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Appropriate regulation
or just another bureaucratization?

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Content

Part 1: Asset Management

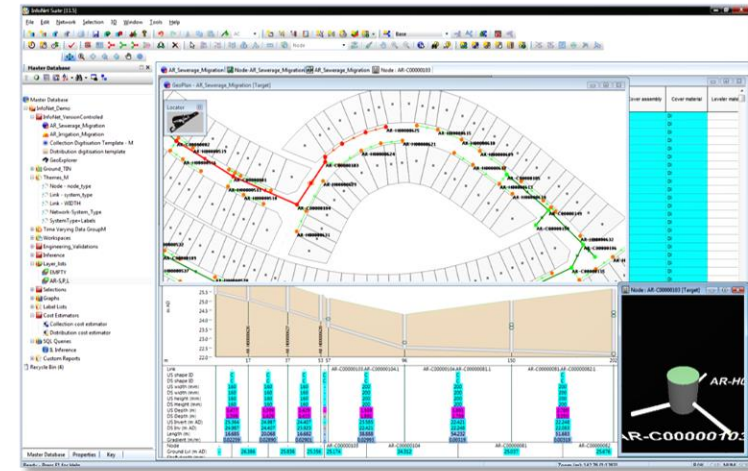
- General concepts, principles and knowledge
- WS asset management specifics

Part 2: Regulation, roles and responsibilities

- General concepts, independence, responsibilities
- WS regulation and policy making specifics

Part 3: Crossing point between regulation and asset management

- Asset knowledge
- Performance monitoring
- Financing



GENERAL ASPECTS OF ASSET MANAGEMENT

Sources:

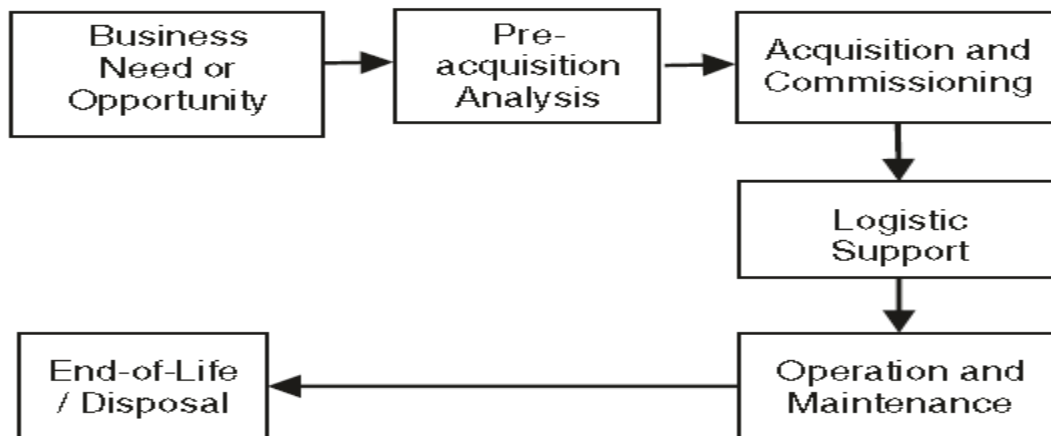
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Part 1: Asset Management General Principles

A good infrastructure is one of the **basic** requirements for the growth of country's economic strength as it **facilitates** investments from various industries and **increases** prosperity of the population, thus resulting in higher living standard.

Construction of the WS assets is highly capital intensive in long term, so that **wrong** decisions at the beginning of the investment phase will have **negative** effect over decades and will need considerable efforts to correct.

Asset management sits at a **meeting** point between the technical and business fields.



Key asset management principles focus on the following:

- ❑ Assets exist to provide **value** to the organization and its stakeholders;
- ❑ **People** are key determiners of asset value realization;
- ❑ An asset management organization is a **learning** organization;
- ❑ Asset management requires **understanding** of the organization's operating context and opportunities;
- ❑ Asset management **decisions** consider both short-term and long-term economic, environmental and social impacts;
- ❑ Asset management **transforms** strategic intent into technical, economic and financial decisions and actions.

Part 1: Asset Management General Concepts

Organisations, industries and whole economies which depend on the availability and condition of physical assets will **succeed or fail** on their ability to manage them **efficiently and sustainably with insufficient resources**.

Success may vary but the overall goals will be the same:

- spending **less** to get **more**
- leaving assets in the **same** state as you would **wish** to find them
- managing **risks** not resources
- thinking in **whole systems** not their parts
- applying a **whole-life** perspective
- everyone** reading from the same page
- stakeholders **understanding** the choices made.

The **return on investment in physical assets** can take many forms:

- more **profitable** delivery of services
- the **contributions** their condition makes to maintenance and operational costs
- how long-term planning **reduces** capital and operational expenditure and associated funding calls on investors
- how their availability **helps** communities access essential services
- how their resilience to severe weather or terrorist threat **bolsters** the reputation of a business
- how historical decline in their condition is **halted** or reversed
- how healthy they are when handed over to the next generation**

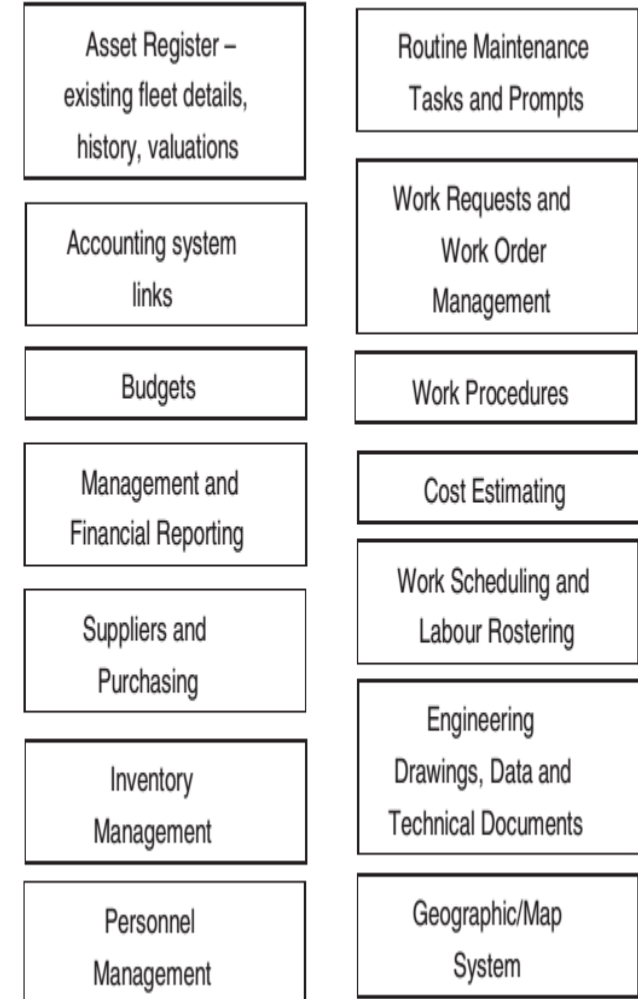


Part 1: Asset Management Knowledge



- What assets have we got
- Where are they located
- What is the business significance of our major assets
- What is the profit and loss position of our major assets
- What is our asset utilization including peak load and seasonal factors
- Are there gross imbalances—that is, major shortages, surpluses or misallocations equipment or personnel
- What is the condition of each major asset
- Are reliability or availability issues significant
- How much longer can specific assets last
- Are there significant risks
- Are maintenance costs a significant factor
- What asset related developments and market opportunities exist
- What has the market got to offer in terms of assets that we might usefully acquire

Asset Register should include listing of maintainable assets with full range configuration management parameters, cost and depreciation information, valuation and condition information



Part 1: Asset Management in WS sector

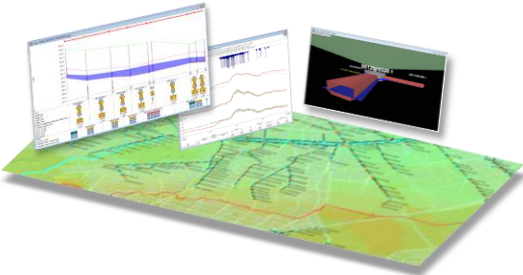
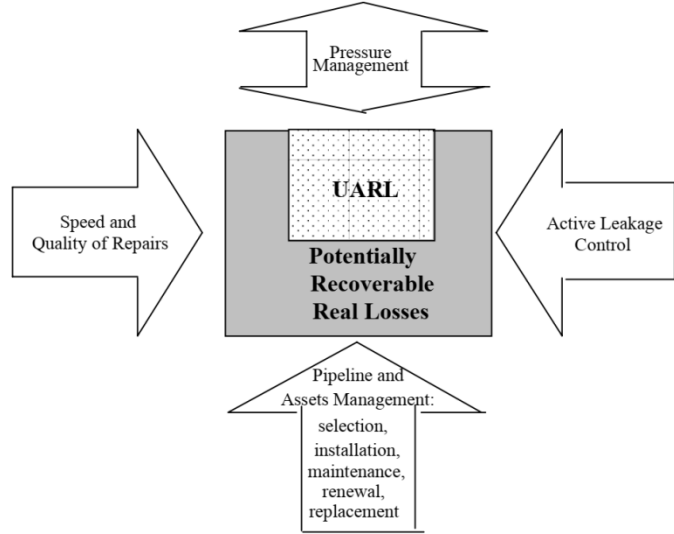
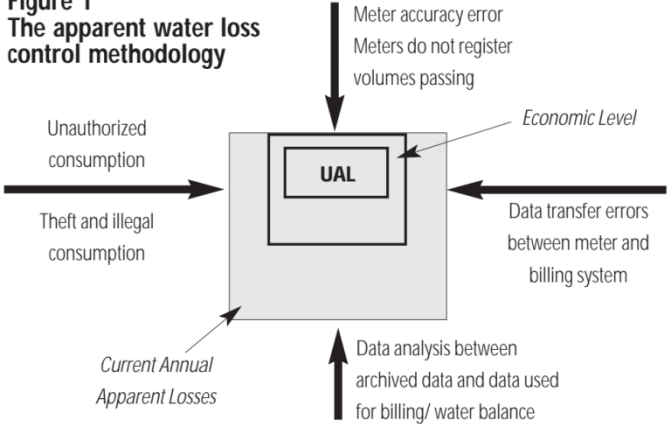
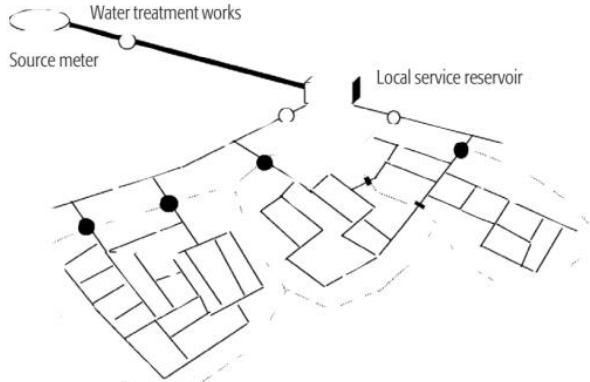
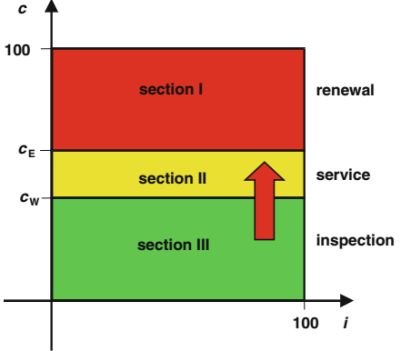


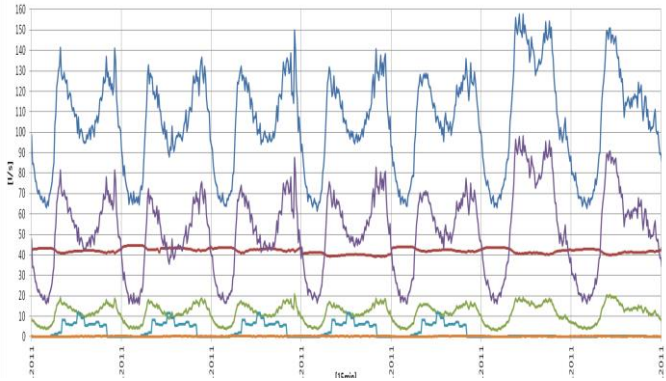
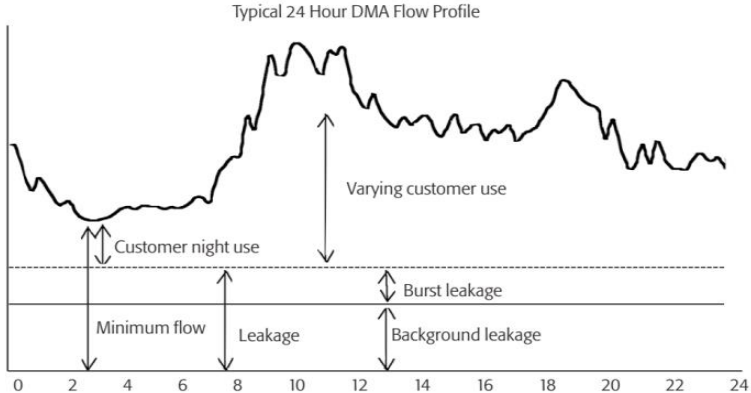
Figure 1
The apparent water loss control methodology



(UAL - Unavoidable Apparent Losses)



- Key
- Trunk main
- Distribution mains
- DMA boundary
- Closed valve
- Main meters
- DMA meters



Part 2: Regulation – general aspects

The term “regulation” is often used to indicate different meanings.

Legal instrument, a merger of all types of laws, a form of social control, and a mechanism to constitute property rights or a reference to the scope of state authority (Levi-Faur, 2010).

One of the most commonly cited definitions for regulation is: **sustained and focused control exercised by a public agency over activities that are valued by the community** (Selznick 1985, p. 363).

Generally regulation is considered through the **red light concept** – as an activity that restricts behavior and prevents undesirable activities, although it can and should be perceived through the **green light concept** – that it can enable and facilitate (Harlow and Rawlings, 2009).

Economic Regulation: **‘The rules and organizations that set, enforce and change the allowed tariffs and service standards for service providers’** (World Bank).

Part 2: WS sector: Roles and responsibilities

WS stakeholders:

- ❑ **Operator** (utility) – operates the assets, supplies WSS;
- ❑ **Operator`s owner** – assigns management, performs technical, administrative and financial control;
- ❑ **Asset owner** – plans the future development of the assets, controls O&M quality;
- ❑ **Regulation** – sets tariff levels and standards for the service;
- ❑ **Control institutions** – quality of drinking and waste waters, legality of tender procedures and financial reports...
- ❑ **Policy institutions** – plan and execute sector policy

Ministry – policy preparation:

- ❑ Water Ministry – overall water policy
- ❑ WS sector responsible ministry
- ❑ Financial Ministry – finance and subsidies
- ❑ Health Ministry – drinking water standards
- ❑ Social Ministry – human rights and poor population policy
- ❑ Relevant ministries and local municipalities: WS asset long-term development plans

Regulator:

- ❑ Policy delivery through technical & economic arguments (KPIs, tariffs);
- ❑ independent from national /local governments;
- ❑ Independent from customers and utilities;
- ❑ subject to external audit;
- ❑ Not responsible for strategic planning, but responsible for short or middle-terms delivery plans.
- ❑ Customer protection
- ❑ Licensing
- ❑ Contract requirements

Part 2: Main Regulatory Responsibilities

- ❑ Regulatory framework **stimulates** utilities to improve the quality of the service and consumer satisfaction;
- ❑ **Balance** between the interests of the suppliers and customers – regulator is the judge in the relationship between both sides;
- ❑ **Define** standards of service in measureable terms, monitor and enforce;
- ❑ **Monitor** the quality of the service – service standards, investment programs;
- ❑ **Settle** arguments between suppliers and customers;
- ❑ Utilities perform the job as required (**control** functions, licensing);
- ❑ **Promote** efficiency and capacity building of the utilities - through the use of process and metric benchmarking, promoting competition, perform training and provide recommendations
- ❑ **Improve** utilities planning – technical, economical, financial, social...
- ❑ **Improve** reporting and accounting – setting standards for the quality of information, for information sources (registers and data bases), perform assessment and audits;
- ❑ **Assess** the costs needed for service provision;
- ❑ **Assess** the investments needed for to improve and maintain the quality of the services;
- ❑ **Provide** customer involvement in the tariff setting process;
- ❑ Tariffs **reflect** allowed and justified operational and capital costs plus fair profit;
- ❑ **Provide** information to the public;
- ❑ Sector resilience – **ensuring** long-term sustainability of water and sanitation services;

Part 2: Independence of the Regulator

Regulator effectiveness depends on the trust of the utilities and the public. Therefore, regulator should be independent from the government.

The Regulator must work in transparent way, with clear official procedures and processes, and public involvement.

The Regulator is independent when:

- Can take actions and report public information **without reference** to the government;
- Tariff decisions are **not dependent** on the government, and are not subject to political motives and needs;
- Budget and Human Resources are **not referred** to government.

FIVE DIMENSIONS:

1. Role clarity
2. Transparency and accountability
3. Financial independence
4. Independence of leadership
5. Staff behaviour

Basic and necessary institutional measures to create a culture of independence which establishes and maintains the capacity of regulators to act independently

Aspirational steps that could be taken to further bolster a culture of independence and safeguarding regulators from undue influence

Part 2: Main Regulatory Responsibilities

Effective regulation:

- ❑ Defines what **has to be** delivered (in service terms) to meet government objectives and legal requirements;
- ❑ Defines **deliverables and timescales**; and required finance and cost recovery;
- ❑ Monitoring and enforcing **service standards**;
- ❑ **Assisting** water companies with less capacity;
- ❑ Providing **incentives** for improved performance;
- ❑ Delivery plans should be based on **achieving standards** of service – output measures;
- ❑ The allowed revenues from tariffs should be **based on the outputs** planned for achievement;
- ❑ The utility should be **rewarded** if achieves the output measures with lower costs;

Not Effective regulation:

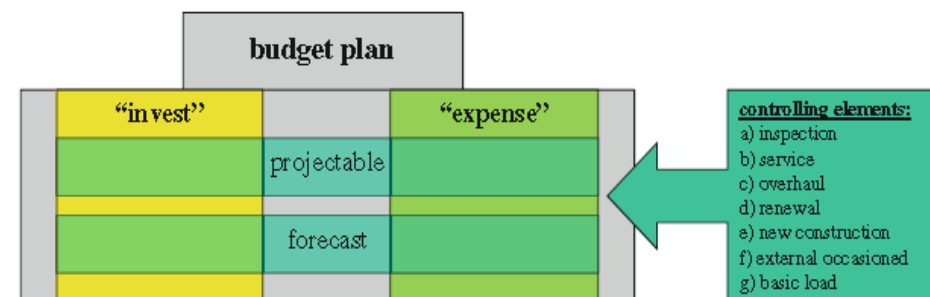
- ❑ Define **policy** – this is government responsibility, not the regulator;
- ❑ Speak **on behalf** of the utilities – they should be independent participant in the process;
- ❑ **Break the balance** between customer and suppliers interest, take one of the sides;
- ❑ **Involve** in the operational management of the utilities – this erodes the responsibilities of the utilities and their owners, as well as asset owners;
- ❑ **Involve** in operational solution of any incidents or crisis – this is function of the utilities and their owners, as well as asset owners, and erodes the independent objective analysis and assessment of the regulator.

Part 3: Regulation crossing AM: WS services knowledge

Assessment of data reliability – regulatory requirements for introduction of internal data registers and data bases, rules and procedures for data management:

- Asset registers and GIS
- Networks repairs and replacement register
- House connection meters register;
- Quality analysis in drinking and wastewater register;
- Sludge management register;
- Customer complaints register
- Billing system;
- Accounting system (general accounting / regulatory accounting);
- Water balance and water volumes register / data base (system inlet / PWTP and WWTP inlet and outlet);
- Own water consumption register / data base (legal but not billed consumption)
- Network meters and data loggers register / data base;
- Electricity consumption register / data base;
- New connections to WS networks register / data base;
- Personnel register / data base

- Introduction of internal rules and procedures for data maintenance, data verification, and control mechanisms;
- Integrity and coordination between different IT systems;
- Reducing the gap between technical and economic departments in the WS operator;
- Taking decisions based on actual and update technical and economic data and information;
- Data reported is reliable and can be confirmed in any moment.



Part 3: Regulation crossing AM: WS services knowledge

Setting tariffs – regulatory rules for accounting OPEX, CAPEX and Assets (different from general accounting norms):

- ❑ OPEX accounting:
 - Costs for regulated activities (separate for different services) for non-regulated activities and costs not accepted in the tariffs.
 - Separation between direct and non-direct costs and rules for non-direct costs distribution between regulated services and non-regulated activities.
 - General economic cost categories – materials, external services, personnel, taxes, other costs, depreciations.
- ❑ CAPEX accounting: all costs for materials, personnel and external services spent for asset construction or delivery.
- ❑ Economic separation between OPEX repairs and CAPEX reconstructions: not based on the size of the costs, but on the activities done. Additional criteria – length of pipe replaced.
- ❑ Data aggregation and coordination between asset register / network operations register and billing system.
- ❑ Reliable data for all OPEX and CAPEX network activities – files for each intervention, including work card, technical drawings, quantity-value account, others;
- ❑ Data aggregation and coordination between house connections meters and billing system.

Part 3: Regulation crossing AM: performance monitoring

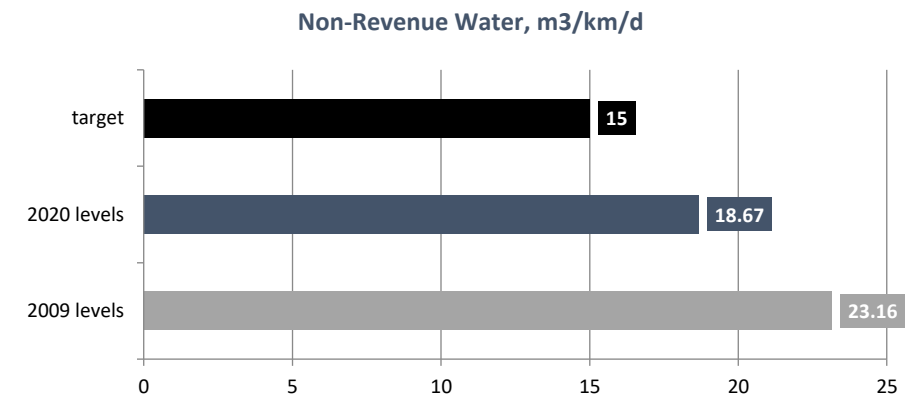
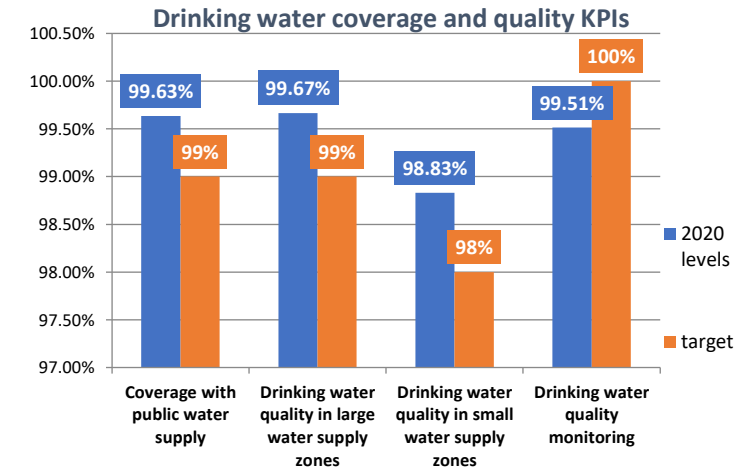
Regulating quality of WS services – introduction of KPIs, benchmarking, annual trends, setting targets and assessing level of implementation:

Output indicators:

- Service coverage (%) – water supply / sewerage / WW treatment;
- Water quality (%) – drinking / wastewater;
- Network performance (nr/km) – breaks on water / sewerage networks;
- Non-revenue water (% , m3/km/d, l/conn/d);
- Water supply continuity (%);
- Energy consumption (kWhr/m3) – water supply / WW treatment;
- Cost efficiency and debt collection (%).
- Meter condition (%)

Input indicators:

- Level of water network sectorization - DMAs (%);
- Level of water mains inspected for hidden leaks (%);
- Level of water mains replaced (%);
- Level of house connection meters inspected or replaced (%).



Source: WS sector in Bulgaria, data for 2020, EWRC Annual report

Part 3: Regulation crossing AM: WS services financing

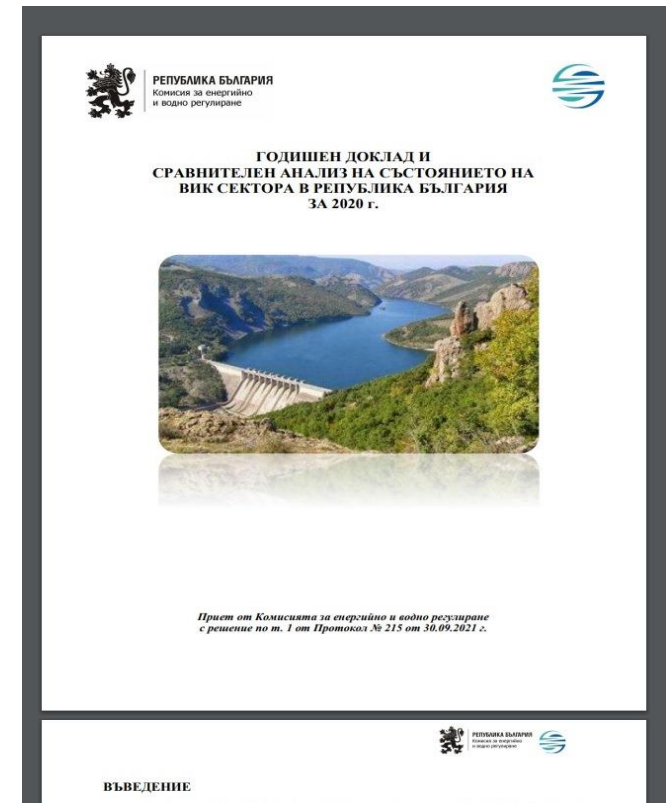
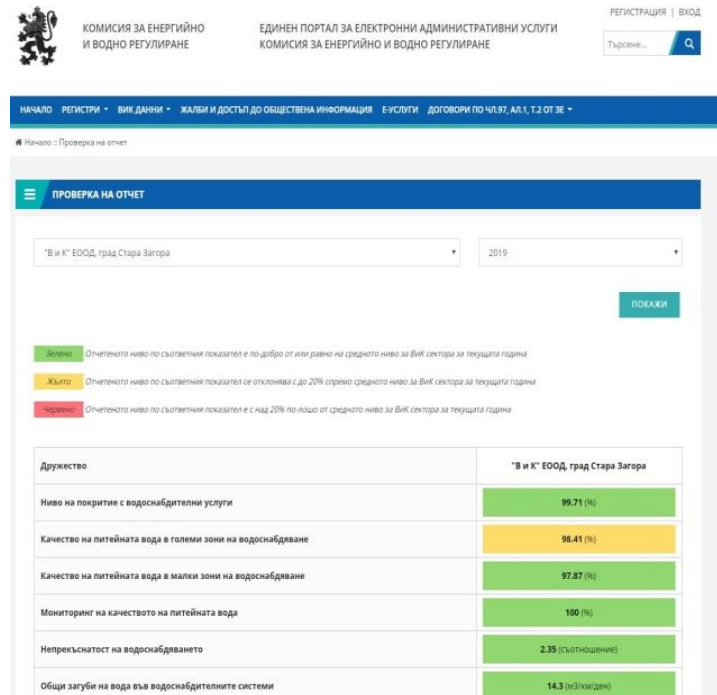
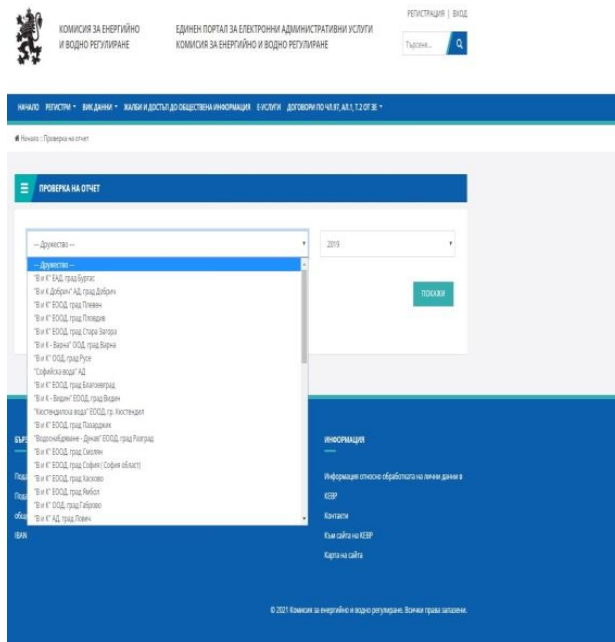
Setting tariffs at cost-recovery levels, considering:

- Economically justified operational costs for materials, external services, personnel, taxes and other costs;
 - Depreciation of all assets used for service provision (including WS assets owned by the state / local municipalities) – based on regulatory norms;
 - Principle payments of investment loans;
 - Return on invested capital – $RAB * WACC$ (including investments in WS assets owned by the state / local municipalities);
 - Fixed tariffs – covering all supplied properties (including uninhabited);
 - Volumetric tariffs – based on reported sales, but considering reduction of commercial losses.
-
- Business planning – approval of business plans and appropriate tariffs
 - Tariff update during the regulatory period: $T_t = T (B_{Pt}) \times (1 + I - X) t$,
 - Tariff revision in case of unplanned extraordinary event

Part 3: Regulation crossing AM: Information to the public

Regulators receive and analyze lots of WS sector data. Therefore they are most appropriate organizations to provide information to the public:

- Annual sector reports – information for the WS sector as well as individual data for the utilities – KPIs, costs, assets, investments
- Easy access to individual operator`s performance



THANK YOU FOR YOUR ATTENTION



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