



Power, Behavior, Efficiency

A Holistic Approach to Green Economy

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Human Power, Behavior, Efficiency Generation Devices



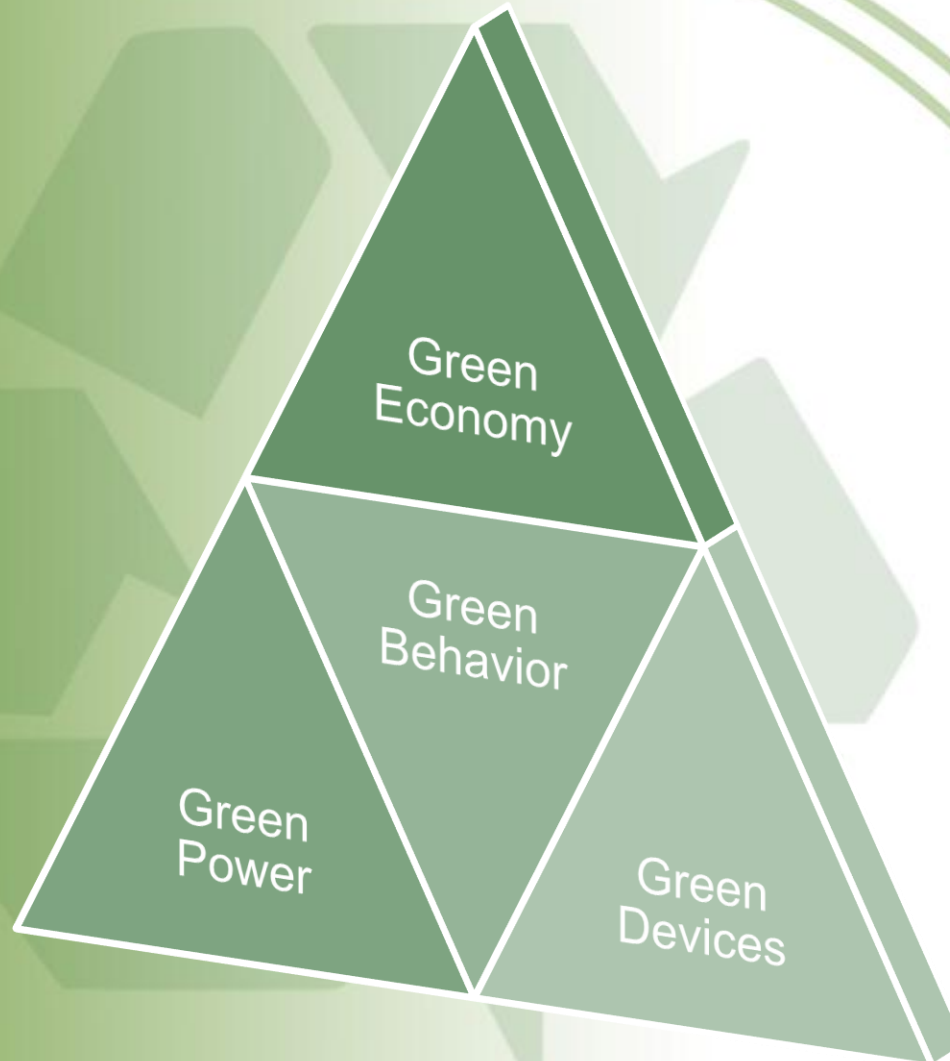


The Solutions Are Waiting

Click to watch the animation

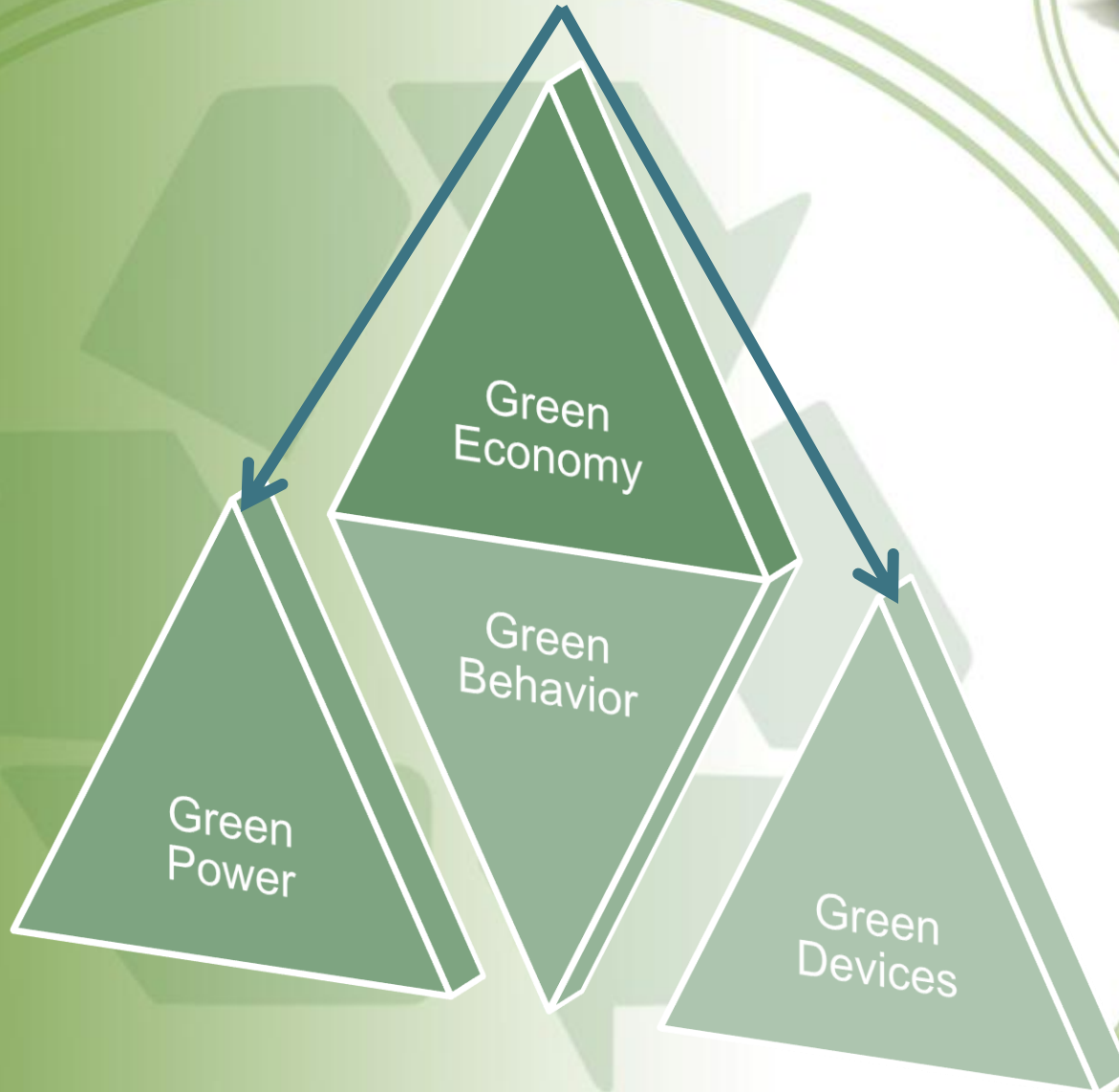


The Green Economy Paradigm





Green Technology





Green Technology



The application of the environmental science to conserve the natural environment and resources, and to curb the negative impacts of human involvement. Sustainable development is the core of *environmental technologies*. When applying *sustainable development* as a solution for *environmental issues*, the solutions need to be socially equitable, economically viable, and environmentally sound.



Natural Environment and Resources





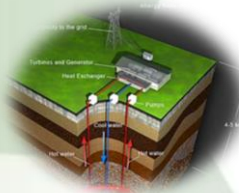
No Action Means...





Green Power Generation

- Solar
- Wind
- Geothermal
- Water
- Bio fuel
- Hydrogen





Solar Thermal Energy



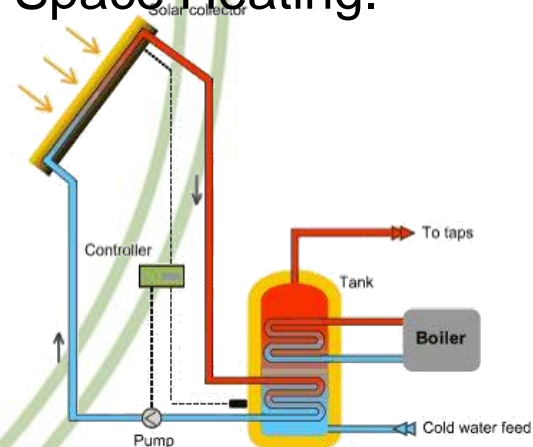
Collect solar radiation and transfer the heat directly or indirectly to its final destination via a heat transfer medium – usually a fluid.



Common Applications

Domestic Hot water (DHW)

Combined DHW and Space Heating.





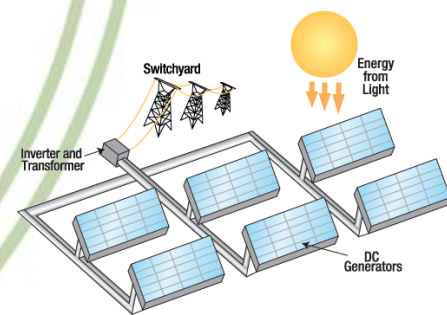
Photovoltaic

Photovoltaic cells convert solar light photons into electricity.



Common Applications:

- Power stations
- Buildings
- Transport
- Standalone devices
- Rural electrification
- Solar roadways



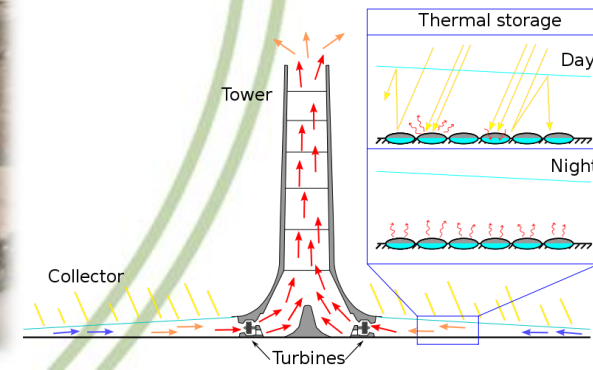


Solar Updraft Tower

Air is heated by sunshine and contained in a very large greenhouse-like structure around the base of a tall chimney, and the resulting convection causes rising airflow to rise through the updraft tower. The air current from the greenhouse up the chimney drives turbines, which produce electricity.



Used as a clean power generation station for large developments





Concentrated Solar Energy

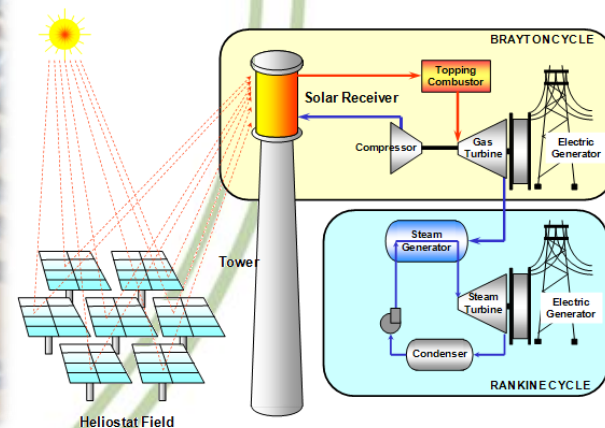


Concentrating solar power (CSP) technologies use mirrors to reflect and concentrate sunlight onto receivers that collect the solar energy and convert it to heat. This thermal energy can then be used to produce electricity via a steam turbine or heat engine driving a generator.



Used as a clean power generation station for large developments

Solar Thermal Combined-Cycle Power Generation





- Plenty of Green Power sources and technologies to choose from
- Many of them are becoming economically viable
- Many of them are already in operation



Efficient Devices

Corporate and Consumer



- Efficient lighting
 - The most important device
- Energy Star certified devices
- If you don't need power then don't buy it
 - PC: Laptops and thin clients,
 - TV: Good brands – Consider LED
- Water conservation devices
- Mass Transit





Green Technology Solutions

Corporate



- Sustainable Development Practices
 - At all levels
- Waste to Energy
 - For large and small community projects
- Green Construction Systems
 - 20-30% Energy Savings
 - Little or no waste
- Smart Buildings Technologies
- Comprehensive water collection and conservation solutions
- Use of recycled materials for construction
- Utilization of Servers Virtualization Technology
 - Less cost, same performance, green solution
- Use of mobile devices instead of PCs



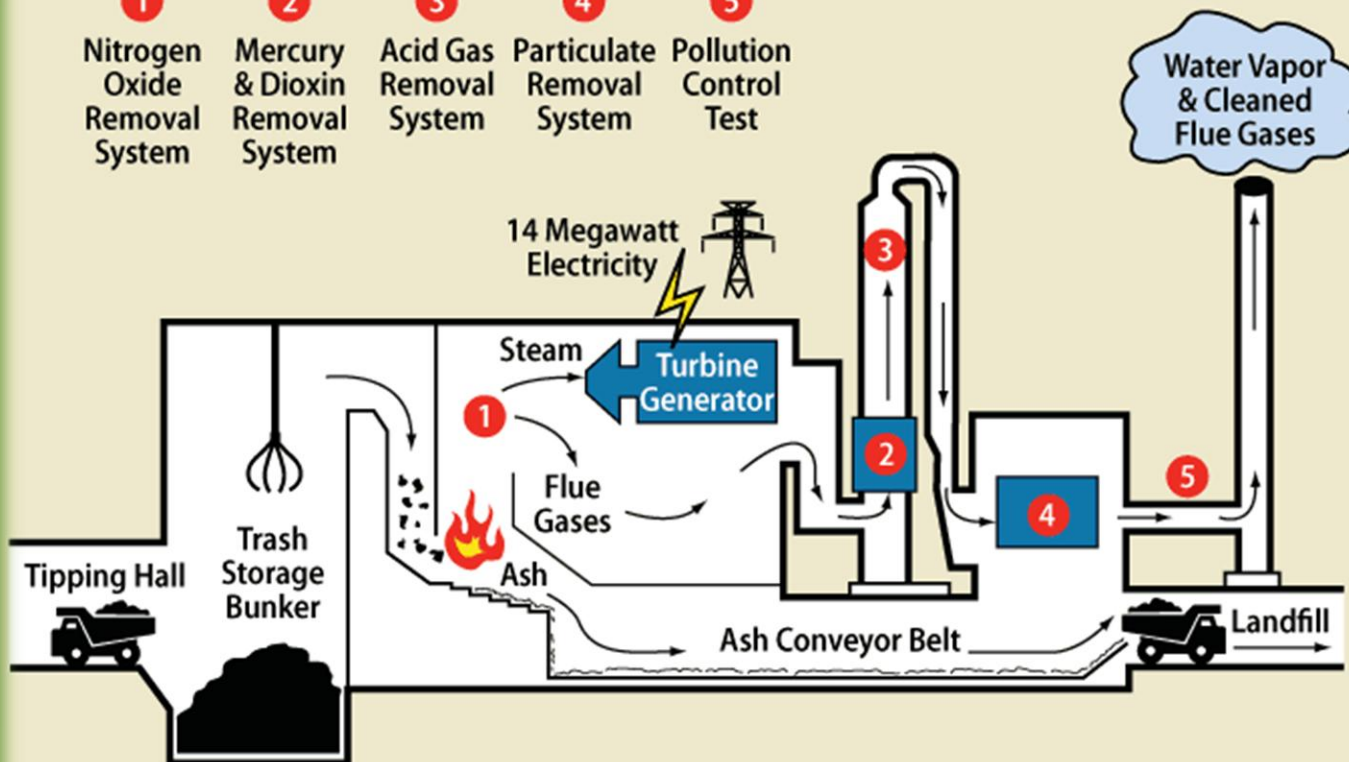
Waste to Energy



Waste to Energy Plant Diagram

Pollution Control System

- | | | | | |
|--|--|-------------------------------|----------------------------------|------------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Nitrogen
Oxide
Removal
System | Mercury
& Dioxin
Removal
System | Acid Gas
Removal
System | Particulate
Removal
System | Pollution
Control
Test |



- Environmentally safe solid waste management and disposal
- Generation of clean electric power
- Many proven and reliable systems
- Economically feasible



Green Construction Systems



- Near Zero construction waste
- 20-40% saving on energy consumption
- Many proven and reliable systems
- Very fast construction
- Economically feasible



Smart Building Technologies



- Automated resources management

- Monitoring and preventing of resources leaks



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lighting

home entertainment

household appliances

surveillance

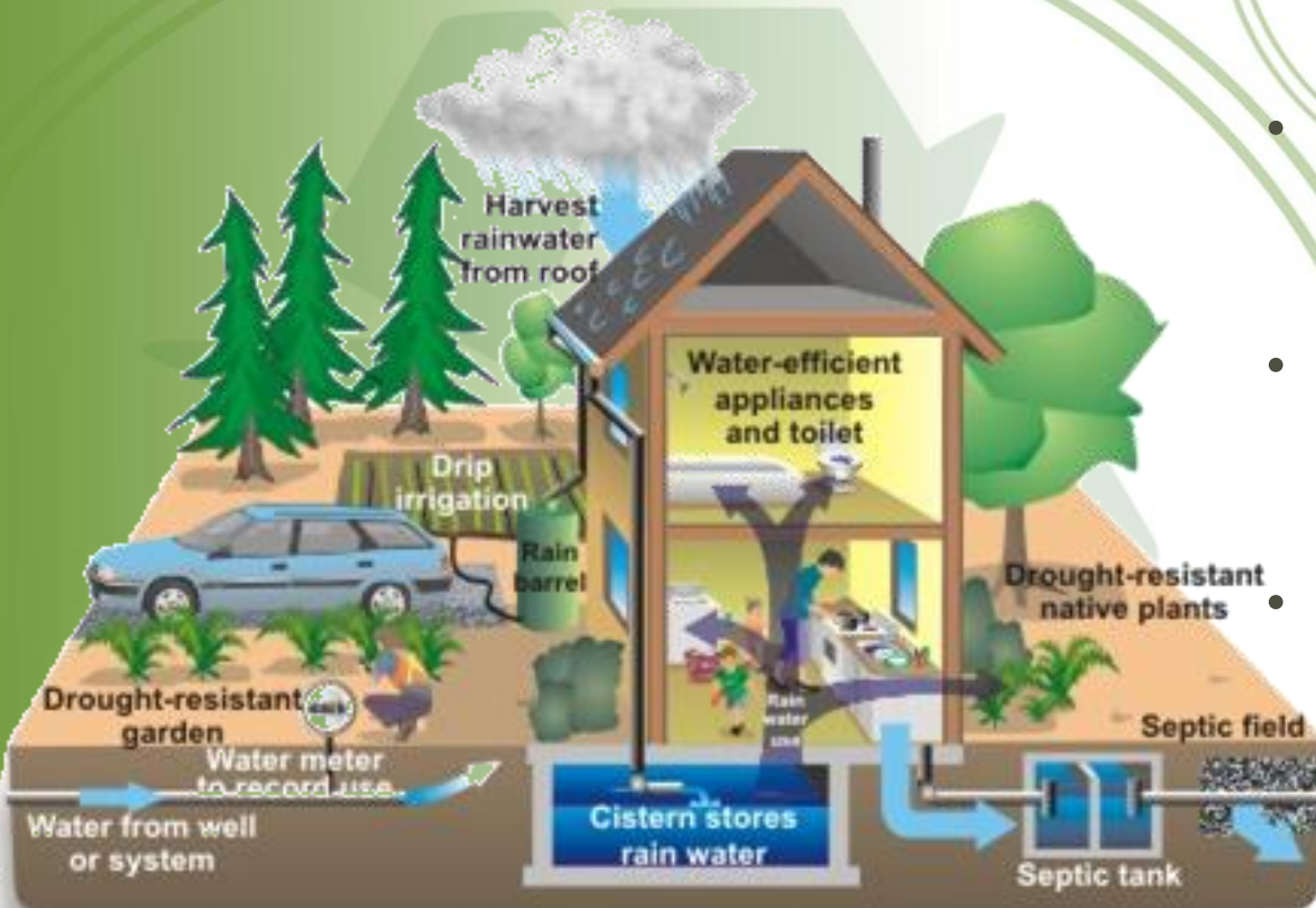
air control



Comprehensive water collection and conservation solutions



- Rain water storage
- Recycling of gray water
- Use of water-efficient appliances





Concrete made of recycled materials for roads and foundations



- Foundations in soils with low load-bearing capacities
- Site and road paving subjected to extreme loads



sand, peat, clay

Sieve sand, slag from waste incineration plants, sludge, barite.

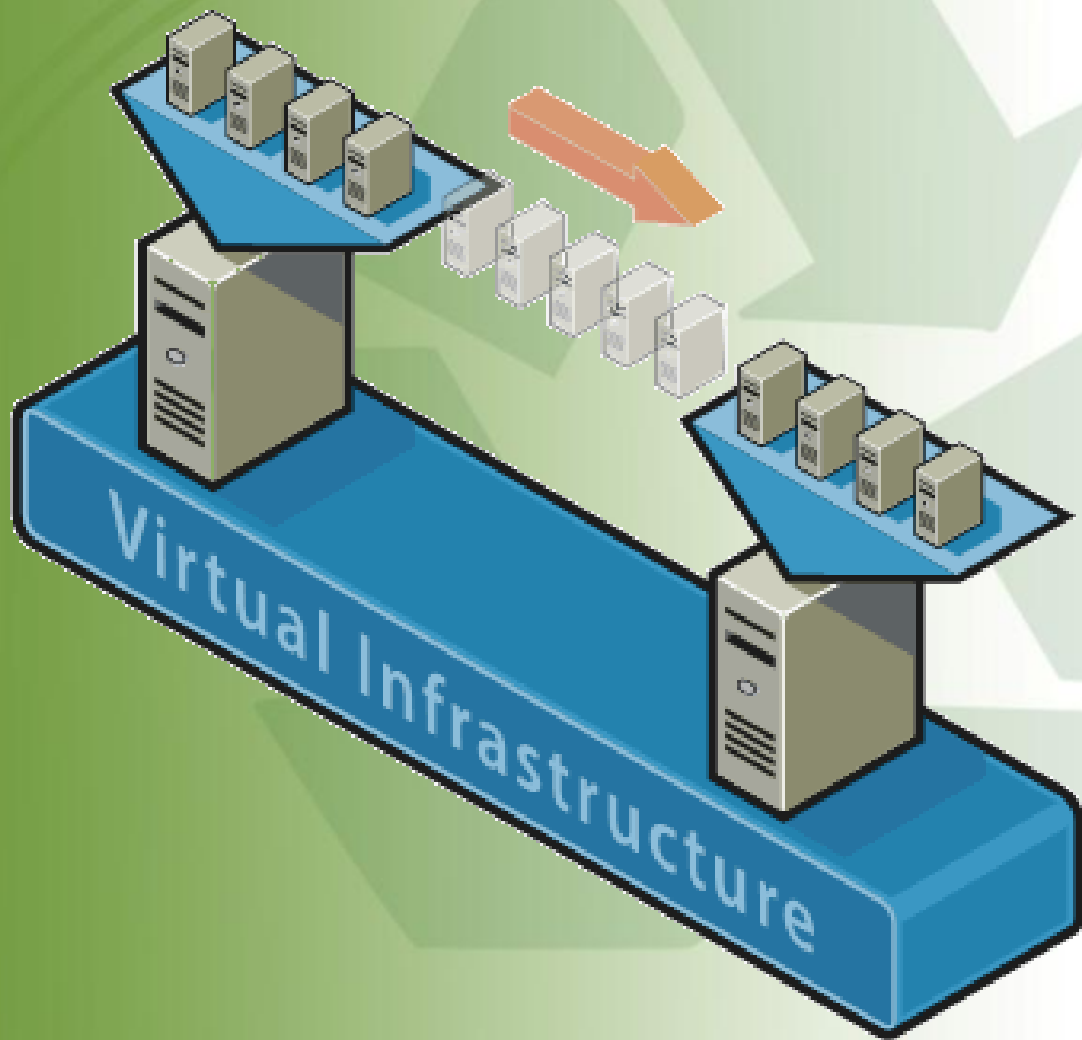
- Foundations for site paving
- Foundations for floors in sheds, hangars and industrial



Metal, gravel, a piece of wood.



Server Virtualization



- Consolidates multiple, under-utilized physical servers on a single server running Virtual Machines
- Reduces power consumption by leveraging virtualization for server consolidation and agility



Utilize Efficient Communication and Collaboration Devices



- Email
- Review files
- Voice and video conferences
- Chat

- File transfer and sharing
- Surf the net
- Connect to your company network
- Control your home and company security


And much more





Human Behavior



- Switch to Energy saving lights
- Buy only the power that you need
 - PCs, Vehicles, Appliances
- Choose “Energy Star”  certified devices
- Weatherproof your premises
- Carpool and use Mass Transit
 - Corporations should start an incentive carpool programs as part of their CSR
- Telecommute



THANK YOU!



Green Power

Efficient Devices

Responsible Behavior

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