

SAVE ENERGY

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<http://www.shilpabichitra.com/shilpa2003/dest097.html>

Energy makes our world work. We have almost come to take it for granted. But lately you may have heard people, and seen many newspapers and magazines discuss the 'energy crisis'. What is the problem? Why are people constantly wondering about the future?

Let us show you how each of us has a part to play in tackling the problem. And making the world a better place in the future.

What is Energy?

We constantly hear the word 'energy' in everyday life. We admire the 'man with energy'. We eat 'high energy foods'. Parents say their children are 'full of energy'. And so often we hear that the 'world is running out of energy', that energy is precious, that it should not be wasted.

What does 'energy' really mean?

The Various Forms of Energy

Mechanical Energy

The moving force of all machinery. They do work by making wheels go round. Animal power and human energy are also examples of mechanical energy.

Heat energy

The heat of exploding gases makes an engine move forward. Blowing up a balloon with hot air, and letting it go, is like how a jet engine works with heat energy!

Light Energy

...or radiant energy, pouring out from the sun, sustains all green plants. Radio waves, X-rays and ultra violet rays are also invisible forms of radiant energy.

Chemical Energy

The energy of food and fuels. Food keeps us strong for work. The energy of oil, coal, wood and gas-released in the form of heat-runs engines, keeps us warm.

Electrical Energy

This is associated with magnets and electrical currents. It lights our homes; makes our gadgets work – at the flick of a switch.

Nuclear Energy

This is the energy from the nucleus of an atom. It can be very dangerous (when used for A-bombs and H-bombs) but also has very important uses if used for peaceful purposes (e.g.: in power stations).

How Energy Aids Mankind

Energy has always been the key to man's greatest goals, and to his dreams of a better world. The caveman started on the path to civilization when he discovered the energy in fire for that and light, and utilized the energy in his body to hunt for food and survival. Today, man has come a long, long way, and discovered innumerable ways to make various forms of energy work for him.

This quest for finding new uses of energy has led to exciting discoveries and inventions in fact; we cannot imagine a world without them.

Machinery in our factories and farms, electricity for lighting and heating, petroleum to carry us places, nuclear power and solar power to aid exciting futuristic programmes and inventions have all risen from man's interest in energy.

Our Most Important Energy Source

Of all our energy sources, there is nothing so useful or versatile as OIL or petroleum.

Hidden in vast reservoirs, deep under the earth, oil is considered the prime source of energy all over the world. When you think of 'OIL' you probably think of something to cook with, or something that keeps machinery working.

But oil is much more than that. In its crude state- or basic form –oil or petroleum is a dark black liquid, which is pumped out of the earth and 'refined' – or separated into various forms of 'oil'. Each of these forms of 'oil' has countless uses – in our homes, on our roads, in our farms, and in our factories.

OIL Takes Millions of Years to be Made.

Oil lies trapped deep under the earth's surface. How it got there is very interesting: Plants and animals that lived millions of years ago on earth died and were covered with layers and layers of sand and rock, preserving their energy within their cells. Under pressure, these turned into dark liquid – 'crude oil'.

Oil was first discovered by man when it seeped to the surface in small quantities. As man began to discover uses for it – from medicines to fiery weapons, to burning at temples-the demand for this marvellous substance grew.

Today, gigantic oil wells with huge drilling bits bore deep through the earth's surface till they strike a store of gas and oil, floating on water. Oil is made to gush out and collected in large quantities, from where it is sent to the refinery.

Oil is sometimes found under the ocean bed too! This method of pumping out oil is known as 'off-shore drilling'.

Refining Petroleum - for a Hundred Different Uses.

Heat and pressure is applied to the crude oil in varying degrees at refineries – to squeeze every drop of usefulness from oil.

This separates oil into its various components such as: gas, petrol, kerosene, diesel, lubricants, etc.

But... Precious Oil is in Short Supply.

Oil, like all natural resources can only be found in certain places: N. America, USSR, Saudi Arabia, the Middle East and N. Africa are some of the leading oil producing regions of the world.

India, unfortunately, has very little of its own oil.... hence we depend greatly on what we get from other oil-rich nations.

And with oil becoming more and more difficult to locate all over the world, it is also very expensive for our country to buy it.

Unfortunately, a Lot is Being Wasted.

The saddest thing is that after paying so much, a lot of people carelessly waste this precious liquid.

In kitchens, gas and kerosene stoves sometimes burn unnecessarily. The black smoke you see coming out of automobiles means a big waste of petrol. In factories and farms, tonnes of precious oil are wasted through bad working methods.

Set up by the Government of India, Petroleum Conservation Research Association is a registered society under the Ministry of Petroleum & Natural Gas to promote conservation of petroleum products. Its principal objectives:

- To formulate strategies and promote measures for accelerating conservation of petroleum products leading to environment protection, energy and sustainable development;
- To create awareness among masses about the importance, benefits and methods of conserving petroleum products & clean environment by enhancing information and capacity building;
- To promote research, development and deployment efforts aimed at petroleum conservation & environment protection, support & facilitate efforts for adoption and dissemination of fuel efficient technologies and substitution of petroleum products with alternate fuels and renewables;
- To establish synergistic institutional linkages at the national & international levels in the areas of petroleum conservation & environment protection;
- To provide training and technical advisory services, designed to achieve economy & efficiency in use of petroleum products for cleaner environment;
- To function as a "Think Tank" to the Govt. of India for proposing policies and strategies on petroleum conservation and environment protection aimed at reducing excessive dependence on oil.

Oil Will Last Much Longer....

If we all take a bit of care.

The world has been using up a lot of oil over the years. Will the day come when there is no more oil under the earth?

That day may not be far away. But what we can do now, when we still have this precious liquid, is to use it as carefully as we can.

In the kitchen: the pressure cooker, and other fuel-saving methods help save gas and kerosene.

On the road: driving slowly and keeping vehicles in good condition save precious petrol and diesel.

In fact, we can try and avoid using private vehicles as far as possible, and think twice before each trip. Cycling costs not a drop of petrol!

In factories: thick black smoke, coming out of factory chimneys, is a sure indicator of waste-and a problem of pollution too. Factory workers can, with good techniques and an efficient work pattern, avoid a lot of waste of oil.

In farms: a simple checklist on tractors and lift-irrigation pumps for farmers can save valuable diesel.

You have seen how important oil is as a source of energy.

People all over the world have come to realize its value. And while the search goes on for finding more of this precious liquid, scientists are busy working on other sources of energy too.

But as long as people continue to waste our precious energy, all these efforts are of little use. That is why CONSERVATION – or using something without waste – is being popularized everywhere.

As you grow up, you too will be using various forms of energy especially oil, everyday. And the sooner you make conservation a habit the better!

Look around you: has somebody left the lights and fans on unnecessarily? Is there something boiling over in the kitchen? Are there any small errands you can do like walking or cycling down to the store, rather than use a vehicle that consumes petrol?

Yes, there are many, many ways you too can help the world save energy.

***The author is Executive Director
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ACTIVITIES

FIELD ACTIVITIES

- Energy Audit & Diagnostic Studies in small, medium and large industrial units.
- Empanelment of energy auditors.
- Soft loan schemes for improving energy efficiency.
- Driver training programme.
- Model depots studies.
- Workshops for domestic consumers of Kerosene/ LPG.
- Clinics for farmers through Agriculture Extension Agencies, State Agriculture Departments and Universities.
- Installing BIS standards agriculture irrigation pumpsets and rectification of inefficient diesel pumpsets for demonstration.
- Workshops on fuel conservation for fleet operators and industries.
- Organizing National/ Regional/State level Seminars on Petroleum Conservation.
- Conducting exhaust emission awareness checks for petrol/diesel vehicles.
- Development of External Faculties for promoting Oil Conservation.

EDUCATION CAMPAIGN

- Oil Conservation awareness campaign through mass media i.e. (Press, Cinema, Radio, TV, Outdoor Publicity, Electronic Animation Display & Van Publicity of State Govt.).
- Development and distribution of printed literature on Oil Conservation.
- Publication and quarterly technical journal such as Act Bulletin, Newsletter on Oil Conservation.
- Production of educational films, TV advertisements, radio jingles and cinema slides on petroleum conservation.
- Participation in Exhibitions, Melas, Fairs, etc.
- Market survey on effectiveness of awareness campaign.

RESEARCH & DEVELOPMENT

- Evaluation of fuel saving devices and additives.
- Development of improved combustion equipments and systems.
- Development of fuel-efficient appliances, devices, equipments.