

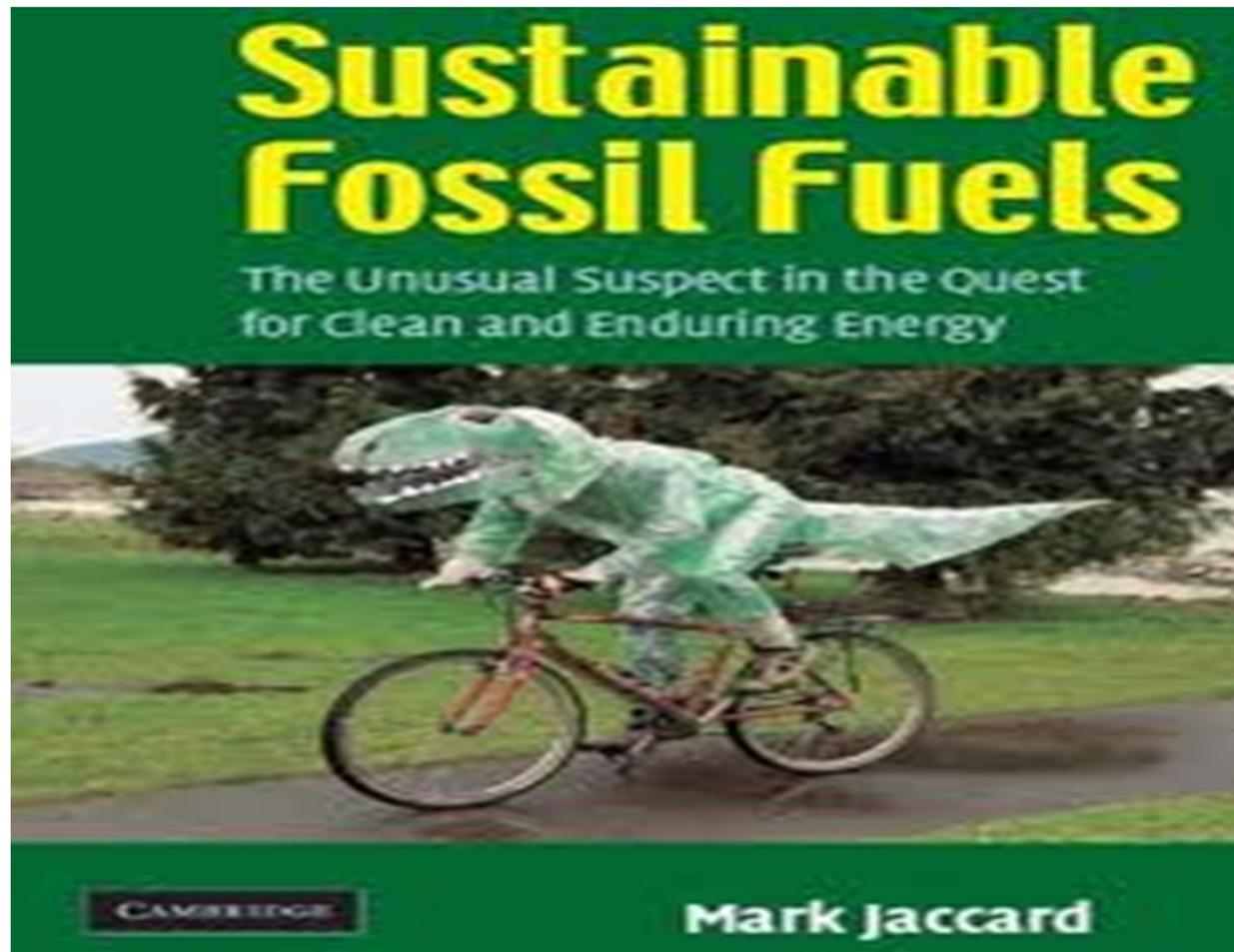
Fossil fuels: Energy from fossilised organic materials



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Coal, oil and gas are called "fossil fuels"

Because they have been formed from the organic remains of prehistoric plants and animals.

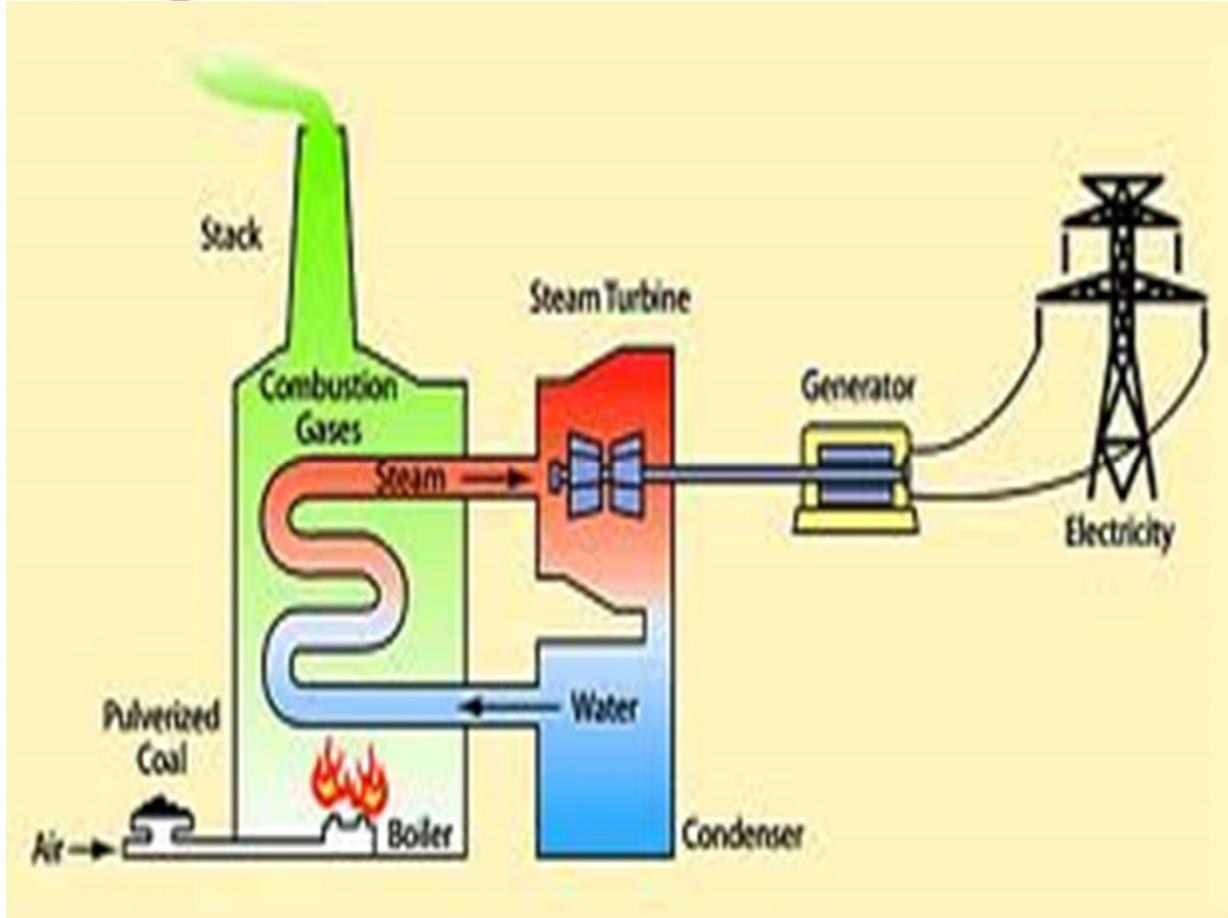


How it works:

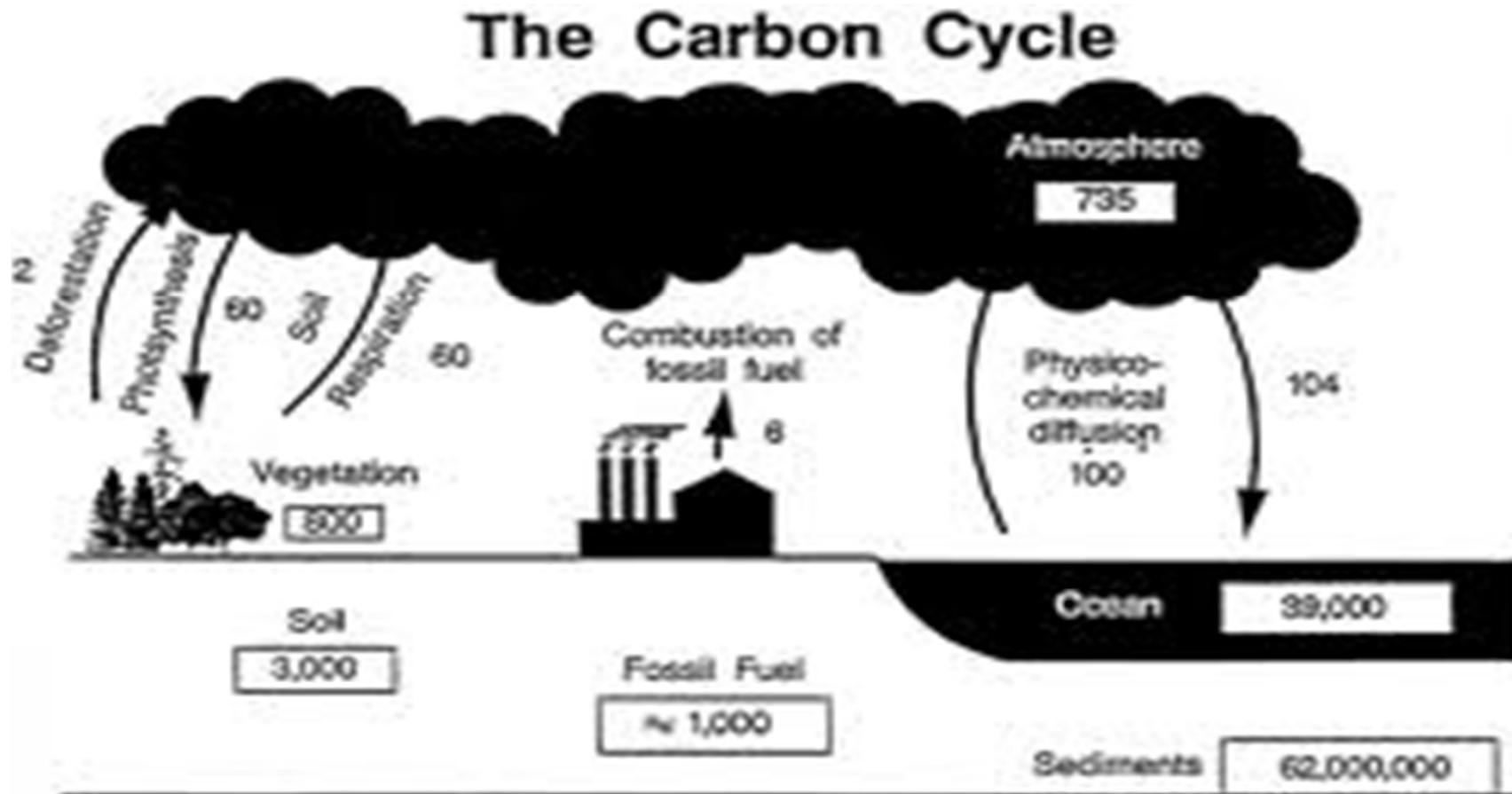
Coal is crushed to a fine dust and burnt. Oil and gas can be burnt directly.



The steam that has passed through the power station's turbines has to be cooled, to condense it back into water before it can be pumped round again



Coal provides around 28% of our energy,
and oil provides 40%.



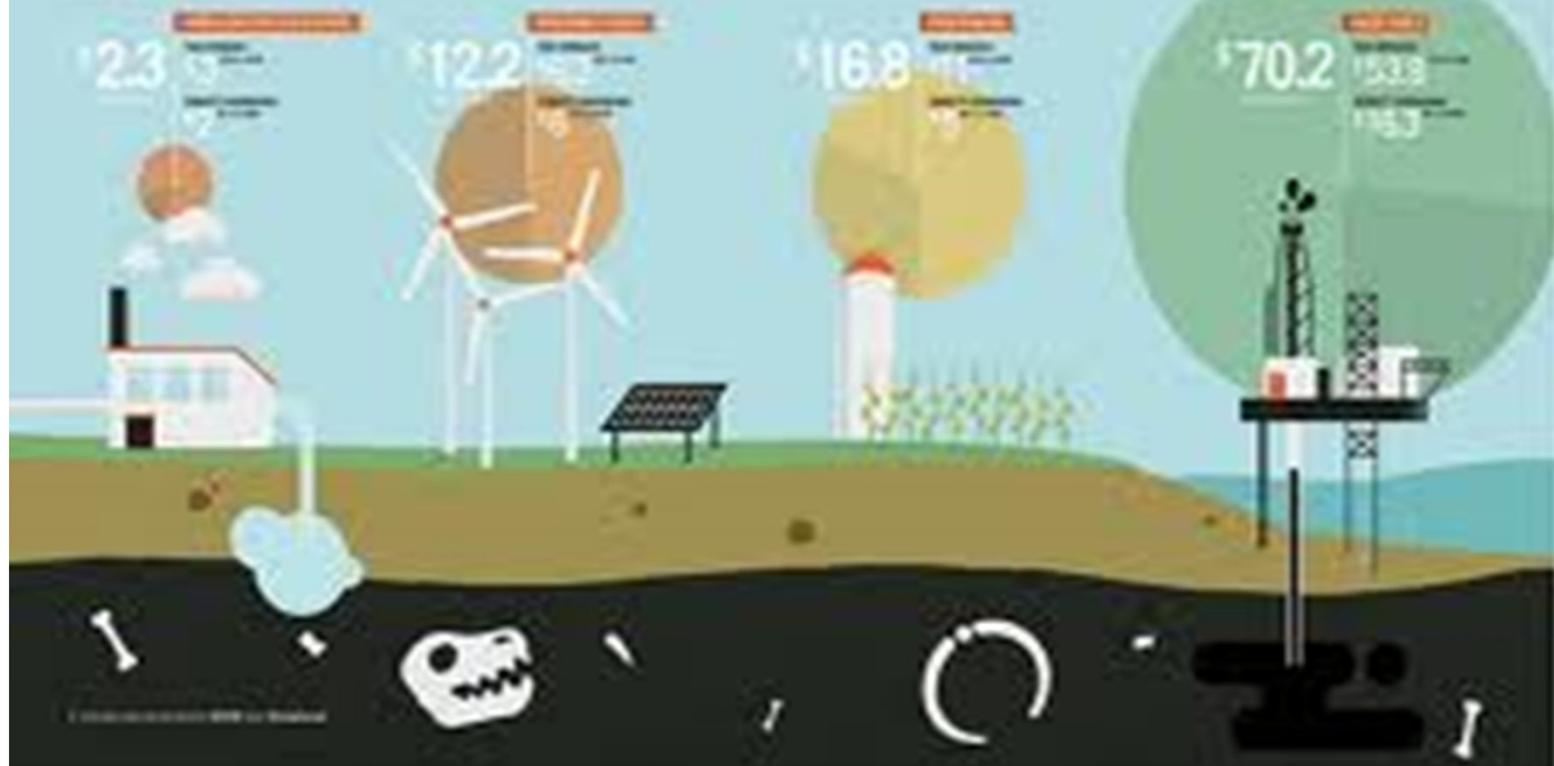
Major reservoirs \square and fluxes \rightarrow of the global carbon cycle
Reservoirs are in GtC. Fluxes in GtC yr.

SUBSIDIZE THIS

How much money do you think it will cost to build a new power plant? After that, how much do you think it will cost to build a new power plant? (The numbers are in billions of dollars.)

The government subsidizes the construction of new power plants. After that, how much do you think it will cost to build a new power plant? (The numbers are in billions of dollars.)

Source: U.S. Energy Information Administration



Burning coal produces sulphur dioxide, an acidic gas that contributes to the formation of acid rain. This can be largely avoided using "flue gas desulphurisation" to clean up the gases before they are released into the atmosphere.



- **Crude oil (called "petroleum")**
is easier to get out of the ground than coal, as it can flow along pipes. This also makes it cheaper to transport.



Natural gas provides around 20% of the world's consumption of energy, and as well as being burnt in power stations, is used by many people to heat their homes.



Advantages



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**-Very large amounts
of electricity**

**can be generated in one place using
coal, fairly cheaply.**

**-Transporting oil and gas to the
power stations is easy.**

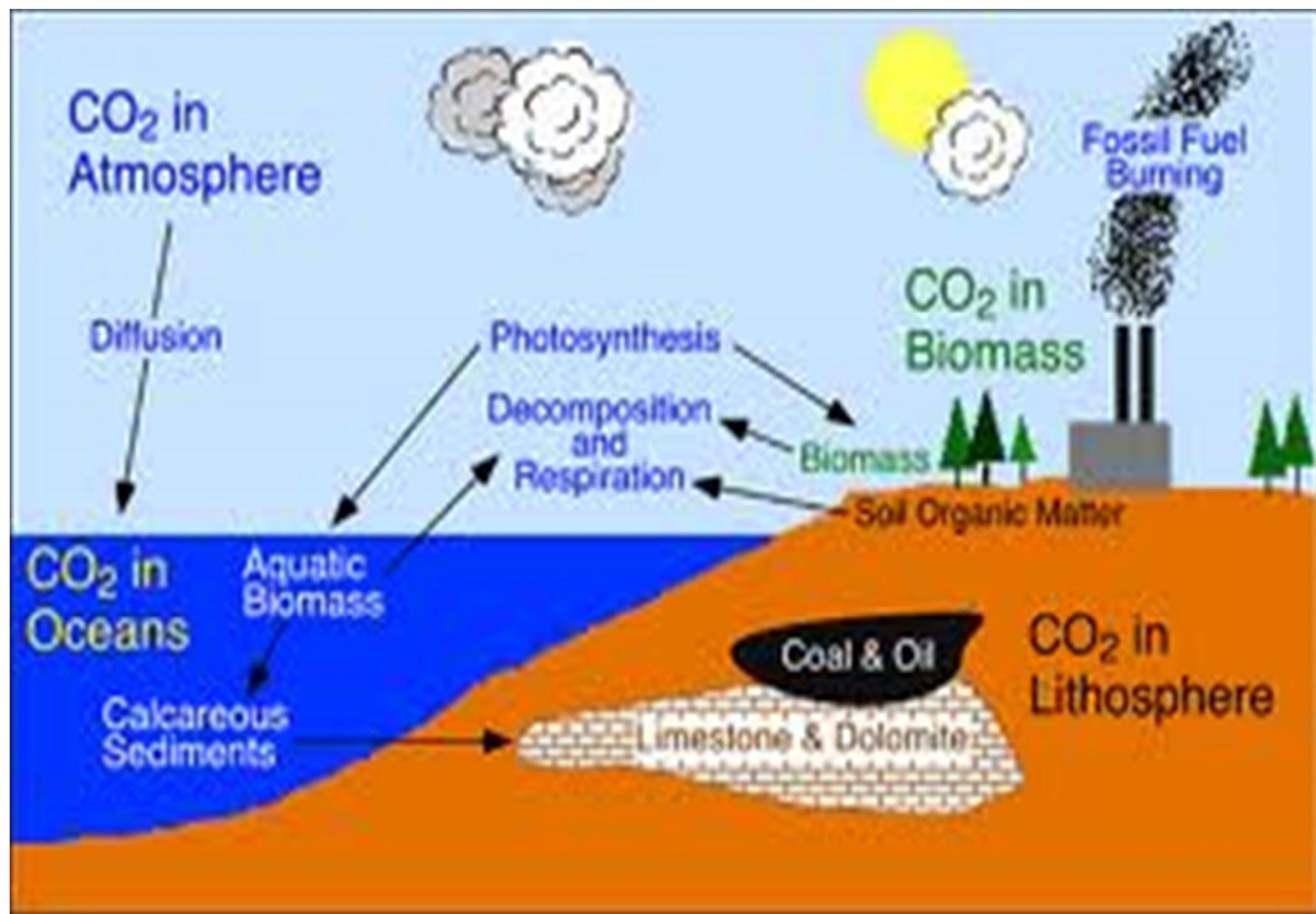
**-Gas-fired power stations are very
efficient.**

Disadvantages

Pollution:

- Burning any fossil fuel produces carbon dioxide







- Mining coal can be difficult and



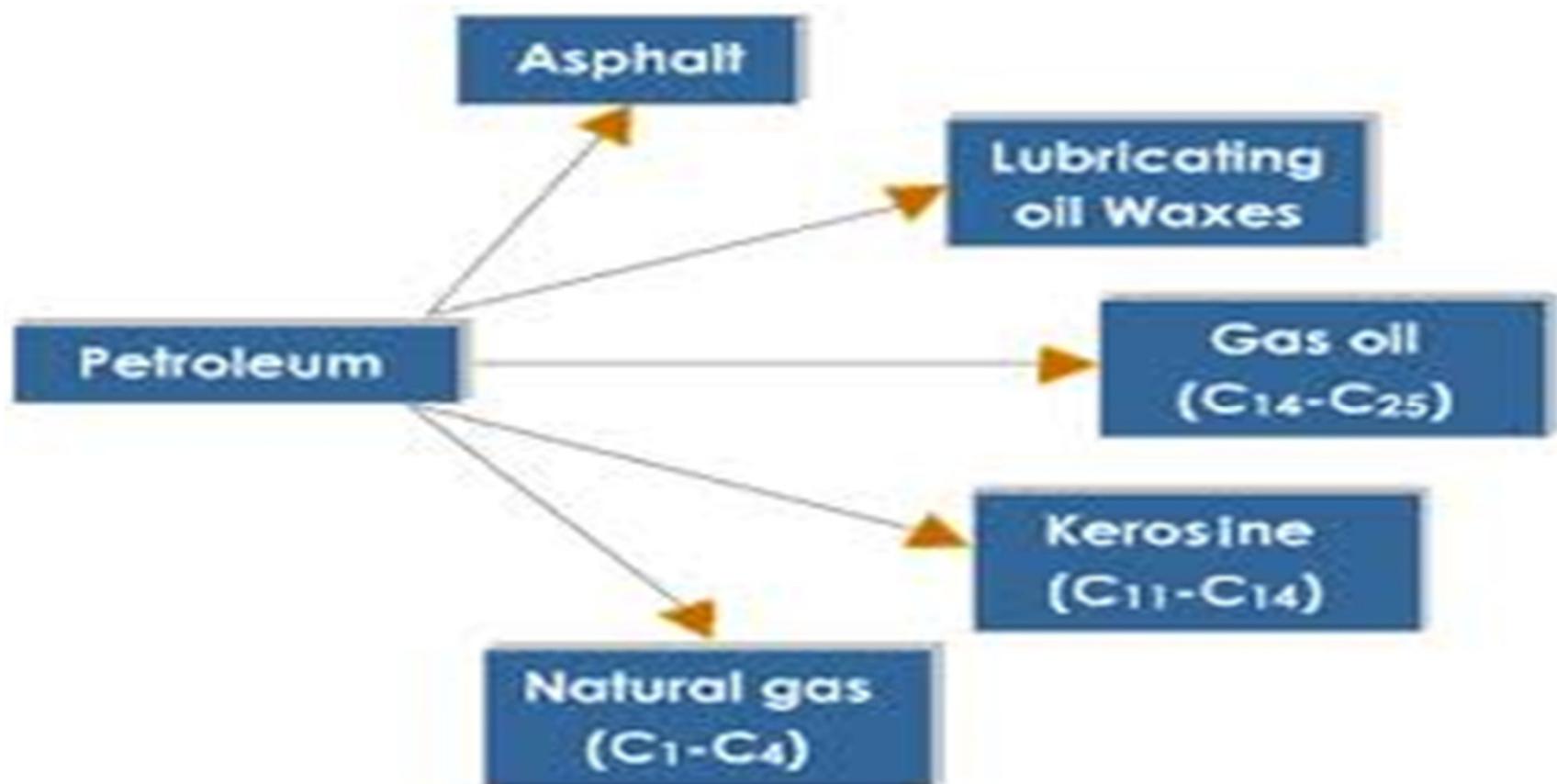
Workers emerging from a coal mine, Dhanbad, Bihar State, India, 1989 - Gelatin Silver Print, 19 5/8 X 33 1/2 inches
Photographs by Sebastião Salgado/Amazonas Images

- Fossil fuels are not a renewable energy resource.

Once we've burned them all, there isn't any more!!

Once we've burned them all, there isn't any more

because more coal seams and oil fields will be formed if we wait *for many millions of years!!!!*



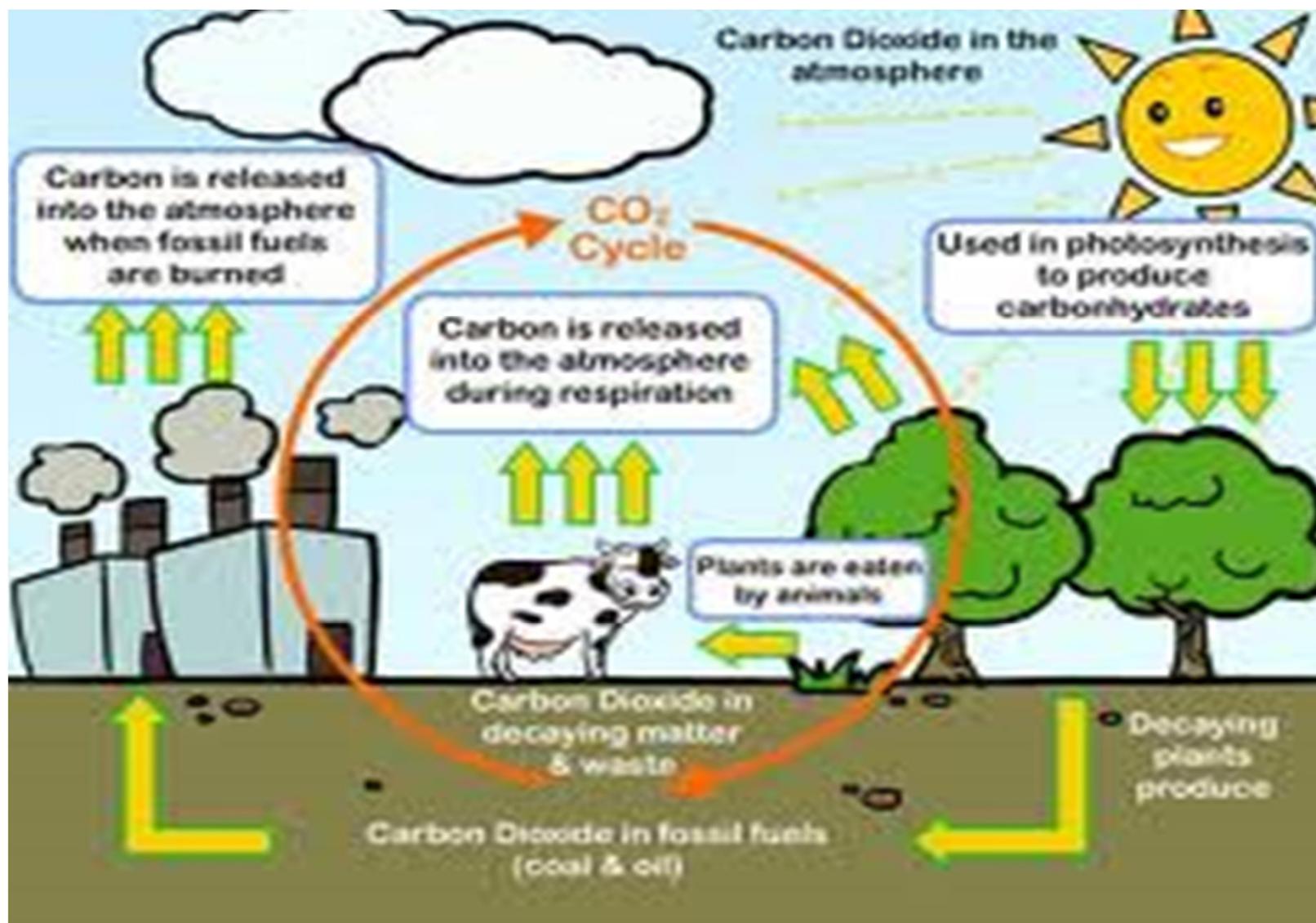
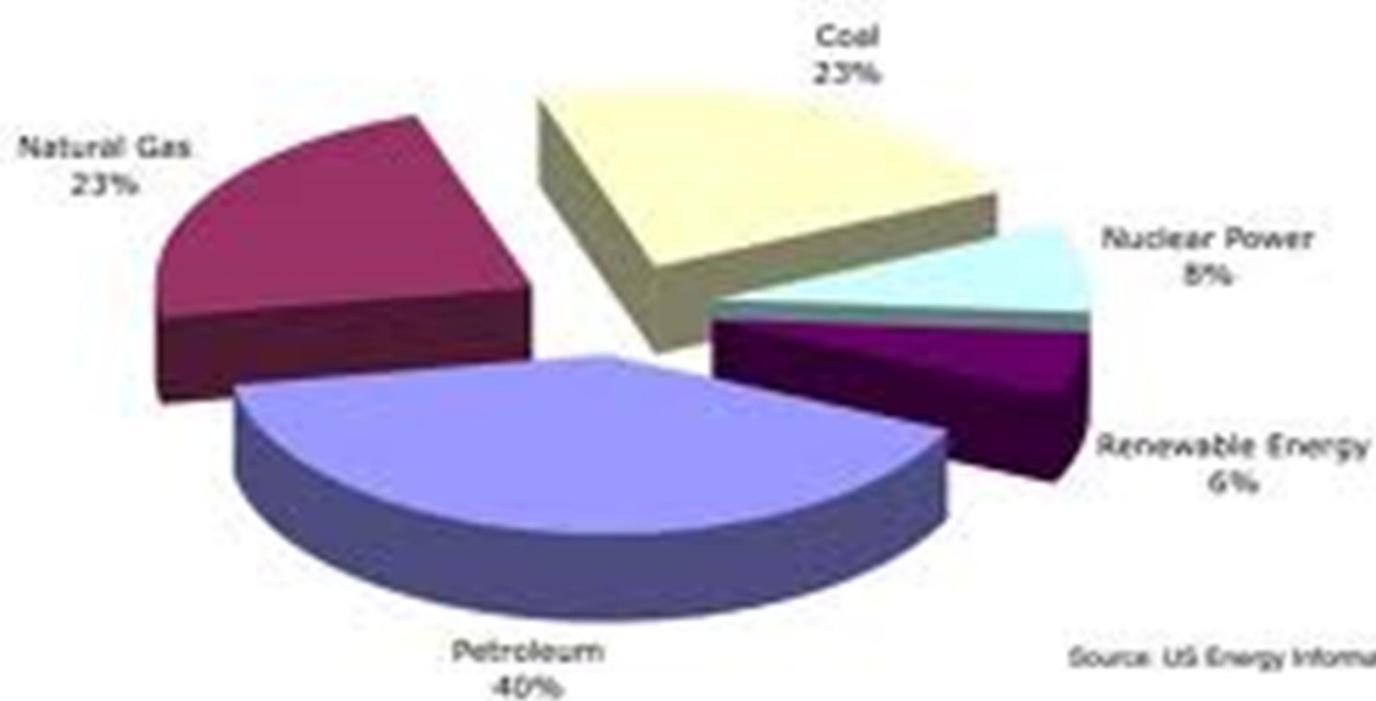
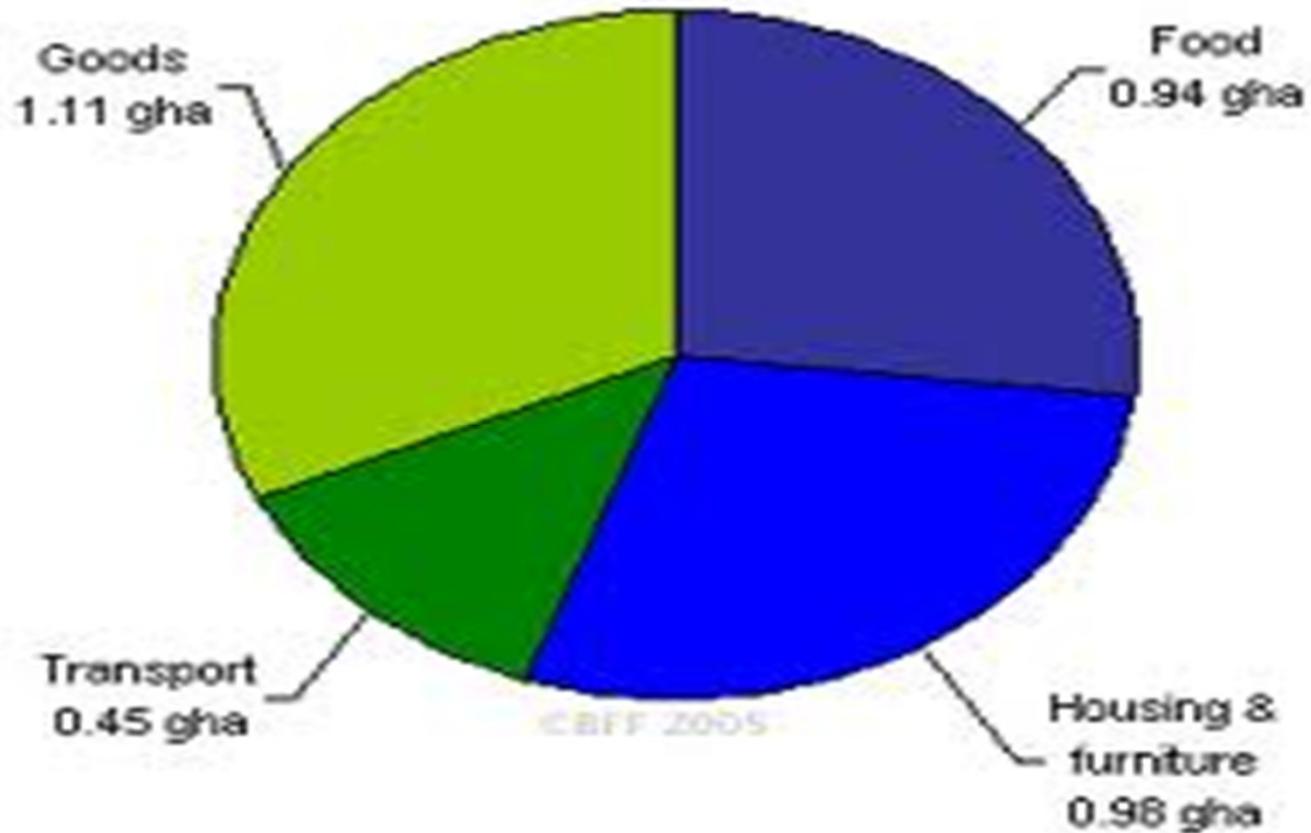


Figure 1: 86% of US Energy Consumption Is Fossil Fuels



Source: US Energy Information Agency

Fossil fuels are used in:



The end!!



