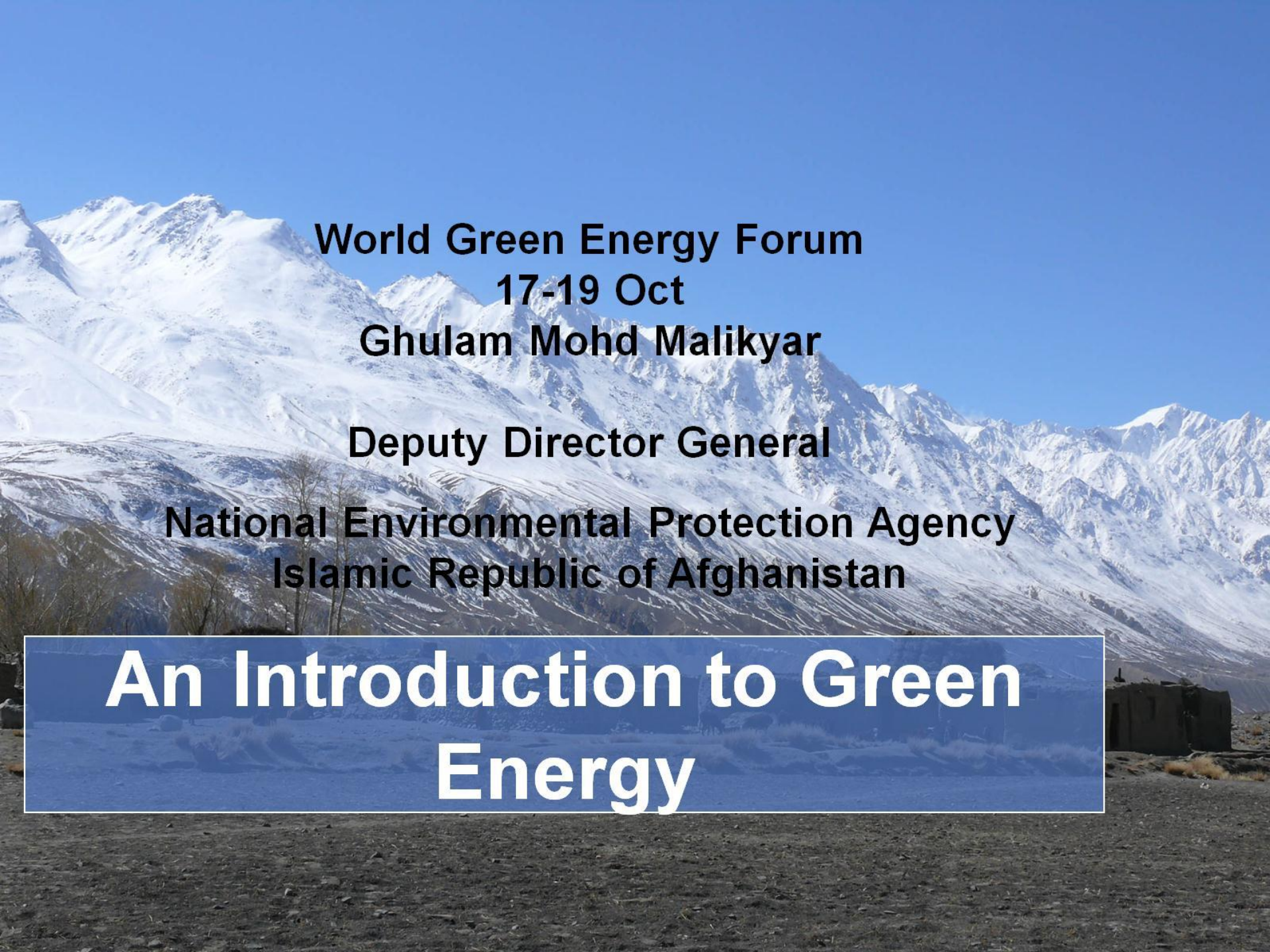

World Green Energy Forum
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An Introduction to Green Energy

Types of Green Energy

"Greener" types of energy that often come to mind are:

1. solar,
2. wind,
3. geothermal
4. hydro energy.
5. Nuclear Energy
6. Energy Efficient Buildings
7. Greener production

Types of Green Energy cont..

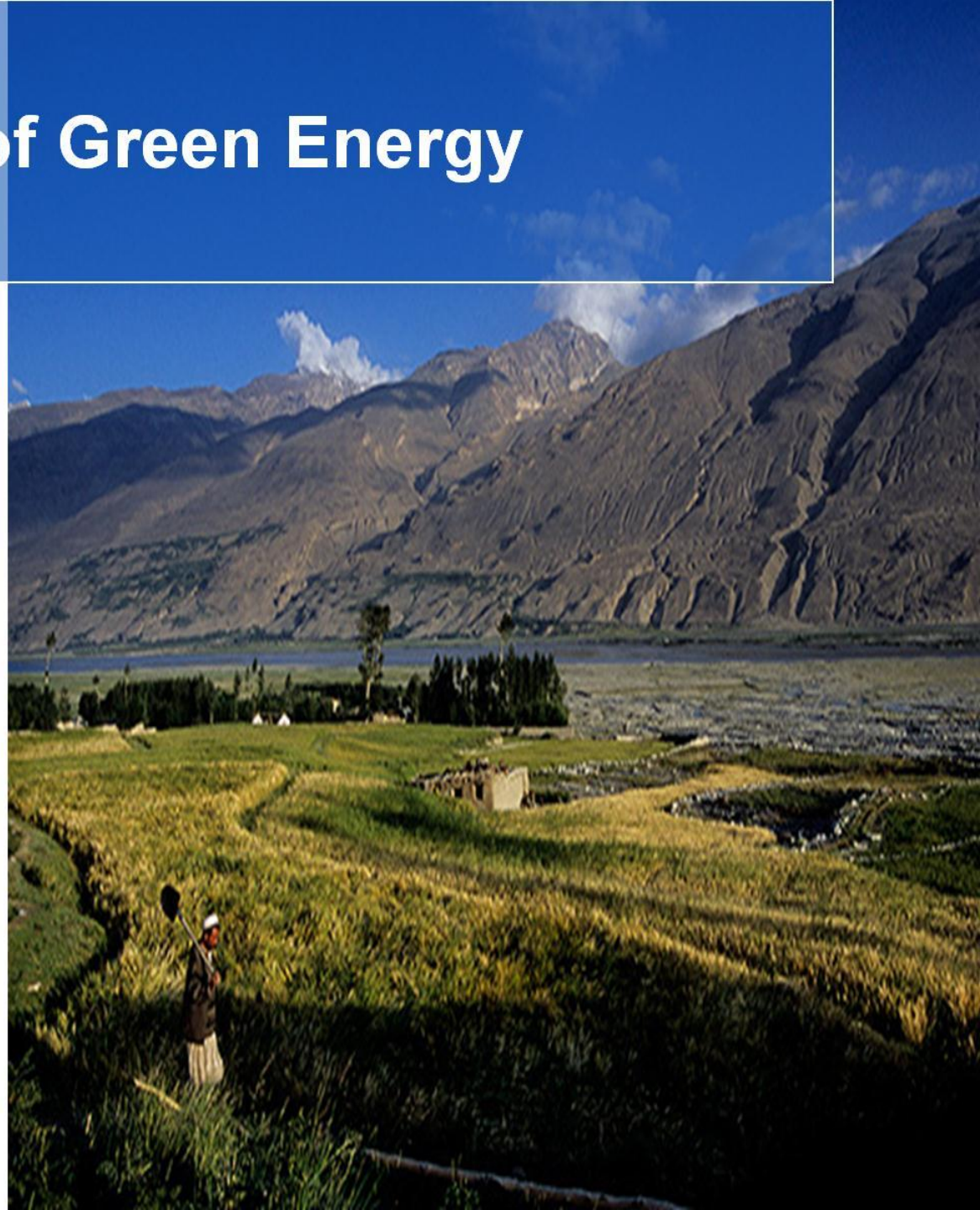
- There are several more, even including Nuclear Energy, that is sometimes considered a green energy source because of its lower waste output relative to energy sources such as Coal or oil.

Goal of Green Energy

power with as little pollution as possible produced as a by-product.

collection will result in some pollution, but those that are green are known to cause less than those that are not.

One of the goals of green energy technology is to take existing fossil fuel energy technology and clean it up so it is produced more cleanly.



Sources of GE

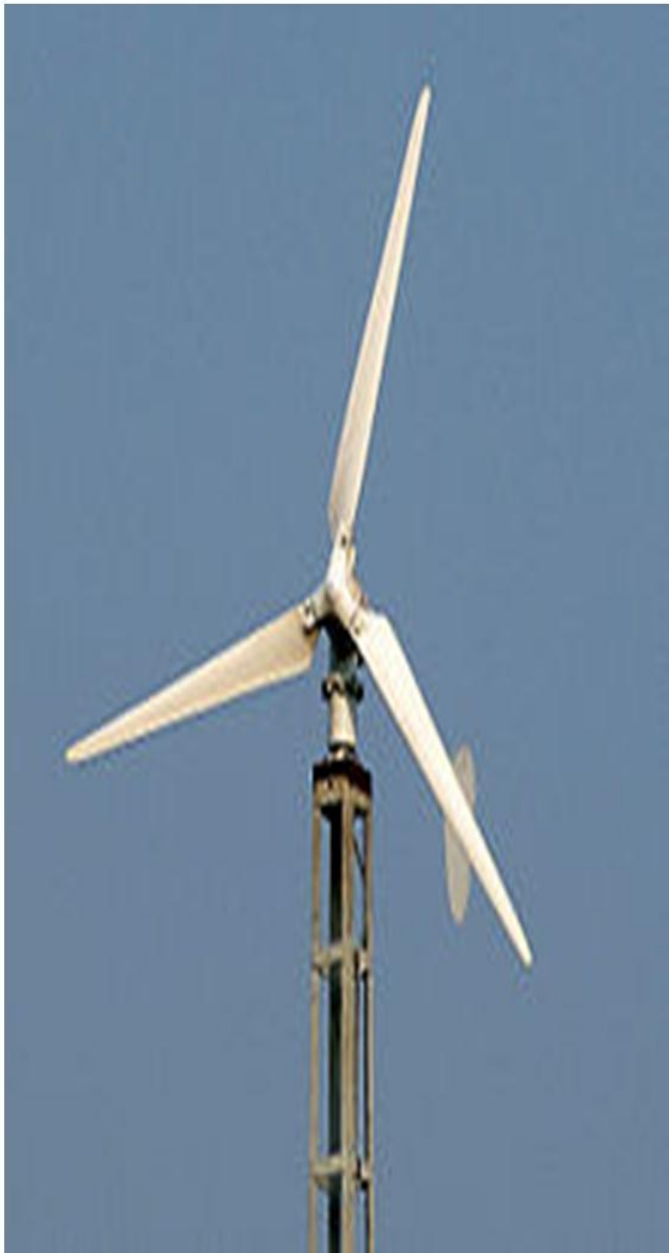
- It is not completely necessary for green energy sources to come from places like solar or wind fields, which are examples of green “power plants.”
- A green energy source can be a building that is designed in a way that it keeps itself cool in the daytime and heated in the night through its architectural design rather than having an air-conditioning or a heating system

Solar Energy

- Solar power is the conversion of sunlight into electricity. Sunlight can be converted directly into electricity using photovoltaics(PV), or indirectly with concentrated solar power (CSP), which normally focuses the sun's energy to boil water which is then used to provide power.
- Other technologies also exist, such as Sterling engine dishes which use a Stirling cycle engine to power a generator. Photovoltaics were initially used to power small and medium-sized applications, from the calculator powered by a single solar cell to off-grid homes powered by a photovoltaic array

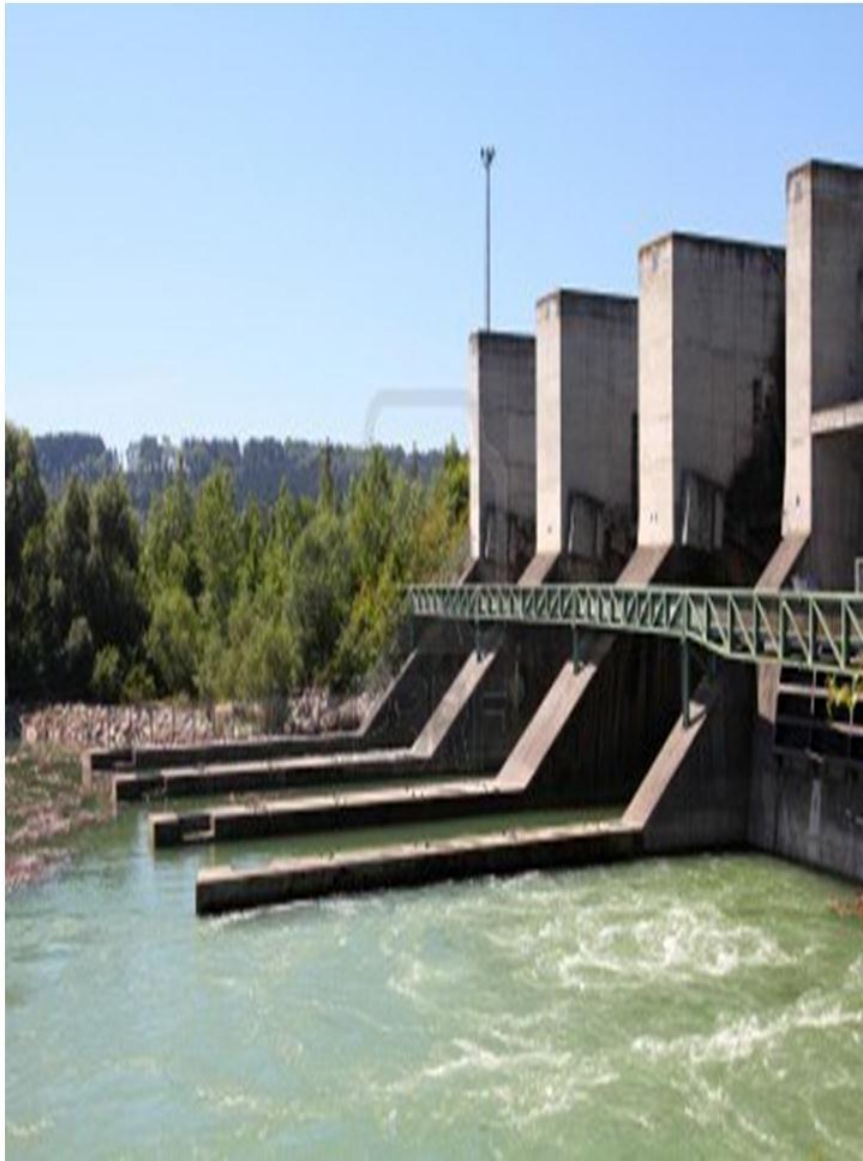
Wind Energy

- The first practical windmills were in use in Iran at least by the 9th century and possibly as early as the 7th century.
- Than became widespread use across the Middle East and Central Asia, and later spread to China and India.
- By 1000 AD, windmills were used to pump seawater for salt-making in China and Sicily.
- Windmills were used extensively in Northwestern Europe to grind flour from the 1180s and wind pumps were used to drain land for agriculture and for building. Early immigrants to the NEW World brought the technology with them from Europe.



Hydro power

- Early uses of waterpower date back to Mesopotamia and ancient Egypt, where irrigation has been used since 17 millennium BC and water clocks had been used since the early 2nd millennium BC.
- Other early examples of water power include the Qanat system in ancient Persia and the Turpan water system in ancient China.
- **Waterwheels, turbines, and mills**
- **Hydraulic power-pipe networks**
- **Compressed air hydro**



Hydropower types

- Conventional Hydroelectric Referring to hydroelectric dams.
- Run-of-the river hydroelectricity, which captures the kinetic energy in rivers or streams, without the use of dams.
- Small Hydro, projects are 10 megawatts or less and often have no artificial reservoirs.
- Micro hydro, projects provide a few kilowatts to a few hundred kilowatts to isolated homes, villages, or small industries.
- Pumped-storage hydroelectricity, stores water pumped during periods of low demand to be released for generation when demand is high.

Nuclear Energy

- Nuclear energy

Any energy associated with atomic reactions.

These can be created by people, but they also happen through natural processes.

An example of all-natural nuclear energy would be the nuclear fusion process that fuels stars like the sun.

Nuclear Power Cont..

- Electricity was generated by a nuclear reactor for the first time ever on December 20, 1951 at the EBR-I experimental station near Arco, Idaho in the United States.
- On June 27, 1954, the world's first nuclear power plant to generate electricity for a power grid started operations at Obninsk, USSR. The world's first commercial scale power station, Calder Hall in England opened on October 17, 1956.

Energy Efficient Buildings

- Buildings are responsible for at least 40% of energy use in most countries.
- The absolute figure is rising fast, as construction booms, especially in countries such as China and India.

Three approaches can help overcome them:

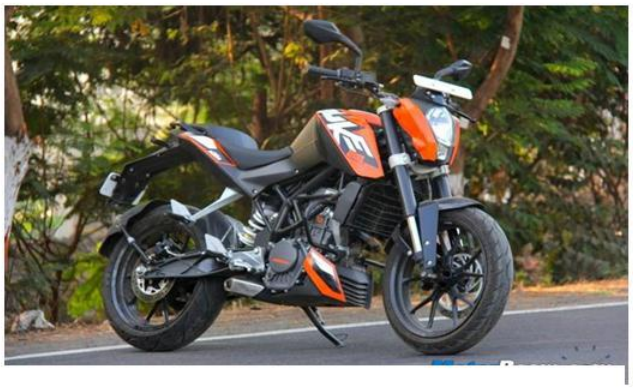
- Encourage interdependence by adopting holistic, integrated approaches among the stakeholders that assure a shared responsibility and accountability toward improved energy performance in buildings and their communities
- Make energy more valued by those involved in the development, operation and use of buildings
- Transform behavior by educating and motivating the professionals involved in building transactions to alter their course toward improved energy efficiency in buildings.

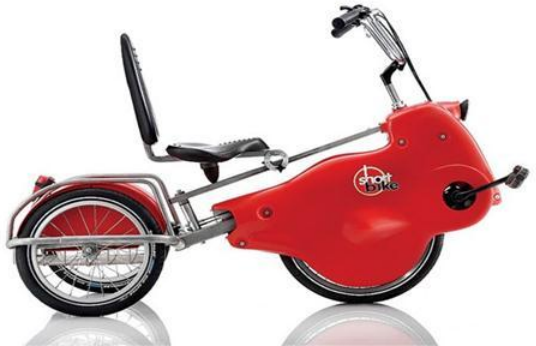
Green Production

A package of new measures will encourage manufacturers to make more eco-friendly goods and make sure shoppers can spot them.

The measures can be mandatory, voluntary and can grouped together in a new commission plan on green product design and energy and environmental labeling.

All the new measures together could reduce the amount of energy used to heat, light and maintain buildings by 30%.






Thank you!