



# INDIAN COMPANIES IN THE 21ST CENTURY

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# INDIAN COMPANIES IN THE 21ST CENTURY AN OPPOR- TUNITY FOR INNOVATIONS THAT CAN SAVE THE PLANET

A SURVEY BY WWF'S TRADE AND INVESTMENT PROGRAMME  
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This report is part of a series of studies by WWF's Trade and Investment Programme, which aims to identify and cooperate with actors in the BRICS group of key emerging economies (Brazil, Russia, India, China and South Africa) to champion sustainable international trade and investment. The Programme examines the scope which exists for these countries to become leading exporters of, and investors in, sustainable goods and services, whilst emerging as key actors in promoting a proactive international sustainable development agenda.

For more information see: [www.panda.org/investment](http://www.panda.org/investment)  
or email: [trade@wwfint.org](mailto:trade@wwfint.org)

# EXECUTIVE SUMMARY

India is currently the world's fourth largest economy in terms of real GDP (PPP) and the tenth largest economy in terms of nominal GDP.<sup>1</sup> Over the last decade, the country has emerged as a leading actor on the international stage.<sup>2</sup> India's role in both the WTO and the UN has often been that of bridging the divides between North and South, East and West, building on a long historic tradition.<sup>3</sup> The outsourcing of services to India has over the past decade redefined the international business environment, and major Indian companies are now moving abroad on a scale never before witnessed.<sup>4</sup>

In a situation where the world requires innovative companies to address the serious global challenges faced by humanity, including high resource consumption, pollution, population growth, demographic and geopolitical changes, India, with its rapidly changing business environment, may indeed prove to be one of the most important countries on the planet over the next several decades.<sup>5</sup>

This report shows that there exists significant interest within the Indian business sector in sustainable development and innovative solutions that can be applied to achieve this goal. The approaches utilised in this regard by leaders in the Indian corporate sector are well ahead of many of their western counterparts, which are often, and often erroneously, viewed as leaders in the field of corporate social responsibility (CSR). A number of common denominators exist within the progressive approach of these Indian companies, and these have been collectively referred to by one Indian company as “third generation CSR”.

This third generation CSR is an approach where companies look to ensure that their core businesses deliver sustainable development results. This differs from the first generation of CSR, that looked at philanthropy as one way of using profits, and the second generation that was searching for ways of minimizing the negative impacts of the companies' operations.

The most important element of the third generation CSR is that it examines the core activities of a company and determines means by which the company can evolve in order to ensure that it contributes to welfare, even if this does not translate into immediate returns. This approach means that environmental and social concerns are the starting point for the business activity, as opposed to being factored in at the end. Rather than compromising on profit, companies provide information that allows government to proactively change business regulations in order to reward companies which deliver on social and environmental objectives, such as reducing the use of natural resources.

In order to ensure that Indian companies can further develop this "third generation CSR", it is vital that proactive leaders work together. The Indian business community must itself find ways to encourage this development, and the Indian government should ensure that leaders in the corporate sector are rewarded. The NGOs in India must also be involved in these processes, in order to promote transparency and to ensure that companies which deliver are rewarded. Finally, and not least importantly, foreign governments and companies must support these Indian firms through whatever means at their disposal, from direct measures such as public procurement and supply chain management, to indirect measures such as Research and Development (R&D) and changes in Intellectual Property Rights (IPR) legislation.<sup>6</sup>

Existing initiatives, such as the CII-Sohrabji Godrej Green Business Centre, provide an interesting op-

"India is not endowed with sufficient natural capital in comparison to the population it supports. Though India is home to 18% of the world's population, it only has 2.4% of the planet's landmass, 4% of the fresh water resources and about a percent of the world's forest. India's ecosystems are already highly degraded. Most Indian rivers have water quality unfit for direct human use. Air quality in Indian cities is degrading despite significant improvements in emissions from vehicles and industries. The country however continues to remain on the threshold of a grave ecological crisis.

The current paradigm of rapid economic growth along with the need of conserving the natural and ecological resources, challenges the very foundation of the manner in which business is done today. It challenges the traditional business management theory, which echoes Milton Friedman's famous statement that there is 'only one responsibility of business: to use its resources and engage in activities designed to increase its profits.'

The fact that rapid economic growth is the only realistic means to lift the poor out of extreme poverty and the fact that most economic activities depend on product and services provided by the ecosystems, necessitates the ushering of a new business paradigm which enables rapid economic growth without compromising the capacity of the ecosystem to sustain, nurture and fuel economic development and human well-being."

[www.cii-sustainability.org/](http://www.cii-sustainability.org/)



portunity to strengthen the third generation CSR.<sup>7</sup> The vision of CII-Godrej GBC is to “Make India a Leader in Green Businesses by 2015”.

Unlike the majority of countries in the world, many in India exhibits an understanding of the magnitude of the challenges it faces, but also a willingness to turn these challenges into business opportunities.

One of the most important areas to explore concerns the opportunity to develop an “axis for sustainable development” between India and China. The direction in which the relationship between these two giants will move in the future, will to a large degree determine the future of global sustainable development. Collaboration between India and other emerging economies will also be crucial.

#### OVERVIEW OF RESPONSES TO THE QUESTIONNAIRE<sup>9</sup>

- i. The survey shows that a group of companies exists in India which has taken on a leadership role in corporate sustainability. Of the respondents, more than three quarters (76%) answered that they comply with environmental regulations and judicial decisions, while 20% felt that they exceed these standards. Four percent of the companies admitted to non-compliance with environmental regulations.
- ii. When asked “How would you rate Indian companies in general in terms of abiding by the laws and policies for environmental protection”, 66% replied that either “many” or “very many” are “breaking laws”. In comparison, 44% replied that “few” or “very few” are “breaking laws”. For the category “going beyond” 83% replied that “few” or “very few” do this, compared with the 17% who replied that “many” or “very many” do this. This, together with the fact that many of these companies also request stronger penalties for non-compliance, indicates a perception by companies that compliance with environmental regulations is costly to them, and that competitors that are non-compliant must be dealt with.<sup>10</sup>
- iii. The contrast between what the companies report as their own behaviour and how they perceive other companies is striking. This discrepancy could be explained by a number of factors. Firstly, the nature of the survey presumes a degree of self-selection, since those companies responding to the questionnaire are likely to be more interested in sustainability issues than the average company, and the results can therefore not simply be extrapolated to the Indian business sector as a whole. Secondly, companies might overestimate their own performance and underestimate their competitors’ performance. Thirdly, media reports will tend to focus on those companies guilty of breaking the law, rather than those going beyond the requirements, thereby creating an impression that non-compliance is more common than is in fact the case.

- iv. Among the respondents which are directly engaged in the import, manufacturing, sales or service of energy efficient energy products, 77% felt the need for the Indian government, or an industry association, to develop and market an Indian certification scheme.
- v. Close to three-quarters (73%) of the companies that participated in the survey, expressed a willingness to cooperate with an organisation such as WWF in order to promote sustainable development, both within India and internationally.

## POSSIBLE WAYS FORWARD

### Indian companies:

- i. Leading companies could work with the government in order to ensure that an overarching investment and export framework is developed, that supports proactive companies contributing to sustainable development.
- ii. Leading companies could develop models that help to translate sustainability trends, such as reduced resource utilisation, into profitable business strategies.
- iii. Leading companies could develop concrete projects that support sustainable development in India and abroad, especially in the BRICs countries, implement these and communicate the results to key stakeholders. These projects should be linked to the core business of the companies.

### The Indian government and authorities:

- i. The possibility to develop a sustainability index for the stock market should be explored.
- ii. The Indian government and authorities could develop a system to distinguish between sustainable and unsustainable trade, building on existing work in fields such as the “project based approach” for environmental goods and services in the WTO, where the Indian government plays a global leadership role.
- iii. Enforcement of the norms and regulations to protect the environment must be improved, in order to ensure compliance and avoid a situation where non-compliant companies are advantaged over those following the law.

- iv. A process could be initiated that supports proactive companies and ensures that other companies do not lower environmental standards within the country and thereby tarnish the general reputation of Indian products in the international market. Such a process could include the following instruments:
  - Incentives, including financial ones – Companies that go beyond existing regulation should be rewarded accordingly
  - Disclosure, including mandatory rules – Basic environmental information should be disclosed, preferably in line with internationally agreed standards such as the Global Reporting Initiative (GRI). Existing standards must also be met. Progressive companies must be allowed the opportunity to identify areas where reporting needs are most acute, while non-companies could be exposed, for example on a national blacklist. Initiatives such as the Global Reporting Initiative and the Carbon Disclosure Project should be encouraged.
- v. The government could develop economic instruments that promote environmental responsibility amongst small and medium enterprises, since such companies often do not possess the necessary resources to translate sustainability trends into business opportunities.
- vi. New concepts such as sustainable urbanisation, green buildings and sustainability as a driver for innovation are beginning to take hold in India. Government agencies should therefore explore ways in which to support these initiatives. Where possible this should be done together with other emerging economies such as China, Brazil, Russia and South Africa.
- vii. The government could play a more active role in the development of regulations affecting Indian business in other regions, such as the EU and China. For example, the Indian government could provide suggestions for the implementation of sustainable development concepts such as decreased resource utilisation, reduced pollution and reduced CO<sub>2</sub> emissions.

### Foreign governments and companies

- i. For each of the recommendations to Indian companies and the Indian government, foreign governments and companies could explore ways to support those Indian companies taking the lead on sustainable development.
- ii. Foreign governments could explore ways in which their domestic rules and regulations could be amended to support the importation of sustainable goods and services from India, for example through the implementation of sustainable procurement practices.

### THREE INITIATIVES TO EXPLORE

In order to explore the potential of Indian companies to play a more prominent global role in providing sustainable welfare, WWF will develop three initiatives that directly support the majority the ‘steps forward’ presented above.

#### 1. Sustainability as a driver for innovation and profit

This initiative will explore ways in which Indian companies can translate global sustainability challenges into profitable business opportunities.

#### 2. Export of environmental goods and services

This initiative will explore ways in which to define, identify and support those products, services and projects that contribute to sustainable development. It will develop a model that can be used to guide economic decision-making and inform trade and investment negotiations.

#### 3. BRICs Axis for sustainability

This initiative will explore opportunities for a creation of a “BRICs axis for sustainability” that can provide leadership as well as goods and services to the world market.

The three initiatives are described in more detail in Section Five below.



1.

# INTRODUCTION

The Indian economy grew at 6 percent per annum from 1980 to 2002, at 7.5 percent per annum from 2002 to 2006 and during 2005/06 the economy grew 8.4 percent.<sup>11 12</sup> At the beginning of 2006 the Indian economy is growing with by approximately 8 percent, making it one of the world's best-performing economies for the past quarter century.<sup>13</sup>

In the recent past, much of the discussion regarding India's role in the global economy has been within the context of China, which is viewed as the predominant emerging market in the world, with India second.<sup>14</sup> An increasing number of experts, however, are of the opinion that India might surpass China in economic terms by 2040, due, amongst other reasons, to a better innovation climate.<sup>15</sup> In this regard the most important question, of course, is not which of China or India will emerge as the more dominant economy, but rather whether these two emerging superpowers can work together towards achieving the goal of sustainable development?<sup>16</sup>

Significant investments in infrastructure are planned, but many of them are following unsustainable western development models that are resource inefficient and unable of delivering an equitable distribution of welfare.<sup>17</sup>

Over the next decade it can be assumed that attention will gradually shift from the current dominant economies of the EU, Japan and the US, to the China-India axis as these countries become economically more powerful. The direction in which China and India moves is set to significantly influence the movement of the world economy as a whole.<sup>18</sup>

The increasingly prominent role of the private sector in the global economic arena, raises the question of how the focus can be shifted from mitigation of environmental impacts through implementation of minimum standards, to the promotion of leadership and solutions that deliver the sustainable goods and services the world requires. In the case of energy, for example, what steps are required in order to move beyond mere incremental improvements in efficiency and reduced emissions in the power sector, to the implementation of innovative and sustainable approaches such as technology-based alternatives to business travel and new urban planning models?<sup>19</sup>

The report is divided into four main sections. The first provides an overview of the current Indian situation, while the second present the results of the WWF-India survey. The third section presents possible ways forward for different actors, and the final one discusses three initiatives that WWF would like to explore further with relevant actors in India.

The survey and research for this report was undertaken by a team from the Rajiv Gandhi Foundation (RGF),<sup>20</sup> led by Mohammed Saqib. The interpretation of the results and recommendations was done by Rajesh Sehgal and Dennis Pamlin from WWF, together with the RGF. The suggestions for ways forward were developed by Rajesh Sehgal and Dennis Pamlin, with valuable input from the RGF, Ravi Singh, Sejal Worha and WWF's Trade and Investment Programme team.





2.

THE INDIAN  
CONTEXT

## 2.1 The Indian Economy

India's economy is growing fast. With an annual growth rate of 8 percent, rising foreign exchange reserves of close to US\$ 140 billion, increasing foreign direct investment (FDI) of close to US\$ 8 billion, and a more than 20 percent increase in exports, the country's position as an emerging economic super power is easy to understand.<sup>22</sup>

India's population is estimated at nearly 1.1 billion and is growing at 1.6 percent a year. India is currently the world's fourth largest economy in terms of real GDP (as measured in PPP terms) and the tenth largest economy in terms of nominal GDP (as measured according to market exchange rates).<sup>23</sup> Services, industry and agriculture account for 51.4 percent, 28.1 percent, and 20.6 percent of GDP respectively. Nearly two-thirds of the population depends on agriculture for its livelihood.<sup>24</sup>

### India's Macro Economic Indicators (As of March, 2006)<sup>21</sup>

Population (July 2006 est.)	1,095,351,995
GDP at factor cost Q3(2005-06)	Rs. 6,95,382 crore
calculated at constant prices	Crone = 10 million
Per capita GDP	US\$ 543
GDP (PPP basis) (2005 est.)	US\$3.699 trillion
Per Capita GDP (PPP basis) (2005 est.)	US\$3,400
GDP growth rate in 2005-06 Q2 (July-Sep)	8%
GDP growth rate in 2004-05	7.5%
GDP growth rate in 2005-06 (projected)	8.1 %
Composition of GDP	Services : 51.4 %
	Industry : 28.1%
	Agriculture: 20.6%
Inflation as on February 4, 2006	4.1%
Exchange rate RS to US \$	Rs 44. 74 (April 12th, 2006)
Food Grains Production (2005-06)	209.3 million tonnes
Food grains buffer stocks (December 1, 2005)	18.76 million tonnes

INDIA'S  
FOREIGN  
TRADE:

Indian Foreign Trade: A snapshot(2005-06)

Total Foreign Trade	\$215 Bn	
Exports	\$88760.40 Mn	26.34% increase from 2004-05
Imports	\$126336.01 Mn	33% increase from 2004-05
Trade Deficit	\$37575.61 Mn	Higher than \$24739 Mn in 2004-05
Forex Reserves	\$143.774 Bn	Exceeded the forex reserves of USA, France, Russia and Germany.

India's foreign trade data released by the Ministry of Commerce and Industry for the period 2005-06 (April-February) indicates the following: <sup>25</sup>

- During 2005-06 (April-February), India's merchandise exports grew by 26.6 percent (25.5 percent previous year).
- Imports grew by 33.1 percent during April-February 2005-06 (35.3 percent previous year).
- Imports of petroleum, oil and lubricants (POL) during April- February 2005-06 increased by 49.3 percent (44.1 percent previous year).
- The growth of non-oil imports was 26.8 percent during April-February 2005-06, following the 32.2 percent growth the year before.
- The trade deficit expanded by 51.7 percent to US\$ 37.4 billion during April-February 2005-06, from US\$ 24.7 billion the year before, due to an increase in both oil imports (increased by US\$ 13.1 billion) and non-oil imports (increased by US\$ 18.3 billion). During April-December 2005, the non-oil trade balance reflected a deficit of US\$ 8.7 billion, compared with a deficit of US\$ 3.3 billion the year before.

Foreign Debt (Qtr ended December 2005)	US\$ 119.2 billion
Foreign Debt as Percentage of GNP (April 2006)	22%
FDI	
January 2006	US\$ 647.7 million
January 2005	US\$ 152 million
FII investment (net inflows)	
(April-December 2005)	US\$ 5.1 Billion
(April-December 2004)	US\$ 4.7 Billion

The US is India's largest trading partner, with bilateral trade between India and the US in 2005 standing at US\$ 26.8 billion.<sup>26</sup> The Foreign Direct Investment (FDI) inflows from the US constitute about 11 percent of the total actual FDI inflows into India.<sup>27</sup> Proposals for foreign direct investment into India are considered by the Foreign Investment Promotion Board and generally receive government approval. Foreign investment is particularly sought after in power generation, telecommunications, ports, roads, petroleum exploration/processing, and mining.

**ENERGY IN INDIA** In every country, energy policy and the investments which occur in this sector, are closely linked to issues such as climate change, local pollution, welfare creation, national security and public participation in key decisions. The manner in which such policies are formulated and implemented will therefore play a significant role in shaping the society

With a gross domestic product (GDP) growth of 8 percent set for the Tenth Five-Year Plan (2002-07), the energy demand is expected to grow at 5.2 percent. Although, the commercial energy consumption has grown rapidly over the past two decades, a large part of India's population does not have access to electricity. At 479 kg of oil equivalent (kgoe), the per capita energy consumption is even lower than some least-developed countries.<sup>28</sup>

India has significant domestic energy resources, both non-renewable (particularly coal) and renewable.

The geological coal reserves of the country are estimated at 220.98 billion tones (bt) as on January 2001. India has an estimated 1000 billion cubic meters of Coal Bed Methane (CBM), which is likely to emerge as a new source of commercial energy in the country. The current estimates of geological lignite reserves in India are 34.76 bt spread over Tamil Nadu and Pondicherry (87.5 percent), Rajasthan (6.9 percent), Gujarat (4.9 percent), Kerala (0.31 percent) and Jammu and Kashmir (0.37 percent). The lignite deposits in the southern and western regions have emerged as an important source of fuel supply for states like Tamil Nadu, Rajasthan and Gujarat. Over the years, considerable emphasis has been placed on the development of lignite for power generation. Lignite production is likely to increase from 24.3 million tones in 2001-02 to 55.96 million tonnes in 2006-07.<sup>29</sup>

Despite the resource potential and the significant rate of growth in energy supply over the past several decades, India faces serious energy shortages. This has led to a reliance on increased imports in order to meet the demand of oil and coal. Current projections indicate that India's dependence

on oil imports is set to increase.<sup>30</sup> The demand for natural gas also exceeds supply and efforts are being made to import natural gas in the form of liquefied natural gas (LNG) and piped gas. The power sector has also been experiencing severe power shortages.<sup>31</sup>

In India, coal occupies a dominant position, constituting approximately 51 percent of India's primary energy resources, followed by oil at 36 percent, natural gas at 9 percent, nuclear at 2 percent and hydro-power at 2 percent.<sup>32</sup> In traditional scenarios, the current resource mix is expected to change slightly through the forecast period ending in 2010. Coal is projected to remain roughly the same as in 1995, while hydro (14%) and natural gas (10%) will have higher shares of total production. Oil production will however decline sharply to a 9 percent share.<sup>33</sup>

Up to this point, no real attention has been paid to a demand-driven approach, wherein India would consider major investments in intelligent energy systems based upon smart urban planning and renewable energy supply. Such an approach could also result in significant export opportunities.

## 2.2 Indian companies

India's companies have steadily increased their level of activity in the global arena following the opening up of the Indian economy in 1990-91. The Indian business arena has experienced rapid changes in recent years, with economic progress linked to the explosion in information technology (IT), accompanied by the globalisation-induced blurring of national boundaries. In this environment, India has established itself as an outsourcing hub for major international companies such as IBM, General Electric, Hewlett Packard and many others.<sup>34</sup>

The number of Indian companies investing abroad has been growing steadily since the Tata Group's acquisition of the UK's Tetley Tea for US\$430 million in 2000.<sup>35</sup> According to KPMG, Indian companies invested US\$1.7 billion outside the country in the first eight months of 2005, acquiring 62 overseas companies.<sup>36</sup>

According to a report by the Associated Chambers of Commerce of India (ASSOCHAM), the Indian IT sector leads the way in terms of outward investment, accounting for almost 17 percent of all foreign acquisitions between April and July 2005. Other significant sectors in this regard include banking and insurance (13%), pharmaceuticals (13%) and fast moving consumer goods (FMCG) (8%). Other economic sectors active in terms of foreign acquisitions include media, telecommunications, engineering, metals, automobiles, textiles, paper, infrastructure, hotel, packaging and chemicals.<sup>37</sup>

While software export revenues currently comprise 2.5 percent of GDP, this figure is expected to increase to between 6 and 7 percent of total GDP by 2008.<sup>38</sup>

“The time is now...to be in India. This is perhaps the most optimistic I’ve felt about India in the last 10-15 years...”

Jeffrey Immelt, President and CEO, General Electric Company<sup>39</sup>

**LEADING  
INDIAN  
COMPANIES** UNCTAD’s World Investment Report 2005 ranked India as the second most attractive investment destination, after China, among trans-national corporations.<sup>40</sup> The country is also the most attractive location for “off-shoring” of services, activities according to A. T. Kearney’s Global Services Location Index, 2005.<sup>41</sup>

India has emerged as the fastest growing and fourth largest IT market in the Asia Pacific region. The total value of the IT industry is expected to reach US\$ 53.2 billion by 2008, compared to US\$ 18.7 billion in 2003, a compounded annual growth rate (CAGR) of 23.1 percent.<sup>42</sup>

With the strong growth of the Indian Information Technology Enabled Services – Business Process Outsourcing (ITES-BPO) sector both on-shore as well as offshore, export revenues from this sector have increased rapidly, by 44 percent in 2003-04 and further 41 percent in 2004-05.<sup>43</sup> The output of the Indian electronics and IT industry increased by 25.4 percent to US\$ 33 billion during 2004-05, from US\$ 26 billion in 2003-04.<sup>44</sup>

Services exports grew by 71 percent in 2004-05 to US\$ 46 billion, and by a further 75 percent in April-September 2005. In 2004-05, software service exports grew by 34.4 percent, and by 32 percent in the first half of 2005-06.<sup>45</sup> India is sometime seen as the world’s IT laboratory, where global IT giants such as Google, Yahoo, Intersil, IBM, Nokia and Microsoft are investing in R&D activities.<sup>46</sup>

In terms of Indian companies, Infosys was ranked ninth by Price Waterhouse Coopers (PWC) in the list of World’s Most Respected Companies in IT, sharing the list with HP, IBM, Dell, Microsoft, Oracle, and Intel.<sup>47</sup> In July 2004, Computer Business Review listed Infosys and Tata Consulting Services (TCS) amongst the ten most influential companies in offshore outsourcing.<sup>48</sup> In 2003, 20 Indian companies had found a place in The Forbes 2000 list of world’s biggest companies.<sup>49</sup>

Estimated to be a US\$ 90 billion industry, the Indian oil and gas sector is among the largest contributors to the central and state exchequers in India, with its share of these revenues comprising approximately US\$ 13.58 billion. The majority of the country’s 25 refineries, with a total capacity to process 2.5 million barrels per day, are operated by state-run companies. India’s

state-owned oil firms also own stakes in oil and gas fields in Sudan, Iraq, Libya, Egypt, Qatar, Ivory Coast, Australia, Vietnam, Myanmar and Russia.<sup>50</sup> The Indian Oil and Natural Gas Corporation (ONGC) and its subsidiaries have established operations in the Caspian Sea and Persian Gulf regions, thereby establishing itself as a major player on the global stage.

ONGC has been India's 'Biggest Wealth Creator' between 1999 and 2005, according to a survey conducted for the Motilal Oswal Securities and Trading (MOST) Awards in 2005. ONGC is placed first amongst the Indian corporates listed in the Forbes Global 2000 (ranked 265th) and the Financial Times Global 500 (ranked 326th). It is ranked 454th in the Fortune 500 list. The corporation's 10 percent equity sale, the largest equity offering in India's history, received unprecedented global investor interest. According to The Asian Wall Street Journal (Hong Kong), ONGC's public issue brought 20 'Foreign Institutional Investors' (FIIs) to India, as 'they could not ignore the company representing India's energy security'.<sup>51</sup>

The Indian energy companies are clearly making their presence felt in the global arena. Four Indian oil companies, namely the Indian Oil Corporation, Bharat Petroleum Corporation, Hindustan Petroleum Corporation and Reliance Industries, are part of the Fortune 500 list of top companies worldwide.<sup>52</sup>

The Indian financial sector is currently in a transition phase, with public sector banks in the process of consolidating their position, and private sector banks venturing into mergers and acquisitions in order to expand their portfolios. The system is slowly moving from a situation of a "large number of small banks" to a "small number of large banks".<sup>53</sup>

As of March 2005, the number of commercial banks stood at 289. The aggregate deposits of scheduled commercial banks increased from US\$ 331 billion in March 2004 to US\$ 374 billion in March 2005.<sup>54</sup> Credit extension by commercial banks in India saw an increase of 30 percent in the same period. Investments by scheduled commercial banks (SCBs) increased by 9 percent in financial year 2004-05. ICICI Bank and HDFC Bank have witnessed over 70 percent year-on-year growth in retail loan assets in the second quarter of 2005-06. A McKinsey study pronounced that annual revenues in the domestic retail banking market are expected to more than double to US\$ 16.5 billion by 2010, from US\$ 6.4 billion at present.<sup>55</sup>

More than 20 major Indian companies have expanded abroad. Tata Motors has acquired Daewoo Commercial Vehicles of Korea and is selling its indigenous passenger car the Indica in the UK and Africa, in alliance with Rover. Bharat Forge is the world's second largest forgings manufacturer, with 31 customers the world. Approximately 80 percent of revenues for Tata Consulting Services come from outside India.<sup>56</sup>

Indian companies have acquired 120 foreign firms between 2001 and 2003,



at a combined cost of US\$ 1.6 billion, and are now in the process of expanding their mergers and acquisition activities to Spain, Brazil, the rest of South America and Europe.<sup>57</sup>

## 2.3 An overview of CSR activities in India

Most definitions of corporate social responsibility or corporate citizenship focus on a company's overall impact upon its stakeholders and in general. The concept of CSR has been evolving since the early seventies, and as yet there is no uniform definition enjoying global acceptance. Corresponding to different concepts of CSR, a large number of codes, conventions, principles and standards have been created.<sup>58</sup>

The complexity of definition and lack of agreed standards has unfortunately allowed some companies, particularly in developed countries, to hide unsustainable business practices behind certain public relations events which are labelled as CSR activities. This report focuses on core-business CSR or what one Indian company has called "third generation CSR".<sup>59</sup> In this regard, WWF has produced a discussion paper in which more information regarding WWF's perspective on the environmental aspects of CSR can be found.<sup>60</sup>

This third generation CSR refers to an approach whereby companies seek to ensure that their core businesses deliver sustainable development solutions, or as expressed by TCS "utilizing the company's own core business expertise and technological innovation to contribute to social causes".<sup>61</sup> This approach differs from the first generation of CSR, which considered philanthropy as a way in which companies could utilise part of their profits, and from second generation CSR, where companies attempted to minimise the direct negative impacts, such as pollution, resulting from their activities. This type of CSR activity is often driven by risk management considerations and the demands of local communities directly affected by negative business practices.

Both the first and second generation CSR models can provide valuable contributions to sustainability, but it would seem that the third generation is the one that will determine whether society is able to fundamentally transform itself towards sustainability. This requirement to transform towards sustainability has been expressed by many different stakeholders in India.

The current paradigm of rapid economic growth along with the need of conserving the natural and ecological resources, challenges the very foundation of the manner in which business is done today. It challenges the traditional business management theory, which echoes Milton Friedman's famous state-

ment that there is 'only one responsibility of business: to use its resources and engage in activities designed to increase its profits.'

The fact that rapid economic growth is the only realistic means to lift the poor out of extreme poverty and the fact that most economic activities depend on product and services provided by the ecosystems, necessitates the ushering of a new business paradigm which enables rapid economic growth without compromising the capacity of the ecosystem to sustain, nurture and fuel economic development and human well-being.”<sup>62</sup>

The most important element of the third generation of CSR is that it examines the core business of a company and asks how it can evolve in such a manner that it contributes to welfare, even if this evolution does not necessarily correspond with current market signals. This approach implies that environmental and social concerns are taken into account during the inception of business activity, as opposed to only being considered at the end of a company's cycle of core activities. Rather than compromising on profit, this approach allows companies to proactively engage in dialogue with policy makers in order to change the business environment and regulations in a manner which financially rewards those companies that deliver on social and environmental objectives, such as reducing their consumption of natural resources.

Even if the concept of considering CSR as part of core business is new on the international scene, it has deep roots in the Indian business community, where social conscience has been a part of business activities since long before the industrial revolution which occurred in India in the second half of the 20th Century. Although, the formal usage of the term “CSR” is relatively new, major corporate houses in India, such as the Tatas, Birlas and Ambanis, have sought ways in which to address social needs, beyond the pursuit of short-term profits, as long as they have existed. As JRD Tata once remarked “No business is worthwhile unless it serves the needs of the country and its people.”<sup>63</sup> This remark reflects an understanding of the role of business beyond the idea that “the business of business is business” which dominated the developed economies for many decades.

However, most observers would seem to agree that the focus of CSR activities in India is still primarily on philanthropy.<sup>64</sup> The most consistently quoted company with regards to CSR is the Tata Group (now comprising 91 different companies), the activities of which cover all aspects of CSR.<sup>65</sup> It is therefore interesting to note that certain companies within the Group, such as TCS, are leaning towards a core business approach.

Some of the newer, globally competitive IT companies such as Wipro and Infosys are also seen as possessing a sophisticated CSR approach to responsible business. The pharmaceutical company Dr. Reddy's has produced two

Sustainability Reports, the most recent in 2005. These reports integrate environmental management, health and safety, employee development, and community involvement.<sup>66</sup> According to a CSR survey report from 2002, 76 percent of Indian corporations have defined environmental requirements in their corporate policies.<sup>67</sup>

## CII

The Confederation of Indian Industry (CII), the country's largest industry body, has played a significant role in promoting CSR amongst its members and has a dedicated website for CSR.<sup>68</sup> The organisation has, along with UN-DP India, adopted a set of Social Principles and has appointed CSR officers in its regional offices.

### CII-Sohrabji Godrej Green Business Centre

CII have initiated the CII-Sohrabji Godrej Green Business Centre as the "Centre of Excellence" for the organisation in terms of energy efficiency, so-called "green buildings", renewable energy, water, environment and recycling and climate change activities in India.<sup>69</sup>

The Centre is a joint initiative of the Government of the Andhra Pradesh government, CII and the Godrej corporation. The vision of CII-Godrej GBC is to "make India a leader in green businesses by 2015". Towards realising this vision, a 'sector-wise leadership' approach has been adopted, elements of which include involving relevant stakeholders, benchmarking and skill building, information dissemination and the development of centres of excellence in various sectors.

### The CII-ITC Centre of Excellence for Sustainable Development<sup>70</sup>

The Centre is an institution that aims to create a conducive, enabling climate for Indian businesses to pursue sustainability goals. It seeks to create awareness, promote thought leadership and build capacity in order to achieve sustainability across a broad spectrum of issues.

The objective of the Centre is to promote sustainability within Indian businesses and to channel the potential of Indian industry to power India's agenda for inclusive growth and sustainable development. It aims to enable businesses to transform themselves by embedding the concerns of sustainable development into their own strategies and processes.

The Centre also recognises businesses that make outstanding contributions to sustainable development, and promotes these businesses as role models for India's corporate sector in the adoption of cutting edge practices to promote sustainable development.

### Federation of Indian Chambers of Commerce and Industry (FICCI)

FICCI has over the past several years held numerous seminars and events on the subject of CSR, highlighting its importance both in India and abroad.<sup>71 72 73</sup>

### The Tata Group

Although the Tata Group is a leader in the field of CSR in India, its primary focus remains on the philanthropic element. While well-spent philanthropy is undoubtedly of immense benefit to the community and can obviously support sustainable development within the business sector, this focus does not necessarily contribute towards the implementation of third generation. CSR.

Approximately sixty-six percent of the Tata Group's profits are spent through trusts.<sup>74</sup> The Tata Council for Community Initiatives (TCCI) was formed to direct the efforts of all Tata Group companies towards the objective of sustainable development. Its charter includes social development, environmental management, biodiversity restoration and employee volunteer programmes.

### New Ventures

New Ventures supports sustainable enterprises by accelerating the transfer of capital to outstanding companies that incorporate social and environmental benefits. By providing sound investment opportunities in emerging economies, New Ventures demonstrates that investing in sustainable enterprises makes good business sense.<sup>75</sup>

### Other initiatives

With support from the EU and Business in the Community, the Bombay Chamber of Commerce (BCCI) has implemented a two-year programme to develop and implement CSR training for small firms. The Chamber hopes to establish a clearing-house of company expertise on particular aspects of CSR with relevant small business materials. The Small Industries Development Bank of India has access to a US\$ 10m facility from a German agency, KfW, to offer low-interest loans to SMEs for environmental improvements, with free cleaner production audits available.

The Narsee Monjee Institute of Management (also in Bombay) has become the first of Indian's 700-plus business schools to introduce CSR as a compulsory course in their MBA programme.<sup>76</sup>

The Centre for Social Markets (CSM) was founded in 2000 and promotes responsible entrepreneurship, ethics and accountability worldwide.<sup>77</sup>



# 3. THE WWF SURVEY

### 3.1 The process

The objectives of this survey are to identify the importance of various environmental issues and their relevance within different industrial sectors, as well as to examine the proactive steps that companies are taking to resolve these issues. For this purpose, responses were sought from selected companies, with specific emphasis on the following sectors:

**Energy:** Actors in the energy sectors were considered particularly important as a number of companies in this sector manufacture and export sustainability and/or efficient energy solutions

**ICT:** This is one of the most prominent sectors in India, with a number of actors providing products and services that contribute to sustainable development.<sup>78</sup>

**Finance:** A crucial, but often overlooked element of sustainability, concerns the financing of projects that promote this objective. Actors in the financial sector are therefore crucial in the process of planning and implementing sustainable projects.

The survey of 192 companies was undertaken in two phases. In the first phase responses were sought from the following sectors: ICT, finance, energy, life sciences, construction, consumer durables and hotels. In the second phase, three sectors were chosen for a more in-depth investigation, ICT, finance and energy. The companies were selected on the basis of their annual turnover, export competitiveness and annual growth rate over the past five years. Of the 192 companies approached, 113 responses were received, 53 during the first phase and 60 companies during the second.<sup>79</sup>

The cities in which the research was conducted include Kolkata, Chennai, Bangalore (the IT hub of India), Mumbai, and the National Capital Region (NCR) including Delhi, Gurgaon and Noida. These cities are major economic centres of India.

## 3.2 Survey Findings<sup>80</sup>

### The importance of environmental care and the priority it is given

Of the respondents, 93 percent assign importance to environment and its sustainability as an integral element of their business.

Table 1. Key reasons for environmental considerations

(more than one option possible)	
Key reasons	(%) Percentage of the respondents
Marketing Strategy	31%
Enhance market share	12%
Demand from key customer	18%
Access to export market.	11%
Time and cost effective.	24%
Part of business	19%
Part of core values/principles	68%
Part of regional/social values.	24%
No comment	2%

The principal reason cited by the respondents for assigning importance to environmental considerations in their critical business decisions was that it formed part of the company's core values and corporate principles. This view was held by 68 percent of respondents, while it is also important to note that 31 percent of companies view environmental responsibility as important in terms of their marketing strategy. This is a larger proportion than "enhance market share" and "access to export markets" put together. Those companies that include environmental considerations in their core values may be interested in partnering with Chinese companies which exhibit the same sentiment, since a comparable study in China indicated that 54 percent of companies surveyed considered environmental responsibility to be part of their core values.

Relatively few companies cited "demand from key customers" and enhancing market share which in turn helps these companies in increasing their revenues. As stated, 68 percent of companies view the environment as part of their core values/principle and 63 percent of these companies actually have proper waste management systems in place. How many of these companies include environmental considerations in their business strategies or R&D decisions remains to be studied.



Table 2.

Priority Assigned	% of Sample Companies
High	60%
Medium	34%
Low	6%
Total	100.0%

An investigation of the priority given to environment-related issues in the business decisions of the respondents reveals that 60 percent of companies assign high priority to critical environmental issues while taking any business decision, even if these decisions may override commercial viability. Furthermore, 34 percent of the respondents assign a medium level of priority to the environment, meaning that they assign equal priority to both environmental consideration and commercial viability while undertaking commercial decisions.

Table 3. Corporate policies

Corporate Policies	% of respondents
Environment	62
Occupational Health and Safety	55
Social Welfare	53
Anti-discrimination	27
Human Rights	20
Community Development	48

When questioned regarding their corporate policies in terms of social issues such as the environment, occupational health and safety, social welfare, anti-discrimination, human rights and community development, the majority of companies revealed that they possess policies for most, if not all, of these issues. More than 60 percent of the respondents have corporate policies regarding the environment, while 55 percent have implemented policies around occupational health and safety.

#### Resource-efficient provision of welfare as a part of marketing strategy:

The survey revealed that 35 percent of the respondents view resource-efficient provision of welfare as part of their marketing strategy. These include 41 percent of responding companies from the energy sector, 35 percent from the finance sector and 24 percent from the ICT sector.

#### Use of specific environment-friendly machinery and process:

Of the respondents, 63 percent utilise eco-friendly machines or processes in their production activities to support environment-related sustainable development. Of the 63 percent, approximately 46 percent of the respondents have gained benefits from these machines and processes through increased productivity and reduced costs.

Of the 36 percent of respondents not utilising environmentally friendly machinery or process, only 29 percent perceive that the implementation of such measures will result in increased productivity. Research into the reasons for this view by these companies, is however unfortunately beyond the scope of this survey.

**Table 4.** Impact of eco-friendly machines on productivity and cost

Increase in productivity	Decrease in Cost	Increase in productivity	Decrease in Cost
61%	46%	29%	12%

#### Support for initiatives towards developing and marketing an Indian certification scheme:

According to the survey, 74 percent of the respondents were supportive of government initiatives regarding various eco-label standards. Reasons such as national pride in adopting an Indian certification and lesser complexity to follow than global standards were among the factors cited by companies that supported environment related Indian schemes or standards sponsored by the government or the industry (74%). By contrast, 26 percent of respondents questioned the credibility and effectiveness of Indian certification and expressed reluctance to support such initiatives.

#### Environment-friendly product/services:

Of the respondents, 63 percent were found to be engaged in manufacturing of products or provision of services that promote environmental protection. This engagement could be in the form of manufacture, sales, imports or service support. In terms of the sectoral distribution of responses, 55 percent of these companies are from energy sector.

#### Encouragement of environment friendly business practices:

Utilisation of energy-efficient office equipment and the use of teleconferencing are the two most common environment-friendly practices undertaken by the respondents. Apart from this, 'environmental due diligence' and 'environmental impact assessment' are widespread practices. It is noteworthy that Environment Impact Assessments (EIAs) are a mandatory requirement of the Indian government, yet only 49 percent of the respondents claim to undertake them. Of the respondents 24 percent use "telecommuting", whereby employees work from home, thereby saving the energy usually consumed during commuting to the office.

Table 5.

Key Practices	Percentage of respondents
Environmental impact assessment	49%
Environmental due diligence	46%
Environmental audit or assessment annually or bi-annually	44%
Teleconferencing	59%
"Telecommuting"	24%
Purchase energy-efficient office equipment	59%
Use of renewable source of energy	34%

### Adherence to standards, initiatives and certification systems:

Table 6. Adherence to various environment friendly schemes

Schemes	Overall Percentage of respondents	Break up of overall percentages		
		ICT	Finance	Energy
Eco-Mark	7%		33%	67%
Bhagidaari Scheme	4%			100%
Corporate Social Responsibility (CSR)	49%	26%	39%	35%
"ISI" Mark	26%	40%	20%	40%
ISO 14001 certification	47%	36%	20%	44%
Equator Principles	14%	27%	73%	
Forest Stewardship Council certification	3%	33%		67%
Clean Development mechanism" or "carbon trading	16%	20%	20%	60%

### Compliance with the applicable environmental legislation and judicial decisions:

Table 7. Extent of compliance with environment related legal framework

Degree of Compliance	Percentage of Respondents
Don't Comply	9%
Comply	72%
Comply beyond the mandatory Regulations	19%

Of the respondents 72 percent were found to be complying with the requirements of the environment-specific domestic legal framework, while 19 percent answered that they exceed the environmental standards and requirements laid down by legislation.

### Support for environmental monitoring

Of the respondents exceeding the environment-related legal framework, 91% expressed a willingness to support independent environmental monitoring. Of those complying, 63% expressed the same willingness, and interestingly, among those companies not complying, 60% stated that they would support such a step. This implies a willingness on the part of non-compliant companies to change their practices if they are monitored by an organisation outside government.<sup>81</sup>

### Collaboration with WWF:

Of the 69% of companies interested to support environmental monitoring by NGOs, 73% expressed a desire to collaborate with WWF, while 15% were unsure. Interviews indicate that these “unsure” companies view such an association as dependant upon the scope of collaboration and that a general positive answer cannot be provided. The remaining 12 % of companies were not interested.

Table 8. Support to NGO/Government on Environmental Monitoring

Compliance with environment related legal framework			
	Do not comply	Comply	Exceed standards
Yes	60%	63%	91%
No	20%	18%	-
Do not Know	20%	9%	18%

### Perspective on CSR:

- Virtually all the companies surveyed (98%) are of the opinion that the Indian government should promote investment, including FDI, in renewable energy or energy efficiency in order to reduce harmful emissions, and that the government should furthermore support those companies providing welfare or export opportunities with low levels of pollution.

Table 9. Self –rating by Corporate on law abiding

	N	Mean(5 being highest)
Breaking Laws	51	1
Lower The Standards	52	1
Follow The Standards	56	5
Go Beyond The Standards	56	3
Suggest New Standards	51	3

- The majority of the companies rated themselves very highly in terms of adhering to environment-specific standards and guidelines prescribed in the legal framework being designed by the government and the court. Interestingly it was noticed that all the companies had rated themselves ‘5’ (on a scale of 1 to 5, with 5 being the highest) when it comes to following the standards.

Table 10.

	Breaking Laws	Lower The Standards	Following The Standards	Going beyond The Standards	Suggest New Standards
Very Few	23%	19%	10%	55%	76%
Few	11%	21%	49%	28%	11%
Many	51%	49%	37%	13%	9%
Very Many	15%	11%	4%	4%	4%
	100%	100%	100%	100%	100%

When questioned regarding Indian companies in general, in terms of adherence to environmental regulations, the picture was however completely different, with 49 percent of respondents believing that ‘few’ Indian companies are following the standards for environmental protection. The majority of companies (51%) felt that ‘many’ companies are breaking laws.

In terms of “going beyond the mandatory rules” and “suggesting new rules” the feedback was particularly disappointing, with only 4 percent of the respondents feeling that “very many” Indian companies fall into these categories.

It is particularly interesting to compare these finding to the those of the analogous WWF study conducted in China, where 32 percent of the respondents felt that ‘few’ Chinese companies are complying with the standards for environmental protection and 30 percent felt that ‘many’ companies are breaking the law in this regard, as opposed to responses of 49 percent and 51 percent respectively in India. In terms of adherence to standards, 68 percent of Chinese companies felt that “many” or “very many” of their peers did so, while in India the figure is 41 percent. This points to a higher perception amongst Chinese companies that their competitors are adhering to regulations, than is the case in India. A number of possible explanations exist for this situation, including that the Chinese regulations are less strict than those of India, or that the India media paints a more negative picture of local companies in this regard than is the case in China. The comparison between China and India in terms of corporate sustainability and environmental responsibility is an area which bears a great deal of potential for closer scrutiny in the future.

4.

POSSIBLE  
WAYS

FORWARD FOR  
DIFFERENT  
ACTORS

The business sector plays a vital role in any efforts to achieve sustainable development. The past two decades have seen marked increase in the role and influence of transnational corporations in sustainable development. The world's largest corporations, based almost exclusively in developed countries, are the principal drivers of production and international trade.<sup>82</sup> The influence of these corporations will however in the future be augmented by that of companies from emerging economies such as India. The response of Indian corporations to sustainability concerns will therefore become increasingly important, both within the country and globally.

Based on the results of this study, it is recommended that the following steps be considered by various actors as follows:

#### 4.1 Indian companies:

- i. Leading companies could work with government and NGOs in order to ensure that an overarching investment and export framework is developed, that supports proactive companies contributing to sustainable development.
- ii. Leading companies could develop models that help to translate sustainability trends, such as reduced resource utilisation, into profitable business strategies.

- iii. Leading companies could develop concrete projects that support sustainable development in India and abroad, implement these and communicate the results to key stakeholders. These projects should be linked to the core business of the companies.

## 4.2 The Indian government and authorities:

- i. The possibility to develop a sustainability index for the stock market should be explored.
- ii. The Indian government and authorities could develop a system to distinguish between sustainable and unsustainable trade, building on existing work in fields such as the “project based approach” for environmental goods and services in the WTO, where the Indian government plays a global leadership role.
- iii. Enforcement of the norms and regulations to protect the environment must be improved, in order to ensure compliance and avoid a situation where non-compliant companies are advantaged over those following the law.
- iv. A process could be initiated that supports proactive companies and ensures that other companies do not lower environmental standards within the country and thereby tarnish the general reputation of Indian products in the international market. Such a process could include the following instruments:
  - A. Incentives, including financial ones – Companies that go beyond existing regulation should be rewarded accordingly
  - B. Disclosure, including mandatory rules – Basic environmental information should be disclosed, preferably in line with internationally agreed standards such as the Global Reporting Initiative (GRI). Existing standards must also be met. Progressive companies must be allowed the opportunity to identify areas where reporting needs are most acute, while non-companies could be exposed, for example on a national blacklist. Initiatives such as the Global Reporting Initiative and the Carbon Disclosure Project should be encouraged.
- v. The government could develop economic instruments that promote envi-



ronmental responsibility amongst small and medium enterprises, since such companies often do not possess the necessary resources to translate sustainability trends into business opportunities.

- vi. New concepts such as sustainable urbanisation, green buildings and sustainability as a driver for innovation are beginning to take hold in India. Government agencies should therefore explore ways in which to support these initiatives. Where possible this should be done together with other emerging economies such as China, Brazil, Russia and South Africa.
- vii. The government could build on existing links with China, and other emerging economies, in order to explore the possibilities for new initiatives, for example the creation of a strong Sino-India axis for global sustainable development.

## 4. 3 Foreign governments and companies

- i. For each of the recommendations to Indian companies and the Indian government, foreign governments and companies could explore ways to support those Indian companies taking the lead on sustainable development.
- ii. Foreign governments could explore ways in which their domestic rules and regulations could be amended to support the import of sustainable goods and services from India, for example through the implementation of sustainable procurement practices.

# 5. THREE INITIATIVES TO EXPLORE

In order to explore the potential of Indian companies to play a more prominent global role in supporting sustainable resource use, WWF will endeavour to develop three initiatives.

## 5.1 Initiative 1: Sustainability as a Driver for Innovation

I believe that more innovative, sustainable solutions will increasingly emerge from serving the BOP [Bottom of the Pyramid] markets than from the developed markets.”

C.K Prahalad, *The Fortune at the bottom of the pyramid*

The business sector is set to play an increasingly important role in the global quest for sustainable development in the future. There exists a major requirement for the exploration of new and innovative solutions that can provide welfare without a high level of natural resource consumption. Addressing this requirement will call for approaches that look beyond incremental change and encourage companies to cooperate in the formulation of the type of incentives required to ensure this transition.

India historically possesses a tradition of innovation contributing to significant changes, not the least seen in the area of information technology. The country also possesses a young population capable of challenging existing ideas and participating in global discussions regarding sustainable development. English skills are in abundant supply, allowing the creation of companies in the growing service sector that cater to clients all over the world. Although a large proportion of the Indian population live in poverty, the country also possesses a rapidly growing middle class and a very influential group of wealthy industrialists. Taken together, this situation makes India's domestic challenges very similar to global sustainability challenges, implying that business solutions which are successfully implemented in India, are also likely to be successful in other developing countries.

**OBJECTIVE** The objective of this initiative is to, in association with Indian companies, develop roadmaps which explore innovations that can move society to a point

beyond incremental improvements in sustainability. The outcomes of the initiative should be practical tools that can be used both to develop new goods and services and to highlight the barriers that exist for companies to move towards sustainability. A particular focus will be on the means by which foreign companies and governments can support innovation in India that contribute to globally significant resource savings.

### THREE ASSUMPTIONS

The initiative is built on three assumptions. The first is that there exists a consensus regarding a number of global challenges, such as the lack of sufficient natural resources to provide welfare to the developing world, given the massive over-consumption in the developed world. At the same time, however, it is assumed that these challenges do not necessarily translate into clear market signals that will affect the decisions of companies.

The second assumption is that in many cases, solutions already exist for the challenges, but that insufficient incentives exist for companies to implement these solutions. Innovative solutions might not necessarily imply higher costs, but the current institutional structures and decision-making processes do not encourage their implementation.

Finally, it is assumed that a window of opportunity exists for the implementation of sustainability solutions, but that at the same time, many of the countries where those solutions are most required, such as India, do not possess sufficient resources to effectively promote their implementation. This window of opportunity in India will gradually close over the next two decades, and it is therefore vital that sufficient resources be deployed, sooner rather than later, to allow the country to assume a leadership role in the development and implementation of sustainability initiatives. Furthermore, these resources must to a significant degree be provided by foreign market actors.

In order to be in a position to provide the solutions required, it will be necessary to move beyond the current paradigm and explore new directions in which business can develop.

The current paradigm of rapid economic growth along with the need of conserving the natural and ecological resources, challenges the very foundation of the manner in which business is done today. It challenges the traditional business management theory, which echoes Milton Friedman's famous statement that there is 'only one responsibility of business: to use its resources and engage in activities designed to increase its profits.'

The fact that rapid economic growth is the only realistic means to lift the poor out of extreme poverty and the fact that most economic activities depend on product and services provided by the ecosystems, necessitates the ushering of a new business paradigm which enables rapid economic growth without compromising the capacity of the ecosystem to sustain, nurture and fuel economic development and human well-being.”<sup>89</sup>

In order to support innovation to the degree required, WWF will cooperate with relevant companies to create a roadmap for the development of sustainable products and services. WWF will also explore opportunities to create virtual “sustainable developer zones”, in which specific solutions to a limited number of challenges can be developed and exported to the international market.

The initiative will build on, and to some extent include, existing initiatives that are currently informing international discussion regarding sustainability as a driver for innovation.<sup>90</sup> In this regard, WWF seeks to partner with leading companies that have already begun to integrate sustainability into their business strategies and their product and process designs.<sup>91</sup>

#### FOUR PHASES

It is proposed that the initiative is implemented according to a phased approach, as follows:

##### Phase one will:

- Identify a number of strategic companies that express a willingness to explore new means of providing sustainable welfare, particularly for urban populations, with drastically reduced consumption of natural resources.
- Develop a roadmap that explores means by which leading corporate actors can encourage sustainable innovation by using key sustainability trends as drivers for core business decisions

##### Phase two will:

- Describe ways in which these sustainability trends can translate into goods and services necessary to address global sustainability challenges
- Identify the cost barriers that exist to the development of such goods and services, and suggest ways in which to remove them

##### Phase three will:

- Establish a “sustainability innovator zone” on the internet, in which concrete challenges can be presented, for example by government actors that are willing to pay private sector companies for solutions to these challenges. The role of the companies is to then encourage their employees and service providers to develop such solutions.

##### Phase four will:

- Develop and collect recommendations regarding the means by which foreign companies and governments can support sustainability leadership in India. These recommendations may range from changes required in the intellectual property rights regime and public procurement standards, to lending criteria and the structure of different industry standards regimes.

- Develop and collect recommendations regarding possible support measures by the Indian government and other national stakeholder for innovative companies with export potential.

#### ICT, ENERGY AND FINANCE

The solutions being sought by WWF are primarily related to sustainable urbanisation and the social needs that must be addressed if, as expected, more than half the world's population will live in urban areas after 2007.<sup>92</sup> WWF will as a result focus especially on companies from the ICT, finance and energy sectors, all of which exhibit significant influence in terms of increased urbanisation. As mentioned, innovation is the key focus, and as a result, WWF are looking for solutions that ensure systemic change, rather than incremental improvements in existing problem areas.

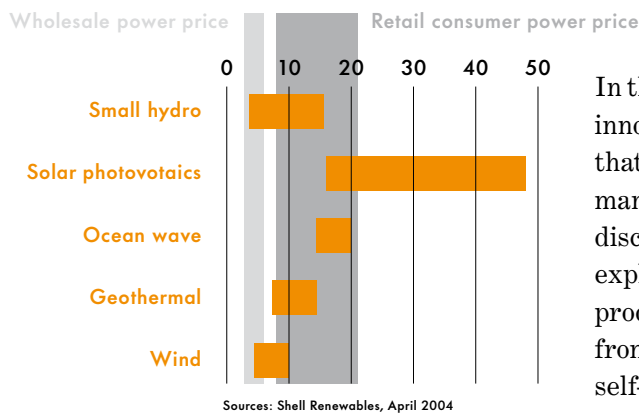
For the ICT sector, WWF is particularly interested in exploring the following services, selected on the basis of work that WWF has conducted in the EU and China:<sup>93</sup>

1. **Virtual meetings**
  - e.g. Audio and videoconferencing
2. **Dematerialisation**
  - e.g. Text/information distribution, digital books / digital paper
3. **Flexi-work/ Telecommuting**
  - e.g. Systems for allowing people to work away from the office
4. **E-governance**
  - e.g. Web-based taxation, web services
5. **E-schools**
  - e.g. Distance education
6. **Improved efficiency in existing businesses**
  - e.g. Smarter farming practices (linked to poverty alleviation, improved efficiency in businesses such as steel/paper & pulp)
7. **Intelligent heating, cooling and lightning**

*On four levels*

  - Smart appliances (fridges, stoves, air-conditioning etc)
  - Controlling temperature and lightning in housing and offices in an intelligent way
  - Systems that allow optimal energy use and reduced peak demand within groups of buildings, for example within a city block
  - Information to the customer that makes sustainable choices easier to make.
8. **Improved urban planning / smart living**
  - e.g. .ICT that allows new ways to build cities and houses.

Cost competitiveness of selected renewable-power technologies, unit cost ranges, cents/kWh



In the energy sector, WWF would like to explore innovative ways of promoting integrated solutions that move beyond the supply- and demand-side management issues dominating current western discussions. In this regard, WWF would like to explore solutions which allow houses to become net producers of energy, and allow businesses to move from being large consumers of electricity to being self-sufficient. Furthermore, WWF would also like to support companies that provide comprehensive low-energy solutions for cities and key industries.

The type of solutions in which WWF is interested, will require collaboration between actors such as city planners, construction companies, IT companies, renewable energy providers and the financial sector.

In all cases, companies will be encouraged to demonstrate that the business models proposed can be profitable, either within the current environment, or if supported by concrete price incentives.

## 5.2 Initiative 2: Export of Environmental Goods and Services

“The poor as a market are 5 billion strong. This means that solutions that we develop cannot be based on the same patterns of resource use that we expect to use in developed countries. Solutions must be sustainable and ecologically friendly.”

C.K Prahalad, *The Fortune at the bottom at the pyramid*

In order to achieve sustainable development, the economic frameworks need to support, rather than undermine, companies that can provide solutions to the challenges of today. For India this is not only a matter of satisfying domestic demand in this regard, but also the opportunity to become a key exporter of sustainable goods and services. It is important to ensure that the domestic consumption is considered in all policies. Today no framework to promote sustainable goods and services exists, either on a national or an international level. WWF believes that India is well positioned to take the lead in promoting such a framework by exploring a more sophisticated means to differentiate between different types of goods and services.

## THE WTO CONTEXT

The international discussions concerning the promotion of trade in environmental goods and services, have exposed a number of different perspectives regarding the manner in which the international trading system should be reformed in order to promote sustainability. The ongoing negotiations in the World Trade Organisation (WTO) on the subject of reducing or eliminating trade barriers for the EGS sector provides probably the most telling evidence of the need for a new approach.<sup>83</sup>

During these discussions, most WTO Members have stressed that trade liberalisation in the EGS sector can create economic, environmental and developmental gains. To date, several western WTO member countries have proposed lists of environmental goods, based upon existing lists developed by the Organisation for Economic Co-operation and Development (OECD) and Asia-Pacific Economic Cooperation (APEC). These lists however focus primarily on end-of-pipe technologies, as their direct impact is relatively easy to measure.

“Specific end-of-pipe pollution abatement and clean-up technologies — such as catalytic converters for automobile exhausts — are obvious candidates for any list of environmental goods. Outside this narrow area, however, classifying goods as “environmental” raises fundamental issues.

No attempt is made here to resolve classification issues, but readers are advised to bear them in mind when considering the product coverage of any list of environmental goods.

For cleaner technologies, products and services, despite their importance, there is currently no agreed methodology which allows their contribution to be measured in a satisfactory way.” (OECD/Eurostat, 1999, p. 10)

## A GLOBAL PERSPECTIVE

This viewpoint may be adequate when focusing upon incremental and short-term improvements in western countries, as was the case when the OECD developed the list that most western countries now wish to implement in a global context.

In order to address the concerns of developing nations, such as poverty alleviation, however, a far wider perspective is required. Such a perspective would not limit “environmental goods” to end-of-pipe solutions, but would encompass so-called “clean technologies” that can provide welfare with radically lower natural resource consumption. This approach is already relatively well established in India, to the extent that the country’s government has proposed a “project-based approach” to EGS, which would see goods and services associated with specific projects being identified by a national authority, as being ‘environmental’ and therefore qualifying for trade concessions during the life of the project.<sup>85</sup>



WWF's position is similar to that of the Indian government, expressing the opinion that much of the current discussion around EGS in the WTO is too narrowly focused on end-of-pipe products, and is furthermore very often driven by the short-term economic self-interest of actors hoping to export such products to developing nations.

Trade in all goods and services result in a complex series of consequences, some negative and some positive. It is therefore very difficult to foresee a situation where any "list" of goods attracting tariff concessions, or classification of services subject to specific commitments, could be of benefit to the environment under all circumstances. One country's "environmental" goods or services may well exacerbate problems in another country, for example, in situations where energy or transportation systems differ, or depending on whether recycling schemes are in place. Moreover, today's "environmental" goods or services may worsen the environmental situation tomorrow, as may be the case where partially cleaning an otherwise dirty industry can extend the lifetime of this industry when it has already been superseded by new technologies.

Even if it proved possible to list certain goods or services as inherently environmentally friendly, it seems certain that these goods or services would have context-specific implications for other global challenges, for example poverty alleviation.

Although the WTO negotiations regarding the EGS sector have attracted relatively little attention, they are viewed by some countries as offering the prospect of real progress in the trade and environment arena. However, quite apart from the fact that a "list" approach to these negotiations is likely to be counter-productive in terms of the environmental impacts of liberalised trade, there exists a danger that such an approach will perpetuate the perception that global environmental and sustainability challenges can be easily addressed through promoting trade in a select few products or services.

The 'project approach' supported by the government of India, as well as by many other developing countries, provides a promising opportunity to implement a system of trade in environmental goods and services that promotes sustainable development and environmental responsibility. This opportunity is becoming increasingly apparent to forward-thinking individuals and organisations.

"The goal here is not to alarmist. The BOP [Bottom of the Pyramid] will force us to come to terms with the use of resources in ways that we have not so far. Whether it is in use of fossil fuels for energy and transportation, water for personal cleanliness, or packaging for safety and aesthetics, ecological sensitivity will become paramount. I believe that more innovative, sustainable solutions will increasingly emerge from serving the BOP markets than from the developed markets."

C.K. Prahalad<sup>86</sup>

**OBJECTIVE** In order to take advantage of this window of opportunity, WWF intends to launch an initiative, in partnership with relevant actors in India, to develop a model that can be used to define environmentally sustainable goods and services in different situation, such as trade and investment negotiations. The long-term objective of this initiative is to establish a system that can define, encourage and increase sustainable trade flows in and out of India. This system should be designed in such a manner that it can both inform the negotiation of international agreements, and guide the implementation of domestic measures influencing key trade flows. It should also be able to support Indian companies entering export markets by providing an understanding of the means by which the supply and demand of sustainable goods and services can be encouraged.

The short-term objective of the initiative is to develop a model that can guide policy development in processes that influence trade and investment flows.

The system should not be limited to a narrow geographical scope, but should examine the implications for economic, environmental and social development in both exporting and importing countries.

**ASSUMPTIONS** As a point of departure for this initiative, it is assumed that two dimensions must be included when projects, goods or services are assessed according to their sustainability merits.

The first of these is time. The short-term of impacts of projects or policy initiatives often differ significantly from those which occur in the longer term. Life-cycle assessments are commonly used to determine the sustainability of new initiatives, and it seems logical that similar measures be applied during the development of trade and investment policies aimed at supporting specific products, services or projects.

The second dimension concerns the different types of effects resulting from trade in a particular product or service. There exist a number of different means of classifying these effects, but in this case the Global Reporting Initiative distinction between direct, indirect and systemic effects is followed.<sup>87</sup> The majority of studies direct their focus almost exclusively towards direct effects, since, as in the case of the OECD focus on end-of-pipe technologies, these are the easiest to measure.

### THREE PHASES

WWF foresees three phases within the initiative, as the model is developed in cooperation with the Indian government and Indian companies:

#### Phase one will:

- Provide an outline for a conceptual framework to define and understand sustainable goods and services.
- Utilising this conceptual framework, explore the current situation in India and other key strategic countries with regard to trade in such goods and services
- Provide an overview of the existing supply and demand for sustainable goods and services

#### Phase two will:

- Establish a group of national and international experts to develop and guide the project
- Further develop a framework around sustainable goods and services that can inform India and other countries, in international trade negotiations and in shaping domestic trade policy
- Select a limited number of sectors (approximately three), in which to investigate the future supply and demand for of sustainable good and services

#### Phase three will:

- Based upon phase two, implement a strategic demonstration project in which promotion of selected goods and services take place.
- Deliver an increase in sustainable export from India in one selected sector by ensuring that a supporting framework is implemented in both India and the importing countries.

## COMPARING TWO DIFFERENT SOLUTIONS

The principle of WWF's initiative can be illustrated by comparing two different sustainability solutions, in this case waste-water treatment and videoconferencing. In the illustrations below, "R" represents resources and "W", waste, while a smiling face is positive and a frowning one negative. The number of faces indicates the degree to which an effect is positive or negative, with one face indicating a slight degree and three indicating an extreme degree.

As mentioned, the majority of fora, both economic and environmental, focus almost exclusively on the direct effects of environmental policies or trade in sustainable products and services. This approach may suffice when measuring the short-term effects resulting from the implementation of end-of-pipe technologies, but is less effective in measuring the long-term effects of waste-water treatment, which are far more indirect in nature. Such an indirect and long-term analysis of this solution, which is widely promoted by developed nations, shows that in many cases, it forms part of a larger non-sustainable system, resulting in increased consumption levels and reinforcing the inequitable distribution of resources while in no way contributing to improvements in welfare for the populations of developing nations.

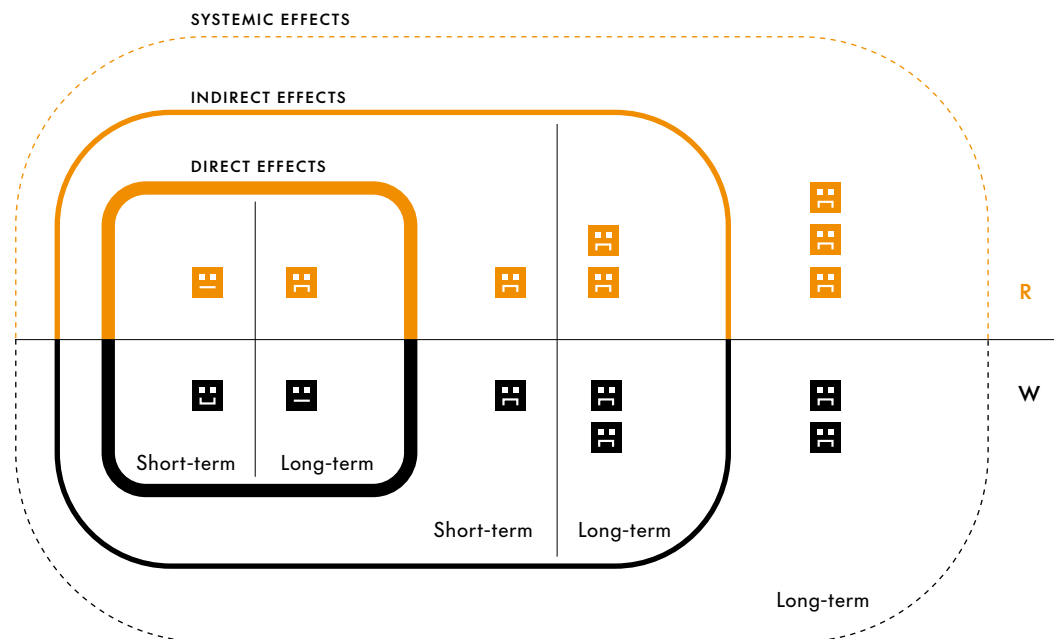
In the same manner, an analysis of a service such as videoconferencing reveals that the direct effects, including a slight increase in electricity consumption, are negligible. From a sustainability point of view, however, the indirect effects, such as a decrease in the amount of air travel required for business purposes, are extremely significant.

WWF has begun to engage in the ongoing discussion in India concerning the role of ICT in contributing to increased resource efficiency, for example through the implementation of intelligent infrastructure, which can reduce energy demand and consequently reduce the consumption of fossil fuels.<sup>88</sup>

In considering the challenges facing the global economy as well as the environment over the next several decades, the need for innovative solutions is clear. Furthermore, it is equally apparent that a unique opportunity exists for progressive governments and companies, such as those found in India, to assume a global leadership role in shaping the international trade and investment environment in the future, and thereby improving the welfare of the developing world in particular. In this regard, WWF's Trade and Investment Programme will explore all possible avenues of cooperation with such governments and companies, in order to address the issues raised by this initiative.

## WASTE WATER TREATMENT

- a global sustainability perspective



Wastewater treatment is a process utilised to clean polluted domestic or industrial water before it is discharged back to nature. The objective is to produce a water stream (or treated effluent), which is reintroduced into the environment, and a solid waste or sludge, suitable for discharge or reuse. On a superficial level, this appears to be a beneficial process that should therefore be supported by government and the private sector as an “environmental service”. However, the fact that water is a precious resource cannot be ignored, and any investment that has significant implications for water usage must as a result be assessed in terms of its efficiency in utilising this water, as well as in terms of the type of infrastructure that is required to support it, not only from a short-term direct perspective, but also from a long-term indirect and a systemic perspective.

### Direct effects (the result of the process itself)

The direct effects of wastewater treatment in the short term are obviously positive, provided that the system operates efficiently and the water released is clean. In terms of the model presented above, therefore, in the majority of cases the direct short-term effects can be assumed to be highly positive (😊😊😊). The direct effects on resource usage, on the other hand, can be seen as negligible, as the operation of such systems generally does not require significant amounts of resources.

In the longer term, the direct effects of the process must include the manner in which the treatment is carried out. If the waste products are not recycled or disposed of in a sustainable manner, the system will cause a negative long-term effect. Furthermore, wastewater treatment may result in inadvertently contaminated organic and inorganic compounds being released into the environment. Such a situation begs the question whether the problem of contamination is being solved by the system, or the consequences merely delayed.

Depending upon the situation, therefore, the direct effect of wastewater treatment can range from highly positive (😊😊😊) to highly negative (😞😞😞). In terms of resource efficiency, systems will in all likelihood improve slightly over time, as technology improvements are implemented, but as mentioned, this will have a negligible impact on resource use.

### Indirect effects (the result of the use of the process)

Attempting to evaluate the indirect effects of wastewater treatment is a far more complex task than investigating the direct effects. In the short term, the indirect effects of wastewater treatment may be mixed. For example, if consumers are aware of the treatment of water, they may begin to use various chemical or pharmaceutical products, as they believe that the waste water treatment will “fix” everything. These substances may in turn create effects ranging from negative (😞) to very negative (😞😞😞). Research conducted in several developed countries indicate that such behaviour does exist, and furthermore indicates that many people do not understand or consider the fact that certain substances can either compromise the capability of the treatment facility to provide clean water, or go straight through the system. In this regard, education is key to changing this situation, and resulting in an overall positive effect from wastewater treatment (😊).

The long-term indirect effects can be even more complex. In many instances, wastewater treatment facilities are designed in such a manner that they require a certain minimum amount of water in order to function effectively. This therefore discourages innovative solutions that lead to water saving, and instead a situation is institutionalised in which houses and factories are encouraged to use significant amounts of water. The incentive for business that contribute to waste water, that can be reasonably treated, have little incentive to come up with new solutions that are totally sustainable. So if nothing is done it is likely that the waste water treatment result has a negative indirect impact on both waste and resource as it reduce incentives for companies to find new solutions that do not produce any waste (😞😞😞).

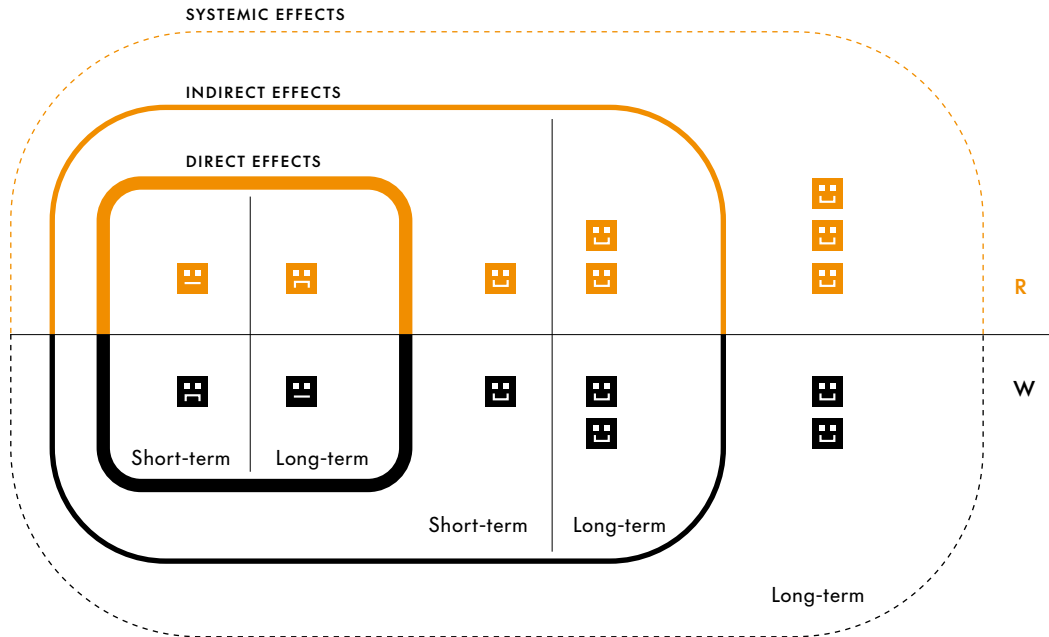
### Systemic effects (the broader social impact of the process)

The systematic effect of wastewater treatment is particularly difficult to predict, and depend on many external factors. As mentioned, a traditional model of wastewater treatment is likely to promote and support wasteful patterns of water usage. Not because the intent is to support wasteful patterns of water usage, but because the solution is part of a system where problems are solved end-of-pipe instead of at the source. Instead of supporting eco-industry solutions, that for example release no waste and city planning that is based on full recycling, it is part of a society with an end-of-pipe mentality that also use too much resources. Thereby it is part of a “solution” that will not allow poor people around the world to move out of poverty, simply because there is not enough resources for everyone on the planet to live like a rich American or European.

This discussion obviously does not imply that wastewater treatment is a negative process, since it is of paramount importance to ensure that the water used in households and businesses is clean when it is released back to nature. Instead, the objective is to highlight the requirement to consider such processes in a broader context. Without integration into a long-term sustainability strategy which considers both social and economic issues, the implementation and export of wastewater treatment technology may create more problems than it solves.

## VIDEOCONFERENCE SERVICE

- a global sustainability perspective



Videoconferencing is increasingly utilised as a business tool to improve the efficiency of meetings and avoid long-distance travel. In many instances it is not viewed as an environmental service, rather a cost-saving one, but if analysed according to similar criteria as applied to wastewater treatment, some interesting results emerge.

### Direct effects

Both the short- and long-term direct effects of videoconferencing are negative, but the effect is very small. The main direct impact is due to the use of electricity. If renewable energy is purchased that can provide the equipment with electricity the impact will be very small. The fact that the direct effect is so small is probably the reason that technologies such as videoconferencing are often ignored in discussions regarding environmental goods and services. The only direct effect identifiable is the use of electricity, which in terms of increasing the overall demand for electricity, is obviously not very significant (☹).

### Indirect effects

The indirect effects of videoconferencing are complex. In the short term, two different indirect effects emerge, the first being the negative effect of producing videoconferencing equipment, involving the use of toxic materials and energy. This effect is however relatively small. (☹), and is often more than countered by the positive effects resulting from the use of this equipment, in terms of decreased use of transportation, either air, road or rail. This positive effect is further enhanced by the relatively long life-span of videoconferencing equipment, and the anticipated increase in the effectiveness of this mode of communication, resulting from improvements in broadband and other technologies (😊😊😊).

In the longer term, the indirect effects can range from highly positive to highly negative. Positive effects could include the widespread introduction of business models that encouraged videoconferencing rather than flying, as well as the introduction of energy efficient manufacturing methods and less toxic materials in the equipment required. (😊😊😊). Such innovations could also be applied in other manufacturing sectors, thereby further increasing the positive effects.

On the other hand if the videoconference service is used without a sustainability policy the use could trigger even more travel/flying. Equipment manufacturers may also choose to ignore the challenges of more energy efficient and less toxic manufacturing processes. This would obviously prove very negative (☹☹☹).

Many of the more significant solutions are context dependent in the way described above. This complexity is probably also a reason why these solutions often are ignored in the discussions about sustainable goods and services.

### Systemic effects

Videoconferencing provides a good example of technology working as a catalyst for sustainability. Given a suitable policy framework and leadership among key actors, the application of such technology can lead to a more resource-efficient society, where innovation and reduced resource consumption combine to increase welfare (😊😊😊). Without the required policy framework and actions, however, technologies such as videoconferencing will probably contribute to and accelerate the negative trends of today (☹☹☹).

The above discussion is intended to show that the use of technologies such as videoconferencing can provide a positive contribution to increased welfare and reduced resource consumption. At the same time, it is clear that such a situation can only occur within a supportive policy framework. Most significantly, however, the discussion shows the importance of a sophisticated system of assessment for products and services. Such assessment is highly complex, but will prove essential in encouraging the type of innovation required to address the fundamental sustainability challenges which confront humankind.

## 5.3 Initiative 3: A BRICs Axis for Global Sustainability

“As it happens, India is the only country in the outside world to which scholars from ancient China went for education and training. The overcoming of cultural insularity that we can observe both in China and India in the first millennium has continuing interest and practical usefulness in the world today.”<sup>94</sup>

India and China, two of the world’s oldest civilisations, currently find themselves in a situation of extremely rapid change. In order to strengthen collaboration, WWF proposes the establishment of a BRICs axis for sustainability, and the implementation of projects that will reinforce this initiative. Two different kinds of initiatives are of special interest for WWF. The first kind would build on existing relationships, such as the ongoing dialogue around oil and energy between China and India, while the second kind would focus on innovative business cooperation. This initiative should build upon existing collaborations that India already have, especially with other emerging economies.

### EXISTING PROCESSES

One area in which to explore the possibilities for promoting energy collaboration between the other BRICs and India, is the existing initiative regarding oil between India and China.<sup>95</sup> This collaboration has already created a significant degree of international interest,<sup>96</sup> and may provide a first step towards the proposed axis for global sustainability.<sup>97</sup> Unfortunately, however, the majority of discussions regarding China’s and India’s energy requirements have focused upon conventional energy rather than the required transition to sustainable energy sources.<sup>98</sup>

In this regard the name of the current initiative is possibly misleading; although it is called the “Memorandum for Enhancing Cooperation in the Field of Oil and Natural Gas” it includes both traditional areas, such as upstream exploration and production, refining and marketing of petroleum products and petrochemicals, as well as sustainability concerns such as research and development, conservation, and the promotion of environment-friendly fuels. The initial focus has been primarily on the immediate challenges concerning oil, but WWF sees a great opportunity to develop this into a Sino-Indian partnership promoting for sustainable solutions.

Another interesting process is the IBSA trilateral development initiative between India, Brazil and South Africa, in which issues concerning sustainability enjoy a high profile.<sup>99</sup>

As the common denominator in the two initiatives described above, India could play a coordinating role between Brazil and South Africa on the one hand, and China/Russia on the other.

Although China and Russia are not participants in IBSA, there exist a number of areas within the energy sector in which for example China can provide valuable contributions, such as the formulation of targets for energy efficiency. An increased level of Chinese interaction with IBSA could also serve to strengthen the IBSA initiative. Of course, such collaboration need not necessarily occur between governments, but could also take place between companies or business associations within the various countries.<sup>100</sup>

**INNOVATIVE  
BUSINESS  
COOPERATION** Innovative business cooperation may take several forms, but two areas of particular interest to WWF are firstly the idea of “twin cities” in for example India and China, which can develop joint strategies and provide mutual support in the implementation of sustainable solutions, and secondly a sectoral approach focusing on the key sectors of energy, ICT and finance. These initiatives should also build on existing processes, such as the dialogue around energy and ideas about high-tech collaboration, when possible.<sup>101</sup>

**OBJECTIVE** The objective of this initiative is to explore the possibility for collaboration between key actors from India and China in the field of sustainability, and how this could be linked to other emerging economies. This will involve identifying areas in which both countries possess expertise, and from which both can gain an advantage in the form of becoming key exporters of sustainable solutions.

**ASSUMPTIONS** The following assumptions are made with regard to the creation of this BRICs axis for sustainability:

- The BRICs countries will develop rapidly over the next two decades, and during this period significant investment in new infrastructure will be take place, thereby determining the energy and resource-intensity profiles of both countries for the following several decades.
- The governments of both India and China realise the requirement for sustainable development models that differ substantially from those employed in developed countries.
- The business communities in both the BRICs operate in an environment different from many other parts of the world, with demands from both a large poor population, and from a growing middle class.
- Due to the fact that India and China contain approximately one-third of the world’s population, the growth paths chosen by these two rapidly expanding economies will to a large degree determine the possibility of achieving global sustainability.

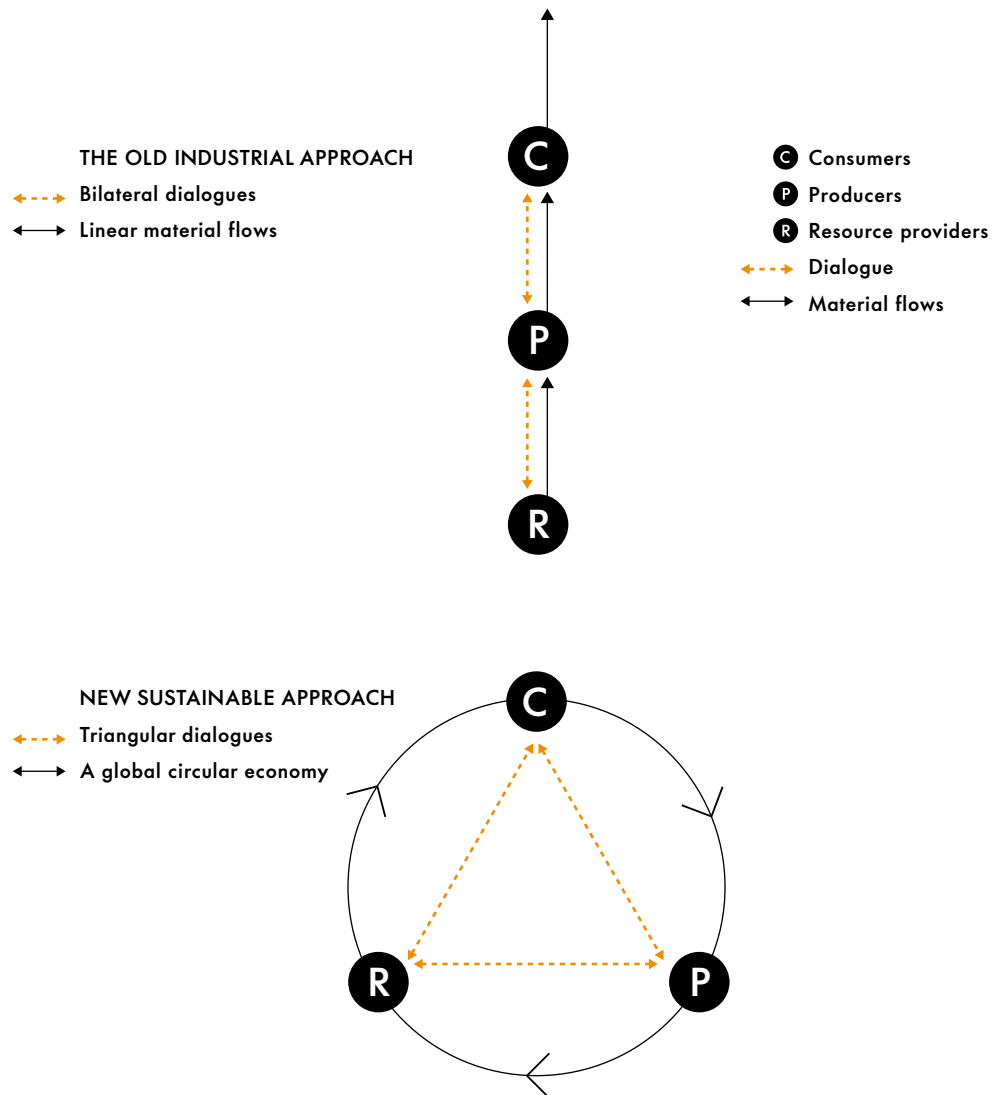


## PHASES OF THE INITIATIVE

The initiative can be broken down into the following phases:

- Establish a group with individuals from India and one other BRICs country.
- Select a limited number of areas to be investigated fully, in which global sustainability needs exist.
- Invite participation by relevant actors from countries outside the two selected countries in dialogues concerning sustainability. This is particularly significant in terms of a move towards a global circular economy, which is an approach whereby representatives from all three elements of the economic circle, namely consumers, producers and providers of natural resources, are involved in the implementation of sustainability solutions.<sup>102</sup>
- Establish an ongoing dialogue during which key events and policy-making processes are identified during a two-year cycle in key areas such as urban solutions, trade promotion in terms of the circular economy described above, ICT solutions, public procurement, energy solutions and IPR rules. During these two years the “axis” will participate in discussions and promote the ideas developed during the preceding dialogue. After this period, the initiative should be evaluated and a decision taken regarding its continued existence. The links to other emerging economies should also be assessed at this stage.

## FROM AN OLD INDUSTRIAL APPROACH TO A NEW SUSTAINABLE APPROACH





# APPENDIX ENDNOTES

Aban Loyd	Dassnagar Infosystem
Abanindia	DCM Technologies
ABB Ltd (India)	Delhi Waste Management
ABN AMRO Bank.	DENA BANK
Accurex Biomedical Pvt. Ltd.	Deutsche Bank AG
Aditya Birla Group	Elder Pharma
Agriculture Insurance Co. of India Ltd.	Elite Equipment India Private Limited
Allahbad Bank	Elogix Software
ALSTOM Projects India Limited	Essar India
American Express Bank Ltd.	Flextronics Software
Andhra Bank	Gas Authority of India Limited.
Apeejay Finance group	GIC housing Finance
Apex constructions	Glenmark Pharmaceuticals Ltd
Appolo consultancy and construction	Global IDS
Arab Bangladesh Bank Limited	Globe civil projects private limited
ARB Software	Godrej Consumer Products Ltd.
Aruna Chennai.	Goodyear India Ltd.
Ashok Group of Hotels.	Hansuttam Finance Limited
Auroville Renewable Energy (AuroRE)	Havells India
Aventis Pharma India Ltd	HDFC Housing Finance
Banglore soft cel limited	Heera Construction company (P) limited
Bank of Baroda	Hero Corporate Service Limited
Barclays Bank Plc	Hindustan Computer Limited
Baxter (India) Pvt Ltd.	Hiranandani Developers Pvt Ltd.
Belco Pharma	Honeywill Technology Solutions Lab.
Bells softek ltd	Hotel Maurya Sheraton
Bengal Ambuja Construction.	Hotel Peerless Inn.
Bharat Heavy Electric Limited (BHEL)	Hotel Radisson
Bharti Infotel Limited,	Hotel Senator.
Birla Sun Life Insurance Co Ltd	Hotel Vestin
Birlasoft Limited	Housing Development Finance Corporation Bank
BNP Paribas	Hewlett Packard
Brihanmumbai Electric Supply and Transport (BEST)	Huawei technologies India pvt. Ltd.
British Gas (India)	Hughes Software Solutions (Flextronics)
Cad World	IBM India
Cadence design systems	Industrial Credit and Investment Corporation (ICICI) Bank
Calyon Bank	ICICI prudential
Camlin Limited	iGate Global Solutions, India
Canara Bank	Infrastructure Leasing & Financial Services Ltd.
Canon India (Pvt) Ltd	Indian Oil Corporation Limited
Casio India Co. Private Ltd.	Indo Asian Energy Management
Central Bank of India	Indraprastha Gas Limited
Center for development of advanced computing	Indus Ind Bank
Centurion Bank of Punjab	Industrial Development Bank of India (IDBI)
Cholayil.	Intel India
CitiBank	IPCA labs.
City Union Bank	ITC infotech India limited
CMC Limited	Jay Prakash Hydro-Power Limited.
Converges India services pvt. Ltd.	Jindal Steel and Power Ltd.
Cosmic softek	KEC Infrastructure Ltd
Cosmos Bank	Khaitan
CSC India Pvt Ltd.	Khaitan Fans
Cognizant Technology Solutions (CTS)	Kotak Mahindra Capital Company

Larsen & Tourbo.  
 Le Meridian Group of Hotels.  
 LIC Housing Finance  
 Life science – IICB.  
 Lord Krishna Bank  
 Maharastra State Electricity Board  
 Maharishi housing development finance corporation  
 Maruti Udyog Ltd.  
 Metalogic System  
 Microsoft  
 Mind tree consulting  
 Mizuho Corporate Bank Ltd  
 National Panasonic India  
 National Bank for Agriculture and Rural Development (NABARD)  
 National Hydroelectric Power Corporation  
 National Thermal Power Corporation (NTPC)  
 Ness Technologies  
 New India Assurance  
 NIIT Smart Serve  
 Nova Home Appliances  
 Oberois Group of Hotels  
 Oil and Natural gas Limited (ONGC)  
 On-Tarck Systems Ltd.  
 Oracle  
 Orient Fans  
 Oriental Bank of Commerce  
 Peerless Insurance Ltd.  
 Pfizer Limited  
 Philips India Ltd.  
 Polar Fans  
 Polar Industries Ltd.  
 Power Grid Corporation of India Ltd.  
 Power Transport Corporation India Ltd.  
 Punj Lloyd.  
 Punjab National Bank  
 Reliance Capital  
 Reliance Energy  
 RMSI Pvt. Ltd.  
 Samsung India Electronic Ltd.  
 SAP India  
 Satyam Computer Services  
 Shamrao Vithal Co-operative Bank  
 Shangri-La hotel  
 Siemens Insurance Systems Ltd.  
 Sigmabit Technology  
 Singer India Ltd  
 Societe Generale  
 Softdel system  
 South Indian Bank  
 Standard electric company  
 State Bank of India  
 State Bank of Mauritius Ltd  
 State Bank of Mysore

Subex System  
 Sun Pharma  
 Tablets India Ltd.  
 Taj Group of Hotel.  
 Tamil Nadu Electricity Board  
 TamilNadu Mercantile Bank  
 TamilNadu State Apex Co-operative Bank ltd.  
 TATA AIG  
 Tata Consultancy Service  
 Tata finance  
 TATA Power  
 Tata Power Company Limited  
 Tata Consultancy Ltd.  
 Tech Mahindra (Mahindra BT)-  
 Techbooks International Pvt. Ltd.  
 techno construction company  
 Telecommunication Consultants India Ltd.  
 Telesis Global  
 Texas Instruments  
 The Bank of Nova Scotia  
 The Oriental Insurance Co. Ltd.  
 The Park Group of Hotels  
 Trigent India  
 UCO Bank  
 United Bank of India  
 United India Insurance  
 Uppal's Orchid Group of Hotel  
 Usha International  
 UTI Bank  
 Jaypee Vasant Continental Group of Hotel  
 Vertex India  
 Wipro Limited  
 Zenith Software

## ENDNOTES

- 1 <http://en.wikipedia.org/wiki/Superpower>
- 2 See for example Foreign Affairs July/August 2006 issue with the theme: "The Rise of India".
- 3 See for example: Amartya Sen, *The Argumentative Indian*, 2005, Penguin
- 4 See for example the article "If in doubt, farm it out", page 6 in the Economist special number about India June 3rd 2006 or in Wired The New Face of the Silicon Age -How India became the capital of the computing revolution. [http://www.wired.com/wired/archive/12.02/india\\_pr.html](http://www.wired.com/wired/archive/12.02/india_pr.html)
- 5 See for example the article "Bet on value-addition, innovation, India Inc told" in The Hindu Business Line <http://www.thehindubusinessline.com/2006/04/09/stories/2006040903340200.htm> "Mr Y.C. Deveshwar, Chairman of ITC Ltd and CII President, called for a system that provided an incentive or placed a value on a company's initiative in corporate social responsibility and environment conservation. The media too has a role in sensitising the civil society to good practices. India has 17 percent of the world's population but 2 percent of the land mass and 4 percent of water. So conserving natural resources and enabling a skilled workforce is the concern for all. The entire society should place a value on conservation."
- 6 Intellectual Property Rights (IPR), Research and Development (R&D)
- 7 <http://www.ciigbc.org/index.asp>
- 8 <http://www.weforum.org/pdf/SummitReports/eastasia2006/competitiveness.htm>
- 9 The full overview can be found in chapter 3.2
- 10 While the focus of this report is on the companies, or part of companies, that show leadership it is important that the laggards are not forgotten. Any framework needs both sticks, to deal with the laggards, and carrots, to encourage leaders.
- 11 [www.foreignaffairs.org/20060701faessay85401/gurcharan-das/the-india-model.html](http://www.foreignaffairs.org/20060701faessay85401/gurcharan-das/the-india-model.html)
- 12 [http://in.today.reuters.com/news/newsArticle.aspx?type=businessNews&storyID=2006-08-31T233111Z\\_01\\_NOOTR\\_RTRJONC\\_0\\_India-265653-1.xml](http://in.today.reuters.com/news/newsArticle.aspx?type=businessNews&storyID=2006-08-31T233111Z_01_NOOTR_RTRJONC_0_India-265653-1.xml)
- 13 The Economist, Now for the Hard Part – A survey of Business in India, June 3rd 2006, page 4
- 14 [http://www.economist.com/surveys/displayStory.cfm?story\\_id=3689214](http://www.economist.com/surveys/displayStory.cfm?story_id=3689214)
- 15 See for example the report "India as a New Global Leader" by Prasenjit K. Basu, Brahma Chellaney, Parag Khanna and Sunil Khilnani published by The Foreign Policy Centre. See also the article "Can India overtake China?" by Yasheng Huang and Tarun Khanna in Foreign Policy July/August 2003.
- 16 [http://www.businessweek.com/magazine/toc/05\\_34/B3948chinaindia.htm](http://www.businessweek.com/magazine/toc/05_34/B3948chinaindia.htm)
- 17 The Economist, Now for the Hard Part – A survey of Business in India, June 3rd 2006, page 4
- 18 This shift from west to the east have upset some actors and there are tendency where the old economic superpowers are trying to create tensions between the to emerging super powers. See for example: <http://www.cfr.org/publication/9962/>, <http://www.cnn.com/2006/WORLD/asiapcf/03/02/bush.india.visit/index.html>, <http://www.blonnet.com/2005/07/01/stories/2005070100310900.htm>
- 19 ICT can make work more efficient both on a daily basis if people at relevant positions are allowed to work from home one to three days a week. Video and audioconferences can make it easier to build networks both within India and with other important emerging markets such as China, Russia, Brazil and South Africa as well existing economies like EU and US.
- 20 <http://www.rgfindia.com/rgf2/home.htm>
- 21 <http://www.indiainbusiness.nic.in/business-climate/economy.htm>
- 22 <http://www.ibef.org/economy/overview.aspx>
- 23 <http://en.wikipedia.org/wiki/Superpower>
- 24 <http://globalede.msu.edu/ibrd/CountryEconomy.asp?CountryID=181&RegionID=3>
- 25 <http://rbidocs.rbi.org.in/rdocs/Bulletin/DOCs/69864.doc>
- 26 <http://www.indianembassy.org/newsite/indoustrade.asp>
- 27 <http://www.indianembassy.org/newsite/economyrelations.asp#2>
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- 29 <http://www.indiainbusiness.nic.in/india-profile/infra-energy.htm>
- 30 India's oil imports are expected to rise to 5 million barrels a day by 2020, from around 1.4 million barrels at present. [http://www.businessweek.com/bwdaily/dnflash/aug2005/nf20050825\\_4692\\_db016.htm?chan=gb](http://www.businessweek.com/bwdaily/dnflash/aug2005/nf20050825_4692_db016.htm?chan=gb)
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- 57 [www.ibef.org](http://www.ibef.org), [http://ibef.org/artdispview.aspx?art\\_id=4218&catid=387&page=2](http://ibef.org/artdispview.aspx?art_id=4218&catid=387&page=2)
- 58 [http://www.indiapartnershipforum.org/csr\\_what.htm](http://www.indiapartnershipforum.org/csr_what.htm)
- 59 TCS from the TATA group use this and it was discussed during a WWF event in Delhi "Sustainable trade and Investment: India in the 21st century", the 31st of May 2006.
- 60 [assets.panda.org/downloads/csrdiscussionwwffinal.doc](http://assets.panda.org/downloads/csrdiscussionwwffinal.doc)
- 61 Tata Consultancy Services (TCS), one of the world's largest global software and services consulting organizations and India's first global billion-dollar IT company, has received the Asian Corporate Social Responsibility Award (Asian CSR) for its community work to support the improvement of education and raise the literacy of Indi-

ans in India. TCS' community initiatives have been in areas addressing environmental and civic problems; setting up and maintaining infrastructure for urban beautification, pollution reduction and healthcare; waste management in the office environment, tree plantation and water treatment. TCS has recognized the responsibility corporate should have towards the wider communities they operate in. For the year 2006-07, TCS has set a budget of around 1% for CSR activities and it is determined to protect, conserve and restore the natural resources by adopting means, often far beyond what is mandated by legislation. A significant contribution is through their promotion of the "third generation of CSR".

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- 67 CSR Survey 2002 by India Partnership Forum; <http://www.india-partnershipforum.org/csrs2002.htm>; <http://www.indiapartnershipforum.org/csrs2002/p1-6.pdf>
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- 70 <http://www.cii-sustainability.org/>
- 71 <http://www.ficci.com/media-room/speeches-presentations/2001/Nov/nov-csr-lic.htm>
- 72 FICCI Environment Conclave-2006 on "Sustainable Waste Management: Technology and Business Partnership"; <http://www.ficci.com/media-room/speeches-presentations/2006/mar/mar7-env.htm>
- 73 [http://www.unglobalcompact.org/docs/news\\_events/9.1\\_news\\_archives/2005\\_03\\_08/GC\\_PR2.pdf](http://www.unglobalcompact.org/docs/news_events/9.1_news_archives/2005_03_08/GC_PR2.pdf)
- 74 [www.thehindubusinessline.com/2004/09/26/stories/2004092600980500.htm](http://www.thehindubusinessline.com/2004/09/26/stories/2004092600980500.htm)
- 75 <http://www.newventuresindia.org/nvi/Content/index.jsp>
- 76 [www.nmims.edu](http://www.nmims.edu)
- 77 <http://www.csmworld.org/index.htm>
- 78 WWF has already begun to explore this in India, the following article in ICT4D explain the WWF perspective <http://www.i4donline.net/aug05/strategicarea.asp>
- 79 See Annex 1 for a list of the companies
- 80 Analysis is based on the questions included in the questionnaire.
- 81 Naturally, this may be ascribed to an attempt on the part of these companies to somewhat enhance their image, given the fact that they currently do not comply with the regulations imposed by the India government.
- 82 Rubens Ricupero, Secretary-General of UNCTAD, wrote in the introduction to the World Investment Report 1999: "TNCs are principal drivers of the globalization process, which defines the new context for development." (UNCTAD, 1999).
- 83 The discussions happened due to the paragraph 31(iii) of the Doha Ministerial Declaration. "With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on: (iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services."
- 84 OECD Trade and Environment Working Paper No. 2005-04, Environmental Goods: A Comparison of the APEC and OECD Lists
- 85 During the summer of 2006 India further developed the Environmental Project Approach. 13 June 2006: TN/TE/W/67. <http://www.trade-environment.org/page/theme/tewto/para31iii.htm>
- 86 C.K. Prahalad, The fortune at the bottom of the pyramid, Wharton School Publishing, 2005, Page 34
- 87 WWF has been involved in the development of there: Direct effects refer to the effects caused by the products and equipment, e.g. the material consumption in producing mobile phones and Internet servers. In-direct effects derive from use of the products. The reduced need for office space as a result of telework or the increase in just-in-time deliveries thanks to B2B applications are examples of secondary effects. Systemic effects link performance at the micro-level (e.g., organisational level) with economic, environmental, or social conditions at the macro-level (e.g., regional, national, or global level). They stem from new habits, social structures and consumption patterns that arise through the use of products, applications and services when they are used in society, such as the change in commuting distances and times due to potential mobile communication, access to information and the speed of technological development.  
<http://www.globalreporting.org/guidelines/sectors/telecom.asp>
- 88 An article published in the Indian magazine "Information for Development" outlines some of WWF's ideas regarding ICT. <http://www.i4donline.net/aug05/strategicarea.asp>
- 89 [http://www.cii-sustainability.org/Sustainable%20Development/indian\\_context.htm](http://www.cii-sustainability.org/Sustainable%20Development/indian_context.htm)
- 90 Andrew Dearing, Sustainable Innovation: Drivers and Barriers, World Business Council for Sustainable Development. <http://www.oecd.org/dataoecd/24/34/2105727.pdf> and [http://www.oecd.org/document/0,2340,en\\_2649\\_34487\\_25998799\\_1\\_1\\_1\\_1,00.htm](http://www.oecd.org/document/0,2340,en_2649_34487_25998799_1_1_1_1,00.htm)
- 91 The study "The Innovation High Ground: How Leading Companies are Using Sustainability-Driven Innovation" dubs four types of corporate actors: leaders, laggards, dabblers, braggers. Leaders integrate sustainability innovations into both business strategy and product and process design, while laggards do neither." <http://www.firstsustainable.com/view.php?show=1777> The study is available at: [http://www.adlittle.com/insights/prism/pdf/Prism\\_2005\\_s1\\_1\\_1\\_The\\_Innovation\\_High\\_Ground.pdf](http://www.adlittle.com/insights/prism/pdf/Prism_2005_s1_1_1_The_Innovation_High_Ground.pdf)
- 92 <http://www.un.org/esa/population/unpop.htm>
- 93 For further information see: [www.panda.org/ict](http://www.panda.org/ict)
- 94 Amartya Sen, The Argumentative Indian, page 189
- 95 <http://pib.nic.in/release/release.asp?relid=14918>
- 96 <http://www.iht.com/articles/2006/01/20/business/oil.php>
- 97 [http://www.chinadaily.com.cn/english/doc/2006-01/13/content\\_511871.htm](http://www.chinadaily.com.cn/english/doc/2006-01/13/content_511871.htm)
- 98 See for example IEAs discussions. [http://www.iea.org/textbase/speech/2006/yo\\_apec.pdf](http://www.iea.org/textbase/speech/2006/yo_apec.pdf)
- 99 <http://www.ibsa-trilateral.org/>
- 100 <http://www.ficci.com/events/events-ahead/sep06/sep12-ibsa.htm>
- 101 For an indication of the will to collaborate in the areas of high-tech see: <http://www.wired.com/news/business/0,1367,67181,00.html>
- 102 For more information about this approach see "Chinese outward investments" available at [www.panda.org/trade](http://www.panda.org/trade).







# INDIAN COMPANIES IN THE 21ST CENTURY

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