

March 2007

GobarTimes

# Green Schools Network

ACTIVITY SHEET

**Why talk  
about  
LPG?**



Because LPG (Liquefied Petroleum Gas) is one key source of energy, which a large number of people use in the country across various economic classes. Right now it may be for domestic cooking but soon LPG might run your car or school bus.

Yes! Producing less toxic emissions, LPG may prove to be an effective fuel for automotive transport in years to come. The combustion or burning of LPG produces far less pollutants as compared to other fuels like petrol, diesel, coal etc. Thus, arises the need of not only promoting it but also devising ways to use it in efficient ways. Lets start by knowing more about it.

Name .....

School Name .....

Class ..... Date .....

## Gobar Gyan:

LPG is the abbreviation for liquefied petroleum gas. Like all fossil fuels, it is a non-renewable source of energy. It is extracted from crude oil and natural gas. At room temperature LPG is a gas but when it is compressed in a cylinder it becomes a liquid. It is usually compressed and kept in metal cylinders. It can be easily condensed, packaged, stored and utilized, which makes it an ideal energy source for a wide range of applications. According to the 2001 Census of India, 17.5% of Indian households or 33.6 million Indian households used LPG as cooking fuel in 2001- just like in your house.

**Activity 1:** How is LPG used in your house? Tick appropriate boxes:

- |   |  |
|---|--|
| <input type="checkbox"/> Heating device           | <input type="checkbox"/> Cooking       |
| <input type="checkbox"/> For your car/two wheeler | <input type="checkbox"/> Others: Write |

Find out how many kilogrammes of LPG does your home consume in a month?

- |  |  |
|--|--|
| <input type="checkbox"/> 14.2 kg             | <input type="checkbox"/> Less than Or = 20kg |
| <input type="checkbox"/> Less than or= 30 kg | <input type="checkbox"/> More                |

*Hint: One gas cylinder has 14.2 kilogrammes of LPG*

*You can also find out the total energy consumption of your house. Just find out the consumption of LPG in your house in kgs and electricity in Kwh. Go to page no.54 of the Green Schools Programme manual and find out.*

Find out more about LPG for domestic consumption at [www.ebharatgas.com](http://www.ebharatgas.com)



*Hi! I am Pandit Gobar Ganesh.  
You will find me in Gobar Times—a magazine that  
tells you how your everyday life is linked to the world  
around you. Hooked, huh? If you want to know more  
about me and GobarTimes visit us at  
[www.gobartimes.org](http://www.gobartimes.org)*

---

**Gobar Gyan:** Experts believe that though most of the LPG use in India is confined to households, in time to come the usage of LPG for automobiles may change the whole scenario.

Yes!! **LPG can be used to run automobiles.** And it is very cheap as well. Now LPG pumps are coming up in towns just like petrol pumps. Cars like Wagon R and Santro are going to have LPG friendly versions in the near future. The Wagon R LPG version is already on the roads.

These days many people are using domestic LPG cylinders in their vehicles, which may not be safe as they are not designed for vehicular use. Cooking cylinders are supposed to be used in the vertical position whereas most of the cylinders used for vehicular use are placed horizontally, which is dangerous. Also it is illegal to use cooking gas for automobile purposes as it is specially subsidized for domestic purposes.

**ACTIVITY:** Locate the nearest LPG filling station from your school or home. Find out Which company operates the filling station?

- Bharat Petroleum                       Indian Oil  
 Hindustan Petroleum                       Some other company – Name \_\_\_\_\_

Was the filling station full of cars, vehicles etc.?

- Yes     No

How many vehicles did you see there?

- 0-5     5-15  
 15-25     More; Estimate \_\_\_\_\_

Is that filling station able to cater to all its customers?

- Yes     No

What is the reason? \_\_\_\_\_

Find out how many LPG filling stations are there in your City?

- Nil     Below or =5  
 Below or =10     More Exact No. \_\_\_\_\_

Try and interview someone with an LPG vehicle? Ask him what are the advantages and disadvantages of having one.

Advantages

Disadvantages

---

---

---

---

---

---

---

---

**Gobar Gyan:** The emission levels of LPG vehicles are a reason to be happy about. The particulate matter emissions are nearly nil while the CO emissions are less than petrol. According to the US Department of Energy, US propane (LPG is largely propane there) vehicles emit about one –third fewer reactive organic gases compared to petrol. Similarly, NOX and CO emissions are also 20 and 60 per cent less.

**Activity:** Go to the nearest pollution checking centre- the small kiosks usually found at petrol pumps. Ask the gentleman if he can provide you the data of emissions from a petrol and LPG vehicle. Compare the results and write your observations here

Fuel	Standard CO	Measured CO	Standard HC	Measured HC
Petrol				
Diesel				

**Gobar Gyan:** Converting the present petrol or diesel engine is an option for those who don't want to lose the LPG advantage. In fact, almost 10,000 petrol autos in Hyderabad have been converted into the LPG mode and the city plans to go for more. But the conversion kits need to be certified as local cheap conversion kits may not adhere to safety norms.

Nevertheless, LPG can be stored at a lower pressure than Compressed Natural Gas (CNG). It is here that it scores over even CNG, which is another good option of a clean fuel. Hence, the fuel tanks don't have to be as sturdy. The result is that conversion kits are cheaper and small fuel tanks can even be used in two-wheelers.

**Activity :** Go to your nearest petrol pump or automobile workshop and find out:

Do they supply LPG kit?

Yes  If No, then where can we find one \_\_\_\_\_

Interview the workshop owner and find out how much does an LPG kit cost? Find the cost for a CNG kit as well and compare? Put the symbol < or > in the box given by comparing the price

LPG kit Cost Rs \_\_\_\_\_  CNG kit Cost Rs \_\_\_\_\_

What is the difference between LPG and CNG?

---

Take a survey in your neighbourhood. After informing people about the benefits of LPG as a fuel, find out how many people would be willing to switch to using LPG for their cars. Compare the number of positive and negative responses.

No of positive responses \_\_\_\_\_ No of negative responses \_\_\_\_\_

Note your experiences in a diary.

Ask your parents- would they consider using LPG instead of Petrol or Diesel?



E-mail us at [eeu@cseindia.org](mailto:eeu@cseindia.org) or write to:  
 Activity Sheet, Centre for Science and Environment, 41 Tughlakabad Institutional Area,  
 New Delhi-110062 or Call 29955124 Extension 219