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Waste water management at municipalities and the River Basin management approach

Within the project "European Network of Municipalities and Rivers"

30-31 May 2006, Hotel "Lielupe" (Jurmala), Latvia

Report

Aim of the workshop:

- To discuss and evaluate the waste water management at municipalities and the river basin management approach

Opening

Ingrīda Brēmere, Vides projekti, opened the meeting and introduced participants to the aim of the workshop outlining the relation of water legislation with the water service sector, as well as introducing to the agenda.

Overview on legislative requirements for communal waste water management and treatment in Latvia

Laura Jankovska, Ministry of Environment, introduced the main laws and CM regulations in the field of waste water management and treatment. Participants were introduced to the aims and objectives of this legislation. L. Jankovska covered positions of the Water Management Law and laws "On Pollution" and "On Local Governments". CM Regulations Nr.34 (2002) on emissions of polluting substances in water as well as CM Regulations Nr. 118 (2002) on surface and ground water quality were discussed. For waste water treatment plants are relevant also the CM Regulations Nr. 294 (2002) on application of category A, B and C polluting activities and permitting of category A and B polluting activities.

Discussion:

- Many municipalities are complaining that there is lack of the Water Law. Currently MoE is working on this issue. To develop this document, there are two possibilities either to make corresponding amendments in the Law on Local Governments (subsequently preparing also binding regulations) or to develop a special law. However, time when this document can be finalized was not estimated.

Identification of contaminants at waste waters in Latvia

Daina Indriksone, Baltic Environmental Forum, shortly introduced the participants with the occurrence of chemical substances and their effects when released at nature. According to the EU directives, in Latvia are adapted corresponding legislation dealing with hazardous substances for aquatic environment, namely CM Regulations Nr.34 (2002) and Nr. 588 (2004). D. Indriksone reviewed the information sources available in Latvia on hazardous substances for aquatic environment including data bases and particular substance registers.

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Describing links between industrial enterprises and waste water treatment plants (WWTP), D. Indriksone stated, that hazardous substances for aquatic environment are used at industrial enterprises and, in majority of cases, enterprises have signed contracts with WWTP. However, in this situation there are several open issues – who/ which institution is controlling this process, who is responsible, enterprise or WWTP, that hazardous substances are not discharged into water and what is the juridical ground for WWTP to request the information from the enterprise on chemical substances used. D. Indriksone finalized her presentation with some suggestions for improvement of situation – WWTP needs to have knowledge on possible emissions in water which could occur if chemical products are used in production, as well as suggest to introduce legislative requirement that enterprises are obliged to inform WWTP on used and on emitted chemical substances.

Discussion:

- Participants made a remark that in practice for exceeding of allowed amounts for certain chemical substances it is easier to penalize WWTP, but more complicated is to "catch" the enterprise that has discharged illegal substances. Therefore would be necessary the information on allowed amounts for certain substances.
- It was mentioned that for majority of enterprises would be needed appropriate waste water pretreatment. However, implementation of such requirements in practice is complicated process.

Plenary discussion on waste water management at municipalities

Participants exchanged experience on situation with wastewater and rain water management at Latvian municipalities (refer to Annex I). It was noted, that in Latvia the majority of municipalities are small with low population density and that shall be taken into consideration when establishing the sewer network. In addition, at many places the multi-flat and individual houses are employing the local treatment options (septic tanks). Problem at many municipalities is caused by outdated waste water treatment facilities, where reconstruction is needed, however this is limited to the huge investments needs.

Screening the industrial enterprises that can cause pollution with specific chemical substances were mentioned sawmills and chipboard production, furniture production, furbearing animal farm and milk processing industry.

Overview on waste water management at municipalities and River basin management approach in Latvia and at the Gauja RBD

Ingrīda Brēmere, Vides projekti, at the start of her presentation introduced to the river basin districts in Latvia and characterized more in detail the Gauja RBD, because this district has been chosen for implementation of the project European Network of Municipalities and Rivers (ENMaR) activities. Introducing the ENMaR project, was emphasized the water service component. Participants were introduced to the estimation of anthropogenic loads and risk evaluation (based on data and results at the report *„Characterization of River Basins, Evaluation of anthropogenic load on ground and surface waters", 2005*). I.Brēmere analyzed more in detail data on communal waste water discharges and emphasized several aspects:

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- At Gauja RBD the total amount of discharged waste water from smaller towns (2,000-10,000 PE) is comparable to the discharged waste water from larger towns (Valmiera and Cēsis);
- Analyzing the relevant pollution loads, the group of smallest discharges (so called „E" group) is not taken into account, although the total amount of waste water can be considered significant (it is larger when compared to „B" and „D" groups);
- Analyzing available data presented at the report and linking amount of waste water at discharge with town/settlement population using the sewer, were noticed wide differences at waste water amounts from 11 to 760 L/inhabitant day (at small discharges „E" group);
- At larger towns amount of waste water can be influenced by inflow from industrial waste water and rain water;
- Question: *How to ensure adequate data for real waste water discharges?*

Concluding the presentation, participants were introduced to the findings from the regional workshop on water management and water services (held on 15.06.2005).

Working groups: Identification of involved stakeholders at the waste water management

The task of working groups was to depict schematically identified involved stakeholders in the waste water management, as well as to define their way of cooperation (please refer to Annex II).

Participants have identified these involved stakeholders:

Municipality	Issue local regulations, at the territory acts administrative commission, municipal police; signs contracts with water management company and other management companies
Water management company	Municipal enterprise (in majority of cases), at the water treatment company are set technical rules; there is contract with the municipality, water management company can sign contracts with undertakers.
Undertakers/ service providers	If contracted, these perform/ ensure waste water treatment
Industrial enterprises	Clients for the waste water treatment service; signed contracts for the service; depending from the composition of discharged waste waters, at the enterprise can be built pretreatment facilities
Offices	Clients for the waste water treatment service; signed contracts for the service
Private sector/ inhabitants	Clients for the waste water treatment service; signed contracts for the service
Ministry of Environment	Legislative body
Regional Environmental Boards	Issues permits, receives reports from the company, institution is under the MoE
Latvian Environment, Geology and	Institution is under the MoE, prepares statistical reports, laboratory performs analysis of waters

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Meteorology Agency	
Regulator of communal services	Authorizes fees for services
Labour inspection	Indirect responsibility
Verification institution	Indirect responsibility
Board of statistics	Indirect responsibility
State revenue service	Indirect responsibility

Role and principles for cooperation of the involved stakeholders (e.g., municipalities, water management companies, enterprises, relevant authorities) – experience from German municipalities

Petra Scholten, Association of Communal Enterprises (Germany), introduced participants to the principles on how the cooperation between involved stakeholders is organized. In Germany the waste water treatment is a typical responsibility of municipalities and that belongs to the municipal competencies. Thus the municipality is deciding on organizational forms, cooperation and participation. For the waste water treatment, municipal utilities are the predominant form, along with state-run utilities, public bodies, and special-purpose and water associations. P. Scholten briefly described pros and contras of each cooperation form. As a progressive development was mentioned the benchmarking of water sector applied at Associations of water industry in Germany. There were pointed out also advantages for cooperation among municipalities in organizing of waste water management.

Aspects of cost efficiency and fee rising in waste water treatment

Friedrich Reinhold, Krefeld City (Germany), introduced participants to the aspects that would be needed to take into consideration when planning the waste water and sewage systems. On waste water and rain water were discussed the options to treat these water in a centralized or individual systems, as well as to establish combined or separated systems for collection of both types of water. At the presentation of F. Reinhold were briefly discussed also industrial waste waters and effects of specific contaminants present in these waters. Concluding the presentation, there were briefly described positions that are forming waste water costs.

Plenary discussion

On costs and fees:

- Participants noted that in a way the environmental costs already are included in fees for waste water treatment, only these costs are not appearing as separate positions (e.g., electricity).
- In more direct way the environmental costs are taken into account by paying the natural resource tax (for water abstraction).
- From important positions, the treatment of waste water sludge are not included in fees, however, estimations show that these costs can account up to 50% from costs thus increasing fees for service customers. If waste water treatment is contracted to a company (Ltd), local municipalities are not allowed to support that

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financially. If the waste water manager is municipal enterprise, municipality can cover/ subsidize part of the costs that later can be reimbursed with investments.

- At the current economic situation in Latvia, the opinion of participants on environmental costs was not to include these directly in fees, but to carry out an explanatory work on these costs.

!! At next workshops participants would like to cover more on economic aspects, analyzing more detailed various management models and forms of enterprises, as well as economic accessibility of the service to inhabitants (related to the fee).

Evaluation of the waste water treatment at municipalities:

- In Latvia, rain water treatment aspects are currently not addressed and responsibility of municipalities is not clearly defined. There shall be defined an institutional scheme for distribution of responsibilities, as well as stated the payer for the treatment. Important are technological solutions and management structures.
- In general, municipalities in Latvia currently are engaged in other problems: drinking water (iron removal, reconstruction of networks). Waste waters, of course, here are linked aspect.

- Discussing the form on how to determine municipal interests and main criteria for selection of best practice examples (for guide at the ENMaR project), participants admitted that sending around the questionnaires is not good approach on how to gather the experience from municipalities. Better advice would be to visit the place and see the situation.

- Participants have listed some best practice examples at municipalities:
    - Nature reserve in Raķupe, but this would rather be related to the nature protection
    - Preparation and implementation of project at municipalities. The stream Pēterupe (Gauja RBD) is one of the most polluted small rivers. At the project 1st phase was constructed a pressure main for collection of waste waters and were closed small waste water treatment plants (at Ķīšupe and Pēterupe). At the project 2nd phase were constructed new waste water treatment facilities. At the project 3rd phase is planned an extension of the sewage network.

!! At next workshops participants would like to share experience of a middle sized municipality on implemented project containing an investment part.

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Appendix I

Situation at the Latvian municipalities

Saulkrasti – rather low connection rate of inhabitants to the service, therefore there are high actual costs for water treatment. Important is to attract clients, as well as to extent the service network. Particularity of Saulkrasti is that the town stretches out in a long distance and the wastewater flow has a seasonal character (many guest houses). Local regulations on water management are needed for attracting of inhabitants to the service.
Fee for communal waste waters - 0.80 Ls/m^3

Grobiņa – waste waters by a pressure main are transported to the Liepaja WWTP. Currently, rain waters are collected in a combined sewer system and drained to the treatment plant and inhabitants subsequently have to cover the costs. There is envisaged new (next) project implementation of which will partly solve the rain water treatment problem. In Grobiņa are local regulations at place for arrangement of water management system.
Fee for communal waste waters - 0.35 Ls/m^3

Aizkraukle – comparatively advantageous situation, because networks were constructed before building of houses. There was a project implemented, where houses were connected to the drinking water network but for the waste water was collected in separate settling tanks. Costs of 17 LVL/tank are for emptying the settling tank at present. This cost is rather high and inhabitants were expressing their wish to connect to the public sewer network. Water pollution from industrial enterprises can arise from sawmill and hard board production unit.
Fee for communal waste waters - 0.41 Ls/m^3

Tirza rural municipality – small parish (<2000 inhabitants), no industrial enterprises, majority of individual houses. There is a need for upgrading of the waste water system; however, the rural municipality is not listed for investment program. Rain water is drained separately, and that is infiltrating in soil (at present the law does not require obligatory connection to the network).
Fee for communal waste waters - 0.60 Ls/m^3

Rūjiena – there are local regulations on water at place regulating management of drinking water and waste water system – customers connection, responsibilities. Rain water management is included in fees. There are streets in town where only waste water collection is at place, and there are streets where only drinking water network is supplied. Polluted waste water in the public sewer is discharged by dairy, also by furniture production unit. Permissible pollution load from the dairy is set at the contract. If amounts are exceeded, the dairy is held responsible and performing analysis, as well as paying 4-fold increased charge. During the summer season there are problems arising at the urban waste water treatment plant.
Fee for communal waste waters - 0.39 Ls/m^3

Strazde rural municipality – approximately 500 inhabitants, small parish, there is a children house, where the waste water treatment facilities are set (biological treatment). Connection to the centralized waste water system is for ~100 people.
Fee for communal waste waters - 0.36 Ls/m^3

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Auce – there are no local regulations on water management set at the town. At the town are ~4000 inhabitants and there is a problem, because the capacity of waste water treatment facilities are too small. Geographically the town is divided in 2 parts, and that is hampering setting of waste water system. At town districts of new buildings there are connection to waste water treatment facilities. Rain water is not accounted for. At town districts of old buildings there are settling tanks and there water is drained into river. Costs for waste water treatment are 6 LVL/m^3. At present the important issue is to convince inhabitants, that there will be increase in fee for waste water treatment service.
Fee for communal waste waters, currently - 0.28 Ls/m^3

Dundaga – at municipality are ~4500 inhabitants, approximately half of them lives in a centre settlement. Waste water sewer is set for centre settlement and majority of private houses. Problem is with small settlements, where from the past (collective farm) has remained 3-store flat houses but waste water is drained to the septic tanks. Dairy processing unit is discharging the waste water in public sewer, although, the Regional Environmental Board has forced the enterprise to built pre-treatment facilities, drained waste waters are creating problems for waste water treatment.
The major problem is drinking water quality (high amount of Fe).
Fee for communal waste waters - 0.38 Ls/m^3

Durbe county – large territory, several settlements, but number of inhabitants is low. At the town also is a district of private houses, where the sewer is lacking. There are two waste water treatment facilities, but these are out-dated and require reconstruction.
Fee for communal waste waters - 0.30 Ls/iedzīvotājs mēnesī

Grobiņa rural municipality – there are three larger centers; those, that are closer to Grobiņa are using the town sewer network. Those, situated at longer distances are using own sewer systems. From industrial enterprises there is a fur dressing unit („Grobiņa", Ltd.). The enterprise is renovating the water treatment facilities. The rural municipality has not developed local regulations on water management.
Fee for communal waste waters – pārejas tarifs 0.14, bet būs 0.34 Ls/m^3

Sēja rural municipality – four settlements with their own waste water treatment facilities. ~500 inhabitants at these settlements, population density 10 inhabitants/km^2, industrial enterprises are not present. Problems arise with 3-store flat houses that are equipped with individual draining tanks.
Fee for communal waste waters - 0.60 Ls/iedzīvotājs mēnesī

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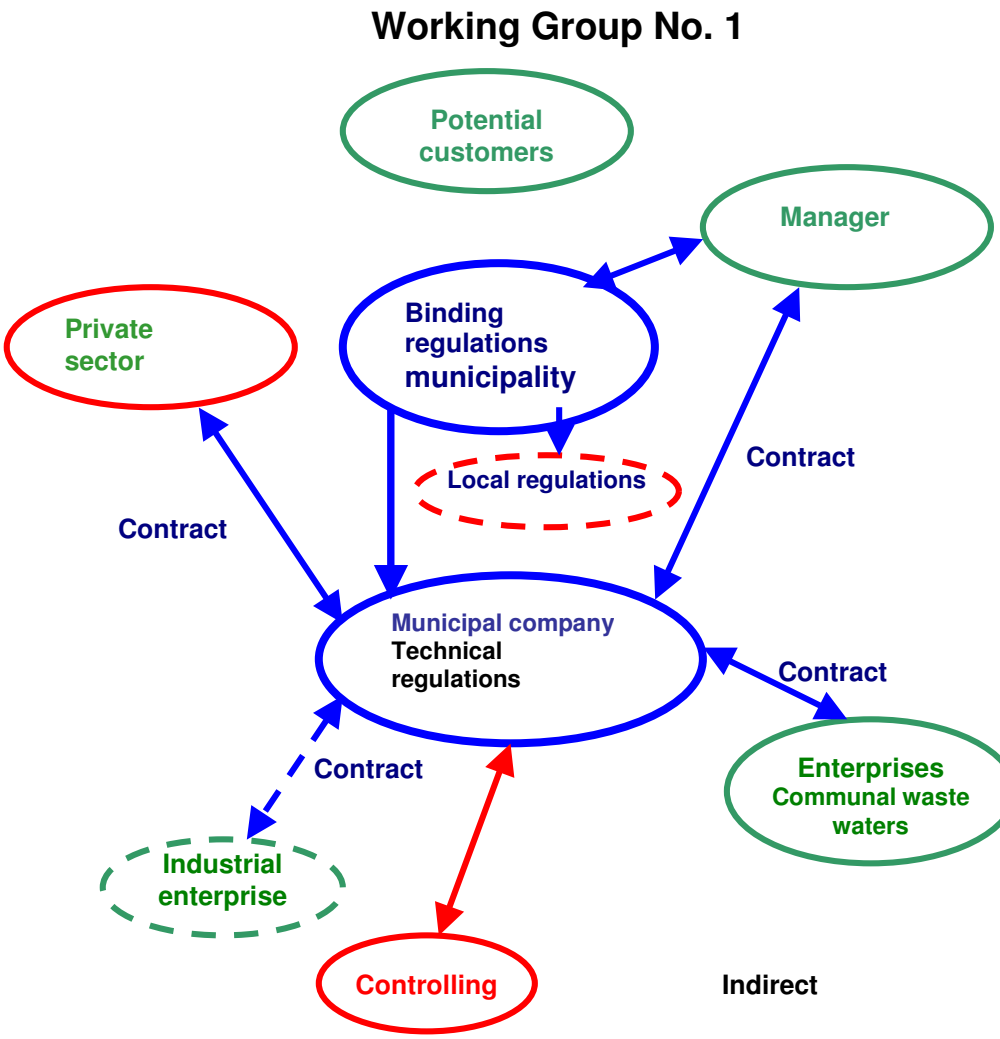
Involved stakeholders at the waste water treatment



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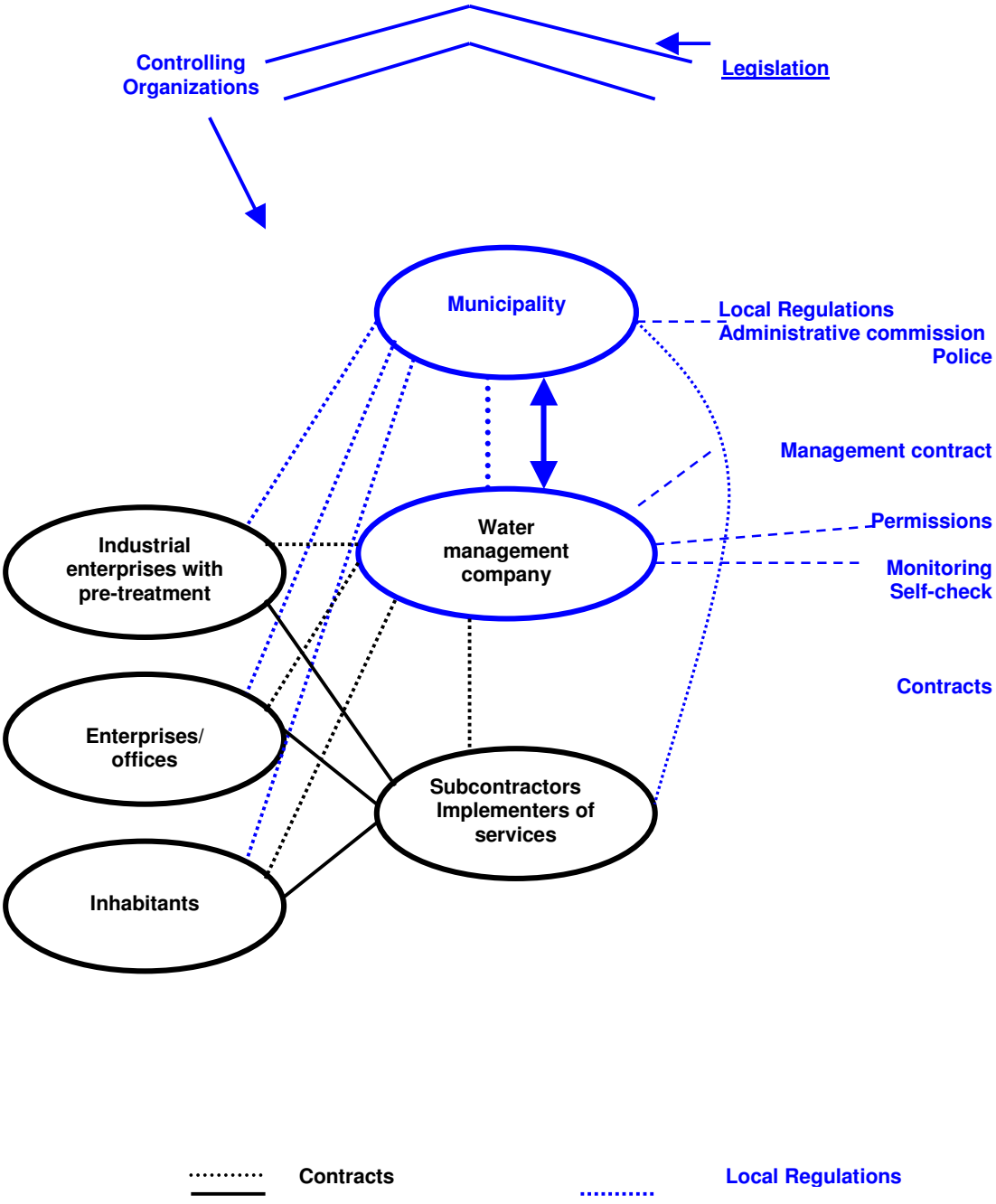

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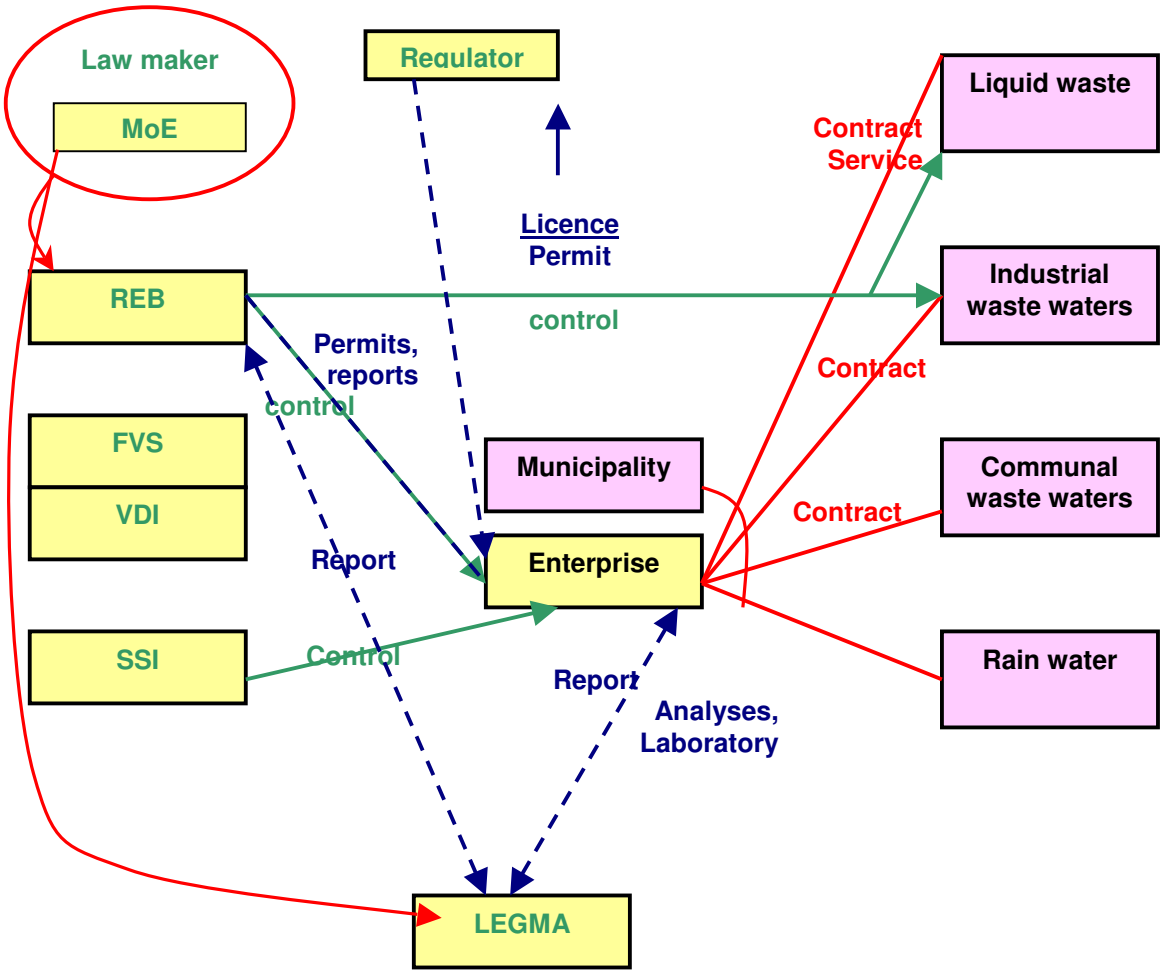

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