

***NEEDS AND IMPORTANCE
OF
CONSERVATION ENERGY
AND
ITS RESOURCES***

➤ **Meaning of Conservation of Energy and its Resources**

➤ Conservation of energy and its resources means the reduction of the consumption of energy and its resources by using lesser energy services. It encourages the sustainable use of energy and its resources.

➤ Needs of Conservation of Energy and its Resources

- As per Gandhi ji “The earth provides enough to satisfy every man’s needs, but not every man’s greed.”
- We use energy resources faster than they are produced. For example, most utilised energy resource i.e. fossil fuels (Coal, oil and natural gas) take thousands of years for formation.

- Energy resources are limited and most of them cannot be reused and renewed.
- Non-renewable energy resources constitute about 80% of the total fuel used and they may fulfil our requirement only for next 40 years.
- India has approximately 1% of world's total energy resources, but it has 16% of world population.

➤ When we save energy, we save the money of our country. For example, about 75 per cent of our crude oil needs are met from imports and it cost about Rs.1, 50,000 crore per year. This cost can be reduced by controlling the use of petrol.

➤ When we save energy, we save our money. For example, when our LPG cylinder runs for an extra week or there is a cut in our electricity bill, there will be a saving.

- Energy saved is energy generated. When we save one unit of energy, it is equivalent to 2 units of energy produced.
- Energy production and use account to large proportion of air and water pollution and more than 83 percent of greenhouse gas emissions. Hence, Saving of energy reduces pollution.
- As per an old Indian saying “The earth, water and the air are not a gift to us from our parents, but it is a loan from our children.” Hence, we need to make energy conservation a habit.

➤ Energy can neither be created nor destroyed but it can only be transformed from one form to another, such as heat energy to motive power in cars, kinetic energy of flowing water to electricity in hydroelectric power plants etc. Machines are required to transform energy from one form to another. The wear and friction of the components of these machines while running cause huge loss of energy and require to be minimized.

➤ **How Conservation of Energy and its Resources can be achieved ?**

➤ It can be achieved by following ways-

(1) Using energy and its resources more efficiently (using less energy for same service).

(2) Reducing the amount of service used. For example, by driving less.

(3) Reducing wastage and losses of energy.

(4) Improving efficiency of equipments through technological upgrades, improved operation and maintenance.

(4) Stabilizing population growth of the country.

➤ Importance of Conservation of Energy and its resources

- Energy conservation reduces the need for energy services and results in increase of environmental quality, national and personal financial security and higher savings.
- It is at the top of the sustainable energy hierarchy. It also lowers energy costs by preventing future resource depletion.

➤ **Tools of Energy Conservation**

(1) Energy Audit

- A powerful tool to reduce energy consumption in buildings is to perform an energy audit.
- It is an inspection and analysis of energy use and flows for energy conservation in a building, process or system. It aims to reduce energy input without affecting output adversely.
- It is normally accomplished by trained professionals and should be a part of national programs for energy conservation.
- Recently, the development of smartphone apps enables homeowners to complete energy audits by themselves.

➤ Consumers should be encouraged to use energy efficient products. For example they should be encouraged to replace an incandescent light bulb with a more modern alternative like LED bulbs. LED lamps use at least 75% less energy, and last 25 times longer, than traditional incandescent light bulbs.

➤ When purchasing light bulbs, many consumers opt for cheap incandescent bulbs, failing to take into account their higher energy costs and lower lifespans as compared to modern compact fluorescent and LED bulbs.

➤ Although these energy-efficient alternatives have a higher upfront cost, their long lifespan and low energy use can save consumers a considerable amount of money.

➤ The price of LED bulbs has also been steadily decreasing in the past five years due to improvements in semiconductor technology. Many LED bulbs on the market qualify for utility rebates that further reduce the price of purchase to the consumer.

(2) Energy Tax

- Some countries impose energy or carbon taxes to motivate energy users to reduce their consumption.
- Carbon taxes forces thermal power to shift to the nuclear power and other energy sources.
- On the other hand, taxes on all energy consumption reduces energy use and environmental consequences arising from energy production.

- The state of California employs a tiered energy tax whereby every consumer receives a baseline energy allowance that carries a low tax. As usage increases above that baseline, the tax increases drastically.
- Such programs aim to protect poorer households and creating a larger tax burden for high energy consumers to discourage misuse of energy.

➤ **What can we do ?**

➤ Drive Less/ Use Public Transport/Carpool etc.

➤ Prefer fresh food rather than frozen food.

➤ Reduce energy Consumptions.

➤ **Save Electricity**– Whenever we use electricity, we deplete energy resources and increase greenhouse gases in atmosphere.

- Turn off lights, TV, computer etc. if not in use.
- Replace the traditional devices using more energy with more energy efficient modern devices.
- Switch over to renewable energy sources from fossil fuels. For example, Solar energy can be used for cooking, lighting, heating water etc.

➤ **Conclusions**

- Conservation of energy and its resources cannot be achieved in one or two day. It is a continuous process and need continual effort and mass awareness.
- It is we, who are prime consumer of energy and responsible for depletion of its resources. Hence, we have to give our best for Conservation of Energy and its resources.
- Our small but effective effort will surely be fruitful and will help in Conservation of Energy and its Resources.

THANKS
FOR
YOUR KIND ATTENTION