Energy flux

Every form of energy, except for atomic energy, can be traced back to the sun.

Energy from sunlight is used by plants to make food from air, water, and the minerals in the soil. This energy is stored by plants who are the primary producers in ecosystems.

Energy sources such as the fossil fuels of coal, petroleum, and natural gas are really just ancient stockpiles of the sun's energy stored in plants and the animals that ate those plants that are thousands or millions of years old. These fuels came from plants that used sunlight when they lived long ago. When these plants died, they fell to the ground where their remains piled up over thousands or millions of years. As this pile grew large, the remains at the very bottom became pressed together.

Over time, these remains changed. Some became a gas, natural gas. Some became a liquid, petroleum. Some became a solid or a rock, coal.

We use these forms of energy to power vehicles, heat homes, and run industries. Fossil fuels are considered nonrenewable sources of energy because they cannot be replaced once they are used up.

Carbon cycle

organic matter
gas methane
petroleum
graphite
diamond

Because of the position of its electrons, an atom of carbon can form covalent bonds with hydrogen, oxygen, nitrogen, phosphorus and other carbon atoms.

Because of this versatility, the carbon atom is the principal building block of many kinds of molecules, which make up the living organisms.

Carbon cycle is a perfect cycle in the sense that carbon is returned to atmosphere as soon as it is removed.

CO_2

The major process that brings carbon form the atmosphere into the living world is photosynthesis, where producers take in carbon dioxide from the atmosphere and convert it into organic compounds, releasing oxygen as a by product. Carbon fixed by the producers enters the food chain and is passed to herbivores, carnivores and decomposers.

plants = producers
animals = consumers

a) Carbon dioxide is released back to the environment by respiration of producers and consumers

b) Released by the decomposition of organic wastes and dead bodies by the action of bacteria and fungi on decay.

c) Burning of wood and fossil fuels add considerable amount of carbon dioxide into the atmosphere

d) Volcanic eruptions and weathering of carbonate rocks by the action of acids

The estimated amount of carbon fixed by photosynthesis is nearly 7×10^{13} kg / year.

A large number of organisms buried deep in the layers of the earth, transform into coal, petroleum and natural gas, remains locked up till man uses them.

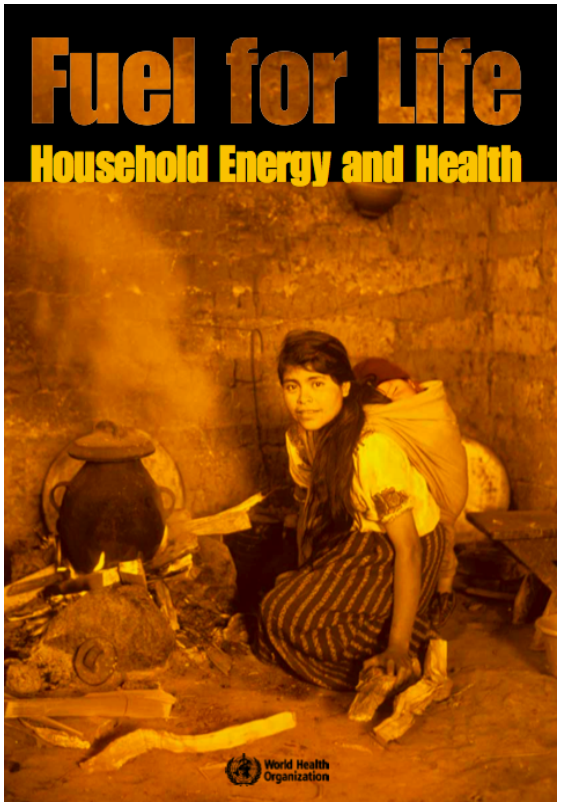
Thus, natural exchange between lithosphere and hydrosphere or atmosphere is a slow process and is a self regulated feed back system.

Recently this self regulated system has been upset by man's activities such as large scale deforestation and excessive burning of fossil fuels.

As a result, carbon dioxide content of the atmosphere is increasing, affecting the green house effect in nature.

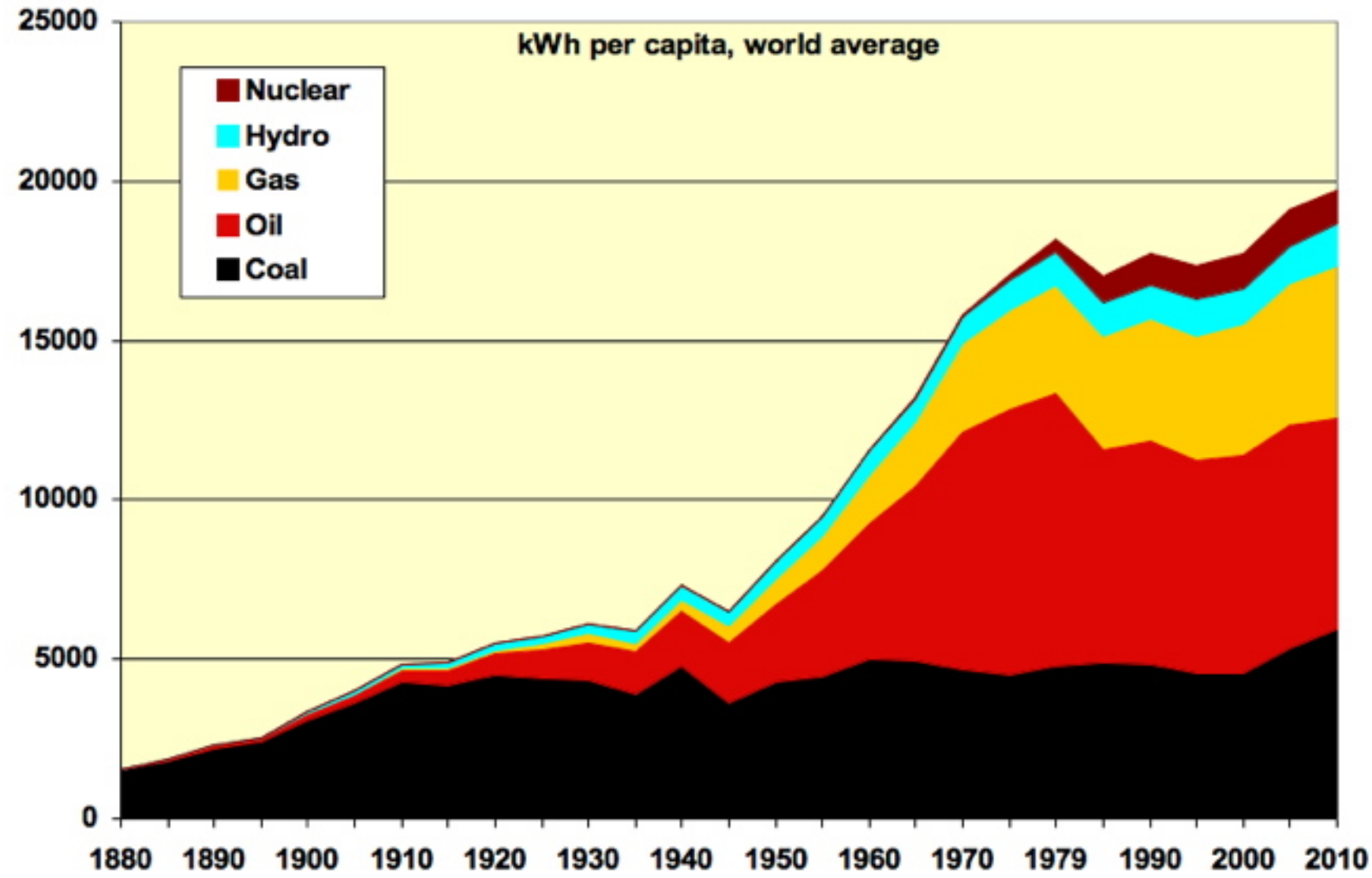
Consumption and waste

Prices of fuel and food rise while we reach a global crisis



a World Health Organization book

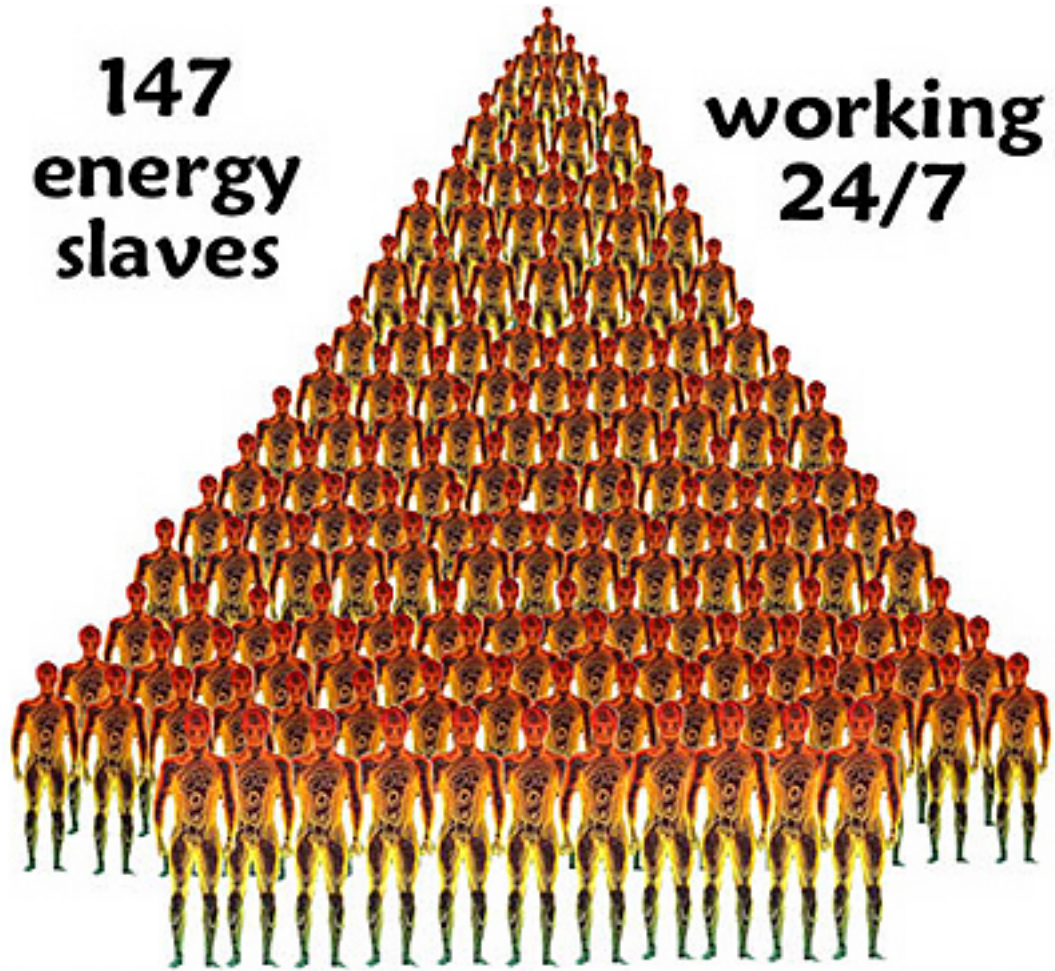
Thousands of huge bags of charcoal are transported throughout the Mozambique and sold as a source for heat and cooking. The World Health Organization estimates 2 million people die every year from the toxic combination of carcinogens and pollutants in cooking smoke.



If the future is strongly constrained on energy, and it will, particularly on oil and gas, then recurring recessions will become something normal in our economic system. This is totally consistent with the physical reality:

less energy = less transformation capacity = less GDP that only measures a transformation.

Buckminster Fuller had the idea of energy slaves in about 1944.
This is number of slave equivalents for the energy we use:



Last year, the 296 million people in the USA used 97 quadrillion BTUs of energy (the BTU, or British Thermal Unit, is a measure of energy equivalent to a kitchen match which allows us to compare different energy sources). To put that huge number into perspective, each of us used about 328 million BTUs during the year, the equivalent of 96,000 Kilowatt hours of electricity. A Kilowatt-hour is about 1/3 more work than a horsepower-hour, so we used about 128,640 horsepower-hours, or the equivalent of 147 energy slaves working for each of us 24/7, all year long.

http://www.altenergymag.com/emagazine.php?issue_number=06.08.01&article=slaves

Universal Declaration of the rights of Mother Earth

the constitution of equal rights and freedoms for all living beings

" gratefully acknowledging that Mother Earth gives us life, nourishes and teaches us and provides us with all that we need to live well;

recognizing that Mother Earth is an indivisible community of diverse and interdependent beings with whom we share a common destiny and to whom we must relate in ways that benefit Mother Earth"

full text declaration link: deoxy org

Let's change the world

The general reasoning of our system is:

our economy relies on energy,
we have to use more and more energy
to have more and more economy,
and that will settle any issue with pension funds and the popularity of prime ministers.

What if we ask about anything we see around:

What is it made from?

Where did it come from?

How much energy did it take to make?

Could I make it myself?

Can I get it locally?

Do I need it?

moving and
transport

fuel

work

knowledge
and creativity

LIFE
and
TIME

electricity

health

plants

food

Petroleum

A poster used to promote carpooling as a way to ration gasoline during World War II

petroleum, from Greek: *petra* (rock) + Latin: *oleum* (oil

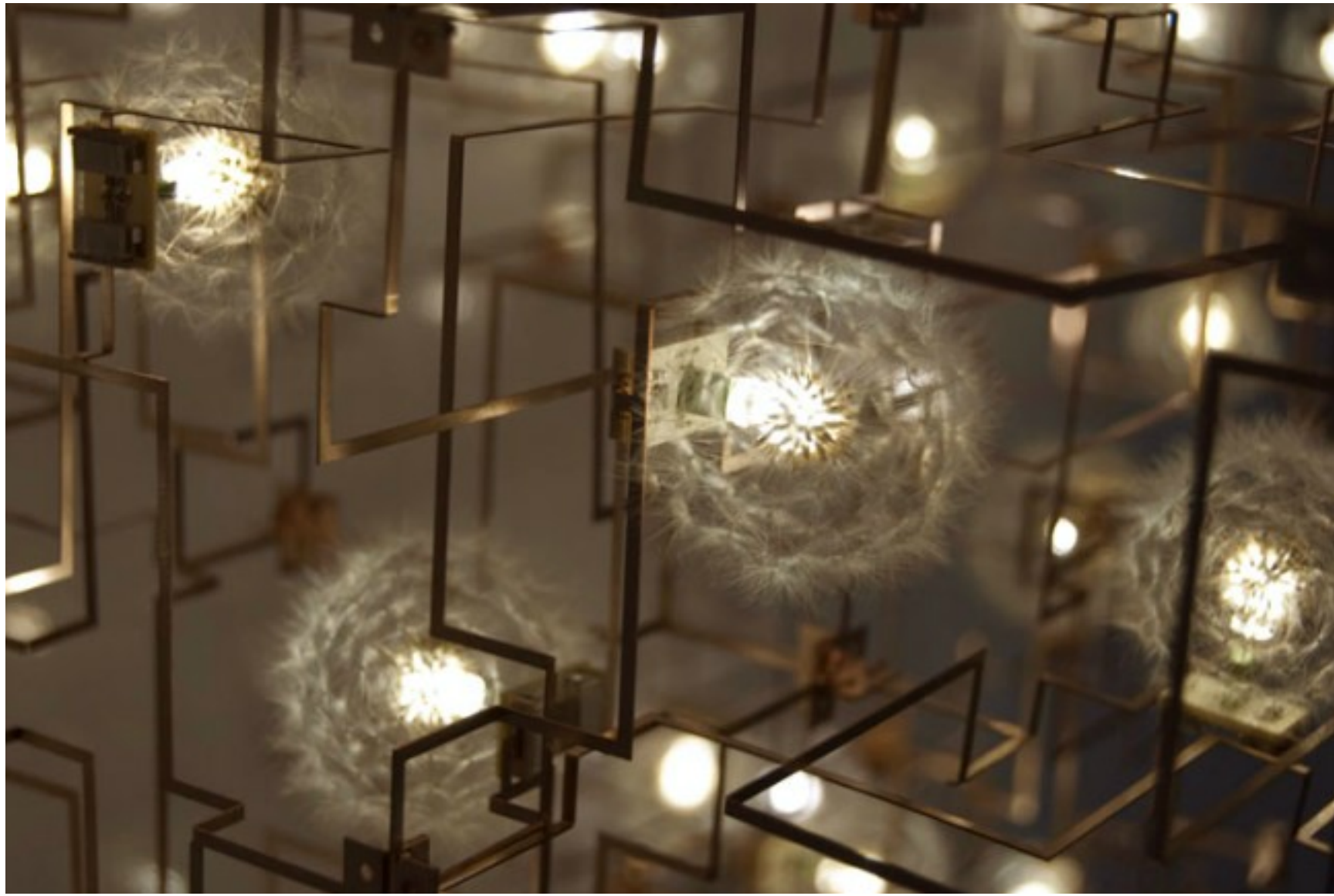
A fossil fuel, it is formed when large quantities of dead organisms, usually zooplankton and algae, are buried underneath sedimentary rock and undergo intense heat and pressure

it is estimated that the world consumes about 88 million barrels each day

De Natura Fossilium is a scientific text written by George Bauer also known as Georgius Agricola, first published in 1546. The book represents the first scientific attempt to categorize minerals, rocks and sediments since the publication of Pliny's Natural History.

Cyclopaedia: or, An Universal Dictionary of Arts and Sciences was an encyclopedia published by Ephraim Chambers in London in 1728

Studio Gorm, Flow Kitchen, 2009: a living kitchen where nature and technology are integrated in a symbiotic relationship, processes flow into one another in a natural cycle, efficiently utilizing energy, waste, water and other natural resources.



Lonneke Gordijn and Ralph Nauta (Studio DRIFT) Fragile Future III (2010):
the work combines an electrical system with dandelions in a light sculpture that is predestined to overgrow a surface.
Phosphorous bronze, dandelion flowers, LED. In association with Carpenters Workshop Gallery

Energy in ourselves

Calories > Kinetic energy

Recommended daily calorie intake varies from person to person, but there are guidelines for calorie requirements you can use as a starting point. UK Department of Health Estimated Average Requirements (EAR) are a daily calorie intake of

- 1940 calories per day for women
- 2550 calories per day for men

Fat > fuel

A person's body fat percentage is the total weight of the person's fat divided by the person's weight and consists of essential body fat and storage body fat. Essential body fat is necessary to maintain life and reproductive functions. The percentage of essential body fat for women is greater than that for men, due to the demands of childbearing and other hormonal functions. The percentage of essential fat is 3%–5% in men, and 8–12% in women. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen.

The storage body fat could be extracted for fueling ovens and other burning tasks.

Typical body fat amounts

Description	Women	Men
Essential fat	10–13%	2–5%
Athletes	14–20%	6–13%
Fitness	21–24%	14–17%
"Average"	25–31%	18–24%
Obese	32%+	25%+

Essential fat is the level below which physical and physiological health would be negatively affected.

Electromagnetism

a very little known energy kind

Every atom in the Universe has a frequency, whether it is a grain of sand, a piece of steel, a plant, animal or an organ in your body - each cell resonates, or vibrates, at a specific frequency or oscillation.

Your body consists of a variety of atoms, which contain protons, electrons & an overall bio-electric energy that runs through it.

The way you take care of your body physically, emotionally and mentally determines how many negative frequencies or toxins are being built up within it. Just as the electromagnetic fields that you are surrounded by will and do effect the frequency and state of your being.

Path of Divine Restoration on electromagnetism.