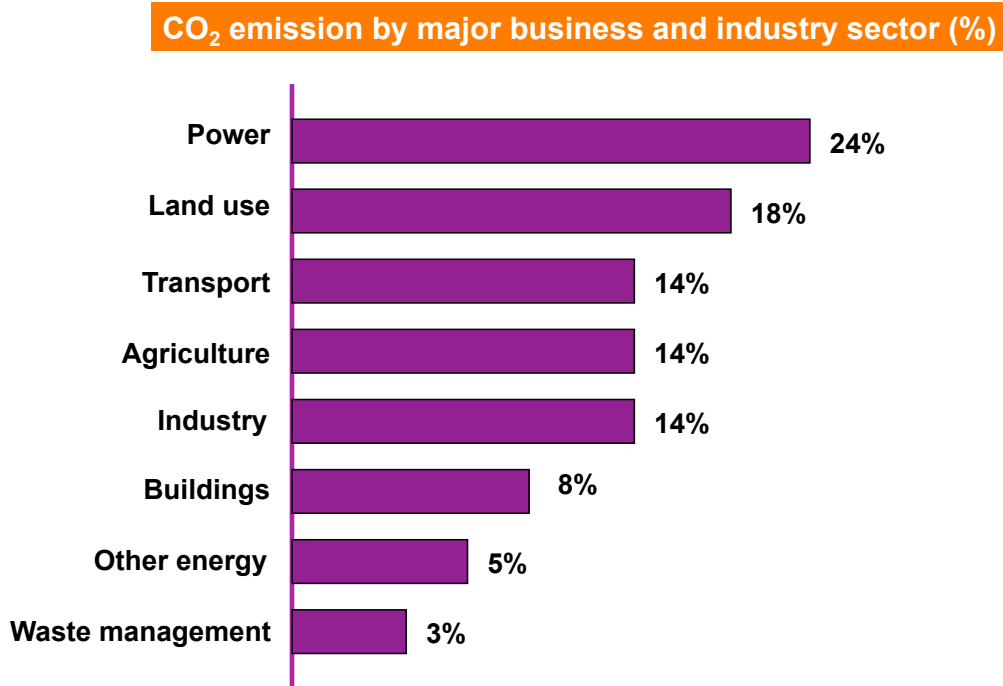
But, the question still remains: can businesses benefit financially from using cleaner energy? There are some indications that operating a “sustainable business” policy can save companies money, but these chiefly come from reducing energy usage rather than changing to a different source. Targets on lowering CO<sub>2</sub> emissions, and governments’ desire to stimulate financial markets for new low-carbon technologies, are at last providing a commercial opportunity that motivates investors independently of any intention desire to invest their funds in an environmentally sound manner (see Figure 6).

The impetus that increasingly tighter regulation is giving to clean technology attracts investors into an area that was once seen as at best of mere academic interest, at

worst populated by pressure groups. There are good signs that the business leaders in the UK are recognising the challenges posed by climate change. For example, some of the leading banks and insurance companies are calling for the City of London to become carbon neutral <sup>[8]</sup>.

Consider transport emissions, and the spotlight is now on aviation (see Figure 7). Again, technology provides part of the answer. Because aircraft are at their most fuel-efficient at cruise altitude, reducing the time spent circling at lower levels substantially cuts emissions. Automatic dependent surveillance broadcast technology uses GPS to determine an aircraft’s position and lets pilots space out their aircraft more efficiently during landing. Aircraft can use a continuous descent approach while flying in idle mode, cutting emissions by 3 percent between cruise altitude and runway, and by 34 percent below 3,000 feet.

Technology can also help retailers and logistics providers cut back on wasted “backhaul”, when vehicles, having delivered goods, return to base with no cargo. In Europe, one in three vehicles runs empty, according to some estimates. Online freight brokerages can link companies that have backhaul space with shippers that need their goods transported. Fleet owners are looking to fill some of their backhauls so they publish their capacity, availability and timing. So the network has visibility to the carriers hauling freight today that will free up tomorrow afternoon. The real potential, when it comes to cutting the freight industry’s carbon emissions, lies in determining whether shippers should be using trucks at all, if other modes of transport, such as rail, are available. In emissions terms, water and rail transport are the most efficient, while trucks and planes are the heaviest polluters.



Source: World Resource Institute, Thomson Datastream, Lehman Brothers, and Sirius & Company Analysis

**Figure 7:** Carbon emission by industry sector

But global businesses have embraced just-in-time delivery, which works against fuel efficiency and carbon emissions reduction. Because speed and low inventories are what count in just-in-time delivery, manufacturers ship goods only when retailers need them – often in small, daily shipments. This requires extensive fleets of partially full vans, rather than a smaller number of fully loaded, larger trucks running weekly. What companies trading off is inventory versus oil. Just-in-time is one of those concepts that make sense while oil is cheap and harmless to the environment, but it doesn't make sense when oil is expensive and polluting.

Demand for timely manufacturing has also limited the amount of freight transport traveling “intermodally”, using several modes of transport. Retailers like the speed and flexibility of trucks using direct routes to the shop or distribution centre, rather than the complex business of connecting their shipments with more carbon-efficient trains or ships <sup>[5]</sup>.

## Role of the CIO to reduce CO<sub>2</sub> emission

The Chief Information Officers' (CIOs) spending on IT equipment - that is, servers, a variety of storage devices, network equipments, facilities, and the people and software to manage them—grows by 15 percent to 20 percent every

year, even though the unit cost of IT equipment drop by about 30 percent annually. Clearly, CIOs are struggling to keep up with an explosion in the amount of the information they must store and manage as a result of the increased use of data-intensive business applications, automation, and regulatory requirements. CIOs could play their part in containing their IT equipment costs by rationalising and consolidating servers and other IT equipment – thereby reducing the CO<sub>2</sub> emissions (see [Taming the beast: containing spiralling IT infrastructure costs](#) by Sum). To reduce IT equipment costs, CIOs should make a few changes in their current practices (see [Sourcing versus Subscription](#) by Pal). For example, the IT department should create a menu of service offerings using technology such as SAFETM that clearly explains the various options, including trade-offs between costs, capabilities, and CO<sub>2</sub> emissions for each option. CIOs that have followed these guidelines could cut IT equipment costs by as much as 40 percent with significant reduction of CO<sub>2</sub> emissions without compromising the quality of service.

Another area where CIOs can make a difference is the IT supply chain. They should evaluate the vulnerability of their IT suppliers, which could lead to higher component and energy costs as IT suppliers pass along increasing carbon-related costs to their customers. IT equipment manufacturing, for instance, relies heavily on suppliers of aluminium, LCD screens and plastics, all of whom are

likely to be seriously affected by emissions regulations. Companies should also take into account the geographical distribution of their IT suppliers' network. CIOs should be aware of how many of their IT service providers operate in, say, within the EU, where regulatory structures are already in place. In addition, CIOs must be mindful that the other environment related risks could affect not just their own companies but their IT service providers as well.

## What does all this mean?

The job of a CEO in the 21st Century is far more challenging than it has ever been in the history of business. In addition to crafting out road maps for a more profitable and enduring future for their companies, there is a pressing need of the ethical mind set of tomorrow's business leaders. It is simply not enough to espouse high standards like many business leaders do. To live up to them, and help other stakeholders do the same, requires an ethical cast of mind that lets business leaders practice their principles on a consistent basis. An ethical mind broadens respect for every stakeholder into something more concrete and meaningful [7]. A business leader with an ethical mindset asks himself, "What kind of a person, worker, and leader do I want to be? If all workers in my profession adopted the mindset I have, or if everyone did what I do, what would be the future of the business?" Obviously, an ethical orientation begins at home, where children see whether their parents take pride in their work, whether they play responsibly. Children absorb their parents' values. However, even if one grows up with a strong ethical sense, the bad behaviour of others can undermine it. For example, believing that cheating is the price of success, or maybe it is not a bad practice after all because everyone does it. Some even come to think of ethical behaviour as a luxury like many business leaders view their companies' CSR initiatives. What is clear, however, ethical behaviour in business leaders is a pre-requisite for responsible business practices relevant for 21st Century business.

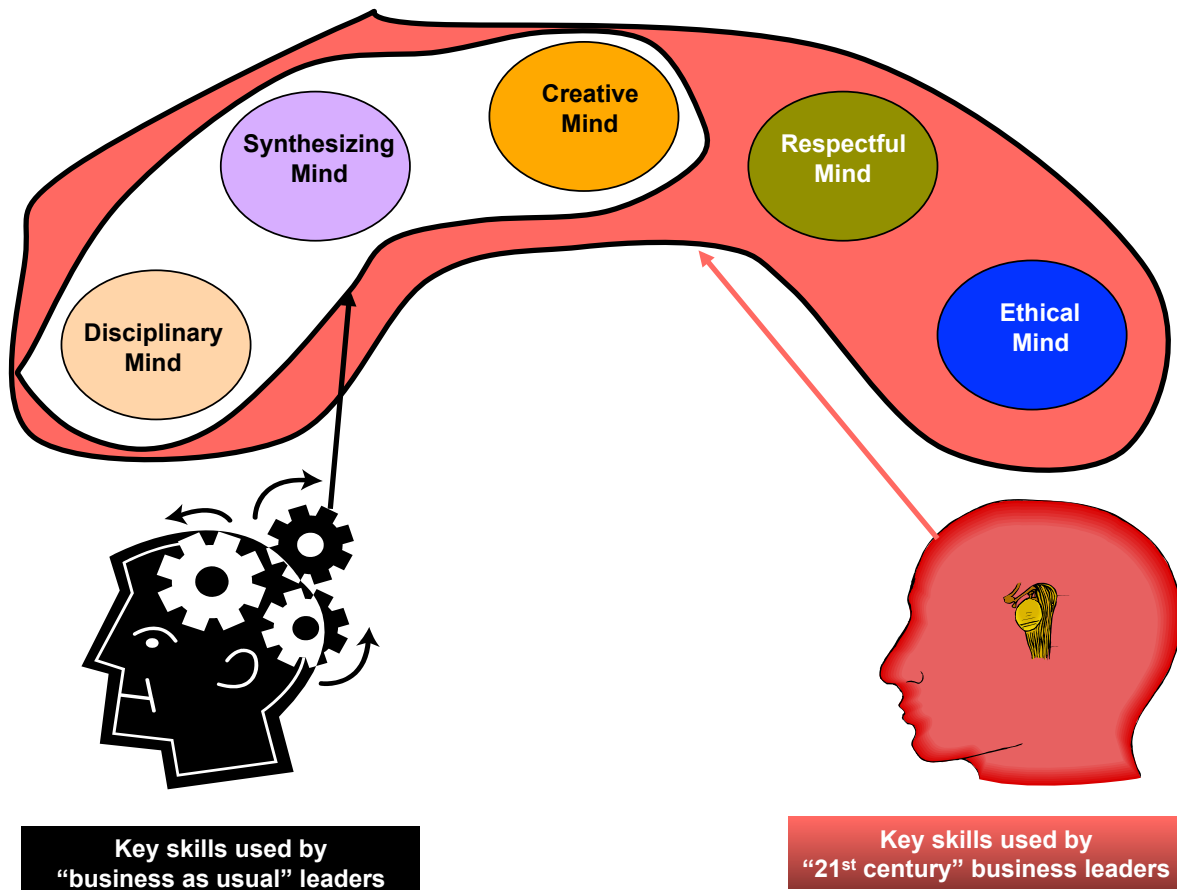
As business becomes more complex, competitive and global, the temptation to skirt ethics is enormous. We live in a time of intense pressure on business leaders and companies to cut corners, pursue their own interests, and forget about the effect of their actions on the stakeholders. Additionally, many business leaders have tacitly accepted the Nobel prize winning economist, late Milton Friedman's belief that if business leaders pursue their interests and allow the processes of the marketplace to operate freely, positive moral and ethical consequences will magically follow. But markets are amoral; the line between shading earnings and

committing outright fraud is not always clear – just ask ex-Enron CEO, Jeffrey Skilling. When everything that matters can be bought and sold, when commitments to customers can be broken because they are no longer to companies' advantage, when advertising slogans become companies' litany, when a business leader's worth is measured by how much he/she earns generating more profit using whatever means, then the business is destroying the very virtues on which in the long run it depends. Confidence in business is undermined; individuals distrust one another.

So, the questions are: Will the business leaders of 21<sup>st</sup> Century adhere to common standards of governance, ethical practices around the world, environmental protection and intellectual property rights with the same vigour as their pursuit for profit? Will they use their influence to collaborate with policymakers, customers, and society to tackle issues such as climate change, child labour and HIV/Aids? Will they be equal to the challenge of managing a global workforce comprising disparate beliefs and expectations while managing a core purpose? How will they create and manage productive and enduring relationships with their critics? How will they manage and motivate a global workforce whilst taking advantage of lower cost of labour? Business leaders need to address these questions not in a philanthropic way but in a core, strategic and meaningful way. Although, there is no contradiction in aligning pursuit of profit with the search for solutions to global challenges facing companies in the 21<sup>st</sup> century, very few business leaders have yet to venture in that direction.

From our work with business leaders of FTSE 250 companies over the last five years, we found that the majority of business leaders would like to play a greater role in developing the role of business in the 21st Century but lack of time is the main barrier to make it happen. A small number, less than 2 percent, of business leaders, however, give their precious time to some of the issues that we discussed here, but for personal reasons and not wearing their companies' hat – this reflecting that most of the businesses are still being conducted as yesterday's "business as usual" way. For example, in recent years, Bill Gates of Microsoft has devoted a significant share of his personal wealth via Gates Foundation promoting global health, with particular emphasis on combating malaria, tuberculosis, and HIV/AIDS in the developing countries, such as India. Never short of hyping up the matter, the Confederation of Indian Industry (CII) announced in March 2007 that "Corporate India joins war on Aids" when only four centres in three states are planning to provide free anti-retroviral treatment (ART) to poor AIDS patients of over 5 million. The first ART centre was set up by a cement





**Figure 8:** Difference between a “business as usual” business leader and a “21st Century” business leader

company ACC in Karnataka in January 2007, but not by any corporate titans of the Indian business world. While Bill Gates’s ethical mindset drove him to do something meaningful for people suffering from HIV/Aids in India, Indian companies and their much celebrated business leaders turn blind eyes to HIV/Aids facing their own employees.

We live in a time of unprecedented business changes, and these changes call for new ways of thinking about running businesses – combining all five minds (i.e., Disciplinary, Synthesizing, Creative, Respectful, and Ethical) of human race (see Figure 8). Smart business leaders of the 21st century are those who use all five minds and have a comprehensive understanding of business technology issues, socio-economic issues affecting their global workforce, customers’ preference, environmental challenges, and understanding the self and nationalistic interest of political classes, and the interplay between them. This is a more demanding role than their illustrious 20<sup>th</sup> Century predecessors.

It is high time for business leaders to keep their one dimensional focus on shareholders’ interests on one foot and get on the other foot balancing equally the vital issues that will have profound impact on the future wellbeing of

their companies. This is because: *first*, smart business leaders have much to contribute to articulate the discussion. *Second*, it is in the strategic interest of their companies, and of business. And *third*, it is in the interest of all stakeholders. Environmental, social, political, and economic forces could completely change an industry’s structure, could do irreversible damage or enhance a company’s reputation, and could create market opportunities to address environmental needs and new consumer preferences. Business leaders with foresight are particularly well positioned to articulate and help resolve the complex trade-offs inherent in big challenges from climate change to child labour in the global supply chain to depravity in the sweatshops and manufacturing facilities of emerging countries.

Companies with the right vision, relevant operating strategy, and technology to provide products and services that address climate, business, social, and other pressing issues will enjoy a competitive advantage. They will not just do well, but outperform competitors by miles. Responsible companies with smart business leaders have vital role in addressing these immense challenges in the 21st Century. It will be a tragedy if they don’t.

**NOTES**

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**About the author**

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