Green IT Services in India

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Green IT : Overview

- ***Green Computing*** **refers to the practice of using computing resources more efficiently while maintaining or increasing overall performance.**
- Green IT uses good business principles to ***reduce*** an organizations' ***impact*** on the ***environment*** whilst also reducing costs and improving service.
- **Sustainable IT services require the integration of green computing practices such as**
  - *Power management*
  - *Virtualization*
  - *Improving cooling technology,*
  - *Recycling*
  - *Electronic waste disposal, and*
  - *Optimization of the IT infrastructure to meet sustainability requirements.*

Role of ICT

- ICT plays a transformational role by enabling firms across sectors to measure, control and maintain and efficiently run (Green) business and significantly contribute towards reduced carbon footprint.

- Indian IT-BPO sector is actively participating in the 'Green' movement, increasingly focusing on issues such as energy conservation and on utilizing IT to reduce the carbon footprint, enhance efficiency and business capabilities, improve productivity and preserve the environment.

- Also reflected in customers demanding more environment friendly products, and solutions to help them to setup Green Data Centers and drive energy efficiency in their facilities and core processes.

- ***Mr. Som Mittal, President, NASSCOM,*** said, "As India moves towards becoming a knowledge-based society, ICT solutions can aid development in different ways. In the last decade, ***ICT has helped India improve its efficiency and contributed to better governance***, thereby, changing India's image globally. The ***IT Industry is playing a transformational role*** in the way businesses, customers and citizens are serviced, and also leading the way in establishing a new paradigm for Knowledge and Services led economy.

Market for Green IT & Sustainability Initiatives in India

- India's Spending on Green IT & Sustainability Initiatives to double to $70 billion in 2015, up from $ 35 billion in 2010
- In 2012 Green IT & Sustainability spending was $45 billion.
- Policy initiatives and regulatory measures from the Indian government will be the key drivers for implementation of some of the technologies (such *as advanced metering infrastructure, carbon capture and sequestration, intelligent transportation system, and solar energy technology*) necessary to usher in low-carbon sustainable growth.

Gartner Report - Hype Cycle for Green IT and Sustainability in India, 2012

Green IT in India : Key Drivers

- Adopting green IT and sustainability solutions are emerging as key concerns for businesses, investors and technologists across industries and policy makers in India :
  - **Operational cost** of making energy-efficient resources available is pressuring CIOs in Indian companies to develop strategies to optimize ICT utilization, including companywide energy management, while not compromising on growth or deployment of newer technologies.
  - **Global Influence -** the increasing global focus on energy efficiency, energy security, green IT and sustainability issues is now causing the executive leadership in the technology sector to track, report and manage sustainable and resource-efficient business practices.
  - **Government policy initiatives – one of the major drivers**
    - **National Action Plan on Climate Change (NAPCC),** outlines the nation's strategy to manage greenhouse gas (GHG) emissions.
    - **Indian Economic Survey and India's 12th Five Year Plan -** Inclusion of Green IT in these strategic planning documents shows the significance given by Indian Govt.
- Focus on Green IT in the Triad of Policies issued by Ministry of IT & Communications in 2012
  - **National IT Policy**
  - **National Electronics Policy**
  - **National Telecom Policy**
- **Other Regulations and Schemes of GOI**
  - **PAT (Perform Achieve and Trade)** : The "Perform Achieve and Trade" (PAT) scheme is a market-based mechanism under the NMEEE, crucial for achieving its targets. It aims to fix specific energy consumption (SEC) targets for large energy-guzzling installations across India. The nine sectors under the PAT scheme are power, cement, steel, fertilizers, aluminum, chlor-alkali, paper, textiles and railways.
  - BEE and its Star Rating Programs
  - Green Telecom consultation by the Telecom Regulatory Authority of India
  - Department of Telecom's Recommendation on Green Telecom

Green IT Services : Categories

- Green practices adopted by IT-BPO organizations for greater sustainability are on **three** pillars:

  → ***Facility Management*** *includes Green Buildings, Energy Efficient Cooling, Water Management, Efficient Lightings, Bio-Diversity, Renewable/Non-conventional sources of energy.*

  → ***IT Infrastructure Management*** *includes Energy Efficient PCs, Green Data Centre, Virtual Meetings, Cloud/Grid Computing, e-Waste Disposal.*

  → ***Processes & Practices*** *includes Energy Audits, Sustainability Reporting, Carbon Disclosure, Employee Awareness & promoting shared or public transport options.*

Green IT Services : Status in India

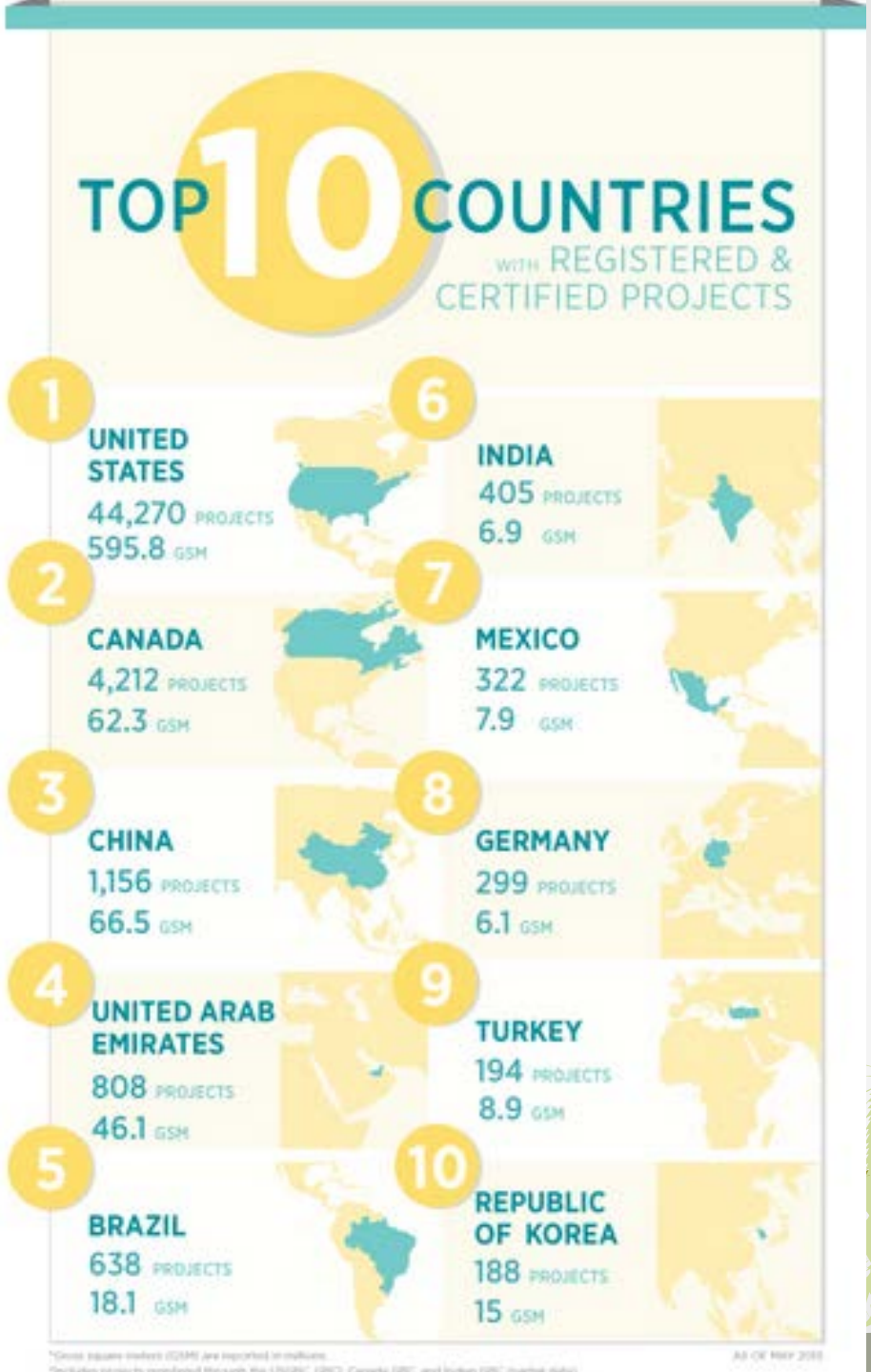
Facility Management *(Green Buildings, Energy Efficient Cooling, Water Management, Efficient Lightings, Bio-Diversity, Renewable/Non-conventional sources of energy.):* **India Green Building Council (**www.igbc.in)

- LEED India
- Measurement is five areas:
  (1) Sustainability site development;
  (2) Water savings;
  (3) Energy efficiency;
  (4) Materials selection and
  (5) Indoor environment quality

- The IGBC Green SEZ Rating System (Pilot version) is an extension of the Green SEZ guidelines.
- IGBC Green SEZ addresses green features under the following categories:
  - Site Preservation & Restoration
  - Site Planning & Design
  - Water Efficiency
  - Energy Efficiency
  - Materials & Resources
  - Innovation & Design Process
- LEED India is the localized version of the international rating system and is administered by the Indian Green Building Council (IGBC). Currently, there are 1,482 LEED India registered buildings and 214 LEED certified buildings, representing 1,012.92 million square feet of registered green building footprint.
- Currently, India has over 400 LEED-certified buildings, the 6th highest quantity in the world.
- Infosys has been awarded the Leadership in Energy and Environmental Design (LEED) India 'Platinum' rating by the Indian Green Building Council for its Software Development Block (SDB) 3 in Mangalore and SDB 6 in Mysore.
  - With this, Infosys now has a total of seven buildings that have got the prestigious Platinum rating, the highest ranking given by LEED for sustainable building design. (**Aug 2013**)

LEED : India Status

- USGBC has created a new infographic, "LEED in the World," which lists the current number of both registered and certified LEED projects across the globe by *gross square meters* in different regions, and ranks the top 10 countries for green building.



Green IT Services : Status in India

IT Infrastructure Management (*Energy Efficient PCs, Green Data Centre, Virtual Meetings, Cloud/Grid Computing, e-Waste Disposal***) :**

- IBM, BEE partner for India's first smart grid project : IBM is to partner with Bureau of Energy Efficiency(BEE) to create the country's first smart grid project. Together, they will create a cost-benefit analysis for smart grid activities as part of the National Mission for Enhanced Energy Efficiency. ***Smart grid*** refers to an improved electricity supply chain using digital technology. It enables monitoring, analysis, control and two-way communication between the electrical delivery system and the consumer end.
- According to a report prepared by the United Nations Environment Program (UNEP) titled 'Recycling from e-waste to resources', India is one of the few countries generating the lowest quantity of e-waste as informed to Rajya Sabha on August, 2013.
- Effective Green IT Infra management mechanisms of TCS, Wipro, HCL, Infosys and top league IT global players in India helped minimize damage.
- HCL Infosystems Limited, India's premier hardware, services and ICT System Integration Company, today received the prestigious LEED CI Platinum certificate for its Data Centre in Noida. The recognition distinguishes ***HCL Infosystems as the first company in India*** to be awarded the certification in **internal construction of the Green data centre**.
- HCL Infosystems, has unveiled HCL ME Laptop M54, what has been termed as India's first, Bureau of Energy Efficiency (BEE) star compliant notebook.
- Foray of top league IT companies into Cloud

Barriers to Adoption

- Although sizeable savings are achievable through the adoption of ICT solutions in the target sectors of the energy efficiency mission, a number of pervasive barriers exist

Demand side barriers
• High cost of technology • Lack of awareness about the available technologies • Lack of initiative by Public Sector Enterprise • Lack of ICT skills • Inadequate baseline data on energy use • Difficulty in retrofitting in existing plants • Weak regulatory norms for carbon emissions

Supply side barriers
• Inadequate Standardization • Intellectual property rights • Lack of financing mechanisms • Lack of public investment towards capacity building • Inadequate R&D support

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