



Domestic Workshop on Energy Conservation

Outline of the presentation

1

- Introduction PCRA

2

- Need for Domestic Workshop

3

- PCRA Conservation Tips on Household appliances

4

- PCRA Conservation Tips on Wastage



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Emergence of PCRA

- 1973 : Oil Crisis World Over
- Study Team : Engineers from IOC, NPC, DGTD estimated huge oil conservation potential in Industries & STUs
- Study Results : Conservation Potential of 20 - 30%
- 6th JAN'76 : Petroleum Conservation Action Group (PCAG) formed
- 10th AUG'78 : PCAG Reconstituted as "Petroleum Conservation Research Association" (PCRA) and registered as a society under MOP&NG

About PCRA

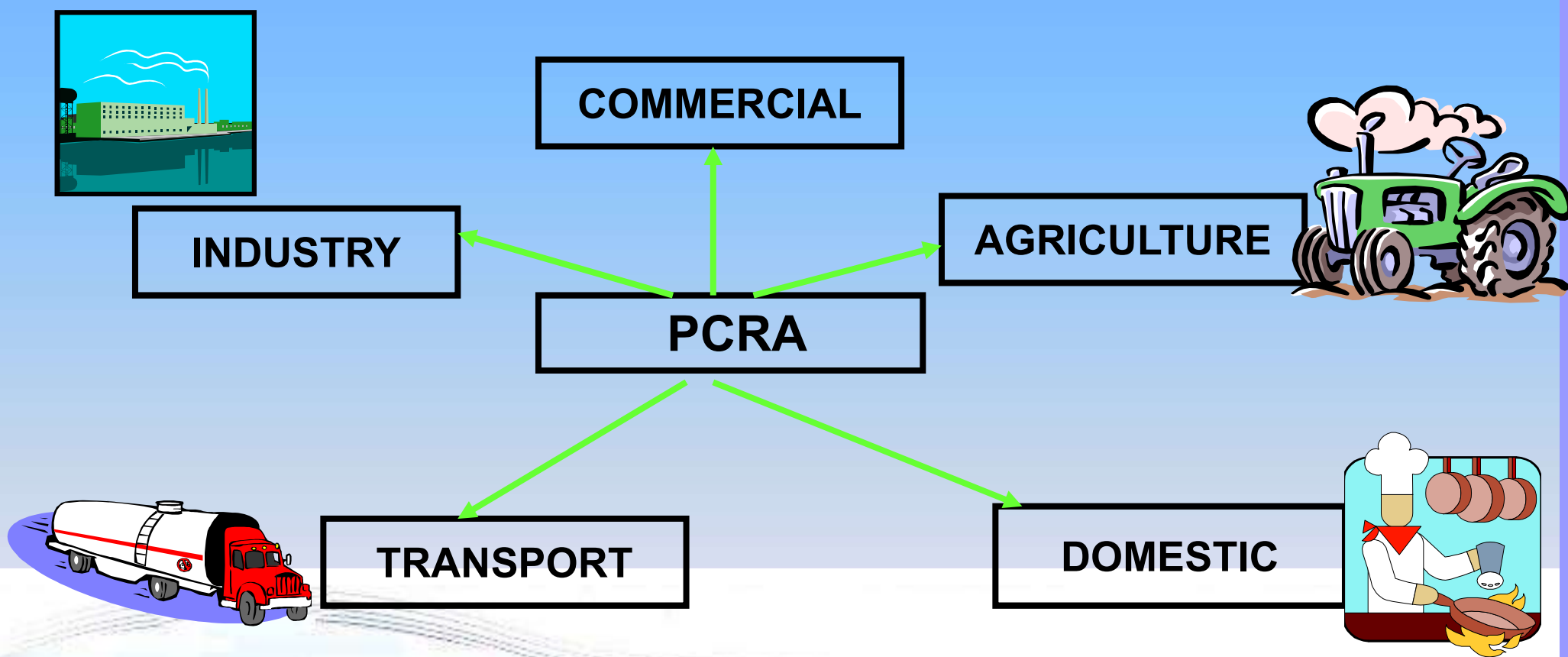
**PETROLEUM
CONSERVATION
RESEARCH
ASSOCIATION
(PCRA) is a society
under MOP&NG**

Primary Objective:

**Create
awareness
among all
sectors**

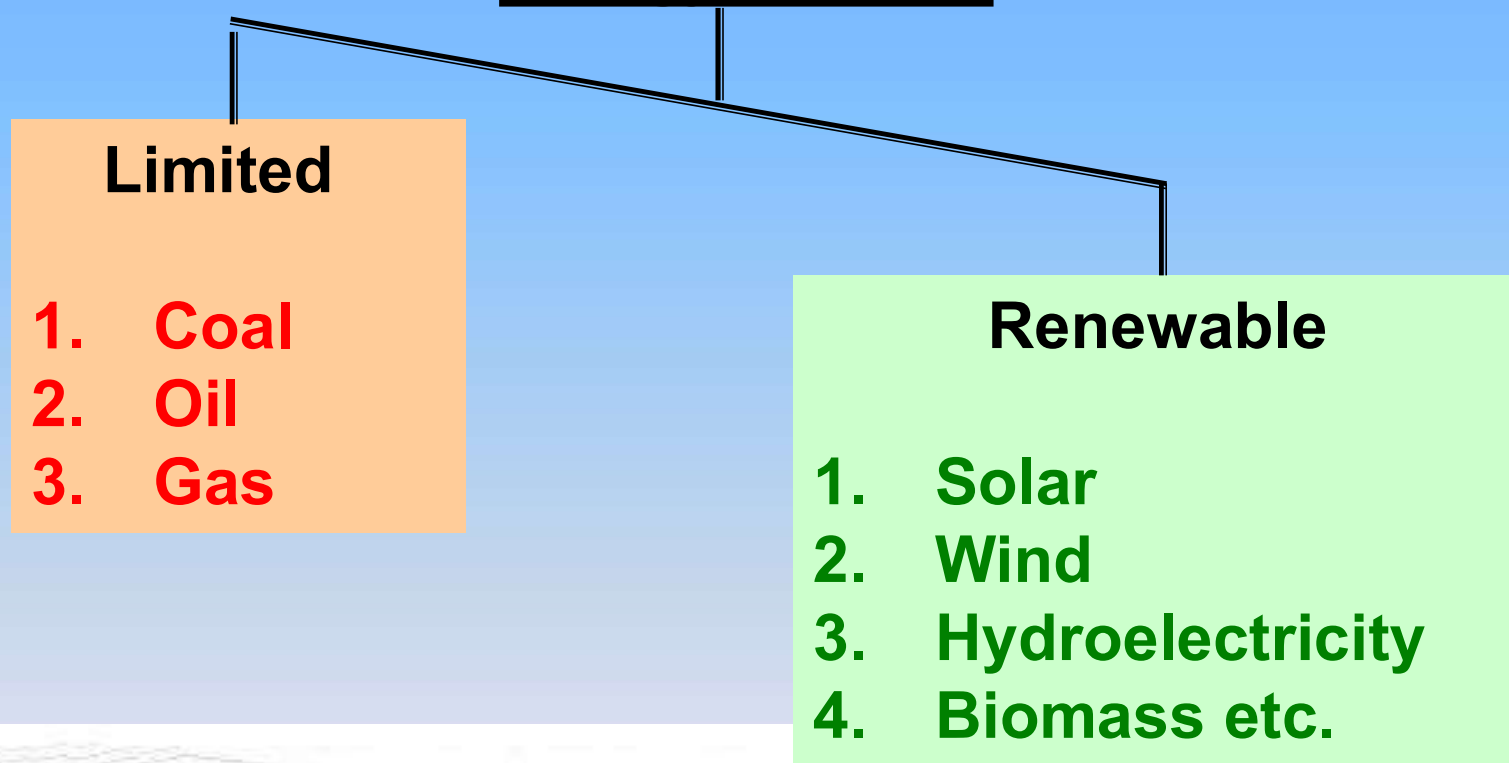
**Special focus
on Domestic
sector**

SECTROAL APPROACH



Domestic Workshop

Energy Sources

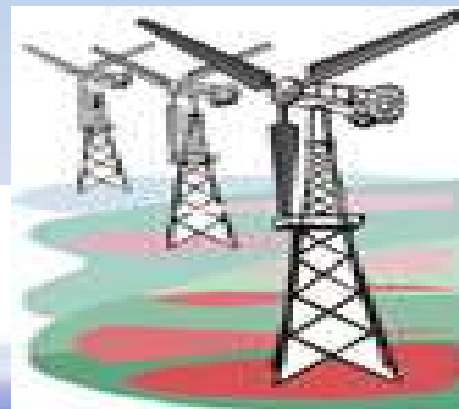


Why we should save energy

- We use energy everyday at home, at school, at work, and even when you're playing.
- By saving energy you're helping to save the world's energy resources like gas, oil and water and you're also saving money on your utility bills.
- Best of all, by using energy wisely we can cut down on pollutants in the air and water, making a better environment for everyone.
- Climate change due to global warming from greenhouse gases, like, CO₂, can be protected.

Why We Should Save Energy

- Think about what would happen if there wasn't enough energy . . . there would be no light to turn on when it got dark . . . there would not be any hot water for the shower or heat for your house in the winter . . . no gas or oil to drive the car . . . so there are lots of reasons we should save energy.





Lighting



- Turn off the lights when not in use
- Take advantage of daylight by using light-colored, loose-weave curtains on your windows to allow daylight to penetrate the room, use with lighter colors on wall that reflect daylight.
- De-dust lighting fixtures to maintain illumination.
- LED BULBS are eight times more energy efficient than incandescent bulbs and provide the same for lighting.
- Use FTLs with electronic chokes in place of conventional FTLs with copper chokes.
- Use 7w LEDs in place of traditional incandescent lamp (60w)



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Simple example of energy saving in Lighting

We can replace 60w incandescent Bulb with 7w LED Bulb

Annual energy saving would be :

$$\begin{aligned}\text{Power saved} &= 60 - 7 \\ &= 53\text{w}\end{aligned}$$

$$\begin{aligned}\text{Energy Saved} &= 53\text{w} * 8 \text{ hrs} * 365 \text{ days} / 1000 \\ &= 155 \text{ kWh}\end{aligned}$$

$$\begin{aligned}\text{Cost of electricity, @Rs.6.38 (200 units/month slab)} \\ &= 155 * 6.38 \\ &= \text{Rs.989}\end{aligned}$$

$$\begin{aligned}\text{Cost of 7w LED} &= \text{Rs.240}\end{aligned}$$

Payback period < 3 months



Fans

Replace conventional regulators with electronic regulators for ceiling fans. They can save 15-20% energy.

Install exhaust fans at a higher elevation than ceiling fans.



Kitchen Appliances



Microwaves ovens

Consumes 50 % less energy than conventional electric / gas stoves.

Don't open the oven door too often to check food condition as each opening leads to a temperature drop of 25°C.



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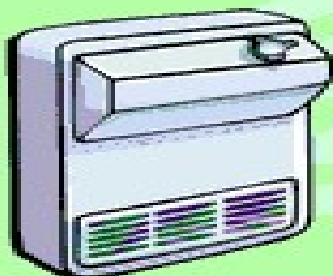
Refrigerator



- Avoid putting hot or warm food straight into the fridge.
- Leave enough space between your refrigerator and the walls so that air can easily circulate around the refrigerator.



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Air Conditioners

- Keep regulators at 25°C position.
- Temp setting of 23°C consumes 10% more energy than a temp setting of 26°C.
- Operate the ceiling fan in conjunction with your window air conditioner to spread the cooled air more effectively throughout the room and operate the air conditioner at higher temperature.
- Use windows with sun films/curtains.



LPG



- Pressure cooking saves time.
- Light your stove only after you have kept all the ingredients within your reach and ready for cooking. Put off an idle flame at once.
- Use optimum quantity of water for cooking. Surplus water consumes additional fuel which could otherwise be saved.
- Always reduce the flame once boiling starts.
- Soaking ingredients such as Dal, Rice, etc for various intervals of time before cooking saves fuel.
- Do not use vessels which are narrow as they allow the flame to creep up on the sides.



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LPG



- A small burner consumes 6% to 10% less gas than the big burner.
- Remember that a blue flame means your gas stove is operating efficiently.
- Yellowish flame is an indicator that the burner needs cleaning.
- Use lids to cover the pans while cooking.
- Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

Sector-wise Conservation Potential

SECTOR	CONSERVATION POTENTIAL
Transport	20%
Domestic	20%
Industrial	25%
Agricultural	25%
Commercial	25%

Reduce ,Reuse & Recycle

Reduce, Reuse & Recycle what ever is possible like paper/ paper products, card board, tin cases & vegetable waste. Vegetable waste can be converted into very good manure.

By doing so , we can save a lot of fuel on collection/ transportation of garbage.





Avoid Food Wastage



Great amount energy is used from tilling the field, sowing, irrigating, harvesting, transporting, storing, marketing & distribution, retailing, purchasing by consumers, food preparation & cooking.

By not wasting food you can save lot of energy.





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Save Water

- ⊙
- ⊙ Sometimes you don't know how much water you may be wasting ! although you do not intend to waste water, yet inadvertently water does get wasted.



*Save Energy
for a better tomorrow*



THANK YOU

