Growth vs Sustainability
Are These Mutually Exclusive Goals?

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What is growth?

Redefine “Growth”

Delink growth from unbridled consumption

Make growth broad-based and inclusive
Developed vs. Emerging Economies – Different Focus

**Developed Economies**
- Controlling consumption
- Regulatory compliance
- Retrofitting existing infrastructure

**Emerging Economies**
- Renewable energy
- Reliability of energy supply
- Energy efficient new buildings
- Inclusivity
- Resource optimized growth

Moving towards development & growth

Moving towards lower consumption

Meets minimum criteria for sustainability
The biggest engines of growth in the next decades will be the emerging economies.

UNDP’s 2013 report projects that by 2020, the combined economic output of Brazil, China, and India will exceed the aggregate production of Canada, France, Germany, Italy, the United Kingdom, and the United States.

Emerging economies - characterized by resource constraints and lower levels of human development.

Growth - Inclusive, Equitable within available resources.
Technology will be a key enabler

Intelligent Cloud-based Sensor Networks

Gather

Analyze

Actionize

Intelligent

Cloud-based
Minimizing Resource-Intensity through waste reduction

Data and analytics help reduce electricity distribution losses

Can save **1000MW** of power in just one state, which can help light up **7 million homes**

Can reduce the average power interruption by **50%**
Big-data approach to improve agro supply chain efficiencies

- ACDI/VOCA implemented USAID’s first enterprise development project in India
- Weather updates, daily sales volumes, average prices – straight to farmers
- Sensors, devices to capture data for access in the fields
- Agricultural experts consult real-time
- Decreases farm-to-market losses, currently estimated at 30% to 40% on certain products

Increasing efficiency and reducing waste
Sustainability on Infosys Campuses - Snapshot

Infosys
- 160,000 employees
  - 130,000 in India
- 28 million sq. ft
  - Total built up space
- 262 million units
- 3.15 billion litre
  - Water consumed per year

Energy
- 40% reduction in per capita in 5 years
- 465 million units avoided
- 2x improvement on overall efficiency of new buildings
- 20% from renewables – 100% by 2017

Water
- 34% reduction in per capita in 5 years
- Over 2.9 billion liters of fresh water saved in 5 years
- 4.3 Billion liters of rain water sequestered in our Indian campuses annually - which is about 135% of our annual water consumption

Other Areas
- Biodiversity – over 115,000 trees in 3 years, endangered species
- Waste – target 100% segregation at source

GOAL:
Become part of the solution, not the problem
Using technology to monitor and analyze energy for optimization

Reducing Resource-Intensity through visibility and insight

Savings of 100 million units each year – can help electrify over 200 villages

40% improvement

Per Capita Energy Consumption

Avg. Monthly kWh / employee

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Integrated design for energy optimization

**Lighting**
- Window Strategies: Maximize Day Light
- Bright day light without glare at SDB-5 Mysore

**Building Design**
- North South facing building with 16 m width to ensure 80% of spaces are day lit

**Cooling**
- Use of innovative radiant cooling technology

**Impact**
- 2X improvement in overall energy efficiency of new SDBs

**Graph**
- Units per sqm for different locations:
  - Hyderabad (old campus): 203
  - Pune Ph-2: 100
  - Chennai M-City: 231
  - Mangalore Mangalo: 129
  - Trivandrum: 40
  - Hyderabad (New campus): 50
Renewable energy: Making Green Power Competitive

- **Renewable energy at Infosys**
  - One of the largest installation of solar water heater in the country @ 6 lakh litres/day
  - Currently purchasing 60 million units of renewable power
  - Currently installing onsite Solar PV/Micro wind plants
  - R&D of Solar Thermal technology

- **Helping drive Policy Level Changes**
  - Succeeded in persuading Karnataka regulators for removing cross subsidy
  - Karnataka has introduced voluntary ‘Green Power Tariff’
  - Open access now allowed in Tamil Nadu

**Goal:** 100% carbon neutral by FY 2017
Water Conservation: Mysore Campus Case Study

Initiatives in Mysore campus:

- Recycled water used for flushing in 2250 hostel rooms – saving 2.5 lakh litres of fresh water everyday

- Flow restrictors installed in showers and taps in 10,000 hostel rooms – saving 4 lakh litres of fresh water everyday

- Water leakage arresting and more efficient housekeeping practices in hostels – saving about 3 lakh litres every day

- Mysore campus sources about 60% of its daily fresh water requirements from these dug wells

34% reduction in per capita in 5 years

Over 2.9 billion liters of fresh water saved in 5 years
8 reservoirs built in Mysore – total capacity 60 Million litres
7 reservoirs built in Mangalore – total capacity 45 Million litres
3 reservoirs built in Pune – potential capacity of 20 Million litres
4 reservoirs built in Hyderabad – potential capacity of 130 Million liters
Recharge pits for ground water recharge
Used recycled water for irrigation
Ground water now available even during summer in surrounding villages

The amount of rain water sequestered in our Indian campuses is estimated at more than 4.3 Billion litres every year; which is about 135% of our annual water consumption
Buildings designed since 2008 are meeting the LEED platinum rating which is the highest ranking in the rating standard.

The new buildings are 50% more efficient than industry standards.

Buildings have an annual Energy Performance Index of 90 kWh/sqm, lowest in the industry.

Per capita energy and water consumption is lower than competitors.

Rated as the 19th Greenest company in the world by Newsweek Magazine (5th greenest in the IT sector).
Research partnerships: Living labs

- **LBNL**
  - Key partner in consortium of university & industry research labs
  - Building energy efficiency
  - Monitoring buildings for energy modeling

- **UTRC**
  - Real time monitoring and analytical tools for energy efficiency improvement

- **Saint Gobain**
  - Building heat transfer efficiency, new material, retrofit – in hot and humid environments
In summary…

- Growth and sustainability need not be mutually exclusive. But growth needs to be delinked from unbridled consumption and re-defined to be more broad-based and inclusive.

- Developed countries and emerging economies have different needs and challenges with regards to sustainability.

- The biggest engines of growth in the next few decades will be the emerging economies - characterized by resource constraints and lower levels of human development. Need then is to make growth inclusive and equitable within the constraints of available resources.

- This creates the need and opportunity for social innovation and technological innovation. Particularly, information technology can be a key enabler.