Environmental law, water management law

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1 The system of environmental law

1a. A (medium level) branch of law (4) *note: number in bracket signs the difficulty level from 1 to 5*

1b. Environmental law as a special medium level branch of law (3)

1c. Horizontal and vertical environmental law; environmental law and environmental protection laws (4)

1d. A hierarchy of environmental law (2)

1e. Principles of environmental law (5)

General features of environmental principles (only for information)

1f. Sustainable development principles (4)

1g. Integration principle (4)

1h. Precautionary principle and prevention principle (4)

1i. Polluter pays principle (3)

1j. Public participation principle and its sub-principles (3)

1k. Environmental procedural law (5)

1a. A (medium level) branch of law

- Independent within a major branch of law (criminal, civil or administrative law);
- Dealing with a segment of social life, easy to separate from other segments;
- Contains a parliamentary act (summarizing the most important rules) together with lower level, implementing laws;
- Has a set of typical terms and regulation methodolotgy;
- Mostly has its own system of authority to implement;

e.g. law of energetics, transport, construction, spatial planning

1b. Environmental law as a special medium level branch of law

- Relatively new, pragmatic;
- „Crosscutting”, i.e. reaches over the borders between several levels of branches of law;
- Basically belongs to administrative law, but applies the legal tools of the other two major branches (environmental criminal law, bordering fields of environmental law and civil law, such as trespassing or damage cases);
- Has a lot of overlapping fields with other administrative laws, e.g. with water management law, several branches of agricultural law (forestry, soil protection laws etc.), industrial law also contains plenty of environmental rules – such branches of law we call laws neighbouring to environmental law

1c. Horizontal and vertical environmental law; Environmental law and environmental protection laws

- *Horizontal* environmental laws regulate a single environmental element (such as water, air, nature, climate) or a single type of environmental burden (such as noise, waste or energy emission), while *vertical* environmental laws might concern several of the mentioned fields (such as environmental impact assessment laws or the law of public participation)
- *Neighbouring fields of laws* are not directly about environmental protection, but their legal tools, definitions, administrative procedures might be used for environmental protection purposes*;*
- *Environmental law* is the sum of horizontal and vertical environmental laws (environmental law in a narrow sense), while laws of environmental protection are the neighbouring fields of administrative law, moreover certain rules, too, that belong to criminal and civil law.

1d. A hierarchy of environmental law

- *Level of acts:* usually contain the set of definitions pertaining to the regulated field of environmental protection, the principles, administrative tools (such as permits, monitoring, banning, obliging) and sanctions (such as fines, banning, obliging), e.g. Act of Wastes;
- *Governmental decrees:* special rules for the selected sub-branch, procedural order, e.g. Governmental Decrees on Hazardous Waste or on Packaging Wastes;
- *Ministerial decrees:* technical rules pertaining to a selected sub-sub-branch; consider that such sources of environmental law are modified quite frequently, nothing strange if 4-5 times a year, e.g. Ministerial Decree on Composting or on Waste Management Fees;
- *Municipality ordinances:* arranging for local environmental issues, within the frames of the higher level laws or with special entitlements ensuing from them, e.g. a Municipality Decree on Local Waste Management Utilities

1e. Principles of environmental law

- Emerging environmental legal principles are the sign of raise and development of environmental law, its getting more coherence and independence within the legal systems;
- The words were spread by the 1992 Rio de Janeiro Environment and Development World Conference, especially by the Rio Declaration;
- Legal principles express the most important social demands and also reflect the most relevant scientific results concerning environmental protection – this might be called an input from the society to the law;
- On the other side, from legal principles one can deduct and understand the rules of structure, work, views of environmental law, therefore environmental principles represent a starting point for (not only in narrow sense) environmental legislation and also the most important tools of legal interpretation in the practice – this way we might say this is a feedback from the side of principles to the social processes)

General features of environmental principles

- General format, containing basic truths
- Reflection of the contemporary social value system, with the goal of fulfilling (environmental) justice
- Future orientation
- Strong moral bacground, protection of the Created World and of the modern civilisation
- Solid public consensus, relatively steady content, no dramatic changes in time
- System nature (rich connections with the neighbouring fields of the legal system, also a thick network and interrelationships between the environmental law itself)
- Deductive or/and inductive development (while in the case of environmental principles, the former is more typical)
- Important elements of rule of law (legitimize certain legal solutions, while illegitimate others)

Some raises the possibility of direct application of environmental principles in case law (European Court of Justice, national courts do that quite frequently; opposers refer to *lex specialis derogat legi generali,* while supporters call *ius cogens* vagy *ius necessarium*

1f. Sustainable development principles

- *Umbrella principle*, it encompasses a line of other environmental principles, such as the precautionary principle, the inter- and intra-generational justice principle and the ecosystem approach principle) and directly connected to certain legal institutions, such as environmental impact assessment and public participation
- According to *intergenerational justice principle* sustainable development equals with responsible management of the natural resources in a way that fulfils the need of the present generations without jeopardizing the sustaining of the future generations and not leaving them a chance to choose their way of living; avoiding environmental catastrophes or restoring the damaged systems belong to here, too
- *Intra-generation justice* is strongly related with the inherent system nature of all environmental protection matters: problems threatening the existence of our civilisation can only be solved if we handle them together with the related economic and social problems, such as minimisation, proportional division and compensation for environmental damages

1g. Integration principle

- This principle ensues from the requirement of sustainable development; its essence is that environmental protection views shall be consequentially applied in all levels of State decision-making procedures, starting from the social-economic planning, to legislation and administrative case practice;
- System approach is also inherent in integration principle, as it is seen in its sub-principle, accumulation principle that demands that the decision-makers consider the joint effects of all relevant human activities, together with the processes in nature, also not only environmental effects shall be taken into consideration but public health and socio-economic effects, too (again, we see a circular logic here)
- Integration principle entitles officials and judges of the regional and national level to take environmental issues into consideration in decision-making procedures other than environmental ones (such as commerce, agriculture, transport, energy, public procurement, regional policies)

1h. Precautionary principle and prevention principle

- *Precautionary principle* roots in risk societies, it sounds: scientific uncertainty shall not be used as an argument for remaining idle when environmental damages might happen (the active form of the principle); while if there is a plan or investment where one cannot exclude beyond reasonably doubt that it will seriously endanger the healthy environment and the interests of future generations, such projects shall be rejected or ongoing projects shall be halted (passive form); on the other hand, as a protection for the developers, practical implementation of the precautionary principle demands recurrent post-project analyses and continuous clarification of the possible environmental effects (reconciliation element of the principle).
- *Prevention principle* is different from precautionary principle, because in its case we can know for sure that environmental pollution and environmental damages will occur, unless we take proper measures to avoid them; prevention principle is closely related with the principle of handling pollutions at their sources and the principle of non-retrogression.

1i. Polluter pays principle

- „Free goods” have disappeared by now, environmental pollution today qualifies in ecological economy as negative *externalia* and the States step up against it;
- However, protection of the healthy environment and remedy of environmental damages entails with higher and higher expenses, which shall be borne not by the general taxpayers, but rather more just and effective measures shall be taken.
- In-house expenses will be lower if the polluters are motivated to refrain from polluting the environment, because later clean up costs more than prevention. This way polluter pays principle enhances prevention, too.
- Moreover, the polluter, producer and other similar persons whose activity or passivity caused environmental problems are best situated to clean up or prevent the environmental pollution, because they know the best their technology and the environment in their vicinity. Therefore, polluters are best to oblige for it.
- An additional viewpoint that countries that fail to apply the polluter pays principle, offer an unfair competition advantage for their companies, compared to those who operate in countries with more stringent environmental enforcement policy.

1j. Public participation principle and its sub-principles

- The first sentence of Principle 10 of the Rio Declaration sounds: „Environmental issues are best handled with the participation of all concerned citizens, at the relevant level.” – elements of public participation principle had been present in national constitutions for long, but not in a coherent system
- *authenticity* (results of public participation shall be taken into consideration in effect),
- *accountability* (this consideration of the results of public participation shall be a possible subject to legal remedies),
- *inclusivity* (decision-makers shall strive to include or at least offer the possibility of participation for all interested persons and organisations),
- *transparency* (data of the administrative procedure shall be public, moreover the authorities shall endeavour to make them understood by the participants),
- *commitment* (authorities shall ensure proper time and resources for public participation)
- *integrity* (all the inputs raised during public participation shall be built into the decision according to their importance)

1k. Environmental procedural law

Procedural law is about the order of implementation of the substantive laws. Compared to the general administrative procedural law, environmental law entail with certain specific procedural legal traits.

- Participants: direct material interest is not always a condition of standing, standing might ensue from indierct or general interests or from professional engagements
- Starting the procedure: while the procedure can start upon request or ex officio, there could be special conditions of it, such as attachment of impact studies, monitoring records
- Evidence taking: in environmental cases it is usually quite complicated, several experts (organisations or private experts) or expert authorities can take part in it (expert authorities might have a co-decision-making position)
- Decisions: might be based also on international or regional environmental legal requirements, also national or local plans might have decisive role in environmental procedures
- Modification of the decisions: is quite frequent because of the quickly changing scientific evaluation of the facts relevant for environmental protection
- Costs: might be higher than in other administrative procedures, because of the experts, necessity of highly technical measures, procedural fees, legal counselling
- Deadlines: might be longer than in other administrative procedures

2 Environmental constitutional law

2a. Constitutions and environmental protection

2b. Structure of the environmental rules of a modern constitution

2c. Natural resources protected by the 2011 Hungarian Constitution

2d. Right to healthy environment

2e. Collision of the right to healthy environment and other constitutional rights

2f. International sustainable development provision in the 2011 Hungarian Constitution

2a. Constitutions and environmental protection

Constitutions usually contain: the most important values of a State, the structure, bodies of the State, with their tasks and relationships; the other major element of constitutions is the basic legal situation of the citizens: their freedoms and rights in front of the State, protection of life and dignity – in other words, constitution describes the concept of the State in a given society and a picture on human individuals; in addition to them, constitutions take into consideration international human rights conventions and similar regional documents (e.g. EU, NAFTA), too

Implementation of constitutional rules: different in common law and statute law systems. In the latter, even if constitution is the highest level law and no laws can contradict it, its direct application is rare, constitutional rules are considered too general; indirectly, however, a constitution determines the content and interpretation of lower level laws; implementation of the constitution is safeguarded by inbuilt institutional guarantees, such as the procedures of Constitutional courts or Ombudspersons

2b. Structure of the environmental rules of a modern constitution

State	Obligations	Now
Individuals	Rights	In the future

2c. Natural resources protected by the 2011 Hungarian Constitution

National Avowal, Recital 8

„We commit to promoting and safeguarding our heritage, our unique language, Hungarian culture, the languages and cultures of nationalities living in Hungary, along with all man-made and natural assets of the Carpathian Basin. We bear responsibility for our descendants; therefore we shall protect the living conditions of future generations by making prudent use of our material, intellectual and natural resources."

Foundation, Article P

„Natural resources, in particular arable land, forests and the reserves of water, biodiversity, in particular native plant and animal species, as well as cultural assets shall form the common heritage of the nation; it shall be the obligation of the State and everyone to protect and maintain them, and to preserve them for future generations."

Public Finances, Article 38(1)

„ The property of the State and of local governments shall be national assets. The management and protection of national assets shall aim at serving public interest, meeting common needs and preserving natural resources, as well as at taking into account the needs of future generations."

2d. Right to healthy environment

Basic Rights, Article XX

(1) Everyone shall have the right to physical and mental health.

(2) Hungary shall promote the effective application of the right referred to in Paragraph (1) by an agriculture free of genetically modified organisms, by ensuring access to healthy food and drinking water, by organising safety at work and healthcare provision, by supporting sports and regular physical exercise, as well as by ensuring the protection of the environment.

Basic Rights, Article XXI

(1) Hungary shall recognise and give effect to the right of everyone to a healthy environment.

(2) Anyone who causes damage to the environment shall be obliged to restore it or to bear the costs of restoration, as provided for by an Act.

(3) The transport of pollutant waste into the territory of Hungary for the purpose of disposal shall be prohibited.

2e. Collision of the right to healthy environment and other constitutional rights

Article I(3)

„ The rules for fundamental rights and obligations shall be laid down in an Act. A fundamental right may only be restricted to allow the effective use of another fundamental right or to protect a constitutional value, to the extent absolutely necessary, proportionate to the objective pursued and with full respect for the essential content of such fundamental right.”

2f. International sustainable development provision in the 2011 Hungarian Constitution

Article Q(1)

„ In order to create and maintain peace and security, and to achieve the sustainable development of humanity, Hungary shall strive for cooperation with all the peoples and countries of the world.”

3 Environmental impact assessment

3a. Stages a large investment with significant environmental effects undergo; (4)
3b. Environmental impact assessment and strategic environmental assessment; (2)
3c. In what cases an environmental supervision is necessary? (3) (in one slide)

3d.Examination of environmental effects of small and medium enterprises (SMEs) (4)

3e. Definition elements of EIA and participants (3)

3f. Screening and scoping (2)

3g. Who can prepare an EIS in principle and how does this effect the quality and the objectivity of it? (3)

3h. Content of the EIS (2)

3i. The procedure of the EIA (4)

3j. The group of EIA like legal institutions (3)

3a. Stages a large investment with significant environmental effects undergo; 3b. Environmental impact assessment and strategic environmental assessment; 3c. In what cases an environmental supervision is necessary?

- Ensuring the financial background of the investment – an environmental examination at the bank
- Ensuring a proper territory for the investment, based on a decision of the relevant municipalities or on other decision of spatial planning – strategic environmental assessment (SEA)
- Ensuring the support of the concerned branch of State administration (SEA)
- Examining the expected environmental effects of the investment – environmental impact assessment (EIA)
- Examining the technical solutions of the investment from environmental viewpoints – integrated pollution prevention and control permit (IPPC or merged into the EIA)
- Construction works – construction permit, with participation of the environmental authority
- Onset of operation - operation permit, also with the participation of the environmental authority
- Controlling the actual environmental effects because a) the permit has expired b) there was no EIA, although it is necessary according to the present laws c) poor results of environmental monitoring, complaints from the concerned communities – environmental supervision
- Ceasing the operation either because of technical or economic (legal) reasons – environmental status evaluation (or EIA)

3d.Examination of environmental effects of small and medium enterprises (SMEs)

- Smaller investments of less environmental significance shall not be a subject to a lengthy and expensive EIA procedure; insofar they have certain aspects with environmental effects, they shall undergo individual environmental permitting procedures, such as waste management, air protection, Natura 2000 permits.
- SMEs with smaller, but complex environmental effects and disturbing their neighbouring dwellers to a certain level shall request a so called facility permit.

3e. Definition elements of EIA and participants

- an administrative procedure
- the flagship of environmental law permitting type procedures
- a planning contribution for the investor
- an iterative procedure, participants examine the environmental effects of the investment in multiple circles
- an environmental impact statement, prepared by the investor (by experts contracted by her) determines the content of the procedure
- A wide array of participants: environmental authorities (usually as the decision-maker authority) and authorities of the neighbouring fields of administration (as co-authorities), the investor (as a client), environmental NGOs operating on the effect zone of the planned investment (also might have standing), concerned local communities, and individuals, as well as municipalities thereof (possibly wearing several hats: local authority, owner of the land, investor etc.)

3f. Screening and scoping

- There is an inherent problem in determining the exact circle of investments with a responsibility to run EIA procedure: even if in principle the legislator can put together a list of the most environmentally significant investments, there will be border cases in all time; no possibility to foresee all the features of significance ranging from size, compound of emission, cumulative effects with the neighbouring facilities etc.; therefore, there shall be a preliminary procedure to determine if the given investment in the actual case is or is not a subject to EIA (=screening); note that a modification of an investment can be subject to EIA, especially multiple modifications;
- Even if decided that it is subject to EIA, not all the features of all alternatives of an investment will have to be examined; a decision in the preliminary EIA procedure will encompass an instruction for finalization of certain chapters (air, nature etc.) of the environmental impact statement (=scoping)

3g. Who can prepare an EIS in principle and how does this effect the quality and the objectivity of it?

As we proceed ahead here, presumably the guarantees of quality and objectivity are growing:

- Anybody, no constraints;
- Anybody, who responds certain conditions of education, practice etc.;
- Persons on the expert list compounded and revised by the environmental authority
- Those who have a special general/special permit
- The contract between the investor and the experts shall be agreed by the authority
- The experts will be selected by the authority
- The experts working directly for the authority will prepare the EIS
- A separate State body will prepare/evaluate the EIS

3h. Content of the EIS

- a detailed description of the investment
- a list of all significant environmental emissions
- a calculation and an evaluation of the environmental effects of the emissions (not only the direct effects on the nature and on the human health, but also the indirect social and economic effects)
- alternatives both in the location and in the technical solutions;
- stages of the investment (construction, operation and abandonment) with their respective environmental effects;
- connecting activities such as mining or transportation necessary for the construction and/or the operation

3i. The procedure of the EIA

- Preliminary stage (screening and scoping) with public participation;
- Evidence taking process (based on the EIS)
- Public hearing (where subjects of public participation can directly encounter with the representatives of the investor and the authority);
- Decision (issuing an environmental permit or denial thereof with the evaluation of the comments from factual, professional and legal viewpoints);
- The decision will contain the conditions of the construction and operation of the investment, as well as the conditions of abandoning it; also a deadline is attached, when the permit will expire;
- The request for environmental permit shall be denied when it is doubtful if the relevant environmental and neighbouring field laws could be obeyed, also when the request deems to contradict to relevant international and regional environmental laws, as well as to the national environmental program.

3j. The group of EIA like legal institutions

- On a time axis, also from more general to more specific decisions: environmental examination of draft legislations, plans, policies and programs (SEA and like), planned individual investments (EIA); existing individual investments (environmental supervision);
- According to legality or illegality of the operation: regular environmental supervision or supervision as a sanction;
- Voluntary environmental impact assessment;
- Environmental examinations in neighbouring branches of administration: for river basing management plans, for Natura 2000 territories or for regions of cultural heritage;
- Bankruptcy and liquidation procedures (environmental status assessment);
- Transboundary environmental effects: international environmental assessment based on the Espoo Convention.

4 Public participation

4a. Pros and cons for public participation (3)

Significance of international environmental law (only for information)

4b. An outstanding position achieved by Aarhus Convention in international law and the secret of it (3)

4c. The system of public participation (4)

4d. A system of conditions for passive information rights: exemptions and sub-exemptions (5)

4e. A system of capacity building (4)

4f. What could be the advantages/disadvantages when concerned communities or organisations are included into an environmental decision-making procedure a) at the very beginning of the procedure b) at the very end of it? (5)

4g. The practical dilemma of defining the term environmental case when it is a condition of participation of environmental NGOs (2)

4a. Pros and cons for public participation

- Rule of Law, good governance (transparency and accountability in State administrative systems)
- Inherent in the environmental problems: complex issues with wide territorial extension and not seldom demanding expedited measures
- Local communities are ubiquitous – they represent the „thousand eyes and ears" of the environmental authorities
- High level of commitment of the local communities and environmental NGOs
- A problem oriented, holistic approach on the civil side might be a good supplement to the usually narrower, professional view of the authorities and experts
- Greens operate in networks, via which they have access to alternative professional information that might be of help in solving sophisticated environmental problems
- <u>But:</u> public participation might be time consuming
- Might need additional resources
- Concerned communities, also even environmental organisations might be too emotional, which might be called bias

Significance of international environmental law

- Pollution does not stop at state borders: environmental problems are mostly regional or global
- Environmentalists have large international networks with prestigious and influential international NGOs (Greenpeace, Friends of the Earth, Client Earth, WWF, E-law etc.)
- International political discussions can give floor to more general voices that see further ahead in time and are anxious at the faith of future generations of humankind, while forces that not seldom quite aggressively represent short term financial interests might be more segmented
- Serious expertise has been invested into developing and cultivating international environmental laws, in many fields they have a determining role above the national environmental laws, including environmental laws

4b. An outstanding position achieved by Aarhus Convention in international law and the secret of it

- Josef Vavrousek, Czechoslovakian NGO expert become minister of environmental law after the velvet revolution and took it very serious: organised regular meetings for all the similar ministers in Europe
- The third ministerial meeting was in Sofia, 1995 resulting in a soft law document on environmental democracy, the Sofia Guidelines – however, greens pressed for a hard law document
- UN ECE (Economic Commission of Europe) undertake the secretariat for drafting an international law, allowing (exceptional) civil participation in the procedure
- In Denmark, Aarhus, 1998 representatives of Pan-European States undersigned the Convention
- The Aarhus Convention on public participation in environmental decision-making has run an amazingly quick and high carrier in international law: early entering into force (2002), strong influence on EU and national laws, disciplined country reporting
- Establishing the Compliance Committee with a special feature of allowing civil actors to initiate its cases – having 180 substantive cases so far, with plenty of precedents
- The secret of the Aarhus Convention is: system approach

4c. The system of public participation

A. Access to information	**A.1 Passive form (upon request)**	**A.2 Conditions:** **a) format** **b) deadline** **c) expenses**	**A.3 Exemptions:** **a) State** **b) official** **c) 3. person**
	A.4 Active form (upon the own initiative of the administrative body)		
B. Access to participation	B.1 Individual decisions	B.2 Plans, policies, programs	B.3 Legislation
C. Access to justice	C.1 as a remedy in A-cases	C.2 as a remedy in B-cases	C.3 independent remedy
	C.4 Quality of legal remedies: fair, equitable, timely and not prohibitively expensive		

4d. A system of conditions for passive information rights: exemptions and sub-exemptions

- Concerning the first pillar the passive (upon request) information servicing is more frequent and significant than the active form (ex officio)
- Numerous hindrances might stand in the way of passive information: national laws have to ensure that the requesters have the information in a proper format, timely and with bearable costs
- Exemptions from the responsibility of the administrative body to give environmental information are in three groups: out of State, administrative or third person interests; all groups contain 6-8 types of secrets, a small country's legal system contains as much as 7200 laws that mention secret in some compounds (examples for the three groups: military secret, internal communication or business secret)
- Sub-exemptions represent situations where the social interests connected to openness prevail the interests connected to secrecy (examples: information on emissions to the environment, information which is separable from the secret parts)

4e. A system of capacity building

	With information	With organisational help	Through prevention of hindering public participation
General	Environmental legal (substantive), institutional and procedural information	NGO friendly operation rules, normative support (financial, technical, institutional etc.)	Prohibition of discrimination in participation procedures
Case specific	Environmental legal (substantive), institutional and procedural information in connection with a case	Ensuring participation rights for NGOs	Prohibition of harassment, prosecution or other forms of revenge for public participation

4f. What could be the advantages/disadvantages when concerned communities or organisations are included into an environmental decision-making procedure a) at the very beginning of the procedure b) at the very end of it?

This is an open and question…

4g. The practical dilemma of defining the term environmental case when it is a condition of participation of environmental NGOs

Hungarian Environmental Code (Act LIII of 1995, Article 98(1)) stipulates:

"Civil organisations that were established in order to represent environmental interests, if not qualifying as a political party or trade union shall have standing in every environmental cases on their territory of activity."

Supreme Court interpretative decision No. 4/2010. (X. 20.) on the legal status of NGOs in environmental administrative cases:

"Taking all relevant circumstances into consideration the council of interpretative decision arrived at the opinion that standing based on Article 98(1) of the Environmental Code will be established for environmental NGOs in every administrative cases wherever environmental authorities act as decision-making bodies or issue official legal/professional opinion that is binding for a different decision-making body."

5. Clean air protection law

a. Tasks of clean air protection law (3)

b. Are PM10 and PM2,5 dust? (1)

SO2, NO2, NOX, O3, CO, Pb, PM10 and PM2,5 (only for information slides)

c. The most important related fields of law for clean air protection (4)

d. Structure of clean air protection law (3)

e. Legal tools for restricting air pollution (5)

Measures for increasing air quality in sectors such as transport, industry, agriculture and local communities (only for information slides)

f. Air quality protection planning (4)

Examples of sectoral laws that can be used in implementing AQPs (only for information slides)

g. Laws of defence against city smog (3)

5a. Tasks of clean air protection law 5b. Are PM10 and PM2,5 dust?

Task 1: prevent that otherwise unavoidable air pollution cause serious harm in public health or in the environment

Task 2: select out those polluters that cause the highest and most dangerous air pollution (forerunner policy)

Task 3: eliminating odours that cannot be described by thresholds of certain materials, but disturb their neighbourhood (with the help of best available technology – BAT)

Public health reasoning: air pollution in itself decreases avarage life expectancy with more than 8 months (European Environmental Agency, 2017)

The biggest polluter groups: industry (combustion plants, incinerators), public transport and individual household heating

The most frequent pollutants: sulphur dioxide, nitrogen dioxide (they are related to the two basic forms of city smog), carbon monoxide, lead, benzol, surface level ozone, small particulars (sometimes called mistakenly „floating dust”, but they are grades smaller, they are actually small particles of soot, on their surface carrying other pollutants, bacteria, allergic materials etc.)

SO2, NO2, NOX (only for information)

- Sulphur dioxide (SO2): ensuing from the energy sector, households with coal heating and public transport with fossil fuels; its effect is irritation of the respiratory system, in high concentrate it might leads spasm in lung
- Nitrogen dioxide (NO2): primarily from public transport and heating; also with irritative effects, but apart from respiratory symptoms, it decreases the defensive capacity of the human organism, becoming this way more apt to infection
- Nitrogen oxides (NOX): also from public transport and heating a more complex material mix is produced with a main component of nitrogen oxide (NO) – in circumstances of free exchange with air it soon transforms to nitrogen dioxide (NO2)

O3, CO, Pb (only for information)

- ozone (O3): secondary pollutant, created by a photo-chemical procedure from exhaust fume of cars; irritating mucous membranes, aggravates chronic diseases, but cause symptoms at healthy persons, too; decreases lung functions, leads to nausea and chest pains,
- Carbon monoxide (CO): primarily from cars, a poisonous gas that has no colour or smell; decreases oxygen carrying capacity of blood, by this way leads to headache, dizziness, insomnia and other nerve system complaints; also enhances the probability of hearth attack
- Lead (Pb): earlier it came from leaded gas, nowadays certain industrial activities result in emitting lead into air, causing this way serious poisoning cases, first of all it hinders haemoglobin production, harms the intestine and also the nervous system, as well as harming kidney and joints (articulations)

C6H6, NH3, VOC8 (only for information)

- Benzol (C6H6): its main source is the engines of cars; while it does not cause acute respiratory problems, benzol can accumulate in the human body (fat tissues, nerve system, bone marrow and adrenal glands; further accumulation might lead to cancer, especially in the blood production and lymphatic system.
- Ammonia (NH3): emitted mostly by agricultural sources, but also by waste incineration; irritates the conjunctival and the mucous membranes, results in strong weeping and sneezing.
- Volatile organic compounds (VOC): these complex materials are created by numerous compounds under special meteorological conditions. However, in new buildings there could be a more than average level of VOC because of the new furniture, coverages, paints and glues, while the modern, better insulation of windows keeps them indoor more effectively. Such materials cause head ache, respiratory diseases, through and eye irritation, dizziness, exhaustion, decreased concentration. On longer run VOC might cause liver and nerve system damages.

PM10 and PM2,5 (only for information)

- PM10: floating solid or fluid particulars smaller than 10 micrometre, ensuing from multiple sources, such as household heating, and several agricultural and industrial activities, also from abrasion of roads and car engines. Lower parts of the respiratory system responds to PM10 with obsessive coughing, hard breathing. PM10 concentrate is usually described its annual average value in „µg/m3”.
- PM2,5: typically ensuing from combustion; being smaller than PM10f these particulars have access to alveoli of the lung where they cause general inflammation, laryngitis and asthma on longer run; cardio-vascular diseases can also be aggravated by PM2,5

5c. The most important branches of environmental and neighbouring laws serving air protection purposes

- General part of environmental law: EIA, environmental liability, public participation
- Horizontal part of environmental law: waste management law (e.g. regulations on waste incinerators, stoves, open air burning of waste)
- Water protection law (e.g. subsidence of pollutants on water surfaces)
- Neighbouring fields of law: public transport law (e. g. linear investments); spatial planning (e.g. positioning the polluting facilities, determining protection zones); public health law (e.g. allergic pollens), chemical safety law and soil protection law (also because sedimentation)
- Non-administrative fields of law: certain branches of civil law, such as nuisance and trespassing

5d. The structure of clean air protection law

Emission and immission (ambient air quality) rules

- According to types of sources: point, diffuse and linear sources
- Rules pertaining to individual polluting materials
- Rules concerning different types of territories to protect, such as densely populated areas or public health institutions
- Other groups of rules: air protection planning, monitoring, public participation rules

5e. Administrative legal tools against air pollution

- Tools based on voluntary implementation (not without regular monitoring): legal thresholds clarified in laws; declaration by the polluter about the starting level of its pollution, reports on significant changes and on the annual sum of pollution from the facility (data on the volume of production shall be attached); air pollution fee (paid automatically).
- Administrative measures: permitting, obligatory decisions in connection with measures of air quality protection (e.g. determination of transport routes or prohibition of using certain other routes); a thumb rule: wherever the ambient air pollution is above the health protection thresholds, no further permits shall be issued; if the quality of air is not acceptable in a district, the largest polluters shall be obliged to prepare a plan of measurements; further pollution above the thresholds entails with fining, thereafter determining obligations or ban of certain activities, thereafter suspending or even banning the operation.
- Organisatory measures primarily zonal planning for the regions where certain pollutants are regularly above the threshold;
- See also the measures in the following slides for information

Measures to amend air quality – public transport (only for information)

- Restricting the traffic of heavy trucks, introducing electronic road toll, obligatory implementation of filters of particulars on the trucks
- Bypass roads developed on the national level road network (?)
- Mechanic reduction of traffic on main and lower level roads
- Transformation of parking systems (P+R and B+R parking lots)
- Supporting the introduction of electronic cars
- Development of agglomeration train networks
- Popularization of non-motoric transport solutions
- Supporting working place transport planning

Industrial and agricultural sectors (only for information)

- Revision of the regulation of industrial emission of air pollutants, especially in the case of large polluters such as power plants, cement factories, smelters and waste incinerators
- Closer scrutiny and more detailed regulation of PM10 emission of mining
- Encouraging the introduction of best available techniques and gradual control of them
- Dust filter systems and their more stringent monitoring
- Examination of dissemination and effects of agricultural PM10 burdening
- Re-forestation, restructuring forest networks, subsidies

Households (only for information)

- Banning open air burning of garden waste
- Building up a system for encouraging effective composting
- Stringent measures against illegal incineration of wastes
- Increasing market share of long distance heating, making household stoves more effective and sustainable
- Insulation programs for buildings
- Decreasing the number of combustion plants with lower than 140 kW input capacity

5f. Air Quality Planning

- Directive of the European Parliament and the Council of May 21 2008 No. 2008/50/EC on the quality of ambient air and on the program called „Cleaner Air for Europe”
- In any cases when the legal thresholds for the pollutants specified in the Directive are not met on longer run, for the district in question an AQP shall be designed. In each cases when the deadline in the Directive has expired without full compliance, AQPs shall put together zonal plans in order to eliminate and decrease the length of exceeding. Measures shall be timely and effective enough and shall contain at least the measures included in Annex XV of the Directive

5g. Content of AQPs

- Location of monitoring stations and of transitional measuring points (on map and with coordinates), together with the location of the objects to defend
- An analysis of the major reasons of air pollution, a list (with map) of the major pollutants, an inquiry of the major activities, total amount of annual pollution and also an estimation of the migrating pollution from other zones, together with all other factors that influence the pollution situation
- An analysis of the factors of exceeding the threshold (e.g. the role of public transport, including transboundary exchanges, secondary pollutants evolving in the air, transmission)
- A list of possible measures and programs in order to amend air quality in the zone, also measures and programs already running and recently finished, together with future ones with details
- Foreseeable expenses and sources of them

Laws useful during the implementation of AQPs (only for information)

- On regular technical supervision of vehicles using public roads and on the conditions of putting and keeping them into the traffic
- Combustion engines of stationary machines and their emission of gases and PMs
- Quality requirements of gasolines
- Regulation of VOC emission of certain activities
- Regulation of sulphur content of certain fluid fuels
- Technical requirements of waste incinerators, conditions of operation and emission thresholds
- Combustion plants with capacity smaller/larger than 50 MWth - conditions of operation and emission thresholds
- Paints, lacquers and polishing materials – content of organic solvent

5g. Rules of protection against city smog

- The most serious air pollution occurrences: owing to pollution and meteorological situation, numerous people faces with serious health danger
- Municipalities have smog alert planning: depending on the level of ambient pollution such plans have an information and an alarm phase
- An effective cooperation is needed between environmental, public health and police administration
- Sanctions are available against those who infringe the rules of limitation in public transport and industrial activities (fining, petty offence procedures)
- Public participation and cooperation of the wide population is indispensable

6. Noise protection law

a. Health effects of noise (2)

b. Constitutional rights (human rights) and other rights in connection with noise protection (3)

c. Legal and physical definitions of noise; the subjective element of the definition (4)

d. Two major groups of objects protected by law against noise (3)

e. Major groups of sources of noise (2)

f. Legal definition of dangerous level of noise; the main rule, the exemptions and the sub-exemptions (5)

g. Elements of a strategic noise map (3)

h. Protection against noise through the regulation of certain products (2)

6a. Health effects of noise

Noise directly harms the effectiveness of work, studying, rest and sleeping, while indirectly it causes a line of health problems in the internal ear, the nerve system, in blood pressure and in the immune system, too. In addition to that continuous noise might have serious social and intellectual effects, such as disturbed abilities of attention, reading and text interpretation, as well as problem solution and ability to recall former information. All of these effects are aggravated in cases of longstanding noise with enhanced information content, while the effects might be milder in cases of shorter and even level noise. Noise in the best large cities is far above the values suggested in the guidance materials of WHO.

Yet, the least stringent branch of environmental law is noise protection, primarily because of poor social and political awareness of health effects of noise. Indeed, contrary to other sources of environmental pollution and physical burdening of the environment, noise leaves no measurable trace after its occurrence (except in case of extremely high noise). No wonder that the most complaints to State general citizen rights protection bodies (such as prosecutors, ombudspersons) receive, are connected to noise.

6b. Constitutional rights (human rights) and other rights in connection with noise protection

- Constitutional rights: to a healthy environment, to health, to have rest and to possess real estates without being disturbed
- Construction law: spatial planning rules and individual construction permitting (e.g. in connection with insulation of buildings against input and output noise) both vastly influence the level of noise in a neighbourhood
- Environmental impact assessment laws
- Nuisance and trespassing
- Petty offence law (e.g. bobbery)
- Local level municipality ordinances (e.g. use of public space)

6.c. Legal and physical definitions of noise; the subjective element of the definition

Definitions bridge natural sciences and law here; as usual definition of a key concept further determines the scope of regulation in a branch of environmental law

- Natural sciences: noise is a pattern of changes in air pressure that can be perceived in its environment
- Law: noise stands of burdensome, unpleasant sound waves, usually adds up from several sources
- A technical problem is that noise is a compound of sound of several frequencies, therefore it can be measured only with transposing them all to the musical normal „A” sound – the unified sound pressure resulted here is expressed by the measurement unit decibel A, dB/A, in its short form only as decibel
- Quiet sleeping would require 35 dB/A, while a car race stadium, such as Hungaroring (an F1 race court in Hungary, Mogyoród village) or a rock concert produces 100 dB/A or more sound pressure. They are tolerated by the funs, even if as little as 3-4 dB/A change in itself might mean doubling the sound pressure (dB is a logarithmic scale)

6d. Two major groups of objects protected by law against noise

Environment to protect: an area or buildings for human activities

- areas: dwelling and recreational areas, educational, public health, religious territories and certain green spots (such as public gardens and parks),
- buildings to protect include hospitals, educational buildings, houses, flats, commercial and catering places

Public health thresholds are different according to both such areas and buildings to protect and sources of noise

6e. Major groups of sources of noise

- Construction (meaning industrial construction, therefore small scale private constructions fall outside of this category)
- Public transport (noise ensuing from the linear path of the transport, as well as from the vehicles, such as cars, trains, possibly ships and airplanes adding up together in each categories of transport)
- Factories (productions, services, noise of their machinery, equipment and vehicles within the facility)
- Leisure (cultural, entertaining, hospitality, sport, except occasional events organised on public spaces)
- Others

6f. Legal definition of dangerous level of noise; the main rule, exemptions and sub-exemptions

Dangerous level of noise: first, noise exceeding the public health threshold, second, in case of noise that cannot be reproduced under normal circumstances, therefore difficult to measure or calculate, qualifies as dangerous when listeners in its affected zone notice it as disturbing their quiet existence; General exemptions from noise labelled as dangerous:

- Military: military air corridors and shooting fields (sub-exemptions: even for these operations locations shall be selected carefully and noise abatement measures are to be taken; also compensation of neighbours exhibited to noise above threshold shall be given by the army)
- Constructions and public roads (sub-exemption: significant exceedance of the threshold is illegal and entails with authority measures – exceedance with 10 dB qualifies as significant)
- Airports, noise protection zone (a territory where the airport is unable to keep noise thresholds, therefore all human presence and constructions are prohibited, existing buildings are to be bought out or expropriated)
- Public utilities (such as drinking water, heating gas, electricity, distance heating) – wherever in their vicinity noise thresholds cannot be kept, the environmental authority shall assign an increased noisy area (sub-exemption: the public utility firm shall develop a noise abatement strategy)
- Operators of all private (small) construction, production and leisure time noise sources might apply for a permit of exceedance (sub-exemption: exceedance is limited in time and bound to certain measures)

6g. Elements of a strategic noise map

In major cities above 100.000 dwellers, also alongside the major public transport routes (roads, railways, airports) the municipalities shall prepare strategic noise maps with tranquil zones as well as with enhanced noisy areas;

- Strategic noise map stands up a burden map and a conflict map (with the effective noise burden and the differences from the desirable burden)
- They also include noise level zones and curves
- Road managers and operators of noisy facilities in the territory of the map shall be obliged to prepare noise abatement plans (e.g. with reorganisation of traffic, changes in use of land, technical measures, changing certain equipment into less noisy ones)

6h. Protection against noise through the regulation on certain products

- The major tools of noise protection law, as it was seen, are based on territorial and source logic
- Certain noisy open air equipment, engines can only be operated if entitled expert organisations issue to them a noise certificate either individually or by types
- Consumers of noisy products shall be informed about the maximum noise burden caused by the product on a noise label

7. Waste management law

a. Social tasks of waste management (3)

b. Constitutional aspects of waste management law (4)

c. Internal and external connections of waste management law (3)

d. Notion of waste (5)

e. Types of waste (3)

f. Sectoral principles of waste management law and types of activities with waste (5)

g. Waste management public utilities; why should not a household where no waste is produced, receive a waiver from waste fee (2)

h. Sanctions of infringing waste management laws (2)

7a. Social tasks of waste management

Waste management law regulates abandoned materials that would endanger air, soil, surface or underground waters and nature

- Waste production is a complicated social-economic process: something can be a waste today, tomorrow it might turn out to be a valuable rough material; waste management therefore entails with foreseeing, complex organisatory work in the field of prevention, selection, collection, carriage, handling, reuse etc.
- In addition to that there are protective tasks, too: prevention or management of environmental and public health emergencies especially in connection with hazardous waste

Out of these, it is obvious that waste management lures enormously large flow of money in this complicated system, therefore there is an enhanced danger of fraud, abuses, corruption, etc. No wonder that waste management is one of the leading business branch of organised crime

7b. Constitutional aspects of waste management law

- The Hungarian Constitution, for example, directly prohibits any import of „polluting waste” with the purpose of deposition
- Constitutional level rules concern the motion of waste within the country, too; constitutional principles such as rule of law and citizens’ rights come into play in the topic of *environmental justice*: it is noticed that not seldom the especially dangerous activities with waste are located in territories where the dwellers are not in the position to defend themselves against it and might suffer serious health and financial consequences
- An other constitutional principle concerned is equality of citizens: can anybody’s interest (assets, health) sacrificed in order to enable a larger community to get rid of its wastes and could live in a clean and healthy environment? While the answer is obviously not, societies and their legal systems shall try to elaborate solutions for the producers and consumers with which nobody’s interests are unproportionally harmed; if it goes only with surplus expenses, such expenses shall be divided equitably in the society

7c. Internal and external connections of waste management law

- Waste management law has almost inseparably strong connection with certain branches of law within environmental law, primarily with air protection law (for instance in the topic of illegal waste incineration)
- With water management and water protection laws a shared field is handling of sewage waste
- Outside environmental law and important neighbouring field of law is construction law, for instance in case of construction of landfills, also protecting zones around waste management facilities, also waste management aspects of demolition of complex building
- Mining law overlaps with waste management law in issues such as mining wastes (refuse, spoil), removed soil layers
- Public health and catastrophe prevention laws, primarily in connection with a more general term, hazardous materials (not only wastes but materials under use)

7d. The notion of waste

Subject of waste management law (its material scope in the same time) is determined by the definition of waste; taking into consideration the complicated, serious economic interests in the background, one cannot wonder that there are plenty of legal disputes about this definition with a lot of vague, borderline fields

In legal sense waste is *a material from which the owner wishes or obliged to get rid of*

- The subjective side of the definition has objective traits, too: if all the appearances dictate that the owner has abandoned the material, say, she has not dealt with that for years or even decades, it would qualify as a will to get rid of the material and to consider that waste; in exceptional cases, however, even in such situations we would not presume waste, for instance when the seemingly neglected thing is too valuable
- The objective side of the definition can be obviously seen usually on the material themself, therefore waste management law would prescribe to handle it as waste, for instance faulty products, overused objects, residual materials from cleaning or products irreversibly contaminated, also topsoil excavated, even if it is not further polluted
- Subsidiary definitions: *byproduct* (a result of the production process separate from the mainly targeted product, while marketable without further changes) *losing waste status* (a material what was originally waste, but has undergone such waste handling operations that made it marketable again)

7e. Types of waste

- According to their process of production: industrial or household (communal) waste
- Separately regulated special types: vehicles that become waste; electric (e.g. refrigerator, washing machine, hair drier) or electronic (e.g. computers, TV sets, mobile phones) wastes; batteries and car batteries; packaging materials, biodegradable wastes, construction-demolition wastes and radioactive wastes (all represent specific sub-branches of waste management law, except the last ones, which fall outside waste management law)
- More severe waste management rules pertain to wastes that are having certain groups of dangerous traits, such as poisonous, corrosive, irritative, infectious, carcinogen, mutagen, explosive; such *hazardous wastes* are either on the list of hazardous wastes in a law or are individually determined as such in a qualification administrative procedure

7f. Sectoral principles of waste management law and types of activities with waste

- *Extended responsibility of producers*: those who produce and/or package products shall strive to minimize waste; they shall design the products with little scrap, long lifespan, easy to amend and no danger to the environment when it becomes waste; rough materials shall be selected with preference to less dangerous ones, dangerous materials shall be substituted with less dangerous ones; producers furthermore shall undertake to take back their products when those become waste; if they are unable to do so, they have to pay product fee to a professional pool and thereafter the pool shall organise recollection and handling of those wastes – social expenses ensuing from waste shall be internalized that way
- *Principle of full life cycle*: waste management viewpoints shall prevail at all stage of products' existence, from their very production to their waste stage and even further, when they are reused, recycled, insulated to be harmless; also during prevention, selective collection, storage, transport, elaboration into products, incineration or landfilling

7f. Sectoral principles of waste management law and types of activities with waste (cont.)

- *Vicinity and self supply principles*: the first principle is international, meaning that wastes shall be carried to be handled within a country at the closest possible facility which is able to handle them; the second one is a locally relevant principle, meaning that all regions are responsible to organise as far as possible to handle all wastes within their territories; while the first principle fully discourage transport of waste, the second one encourages it within a certain region in order to achieve the most effective management
- *Prohibition of mixing wastes*: producers and waste managers are sometimes tempted to dilute or mix wastes in order to ease their transport or decrease the level of dangerousness of the total mix or out of any other reasons; however, mixing wastes might result in incalculable dangers to the environment and public health and also would make difficult or impossible the for the authorities to control the waste flow and its management
- *Principle of hierarchy of waste management*: 1. prevention 2. reuse (in its original function) 3. recycling (into different, useful product) 4. other making use of the waste (e.g. incineration with the purpose of gaining heat and/or energy) 5. disposal (meaning landfill or incineration not belonging to 4.

7g. Waste management public utilities; why should not a household where no waste is produced, receive a waiver from waste fee?

- Having considered the principle of self supply, municipalities have a specially important role in waste management
- They select the organisations of waste management public utility and contract them, determining the content of their service such as frequency of collection of garbage cans or ways of selective collection and also the price (latter one might be centrally regulated as an exemption)
- All households are obliged to extend their waste to the service company, while the company is obliged to take, transport it and also make sure that it is properly handled – this is the legal essence of public utilities contracts
- Owners of real estates shall pay the full public utility fee even if they are unable or unwilling to extend their waste to the contractor or regularly produce smaller amount as the capacity of bins (otherwise the system would encourage different use of household waste, such as burning, hiding etc.)

7h. Sanctions of infringing waste management laws

Illegal waste disposal and especially incineration is a serious source of environmental hazards, while it might be quite lucrative for the perpetrators; legal consequences might be:

- Petty offence (for instance disturbing public order)
- Crime (for instance a felony of harming the order of waste management)
- In the field of administrative law: a fine
- Administrative order to follow certain behaviour pattern or refrain from certain behaviour
- Civil law can also come to the picture, especially damage payment, also within the frames of company law
- A specific legal tool is the European Environmental Liability Directive (ELD): this is a special mixture of administrative and civil law tools, such as strict liability and determining the certain obligations of the (possibly jointly and severally) liable persons in a determined order, including cleanup and monitoring

8. Water protection law, water management law

a. Interrelationship of and differences between water protection and water management law (3)

b. System of connections between water protection law, water management law and other environmental branches of law as well as with neighbouring laws (4)

c. What were the reasons of lack of effective cooperation between several authorities during the Kolontár red sludge catastrophe? (2)

d. Tasks of water management (3)

e. The most important kinds of needs for water in a society (3)

f. Protection of water bases (4)

g. Emission and immission rules of water protection (4)

h. How to preserve the good status of surface and underground waters (4)

8a. Interrelationship of and differences between water protection and water management law

- While water protection law is one of the branches of environmental law, water management law is basically part of economic administration law
- As a rough approach, water protection deals with the quality of waters, water management with the quantity, but this is naturally only partly true, the two issues are unseparable
- Major differences are primarily ensuing the system approach of environmental law, water protection law is quite strongly embedded into that, with really close mutual connections with nature protection law and other environmental branches of law
- On the other hand, water management law is a much older branch of law, water management experts have overly specialised university education and high social prestige (e.g. because of high importance of drinking water, protection against floods and other socially, economically vital services with immediate effects)

8b. System of connections between water protection law, water management law and other environmental branches of law as well as with neighbouring laws

Within environmental law:

- Nature protection (inter alia sustaining wetlands depends on high quality and enough water, on the other hand, marshlands, peats and shoreline ecosystems play important role in cleaning waters)
- Waste management law (sewage treatment is a border area of the three branches of law, while waste management facilities require water management and water protection measures)

Apart from environmental law:

- Catastrophe prevention law (e.g. floods and other harming water events)
- Public health law (e.g. bathing places assignment and protection or drinking water regulations)
- Agricultural laws (e.g. nitrates pollution in the water and the good agricultural practice regulations)

8c. What were the reasons of lack of effective cooperation between several authorities during the Kolontár red sludge catastrophe?

- 4th of October, 2010, noontime: at Ajka city alumina factory, red sludge reservoir No. broke out flooding Tarna creek and Kolontár village with one million m3 extremely basic solvent, causing 10 people die and several billion HUF damage in real estates and movables, as well as in water, soil and nature
- Originally the reservoir was built according to a permit from the *water management* authority (especially because of selecting the abandoned bank of Tarna creek as a location, which later turned out to be a very bad choice), while the facility had strong *water protection law* (e.g. in connection with underground waters), general *environmental law* (primarily waste management), *mining law* (the solid component of red sludge is a mining waste), *construction law* (naturally, the reservoir qualifies as a construction requiring authority consent about solidity and resilience), *catastrophe prevention law* (because of the extremely dangerous solvent they used in the technology to carry the mining waste to the reservoir) had also significant scope of authority. Everyone was waiting to the others to go to the scene and monitor reservoir No. X.

8d. Tasks of water management

1. Water supply
2. Protection against water related damages (floods, polders, i.e. inland waters causing damages to agriculture)
3. Water constructions (including thremic water use) supervision, permitting, monitoring
4. Sewage water treatment supervision, including rainwater drainage and cleaning
5. Participating and supervision in designing and maintaining waterways
6. River regulation decisions, supervision

8e. The most important kinds of needs for water in a society

Water needs cannot be satisfied endlessly, therefore water management law shall set a priority order:

a) Ensuring drinking water, on the same level with water needs of public health and catastrophe prevention,

b) Medical and plantation, industrial and service activities serving community needs directly,

c) Animal husbandry, fishery,

d) Nature protection

e) Watering not belonging to point b),

f) Other economic water needs,

g) Other water needs, including sport, recreation, bathing, tourism

8f. Protection of water bases

- The most stringent rules of water management law pertain to the protection of water bases that ensure drinking water for a region
- Protecting zones are determined according to the time certain pollutions can reach the water body that produces drinking water
- Internal zones can be reached within a couple days, while outer zones might be reached within a couple of months or even years
- Under water base protection laws it is prohibited to exert any human activity which may entail with the pollution of the land and the water body: in the internal zones any human presence might be banned, while in outer zones fewer and fewer constraints take place, while certain activities, such as hazardous waste deposit, fluid manure deposition are not possible anywhere, but certain construction works, certain animal husbandry, transport facilities and activities might be possible with certain restrictions, however

8g. Emission and immission rules of water protection

- Emission thresholds in water protection law are different according to the materials in question (hazards, speed of dissolution etc.) on one side and on the other side on the receiving water body, i.e. it is surface or underground water or a sewage treatment facility or a city drains system
- Immission standards are also different according to the specific purpose of the water bodies, i.e. drinking water, sustaining ecosystems or bathing
- Ecosystem sustaining water bodies have to respond further different quality requirements according to the sensitivity of the species living in them: trout (the most sensitive), mullet or common bream (the least sensitive)

8h. How to preserve the good status of surface and underground waters

- According to the European Water Framework Directive and the implementing laws in the Member States, the good status of surface waters shall be maintained by ecological, chemical and physical parameters, as well; these parameters are achieved from the authority's side with permitting procedures, general legislative requirements, prohibitions, obliging and monitoring, also in case of necessity by several sanctions such as water protection fine, drains protection fine or limiting or banning certain activities
- Underground waters' good ecological status shall be maintained by preventive measures, prohibition of disposal, storage or pressing certain polluting materials and also ordering technical protection solutions by the environmental authority
- A specific field of water quality protection is focussing on the nitrate pollution of agricultural activities: the legal tools here include prohibition, assignment of protection zones and also encouraging the producers to follow the manuals on good agricultural practice

9. Nature protection law

a. Ecological services of the natural areas in cities and outside (3)

b. What is your opinion: shall the nature be protected per se or because their ecological services offered to our societies (2)

c. The prisoners' dilemma of nature protection (1)

d. Neighbouring fields of nature protection laws; protection categories used by them (5)

e. Several layers of the Hungarian nature protection law; types of protected lands and typical legal provisions pertaining to them (4)

f. Protection of Natura 2000 territories, conditions of permitting activities that may harm them (4)

g. Protection of green surfaces of the cities (3)

9a. Ecological services of the natural areas in cities and outside

- Ecological services of natural territories in general: ensuring a steady composition of air, regulating the coal household of the Earth, therefore supporting climate balance and sustaining biodiversity
- City green surfaces filter the dust from heating and transport, cleaning the air in a multiple way, ensure noise insulation, shading, protect against the enhanced UV-B radiation, drain almost one third of the total rain water, vaporization, decreasing the city heat island with 2-5 Celsius grade, give home to a serial of mammals, birds and insects, grow humus etc.
- However, ecological services is a controversial concept, might suggest as if nature would exist only for us, humans; if I can buy those services from elsewhere, some might think that natural services are dispensable or can be freely ruined if someone can pay for it

9b. What is your opinion: shall the nature be protected per se or because their ecological services offered to our societies?

?

9c. The prisoners' dilemma of nature protection

On one hand, nature is appreciated by all, everyone wishes to protect it, on the other hand, everybody thinks that a small portion of the nature can be consumed/burdened/destroyed for his own private purposes. This reminds us to the tragedy of the commons of Garett Hardin 1968, which is an early form of the later generalised concept of mutual faith control of persons being positioned in the same closed system, mutually controlling what is going to happen with the other members of the system and with the whole system. We note that newer sociology and communication sciences suggest that clear, transparent rules of conduct should be raised in such situations, where the dissident, anti-social, risk taking etc. behaviour is punished at large probability.

9d. Neighbouring fields of nature protection laws; protection categories used by them

- Water management and water protection laws (mentioned in that chapter), several branches of agricultural law, such as forestry law and soil protection, hunting and fishing laws, furthermore construction law in respect of the rules of protection of green surfaces of the settlements, also by the law on spatial planning, also by laws regulating territorial development and infrastructure networks
- Cultural heritage law (according to 1972 UNESCO Convention Concerning the Protection of the World's Cultural and Natural Heritage, nature protection areas can also enjoy world heritage protection, not only the objects of built environment

Categories of protection (with the above mixed legal background):

National park, natural sanctuary and other nature protection lands, Natura 2000 territory, biosphere reserve, landscape protection district, ecological corridors and ecological network, forestry reserve, sensitive land, world/natural heritage land

9.e. Several layers of the Hungarian nature protection law; types of protected lands and typical legal provisions pertaining to them

- When Central European countries joined the EU they accepted the European Nature 2000 system, while kept their own, centuries old nature protection systems, too – since then the two systems operate parallel; both of them are further divided:
- National level protection has two levels, according to the origin of the protection (national or local protection)
- Severity of protection is an other differentiation factor (protected and highly protected lands)
- Protection in principle can be ceased when the reasons of them stopped to exist – the procedure and the decision-maker shall be the same as at creating the protection
- Rules of national level protection: tree cutting is forbidden or restricted, especially clearcutting, hunting, constructions, vehicle driving might be limited or banned, in some cases even flying over the area with flying devices is forbidden; also in some cases „pollution with light” is excluded; prohibited in all cases to destroy protected plants or animals, including their habitats, also disturbing protected animals and habitats (places where they eat, breed or hide)

9f. Protection of Natura 2000 territories, conditions of permitting activities that may harm them

- Natura 2000 sites are nominated by the Member States and accepted by the European Commission as nature protection areas of Community importance; the speciality of this kind of protection is that it strives to harmonize certain tolerable industrial or agricultural activities with the goals of sustaining the species and habitats on the common European list of protection
- In those cases, however, when an activity might have significant effect on the Natura 2000 area, the environmental authority might permit it only when it could be excluded with an EIA like „nature impact assessment" that the activity in question may harm the environment
- Exceptionally, in case of certain projects of priority interests of the society (protection of human health or life, sustaining public safety and environmental protection goals) the autorities might permit the activity; note that this list of the European law is exhausting, no presumption exist to include borderline cases

9g. Protection of green surfaces of the cities

- As a main rule such protection provisions refer only to those trees that are at public spaces, while certain municipalities might extend this protection to especially valuable trees in private gardens, too
- Not only cutting out such trees is prohibited, but on the positive side, proper care for trees is prescribed; any such activities should be reprted to the municipality notary, who might acknowledge it, but would prescribe some compensation measures
- The cut out trees shall be substituted at or near the place where they used to stand; new trees planted shall be equivalent to the lost ones in respect of their ecological services – this means primarily the total surface of leaves (foliage)
- Public participation is indispensable for effective protection of city trees

10. Climate protection law, energy law

a. The structure of climate protection law (2)

b. Administrative legal branches serving for decreasing climate change (4)

c. Laws related to accommodation and resilience to climate change (4)

d. Renewable sources of energy, their legal protection and the necessity of mandatory reception system (3)

e. Environmental burdens in connection with renewable energy use and the response of environmental law to this challenge (5)

f. Underground storage of CO2 (4)

g. Enlist please at least four greenhouse gases which are included in the international commerce of emission rights (1)

h. Distribution of emission quotas and market activities with them (4)

10a. The structure of climate protection law

Climate protection law encompasses regulations on causes and consequences of climate change, i.e. there are mitigation laws and resilience laws in this field of law

The most important causational factors are:

- Energy production and consumption (namely, burning fossil fuels in the industry and in the households)
- Transport (also because of use of fossil fuels)
- Agriculture (artificial fertilizers production and use, also cow herding)
- Other processes of production and services, such as mining, waste landfills
- From an other angle, climate change is aggravated by the continuous elimination and impoverishment of green surfaces and other natural agents that would able to sink greenhouse gases

Accommodation, resilience, preparation to the effects are less regulated in details, yet. Mostly in national Climate Change Programs there are some resilience chapters, but they are not effectively broken down to detailed legal rules and measures

10b. Administrative legal branches serving for decreasing climate change

An important trait of climate law is in its methodology, i.e. apart from the old, regular „command and control" type rules, such as permits, prohibitions, monitoring and sanctions, it operates with newer economic type of regulation tools, such as determination of trends in energy prices, energy price compensation, eco-labelling, product fees and emission trade systems. As concerns the content of climate law, the most important targets are energy efficiency and energy effectiveness. Mostly used branches of administrative law in climate regulation programs:

- Energy law (including energy auditing of major companies, rules supporting the production and use of renewable energy sources, geological storage of greenhouse gases or emission trade rules),
- Industry law (such as permitting types of energy production equipment, in combination with singular permits),
- Environmental law (mainly environmental impact assessment procedures, as well as authority control of air pollution or energy labelling)
- Construction law (climate concerns inbuilt into the procedures of construction permitting and supervision, such as insulation of the building, effective energy systems, also green surfaces around houses)

10b. Administrative legal branches serving for decreasing climate change (cont.)

Transport and traffic law

- Air transport, personal and product transport on road, „green card” (environmental certification of cars, to be renewed regularly), rules on fuel production and quality, including biofuels; public transport, combined product transport rules

Agricultural climate rules

- Soil protection (quality centred) and land protection (quantity); prescribing and supporting environmentally friendly production methods
- Forestry law (ensuring continuous forest coverage of certain lands, restrictions on clearcutting, „Pro Silva” method – selective tree cutting)

Mining law

- Mining and transport carbohydrates
- Rules concerning strip mines, protecting arable lands

Technical safety law

- Regulations on pressure safety of carbohydrate tanks

Waste management law

- Emission regulations on waste incinerators
- Emission regulation on landfills

10c. Laws related to accommodation and resilience to climate change

- Catastrophe prevention law – designing plans of evacuation and saving, information of the concerned population, ensuring availability of protecting tools
- Agricultural law – plant protection rules (reacting to the uneven precipitation patterns, to new pests and diseases); animal protection (e.g. protection of bees and other pollinating insects)
- Water protection and water management laws – preparation to water shortage, floods or inland waters, managing such situation (e.g. monitoring operations, emergency storage facilities, regulations on drinking water and watering in extreme whether situations)
- Public health law – rules of caring with sick and injured, methodology of enduring extreme high temperature, food safety and food security rules etc.
- Labour protection law (a common field of labour law and health law) – working hours, protective equipment, working conditions regulated
- Military and internal safety laws

10d. Renewable sources of energy, their legal protection and the necessity of mandatory reception system (feed in tariff)

Definition: every non fossil and non nuclear source of energy, including solar, wind, air-thermic, geo-thermic, hidro-, hydrothermal and biomass energy; their legal support is complex:

- Energy law: whenever new energy production capacities are designed or permitted, renewables shall enjoy advantages; energy distribution system is obliged to receive energy from renewable sources, biogas shall be equal with natural gas, even more fuels shall contain a minimum percentage of biogas
- Spatial planning law: renewable production can be located in all construction zones, except windmills
- Construction law: official buildings shall prefer solar panels as source of electricity
- Mining law: geothermic energy research and utilisation is a preferred goal, while the State is the exclusive owner, She can give its harnessing into concession with a low level fee
- Waste management law: while the definition of waste covers biomass, it is exempted from the waste management legal constrictions
- Nature protection law: energy plants are exempted from nature protection restrictions

10e. Environmental burdens in connection with renewable energy use and the response of environmental law to this challenge

- Water management law: social-economic needs concerning cheap and clean energy shall be harmonized with the rest of ecological services of rivers, such as drinking water, fishing, nature protection tourism etc.; in connection with geothermal energy re-pressing the used water into the soil might be too expensive, while letting it to surface water could be polluting
- Waste management law: solar panels when becoming waste could be quite dangerous; the principle of prohibition of mixing waste shall be observed in relation to biomass, too
- Noise protection, nature protection, world heritage laws: windmills could cause noise and disturb bird migration and also could be landscape alien
- Air protection law, nature protection law and forestry law: biomass use might entail with pollution and clearcutting

10f. Underground storage of CO2 (open question)

- Is it a solution of climate change?
- Is it economically viable?
- Mining law: research for storage capacities is done by the mining authorities instead of entrepreneurs; the authority publishes the list of potential sites; runs the mining law permitting procedure on its own; operator will have to an environmental permit of full legal force; also shall have financial guarantees (insurance, sponsion, surety, bank guarantee or others) for covering the possible environmental and material damages; a further condition of the concession contract that the storage facility shall contain CO2 in at least 95%; once the storage is full and the mining authority assured that the stored gas will fully remain its place on longer run, the authority undertakes the further responsibility from the entrepreneur – what kind of consequences we could draw from this set of rules?

10g. Enlist please at least four greenhouse gases which are included in the international commerce of emission rights!

- carbon-dioxide (CO2)
- methane (CH4)
- dinitrogen-oxide (N2O)
- Fluorized carbohydrates (HFC-s)
- perfluorkarbons (PFC-s)
- sulphur-hexafluorid (SF6)
- nitrogen-trifluorid (NF3)

10h. Distribution of emission quotas and market activities with them

Definition: emission marketing is a mixed economic-administrative legal tool of decreasing greenhouse gases (GHG) with the help of a long run program that starts with the distribution of emission units (quota)and thereafter market activities with them; emission marketing deems to decrease the total social expenses, because it is thought automatically direct financial means to those who can most innovatively and effectively decrease GHG emission; an important feature of this system that the total amount of units is decreasing year by year, therefore practically all emitters are encouraged to decrease pollution and develop technology; emission quotas could also be gained by planting significant amount of trees, creating larger green surfaces as sink

The procedure:

- The State surveys the annual GHG emissions on her territory and determines a reasonably lower total amount of units (one unit is equivalent to 1 ton CO2)
- Units are distributed to the operators of GHG emitting facilities
- Operators who can manage a cleaner operation will be able to sell their units, while those who more poorly perform in that field, will have to buy units (in principle, all the economic role-players will behave reasonably)