ENVIRONMENT PROTECTION

Problem – Environment Pollution:

I. Limnetic pollution:
Most of them are invisible, because the pollution is dissolving in the water, but there are some exceptions, like detergents (which make foam), oil and organic residue from canals.

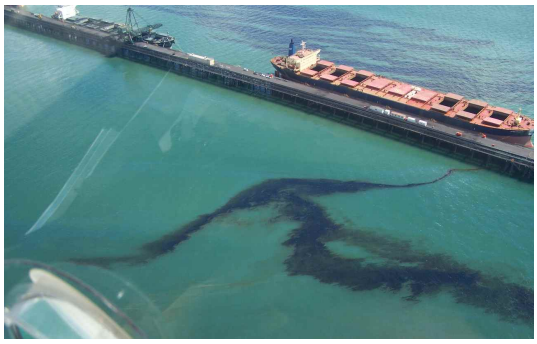
1. Poisonous materials:
    1. Reagents against insectes, weedage, acarides;
    2. Disinfectants;
    3. Phosphatic and nitrogenous ameliorators;
    4. Fluid garbage from farms;
    5. When cleaning the water to make it drinkable, some special chemical materials are being used and some part of these materials remain in the water;
    6. Metalic garbage during fishing;
    7. Organic compostrure from the farms;
    8. A lot more...


picture 1: An example of limnetic pollution

2. Consequences:
If there is too much organic garbage in the water, there will be too much plants closing the light away from the plants producing oxygen deep in the water, so the animals living there will drown.

II. Pollution of sea and ocean:
The rivers are flowing into the seas, so the pollution also gets in the sea from the polluted river.

1. Poisonous materials:
    1. Mainly oil (when it's a tanker accident, but sometimes the personnel of the ship are washing the barrels with the water of the sea).
        1. The biggest tanker accidents:
            1. Torrey Canyon (Comwall, England, 1967);
            2. Amoco Cadiz (Bretagne, France, 1978);
            3. Exxon Valdez (1989);
            4. Braer (Shetland, North-Sea, 1993);


picture 2: Oil floating on water

2. Soldiers from Iraq streamed 400-800 million litres oil into the sea in at the war in 1991. (About 25 000 bird and uncountable many fishes died the next days.)

2. Drainage from cities;

3. DDT (insecticide), PCB, arsenic;

4. Metals (nickel, cadmium, arsenic, copper, lead, zinc, chrome);

5. Tributine (from the paint of the ships);

2. The most polluted area is the Mediterran-sea, where the change of the water takes about 70 years (there is about 430 milliard ton garbage a year).

III. <u>Pollution of air:</u>

1. Poisonous materials:
85% of air pollution comes from burning oil. The most poisonous materials are the oxides of sulphur. When burning hydrocarbons, sulphur-dioxid and nytrogene-dioxid gets into the air. When these materials meet with water, acid accures. How strong this acid is depends on the quantity of the two materials.

picture 3: An example of air pollution

2. Consequences:
The acid from the water dissolves the stones too, not only plants.

1. The acidic rain kills the trees in the forests;

2. On the mountains the acid gets in the fog and destroys the leaves;

3. The stronger acid on the mountains gets in the creeks. From the creeks the acid gets in the lakes and kills the fishes.

IV. <u>Global warming:</u>
The air pollution contains lots of gas, which locks the temperature in the atmosphere. This takes effect in the climate. The plants and the snow on the mountains, the snowy and icy areas on the planet are important for reradiation the temperature to space. The jungle is important for occluding the temperature. If the snow and ice melt away, and the jungle is purged out the temperature will go up. This is already in progress.

1. Gas pollution contains:

1. Coal-dioxide (industry);

2. Nitrogene-dioxide (muffler of cars);

3. Sulphur-dioxide (power plants);

4. Methane (industry);

5. Phreon (old refrigerators);

2. Consequences:

1. Snow and ice melt away, this makes water-level go up;

picture 4: Wildfire

2. Because snow and ice melt away, more methane gets in the atmosphere accelerating the global warming;

3. Because of the higher water level, Rotterdam, London, New Orleans and Venice (and more) will get underwater;

4. Because of the warmer climate, wildfires will spread more quickly (see picture 4);

5. There will be lot more storms, hurricanes and tornados (nowadays tornados are spreading in Hungary too, although the country is protected by the mountains around it), and these stroms will get even wilder;

6. Because of the exaggerative weather, growing food will be even harder, which may lead to starvation.

V. Ozone-layer:
Ozone is the oxygene-molecule in the air with 3 oxygene atoms. This protects us against the harmful UV radiation, which can cause skin-cancer. The ozone-layer is thining down because of the air pollution (mainly phreons, chlored hydrocarbons).
Consequences of high UV radiation:

1. Skin-cancer, blindness, weaker immunity against infections;

2. Planctons, which are the base of the food-chain, will be eradicated, and this can take destructive effect on every lifeform on Earth;

3. More plants and animals will die, and this will enhance starvation.

Trying To Solve The Problem:

I. EPA (Environment Protection Agency), USA: checking more than 250 million ton garbage a year;

II. Burning garbages to gain power ↔ air pollution occures;

III. Trying to catch polluting ships with satelites;

IV. Trying to build more safe barrels for placing the garbage;

V. Agreement in Montreal for supressing trade with phreon-contained instruments (1987, 24 countries, including Hungary). The agreement includes other poisonous materials too;

VI. Trying to use the regeneratory power-sources (windmills, water and solar power plants, geothermic energy, etc) ↔ smooth power service is hard to solve, and the switch is too expensive.

Discussion Task:

How could the problem of the environment protection be solved? How could the switch between the old power gaining method and the regeneratory power sources be attained on the most optimal way?

- What would be the most inexpensive (economical) and easiest solution?
- How could the smooth power service problem be solved?
- How would this project be financed?
- Any other problem with this project.

Vocabulary:

The following table contains the frequently used words and expressions in the survey above:

English	Magyar
Acarid	Atka
Acid	Sav
Arsenic	Arzén
Cancer	Rák (betegség)
Coal-dioxide	Szén-dioxid
Composture	Trágya
Copper	Réz
Disinfectant	Fertőtlenítő
Drainage	Szennyvíz
Exaggerative	Szélsőséges
Garbage	Szemét
Hydrocarbon	Szénhidrogén
Insecticide	Rovarirtó
Lead	Ólom
Limnetic	Édesvízi
Organic	Szerves
Phosphatic [nitrogenous] ameliorators	Foszfát [nitrogénes] műtrágya
Reagent	Vegyszer
Reradiation	Visszasugárzás
Reregeneratory	Megújuló
Residue	Hulladék
Starvation	Éhínség, éhezés
Sulphur	Kén
Weedage	Gyom
Wildfire	Futótűz

table 1: Frequently used words and expressions