

LESSON 2

Resource management in the world

INTRODUCTION

There are today 7,6 billion people on Earth.

In 2050, it is estimated to be 9,2 billion people even if the most pessimistic claim it will be 12.

This increasing population causes an increase of water and energy demand.

This is a threat for the environment.

In what way is water and energy management at stake today?

What are the actual needs in water and energy?

Why is the situation worrying?

I/ WATER AND ENERGY NEEDS AND SUPPLY

A/Fresh water is a basic need.

- Water is unequally distributed on Earth
- The UNO considers 40 liters per capita a day as a bare minimum to survive
- But 10 % of the world population has no access to drinking water
- Every 90 seconds, a child dies for having no drinking water
- Global warming increases the risks of floods and droughts which are both hazards
- Fresh water is precious because it is rare (see next)

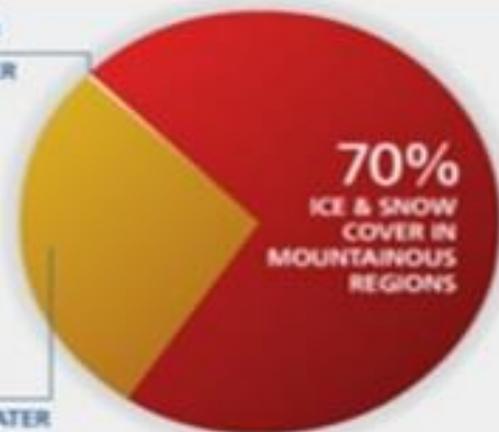
The **global** situation



2.5%
FRESHWATER



0.3%
FRESHWATER
LAKES &
RIVERS



30%
GROUNDWATER

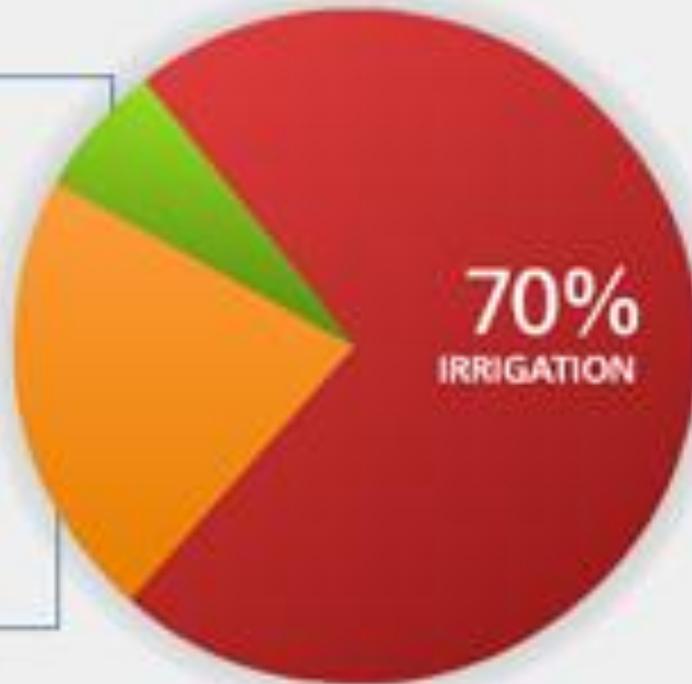
Breakdown of freshwater use

8%

DOMESTIC
USE

22%

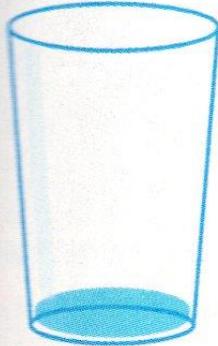
INDUSTRY



HOW IS FRESH WATER USED IN THE WORLD?

1 LES INÉGALITÉS DE CONSOMMATION D'EAU
(consommation par jour et par habitant)

**Afrique
subsaharienne**



10 litres

France



150 l

Suisse



252 l

**Amérique
du Nord**



567 l

**WATER CONSUMPTION VARIES FROM A
CONTINENT TO ANOTHER**

B/Energies

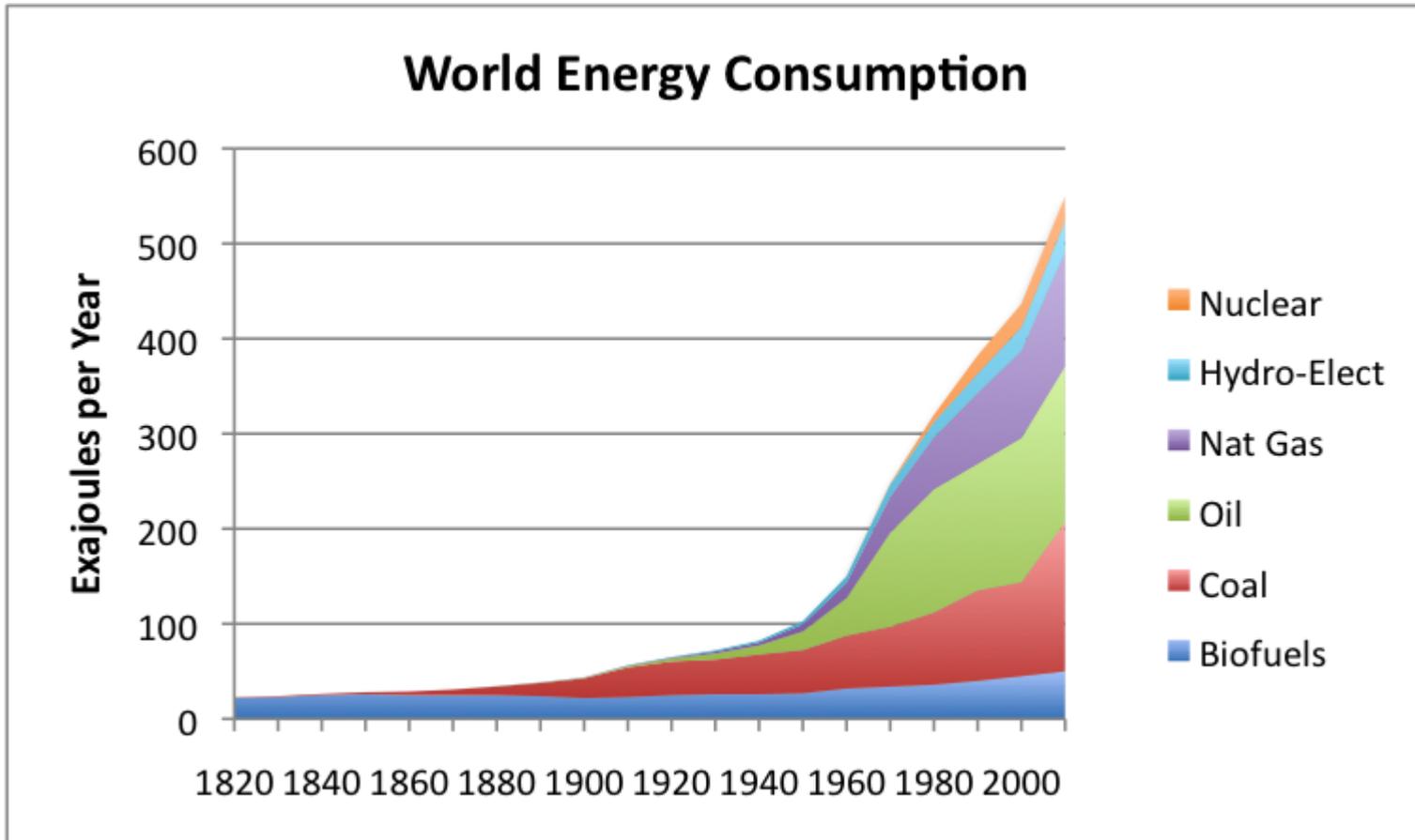
They are important too : for heating, cooking, lightning, producing, moving ... we depend on them

-2 types :

renewable energies: wind power, solar power, hydropower, tidal power

fossil fuels : natural gas, oil (hydrocarbons), coal

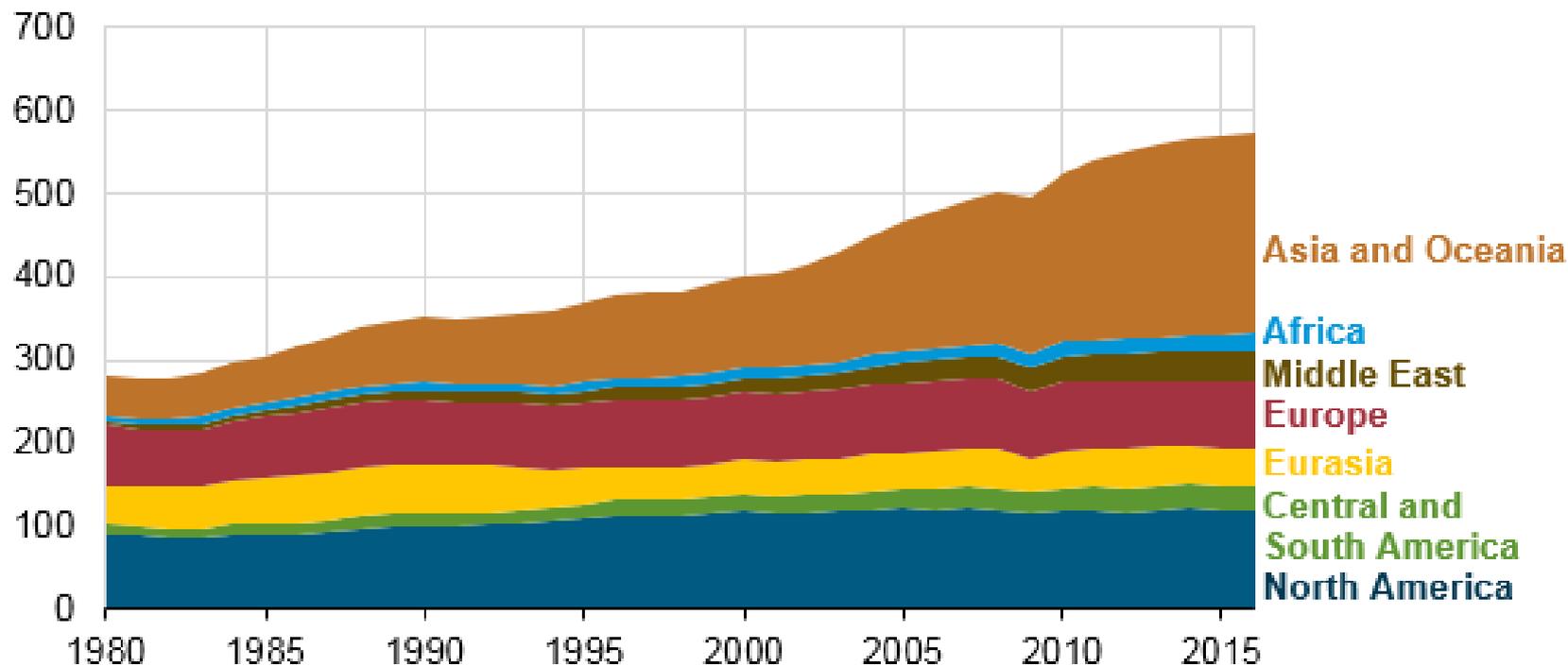
DIAPO



COMMENT ON THE GENERAL EVOLUTION AND EXPLAIN WHAT ENERGIES ARE THE MOST CONSUMED AND WHY

But, as for water, energy consumption varies from a continent to another...

Energy use by world region, 1980-2016
quadrillion British thermal units



What region consumes the most? Why?

What region consumes the least ? Why?

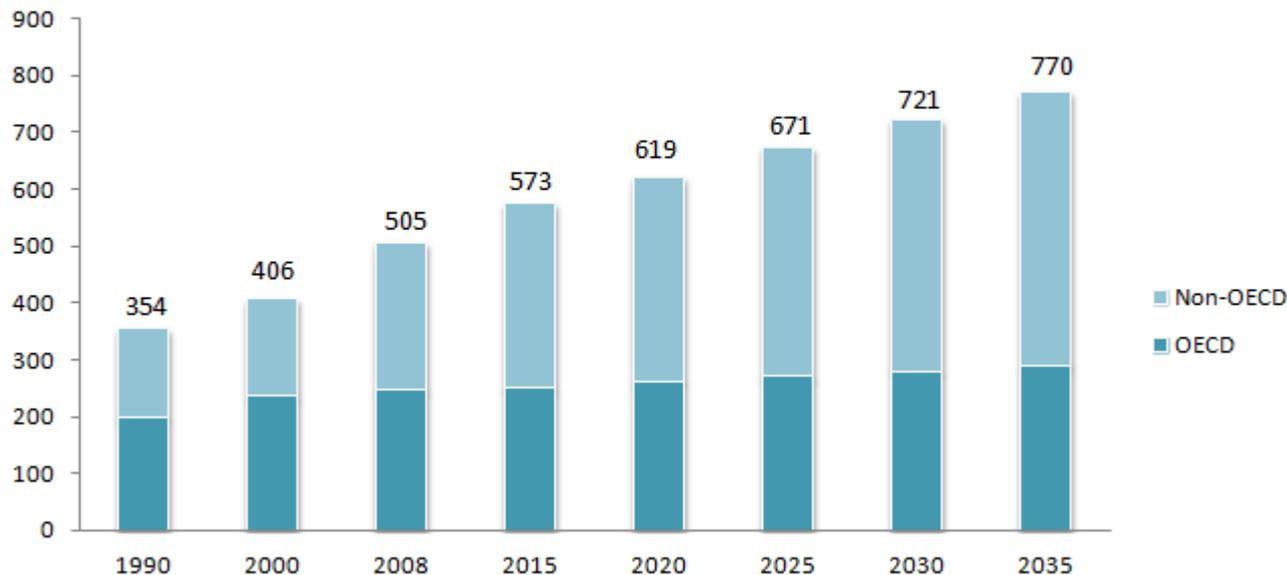
This increasing consumption is a threat for the future

II/ The threat of the increasing consumption

A/ The increasing consumption

It is linked with the world demography growth as well as a change in our ways of life

World Energy Consumption *In Quadrillion Btu
(1990-2035)



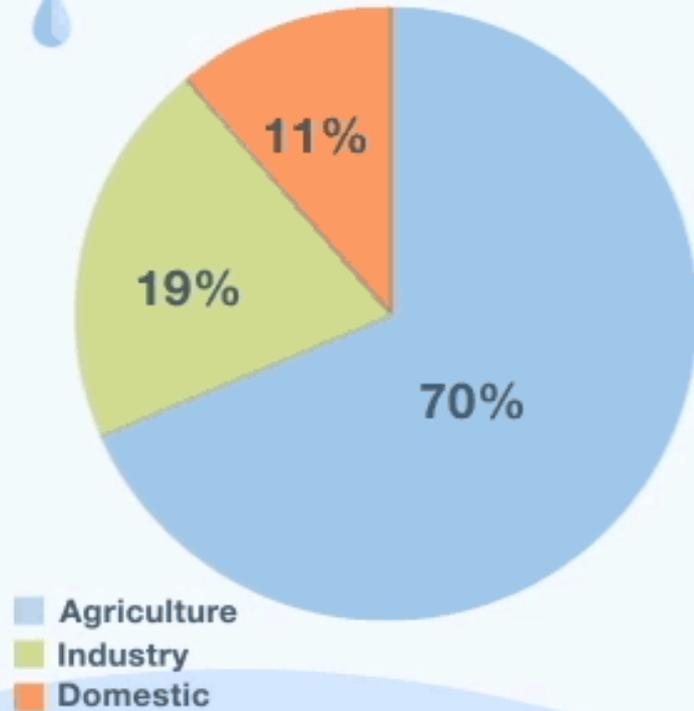
Source: U.S. Energy Information Administration, International Energy Outlook 2011

Comment on the general evolution

What type of country will be consuming the most in the future why?



GLOBAL USE OF WATER AND FORECAST CONSUMPTION



	CURRENT CONSUMPTION	2030	2050	%
DOMESTIC USE	382	900	772	+50.2
ENERGY	470	828	766	+38.6
INDUSTRIAL USE	314	672	1,135	+72.3
AGRICULTURE	2,672	4,500	4,488	+40.5
TOTAL	3,838	6,900	7,161	+46.4

Source: Water Resources Group; OCDE; Citi Research. Panda Agriculture and water Fund Analysis.

Take a look at the « total line » and comment on the evolution of consumption.

B) Some dramatic consequences

1) A risk of shortage.

2) A high consumption has a negative impact on the environment: water pollution, oil spills, atmospheric pollution....

C/ Access to energy and water is unequal from a country to another

Development is the key for a better access .

1) In developing countries:

The lack of money prevent from building efficient infrastructure and give an easy access.

Ex: In Nigeria, which produces oil, 40% of the population has no access to electricity.

2) In developed countries

Access is easy but it leads to overconsumtion.

So there is a risk of shortage .

CONCLUSION

In what way is water and energy management at stake today?

Water and energies are at stake today.

There are two worrying situations: developing countries lack access to water and energies whereas developed countries overconsume them.

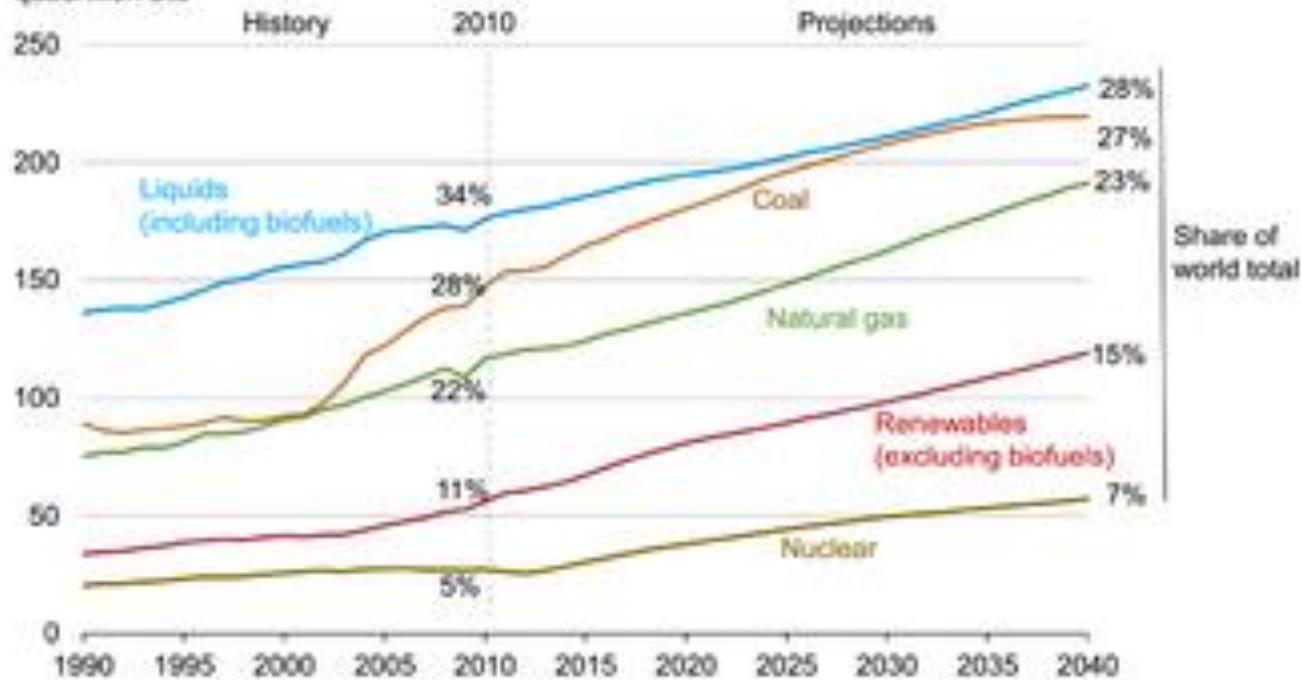
With the threat of global warming, an increasing number of people call for a world water and energetic management.

But, the ones who will need water and energies badly in the future, are currently the ones who can't afford them.

Indeed, developing countries have an increasing population and need developement.

How to deal with this double challenge?

world energy consumption by fuel
quadrillion Btu



Source: EIA, International Energy Outlook 2013