Documentation of virtual training & workshops

for UPMU
(July 2019 – June 2021)

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Introduction

UPMU was established in accordance with WAJ Law No. 18 and its amendments in Article (10) to enhance water sector principles of transparency and good governance, and to improve legal and contractual relationship between the Ministry of Water and Irrigation (MWI) - WAJ and Water Utilities.

Monitoring Performance is very important and critical for building better performing utilities. It helps them to determine how efficiently their operations and activities are being conducted, and to assess the productivity of management and employees. It also enables the utilities to evaluate their results against a set of Performance Indicators (PIs).

The organization structure of UPMU consist of director and five experts, GIZ supports UPMU with different training and workshops from August 2019 to end of Jun 2021 as listed in the following chapter.

GIZ will continues supporting UPMU in different fields as below:

1. Update monitoring tool where needed.
2. Set performance targets for utilities in combination with business planning
3. Develop a concept to support utilities in improving data collection.
4. Formulate business plans guidelines
5. Formulate customer service guidelines and customer orientation.
6. Recommend updates on regulations and review the assignment agreements
7. Develop a concept of incentive and penalty scheme for utilities on quality-of-service delivery and implementation enforcement
8. Develop an inspection protocol to validate data.

1. Documentation of training and workshop through GIZ support

1.1 Dirk Schaefer

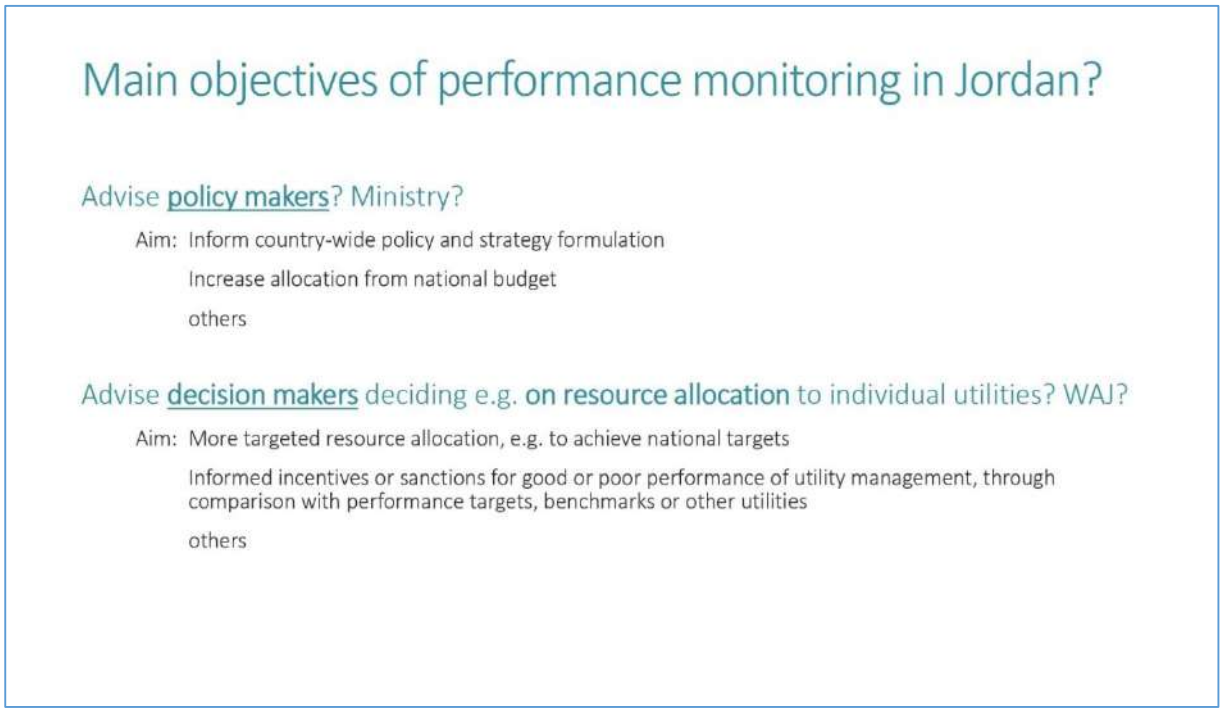
1.1.1 Agenda of Management of water resources in Jordan Workshop (27th July to 02nd August 2019)

Management of water resources in Jordan
PN: 2018.2226.1
C: Regulation and Private Sector Particpation
Time Schedule for the visit of Mr. Dirk Schaefer
27th July to 02nd August 2019

Date	Time	Activity	Notes / Remarks
Saturday 27.07.2018		Arrival	
Sunday 28.07.2019	09:00 am – 04:00 pm	Internal discussion	MWI – ground floor – project office Confirmed
Monday 29.07.2019	09:00 am – 02:00 pm	Internal discussion	MWI – ground floor – project office Confirmed
	02:00 pm – 03:30 pm	Meeting with Udo Kachel,	PMU meeting room – MWI – 2nd floor Confirmed
Tuesday 30.07.2019	09:00 am – 10:00 am	Internal discussion	MWI – ground floor – project office Confirmed
	10:30 am – 02:30 pm	**Miyahuna** Meeting with Head of Business Planning unit and KP's Meeting with Financial Director Meeting with CEO and Deputy	Miyahuna offices – Jabal AlHussien – Amman Confirmed Confirmed Confirmed
	03:00 pm – 04:00 pm	Internal discussion	MWI – ground floor – project office Confirmed
Wednesday 31.07.2019	10;00 am – 02:00 pm	**YWC/Irbid** Meeting with the Strategic Planning Manager Mr. Abo Sheikah Meeting with Mr. Mahmoud Zoubi and Mr. Imad Khazahela (reporting) Meeting with acting Financial Manager or Osama Tawalbeh Meeting with Eng. Nabeel Zoubi DG /YWC	YWC-HQ Confirmed Confirmed Canceled Cancelled
Thursday 01.08.2019	09:00 am – 10:00 pm 11:00 am – 11:30 am 13:30 pm – 03;00 pm	Meeting with Mr. Hussien Sorahki -WAJ Financial department Meeting Udo Kachel Wrap-up meeting	WAJ- Financial Dep. Meeting room – 6th floor Confirmed PMU meeting room – MWI – 2nd floor Postponed to Monday 5.8.2019 @ 8:00 to 9:00 MWI – ground floor – project office
Friday 02.08.2019		Departure	

WAJ: Water Authority of Jordan
MWI: Ministry of Water and Irrigation
PMU: Program Management Unit

1.1.2 Utility Performance Monitoring presentation (8th March 2020)



Main objectives of performance monitoring in Jordan?

Inform management of utilities about assessment/perception of their performance

Aim: Provide guidance on priorities set by government

Create spirit of competition amongst utilities

Foster spirit of information based decision making

Inform the public about performance of water utilities in the country

Aim: Create transparency and build trust in public services

Improve accountability

Foster spirit of competition amongst utilities

Foster confidence of development partners in the water sector

Quarterly vs. Annual Performance Reports

Quarterly reports

- Primary target group: Ministry & WAJ
- Short/concise (reading time < 30 minutes)
- Publicly available?
- Focussed on data/performance analysis
- Does not include financial data
- Provide an understanding of
  - sector status quo on key indicators
  - performance and trends (?) of utilities individually and
  - in comparison to each other

Annual reports

- Primary target groups: Ministry, WAJ, public, development partners
- Comprehensive (reading time > 1 hour)
- Data and performance analysis in the broader context of national strategies
- Provide an understanding of
  - sector status quo on key indicators
  - performance and trends of utilities individually and
  - in comparison to each other
  - achievement of national strategies
  - identification of main challenges in the sector

Drafting the first Quarterly Report

First UPMU quarterly report differs from future quarterly reports

- Include 3 quarters, no analysis for each individual quarter
- Could briefly make reference to national strategies monitored by UPMU and current status based on data available
- Should potentially include policy advise based on data analysed to emphasize the relevance and value of UPMU
-

Drafting the first Quarterly Report

Content/structure of first Quarterly Report

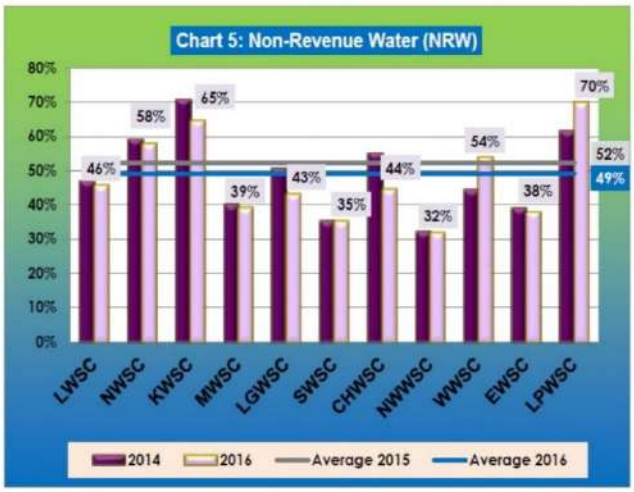
1. Foreword
2. Description of UPMU, current status of operationalization, road map, envisaged mandate, challenges
3. Explanation on rationale/objectives of the Quarterly Report (and future Annual Performance Reports)
4. Short description of monitoring tool, its key functionalities and process of its development (consultation with utilities)
5. Description of (key) performance indicators (and their rationale? Could be reused in Annual Report)
6. Analysis and comparison of utilities' performance

Who will work on which part and by when?

Drafting the first Quarterly Report – Analysis chapter

What to include?

Should we show the three quarters in the same graphs?

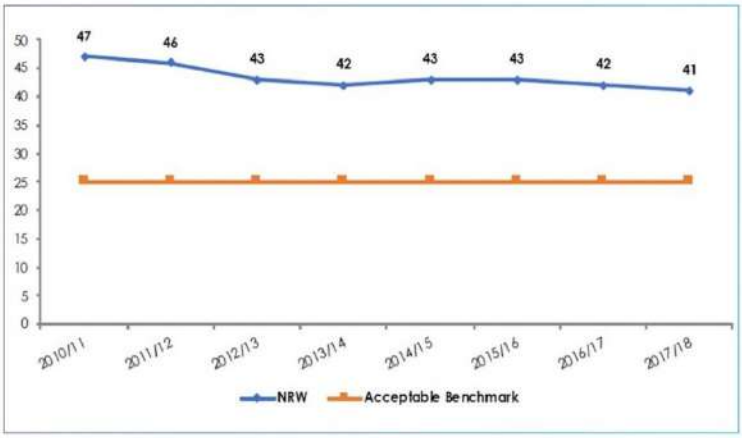


Drafting the first Quarterly Report - Analysis chapter

What to include?

Should we calculate weighted averages based on the reporting utilities, e.g. average water losses?

Figure 2.2: NRW Trend



Drafting the first Quarterly Report - Analysis chapter

What to include?

Utility summary table - detailed

Table 3.1: General Data on Utilities 2017/18

INDICATORS	Total Population in Service Area	Total Population Served	Total no. of connections (active+inactive)	Total No.Active Connections	No. of towns served	Turnover (KSh million)	Total Water Produced in m³ (000)	Domestic + Kiosks billed volume in m³ (000)	Total billed volume in m³ (000)	Non-Revenue Water (%)	Production per capita (l/c/d)	Consumption per capita (l/c/d)	No. of Total Staff
Very Large (≥35,000 conns.)													
Nairobi	4,332,858	3,454,001	584,996	552,707	1	8,478	172,881	56,147	106,858	38	137	45	3,554
Eldoret	450,597	335,586	116,666	87,701	1	700	13,529	6,678	7,872	42	110	55	327
Mombasa	1,159,805	544,797	65,101	45,122	1	674	11,206	4,183	5,822	48	56	21	382
Kisumu	449,012	342,203	74,972	54,989	1	706	9,475	3,183	6,007	37	76	25	331
Nakuru	510,791	458,965	57,694	51,396	1	872	12,655	5,581	8,089	36	76	33	219
Thika	231,437	223,950	51,588	45,803	1	703	13,623	5,569	10,478	23	167	68	259
Nzoia	479,090	401,606	48,838	44,516	6	370	7,066	1,976	4,191	41	48	13	254

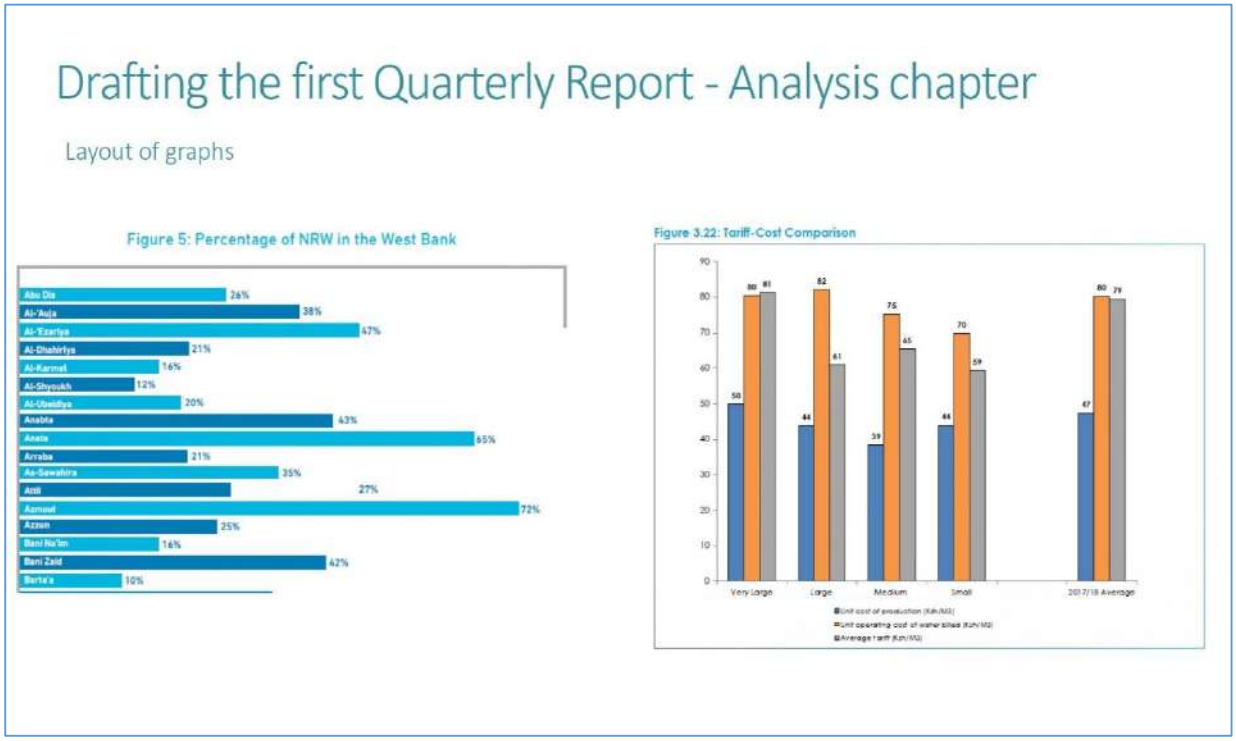
Drafting the first Quarterly Report - Analysis chapter

What to include?

Utility summary table - simple

Table 1: Operational data for service providers in the West Bank

Service Provider	NO. of staff	NO. of Water connections	NO. of WW connections	NO. of population served- wastewater service	NO. of population served- water service	Water network length (km)
Jericho	51	6,807	476	31,500	2,475	203
JWU	270	66,761	0	340,000	0	1,500
South East Nablus District	21	7,682	0	41,816.5	0	290
Rammun and At-Taiyba	7	0	280	0	2,240	0
Kafr Ra'i	5	1,330	0	8,347	0	51
Kharas	8	1,365	290	9,100	3,500	30
Kufr Al-Labad	4	914	202	5,000	3,000	20
Mythaloun	11	4,300	0	21,500	0	141
Nablus	311	44,674	14,271	221,898	216,986	522

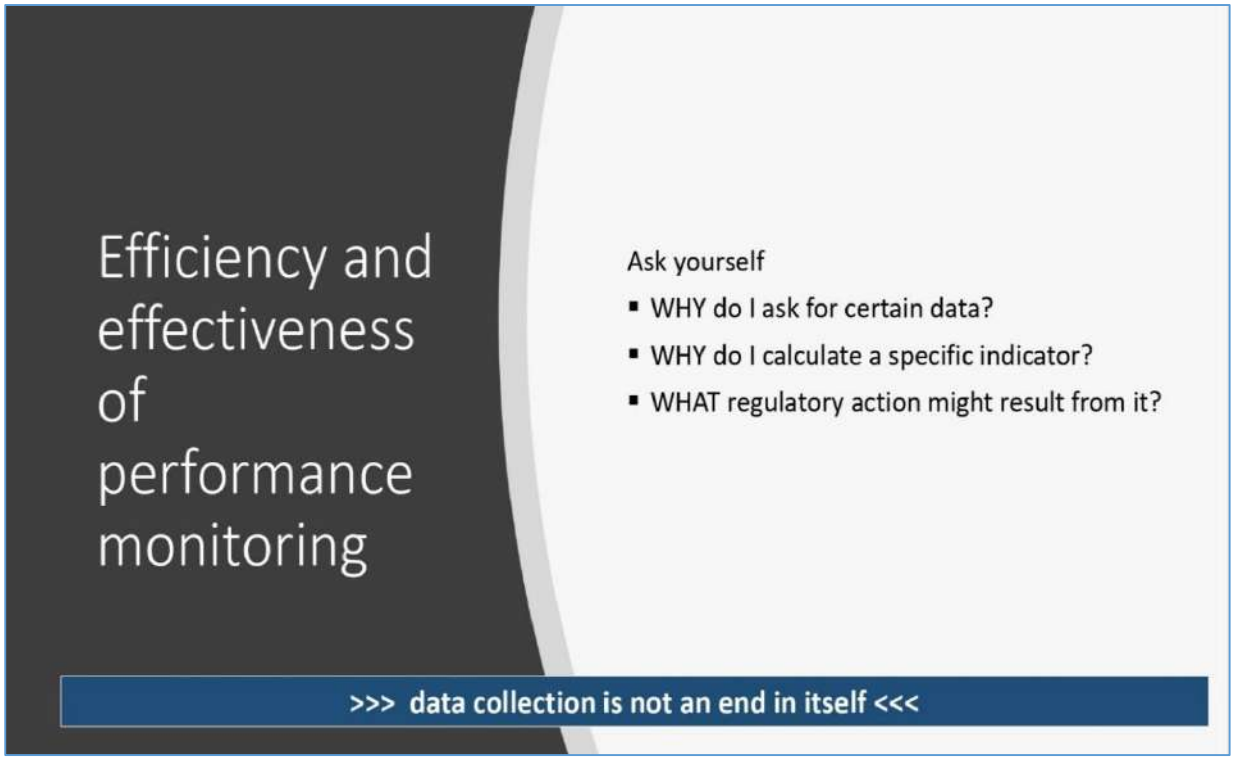


1.1.3 Utility Performance Monitoring in Jordan presentation (14th May 2020)

Outline

- General recommendations for regulatory performance monitoring
- First experiences with new approach in Jordan
- Next steps to consider

General recommendations for regulatory performance monitoring



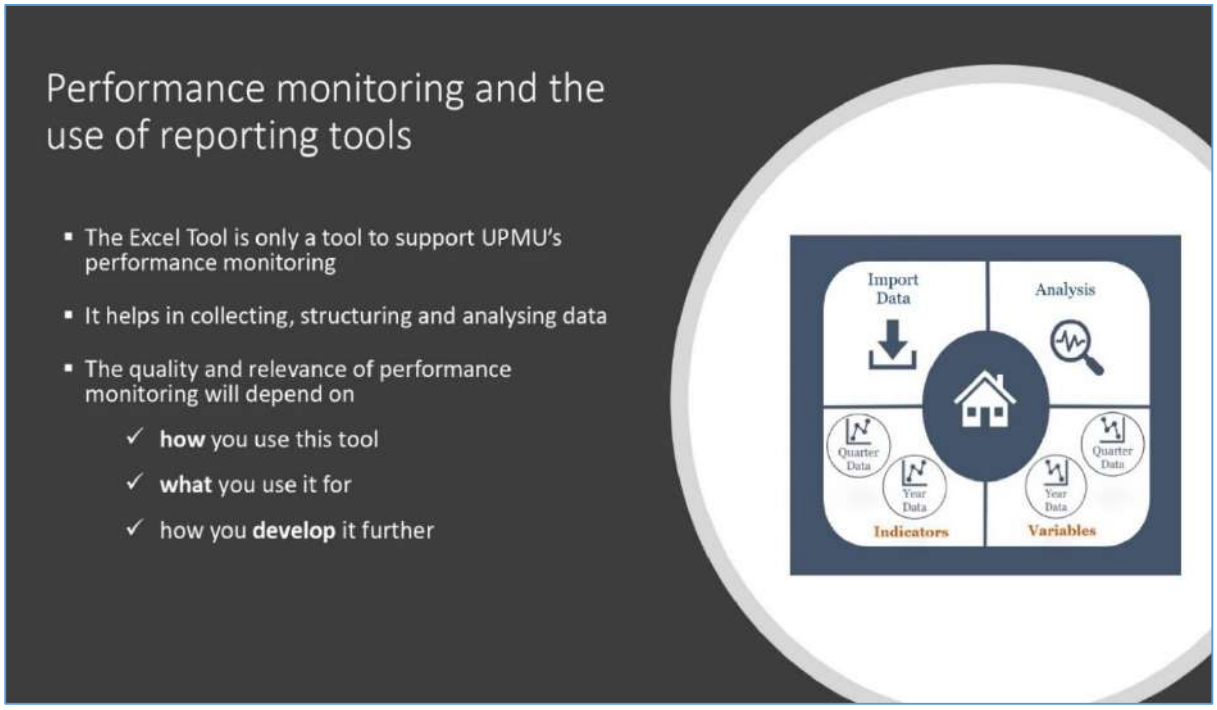
Note: When developing their monitoring and reporting systems, regulators sometimes have a tendency to ask for every possible information they can think of. The legal mandate to monitor and report on utility performance is sometimes interpreted in a way, that the regulator should collect or have access to, maybe even in real time, every information, the utility is processing.

This ambition can lead to information systems which contain a lot of information, the regulator does no use and need to fulfil its regulatory mandate. It also wastes resources at utilities, who

have to invest time and effort to compile and submit the information in the way the regulator demands.

If utilities experience, that the regulator does not analyse and utilize most of the information submitted and does not provide sound feedback on the same, respect and acceptance for the regulatory authority can suffer

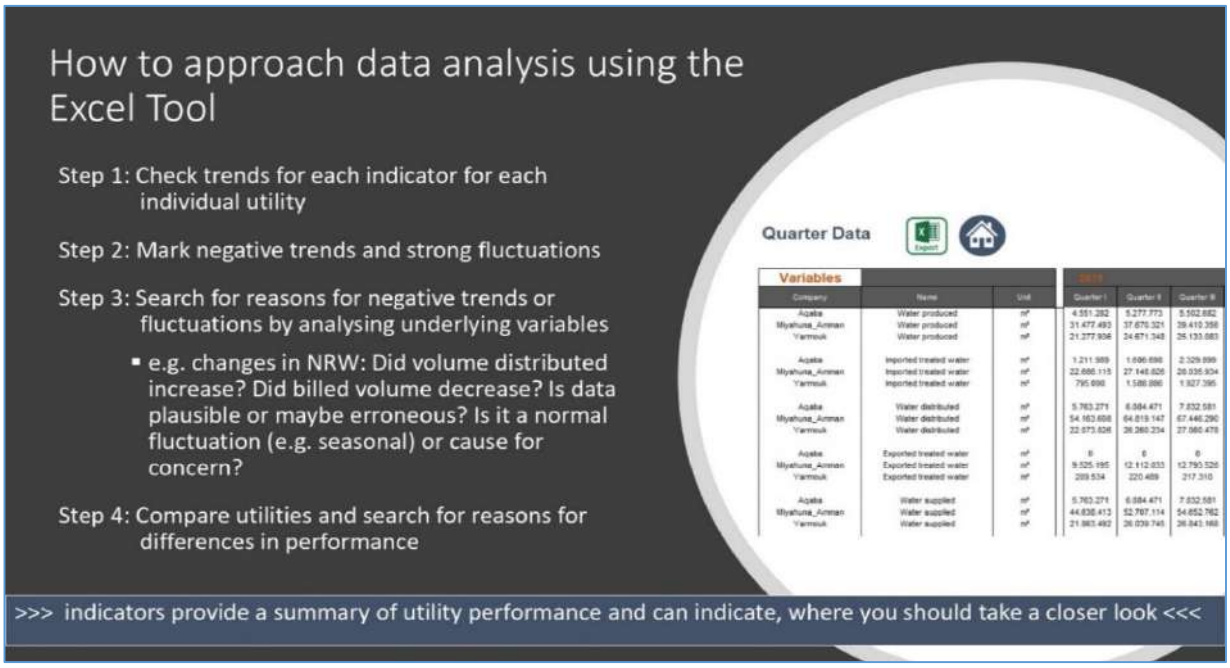
It is therefore part of the regulator's responsibility and its strive for efficiency in the sector to carefully choose the data it requires utilities to submit. In order to do so, above questions can provide guidance.

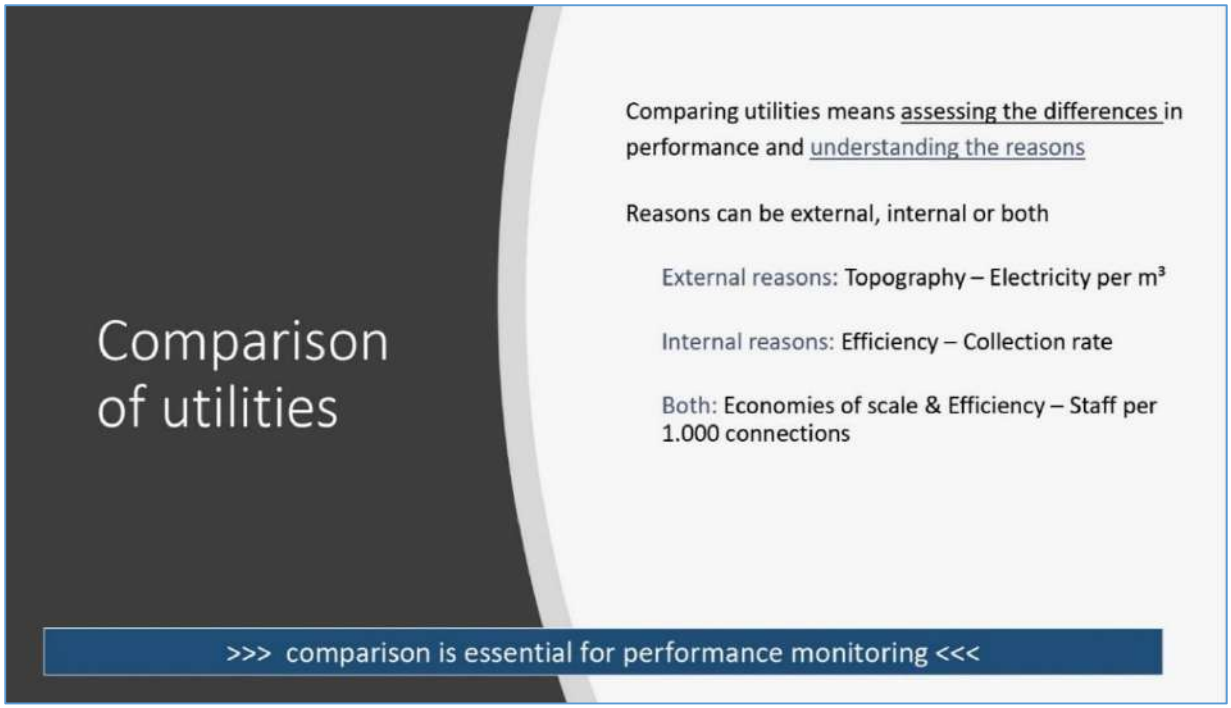


Note: To improve the efficiency and consistency of data collection and to facilitate the analysis and comparison of utility performance, regulators should use tailor-made tools.

For the first phase of developing the regulatory framework for Jordan, a simple Excel tool was developed. At this early stage and also given the small number of regulated utilities, developing an Excel based tool appeared most economical.

It is a tool to support the processes of data collection and analysis at UPMU. It is, however, only a tool and its usefulness depends on how UPMU staff uses it in practice and continues to amend and further improve it according to the experience gained.





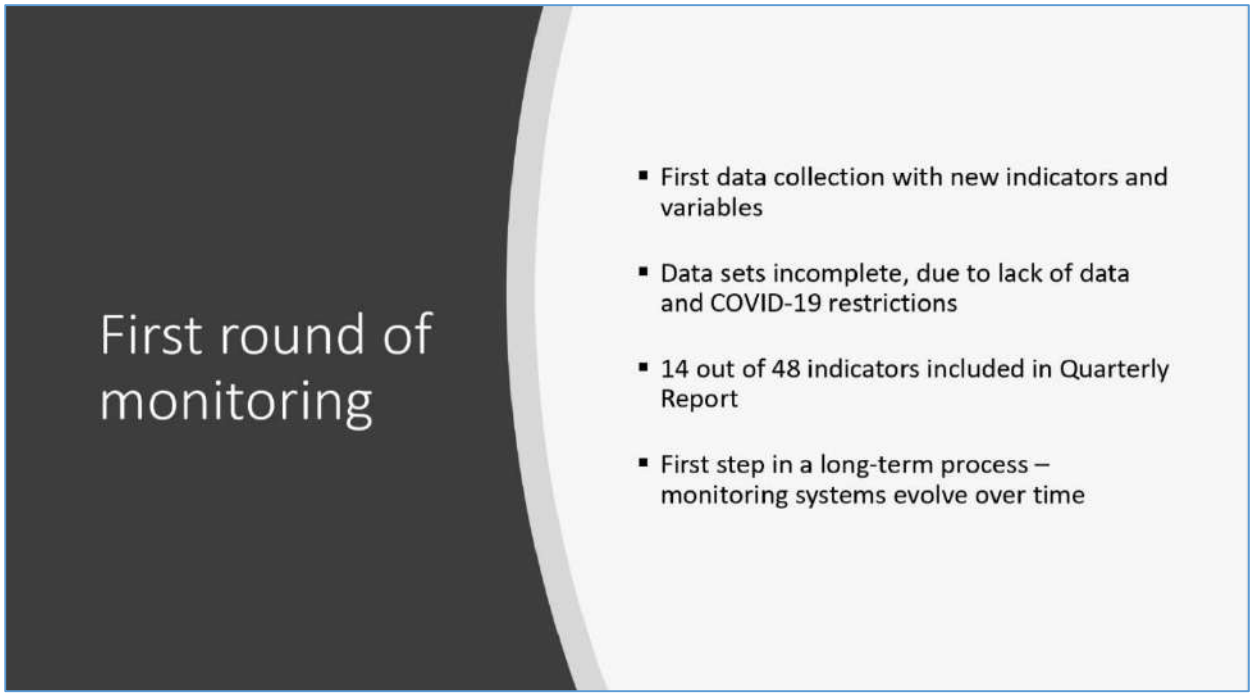
Note: At the start of developing the monitoring framework for Jordan, many stakeholders insisted, that the utilities in Jordan “cannot be compared because they are so different”.

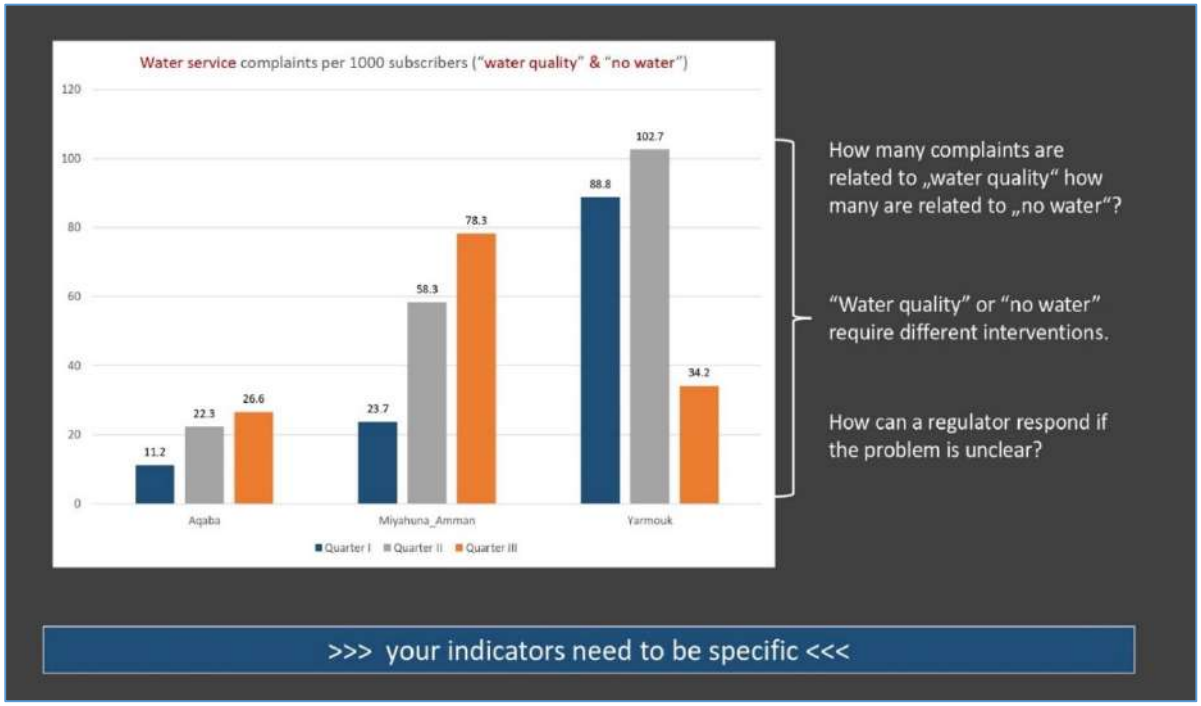
This reflected a misperception of what “comparison” means from a regulator’s point of view. For a regulator “comparison” does not imply that the regulator expects that all utilities perform at the same level for each indicator.

Rather, comparison means as a first step making differences in performance visible and as a second step trying to understand those differences. Differences in performance can be caused by external factors like topography, which could lead to higher electricity costs for pumping,

internal factors like management performance which can influence collection efficiency or by a mix of both, as can be the case for staff per 1.000 connections.

It is one of the regulator's core responsibilities to analyse and compare performance and to differentiate between justifiable and non-justifiable differences in performance.

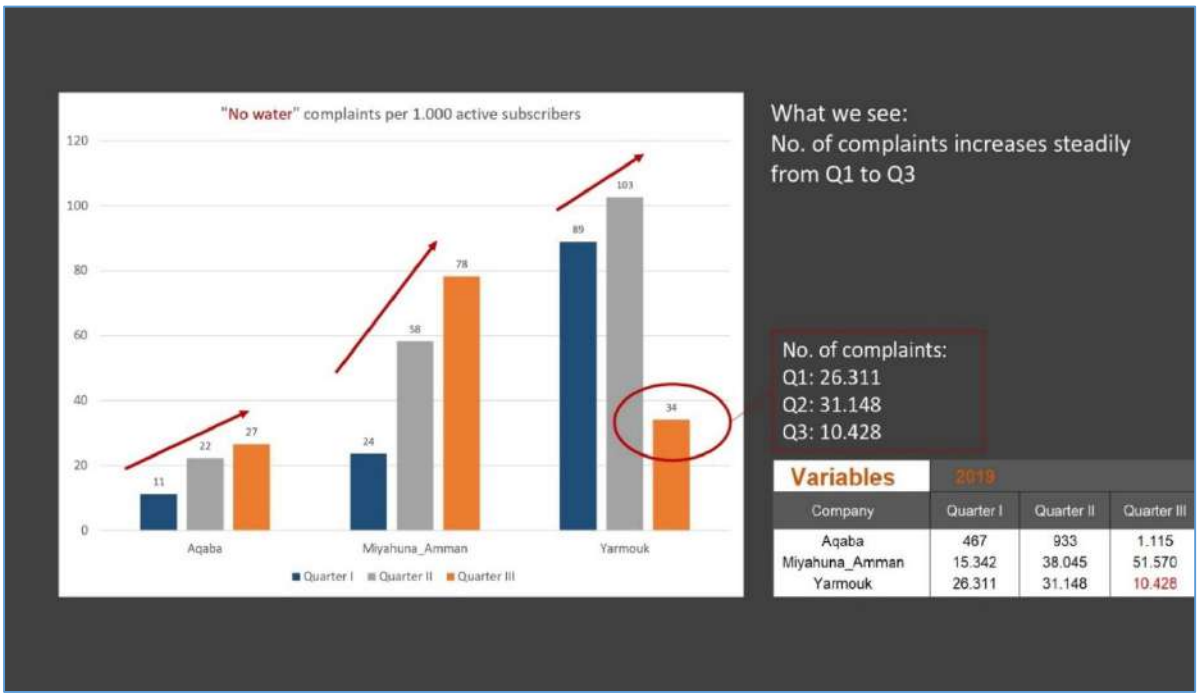




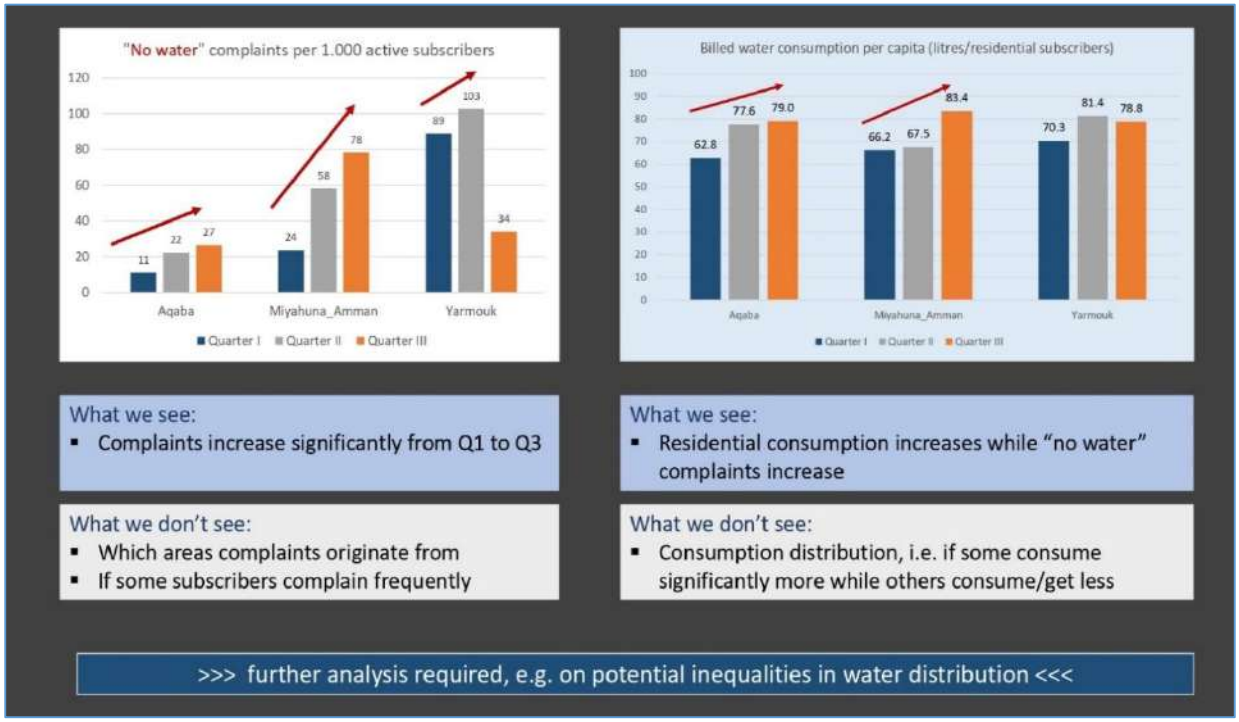
Note: In the initial set of indicators, partly borrowed from the previous PMU reporting, some definitions proofed to be ambiguous and therefore would have hindered any specific regulatory response.

In above indicator for instance, complaints on water quality and lack of water had been combined. But both complaints are of very different nature and require very different responses.

It is, therefore, important, that indicators are defined in a way that allows for precise identification of underlying problems and for specific utility or regulatory responses.



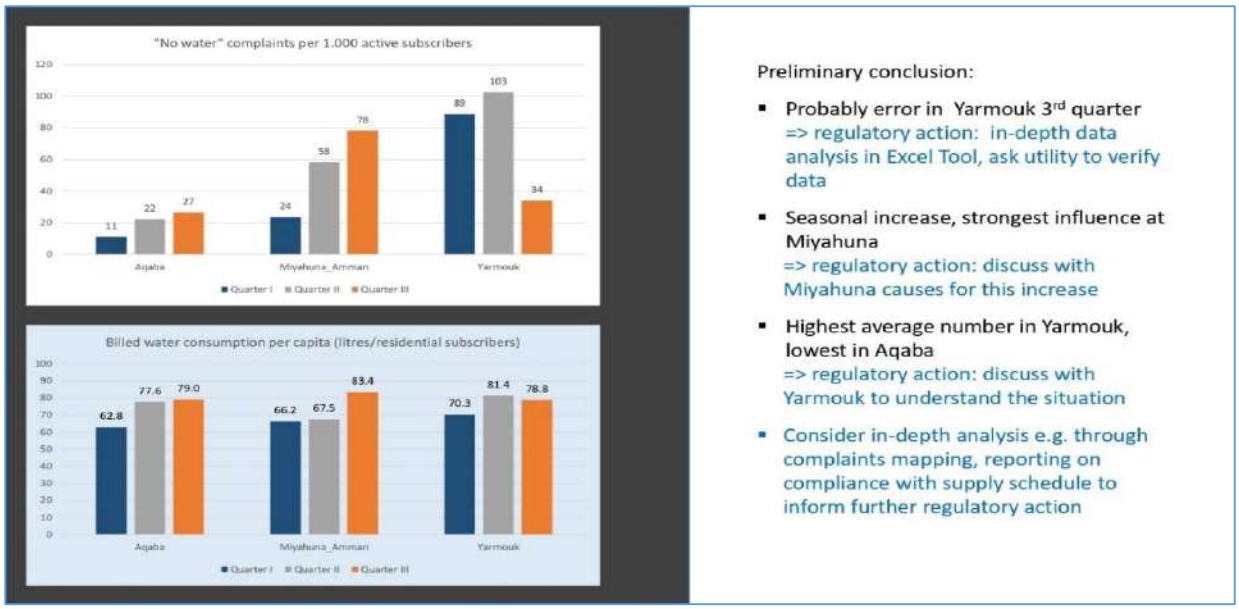
Note: Separating "no water"complaints from "water quality “complaints helped to get a much clearer picture.

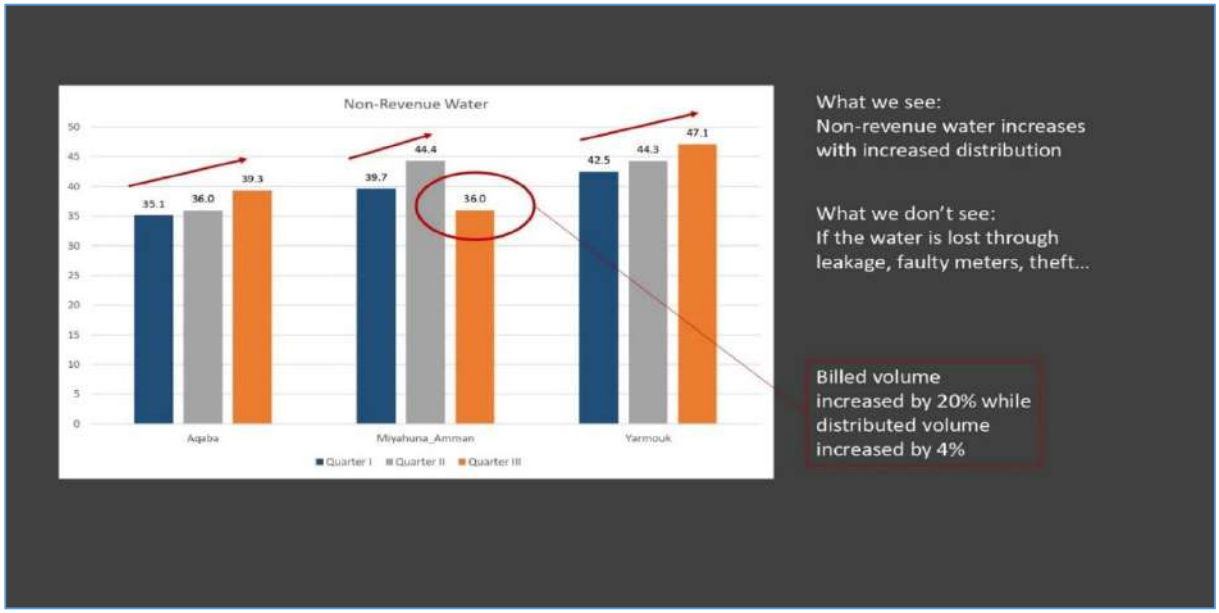


Note: Nevertheless, the analysis of many indicators will allow the regulator to notice a potential problem (i.e. large or increasing number of "no water "complaints), but in order to formulate a regulatory response, further analysis might be required.

A starting point is often to look at other indicators which could help to develop a deeper understanding.

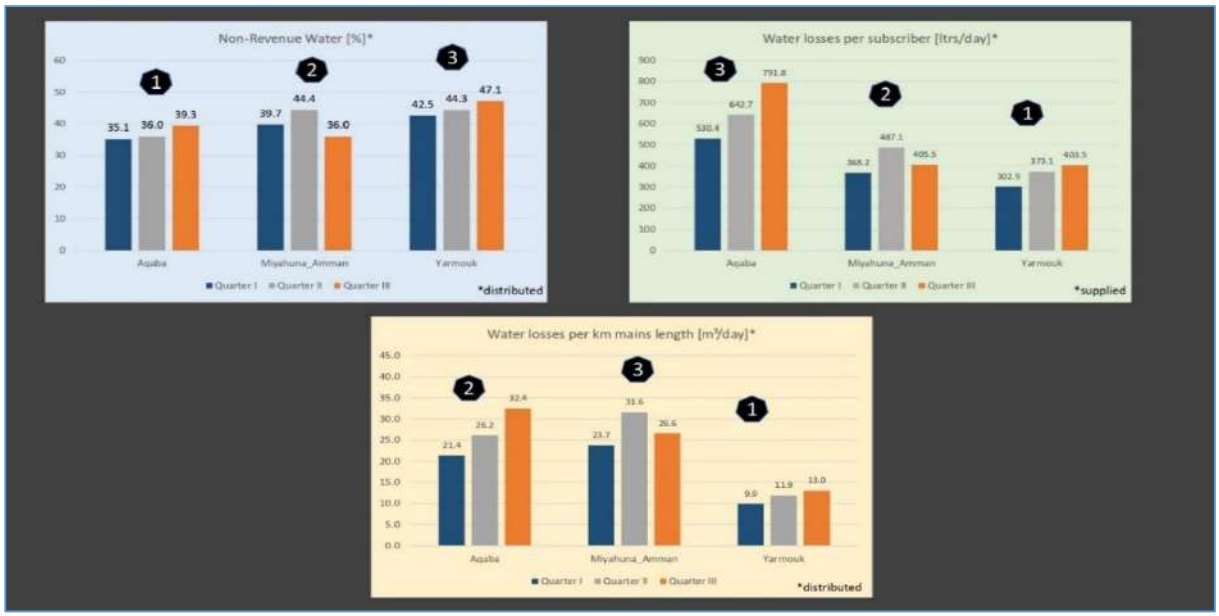
In above case, the comparison with the indicator "billed water consumption per capita" for instance reveals, that while the number of complaints on "no water" rise during the second and third quarter in Aqaba and Miyahuna, the average consumption increases as well. I.e. the increase in complaints is not correlated to a decrease in total water provided and could, therefore be an indication of rising inequalities in water distribution during summer. But to verify this, UPMU would have to ask for additional information, e.g. on the spatial distribution of complaints.





Note: When looking at indicators as a regulator, it is important to understand the formula behind each indicator in order to be able to properly interpret the results.

It is key for a regulator to develop an understanding of not just what an indicator does show but also of what an indicator does not show. Significant variations, like the above example for Miyahuna, can result from inaccurate data, mistakes in data entry but can also have plausible operational reasons. A first step towards understanding the reasons for such fluctuations is often to look at the underlying data reported by the utility, which is used to calculate the indicator.



Note: NRW or water losses is considered a KPI in the water sector in most countries.

However, there are different ways to look at and to analyse and compare water losses according to the International Water Association (IWA). Using those different indicators to rank the water utilities in Jordan would lead to different results. To fully understand water losses from a regulatory perspective, focussing on the formula for NRW alone might therefore not be sufficient.

Next steps to consider

Linking indicators and performance targets

Sector targets can be defined based on (international) best practises (benchmark)

Same target for all utilities or groups of utilities

Individual targets can be defined, considering utility-specific factors, e.g. current performance, age of infrastructure, topography

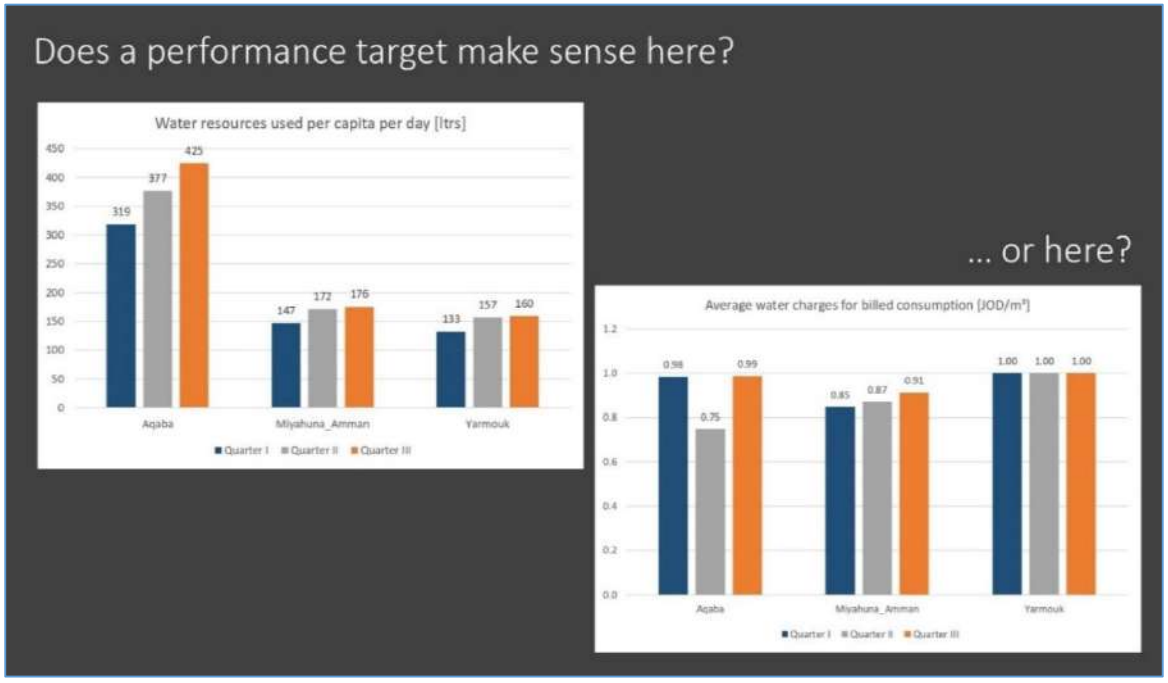
Requires in-depth understanding of individual utility

Targets cannot be defined, e.g. if influencing factors are too complex or beyond control of a utility

Monitoring might still be relevant

Targets set by law at or near 100%
Regulator cannot allow breach of law

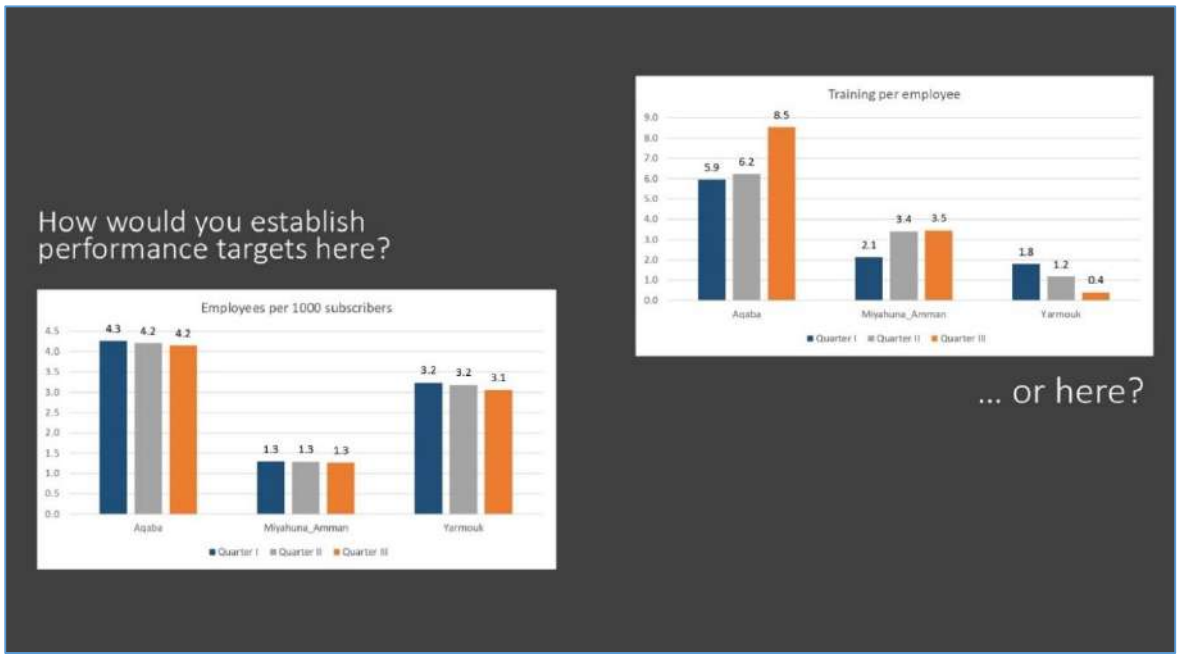
Monitoring very relevant



Note: For some performance indicators, it is not possible to establish a specific performance target.

E.g. for water resources used per capita, Aqaba's higher consumption results from the larger share of industrial customers. It is, therefore, not an expression of inefficiency.

Likewise, the average water charges for billed consumption are a direct result of the tariff structure and consumption patterns of customers. While a higher average water charge might be better for the financial status of a utility, it could also be the result of unequal water distribution during periods of water scarcity. I.e. there is no unambiguous way to establish a performance target for this indicator, but it is still important for UPMU to analyse and understand the differences between the utilities and to identify potential issues of concern

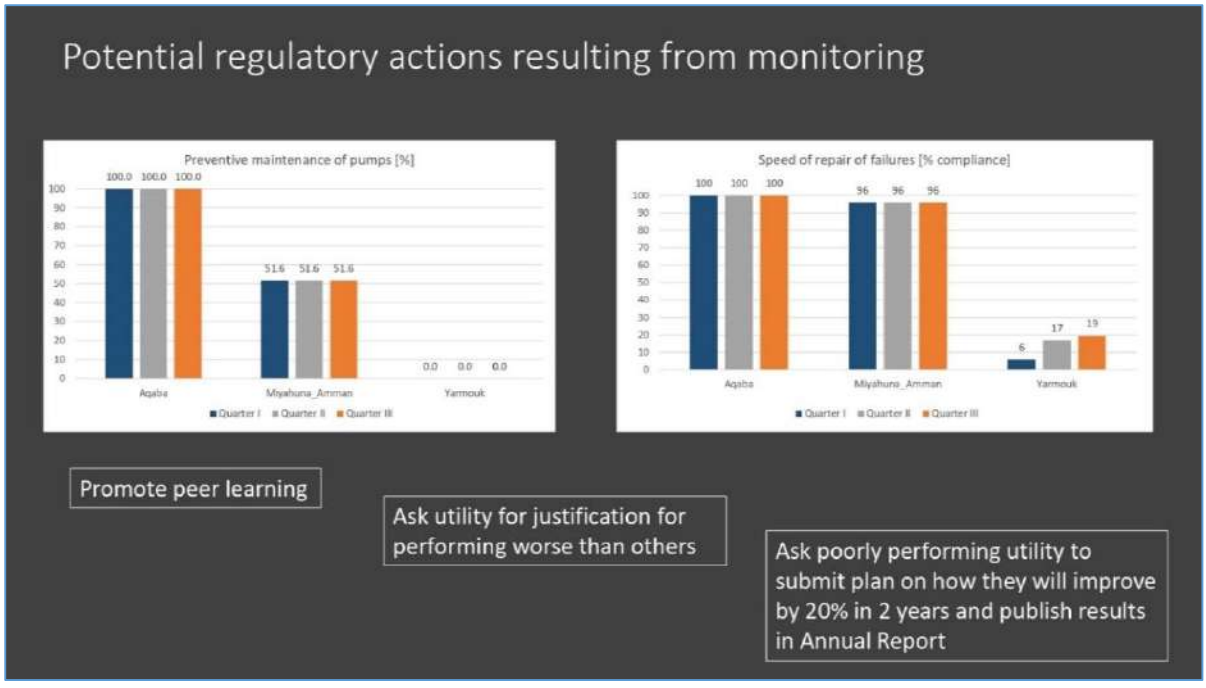


Note: For employees per 1000 connections regulators often do set performance targets. However, they might differentiate between larger and smaller utilities. Given its size, there

might be a justification for Aqaba to have more staff per 1000 connections than Myiahuna. But what is an acceptable level? This requires deeper understanding which UPMU might develop over time.

Similarly, for the indicator of “training per employee”. Staff development is an important task of utilities that is very often neglected. UPMU would need to discuss with utilities to understand the current demand for training and the differences between utilities to be able to decide, whether there should be a performance target and whether it should be the same for all utilities.

Note: When thinking about setting performance targets in Jordan, above criteria should be taken into consideration

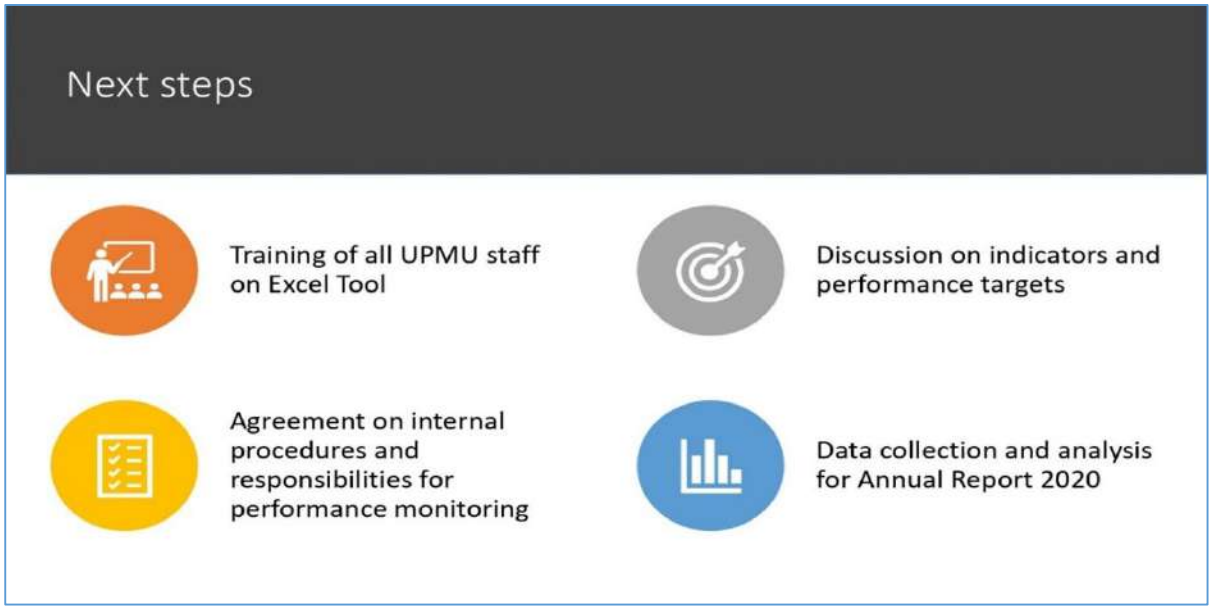


Note: Besides setting uniform performance targets, UPMU can consider additional regulatory actions that can result from performance monitoring.

If results differ significantly between utilities, as is the case for preventive maintenance of pumps in above chart, UPMU could think about facilitating peer learning between utilities.

Where UPMU assumes that poor performance might be a result of inefficient management, it could ask utilities to provide a detailed justification as to why its performance is worse than the performance of others.

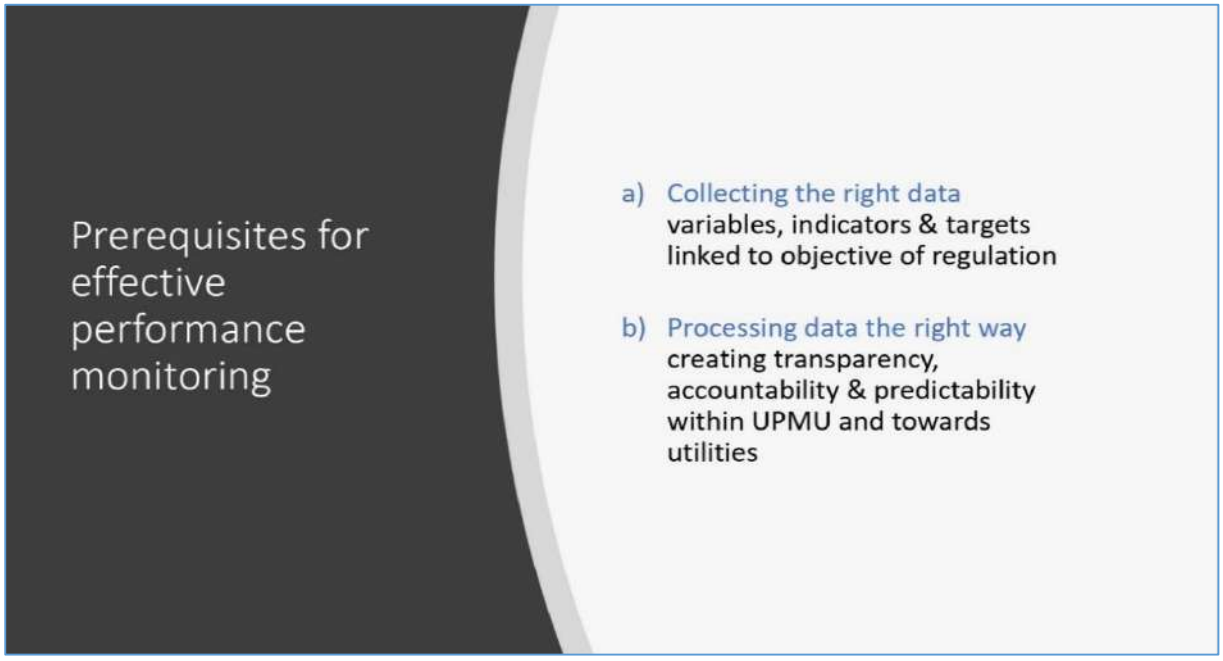
Ultimately, UPMU could ask utilities to formulate and submit a plan on how it intends to improve its performance. Ideally, this will in future be linked to a regular update and approval of the utilities' Business Plans. A process which will be covered in a different session.



1.1.4 Responsibilities and procedures for monitoring presentation (2nd June 2020)

Note: This presentation was held before the first annual reporting cycle and preparation of the first Annual Performance Report was completed.

Some of the information on the slides might therefore be outdated, the general recommendations are still considered valid.



Note: Performance monitoring is one of the most critical tasks of any regulator.

Therefore, developing tools to monitor performance together with the variables which require reporting, indicators which help to assess and compare performance and the development of

benchmarks or targets usually feature prominently during the early stage of developing a regulatory framework.

In Jordan, this has been addressed through the serious effort that went into developing the customized Excel tool for monitoring.

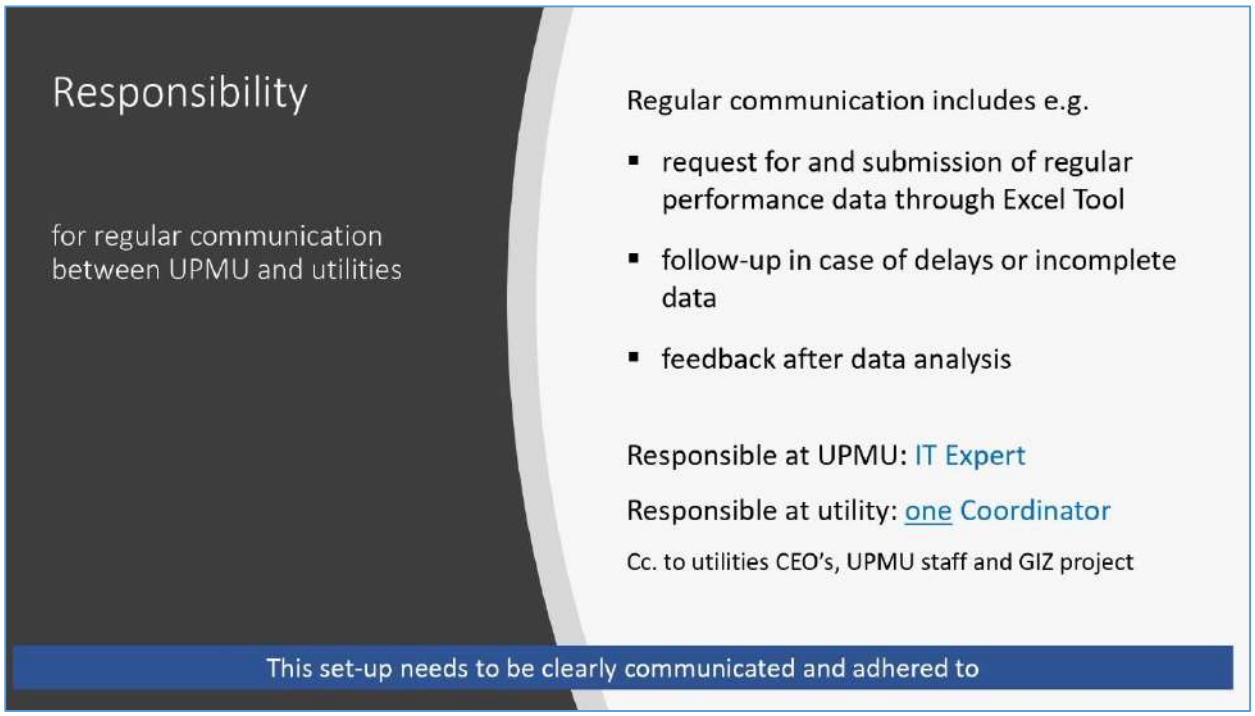
Not always, however, do regulators invest similar levels of effort into the development of procedures to ensure best use of the monitoring framework, e.g. through efficient data analysis. To use the full potential of performance monitoring, regulators need to have clear processes which assign responsibilities within the institution for each step. This helps to ensure accountability within UPMU, as a prerequisite for effective management.

Imagine a situation where Aqaba has not submitted data by the date stipulated by UPMU. Obviously, some action by UPMU is required. But what kind of action and when and by whom?

If these questions cannot be clearly answered, the institution will not function efficiently since either everyone is waiting for somebody else to take action or everyone is blaming somebody else for the fact that no follow-up was done to ensure that the data would be available when required.

Many regulators struggle with this clear assignment for responsibilities, leaving loopholes for utilities to not comply with regulatory requirements.

But having clear processes related to data collection and processing also creates transparency and predictability for the utilities. It helps them to know whom to talk to, e.g. in case of any questions or delays.

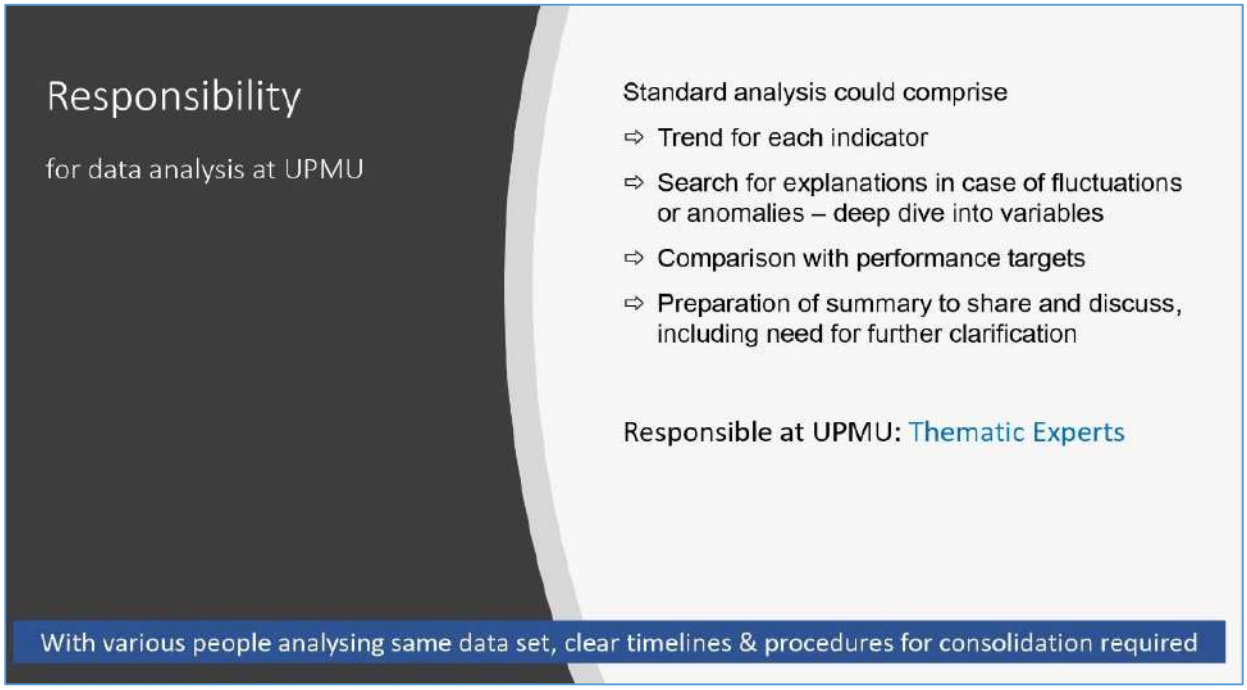


Note: Regulators therefore need to assign clear responsibilities for regular communication with utilities on matters related to performance monitoring.

This includes e.g. request for and submission of regular performance data through the Excel Tool, follow-up in case of delays or incomplete data or feedback after data analysis.

For the initial phase, UPMU decided on responsibilities as outlined in this slide.

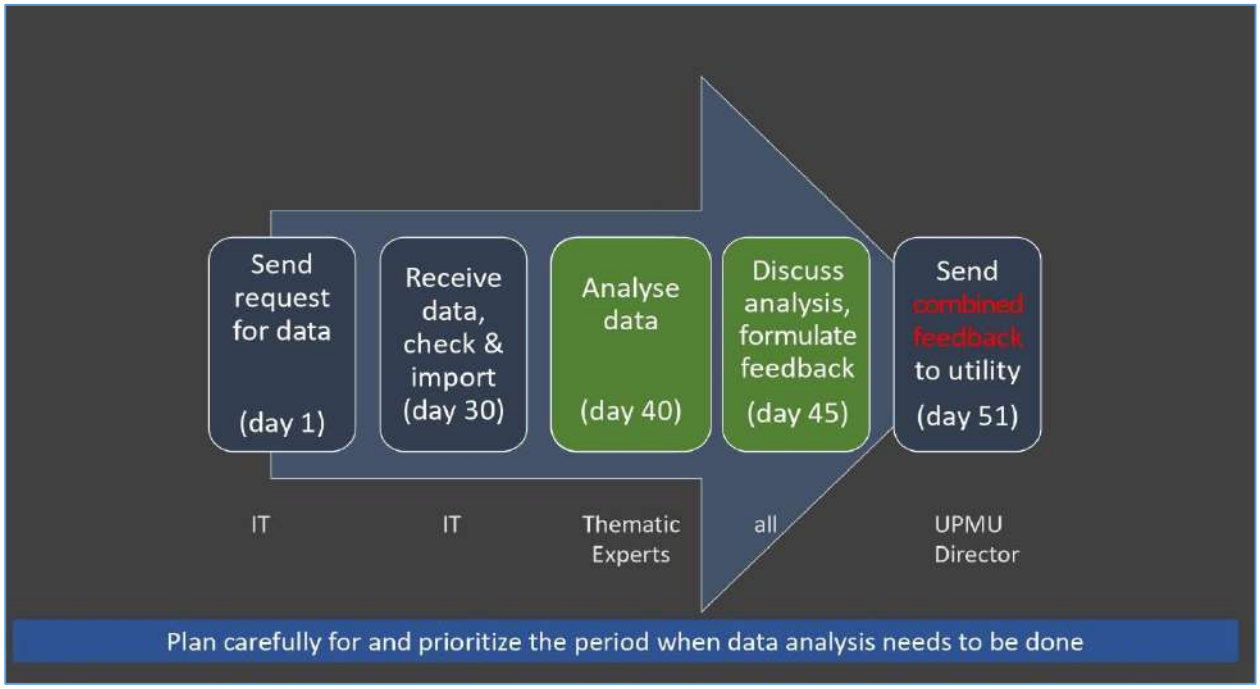
It is important to communicate these responsibilities to all parties involved and to also inform them in case of any changes.



Note: Similar to the responsibilities for communication, responsibilities also have to be assigned for the analysis of data at UPMU.

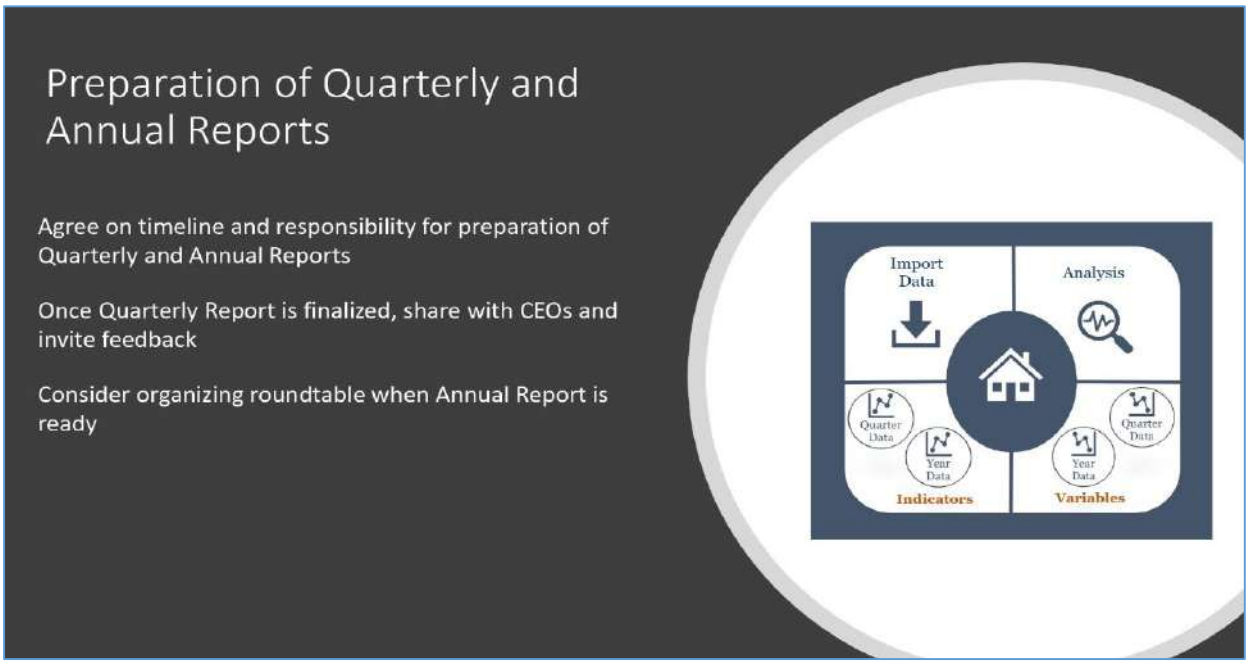
Some key steps a standard data analysis should comprise are outlined above, as well as the responsibility decided upon by UPMU.

The draft work plan which was shared and discussed in May 2021 includes more details on timelines and sequencing of tasks to coordinate the work of the various thematic experts.



Note: Above graph indicates a first draft timeline for the process from requesting utilities to submit quarterly or annual data to the point where UPMU provides a feedback on their findings during the analysis to the utilities.

Note: This timeline was prepared before the first annual reporting and analysis had been concluded. In the meantime, first experience has shown, that utilities might require more than 30 days to submit the annual data. This experience should be reflected in UPMU's work plan going forward.



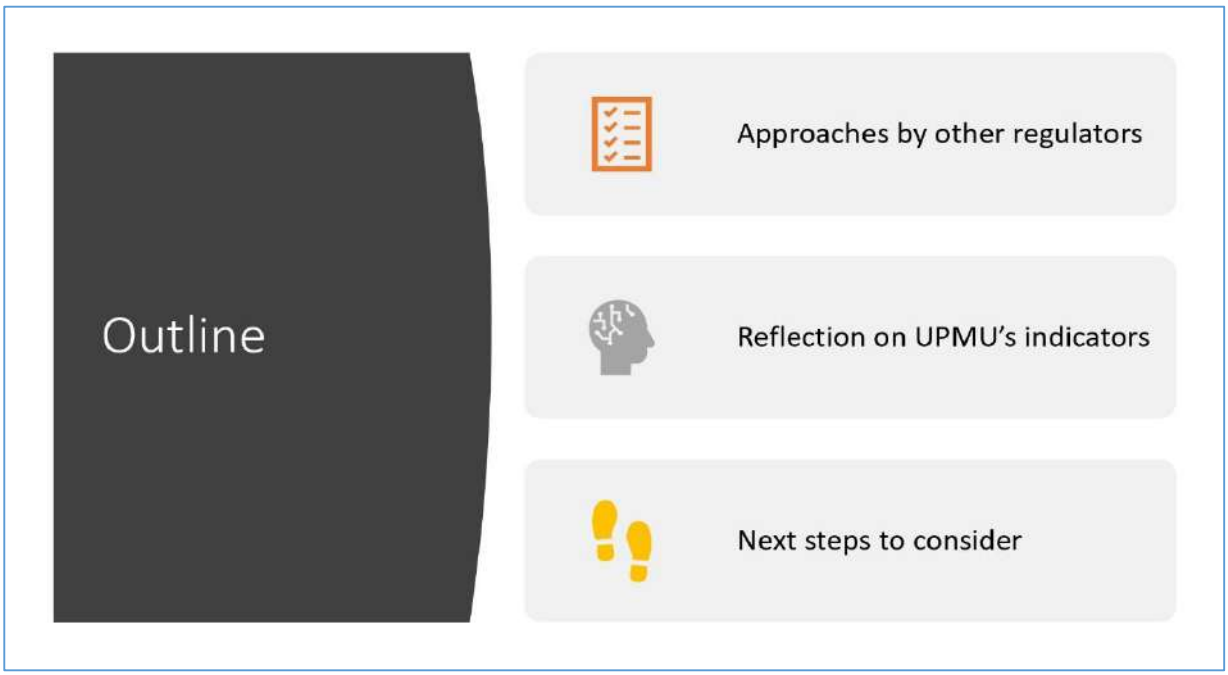
Note: Timeline and responsibilities for the preparation of the Quarterly and Annual Reports should be agreed upon when developing the annual work plan.

It is recommended to share potential quarterly reports or analysis prepared by UPMU also with the CEO's of the utilities and to invite their feedback.

Experience from other countries also suggests that the launch of the Annual Report during an annual conference can be used to have a roundtable discussion with utilities (after the public and the media have left) to discuss critical issues and to look ahead to the coming 12 months.

All of this can help to create a spirit of transparency, can foster mutual learning and understanding but also demonstrates to utilities that the data they submit is actually being analysed by UPMU and can eventually have an impact on decisions e.g. by the Ministry or development partners.

1.1.5 Performance Targets and Benchmarking presentation (30th November 2020)



Note: Benchmarking and setting performance targets are key tools for water services regulators.

However, there is no universally agreed upon definition of benchmarking or more specifically benchmarking in the water sector. But generally speaking, benchmarking comprises comparing utilities with what is considered best practices, best sector performance or sector standards.

In this respect, benchmarking and the process of setting performance targets can overlap significantly and are often perceived as almost one and the same.

We will see in this presentation, that water service regulators in practise often use both instruments, by setting uniform performance targets for all or groups of utilities and calling them “benchmarks”, while in parallel setting specific performance targets (sometimes even for the same indicators) as short- or medium term goals for individual utilities. The latter is often tied to other regulatory processes, like tariff adjustments or up-dating and approval of Business Plans.

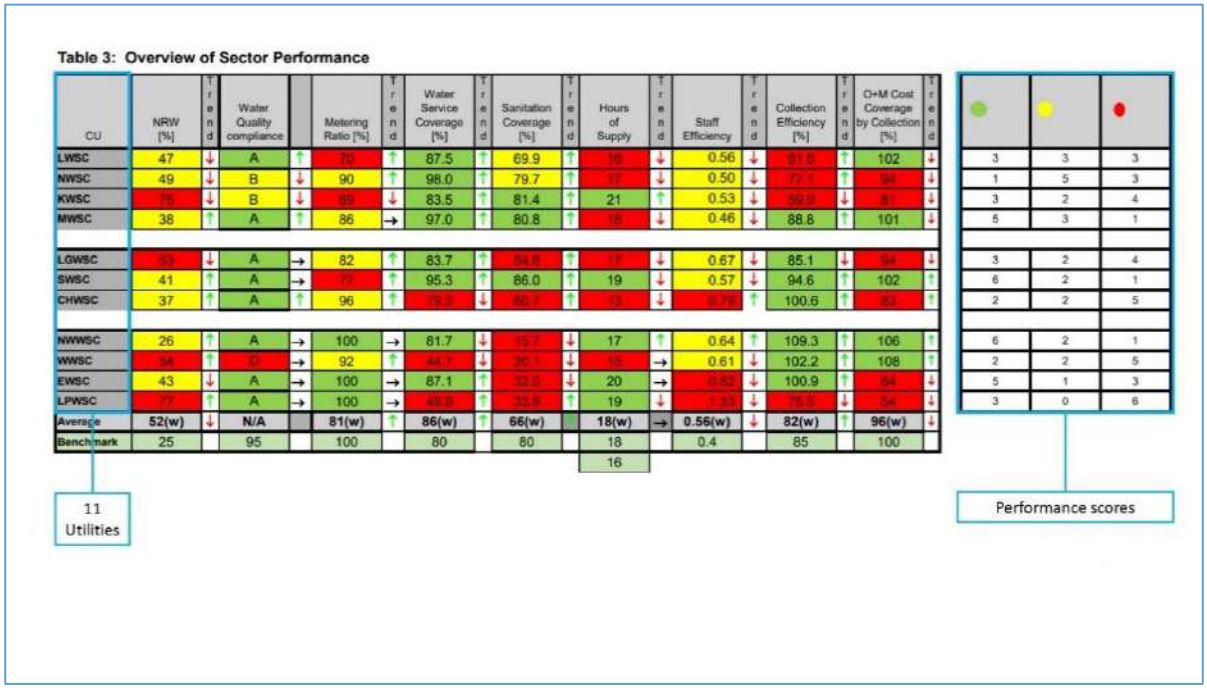


Table 3: Overview of Sector Performance

CU	NRW [%]	Trend	Water Quality compliance		Metering Ratio [%]	Trend	Water Service Coverage [%]	Trend	Sanitation Coverage [%]	Trend	Hours of Supply	Trend	Staff Efficiency	Trend	Collection Efficiency [%]	Trend	O+M Cost Coverage by Collection [%]	Trend
LWSC	47	↓	A	↑	70	↑	87.5	↑	69.9	↑	16	↓	0.56	↓	81.6	↑	102	↓
NWSC	49	↓	B	↓	90	↑	98.0	↑	79.7	↑	17	↓	0.50	↓	77.1	↑	98	↓
KWSC	75	↓	B	↓	89	↓	83.5	↑	81.4	↑	21	↑	0.53	↓	59.9	↓	81	↓
MWSC	38	↑	A	↑	86	→	97.0	↑	80.8	↑	16	↓	0.46	↓	88.8	↑	101	↓
LGWSC	53	↓	A	→	82	↑	83.7	↑	54.8	↑	17	↓	0.67	↓	85.1	↓	94	↓
SWSC	41	↑	A	→	77	↑	95.3	↑	86.0	↑	19	↓	0.57	↓	94.6	↑	102	↑
CHWSC	37	↑	A	↑	96	↑	79.3	↓	60.7	↑	13	↓	0.75	↑	100.6	↑	83	↑
NWWSC	26	↑	A	→	100	→	81.7	↓	15.7	↓	17	↑	0.64	↑	109.3	↑	106	↑
WWSC	54	↑	D	→	92	↑	44.7	↓	20.1	↓	15	→	0.61	↓	102.2	↑	108	↑
EWSC	43	↓	A	→	100	→	87.1	↑	32.0	↓	20	→	0.82	↓	100.9	↑	84	↓
LPWSC	77	↑	A	→	100	→	49.8	↑	33.9	↑	19	↓	1.33	↓	76.5	↓	54	↓
Average	52(w)	↓	N/A		81(w)	↑	86(w)	↑	66(w)	↑	18(w)	→	0.56(w)	↓	82(w)	↑	96(w)	↓
Benchmark	25		95		100		80		80		18		0.4		85		100	
											16							

3	3	3
1	5	3
3	2	4
5	3	1
3	2	4
6	2	1
2	2	5
6	2	1
2	2	5
5	1	3
3	0	6

11 Utilities

Performance scores

Note: In Zambia, the regulator NWASCO established a benchmarking system based on 9 key performance indicators almost 20 years ago.

In Zambia, water supply is provided by 11 so called „commercialized utilities “, publicly owned, regional service providers.

In its annual report, the regulator provides an overview of the benchmarking results, using color-codes. It also uses performance scores to rank utilities.

Table 3: Overview of Sector Performance

CU	NRW [%]	Trend	Water Quality compliance		Metering Ratio [%]	Trend	Water Service Coverage [%]	Trend	Sanitation Coverage [%]	Trend	Hours of Supply	Trend	Staff Efficiency	Trend	Collection Efficiency [%]	Trend	O+M Cost Coverage by Collection [%]	Trend
Benchmark	25		95		100		80		80		18		0.4		85		100	
											16							

Benchmark = Uniform sector performance target

Note: Except for service hours, the regulator applies the same benchmarks, or performance targets for all utilities, e.g. 25% NRW or 85% collection efficiency.

Table 3: Overview of Sector Performance

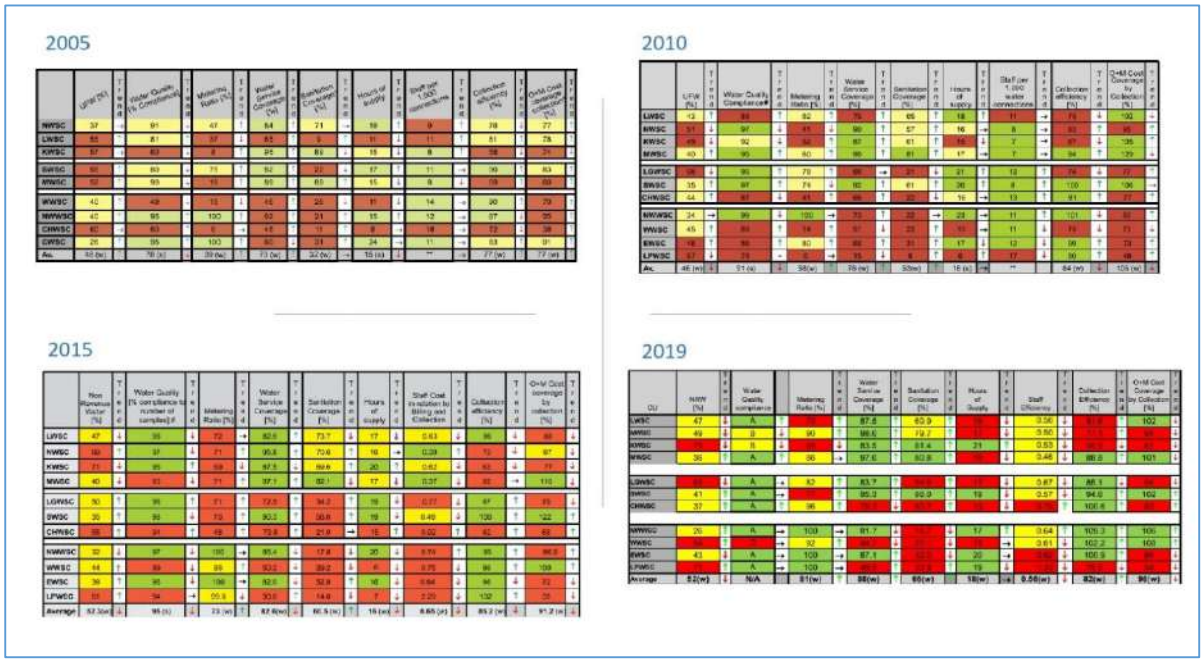
CU	NRW [%]	Trend	Water Quality compliance	Trend	Metering Ratio [%]	Trend	Water Service Coverage [%]	Trend	Sanitation Coverage [%]	Trend	Hours of Supply	Trend	Staff Efficiency	Trend	Collection Efficiency [%]	Trend	O+M Cost Coverage by Collection [%]	Trend
LWSC	47																102	↓
NWSC	49																94	↓
KWSC	75																87	↓
MWSC	38																101	↓
LGWSC	53																84	↓
SWSC	41																102	↑
CHWSC	37																83	↑
NWWSC	26																106	↑
WWSC	54																108	↑
EWSC	43																84	↓
LPWSC	77																54	↓
Average	52(w)																96(w)	↓
Benchmark	25																100	

Worse than the relevant average and benchmark not achieved (1 point)
Better than the relevant average but benchmark not achieved (2 points)
At least "acceptable" benchmark achieved (3 points)

(W) Weighted average
(S) Simple average

* The water quality compliance indicator is based on a new three-step assessment criteria (section 7.2.2. Water Quality)
Orange in the water quality column is part of the colour coding for the compliance and carries a weight of 2

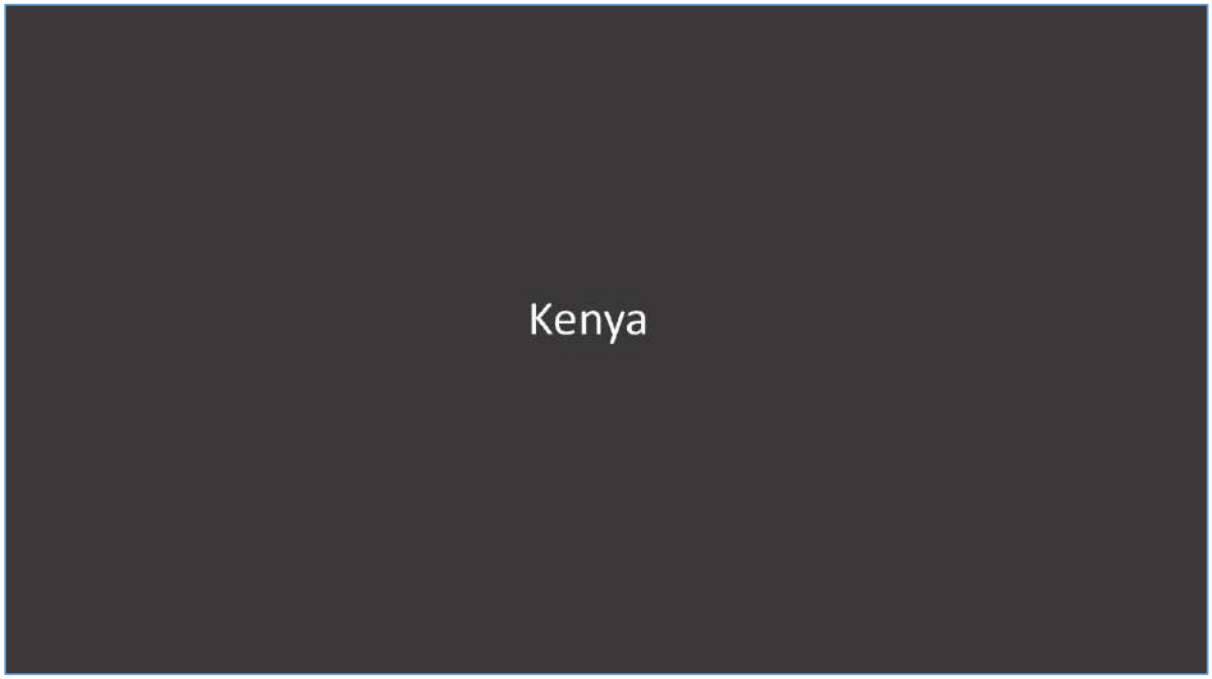
Note: The color-codes in the benchmarking table are red, if the performance of a utility for a particular indicator is both, below the benchmark and worse than the sector average. Yellow is used if a utility's performance is better than the sector average but still below the sector benchmark/performance target. Green is used, if a utility achieved at least "acceptable" performance according to the benchmarking system.

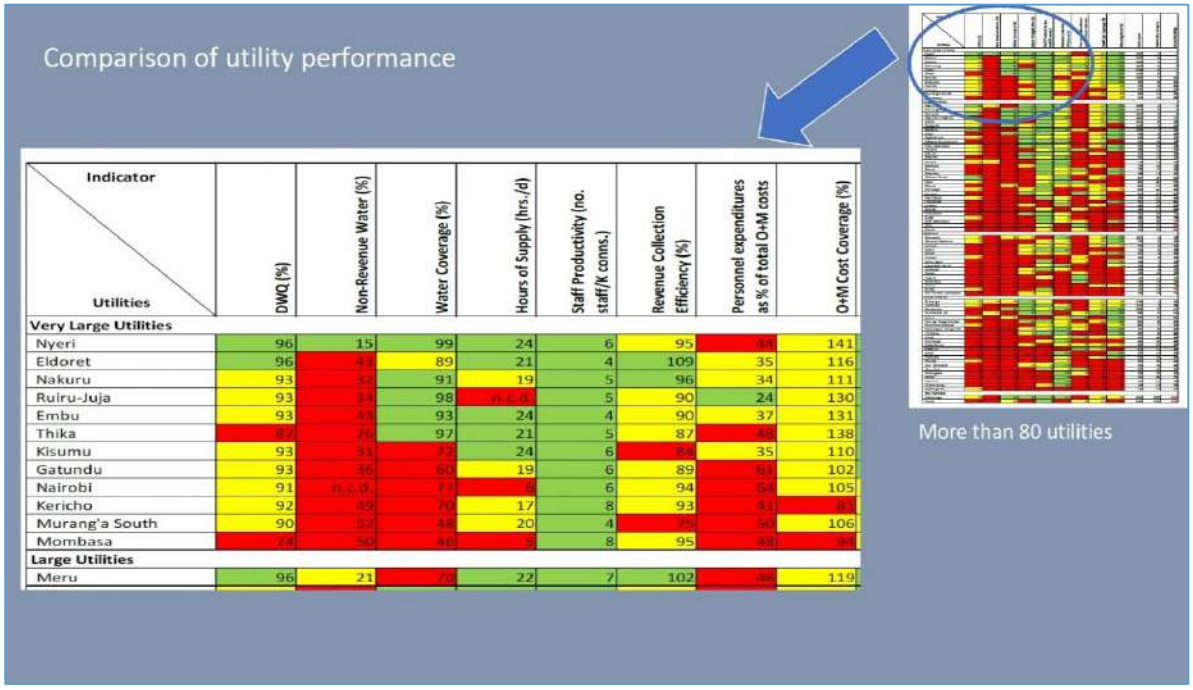


Note: Comparing the performance over time, enables readers to understand the trends in the sector. It shows that Zambian utilities have achieved significant improvements in some areas, e.g. metering ratio, which on average improved from 39% to 73% or O&M cost recovery, which improved from 77 to 96%. In other areas, e.g. NRW, little or no improvement was achieved.

This bears the question if formulating general performance targets which are not being achieved over a period of 15 years, is an effective method. It could demonstrate, that either the sector needs more targeted support resulting from benchmarking, stronger incentives linked to benchmarking or individual performance targets with a certain level of accountability. If utilities experience that not achieving certain benchmarks for prolonged periods does not

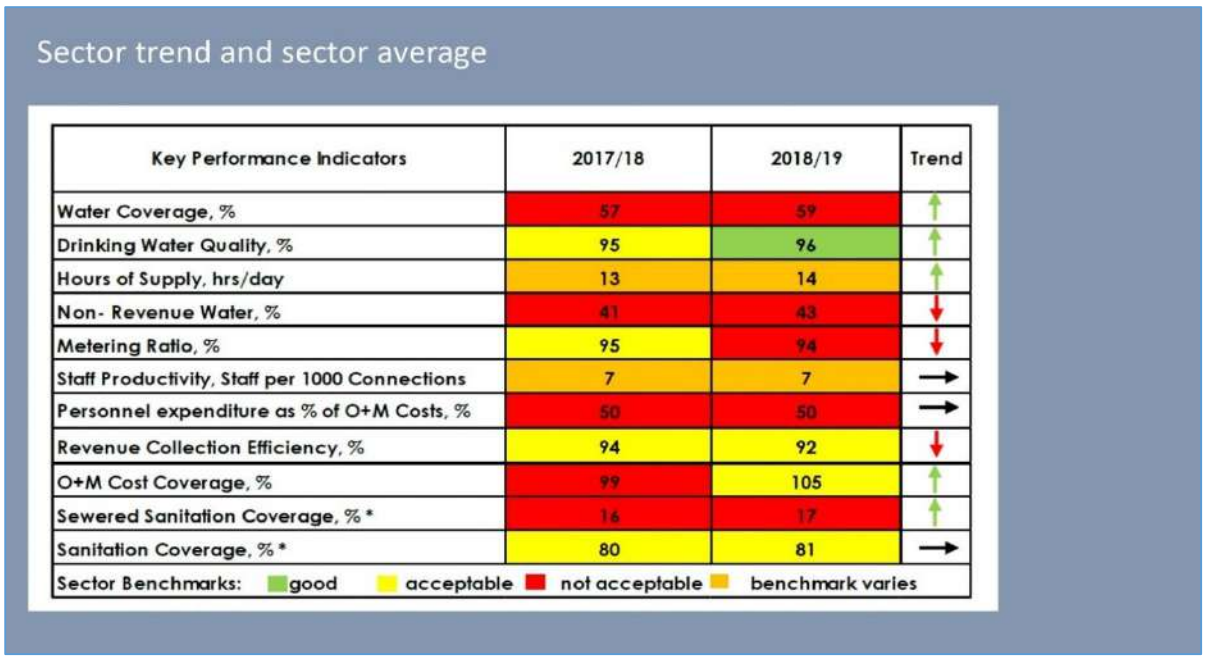
have any repercussions, it could undermine the credibility of the overall objective or benchmarking.





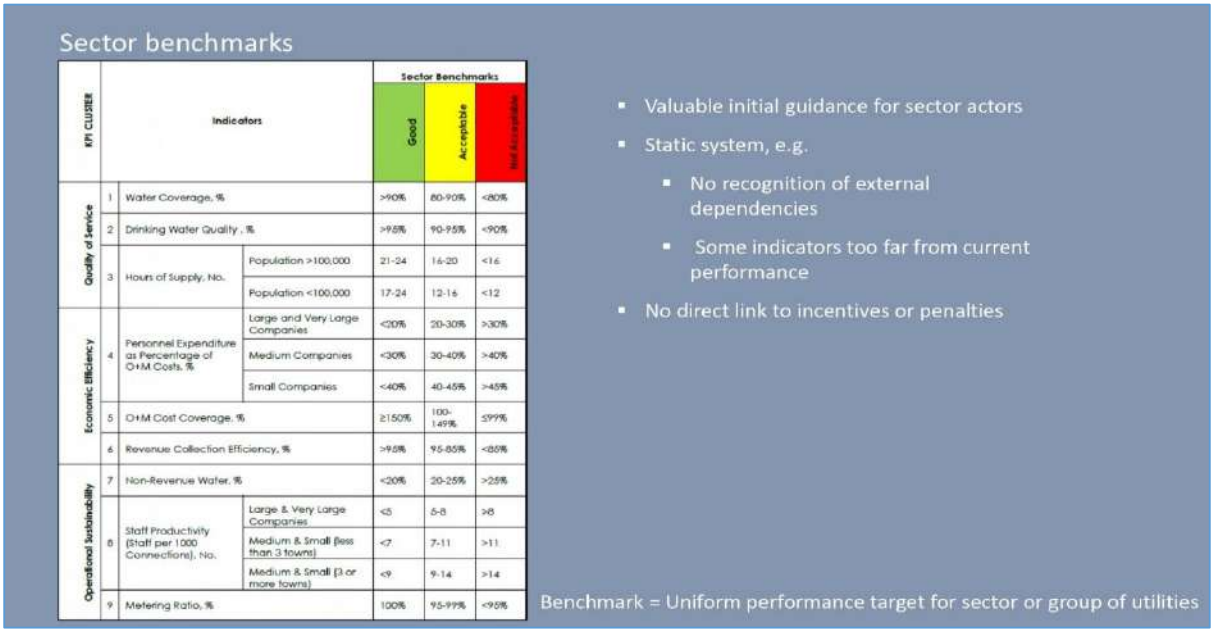
Indicator / Utilities	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hours of Supply (hrs./d)	Staff Productivity (no. staff/K conns.)	Revenue Collection Efficiency (%)	Personnel expenditures as % of total O+M costs	O+M Cost Coverage (%)
Very Large Utilities								
Nyeri	96	15	99	24	6	95	44	141
Eldoret	96	43	89	21	4	109	35	116
Nakuru	93	32	91	19	5	96	34	111
Ruiru-Juja	93	34	98	n.c.d.	5	90	24	130
Embu	93	43	93	24	4	90	37	131
Thika	87	26	97	21	5	87	48	138
Kisumu	93	31	72	24	6	84	35	110
Gatundu	93	36	60	19	6	89	61	102
Nairobi	91	n.c.d.	77	8	6	94	64	105
Kericho	92	39	70	17	8	93	41	81
Murang'a South	90	52	48	20	4	99	50	106
Mombasa	74	50	46	3	8	95	48	99
Large Utilities								
Meru	96	21	70	22	7	102	48	119

Note: The regulator WASREB in Kenya has introduced a benchmarking and reporting systems which is similar to Zambia. It uses some type of colour coding and almost the same indicators. It also ranks utilities according to their overall performance. However, Kenya has more than 80 water utilities at different sizes and with different capacities



Key Performance Indicators	2017/18	2018/19	Trend
Water Coverage, %	57	59	↑
Drinking Water Quality, %	95	96	↑
Hours of Supply, hrs/day	13	14	↑
Non- Revenue Water, %	41	43	↓
Metering Ratio, %	95	94	↓
Staff Productivity, Staff per 1000 Connections	7	7	→
Personnel expenditure as % of O+M Costs, %	50	50	→
Revenue Collection Efficiency, %	94	92	↓
O+M Cost Coverage, %	99	105	↑
Sewered Sanitation Coverage, % *	16	17	↑
Sanitation Coverage, % *	80	81	→
Sector Benchmarks: good acceptable not acceptable benchmark varies			

Note: In addition to the performance of individual utilities, the regulator also reports on the average sector performance and overall sector trends.



Note: Because of the number of diversity of utilities, the regulator grouped them into three categories according to their size: Large & very large, medium and small companies.

For some of the indictors, e.g. staff productivity, the performance targets/benchmarks differ between groups, with larger utilities being expected to perform better. In addition, the regulator has established three levels of performance: “good”, “acceptable” and “not acceptable”.

Similar to Zambia, the benchmarking system is rather static, i.e. it did not change a lot over time and for some indicators, e.g. the average performance did not improve significantly over time, without this having direct implications for poorly performing utilities. For some of the indicators, the current performance of many utilities is far from the established benchmark and the expected improvement would only be possible with significant external support.

Tariff conditions for Malindi

Tariff Structure | Meter Rent | Water Deposits | Other Charges | Penalities | Conditions

Targets for the Tariff Period

Indicator	2017/2018	2018/2019	2019/2020
Water Coverage (%)	83	85	87
Water Quality (%)	100% compliance with the quality standards	100% compliance with the quality standards	100% compliance with the quality standards
Non Revenue Water (%)	27	25	24
Hours of Supply (Hrs)	24	24	24
Metering Ratio (%)	100	100	100
Collection Efficiency (%)	94	95	95
Resale at Kiosk (Ksh/20L)	KSh. 1 per 20 litres	KSh. 1 per 20 litres	KSh. 1 per 20 litres
Staff per 1000 connections	5	5	5
O&M Cost Coverage (%)	104	107	111

Note: During the tariff approval process, the regulator takes a second look at the performance indicators of an individual utility and established performance targets which can differ from the respective benchmark. In general, the regulator expects utilities to gradually improve their performance, which can lead to performance targets being initially less ambitious than the sector benchmark but gradually aiming at least at “acceptable” performance levels.

In this example showing the utility of Malindi, the utility’s performance on NRW with 27% is already very close to “acceptable” performance, which ranges between 20% and 25%. Therefore, the regulator expects this level to be achieved during the second year.

Tariff conditions for Nakuru

Tariff Structure | Meter Rent | Water Deposits | Other Charges | Penalities | Conditions

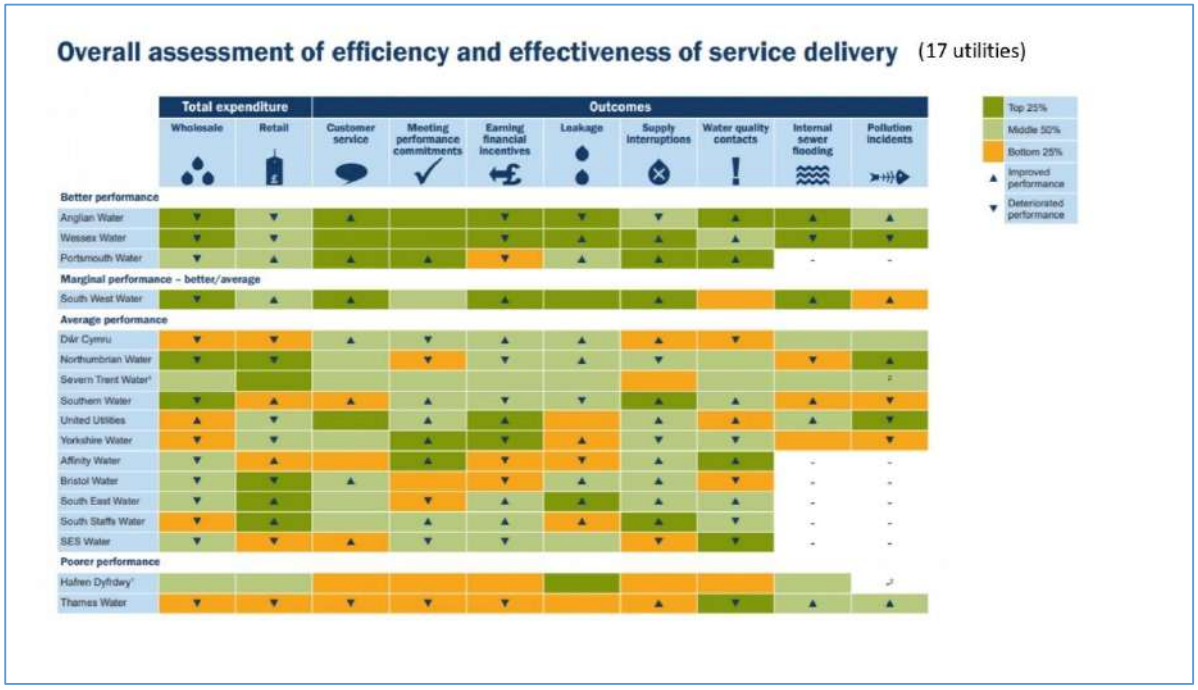
Targets for the Tariff Period

Indicator	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Water Coverage (%)	92	93	94	95	96
Water Quality (%)	100	100	100	100	100
Non Revenue Water (%)	30	29	27	26	25
Hours of Supply (Hrs)	17	17.5	18	19	20
Metering Ratio (%)	94	96	98	99	99
Collection Efficiency (%)	92	93	94	94	94
Resale at Kiosk (Ksh/20L)	2	2	2	2	2
Staff per 1000 connections	5	5	4	4	4
Staff Costs (%)	30	30	30	30	30

Note: In the case of Nakuru, the utility is still further away from “acceptable” performance levels and is therefore given until the 5th year to reach 25% NRW.

UK

UK
Benchmarking



Note: Other than in Zambia or Kenya, the utilities in the UK are privately owned. The regulator of wat in the UK also uses a colour-coded table to show the performance of regulated utilities. of wat uses 10 indicators, which are quite different from the indicators used in Zambia, Kenya or Jordan, partly as a result of a more matured water sector and also the private ownership. However, also of wat shows trends and ranks utilities from better to poorer performance. The colours indicate, whether a utility's performance is amongst the top 25%, the middle 50% or the bottom 25%.

Meeting performance commitment levels in 2018-19

	Performance	
	In 2018-19 compared to 2017-18	2018-19 (% achieved)
Anglian Water	◆▶	93
Dŵr Cymru	▼	63
Hafren Dyfrdwy[1]	-	51
Northumbrian Water	▼	59
Severn Trent Water[1]	-	62
South West Water	◆▶	71
Southern Water	▲	64
Thames Water	▼	55
United Utilities	▲	74
Wessex Water	◆▶	77
Yorkshire Water	▲	77
Affinity Water	▲	90
Bristol Water	◆▶	43
Portsmouth Water	▲	80
South East Water	▼	32
South Staffs Water	▲	67
SES Water	▼	71

2018-19 performance compared to 2017-18		Relative performance
Improved	▲	Top 25%
Stable	◆▶	Middle 50%
Deteriorated	▼	Bottom 25%

Utilities propose their *Performance Commitments* to the regulator, based on consideration of customer priorities and willingness to pay

Each utility develops a unique set of *Performance Commitments* but regulator does prescribe certain "must haves"

The *Performance Commitments* form part of the tariff approval process and are synchronized with the utilities' 5 year Business Plans

System introduced in 2014, on basis of many years of experience

Note: In 2014, of wat has changed the process of setting performance targets from a more regulator-driven approach to an approach where utilities propose "performance commitments "based on customer priorities. I.e. utilities have to consult their customers on what their expectations for improvement are and whether they would be willing to pay for the associated costs.

Once agreed, the "performance commitments" become part of the tariff approval process and are synchronized the utilities' 5-year Business Plans.

The above table shows the degree to which each utility managed to achieve its "performance commitments" in 2018/2019.

Supply interruptions performance

	Performance against targets			Relative performance (2018-19)
	In 2018-19 & compared to 2017-18	2018-19 performance (mins/ property)	2018-19 target (mins/ property)	Minutes per property
Anglian Water	◆▶	8.73	12.00	8.73
Dŵr Cymru	◆▶	16.00	12.00	16.00
Hafren Dyfrdwy[1]		7.20 (93.74)	12.00 (7.10)	29.17
Northumbrian Water	▼	9.20	5.48	9.20
Severn Trent Water[1]		19.06 (1.80)	9.40 (12.00)	16.66
South West Water[2]	▲	9.66 (0.66)	12.84 (4.40)	7.66
Southern Water	▲	7.38	9.00	7.38
Thames Water	◆▶	15.60	7.80	22.05
United Utilities	▲	9.17	12.00	9.17
Wessex Water	▲	5.85	12.00	5.85
Yorkshire Water	◆▶	10.46	12.00	10.46
Affinity Water[3]	-	-	-	12.70
Bristol Water	◆▶	14.67	12.50	15.02
Portsmouth Water	◆▶	3.90	5.00	3.90
South East Water	◆▶	14.20	12.00	14.20
South Staffs Water	◆▶	7.15	10.00	7.15
SES Water	▼	16.20	12.00	16.20

Performance against targets			Relative performance	
Target met	Improved	▲	Top 25%	
Targets met and failed	Stable	◆▶	Middle 50%	
Target failed	Deteriorated	▼	Bottom 25%	

Leakage performance in 2018-19

	Performance against targets			Relative performance (2018-19)
	In 2018-19 & compared to 2017-18	2018-19 performance (ml/d)	2018-19 target (ml/d)	Total litres per km of main
Anglian Water	◆▶	186.00	192.00	4.90
Dŵr Cymru	◆▶	170.00	171.00	6.13
Hafren Dyfrdwy[1]		15.27	11.72	5.66
Northumbrian Water[2]	▲	209.44	203.00	7.70
Severn Trent Water[1]		424.37	428.02	5.06
South West Water[2]	◆▶	84.00	84.00	5.66
Southern Water	-	101.80	-	7.31
Thames Water	◆▶	690.00	612.00	21.88
United Utilities[2]	◆▶	455.95	462.65	10.81
Wessex Water	◆▶	66.40	67.20	3.84
Yorkshire Water	▲	289.80	292.10	9.12
Affinity Water	◆▶	196.10	167.70	11.72
Bristol Water	-	45.83	44.00	6.09
Portsmouth Water	-	25.12	29.65	6.40
South East Water	◆▶	86.88	89.10	5.93
South Staffs Water[3]	▲	83.70	84.00	5.82
SES Water	◆▶	24.10	24.10	5.90

Note: Above tables show that for KPIs like "supply interruptions" or "leakage" performance targets are being set for all or at least most utilities, but the actual target performance can differ between utilities.

For leakage the target is not set as a percentage but as an absolute volume, hence the targets are very different.

But also for “supply interruptions in minutes per property” the targets range from 5 minutes to more than 12 minutes, taking into consideration the current level of performance.

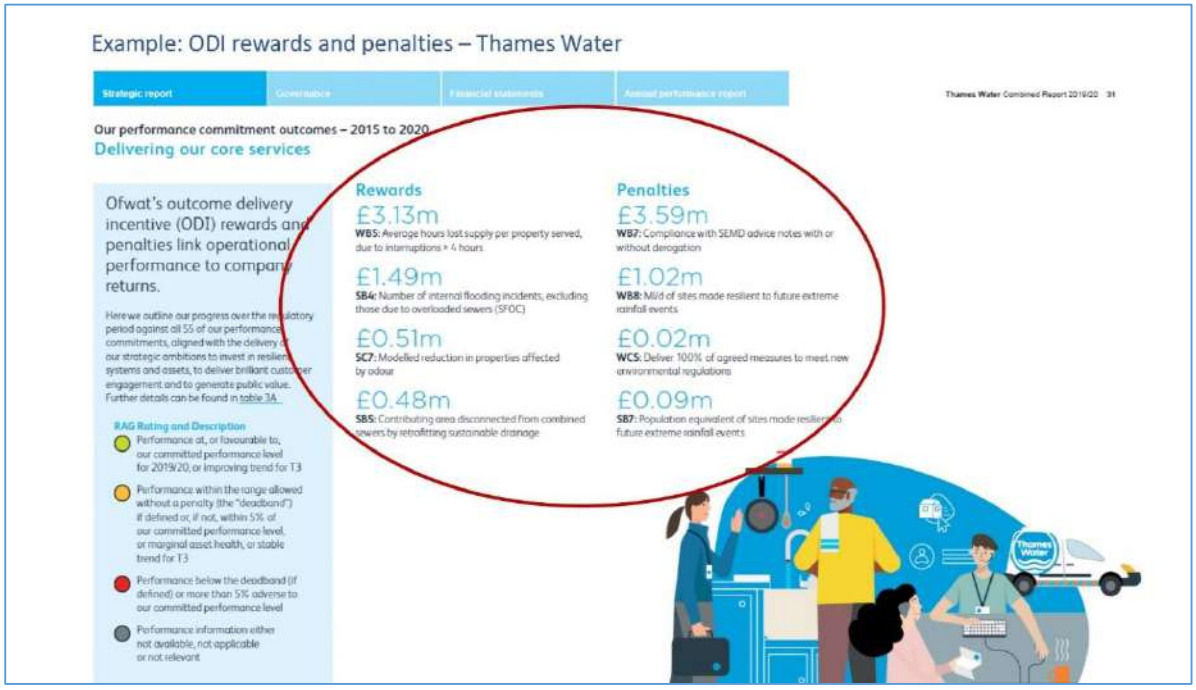
Outcome Delivery Incentive (ODI)

Some Performance Commitments are underpinned by the Outcome Delivery Incentive (ODI) scheme, e.g. because of general sector priority defined by the regulator:

- supply interruptions, pollution incidents and internal sewer flooding (upper-quartile measures)
- reducing water demand— measured as leakage and per capita consumption
- asset health measures—measured as mains repairs, unplanned outage, sewer collapses, external sewer flooding, water quality (…)
- resilience measures—measured as risks of sewer flooding in a storm and severe restriction in a drought

Examples of financial implications:

- The incentives to reduce water leakage expose companies to penalties in excess of £510 million when aggregated and rewards of up to £228 million.
- The incentives to reduce interruptions to water supply expose companies to penalties of up to £291 million and rewards of up to £234 million.



Note: this slide shows a page from the annual report of Thames Water and provides an overview of the rewards and penalties that resulted from the outcome delivery incentives for the period 2015 to 2020.

Access the full report here: https://www.thameswater.co.uk/about-us/investors/our-results

Netherlands
Benchmarking beyond classical water sector indicators

Comparing costs per connection

The total costs per connection range from € 144 to € 215, broken down into 4 cost categories

Such comparison can

- Create transparency
- Reveal inefficiencies or highlight best practices
- Create competition
- Protect consumers

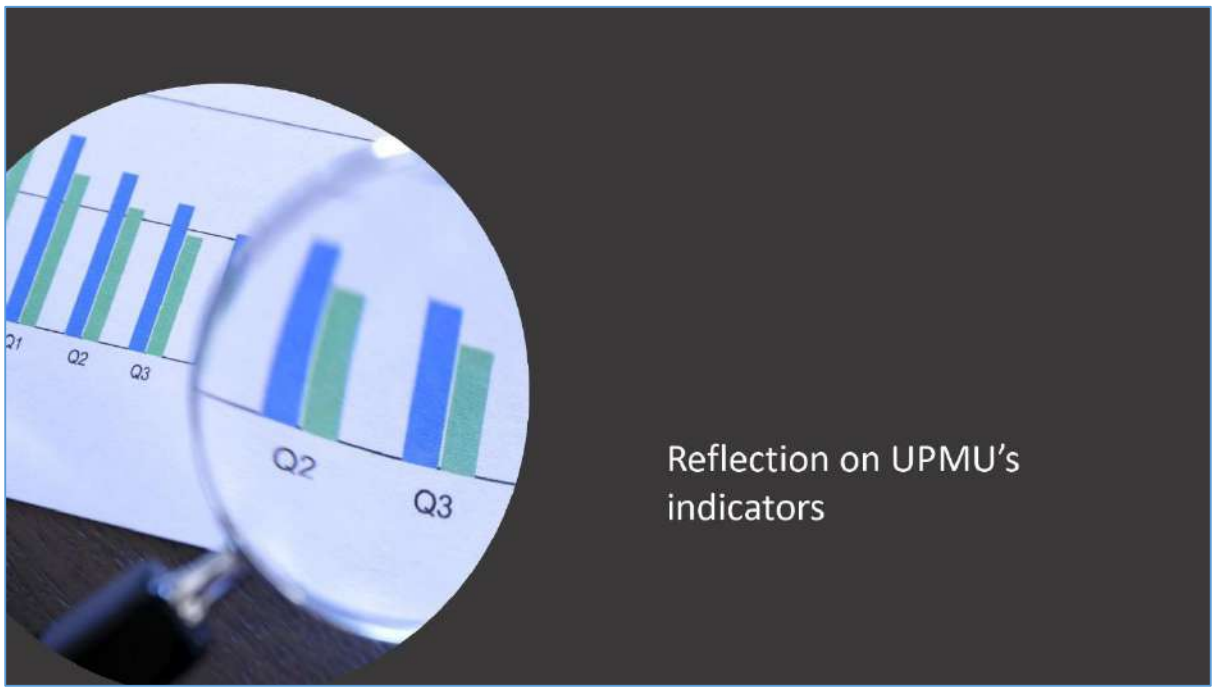
	Total costs € / connection	Taxes € / connection	Costs of capital € / connection	Depreciations € / connection	Operational costs € / connection
WMD	144	2	5	32	105
Vitens	144	3	29	39	74
Brabant Water	145	3	30	23	90
WBGr	157	3	16	29	109
WML	192	1	42	50	98
Evides	194	4	44	53	92
Waternet	202	1	35	48	119
Dunea	204	16	15	58	116
Oasen	210	7	19	39	145
PWN	215	0	32	54	128
Sector	172	4	30	42	97

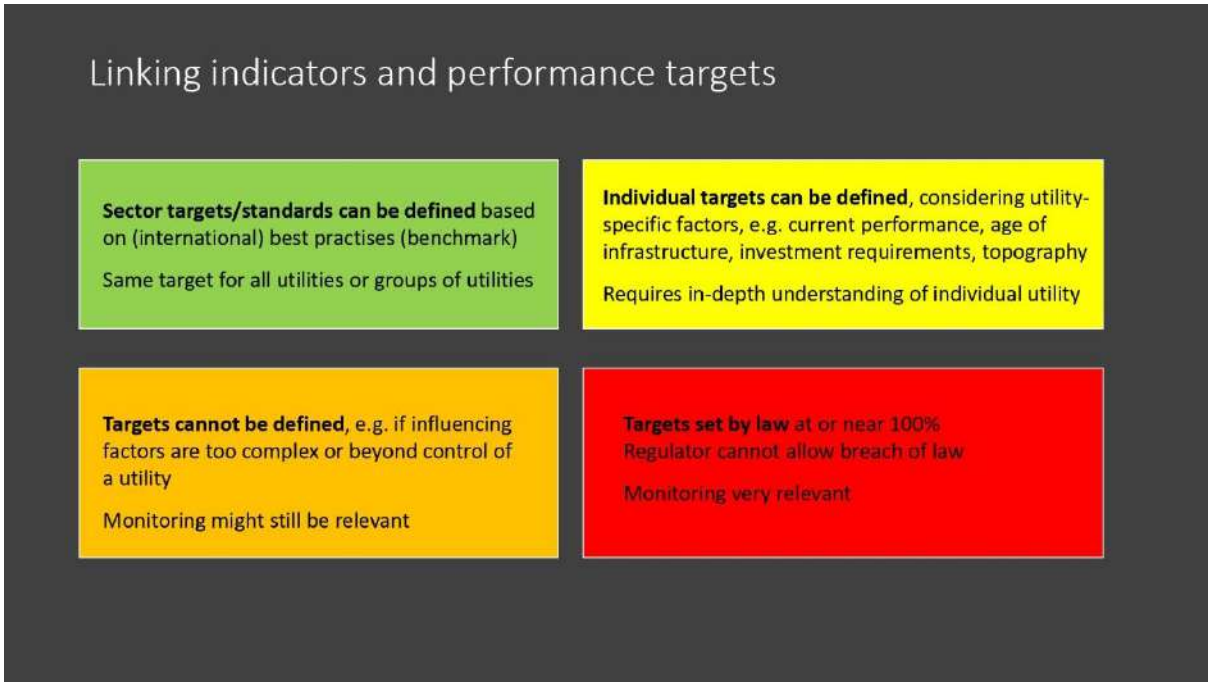
Source: VEWIN (2013, p. 45)

Note: The regulator in the Netherlands shows that regulation can use benchmarks beyond the most common water sector indicators as long as there is a certain degree of comparability.

This is the case for instance for the costs per connection. The regulator compared those costs, broken down into 4 cost categories and used this comparison to reveal inefficiencies, to create competition and to protect consumers from inflated costs.

Of wat in the UK has carried out similar comparisons in the past.





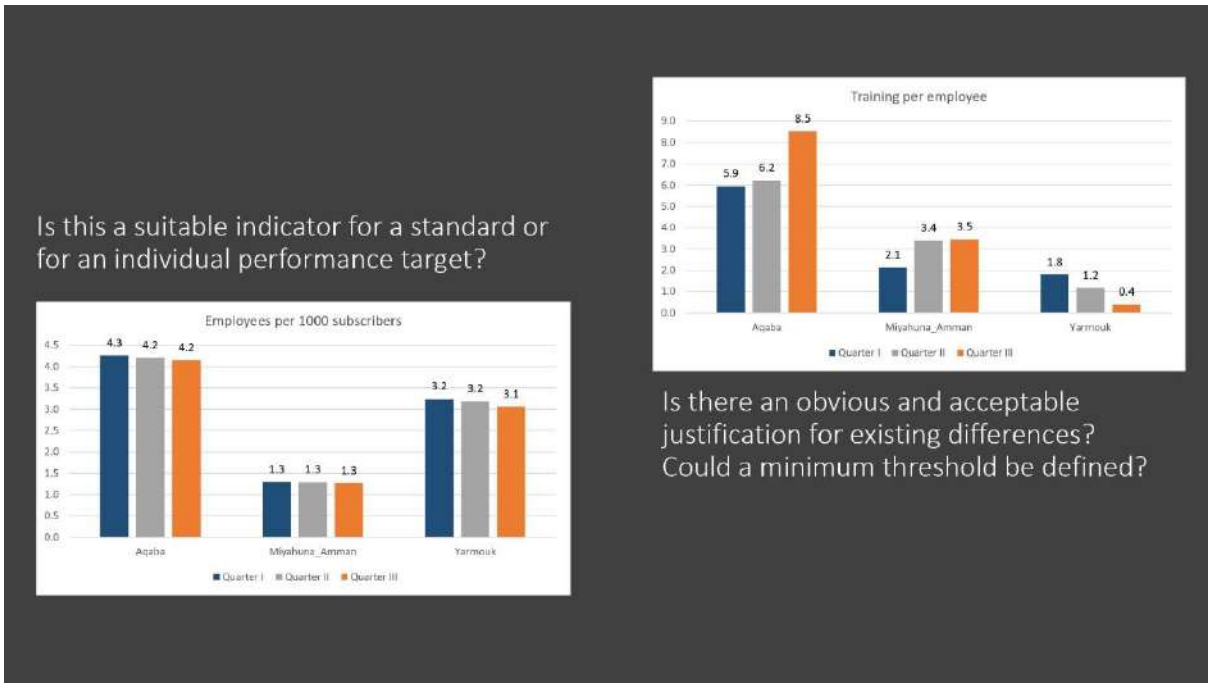
Note: Moving forward, UPMU should consider to categorise the performance targets calculated in the Excel tool into 4 groups as outlined in this slide.

It is important to understand that not every indicator that is being monitored by a regulator can or should be used to prescribe performance targets

Note: For some performance indicators, it is not possible to establish a specific performance target.

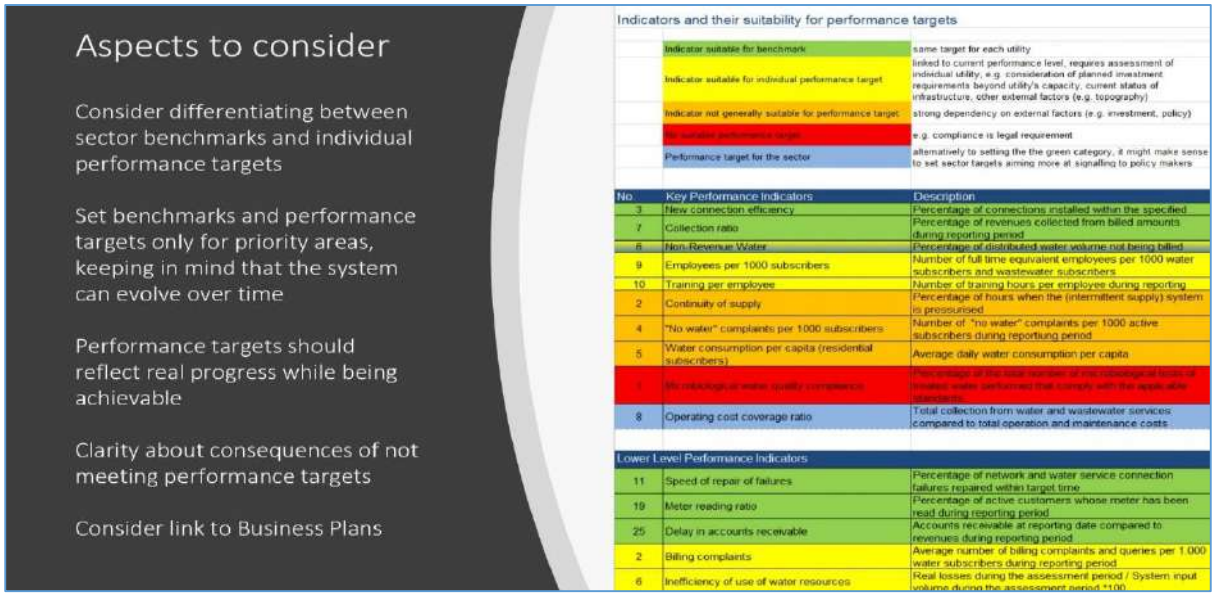
E.g. for water resources used per capita, Aqaba's higher consumption results from the larger share of industrial customers. It is, therefore, not an expression of inefficiency.

Likewise, the average water charges for billed consumption are a direct result of the tariff structure and consumption patterns of customers. While a higher average water charge might be better for the financial status of a utility, it could also be the result of unequal water distribution during periods of water scarcity. I.e. there is no unambiguous way to establish a performance target for this indicator, but it is still important for UPMU to analyse and understand the differences between the utilities and to identify potential issues of concern.

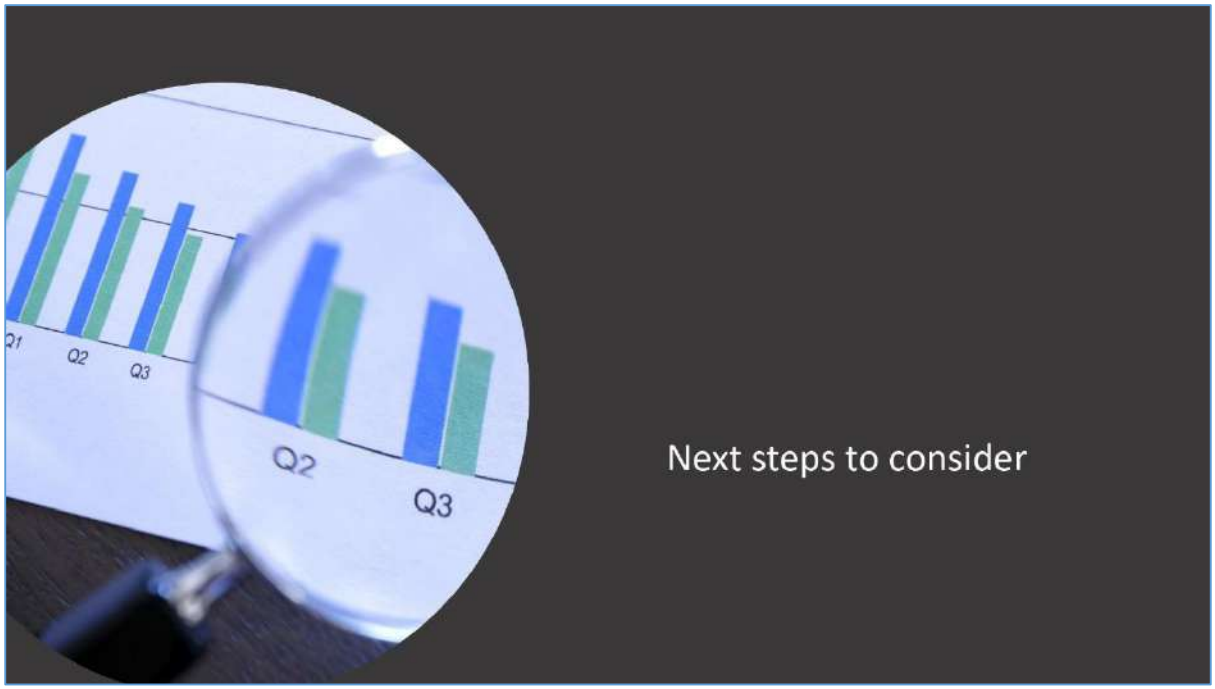


Note: For employees per 1000 connections, regulators often do set performance targets. However, they might differentiate between larger and smaller utilities. Given its size, there might be a justification for Aqaba to have more staff per 1000 connections than Miyahuna. But what is an acceptable level? This requires deeper understanding which UPMU might develop over time.

Similarly, for the indicator of “training per employee”. Staff development is an important task of utilities that is very often neglected. UPMU would need to discuss with utilities to understand the current demand for training and the differences between utilities to be able to decide, whether there should.



Note: be a performance target and whether it should be the same for all utilities.



Next steps

Define short- and medium-term goals for benchmarking and performance targets

Screen your indicator list to highlight suitable indicators for benchmarks and performance targets

Set “first generation” priority benchmarks and performance targets jointly with utilities

Include achievement of targets in future progress reports

1.2 Mark Oelmann

1.2.1 Time Schedule for the visit of Dr. Mark Oelmann and Felix Richter (11th to 18th December 2019)

Management of water resources in Jordan
PN: 2018.2226.1
C: Regulation and Private Sector Particpation
Time Schedule for the visit of Dr. Mark Oelmann and Felix Richter
11th Dec. to 18th Dec. 2019 (3rd mission)

Monday 16 Dec. 2019

Date	Time	Activity	Notes / Remarks
Wednesday 11.12.2019		Arrival to the Hotel in the evening	
Thursday 12.12.2019	09:00 – 10:00	Meeting with Mrs. Frauke Neumann-Silkow Head of GIZ Water Portfolio	MWI – 7th floor- Mrs. Frauke office (Confirmed)
	10:00 – 11:00	Meeting with Mr. Udo Kachel - UPMU coordinator	MWI – 2nd floor (Confirmed)
	11:00 – 12:00	Internal discussion to finalize points to be discussed with Decision makers later in the day	MWI – ground floor – project office (Confirmed)
	12:00 – 13:30	Presentation followed by discussion with Decision makers to have Guidance and Inputs for the workshop on Regulation	By Dr. Mark Oelmann. WAJ SG office (Confirmed)
	12:00 – 15:00	**In parallel "Individual meetings with UPMU Staff"**	Felix Richter, Room # 405, MWI Building (Time table is Attached) *
	13:30 – 16:00	*Out of the office for official GIZ engagement*	*Nayef and Zeyad*
Friday 13.12.2019		Preparation	Hotel
Saturday 14.12.2019		Preparation	Hotel
Sunday 15.12.2019	09:00 – 15:00	**Workshop on:** **Regulation in general** **Vision/mission/guiding principles** Relevant UPMU Staff	Marriott Hotel - 9 participants Detailed Agenda by Dr. Mark (attached)
Monday 16.12.2019	09:00 – 10:30	Internal discussion	MWI – ground floor – project office (Confirmed)
	11:00 – 15:00	**Workshop with UPMU staff on;** **Roles, road map, institutional setup**	Room # 104 MWI Building booked for 9 Participants Detailed Agenda by Felix (later)
Tuesday 17.12.2019	09:00 – 10:30	Internal discussion to review work plan	MWI – ground floor – project office (Confirmed)
	10:45 – 12:30	**Meeting with Staff from Financial department and Miyahuna, Financial Director relating Financial Study**	**WAJ- Financial Dep. Mr. Hussien Surkhi and Mohammad Al Akhras and Baha Baghdadi from Miyahuna. Meeting room – 6th floor- WAJ (Confirmed)**
	12:45 – 13.30	Debriefing meeting with Decision makers	To be confirmed
	13:30 – 14:45	Meeting WMI Project	WAJ – 4th Floor- WMI office – (Confirmed)
	14:15 - 15:00	Internal discussing on Capacity Buildings and needs	MWI – ground floor – project office (Confirmed)
	15:00 - 15:45	Meeting with Mrs. Frauke Neumann-Silkow - Head of GIZ Water Portfolio / closing meeting	MWI – 7th floor – Mrs. Frauke office (Confirmed)
Wednesday 18.12.2019		Departure	

WAJ: Water Authority of Jordan. MWI: Ministry of Water and Irrigation. PMU: Program Management Unit. UPMU: Utility Performance Monitoring Unit

Schedule for the individual meetings Thursday 12 Dec. 2019 with Felix Richter

Place: **Room No. 405**, Ministry of Water and Irrigation

between Felix and UPMU Staff on Thursday 12.12. 2019.

12:00 – 12:30	Eng. Lubna Weshah.
12:30 – 13:00	Eng. Jamal Naouri.
13:00 – 13:30	Mr. Hussain Surakhi
13:30 – 14:00	Dr. Ahmad AlAzzam.
14:00 - 14:30	Mr. Ibraheem Obadah.

1.2.2 Current and future mandate of new UPMU and its implications presentation (12th to 17th December 2019)

Current and future mandate of new UPMU and its implications

Jordan, Dec. 12th – 17th 2019

Prof. Dr. Mark Oelmann

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Content

1. Fundamentals of regulation
2. Regulation as an approach to enable corporatization in water/wastewater
3. Functions of old PMU according to Assignment Agreements and PMU Rules and Procedures
4. Future Tasks according to BOC Decision and Implications

Appendix: Structure of last year's report

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1. Fundamentals of regulation

The starting point benchmarking

Problems of a natural monopoly

- Tend to take monopoly prices
- Do not face competition

Most relevant for Jordan

Several approaches on how to deal with a natural monopoly

Incentive regulation
- Price-cap regulation
- Revenue-cap regulation
- Yardstick regulation
- + linking subsidies to performance if no cost-covering tariffs; standard setting

- Naming companies with their performance
- Shaming for missed goals
- Faming outperformer

Each incentive regulation has its foundation in benchmarking → always the first step with main intention to foster corporatization

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2. Regulation as an approach to enable corporatization

Separation of roles to be maintained

Market failure of a natural monoply (minor intrinsic incentives to improve) justifies regulation.

The regulator does not tell the companies how to do their buisness!

The regulator steers with KPI - Targets! Developing KPI-targets is the result of benchmarking and business plans handed in by corporations.

How the corporation reaches the targets is solely task of the CEO! Neither the regulator nor other „non-corporations" should be drawn into micro-management.

A non-achievement of targets should have personal consequences for CEOs/top management. This implies a strong regulator. But what is a strong regulator.....

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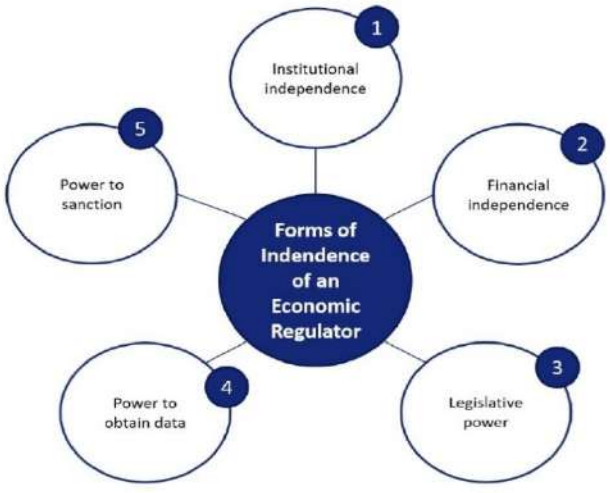
2. Regulation as an approach to enable corporatization

Strength of regulator depends on degrees of independence



Setting up a regulator with only parts of these independences can result in an entitiy which is not able to fulfill its tasks.

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3. Functions of old PMU according to Assignment Agreements (AW, Miyahuna 12.1.2) and PMU Rules and Procedures

Old PMU ...

... Performance Monitoring; Business Plan Review	... Cost-effectiveness Monitoring	... Reviewing tariffs	... Customer Service Monitoring [... Developing yearly reports]
•Many options to request data, conduct proceedings and to monitor (PMU RP Sect. 8, 10, 15) •Setting KPI targets (PMU RP Sect. 9; AA 12.1.2.4) •Reports on individual performance of utilities (PMU RP Sect. 3 and 11; AA) • Review Business Plans and capital budget (PMU RP Sect. 3; AA 12.1.2.2)	•Calculation of effects of investments on tariffs to reach performance indicator objectives (PMU RP Sect. 3; AA 12.1.2.6)	•*Develop appropriate tariff setting methodology* (PMU RP Sect. 12 (3)) •*Review tariff adjustment issues* (PMU RP Sect. 3)	• *Monitor customer service performance incl. response to service complaints (PMU RP Sect. 3)* • *Making proposals on ... Sector reform initiatives and matters relating to the continuing development)* Setting KPI targets (PMU RP Sect. 11, 2f)

Legal framework for old PMU already entailed a number of functions which will also be necessary for UPMU. This is a good basis as well as interim functions to further build on.
What is already been done and has to be done now to implement future mandate?

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4. Future Tasks according to BOC Decision and Implications (1)

Water Regulatory Commission (mandate): Final draft – 3rd December 2019

General remark: These future tasks are very much in line with best international practice and thus give important and good guidance for the future development of UPMU.

1. Set & Evaluate Operational Performance Targets: This activity previously done by PMU and currently to be done by the new unit created for this purpose
   → already taken care of (data delivery, KPI setting (high level, operational level), processes of UPMU with companies,and BoDs

2. Monitor Compliance with standard of KPI's: This was implemented by former PMU under the umbrella of Assignment Agreements should be done by third independent party like the regulator as per License agreements. Essential to this function is a self-reporting mechanism by the utilities.
   → performance measurement to be taken care of; reporting requirements and procedures of data exchange also to be delivered
   → License Agreements not under current contract; Jord. lawyer needed

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4. Future Tasks according to BOC Decision and Implications (2)

Water Regulatory Commission (mandate): Final draft – 3rd December 2019

3. Review and recommend tariff: This activity includes the review of cost recovery levels of the sector and the analysis of costs recovered by tariff and the amount of required subsidies by utility. Regulator should prepare an options analysis for the Cabinet.

→ ToR for financial study is part of current project
→ Government needs to take a decision on future financing of sector – financial study shall give the background to take a decision
→ Based on governmental decision a tariff setting guideline and a subsidy granting guideline have to be developed

4. Recommend Subsidy: As part of the tariff analysis, this function will allow the precise estimation of subsidies required by each utility and the reason of these, assuring that efficiency factors are met.

→ To do's under point 3 ensure that this task can also be fulfilled

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4. Future Tasks according to BOC Decision and Implications (3)

Water Regulatory Commission (mandate): Final draft – 3rd December 2019

5. Incentive/Penalties on Service Delivery: This function will include a detailed list of causes and results of incentives and penalties that will be specified in license agreements for each operator. Execution will be in the hands of Regulator.

→ Very important and crucial point (see levels of independence); License Agreements not under current contract; Jord. lawyer needed

6. Settle customer complaints and disputes between regulated entities: These functions will be carried out by the Regulator following an internal regulation. Second level of complaint in addition to the utilities system of complaints management.

→ Customer Service Guideline to be developed
→ General process concerning customer service and role of UPMU to be developed; to be laid down in licence and/or UPMU law

7. Conduct inspections and investigations: This function to be carried out by the Regulator will be a routine exercise that utilities should be prepared to deal with.

→ Very important and crucial point (see levels of independence); general procedure to be developed; additionally to be taken care of in license)

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4. Future Tasks according to BOC Decision and Implications (4)

Water Regulatory Commission (mandate): Final draft – 3rd December 2019

8. Recommends updates and changes on laws, legislation and regulations: This function involves the constant evaluation of existing laws and regulations and the analysis of its impacts of financial and operational performance results to guide the drafting of amendments of laws and regulations and the development of proposals to implement those changes at the level of Ministry, Cabinet and the legislative body.

→ UPMU shall file an annual report and should also evaluate where and how companies face problems in performing their mandate; not only commenting laws and regulations; not part of current contract – however certain help at least for first report probably needed

Overall: Future tasks good. Additional need of an UPMU law – only license agreements with companies might not be sufficient; such a law needs to show for example in detail how steering committee, head of UPMU is elected, how the interaction between formal organs take place and what degree of independence is granted to UPMU!
A Jordanian lawyer will be needed.

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Appendix: Structure of Last Year's Report

Report

"Observations and way forward concerning regulatory/institutional issues in the Jordan Water sector"

- **Display of the current problems of regulation and policy issues**
- **Outline of the relationship between the ministry, WAJ, PMU, the companies and their BODs**
- **Advice on how to strengthen the concept of corporatization**
- **Display of the different options on how to set up and where to place a regulator**
- **Suggestions on proposal activities for the Jordanian water and wastewater sector**

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5. Where to place PMU

General considerations

A regulator can be placed at different positions within the overall organization of the water and wastewater sector

1 **Regulator affiliated to Minister**

- The regulatory agency could be affiliated to the Minister/Ministry/ WAJ as a dependent agency
- The minister retains important responsibilities like a final decision on tariffs

2 **Regulator as division of other independent regulator (e.g. Energy)**

- Affiliation of the regulator to an already existing entity – main idea: new regulation should profit from already built-up reputation
- Example Germany: regulation of energy and railway was taken up by the existing regulator for telecommunication and postal services

Approximately 20% of countries/regions worlwide have decided to choose a dependent regulator.

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5. Where to place PMU

The favored concept of implementing a regulatory agency in Jordan is an affiliated regulator (Option 1) – The question is where to exactly link it

Pros

- Synergies in work according to WAJ Law and PMU RP (tariff review; investments of corpora-tions)
- Transfer of personnel might be easier (WAJ has more freedom in paying good employees) (Waj Law Art. 13)
- PMU currently is affiliated to WAJ.
- Less legal acts have to be changed
- WAJ has built up strong reputation in sector

WAJ

Cons

- WAJ is owner of companies → this could cause a conflict of interest e.g. by reporting deteriorations in performance
- WAJ might be strengthened compared to BoDs
- PMU is regarded as part of WAJ with less options to build up own reputation
- Conflict of roles: Whereas WAJ as owner might also be interested in daily business, PMU has to ensure that it is not micro-managing
- PMU less independent – besides Minister SG might interfere

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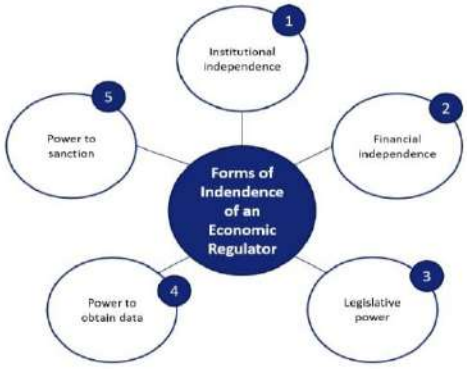
5. Where to place PMU

Setting up an affiliated regulator with independence

Questions that arise concerning independence

A legal act / amendment of the by-law of the ministry could incorporate elements of independence for PMU → but which forms of independence do we talk about?



Setting up a regulator with only parts of these independences can result in an entitiy which is not able to fulfill its tasks.

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4. Current financing of companies important task to be solved

Options to finance the water and wastewater companies – tariffs and subsidies

That tariffs are not covering total cost is common for many countries, however uncommon at least for most of the European countries

Jordan does not have full cost coverage and with increasing electricity tariffs with at the same time an abstinence of applying dynamic tariffs also in water implies the need to subsidise.

Tariffs are not calculated on an individual basis but are the same for the whole country. →different specific situations of the companies imply drastic variations in the financial situations of the different corporations.

Important step to conquer this situation is the development of a compelling and reliable funding scheme. ToR for Financing Study part of current work.

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5. Current Tasks according to Council Decision and Link to Project

Numbers in brackets refer to list of tasks according to Council Decision

1. Monitor the performance of the companies owned by WAJ (fully or partially)
   → soon to be done

2. Set and develop the KPI baselines and the mechanisms of their calculation (2)
   → currently being done

3. Set the (KPI) targets in cooperation with the companies and in accordance with the water policies (5)
   → soon to be done

4. Compare and evaluate the performance of the companies on their basis (2)
   → structure of an annual report soon to be done

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5. Current Tasks according to Council Decision and Link to Project

Numbers in brackets refer to list of tasks according to Council Decision

5. Issue the performance report (1)
   → to be written by UPMU thereafter

6. (Approve) company business plans (5)
   → linkages between company business plan and regulatory business plan soon to be displayed and discussed

7. Issue the basis and general evidence which outline the frameworks for the development of internal working guidelines and procedures, such as the staff guidelines, financial guidelines and others (4)
   → processes how UPMU works internally as well as with companies, board of directors of companies and steering committee soon to be developed
   → the same holds true for data delivery from companies for benchmarking
   → discussion on the need of additional guidelines (e.g. customer service guideline, business planning guideline, cost accounting guideline)
   → proposal: no guidelines how companies organize their internal processes (no micro-management (slide 4)), facilitation of discussion rounds with moderator UPMU

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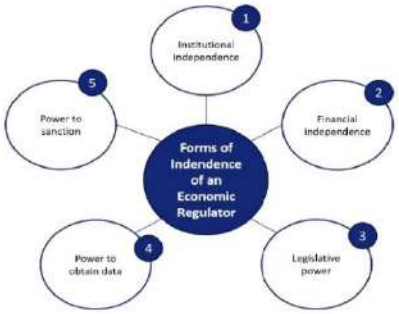
5. Where to place PMU

Setting up an affiliated regulator with independence



1. Institutional independence:
- PMU independent public body with detailed rights and obligations (similar to Waj according to WAJ Law Art. 3)
- Installing/Dismissal of PMU Director/Management
- Clarifying functions of PMU (PMU RP Sect. 3)
- Developing vision
- Defining principles for work: e.g. transparency, non-discrimination, participation, rule-based decision-making
- Public reporting requirements for PMU

2. Financial independence:
- Percentage of turnover of corporations/companies

Institutional independence is not a "one-way-street". Yearly performance contracts for PMU ensure that the regulatory unit is also thriving to improve its performance (similar to WAJ → delivering report to Council of Ministers; Art. 29 WAJ Law).

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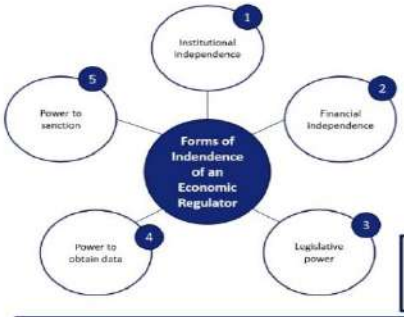
5. Where to place PMU

Setting up an affiliated regulator with independence



3. Legislative power:
- By-law should assign the right to PMU to issue certain guidelines which would then be legally binding for corporations (e.g. business planning guideline, cost accounting guideline, customer complaint guideline ...)
- In certain countries in case of disputes arbitration is performed by regulator

4. Power to obtain data:
- Sufficiently taken care of in AA and PMU RP

5. Power to sanction:
- Financial penalties, additional reporting requirements, maybe even the possibility to dismiss a CEO of a corporation (WAJ → Art. 30 up to 2 years imprisonment)

If these levels of independence are taken care of PMU can develop into a strong actor even if it would remain with WAJ, the ministry or the minister.

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6. Steps to improve regulation by PMU

1. Establishing and strengthening a dependent regulatory unit

Establishing resp. strengthening a dependent regulatory unit (PMU) affiliated to the minister/ministry/WAJ with as much independence as possible ensured by ring-fencing (e.g. amendments of ministry by-law, obligation to publish reports). The use of performance contracts between minister/ministry/WAJ and PMU also .

Legal study: Decisions from first step have to be legally formulated; current PMU rules and procedures ... to be reconsidered

Organisational study, which illustrates how many employees with what kind of qualifications are needed to work in which departments of PMU

Study on the IT- and data-systems: The aim is to analyse whether the collection and delivery of data between corporations and PMU could be performed more efficiently.

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6. Steps to improve regulation by PMU

2. Development of regulatory instruments and a sustainable and predictable financing system

Development of a transparent, publically available benchmarking, which compares companies. The benchmarking should be set up in a kind of strengthening the credibility of the regulator. BoDs should be trained how to best use the performance reports to better challenge their CEO's.

Study on options how to finance the water and wastewater companies in a more sustainable way. This by doing an in-depth review of the full-cost structure of each company, a calculation of the potential revenues, the derived subsidies and a proposal of a sustainable and predictable financing system.

Further development of regulatory instruments: Linking the provision of subsidies to performance of corporations, developing guidelines e.g. on business planning, strengthening consumer involvement.

Establish a yearly report by the regulatory unit on the problems the companies face and how PMU has achieved its targets.

3. Exchange with other dependent regulators (e.g. Portugal, Lithuania)

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1.2.3 Regulation workshop agenda and presentation (15th December 2019)

giz | Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH
Moh'd Baseem Al-Khammash St.13 Sweifieh
P.O. BOX 92 62 38
Amman 11190
Jordan

Agenda

Introduction to Water Utilities Regulation

Venue: Marriott Hotel

Sunday, Dec. 15, 2019,

9:00 am – 3:00 pm

Time	Content
8:30 – 9:00	Registration and Welcome Coffee
9:00-9:15	Introduction
9:15-10:30	Why do we regulate?
10:30-11:00	Coffee Break
11:00-11:30	What do we regulate?
11:30-13:00	How do we regulate? (1)
13:00-13:45	Lunch Break
13:45-14:15	How do we regulate? (2)
14:15-14:45	Broadening our view: Newest developments in water utility regulation
14:45-15:30	Remaining questions: Water utility regulation with the very particular focus on Jordan

Summary of Key Messages

Water Utility Regulation

An Introduction into Practical Experiences for UPMU

Prof. Dr. Mark Oelmann

MOcons

Amman, 15th Dec. 2019

Content

Introduction

Objective of this workshop

Get an overview of:

- … various components of water utility regulation (and best-practice examples)
- … interdependencies in water utility regulation

And derive suitable elements of regulation for the Jordan situation.

Due to feedback of UPMU employees in workshop the goals of an improved regulatory framework should be i.a.:

- Create an independent regulator
- Implement a clear regulation and clear processes
- The relationship between UPMU and WC needs to be improved
- Increase transparency

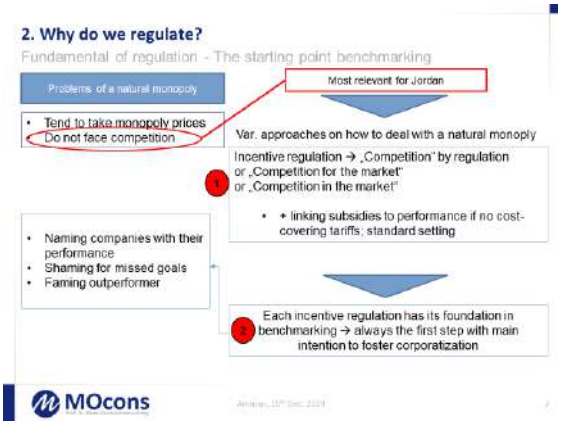
1. Why do we regulate?

1.1 Economic reasons

Why do we regulate?

Compared to other industries water customers can´t change their water supplier.

➔ Water industry does not face competition! Thus: How can we set incentives for WCs to improve in their service delivery.



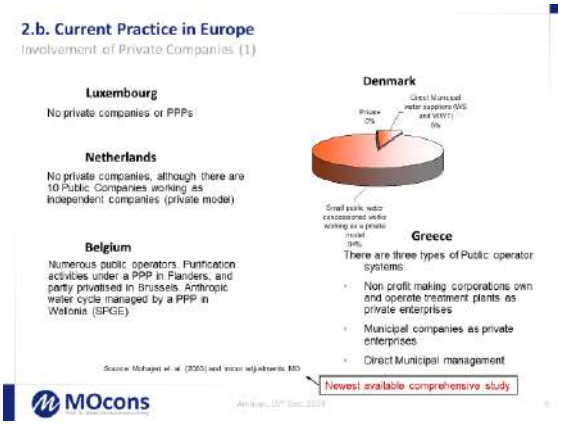
Several approaches on how to deal with natural monopolies like water industry:

Different forms of incentive regulation

- "Competition" by regulation
- "Competition" for the market
- "Competition" in the market

➔ Each incentive regulation has its foundation in benchmarking

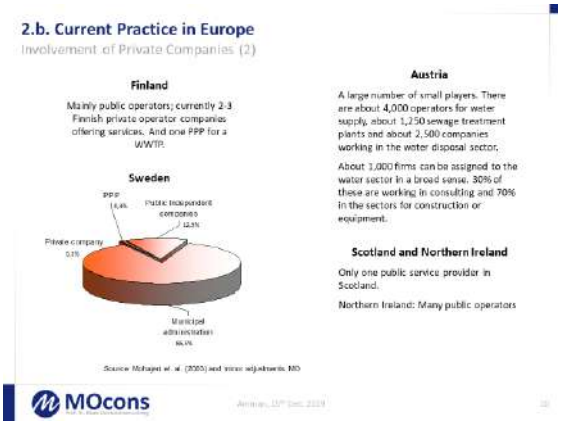
1.2 Current practice in Europe



The following slides just create an overview of the variety, how European countries structure their water markets.

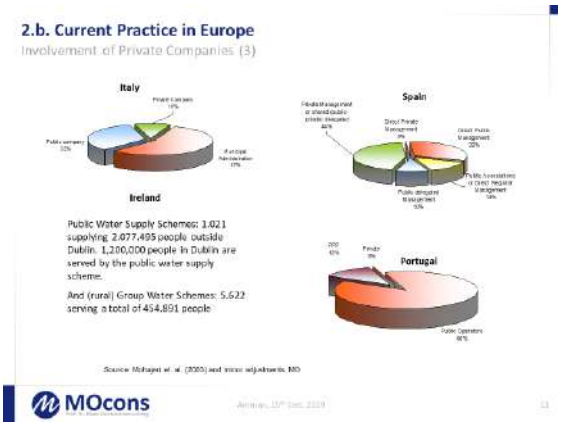
They differ according to the…

- Size of companies
- Ownership (private, public, PPP)
- Integrated delivery of both water and wastewater service
- Form of regulation



Mainly public companies

- Finland (private model)
- Sweden (partly private model)
- Scotland
- Northern Ireland (private model)
- Austria (private model)

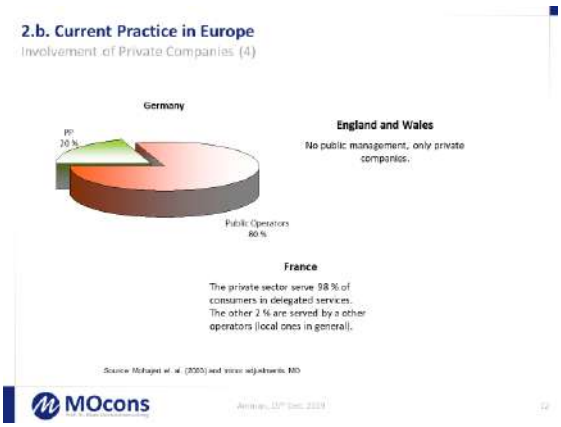


Mainly public companies

- Italy (partly private model)
- Ireland (private model)
- Portugal

Public and private companies

- Spain



Mainly public companies

- Germany

Mainly Private

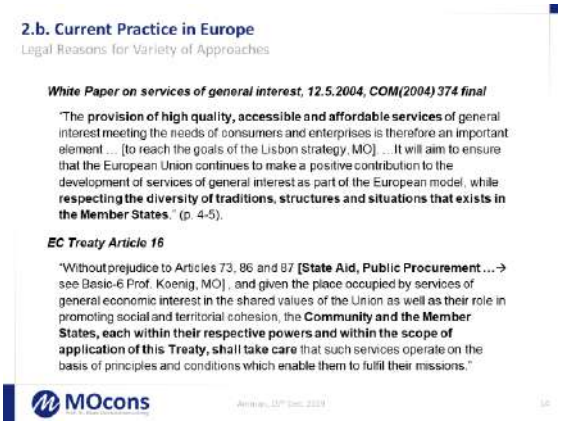
- France

Only private companies

- England
- Wales

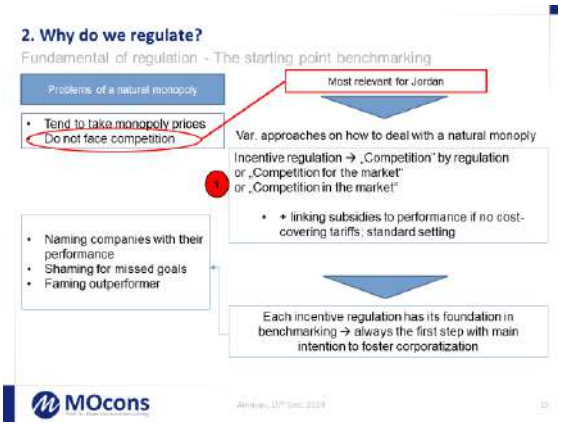
Heterogenous approaches of water and wastewater regulation all over Europe:

- Competition in the market (network regulation)
- Benchmarking voluntarily/ compulsory
- Ex-post regulation by cartel offices
- Competition for the market
- Competition by regulation



How come that we do not have a similar approach like we in for example in the regulation of electricity, gas or telecommunications?

The reason for the heterogeneous regulatory approaches in Europe are the diversity of traditions, structures and situations that exist in the respective states. European Commission was not successful in issuing an European Directive on Water Utility Regulation.



Given the different regulation approaches

- Competition by regulation
- Competition for the market
- Competition in the market

the question is, what is the best regulatory option for Jordan (by taking into account the respective historical framework and structure of the water sector)

Let us start with Competition in the market.

1.3 Regulation vs. Competition

Competition **in** the market → closest to non-monopoly situation

To allow competition in the market the natural monopoly element must be precisely defined and regulated, while the rest of the value chain must be unbundled to encourage competition in these elements.

➔ Main question: Is it possible?

Water sector - Competition **in** the market

➔ Access to monopoly network facilities

➔ Not a valuable approach (1)

- Water is costly to transport
- Production cost relatively low (an open market would only account for competition for roughly 40% of the total costs)
- Water is not homogenous

➔ Not a valuable approach (2)

- Lack of national water grids
- Vertical separation leads to loss in
  - economies of scope
  - and the internalization of externalities
- Supplier needs to keep last resort

Conclusion: Not relevant for Jordan; England will make some experiences in 2020's

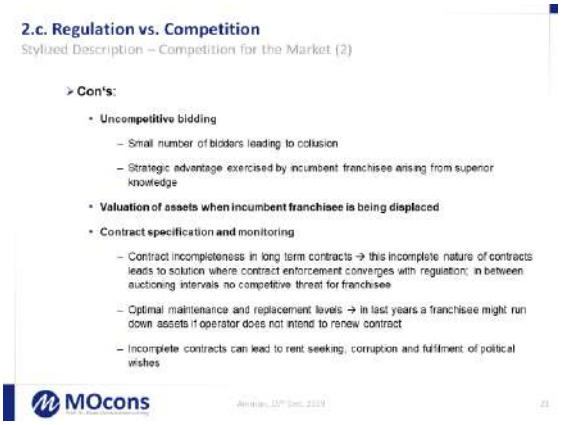
Water sector - Competition **for** the market (similar to PPPs)

Operation of natural monopoly is auctioned

- To lowest water price offer
- Or largest money amount offered

Pro´s:

- High transparency
- Lower regulatory risk (less need for regulator)
- High incentive to increase efficiency

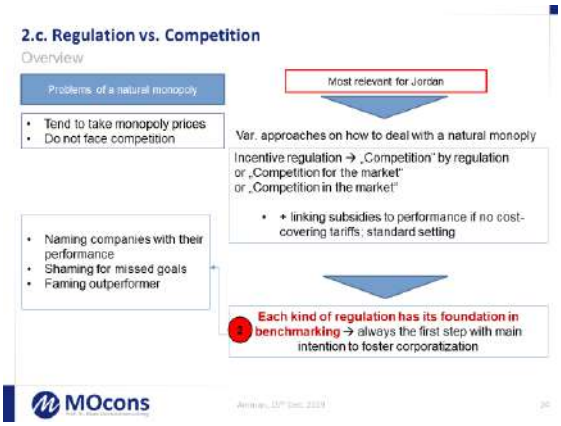


Con´s:

- Uncompetitive bidding (collusion)
- Valuation of assets in case of transition of power
- Contract specification and monitoring (converges with regulation)
- Lack of optimal maintenance and replacement levels (especially in the last year)

Summary: A country entering into PPPs might decide between:

- Long-term contracts: Highly detailed and inflexible
- Short-term contracts: hesitation to bring in capital for investments by private companies



Competition **by Regulation**

Revenues are regulated

- ➔ creates incentive to reduce costs, because reducing costs raises profit
- ➔ Quality and investment regulation are needed

Attention:

- Tariffs need to be cost covering
- PPPs → combination of different regulatory approaches

One day a combination of competition **for** the market and competition **by regulation** might evolve Jordan.

However, each kind of regulation has its foundation in **benchmarking**! The reason is that a regulator needs to gain knowledge by collecting and analysing data. He would then be also the actor to oversee PPPs or at least in assisting to oversee PPPs.

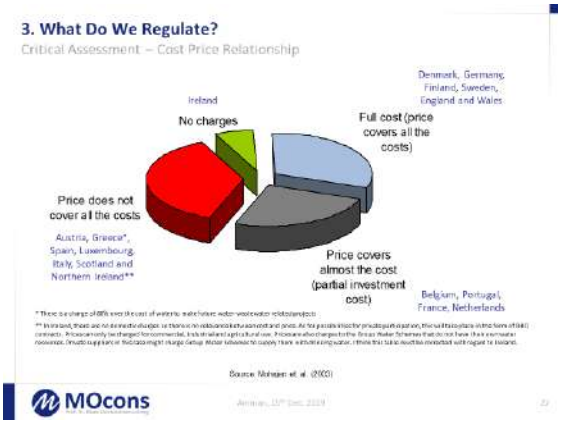
2. What do we regulate?

What do we regulate? Prices

However: Differing pricing do not imply that companies in certain countries are better or worse.

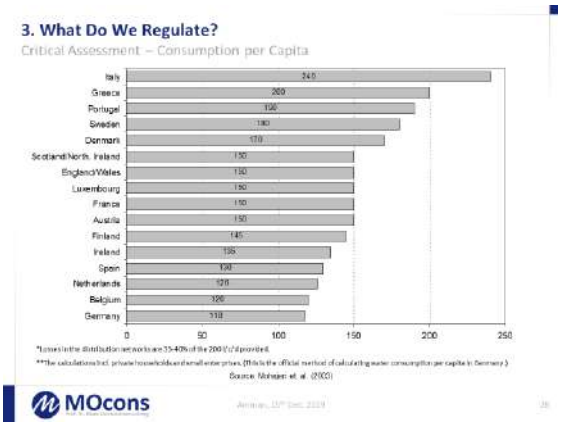
Reason: Many factors determine different prices.

➔ Which factors may explain different prices?

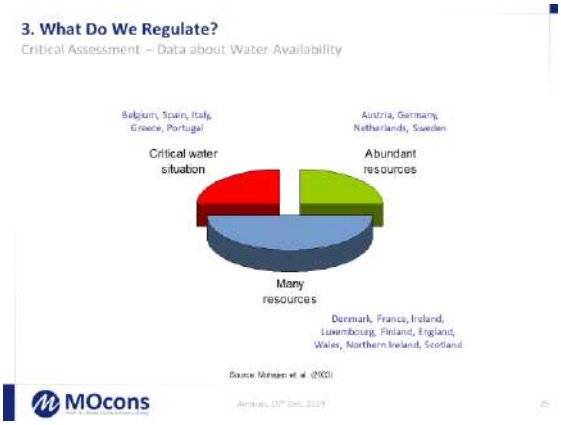


The **cost price relationship** is what regulation needs to focus on!

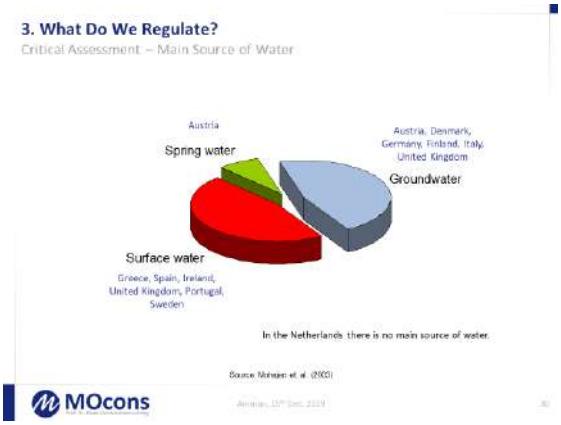
The price does not reveal the efficiency of utilities, especially when the price is not covering the costs.



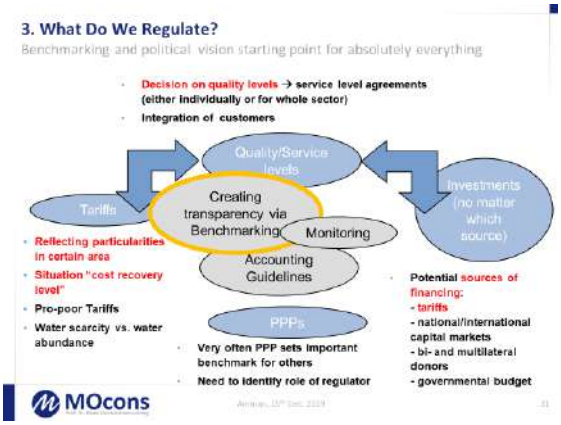
Water **consumption** per capita **varies** a lot in different countries and needs to be considered in the regulatory framework.



Water **availability varies** a lot for different countries and needs to be considered if we observe different prices in different countries.



Main source of water varies a lot for different countries and needs to be considered in the regulatory framework.



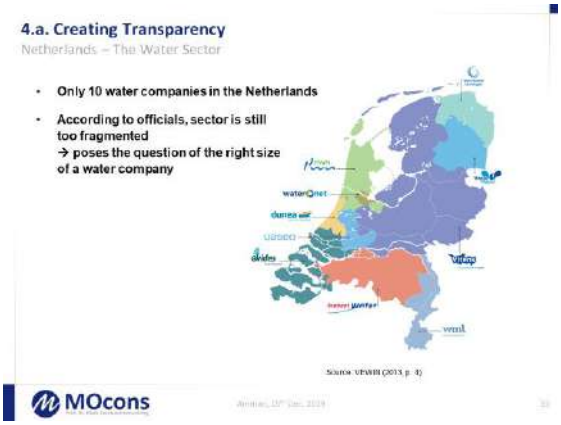
Thus: Benchmarking tries to create transparency
Regulation normally has to balance…

- Tariffs
  - cost recovery levels
  - orientated on ability to pay
- Optimal Quality/ Service levels
  - Investments

Always the starting point: monitoring and reliable accounting

3. How do we regulate?

3.1 Creating transparency

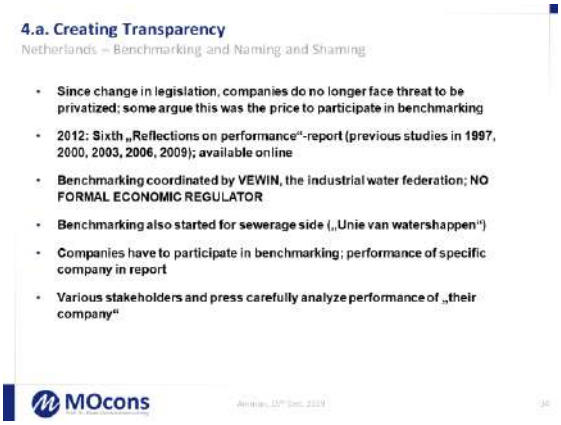


Our first example are the Netherlands:

➔ 10 Water companies in NL

Questions the Dutch deal with:

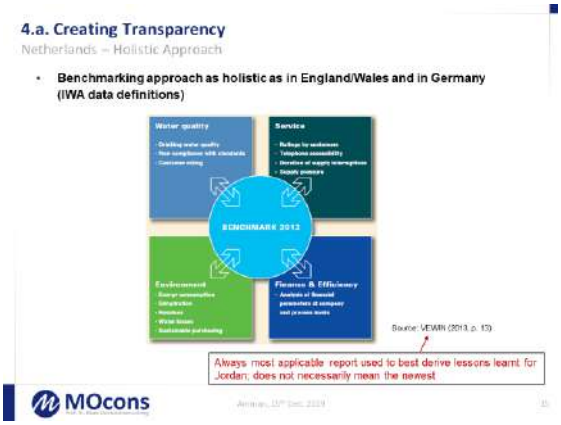
- Optimal size of water company → Are companies still too small?



Creating Transparency – Netherlands (NL)

- Six performance reports are available online so far
- Companies have to participate in benchmarking
- Stakeholders and media analyse performance

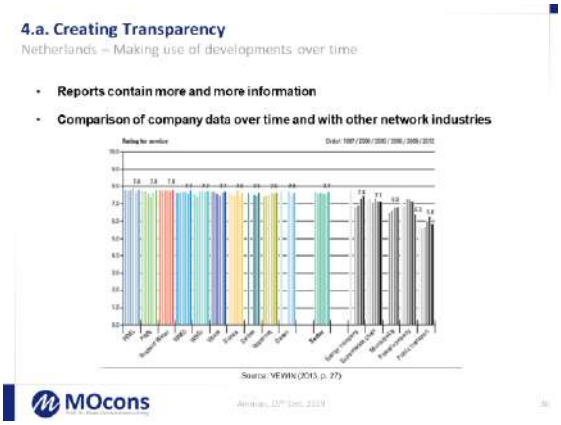
➔ Naming, Faming and Shaming



Creating Transparency – Netherlands (NL)

Important: Holistic benchmarking approach

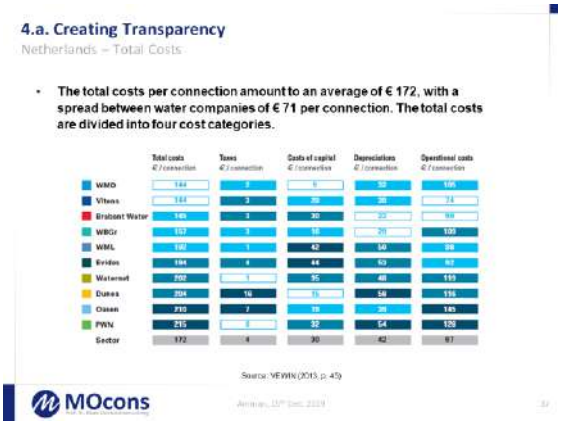
- Water quality
- Service
- Environment
- Finance & Efficiency



Creating Transparency – Netherlands (NL)

Reports use more information over time

- Development of a company over time can be displayed
- Comparison with other network industries

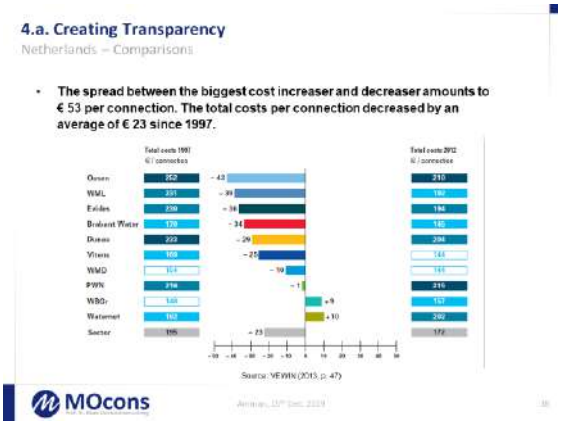


Creating Transparency – Netherlands (NL)

Total costs divided into four cost categories

- Taxes
- Costs of capital
- Depreciations
- Operational costs

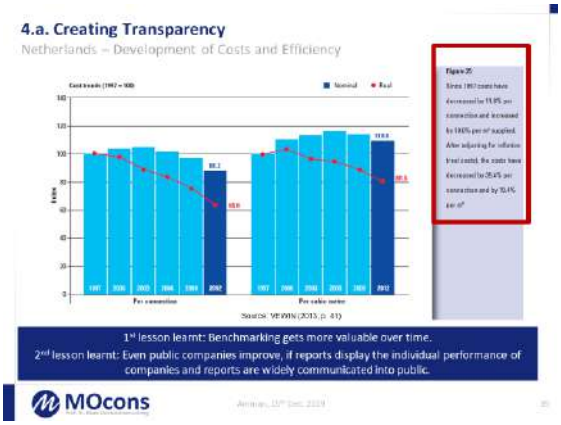
➔ Overview of cost drivers for different companies



Creating Transparency – Netherlands (NL)

Effectiveness of Benchmarking

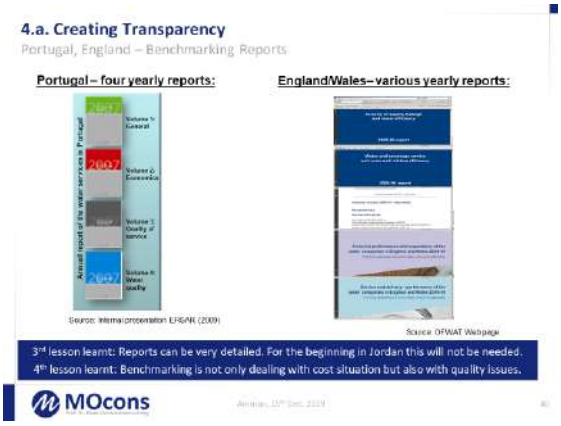
- Almost all utilities decreased costs per connection since 1997
- Spread between the cheapest and most expensive company decreased over time; same price for the whole country absolutely uncommon!!!



Benchmarking: Lessons Learnt

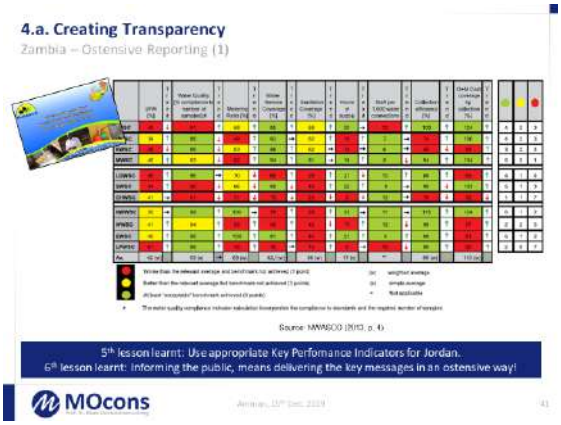
- Even public companies improve
- Reports need to display the individual performance
- Reports need to be widely communicated in public

➔ Benchmarking gets more valuable over time



Benchmarking: Lessons Learnt

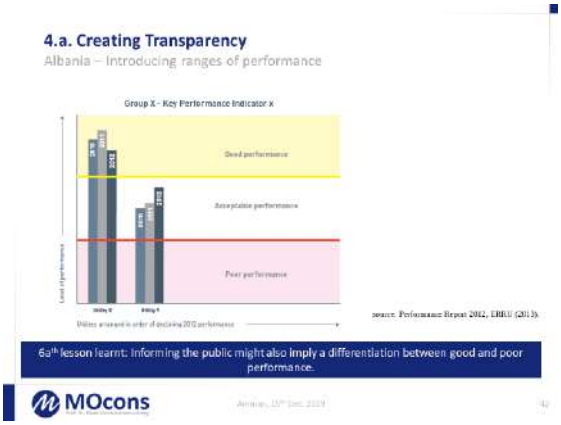
- Publication frequency is not decisive
- Reports can be very detailed
- Benchmarking is dealing with cost AND quality situation



Benchmarking: Lessons Learnt

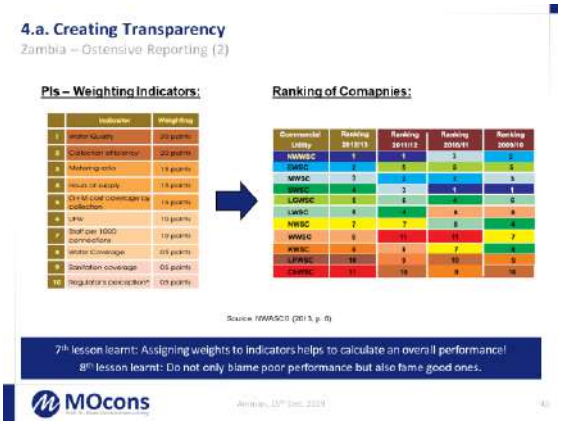
- Appropriate key performance indicators are needed
- Results need to inform and address (uninformed) public

➔ Key messages of report must be delivered in an ostensive way



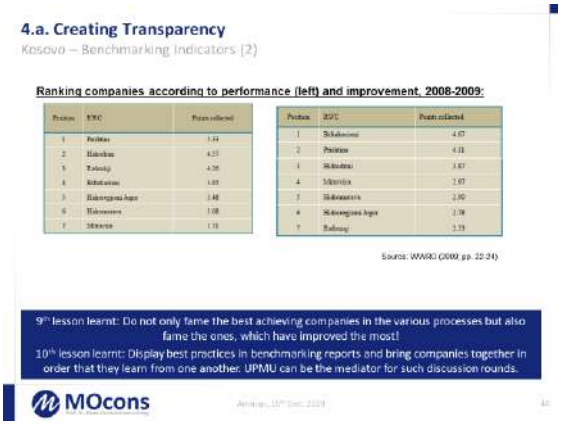
Benchmarking: Lessons Learnt

- To distinguish between a good and poor performance helps the public to better understand the individual results.



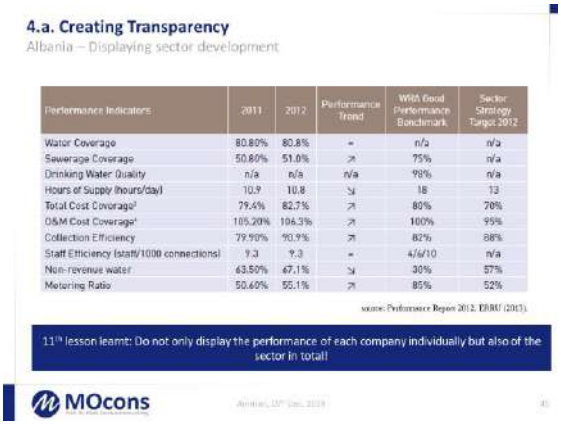
Benchmarking: Lessons Learnt

- Assign weights to performance indicators to calculate overall performance
- Blame poor performances AND fame good ones



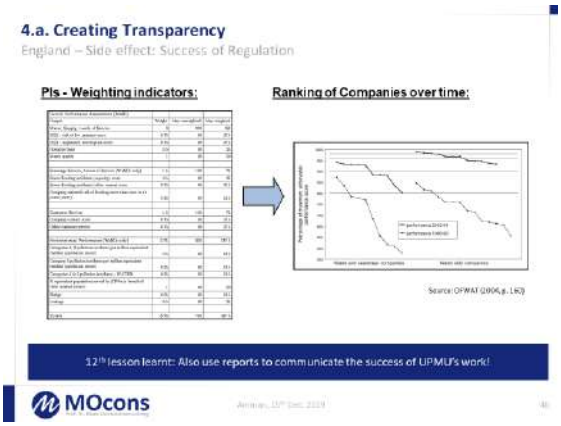
Benchmarking: Lessons Learnt

- Fame the best achieving companies AND the ones, who have improved the most
- Display best practices and encourage exchange



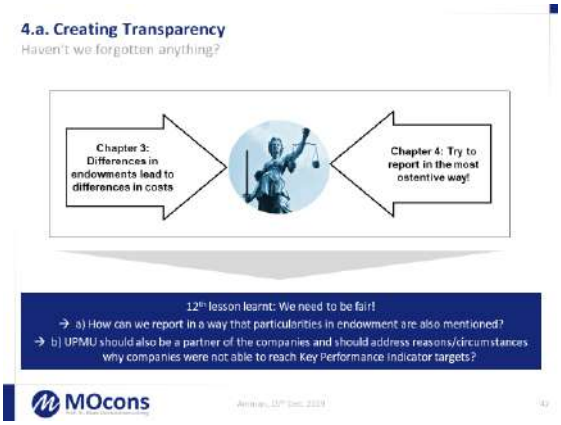
Benchmarking: Lessons Learnt

- Display performance of each company individually AND for the sector in total



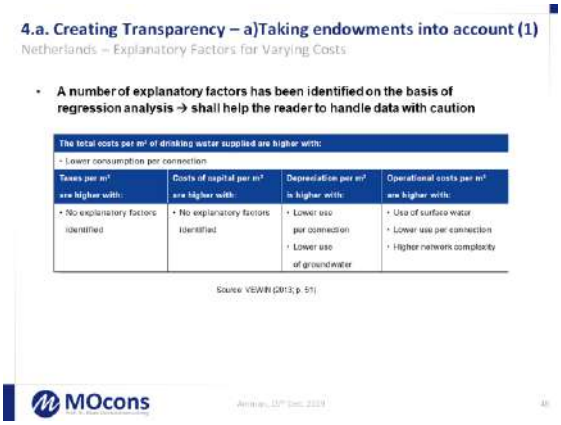
Benchmarking: Lessons Learnt

- Display the progress over time in the reports to point out the success of the regulatory framework and the regulator's work.



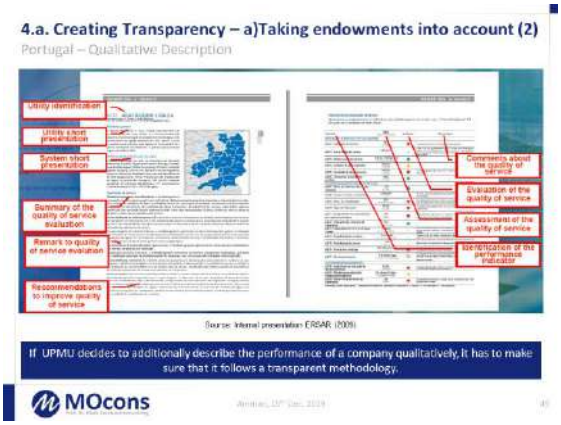
Benchmarking: Lessons Learnt

- Report in a way that takes different endowments into account
- Address reasons of different performance results (especially due to different endowments; for Jordan e.g. differences in subsidy distribution)



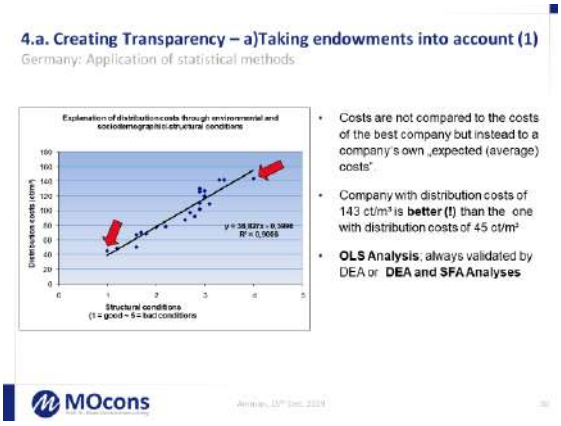
Taking endowments into account

- Explanatory factors for varying costs
- These can be identified by regression analysis.



Taking endowments into account

- Qualitative performance description needs to follow uniform and transparent methodology
- This is the example of Portugal and Ana (☺)

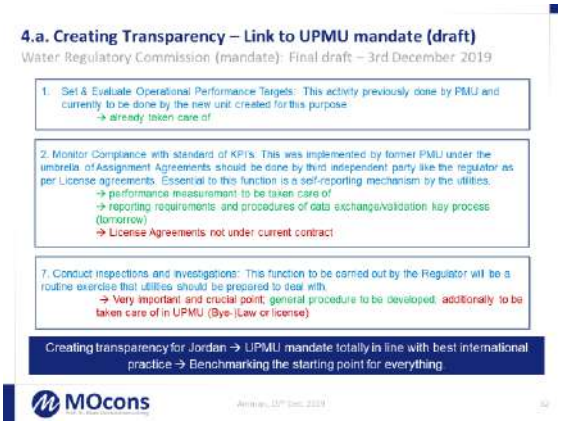


Taking endowments into account

- Compare companies with similar endowments
- Costs should be compared to company´s own expected (average) costs (like GE)

Reflection on Jordan´s regulator UPMU

- UPNU shall file annual report and evaluate companies
- UPNU shall be transparent on
  - how steering committee is elected
  - the interaction between formal organs
  - the degree of independence

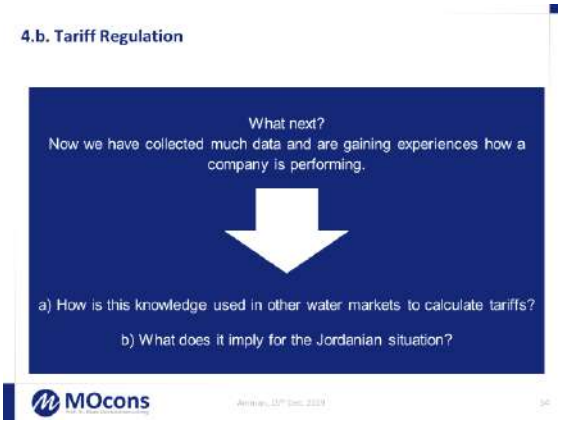


Reflection on Jordan´s regulator UPMU

- UPMU mandate in line with best international practice

➔ Benchmarking starting point for everything

3.2 Tariff regulation



Information gathered from benchmarking need to be used to regulate tariffs.

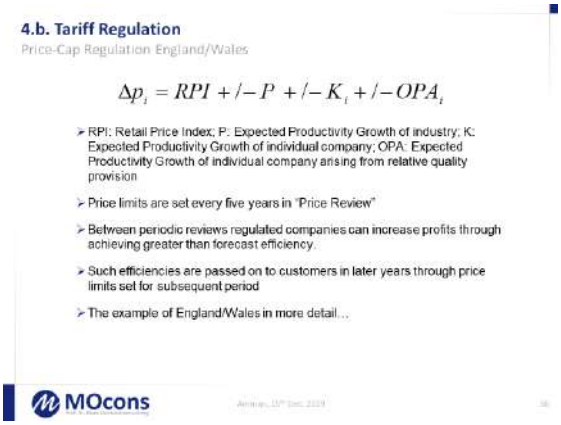
UPMU not in charge of setting tariffs, but is able to assist in making determinations

We have mainly two different options in setting tariffs:

a) Rate-of-return Regulation → Cost oriented

Should provide a fair and reasonable return of capital

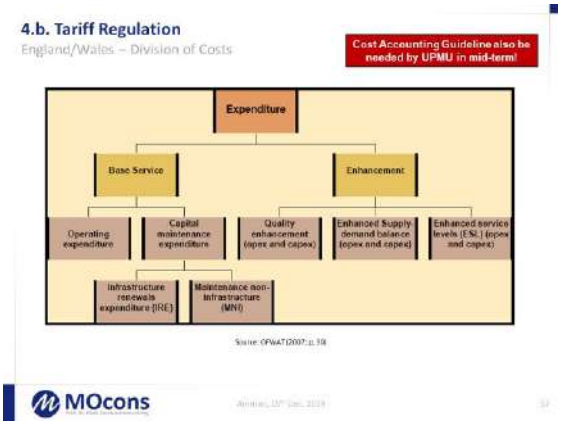
Problem: Lack of incentives to reduce cost



b) Price-cap Regulation

- Price limits are set for certain period of time
- Incentive to increase efficiency due to chance of increasing profits
- Customers benefit from efficiency increase in following regulatory period by decreasing prices

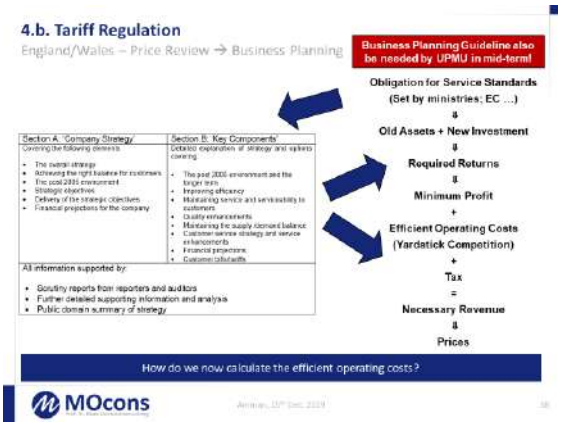
➔ Practice Example: England/Wales



Price-cap Regulation in detail – England/Wales

1st step: Division of cost

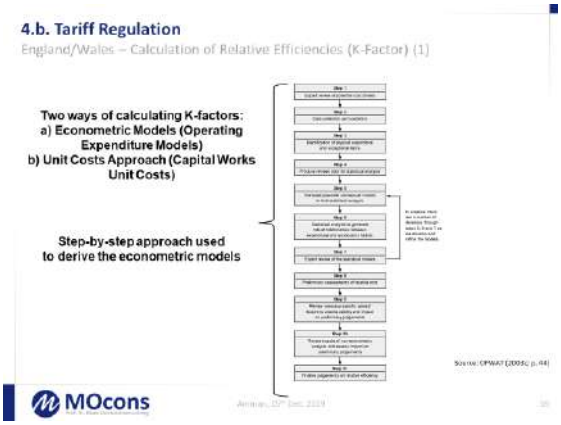
- Base Service (operation, maintenance)
- Enhancement (quality, supply-demand balance, service)



Price-cap Regulation – England/Wales

2nd step: Future prices are determined by business planning

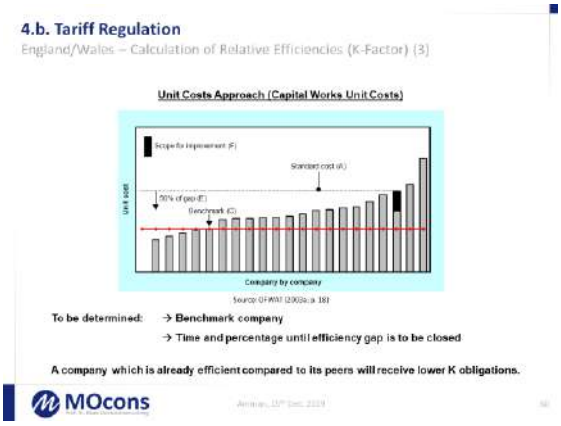
- Minimum profit (asset costs by fulfilling the obligatory service standard)
- Efficient operating costs (Yardstick competition)
- Tax



Price-cap Regulation – England/Wales

3rd step: Calculation of relative efficiencies

- Econometric models
  - ➔ Step-by-step approach
- OR unit costs approach

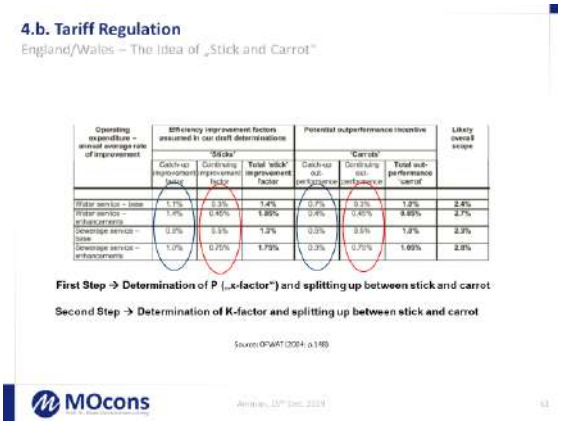


Price-cap Regulation – England/Wales

Unit cost approach

➔ Unit cost of utilities are compared

- To be determined:
  - Benchmark company
  - Time and percentage to close efficiency gap

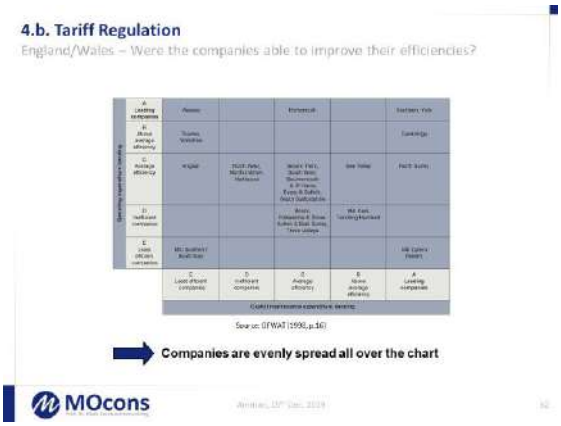


Price-cap Regulation – England/Wales

4th step: Turning efficiencies into prices
The idea of "Stick and Carrot"

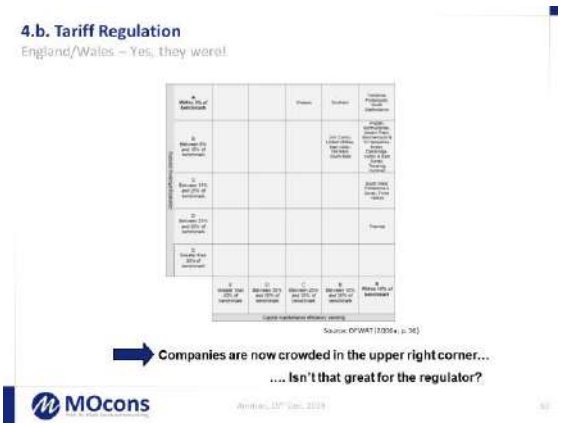
- efficiency improvement factors are calculated for each company

➔ These efficiency improvement factors are partly already in the prices (stick); partly they will lead to profits (carrots) if the company manages to reach the efficiency assumptions set by the Regulator



How successful was the English Price-cap Regulation?

➔ Before: Huge variety of companies' efficiency levels



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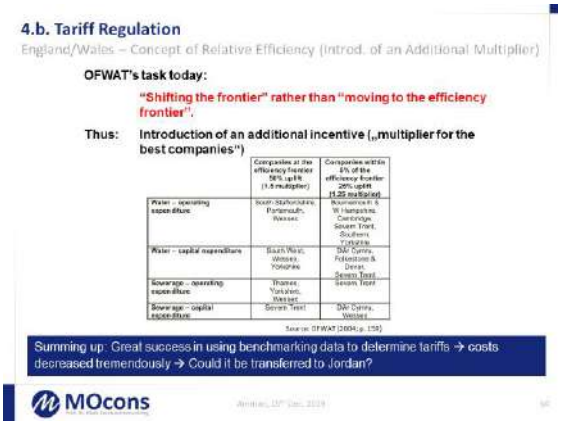
➔ After: Companies moved closer to the most efficient company

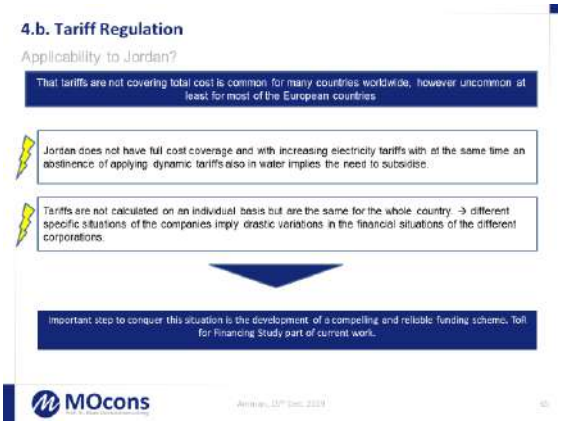
Companies both improved and at the same time the rather bad ones started closing the performance gap compared to best performing companies.



Price-cap Regulation – England/Wales

But what do we do in order to set particular incentives for the already very well performing companies? Isn't it harder for the already well performing companies to further improve?

➔ Next step: Introduction of an additional incentive for the most efficient companies → shifting the frontier



Applicability to Jordan?

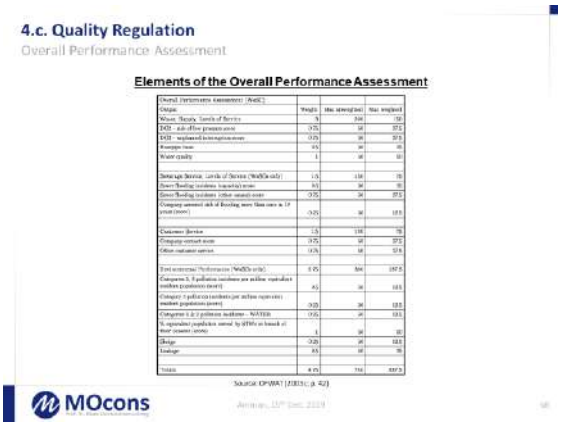
- So far tariffs in Jordan (unlike in England/Wales) are not cost covering → Subsidies are needed
- Tariffs are not calculated on an individual basis

➔ Important step: Develop compelling and reliable funding; Analyse cost data!

Final draft of UPMU mandate from end of 2019 included more rights. From this perspective:

- With draft of the mandate UPMU would be well endowed to perform its tasks
- Tariff settings and subsidy granting guideline need to be developed though
- UPMU (Bye-) Law of utmost importance

3.3 Quality regulation

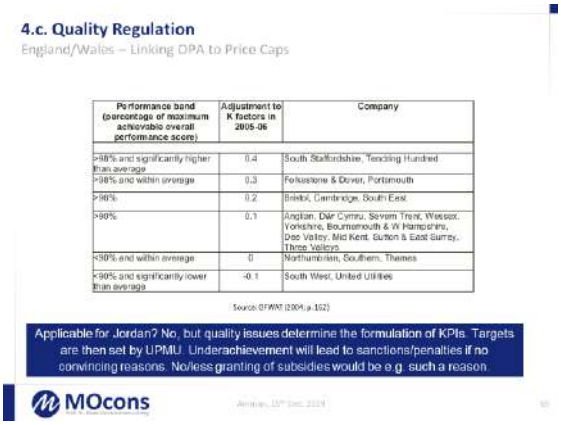


As already said: Price regulation always has to observe overall performance assessment; the example of England/Wales:

Weighted elements of assessment according to holistic approach of benchmarking:

- Water quality
- Service
- Environment

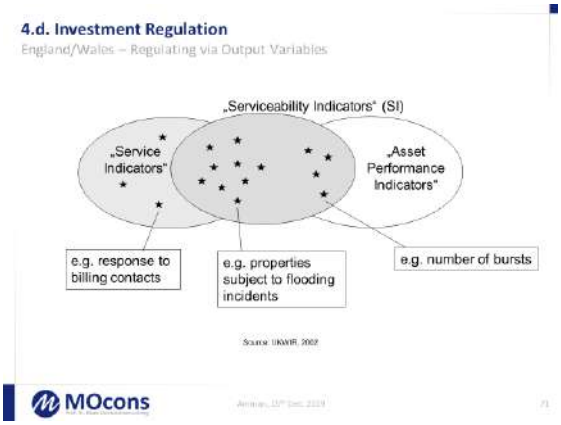
(Finance & Efficiency already covered by tariff regulation)



Applicability to Jordan

- Quality regulation of England/Wales is not applicable to Jordan
- But quality targets need to be set by UPMU
- Underachievement should lead to sanctions/penalties → e.g. no/less granting of subsidies

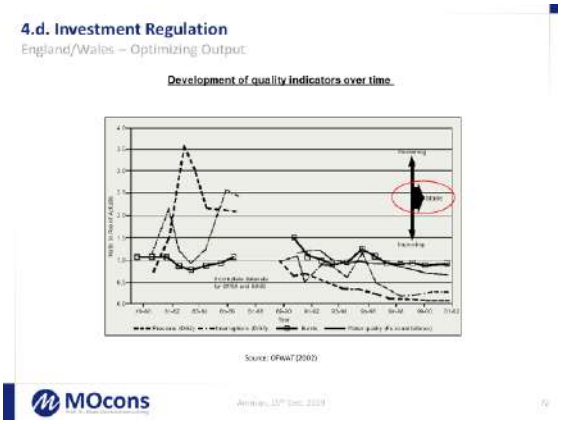
3.4 Investment regulation



As already said: Price regulation always has to observe overall performance assessment; Investments are needed in order to achieve quality improvemens.

Thus Regulating via output variables

➔ Investments will be granted if output variables suggest that investments are needed.

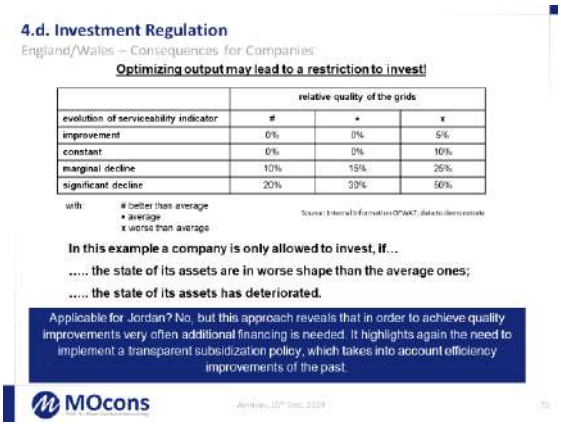


Investment regulation

Regulating via output variables

The goal is an optimized not a maximum quality/output

➔ Investments will be only granted if the optimized output level is not yet reached.

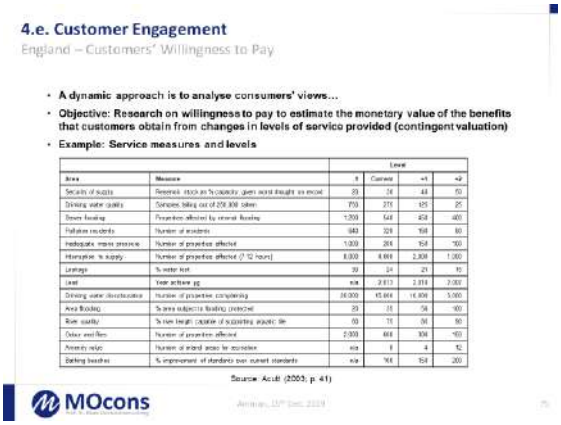


Applicability to Jordan

- Investment regulation of England/Wales is not applicable to Jordan
- Important: To achieve quality improvements very often additional financing is needed

➔ Need of a transparent subsidisation policy

3.5 Customer engagement



As already said: Price regulation always has to observe that incentives do not lead to cost saving where we would not like to have them → include customer's view

Here: Include customers willingness to pay to determine optimal quality

➔ Research on willingness to pay to estimate the monetary value of the benefit that customers obtain from changes in levels of service provided.

England: Include customers view

➔ Consumer Council for Water provides quality indicators which reflect opinion of the public.

Zambia: Include customers view

Water Watch Groups represent the general interest of customers on the one hand and spread all needed information from and about the water utilities on the other hand.

Summary

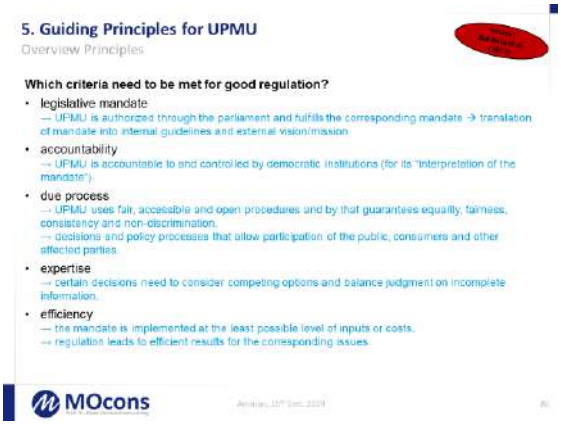
First steps:

- Benchmarking
- Business planning
- Financing study

Mid-Term steps:

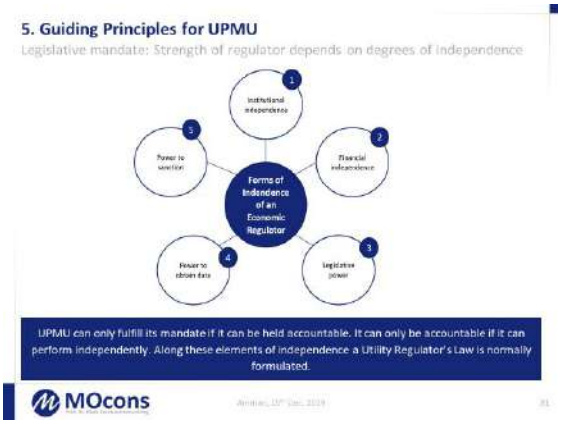
- Clarification of vision/mission/core principles
- Clarify guidelines
- UPMU (Bye-) Law

4. Guiding principles for UPMU



There are certain criteria for Regulators on good regulation. It makes sense to always keep them in mind:

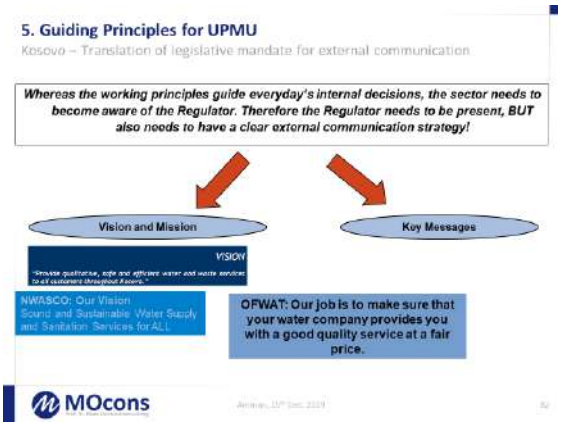
- Legislative mandate (authorisation)
- Accountability (controlled by democratic institutions)
- Due process (non-discrimination)
- Expertise
- Efficiency (efficient results at low cost)



Legislative mandate and accountability

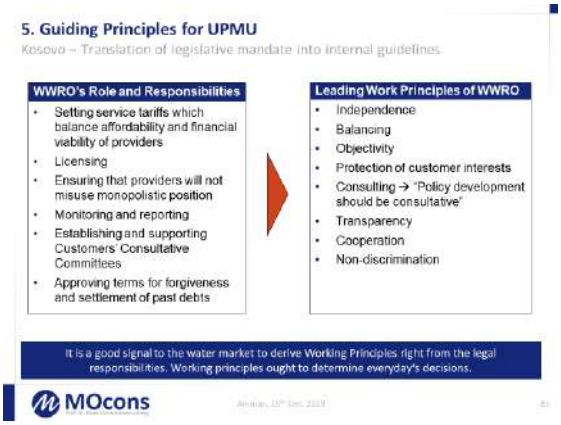
To fulfil the mandate accountability is necessary and therefore independence:

- Institutional independence
- Financial independence
- Legislative power
- Power to obtain data
- Power to sanction



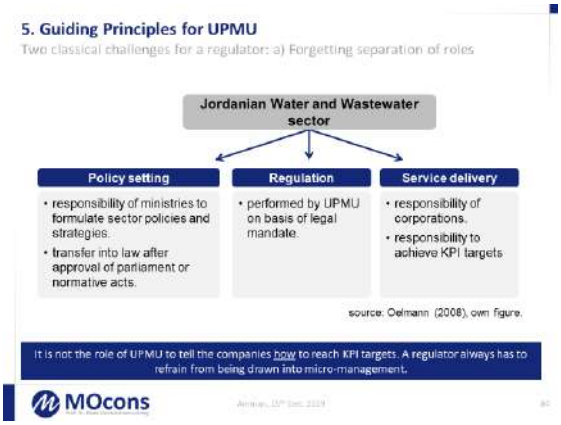
Translation of legislative mandate for external communication

- Sector needs to become aware of regulator
- ➔ Regulator needs to be present
- ➔ Regulator needs clear external communication strategy → Vision, mission and key messages



Clear external communication strategy

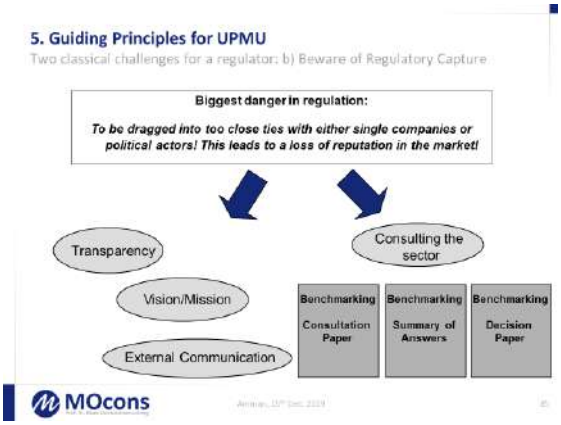
- Formulate roles and responsibilities
- Derive Working principles
- Let principles determine every day's decisions
- ➔ Communicate roles, responsibilities and working principles transparently



Classical Challenge for regulator

a) Forgetting separation of roles
- Policy setting
- Regulation
- Service delivery

➔ Not regulator's role to tell how to reach targets → no micro-management

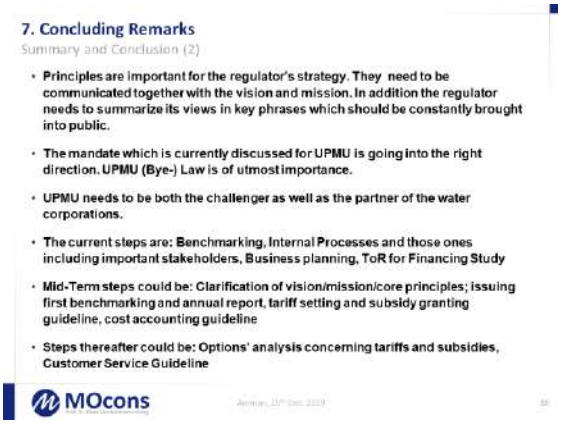


2) Beware of regulatory capture

- Towards companies
- And political actors

Stick to
- Transparency
- Vision/Mission
- Consulting the sector

5. Concluding remarks



- Natural monopoly demands regulation
- Introducing benchmarking and therefore transparency is always the first step
- For Jordan: A combination of competition for the market and regulation might evolve over time
- Regulation means: Tariff, quality, investment regulation and involving customers
- Communication is key

- Principles are important for regulator´s strategy
- Regulator needs to be challenger and partner to WCs
- Prioritize: First things first (benchmarking, internal processes, Business planning, financial study), then mid-term steps

Were all goals of an improved regulatory framework (due to interviews) touched?

1.2.4 Workshop with UPMU staff on organizational setup agenda and presentation (16th December 2019)

giz | Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH
Moh'd Baseem Al-Khammash St.13 Sweifieh
P.O. BOX 92 62 38
Amman 11190
Jordan

Agenda

Workshop with UPMU staff on organizational setup

Venue: Venue: Room 104 MWI

Monday, Dec. 16, 2019,

11:00 am – 3:00 pm

Time	Content
10:30 -11:00	Registration and Welcome Coffee
11:00-11:10	• Aim and agenda of the workshop • Introduction of participants
11:10-12:00	• Structure and roles within UPMU
12:00-14:00	• Internal and inter-organisational processes (e.g. UPMU – Steering Committee UPMU – WC – Board of Directors - Ministry) [Integrated coffee break – coffee available in the room]
	• integrated coffee break
14:00-14:50	• Defining road map for institutional development (step-by-step approach during next years)
14:50-15:30	• Summary and next steps

Water Utility Regulation

Workshop on Organisation of UPMU

Prof. Dr. Mark Oelmann, Felix Richter

MOcons

Amman, 18th Dec. 2019

Objectives and agenda of the workshop

1. Develop **roadmap for the organisational setup**
2. Defining core **deliverables and processes**
3. Looking at **structures and roles**
4. **Get started!**

Suggestions based on previous interviews, review of studies, and project experience. Results will be documented in workshop report.

→ **Time frame 11 a.m. to 4 p.m. with integrated pause(s)**

MOcons

Amman, 18th Dec. 2019

Definitions

1. **Structure**, based on **posts** (organigram)
2. **Role** (function of a post, e.g. supervision, quality control)
3. **Tasks** (also "job"; activities assigned to a post)
4. **Process**
   - Repeating action steps in chronological order
   - Clear starting point and clear result
5. **Roadmap** (necessary actions to reach a given aim)

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ROAD MAP AND ACTION PLANNING

MOcons

The basis for action planning is UPMU's mandate

1. **Set & Evaluate Operational Performance Targets**
2. **Monitor Compliance with standard of KPI's** (review of reports and direct verification of compliance of standards and KPIs).
3. **Review and recommend tariff** (includes review of cost, tariffs, required subsidies options analysis for the Cabinet).
4. **Recommend Subsidy**
5. **Incentive/Penalties on Service Delivery**
6. **Settle customer complaints and disputes**
7. **Conduct inspections and investigations**
8. **Recommends updates on laws, legislation and regulations**

→ **Mandate, tasks and processes should be consistent and form an intertwined organizational system!**

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Amman, 18th Dec. 2019 4

Joined action planning for UPMU

Take a look at our brainstorming of possible activities during the first 1,5 years:

1. **Necessary changes (additional tasks, different wording)?**
2. **What is the correct order over time?**
3. **Additional comments (resources, issues…)?**
4. **Putting stickers where you see an engagement of yourself!**

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Amman, 18th Dec. 2019 5

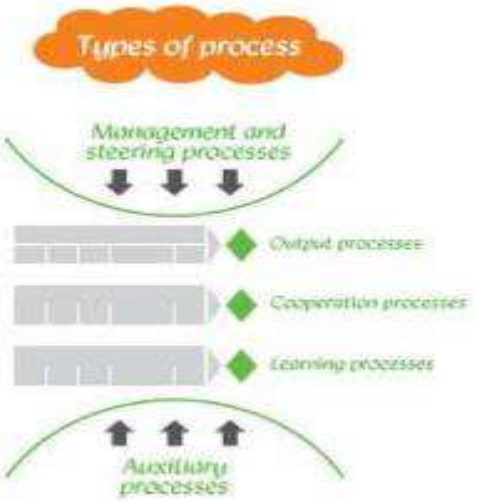
INTERNAL AND CROSS-ORGANISATIONAL PROCEDURES

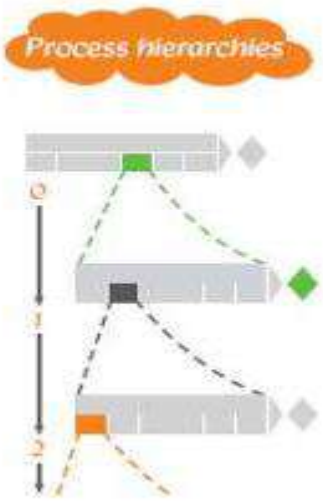
How can we define "Process" for UPMU

Definition

- Repeating **action steps over time**, clearly defined
- Clear **starting point** (trigger) and clear **result**
- **Additional information** can include:
  - who does what,
  - when,
  - how,
  - with which resources?
- Not all activities consist of formal, standardised processes!

Process definition (GIZ)





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Joint elaboration of core processes

1. **What are core deliverables for UPMU during the first 1,5 years?**

2. **Joint process elaboration**
   - Define series of action over time
   - Leading to defined results
   - Visualisation (one action on one paper card)

3. **Adding further attributes** (e.g. who (RACI), when, resources…)

MOcons

Option: application of the Responsiblity Assignment Matrix (RACI chart)

	Jeff	Michael	Reto	YOU	Alex	Anna	Bill	Cindy	Felix	Fred	Hans	John	Livio	Luc	Marco	Paul
Planning / Schedule	R	A	I	C					C							
Risk Management		I	I	Q						A						
Quality Management			R	C						R						
Procurement				R		Q				R						
1. Specifications Listing								A		R						
2. Site Requirements		C	A	R	Q						R					
3. Call for Tenders				Q	A	R	C				R					
4. Budget Approval				A	Q					R						
5. Contract Negotiations			A		Q	R	R									

* R – Responsible (works on), A – Accountable, C – Consulted, I – Informed, Q – Quality Reviewer

Source: Wikipedia.org

STRUCTURE AND ROLES

Structure and roles within UPMU

→ **What are core activities and core outputs within each post?**

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Suggestions for next steps…

1. **Based on the workshop report, you can organize a two-day workshop for the UPMU 2020 operational plan**
   - Further specification of core deliverables
   - Finalisation of roadmap (who does what, when, etc.)
   - **…no over-steering, it's a team of 4 (+ director)**
2. **For each core deliverable (e.g. for performance benchmarking report)**
   - Planning workshop to define a) structure, b) content, c) work packages, d) time-frame
   - Joint elaboration of results seems necessary
   - **… no under-steering**

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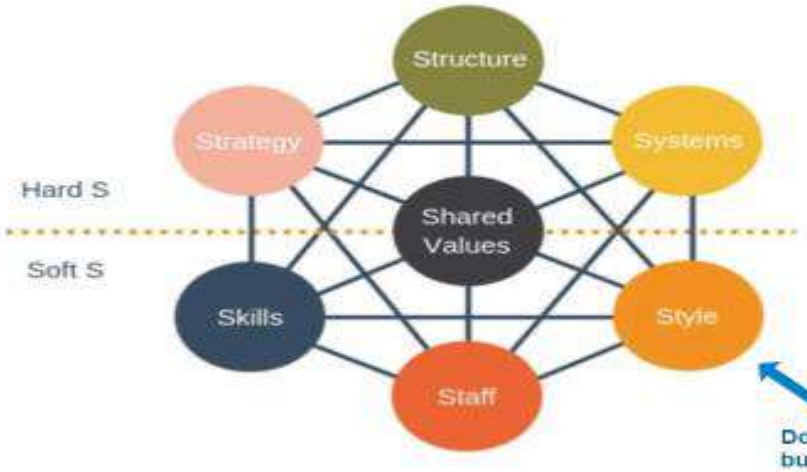
The 7s-Model of McKinsey can support thorough planning. We will provide a „7s-Checklist“ in the MOcons workshop report



Based on McKinsey concept

MOcons

Optional final exercise
Criteria for „good“ cooperation of UPMU

1. Please write down three core criteria for „good“ cooperation within UPMU. What is important for you? (5-10 min)
2. Share results in plenary (ca. 10 min)
3. After everybody has shared his / her expectations, discuss the results! (ca. 15-20 min)

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1.2.5 Organization of UPMU report

Report

Workshop Report: Organisation of UPMU

Prof. Dr. Mark Oelmann, Felix Richter
MOcons GmbH & Co. KG
Brandenberg 30
D - 45478 Mülheim an der Ruhr
Germany

Amman/Berlin/Mülheim, 09/01/2022

1 Introduction

1.1 Aim of the Report

This report aims at providing support for the organisational development of the new regulatory authority (in the following UPMU) for the Jordanian water sector. It is based on a workshop in the Ministry of Water and Irrigation in Amman which took place 16. Dec. 2019 with water sector experts/future UPMU employees as well as representatives of GIZ and the consultancy MOcons, with the objectives to: (a) develop a roadmap for the organisational setup; (b) define core deliverables and processes; (c) discuss structures and roles of UPMU, and (d) improve teamwork.

In detail, this report aims at reflecting and specifying the results of the workshop, especially to

1. Outline the core strategic orientation of UPMU which will particularly be based on the final mandate (chapter 2)
2. Describe the roadmap with the different activities and an allocation of responsibilities (based on the RACI-and the 7 s models) (chapter 3)
3. Define core organisational processes including first proposals for the benchmarking ~ and for the inspection process and a proposal to plan each subsequent year (chapter 4)
4. Reflect on the structure and the roles within UPMU (chapter 5)
    a. for the following year (2020) (chapter 5.1);
    b. as well as the future development (chapter 5.2.)
5. Specify needed capacity building including proposals how to perform team building workshops (chapter 6)

The workshop was based on suggestions of the MOcons team which built on previous interviews, review of existing data of the Jordanian Water Sector as well as international project experience in the area of water regulation. These recommendations were discussed and refined with the participants.

1.2 Definitions

For a joint terminology and understanding of the core elements of organisational development, the following terms are defined:

1. The **organisational structure** is usually displayed in organigrams (see also chapter 4).
2. The organigram is based on **posts**. Posts can be filled with individual employees or managers, but are to be defined independently of individual actors.
3. **Tasks** (also “job”) are the activities assigned to posts (e.g. coordination tasks, planning tasks).
4. **Organisational roles** are defined as functions of a post, e.g. supervision, quality control, which are different from the concrete tasks.

5. **Processes** are series of repeating action steps in chronological order, which have clearly defined starting points and results (e.g. from a request by the Ministry to a documented answer).
6. The **Roadmap** developed for UPMU is based on its mandate and represents a list of necessary actions to reach the objectives of the organisation.
7. The **Operational Plan** refers to a detailed annual plan for the UPMU which includes action items, responsibilities, needed resources, and milestones.
8. The **Kick-off workshop** is a two day workshop of the newly established UPMU team in which core questions of the internal cooperation are clarified and the Operational Plan is worked out. All team members need to participate.

2 Strategic Orientation

2.1 UPMU's Mandate

All activities within UPMU, including tasks, roles, structures, processes etc. need to be **based on the mandate**, which includes the following elements:

1. **Set and evaluate Operational Performance Targets**
2. **Monitor compliance with standard of KPI's** (review of reports and direct verification of compliance of standards and KPIs).
3. **Conduct inspections and investigations**
4. **Settle customer complaints and disputes**
5. **Review and recommend tariff** (includes review of cost, tariffs, required subsidies options analysis for the Cabinet).
6. **Recommend subsidy**
7. **Incentive/penalties on service delivery**
8. **Recommends updates on laws, legislation and regulations**
9. **Review Companies Business Plans**

This means that for each function 1-9 of the mandate, there need **to be tasks, roles, and processes etc.** to fill the mandate with life. The **joint understanding** of the mandate (**by all parties involved**!) is thus a pre-requisite for a **consistent operationalisation** of UPMU's roadmap. Thus, the mandate defines the basic requirements for the organisational development.

Mandate, tasks and processes should be consistent and form an intertwined organisational system!

2.2 Core outputs and impact of UPMU

The definition of core deliverables (i.e. outputs) of UPMU facilitates orientation for the daily and weekly management. If the outputs are clearly defined, operative and management activities as well as processes can be geared towards these (output) objectives.

Note: The outputs are an instrument for realizing the **impact goals** for the Jordanian Water Sector, such as fair water prices, efficiency and quality of water.

2.2.1 Outputs for year 2020

During the first year of operation 2020, the following outputs have been defined in the December workshop:

1. Publication of an initial (first) report (expected end of April 2020)
2. Formulate guidelines for data-Management, business planning (Q3 according to UPMU plan, planned to be published end of July 2020)
1. Publication of (slim) quarterly reports (which are to be discussed with the water companies)
2. Prepare annual report, which includes the performance benchmarks (Q3 according to UPMU plan; planned to be published end of July 2020)
3. Formulate benchmarking concept
4. Discuss the differences between Business plans needed for UPMU and Business plans needed by the corporations (during consultants 4th mission)
5. Agree on the general set-up of a UPMU business planning guideline (during consultants 4th mission)

The concrete deadlines are to be defined in the operational plan.

2.2.2 Outputs in the year 2021

In the year 2021, building on the achievements in 2020, the following outputs can be produced (first draft):

1. Recommendation concerning incentives and penalties
2. Tariff studies
3. Slim quarterly reports
4. Annual report

3 Organisational Roadmap

3.1 Methodology

The organisational roadmap for UPMU includes a table with activities (overview; see chapter 3.1.3) as well as a checklist based on the 7s-approach[1], which describes core requirement areas for organisational development.

During the workshop, the participants undertook a brainstorming concerning UPMU's activities during the first 1.5 years. Based on suggestions by MOcons, they finalized the

[1] Developed by McKinsey

roadmap by redrafting the Metaplan cards (additional tasks, different wording), putting them in the right order over time, and added additional comments (resources, issues…). In addition, the participants marked individually on the cards, where they see their own engagement (based on their competencies).

3.2 The RACI-model

A RACI matrix[2] helps to plan and to coordinate the way in which (a) team members of UPMU as well as (b) partnering organisations (e.g. the water companies) are involved into the work. RACI stands for:

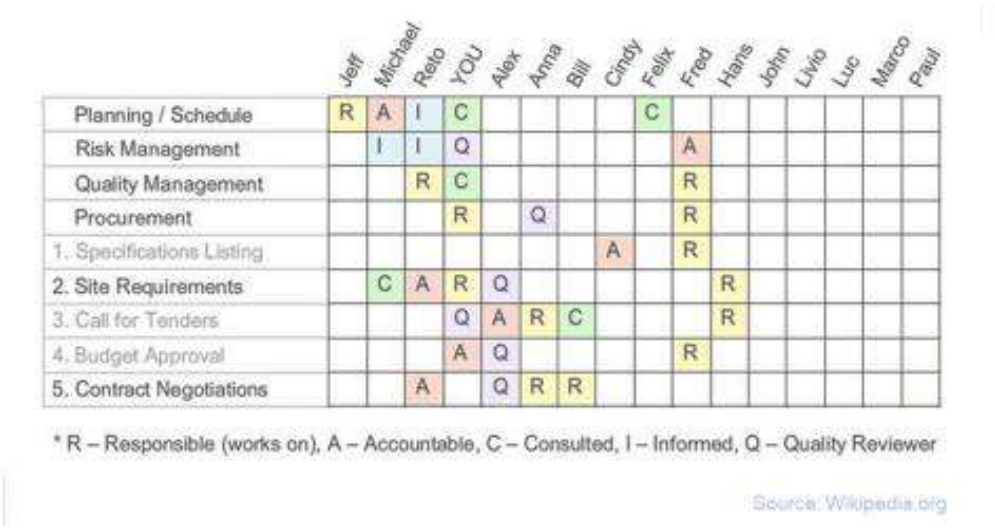
- **"Responsible"** employees or managers are the ones who work on the task.
- **"Approve"** (or accountable; signing-off): for each task, there is only one person who is accountable and who approves the result. This person is often the manager of the person who is responsible for the execution of the task.
- **"Consulted"**: in some cases, the person responsible for the job needs additional advice from other experts. In this case, there is not only one-way information, but the person consulted provides also an answer (expert advice). In formal processes, there can be rules that other organisational units (or individuals within the hierarchy) are consulted before work is e.g. published or passed on.
- **"Informed"** – these are colleagues who need to be informed (e.g. because they have a right to be informed or because they need this information for the execution of their jobs).

As described in the beginning, the roles as well as posts are to be seen independently of concrete individuals. Also, there can be roles which are relevant to various posts (e.g. quality assurance of reports).

A **RACI matrix** helps to systematically plan the contributions of each team member as well as external partners. It is strongly recommended that UPMU clarifies the different roles based on a RACI chart. **Thus, the RACI chart is relevant for both UPMU's roadmap as well as its processes.**

The following graph shows how a RACI matrix is designed. The different team members are positioned in the vertical cells; the different activity steps of a process in the (horizontal) lines.

[2] The following information is based on wikipedia.com, the graph is from the same source (downloaded 23/12/2019)



	Jeff	Michael	Reto	YOU	Alex	Anna	Bill	Cindy	Felix	Fred	Hans	John	Livio	Luc	Marco	Paul
Planning / Schedule	R	A	I	C					C							
Risk Management		I	I	Q						A						
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4. Budget Approval				A	Q					R						
5. Contract Negotiations			A		Q	R	R									

* R – Responsible (works on), A – Accountable, C – Consulted, I – Informed, Q – Quality Reviewer

Source: Wikipedia.org

Figure 1: The RACI chart

3.3 Roadmap

The following table specifies the core activities and the responsibilities of UPMU. It can be finalised during UPMU's kick-off workshop, once the team is complete. During this workshop, a comprehensive **operation plan** should be worked out.[3]

Due to the size of the team, we expect that **UPMU's director is accountable for all working results**. This question needs also to be discussed during the kick-off workshop. Exemptions to this rule should be noted in the operational plan as well as in the process charts.

During the first year, due to the size of the team, many tasks need to be implemented with the support of all team members. Examples:

- All team members need to have a good understanding of the Water Companies. So the task to visit the Water Companies and hence to understand their operations is – in the first months – a must for all UPMU employees.
- The concept for inspections and investigations is based on financial information, the operations of the Water Companies, but also touches on the service management and customer relations as well as important questions of information and communication technologies. Thus, the whole UPMU team needs to be involved (all functional views) for drafting the concept. Therefore, team work is indispensable.

Some tasks might be facilitated with external support (e.g. kick-off workshop, team development). This should be noted in the following list and the operational plan.

[3] During the December workshop, there was a first brainstorming which team member will take over which roles. This might be a valuable source for completing the following roadmap. UPMU's Director should work out a first draft of the suggested work allocation before the kick-off workshop.

No.	Activity	Comment	Actors (RACI)
Activities January – March 2020 (Q1)			
Q1/1	Identify physical office space	Includes IT platform and IT-based working spaces for all team members	Director (A), one team member can be assigned with identifying options (R); UPMU team (C, I)
Q1/2	Manage recruiting and onboarding of staff	This includes allocation of responsibilities and working spaces.	Director (R, A), UPMU team (C, I)
Q1/3	Visit to the Water Companies	Some employees are already on board. They should deal with topics which will be needed in the future. Particularly the ones mentioned under "Getting started/First months" are interesting for UPMU. Employees should get familiarised with these procedures and in interacting with companies both via visits and via other forms of communication they should get to know management and key personnel of water companies. Best practices in recommended activities should be formulated.	Director (A), UPMU team (A; C; I)
Q1/4	Redefine KPI concept and review performance targets	Prepare consolidated excel sheet after receiving comments from the water companies (currently ongoing); in addition an automatic transfer of delivered data into UPMU-Excel-Sheets and additional features are currently developed	Coordination by Director (A), Financial / economic analyses expert (R); UPMU team (C, I); GIZ Project including Consultant (C); Extension of contract due to additional programming needed
Q1/5	Prepare monitoring concept	This activity is linked to Q1/3 and Q1/4. It should start as soon as all employees are on board. Should be discussed during 4th mission of Consultants.	Director (A), Operations expert (R); GIZ Consultant – depending on Consultants' input extension of contract needed (recommendation: no additional help needed)
Q1/6	Prepare benchmarking concept	This activity is also linked to Q1/3 and Q1/4. It should start as soon as all	Director (A), Financial / economic analyses expert (R), Operations expert

		employees are on board. Should be discussed during 4th mission of Consultants.	concerning operations (R), UPMU team (C); GIZ Consultant (C)
Q1/7	(Internal) kick-off workshop for UPMU	Here, the operational plan 2020 as well as joint rules and routines for internal cooperation should be developed. Elements discussed in this report should be taken up. There is the option of hiring a facilitator so that the team can focus on the content. A two-day workshop is recommended once all employees are on board.	Initiation by Director (A), one team member can be assigned with overall coordination (R), all team members need to be involved; external consultants (C) (Extension of contract needed if Felix Richter (MOcons) is asked to lead the workshop)
Q1/8	Clarify mandate	Currently an UPMU law/Bye-law is discussed. Since this document is essential for the upcoming work and responsibility of UPMU the consultants recommend their involvement. It should e.g. be ensured that UPMU is allowed to sanction, e.g. if no data is being delivered by the Water Companies.	Coordination by Director (A), , one team member can be assigned with overall coordination (R), all team members need to be involved (C), support from consultants (4th mission/extension) (C) (Depending on input extension of contract needed)
Q1/9	Clarify vision, mission and principles how to interact with corporations/other stakeholders	Based on UPMU's mandate formulated in UPMU law/Bye-law vision, mission and principles how to interact with corporations/other stakeholders should be derived. Some examples have been given in the workshop on regulation	Director (A) and initiation, one team member can be assigned with overall coordination (R), all team members need to be involved (C); during extension phase
Q1/10	Team development activities	Additional activities accompanying Q1/3 might be needed.	Director (A), one team member can be assigned with identifying options and overall coordination (R), whole UPMU team to participate
Q1/11	Formal launching event for UPMU	Ask Minister to announce and formally introduce UPMU to the general public as well as the Water Companies; employees should all be employed	Coordination by Director (A), one team member can be assigned with overall coordination (R); UPMU team (I)

Q1/12	Define Terms of Reference for financing study	During mission # 3 a discussion round on financing issues took place. Mark delivered a summary of this meeting on 17th December 2019. Proposal: Feedback to Mark on this summary and discussion on the need of such a study during 4th mission	Director (A), Financial / Economic Analyses Expert (R), UPMU team (C)
Q1/13	Concept for regulatory business planning	Discuss the differences between Business plans needed for UPMU and Business plans needed by the corporations and agreement on the general set-up of a UPMU business planning	Coordination by Director (A), Financial / economic analyses expert (R); UPMU team (C, I); GIZ Project including Consultant (part of current contract and as part of 4th mission (C)

Activities April –June 2020 (Q2)

Q2/1	Perform study tour to water utility regulator	Most probably trip to ERSAR (Portugal) (input by ERSAR 3 half days); should be done as soon as all employees are on board	Director (A), external consultant (part of current contract) and GIZ consultants (R); UPMU team (C)
Q2/2	Revise processes of data collection and reporting	Includes fine tuning of processes. First proposals are made for performance benchmarking ~ and inspection process in this report	Director (A), Data officer and IT expert (R); UPMU team (C)
Q2/3	Compile concept for inspections and investigations	Includes fine tuning of processes. First proposals are made for performance benchmarking ~ and inspection process in this report	Director (A), Customer Services and Relations expert overall integration (R), UPMU team needs overall overview; each provides input from his/her functional expertise (C)
Q2/4	Develop IT planning and concept	Internal data management; needs to be done after Q2/2 and Q2/3.	Director (A), Data officer and IT expert (A), UPMU team (C), Water Companies (C)
Q2/5	Plan format and content of quarterly and annual performance reports	Define report structure and format, working packages and responsibilities	Director (A), Financial / economic analyses expert overall integration (R);

			UPMU team needs overall overview; each provides input from his/her functional expertise (C); Consultant (C) – depending on extent of input extension of contract needed
Q2/6	Define communication concept	Stakeholders need to be analysed and structured – thereafter concept how to reach whom in which frequency; determining the process of communication	Director (A), Customer Services and Relations expert (R); UPMU team (C)
Q2/7	Identify required competencies and plan capacity development of UPMU team.	As soon as all employees are on board and as soon employees have got some general ideas about their future responsibilities	Director (R, A), UPMU team (C), external GIZ consultant (Part of current contract; if this task is not possible to perform in 4th mission, because it is too early, extension of contract for a 5th mission needed) (C)
Q2/8	Formulate customer service guidelines (including processes)	Some countries deliver a customer service guideline, some deliver minimal service standards, some customer contracts – according to consultants this is a complex task; however proposal: draft to be developed by UPMU; comments by external consultant	Director (A), Customer Services and Relations expert (R), Data officer concerning processes/digitisation (R), UPMU team (C). If comments by external consultant needed extension of contract
Q2/9	Conduct finance study	Depending on Q1/12 finance study is conducted by an internal consultant	Director (A), Financial / economic analyses expert (A); UPMU team (C)
Q2/10	Deliver first quarterly report to Ministry	The work on the first quarterly report should right from the beginning also take into account structure of first annual report (Q2/5). Certain figures in quarterly reports e.g. should also be used in annual performance report	Director (A), Customer Services and Relations expert overall integration (R), UPMU team needs overall overview; each provides input from his/her functional expertise (C); if support of external consultant needed extension of contract (strongly advised)
Activities July – September 2020 (Q3)			

Q3/1	Prepare finance concept for Water Companies	On the basis of Q2/9 a document needs to be formulated how companies should be financed in mid- to long-term. This would need to be discussed with Ministry.	Director (A), Financial / economic analyses expert (R); UPMU team (C)
Q3/2	Develop incentive and penalty scheme concept	Depending on Q1/8 UPMU might become responsible to decide on tariff increases or to make suggestions on proposals on tariff increases. This would imply that incentives and penalties would need to be incorporated in the proposal of new tariffs. Since incentives and penalties will only function if there is no alternative way of financing Q3/1 is a precondition for Q3/2.	Director (A), Financial / economic analyses expert (R); Operations expert (C); UPMU team (I), GIZ consultant (C) → if this leads into a tariff setting guideline and external consultant should give support extension of contract would be needed
Q3/3	Formulate business planning guideline for Water Companies	For a future setting of tariffs or a proposal on tariffs business plans of water companies are a valuable input; Q1/13 basis for formulating a regulatory business planning guideline	Director (A), Financial / economic analyses expert (R); Operations expert (C); UPMU team (I), GIZ consultant (C) – for an additional support contract extension would be needed
Q3/4	Formulate cost accounting guideline	Assumption: No consultants' help needed	Director (A), Financial / economic analyses expert (R); UPMU team (C)
Q3/5	Publish first benchmarking/performance report	In previous missions we came to the conclusion that the first annual performance report needs to be very convincing. Proposal thus that external consultant assists in drafting this report Question is, if part of this annual report should also be a commenting of current situation of sector	Director (A), Operations expert, also overall integration (R); Financial / economic analyses expert (C) UPMU team (I), Water Companies (C); if input from external consultant is needed extension of contract important
Q3/6	Publish first annual report	It wasn't clear if the annual report and the annual performance report are actually two documents or	Director (A), Customer Services and Relations expert overall integration (R), UPMU team input from

		whether commenting on the situation of the sector should be a part of the annual performance report (see also Q3.5)	the respective functional expertise (C)
Activities October – December 2020 (Q4)			
Q4/1	Displaying results of first annual performance report	Ideas: articles in newspapers, information on TV, performing a conference with best practice elements of companies	Director (A), Customer Services and Relations expert (R), UPMU team (C). Assumption: No assistance by external consultant needed
Q4/1	Analysis and maybe revision of data delivery and KPI targets for Water Companies	A change in KPI targets should only be done if absolutely needed. Otherwise comparisons between different points in time are harder. Revision of data is different.	Director (A), Operations expert, also overall integration (R); Financial / economic analyses expert (C) UPMU team (I), Water Companies (C)
Q4/2	Analysis and maybe revision of concept for Customer Management		Director (A), Customer Services and Relations expert overall integration (R), UPMU team (C)
Activities starting in year 2021			
2021/1	Propose tariff setting and subsidy granting guideline	This activity builds upon Q3/2 and Q3/3. In addition this task is highly linked to the mandate and the UPMU law/Bye-law (Q1.8).	Director (A), Financial / economic analyses expert (R); Operations expert (C); UPMU team (I); if input from external consultant is needed extension of contract important
2021/2	Automate data assessment	First automation is performed in Q1/4. It makes sense to take a look at the data delivery again after some time and to analyse if additional automation is worth doing.	Director (A), Data Officer and IT expert (R); UPMU team (C)

3.4 Checklist based on the 7s approach

The 7s model **outlines core organisational activity areas** in a generic way. Used by UPMU, it ensures that all necessary areas of organisational development will be taken into

consideration. The model can also be the basis for aligning all activities and processes within UPMU (all elements depicted in the following graph):

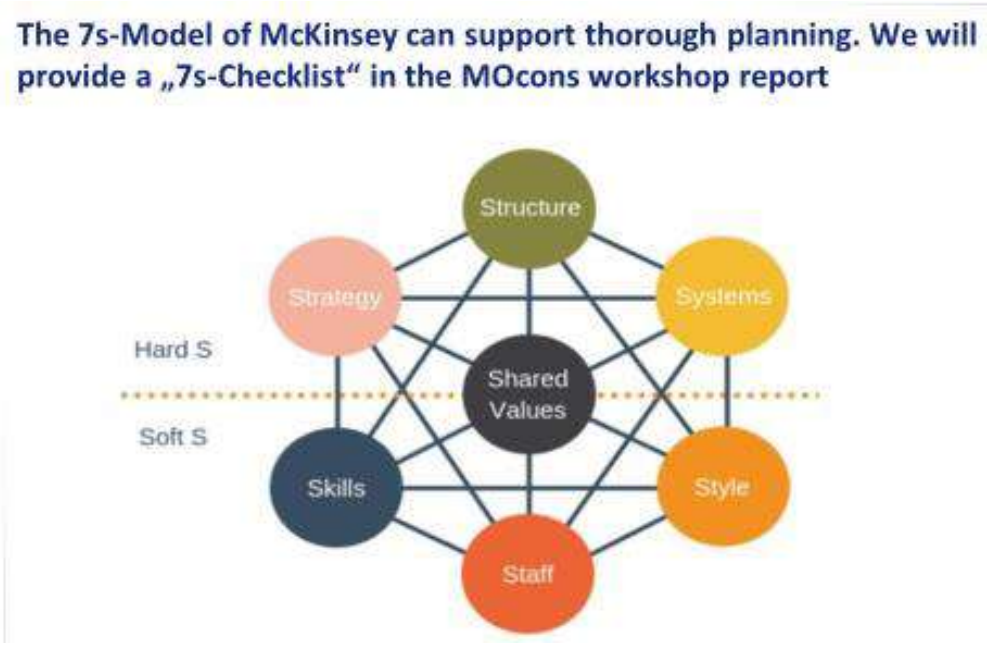


Figure 2: The 7s Model

There are the following "hard" elements:

1. The first "s" refers to the **strategy** of the organisation. In the case of UPMU, its strategy (objectives as well as the means to reach these objectives) must be based on the mandate.
2. The **structure** refers to the posts and the organigram (see also definitions in chapter 1.2)
3. **Systems** refer to procedures for coordinating the work and to measure the results of the work.

There are "soft" elements (which have a human and social dimension):

4. A first list of **shared values** has been elaborated during the December workshop; it includes openness, transparency, and reliability etc.
   These values can be discussed during the teambuilding workshop (or time reserved for teambuilding). This should be done **not only in an abstract way** ("I think communication goes well") but with concrete examples ("I appreciate that you …" or "I wish that you … more in the future"…with concrete examples).
   The elaboration of shared values is relevant for the design of the hard elements. An example: the question which control systems are applied needs to be linked to the shared values concerning trust and cooperation.
5. The **skills** refer to the staff competencies and capabilities (e.g. good writing skills, communication skills).
6. **Staff** refers to the staff structure of UPMU and the way HR is organized.
7. **Style** refers to the culture, to daily routines of UPMU which could be described by "How do we work together". This includes leadership.

Note: **All elements are interdependent**: there is e.g. a general "strategy" for UPMU, but there is also a strategy for human resources ("staff"), for information technology ("systems") etc. or the other elements of the model.

The following table contains a first 7s-checklist for UPMU. The questions in the table should be discussed during the kick-off-workshop. The UPMU team will need to discuss the questions and agree on their modes of working (for this reason, a final recommendation cannot be given within this report). Where applicable, the resulting tasks and responsibilities should be integrated in the operational plan.

No.	Activity	Comments
Shared Values		
1	What are the joint values of UPMU (regarding e.g. trust and control, openness, flexibility)?	It is necessary to discuss concrete examples of the values (see above).
2	Are the shared values aligned with the mandate, the strategy and the systems of UPMU?	Example: is e.g. "flexibility" as a value realistic in the light of the rules and the implemented systems?
3	Is there a joint idea of cooperation culture in the team?	This can be reflected e.g. in early summer 2020 (after some months of joint work experiences).
4	(…)	
Structure		
1	Are all posts and roles defined and understood (internally by all team members and externally by cooperation partners)?	
2	What are the reporting and communication mechanisms?	
3	Is the work coordinated and documented in a comprehensive way?	
4	Who decides what (the Director? the team? assigned staff?)? This should also include external actors such as the Ministry.	
5	(…)	
Strategy		
1	What is the strategy of UPMU? Is there a joint vision for e.g. 2025 (if applicable)?	This should include output and outcome objectives. It should be clear, with which means (activities, decisions) the objectives are to be reached.
2	What are the cooperation strategies with the Ministry, the Water Companies, and with the general public?	Based on stakeholder map
3	What general trends in Jordan and in the Water Sector need to be taken into consideration (e.g.	

	environmental factors)? Who keeps track of these changes?	
4	(…)	
Systems		
1	What are the “back office” systems of UPMU?	This includes (a) resource planning, (b) financial management, (c) information and data management, (d) human resources management, etc.
2	What control mechanisms are agreed upon and institutionalised (e.g. quality management; “four eyes principle”; also with external partners)?	
3	Which systems are used for documenting, archiving and tracking communication (requests, feedback) from the Ministry, the Water Companies, and the general public?	This should include tracking of follow-up measures.
4	Which IT-platform and IT applications are implemented? Which formats and templates are used (word, excel, powerpoint)?	
5	(…)	
Skills		
1	If you look at the mandate and the roadmap of UPMU, are there any skill gaps?	
2	How does UPMU institutionalise organisational learning?	E.g. (a) systematic onboarding of new staff; (b) frequent occasions for exchange and learning within the team; (c) formal trainings etc.
3	Are personnel talks institutionalised and do they include a dialogue on learning and skills?	
4	(…)	
Staff		
1	What positions are vacant or need to be filled?	
2	Is there a skills management in the organisation (keeping systematic track of needed skills, e.g. programming, communication etc.?)?	
3	(…)	
Style		
1	What is the leadership and cooperation style of UPMU (joint rules, joint routines, communication style)?	Can be reflected only after some months of cooperation. Reflection should take place at least once a year.
2	Are all team members involved in an effective way (where group participation is required)?	

3	What is the style concerning documentation (text length, degree of formal style, degree of documentation)?	
4	(…)	

3.5 Getting started

3.5.1 First months

During the first months of UPMU not all staff will be available, as recruitment processes may need some time. Where this is feasible, already hired staff should be involved in the ongoing and /or preparatory work. This includes the involvement in e.g. meetings and skype conferences among the Ministry, GIZ and MOcons.

Recommendations:
Existing staff should get involved in the following activities:
a) Getting involved in the discussions and analyses concerning benchmarking
b) Getting to know how and how different corporations for e.g. calculate NRW or assess their technical losses. Discuss and understand the potentially different approaches, try to identify best practices and recommend to other utilities.
c) Analysing how to track electricity usage
d) Identifying, analysing and recommending electricity efficiency measures, consult also with GIZ programme on climate neutral utilities
e) Other data gathering activities (to be analysed during visits of the companies; this can be identified during a skype conference with MOcons).
f) Familiarization with Jordanian sector strategies, derived indicators and discussed which of them are relevant for UPMU (covered in Performance Monitoring Tool, but UPMU could still recommend amendments). The table shared by Nayef could be a good basis for discussion. This could be an internal work session.
g) Read performance reports issued by regulators e.g. in Kenya (https://wasreb.go.ke/impact-report-issue-no-11/) and Palestinian Territories (https://www.wsrc.ps/cached_uploads/download/2018/12/19/summary-2017press-1545206797.pdf). We suggest that each team member should read one performance report from a different country and present on PowerPoint to the team their perception of the report and what UPMU could learn from it.
h) Understand, how utilities are organizing their reporting to UPMU internally. Pay particular attention to the differences amongst utilities on how they collect data and submit their reports. Document those differences.
i) Find hidden treasures (best practices): Ask utilities about their most successful measures/changes they implemented without external support during the last two years

Recommendations:
to improve their efficiency or customer services. Is there anything, other utilities could learn from?
j) Organize an internal session to discuss and agree on the 3 to 5 biggest challenges the Jordanian water utilities are facing and the 3 to 5 biggest risks for the Jordanian water sector over the next 10 years. If you think 10 years ahead, what specifically would you wish to be different compared to today? Begin to think, what UPMU can contribute to mitigate those challenges and risks and to work towards that vision.

3.5.2 Kick-off workshop of UPMU

As mentioned before, we recommend to organise a kick-off workshop. This report can serve as a basis for structuring the workshop. Specific suggestions are:

1. The kick-off workshop should take **about two days**.
2. The **director as well as all employees** should participate and provide input from their respective working fields.
3. The most important output should be the **operational plan for 2020** (with further specification of core deliverables, clarifying who does what, when, etc.), based on the roadmap (see chapter 3.3) applying the RACI-methodology (see chapter 3.2).
4. Activities for **organisational development** should be defined on the basis of the 7-s checklist (see chapter 3.4). This includes e.g. procurements of office materials, planning a team building event, etc.
5. There should be a **comprehensive list of the core deliverables** (for recommendations, see chapter 2.2.1 and 2.2.2), based on the first brainstorming during the December workshop.
6. As not all details can be planned during the kick-off workshop, there should be defined **appointments for planning workshops** for each core deliverable. During these planning workshops, the team will ensure a **comprehensive and in-depth planning** with input from all employees and define the
    - Structures
    - Content
    - work packages as well as
    - deadlines for the elaboration and the
    - dissemination of the outputs.

Recommendation:
Conduct a kick-off workshop based on the criteria 1-6 mentioned above.

Comments concerning the organisation of cross-cutting work:

1. The UPMU is a stand-alone organisation, so there are cross-cutting activities which need to be organized in addition to the core tasks. **Cross-cutting tasks** include financial management of the UPMU, personnel management, and UPMU branding

and communication policies etc. For any staff which has been working in a larger organisation before (e.g. a Ministry), this **might require adapted ways of thinking**.

2. It needs to be taken into consideration that UPMU consists of a **team of 4 employees and one director. This means that all management instruments should be kept on a minimal level.**
3. However, a **decisive planning** and clear **assignment of responsibilities** will be necessary. A lot of coordination work can be done within team meetings (with short documentation). In contrast to large organisations, comprehensive and detailed process description will not be necessary.

Recommendation:
Ensure that there is neither over- nor under-steering.

3.5.3 Effective meeting organisation

The success of UPMU depends largely on successful communication. Hence, frequent meetings will facilitate the internal dialogue. If meetings are properly organised, they are an efficient and effective tool for the synchronisation of work; double work and delays will hence be reduced to a minimum. The following checklist can be an important building block for becoming a high performance team.

Although the list first may seem to be “trivial” to some, it is even more astonishing how many teams do not follow basic meeting routines for a high team performance. The list should nevertheless be discussed and, if necessary, be complemented by the team. Step by step it should become a habit to organise meetings accordingly.

Checklist for effective team meetings			
1.	Before the meeting		
	• Meeting agenda • Background materials	Make sure to mail the agenda at least one day before the meeting takes place to all participants. Make sure that all participants can access the relevant background material for preparing the meeting. This includes core questions which are to be discussed.	☐ ☐
2.	Beginning of the meeting		
	• Meeting objective • Update agenda • Clarify roles	Agree upon goals of the meeting. Ask yourselves: "What is the meeting supposed to achieve?" Review the agenda and modify it together with participants if necessary. Decide whether breaks are necessary (e.g. during longer meetings) Check (a) who documents the results of the meeting, (b) who facilitates the dialogue and (c) who keeps track of the time.	☐ ☐ ☐
3.	During the meeting		
	• Ensure sufficient participation of all • Active participation	Based on your agreed cooperation style, make sure that all team members participate on the basis of their roles and competencies. Ensure jointly that all colleagues are (mentally and physically) present during the meeting (e.g. no mobile phones, interruptions). If necessary, take a break.	☐ ☐
4.	After the meeting		
	• Documentation • Follow up	Make sure that the protocol is sent to all participants within the agreed time span. Consider if further meetings have to take place. Decide who will follow up on the decisions.	☐ ☐

4 Organisational Processes

4.1 Process definition

In chapter 1 of the report, the term "process" for UPMU was already shortly presented. The following chapter will depict two core processes of UPMU, which have been elaborated during the December workshop.

UPMU processes will have the following characteristics:

1. Clearly **defined and repeating action steps over time**
2. Clear **starting point** (trigger) and **results of each process (output)**
3. **Additional process information** can include:
    a. who does what for achieving the output,
    b. when (timeline of process),
    c. how is the process conducted

d. what are the necessary resources.

It is important to see that many UPMU activities will not be based on formal and standardized processes.

4.1.1 GIZ understanding of organisational processes

It is possible to differentiate different types of processes (see following graph by GIZ):

1. **Steering processes** to ensure a comprehensive management: e.g. annual planning, coordination of tasks;
2. **Output processes** necessary for producing the core results of UPMU (e.g. the annual report)
3. **Cooperation processes** are inter-organisational processes, e.g. with Ministry or water companies. Keeping track of cooperation processes will help to keep up productivity even in turbulent environments.
4. **Processes of organisational learning:** This is stressed by GIZ because “learning” creates innovation. These are e.g. team building measures or institutionalised reflections of the team.
5. **Auxiliary processes** are e.g. service processes: producing printed material, event management, etc. Some of these processes can be outsourced to service providers. This will help to keep a slim organisation.

Finally, there are **process hierarchies** (see following graph). There are different levels of process descriptions:

- from very general descriptions (“Monitoring”),
- to more detailed process descriptions (“Monitoring consists of data gathering, data consolidation, and feedback to the water companies”),
- to very detailed process descriptions (“data gathering is based on asking the companies to send data, receiving data, data consolidation etc.).

Process hierarchies can be applied for structuring the work of UPMU.

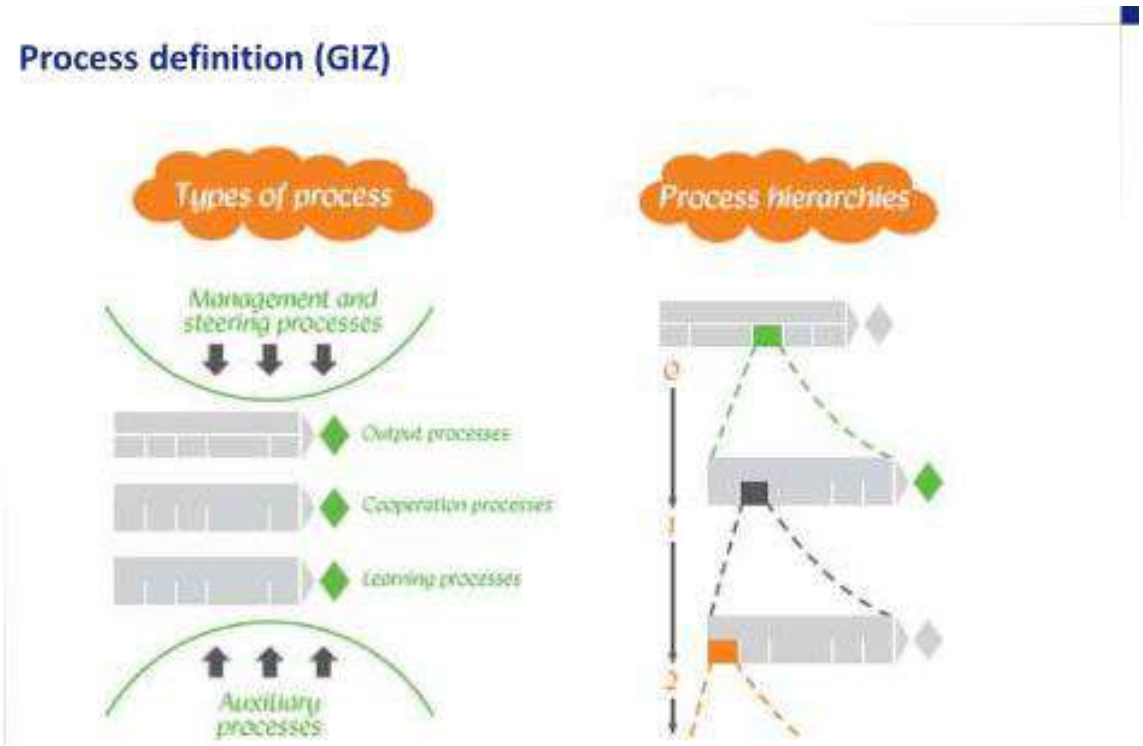


Figure 3: GIZ definition of processes

4.2 Performance Benchmarking Process

No.	Activity	Comment	Responsible
1	Plan benchmarking process for annual performance report (first version of annual report will be more slim compared to the following years.)	Work plan to be drafted during planning workshop by the end of October of previous year.	Director (A), Customer Service and Relations Expert (R), UPMU team (C)
2	Inform directors of Water Companies about plan		Director (R; A), UPMU team (I)
3	Create unified forms for data collection in at the beginning	Concerns requirements and (data) interfaces	Director (A), Data officer and IT expert (R), UPMU team (C)

No.	Activity	Comment	Responsible
	dialogue with Water Companies		
5	When first starting define structure and content of quarterly and annual reports		Director (A), Customer Services and Relations Expert (R), UPMU team (C)
6	Gather financial, technical and customer data of Water Companies	Use Oracle interface for data access in future, until then continue with previous ways of data collection, starting in May of each year.	Director (A), Customer Services and Relations Expert overall coordination (R), UPMU team (C), Water Companies (C)
7	Verify the data gathered	Check, comment and discuss data; if necessary conduct visits to the Water Companies. Work towards a more automated verification process.	Director (A), Customer Services and Relations Expert overall coordination (R), UPMU team based on functions (R, C), Water Companies (C, I)
8	Integrate the data gathered	Provide quarterly and annual reports including the KPIs for Water Companies and discuss further action.	Director (A), Customer Services and Relations Expert overall integration (R), UPMU team based on functions (C)
9	Draft annual report		Director (A), Financial / economic analyses expert (R); UPMU team (C)
10	Assure quality of report		Director (A), Customer Services and Relations Expert overall integration (R)
11	Disseminate report	Internet, press conference; includes financial, customer data as well as core challenges. Address different target groups: general public, donors, Water Companies, etc.	Director (A), Customer Services and Relations Expert overall integration (R), UPMU team (I)

4.3 Inspection Process

No.	Activity	Comment	Actors
1	Conducting planning workshop for inspections with the whole team		Director (A), Customer Services and Relations Expert overall coordination (R), UPMU team based on functions (C)
2	Define inspection types and scope based on mandate		Director (A), Customer Services and Relations Expert overall coordination (R), UPMU team based on functions (C)
3	Prepare template, sub-templates and checklist(s) for each inspection type		Director (A), Data officer and IT expert (R); UPMU team (I)
4	Ensure professional IT-based data management	It should not be possible to change inspection data after final saving of results.	Director (A), Data officer and IT expert (R); UPMU team (C, I)
5	Announce inspections	Clarify whether announcement is wanted or not	Director (A), Customer Services and Relations Expert overall coordination (R), UPMU team (I)
6	Conduct inspection on site		Director (A), Customer Services and Relations Expert overall planning and accompaniment (R), UPMU team visiting Water Companies according to function (R)
7	Document inspection findings		Director (A), Customer Services and Relations Expert overall coordination and quality checks (R), UPMU team after the visits documentation (R); rest of the UPMU team (I)
8	Provide feedback to Water Companies		Director (A), Customer Services and Relations

No.	Activity	Comment	Actors
			Expert overall coordination and quality checks (R), UPMU team (I)

4.4. Annual management process

The following process depicts the overall management process of UPMU based on the management cycle:

1. It describes the relevant activities in the area of **operational planning**, which has been outlined already in this report.
2. A full management cycle includes the **coordination** of the operations on the basis of a cyclical **monitoring**; and
3. **evaluation** is necessary.

The use of the management cycle is a standard approach in many public as well as private organisations. A core element is that by monitoring and evaluation, it is ensured that all tasks are reached in time and in quality. Furthermore, it is ensured that the planning process of the following year builds on the lessons learned of the previous year.
It is important that **all staff is involved in the process** to ensure that all competencies are utilised.

Finally, the management process is a process according to the definition above, because it is repeated every year in a standardised way.

The following table can thus serve UPMU as a blueprint for implementing a comprehensive management process including planning, coordination and evaluation:

No.	Core activity	Process steps
1	**Planning**	
1a	Planning for the year	· Formulate the annual goals of UPMU on basis of mandate, vision, mission principles and performance targets. At this point, the results of the evaluation of the previous year should be taken into consideration. ("What do we want to achieve, differentiated into output, outcome and impact goals?") · Examine target groups of UPMU action, e.g. Ministry, Water Companies, general public, NGO etc. ("Who do we want to address with our activities in the following year?") · Identify possible conflict situations, using the actors' map. ("What might interfere with our goals?")

1b	Assessment of external situation and internal resources	· Conduct a situation analysis, e.g. what are rules, regulations, stakeholders we have to consider this year and where do we look at specifically ("In which context do we operate this year?") · Carry out personnel- and budget deployment, including assessment of existing capacities/competencies. ("What resources do we need to achieve our goals?") · Address the identified (external) risks and chances ("How do we deal with the potential conflicts and how can we leverage existing chances?") The results of these assessments might influence (again) step 1a, so a re-formulation of objectives might become necessary.
1c	Operationalization	· Assigning tasks to UPMU team members ("Who will be in charge for what?") · Clarify the individual roles within the team ("What do I expect and what is expected from me?")
1d	Setting-up Monitoring and Evaluation scheme	Preparing forms (first year) and defining the following instruments for internal monitoring and evaluation: · Deviation analysis ("Where do we differ from our goals?") · Define in how far data from stakeholders are integrated (e.g. customer satisfaction; responses from the Ministry) ("How is the quality of our work from the perspective of different stakeholders?") · Identification of the cause of deviation ("Why do we differ?") · Define how to track in which way corrective action is taken ("What do we need to do to get back on track?") · On the basis of which data will we carry out the annual evaluation of our work
2	**Ongoing coordination and monitoring**	
2a	Monitoring	· Conduct a deviation analysis (e.g. each 3rd month at the end of each quarter year) ("Where do we differ from our goals?") · Identify the cause of deviation

		("Why do we differ?") · Derive and carry out corrective action · ("What do we need to do to get back on track?")
2b	Ongoing coordination	· Assessment of monitoring results with the team (after presentation of the Director) · Decision on measures and adapting the operational plan. If necessary, the work allocation or the resources need to be organized differently. · Results are noted in meeting minutes
3	**(Annual) evaluation**	
3a	Plan evaluation	· Define the purpose of the evaluation (which depth of evaluation is necessary; this may vary from year to year). · Decide on external support for evaluation · Define the scope of the evaluation (e.g. quality of work, impact in the sector, efficiency of work) · Organize stakeholder participation for participative evaluation (if desired) · Formulate communication strategy
3b	Prepare evaluation	· Identify existing qualitative and quantitative data (e.g. existing operational plan, baseline data, desk studies) · Deciding on methodology (key questions, data needed, stakeholder involvement, resources) · Work out data collection tools (questionnaires, case study, SWOT-analysis, focus group) including key questions and indicators (based on the existing working plans) · Set up evaluation team
3c	Conduct evaluation	· Collect and assess data on the basis of the collection tools · Prepare evaluation report and conduct quality check
4	Discussion of evaluation results and dissemination	· Discuss results of the evaluation in the team · Decide on core communication measures to the Ministry, to the general public, to the Water Companies, NGO etc. · Discuss consequences for the following year (next operational plan)

5 Structure & Roles

5.1 The current organisational structure

As demonstrated in the following graph, UPMU consists of five posts: the director and four employees. During the December workshop it became clear that **all staff needs to be involved** in the elaboration of the core outputs (first draft in chapter 2.2.).

The **director** needs to participate actively in the production of the outputs, as in a small team there is only limited managerial work (compared to larger teams/organisations). The director's work force represents 20% of the whole team, so this is a necessity.

It is furthermore recommended that the **RACI chart** is applied for the allocation of work packages. Although deliverables are produced on the basis of team work, it needs to be specified which colleagues work out which (sub-)results.

The **kick-off workshop** of UPMU is the context in which to **elaborate the job descriptions** for all colleagues. This includes the definition of the **RACI roles**, which also should be documented in the operational plan ("who does what…").

As mentioned, the additional **planning workshops** for the core processes will be a time to specify also details of work allocation.

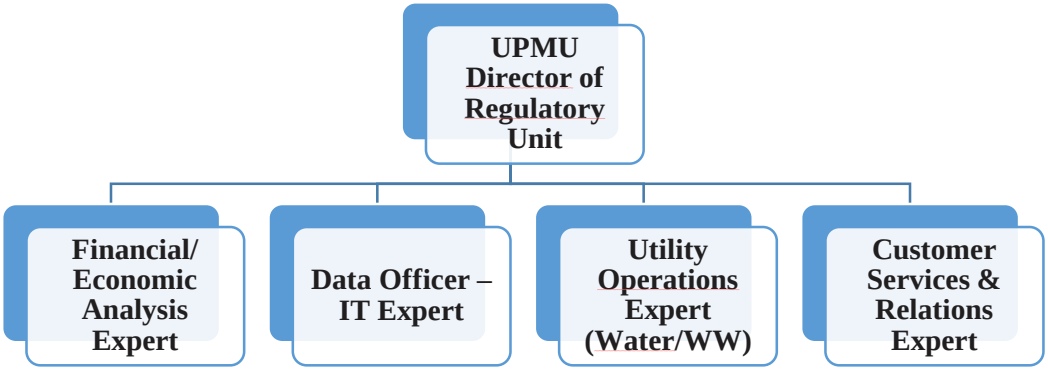


Figure 4: UPMU organigram (as of 1/1/20)

Summary of recommendations:
1. All colleagues need to participate in the elaboration of the core deliverables. Thus **frequent meetings** are necessary to ensure that all perspectives are taken into consideration (i.e. financial, information technology, utility operations, and customer service)! All colleagues need to know about the overall team activities.
2. The **director** needs to take an active role in the elaboration of the results as the management role is only 20-30% of his work.
3. Apply the **RACI chart** for all major tasks. There can be various colleagues who are responsible for the work, but only one person who is accountable.

Summary of recommendations:
4. During the **kick-off workshop** of UPMU the job descriptions can be discussed. However, the final work allocation will take place during the **planning workshops** for all core processes.

5.2 The future organisational structure

At this point, it cannot be predicted how UPMU and its organisational structure will develop in the future. The likelihood of organisational changes depends also on societal trends (acceptance of regulation in the greater public), political factors (acceptance by Parliament, business interests, opposition of the water companies), and tactical factors (negotiation processes and power constellations). This is the same in other countries were regulatory authorities have been introduced.

We strongly recommend that the development of the organisation follows the strengths and weaknesses as well as the threats and challenges in the Jordanian Water Sector. This means if e.g. “data collection” works very well in 2020, but introduction of new tariffs creates conflicts, new posts should be introduced in this area of demand. In other words, to follow a mechanistic planning approach based mainly on the experience of other authorities, will not lead to success.

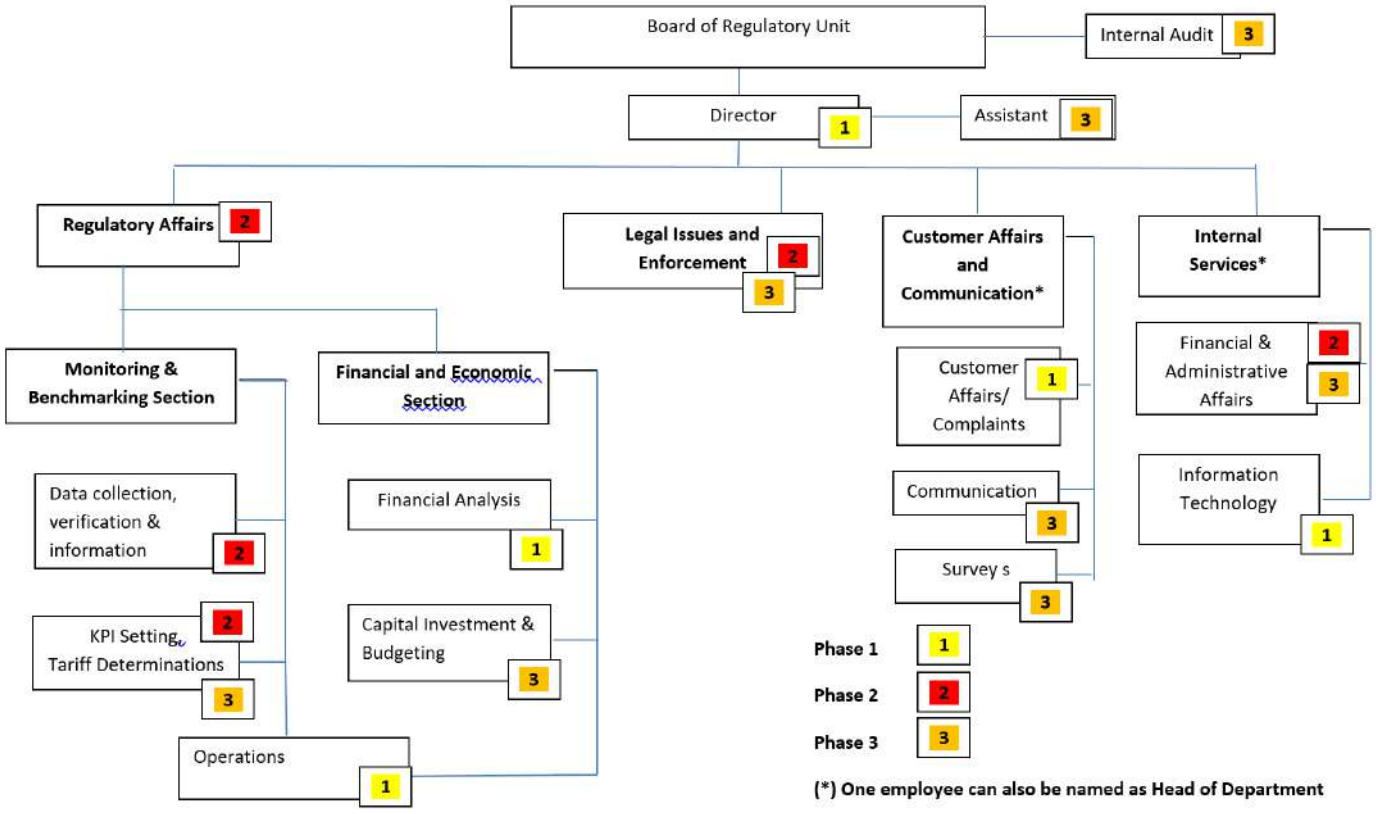
However, during the first phase of UPMU (first year of operations) it is useful to discuss growth scenarios for UPMU. This can provide early and important impulses for developing competencies in time, for the elaboration of strategy documents as well as providing a general orientation for the leadership as well as the staff of UPMU.

The following graph depicts a possible organisational structure which can be achieved during the next 2-3 years of operation. We suggest an incremental growth path with three stages of development:

- Phase I has started in January 2020;
- Phase II starts in July 2021;
- Phase III will start in January 2023.

This means that each phase lasts about 18 months, leaving enough time for developing new positions, competencies and processes step by step. In some cases, there is an option whether to introduce a new position in phase 2 or in phase 3 (posts are assigned with “2” and “3” in this case).

Future Water Sector Regulatory Unit Organisational Structure



The graph shows that some of the posts foreseen for the future will also be introduced in the first phase 2020. These posts can be differentiated into two or more posts in the following years. This means that e.g. jobs of the current post “Customer Service & Relations” can be shifted to an extra post merely focusing on “Communication”. As mentioned before, if experience shows – due to existing competencies or systemic causes – that the current setting works better, it might be a better alternative to assign the post of a clerk (or alike) to the current post for Customer Service.

Thus, in a second phase, the posts with the following focus areas can be amended:

1. Regulatory affairs (phase 2)
2. Data collection, verification and information (phase 2)
3. KPI setting and tariff determination (phase 2 or phase 3, depending on needs)
4. Legal issues and enforcement (phase 2 or phase 3, depending on needs)
5. Financial and administrative affairs (internal tasks, e.g. also dialogue with Ministry)
6. Communication (phase 2)
7. Surveys (phase 2)
8. Assistant to the director (phase 3)

Additionally, the Ministry should establish a post for the Internal Audit of the UPMU in phase 3. However, the strategic independence of UPMU shall not be interfered with based on this position.

Summary of recommendations:
1. The future vision of an organisational structure should be kept in mind. We recommend, however, an **incremental growth** of the organisational structure. Therefore, organisational growth scenarios offer a chance to **observe from an early stage on** which activity areas need more momentum, and thus enhanced capacities.
2. Decisions on the future organisational structure should follow concrete **needs of the Water Sector** in Jordan based on the mandate and the working principles of UPMU. It is not recommendable to follow a standardised "best practice" approach.
3. Organisational growth is realised by (a) **adding** new posts, (b) **merging** existing posts or (c) **differentiating** existing posts into two or more posts. In all three cases, the **jobs are assigned to the posts**. Each post should fulfil relevant functions for implementing the mandate of UPMU.

6 Capacity building

6.1 Cooperation and organisational values

Methodology

During the workshop, the participants were asked to note core criteria for "good "cooperation within the team ("What is important for you?"). The answers to the question were presented and discussed.

Result

The participants came up with the following criteria for good cooperation (direct quotes, no changes):

- Team work
- Trust (mentioned 2x)
- Daily meeting with staff
- Direct communication
- Commitment
- Knowledge exchange
- Visionary long-term planning
- Communicate
- Good understanding
- "Do your job on time"
- Respect

- “Share the right information at the right time”
- Share food
- Know each persons’ capabilities and act accordingly
- Good faith for the work to achieve good results
- Get the results needed by giving each person the task he/she is good at

These criteria can be the basis for further discussion during team building exercises. It will be necessary to specify what e.g. “commitment” and “respect” mean not only in an abstract way, but also in concrete situations:

- “Commitment” can e.g. mean that when a colleague has finished the work assigned to him or her, support is offered to colleagues who have a work overload
- “Respect” can e.g. mean that there are no discriminatory comments or jokes (e.g. based on gender) or that different working styles are appreciated.

Thus, shared values can be a basis for practical orientation and learning opportunities as a team.

Summary of recommendations:
1. Discuss UPMU shared values on the basis of concrete situations to facilitate growth of the UPMU working team.

6.2 Recommendations for capacity building

6.2.1 Structure and content of team building workshops

In order to improve the teamwork of UPMU, we recommend holding a 2-day workshop that focuses on both the potentials and challenges of working as a high-performance team. With appropriate team-building measures, the team has the potential to ensure a high level of productivity as well as quality of the working results.
We recommend team building on an organisational, interpersonal and cultural level (for enhancing the team culture). This will enable a good balance between stability on the one side and flexibility on the other side, based on an adequate internal team cohesion.

On this basis we suggest a team-building workshop with the following content (exemplary):

WORKSHOP AGENDA - Day 1		
Time	**Thematic focus**	**Contents**
Morning (4 h)	**Fundamentals**	- Joint working rules: identifying, assessing and adjusting present communication rules (meta plan/ flip chart/ interviews) - Definition and differentiation of the concepts “team/group” - Critical reflection of development stages of the team - Image of 'self' and 'other' (group exercise, presentation, evaluation, reflection) - Team communication (e.g. “active communication”, feedback culture, formulating objectives)

Afternoon (2,5 h)	**Leadership**	- Role of team leader - Delegating tasks in the right way - Team leading as a unique communication interface

WORKSHOP AGENDA - Day 2		
Time	**Thematic focus**	**Contents**
Morning (4 h)	**Localisation**	- Phases of a typical team process - Analysing team behaviour (e.g. "team roles" according to Belbin) - Role of the individual in the team (self-awareness and awareness of the other) - Mapping the systemic team environment
Afternoon (2,5 h)	**Strengthening**	- Team identity (Group awareness, organisational identity, mission) - Identifying and managing conflict in the team - Case examples of beneficial team environment (examples of "good practice")

All members of UPMU are to participate in the workshop. The workshop ideally will take place within the first 6 months of the formation of UPMU, under the premise of some months of joint working experience.

6.2.2 Performance Appraisal Discussion

To enhance organisational capacities of UPMU steadily, we recommend to formally organise annual performance discussions between the director and the team members. Director and staff are required to meet bilaterally the end of the assessment term (in December) to discuss the performance over the whole appraisal period.

The director should provide the employee with an honest account of his or her performance with regards to the extent to which the staff member has achieved his or her performance goals and outcomes. By using checklists, coverage of all relevant topics can be ensured.

The appraisal discussion must:

1. Reflect the input of both superior and employee, i.e.:
    - The employee's job description,
    - Agree upon goals and standards defined at the beginning of the appraisal period,
    - Outcomes and standards of the previous performance appraisal (if available, not during first year),
    - Structured performance appraisal form,
    - Self-appraisal of the employee.
2. Take into account any unforeseen developments that may have affected performance during the assessment period.
3. Call attention to the employee's strengths and accomplishments during the assessment period.

4. Provide a basis for helping the employee improve where needed (“productive feedback”)

On this basis, an overall appraisal of the employee is elaborated and next steps for the following assessment period (normally a full calendar year) are agreed upon.

The appropriate forms must be filled out and signed by both parties to underline that both agree to the assessment’s results. Disagreements between the line manager and the employee over any element of the appraisal should be referred to the responsible managers in the ministry in order to resolve the issue.

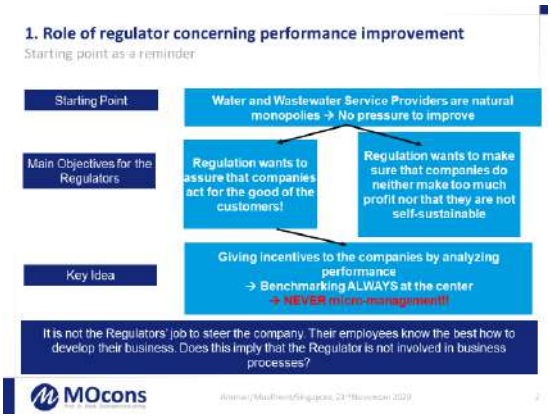
The appraised employee and the director should also agree on a development plan for the following period with the intention of aligning the employee’s personal aspirations with organisational demands. It should include the following items:

1. Competency requirements,
2. Training,
3. Objectives and standards of the previous performance appraisal (if available),
4. Desired outcomes of the measures,
5. Cost estimates,
6. Time frames.

1.2.6 UPMU as moderator for best practices (23th November 2020)

Summary of Key Messages

1. Role of regulator concerning performance improvement

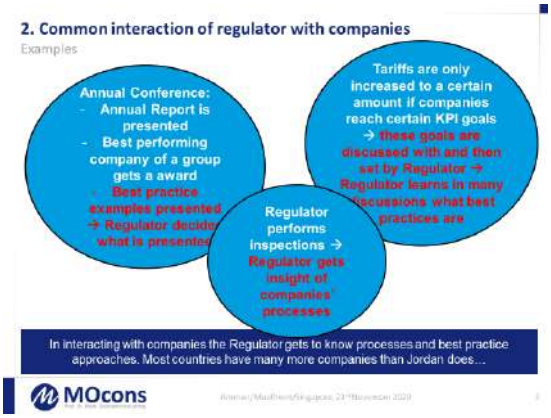


The starting point of this presentation was again the main objective of regulation:

- Company shall act in interest of the customers
- Company should not make too much profit
- Company needs to be self-sustaining
- Company needs to be efficient

➔ Regulator does not get involved in micro-management

2. Common interaction of regulator with companies

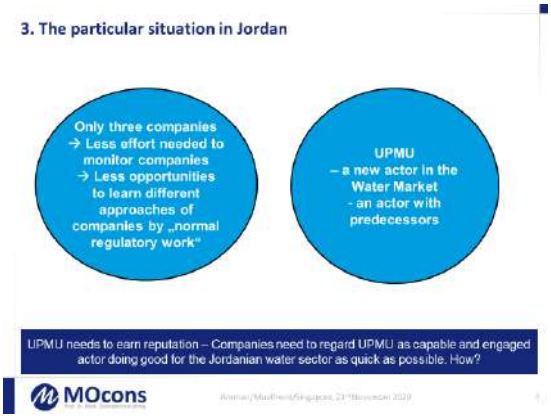


Regulator sets incentives

Regulator performs inspections

Regulator decides which companies reach the level of best practice

3. The particular situation in Jordan

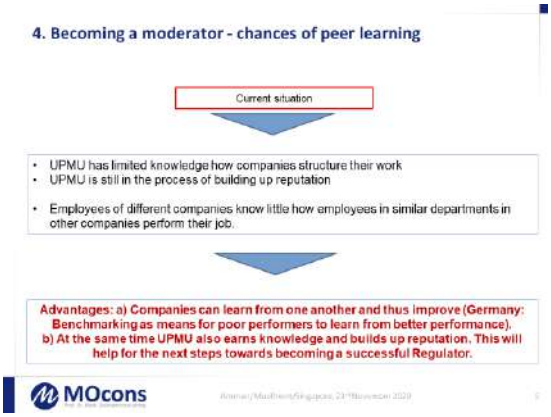


Jordan has only three companies

- Less effort for monitoring
- Less possibilities learning from comparisons

➔ UPMU as new actor in the water market needs to earn reputation fast!

4. Becoming a moderator - chances of peer learning



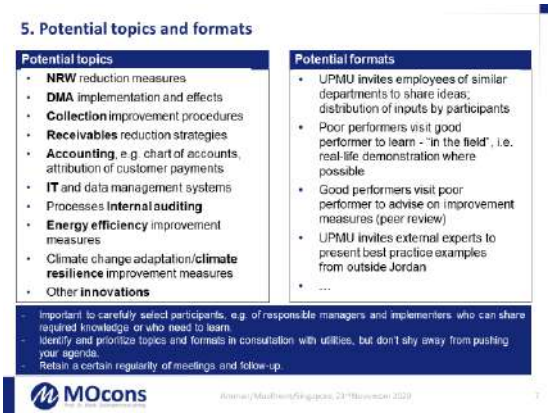
Implementing peer learning helps all:

- Companies learn from one another
- UPMU earns knowledge
- UPMU builds up reputation which is important for the cooperation also with other stakeholders in the sector

➔ Gain knowledge and earn reputation at the same time

5. Topics to be discussed

In the workshop we discussed the set-up of meetings with the companies. For further remarks please see notes on the seminar.



In the workshop we discussed various topics for meetings with the companies. For further remarks please see notes on the seminar. It is up to UPMU to further develop topics which are interesting for meetings. UPMU will gain ideas from e.g. its discussions on the Company Business Plans.

1.2.7 Invectives of UPMU presentation (17th December 2020)

Summary of Key Messages

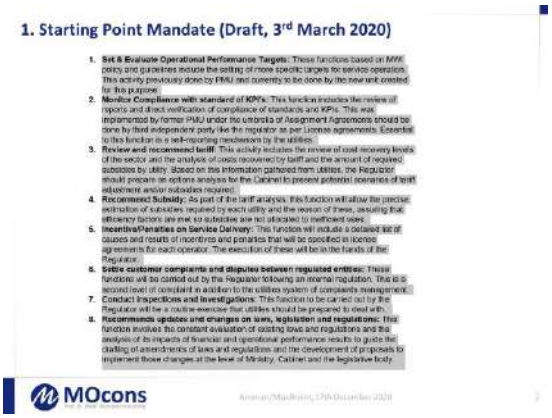
Options for measures enforcing regulation (incentives, sanctions)

Prof. Dr. Mark Oelmann

MOcons

Amman/Muelheim, 17th December 2020

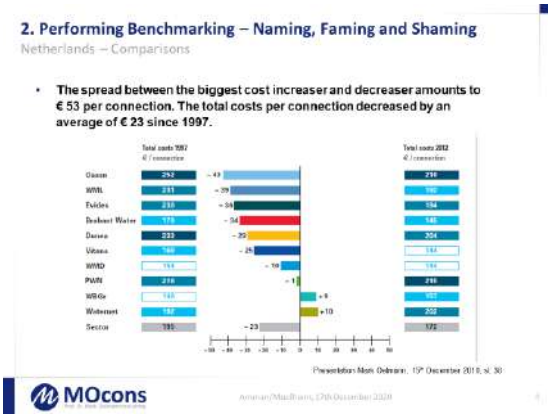
6. Starting Point: The UPMU mandate



Mandate is starting point for discussion on incentives – older version:

- Set & evaluate performance targets
- Monitor
- Review and recommend tariff
- Recommend Subsidy
- Implementation and Execution of incentives and penalties
- 2nd Level complaints management
- Inspections and Investigations
- Constant improvement of Regulation

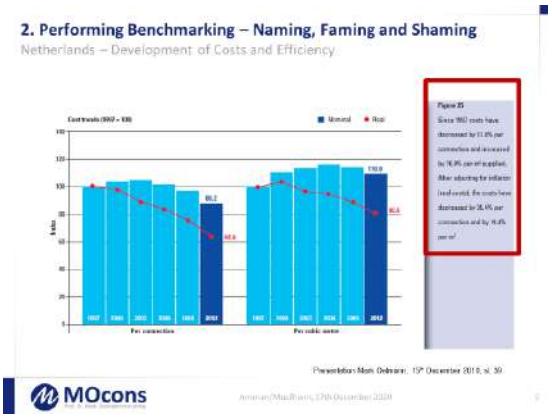
1. Performing Benchmarking – Naming, Faming and Shaming



The **first option** is benchmarking

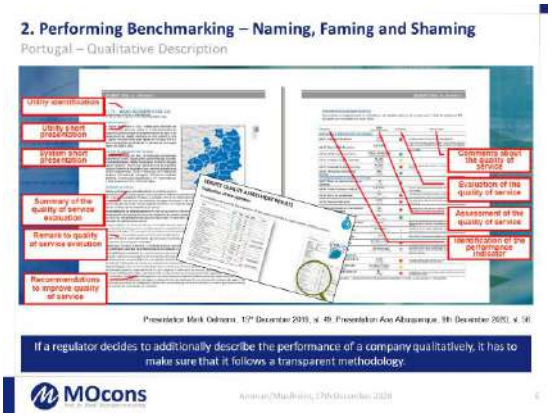
The Regulator needs to get an overview and a feeling for efficiency in the sector.

Results should be published in public and easy access- and understandable. This already creates incentives for WCs to improve.



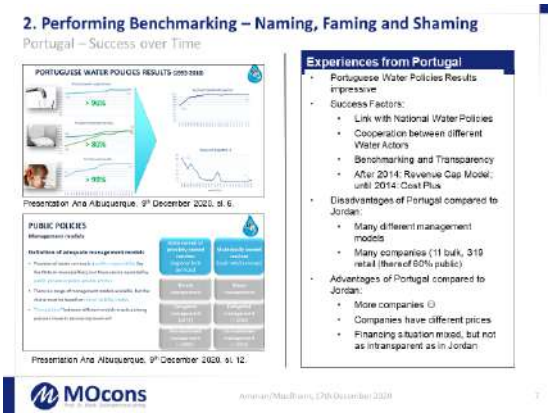
Benchmarking: Lessons Learnt

- Reports need to display the individual performance
- Reports need to be widely communicated in public
- Benchmarking gets more valuable over time
- Key messages of report must be delivered in an ostensive way



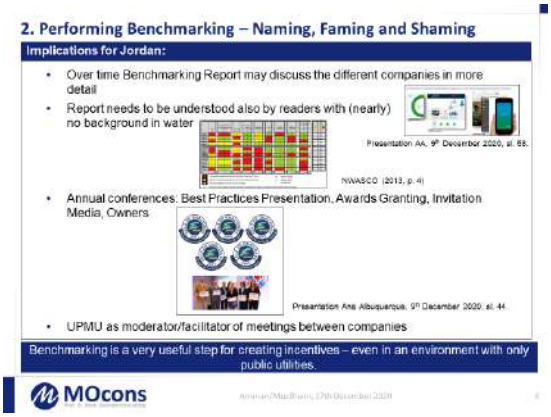
Taking endowments into account

- Qualitative performance description needs to follow uniform and transparent methodology
- Otherwise WCs with rather unfavourable endowment will unfairly get criticized.



Implications for Jordan from success in Portugal

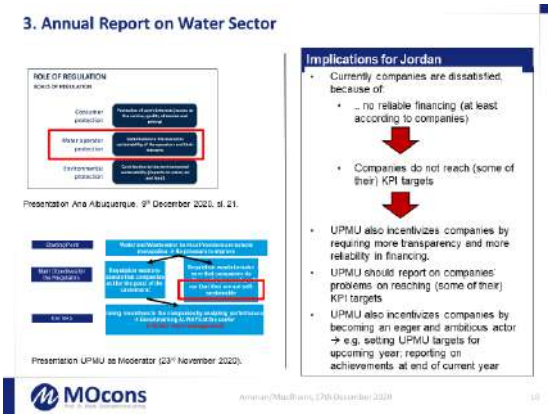
- Link with water policies
- Cooperation between actors
- Benchmarking and transparency (also for financing situation)



Success factors for Jordan may be:

- Benchmarking (becomes more valuable over time)
- Easy to understand reports
- Annual conferences (best practice, award granting, media, owners)
- UPMU as moderator/facilitator

2. Annual Report on Water Sector

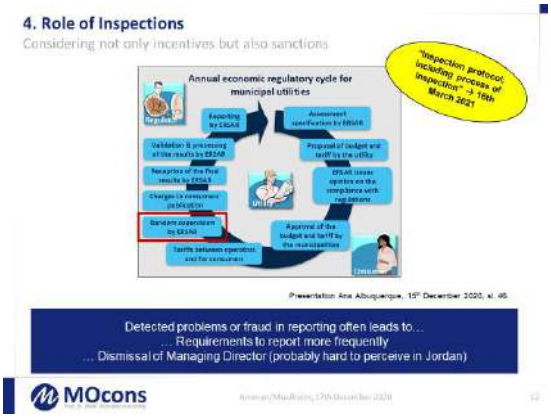


The **second option** is issuing an Annual Report and holding an Annual Conference.

Creating motivating environment for utilities by reporting

- Requiring more transparency
- Be reliable on financing – as much as possible for UPMU 😉
- Take endowments into account and report accordingly
- Set targets for upcoming year
- Report on achievements

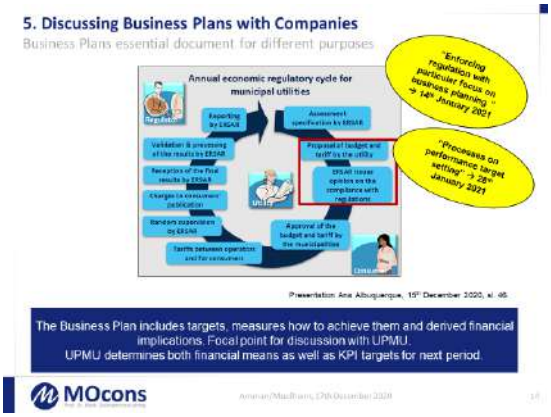
3. Role of Inspections



The **third option** to incentivize WCs are inspections.

- Inspection Protocol (including process of inspection) is needed
- Balance of incentives and sanctions is essential
- Detected problems or fraud in reporting need to have consequences
  - More frequent reports
  - Dismissal of managing director (if possible)

4. Discussing Business Plans with Companies



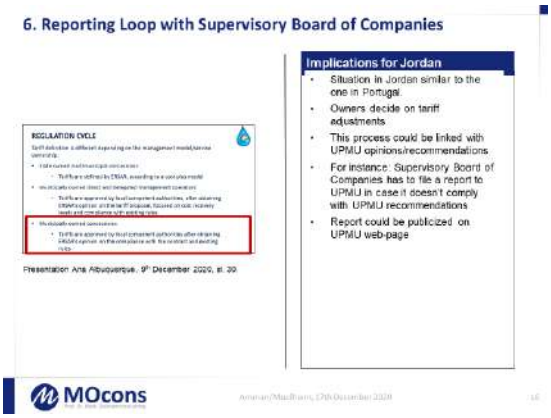
The **fourth option** are the discussion on business planning including target setting.

Business plans are essential:

- Includes targets, success measures, derivatives of financial implications
- Proposal of budget and tariff by utility (for Portugal..)
- Compliance with regulation needs to be ensured

➔ Eventually UPMU determines KPI targets and calculates effects on financial means.

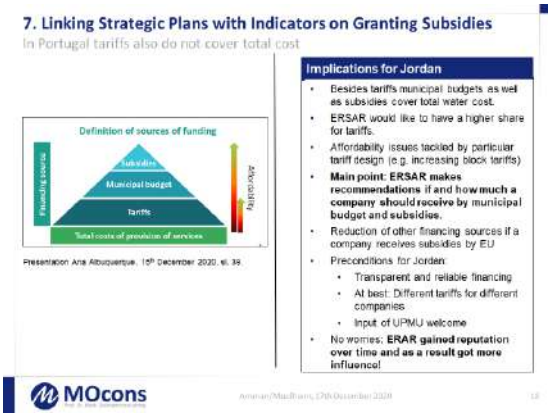
5. Reporting Loop with Supervisory Board of Companies



The **fifth option** is the information to supervisory boards of companies:

- It might make sense to install certain reporting loops to UPMU:
  - For Instance: Board has to file a report to UPMU in case it doesn´t comply with UPMU recommendations
  - Report could be publicized on UPMU web-page

6. Linking Strategic Plans with Indicators on Granting Subsidies



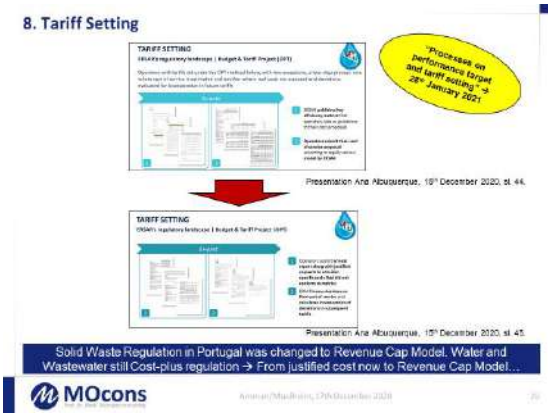
The **sixth option** is trying to get influence how subsidies are allocated to WCs.

Affordability issues can be tackled by tariff design (e.g. increasing block tariffs, different tariffs for different companies)

➔ Linking to granting subsidies

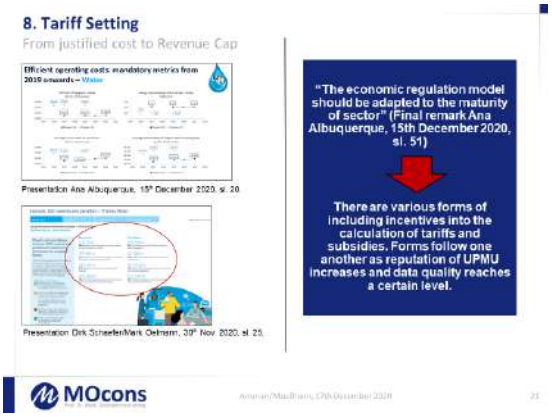
- Regulator can make recommendations on rates of financing sources (tariffs, municipal budget, subsidies)
- Important: Transparency and reliability on financing

7. Tariff Setting



The **seventh option** is to assist the Minister how to set tariffs. It could be helpful if UPMU calculates the effects of certain KPI targets on financing needs.

Over time regulatory framework might also include tariff setting responsibility (e.g. revenue cap model, cost-plus regulation…). This is the most classical option to set incentives to WCs.

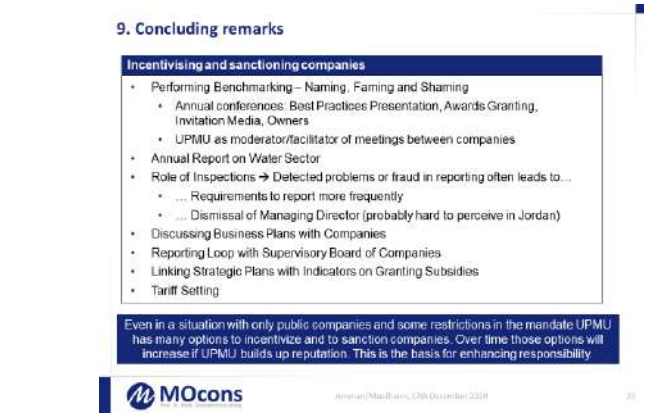


The economic regulation model should be adopted to the maturity of sector.

Over time:

- Data quality reaches certain level
- Reputation of regulator increases

8. Concluding Remarks



- Performing Benchmarking
- UPMU as moderator/facilitator
- Implement inspections with respective consequences
- Discussing business plans with companies
- Reporting loop with supervisory board of companies
- Linking strategic plans with granting subsidies

1.2.8 Business planning of UPMU presentation (14th January 2021)

Summary of Key Messages

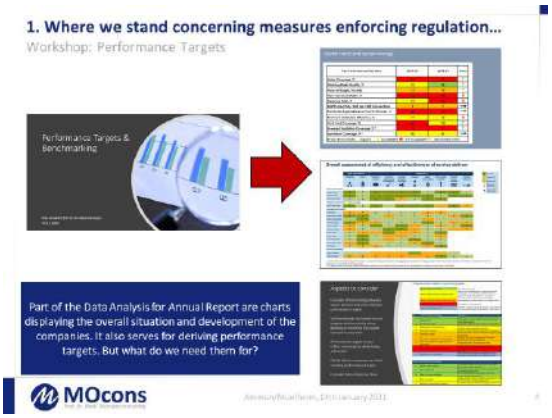
9. Where we stand concerning measures enforcing regulation…

These first slides again try to set the scene, because the different workshops are connected as we have seen now in our session on “Operational planning”.

Challenges of UPMU as Moderator:

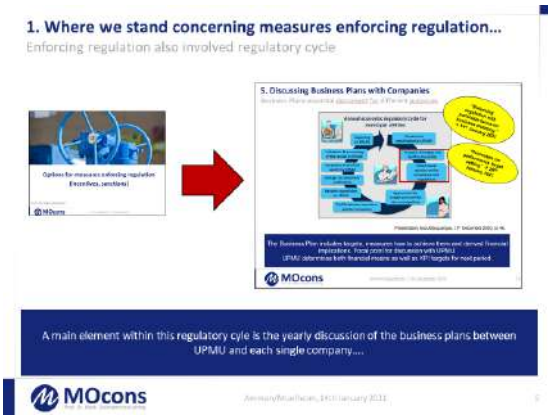
- Find out where companies have problems
- Find best practices

Data analysis and the reports are the first step towards finding out where companies have their problems and identify best practices.



Transparently derive performance targets:

- Data analysis and annual reports as basis
- Display results in charts
  - to get an overview
  - and show overall situation and development of companies



For each of the above mentioned tasks business planning is very helpful, because….

…. Working on companies’ problems and derived performance targets come together in the business planning.

➔ Discussion of business plans between UPMU and each single company.

Focus in this presentation is on business planning:

- Framework and outline
- Purpose, goals and utility
- Interaction of UPMU

In following presentation, the gap to finishing the regulatory circle will be closed by going into detail in the topic of performance targets.

10. The particular role of Business Planning

1.1 Introduction into Business Planning

Def. Business Planning

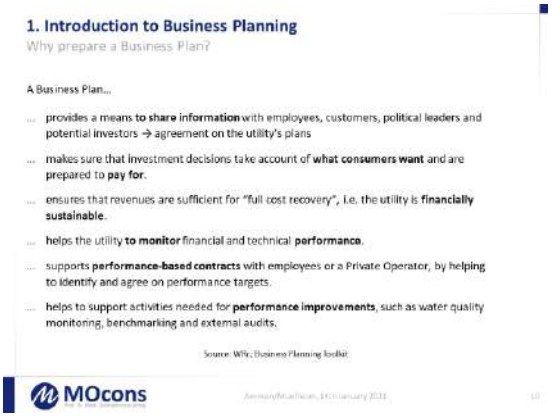
Business planning describes activities to address challenges

Why is formal business planning needed in a sector which doesn't face competition?
Free market:

- Planning at business level
- Competition → focus on customers → improvement

Centrally run

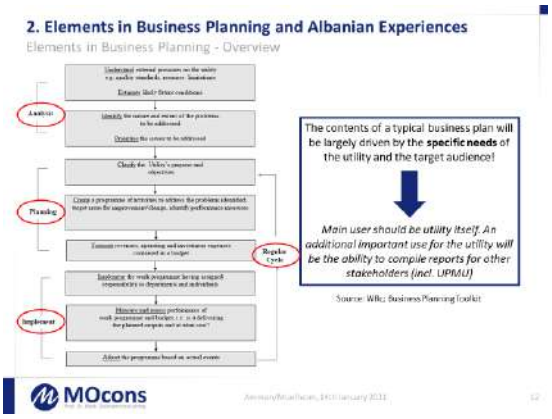
- Planning at state level
- Focus on customers not naturally enforced leads to a need to install pressure to improve



Benefits of a business plans

- Information for different stakeholders
- Investment decisions can be made based on customers willingness to pay
- Sufficient revenues for "full" cost recovery
- Monitor performance and facilitate performance-based contracts as well as performance improvements

1.2 Elements in Business Planning and Jordanian Experiences



Elements of Business planning:

- Analysis
- Planning
- Implementation

➔ Content of business plans are largely driven by specific needs of respective utility and its target audience

➔ Main user should be utility itself

Elements and experiences from **Albania**

Element 1: Analysis

- Understand external pressure (e.g. performance measures, resource limitation)
- Estimate likely future conditions (e.g. statistics, tariff development)
- Identify problems
- Prioritise

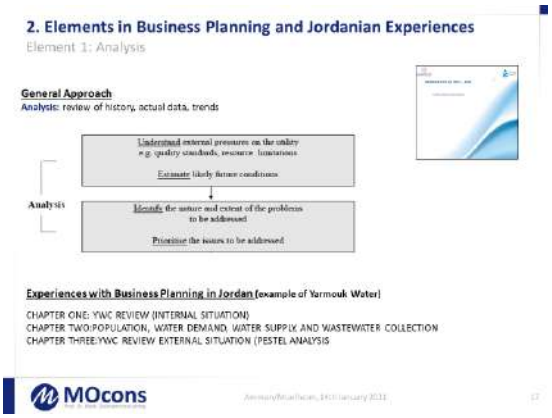
Element 2: Planning

1. Clarify the utilities purpose and objectives
   - Mission statement
   - Senior management overview
   - strategic goals
   - performance improvement program

2. Program of activities to address identified problems and performance measures
   - Capital investment program
   - Organisational structure and staffing plan
   - Revenue needs and tariff analysis
3. Forecast
   - Operations and maintenance

Element 3: Implementation

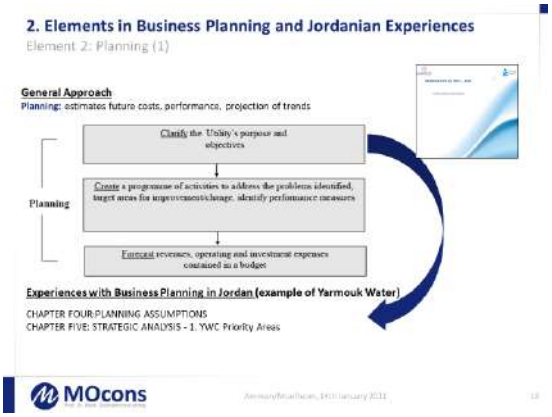
1. Implement the work programme and assign responsibilities
2. Measure and assess performance of work programme
3. Adjust the programme based on actual events



Elements and experiences from **Jordan (Yarmouk WC)**

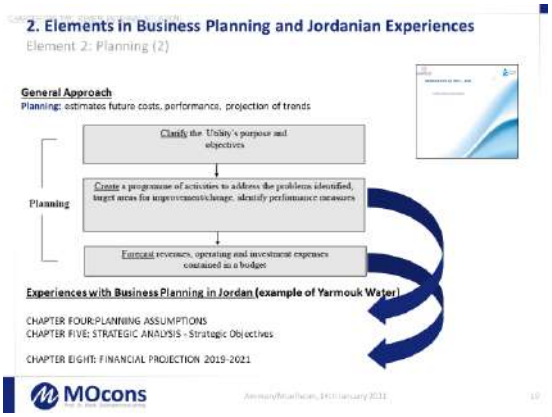
Element 1: Analysis
External pressure → Review external situation (pestel)

- Estimate future conditions → population, demand, supply, wastewater collection
- Identify problems
- Prioritise

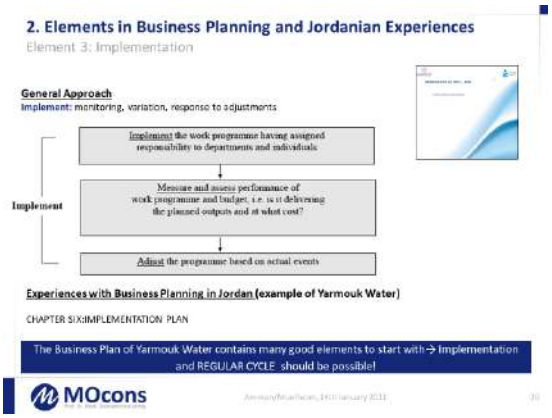


Element 2: Planning

1. Clarify the utilities purpose and objectives
   - Planning assumptions
   - Strategic analysis: Priority areas



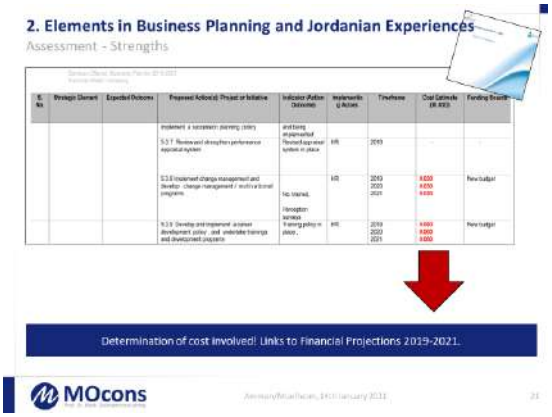
2. Program of activities to address identified problems and performance measures
   - Planning assumption
   - Strategic analysis: Strategic Objectives
3. Forecast
- Financial projection



Element 3: Implementation

1. Implement the work programme and assign responsibilities
2. Measure and assess performance of work programme
3. Adjust the programme based on actual events

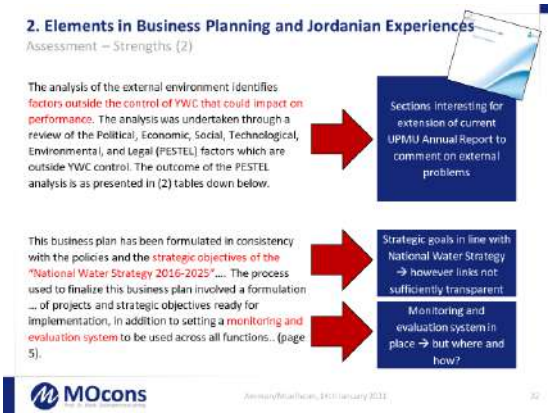
➔ Addressed in implementation plan



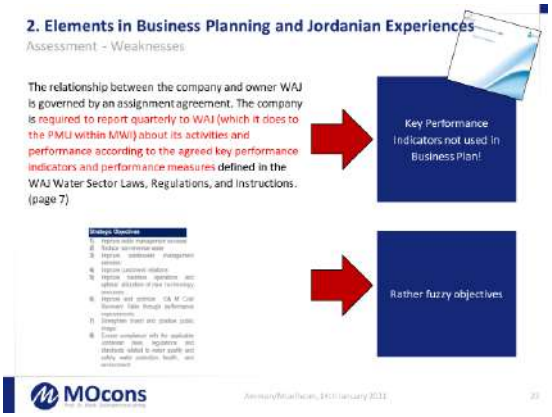
Assessment of strength and weaknesses of the Yarmouk Water Business Plan

Strength:

- Determination of cost involved
- Links to financial projection

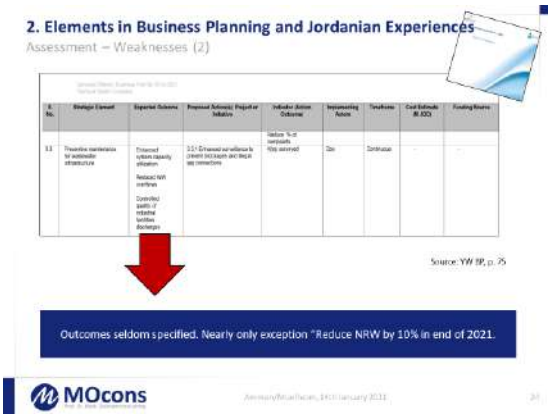


- Include factors outside the control of the company which however effect performance → Interesting for section on external problems in UPMA Annual Report
- Strategic goals in line with National Water Strategy (but not sufficiently transparent)
- Monitoring and evaluation system in place



Weaknesses:

- Key performance indicators not used in business plan
- Rather fuzzy objectives



- Outcomes seldom specified

1.3 Links between Business Planning (BP) and REGULATORY Business Planning (RBP)

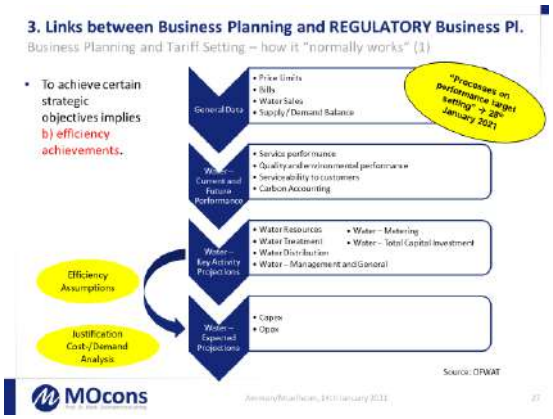
Full cost financing required to achieve certain strategic objectives

Challenge Jordan:

- No cost covering tariffs
- Sources of financing
- Uniform tariffs

Solution:

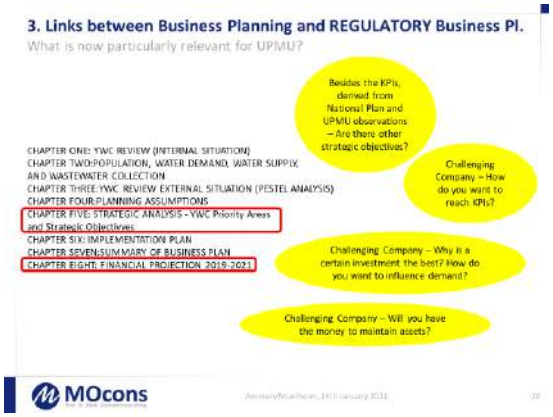
- Clarification of financial flows
- Striving for cost covering tariffs
- Or influence transfers to companies



Efficiency achievements required to achieve certain strategic objectives

Justification on cost-/demand analysis (capex, opex)

➔ Therefore, we need efficiency assumptions (water key activity projections e.g. treatment, distribution)

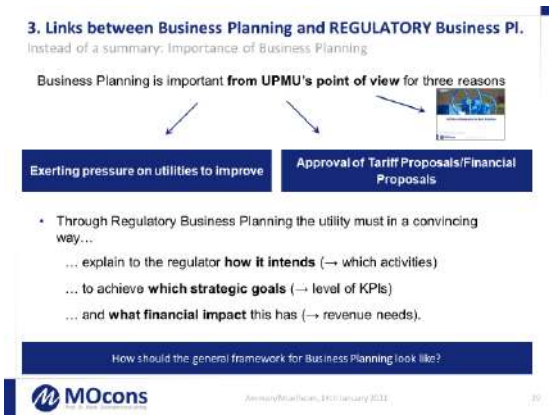


Particularly relevant business plan elements

- Priority areas and strategic objectives (KPIs, UPMU observations)
- Financial projection

Challenge the companies:

- Description how to reach the KPIs
- Justification for chosen investments
- Explanation for influence on demand
- Financial plan on maintaining assets



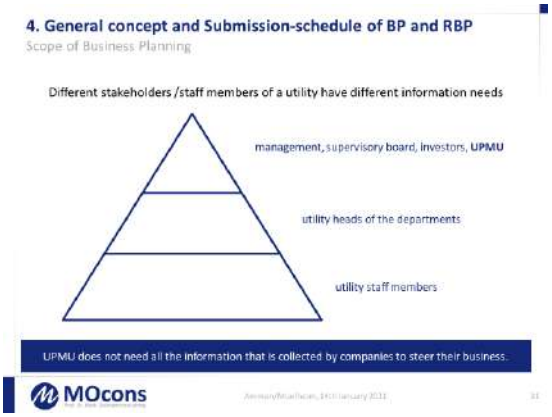
Through regulatory business planning the utility must …

… explain **how it intents** (→ activities)

… to achieve which **strategic goals** (→ KPIs)

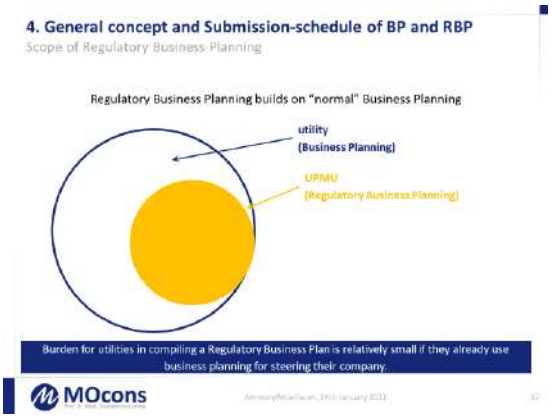
… and **what financial impact** it has (→ revenue needs)

1.4 General concept of BP and RBP and proposal



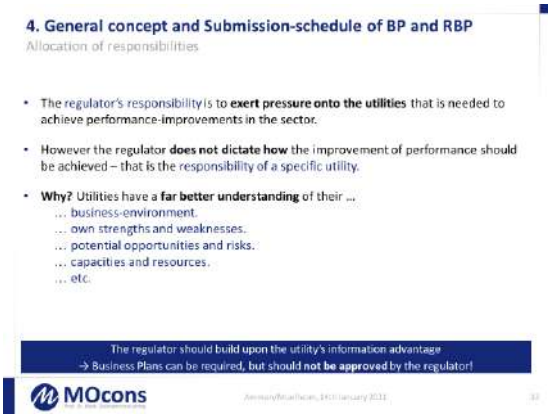
UPMU does not need all the information that is collected by companies to steer their business.

UPMU is in the same category of informational needs like management, supervisory board and investors. Thus, it does not need everything!



This means: Regulatory business planning builds on „normal" business planning

- ➔ Business planning of utility goes way more into depth of operations
- ➔ Burden for utilities in compelling a regulatory business plan is relatively small if they already use business planning for steering their company.



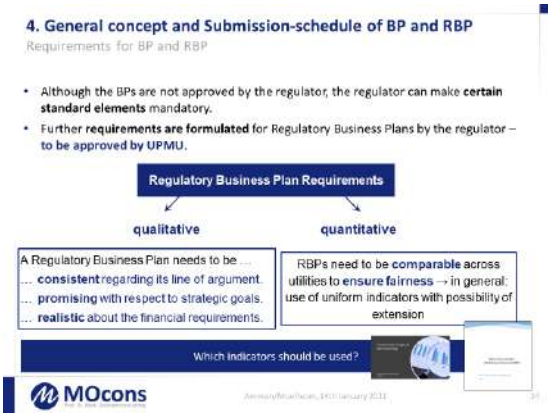
Regulator should build upon utility´s information advantage

Responsibility of Regulator:

- Exert pressure onto utilities
- In order to achieve performance improvements in the sector

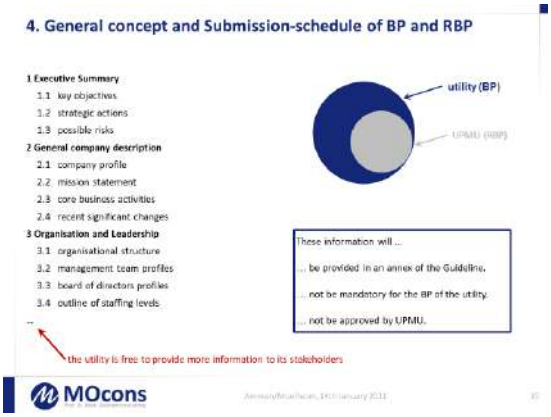
Responsibility of Utility:

- Derive how improvement of performance are achieved



Requirements for BP and RBP

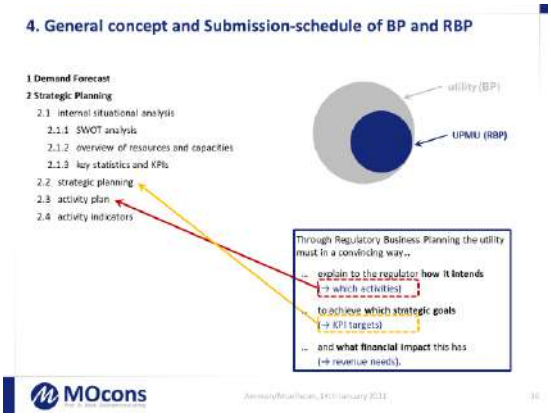
- BP: Regulator can make certain standard elements mandatory
- RBP: Requirements are formulated by regulator
  - Qualitative: Consistent, promising (strategic goals) and realistic
  - Quantitative: Must be comparable across utilities to ensure fairness



UPMU demands certain kind of information according to a specific structure.

Further information of the utility…

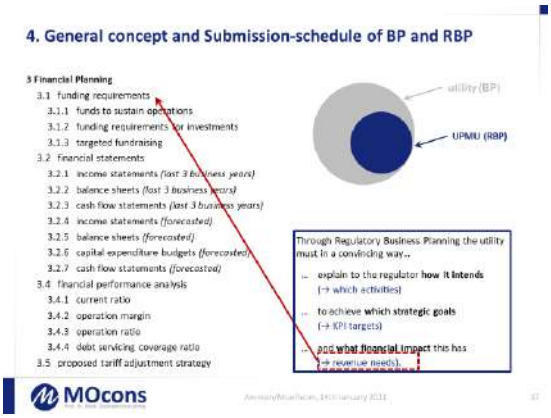
- can be provided in an annex
- are not mandatory
- are not approved by UPMU



Incentivising mandatory RBP information

Strategic planning and activity plan:

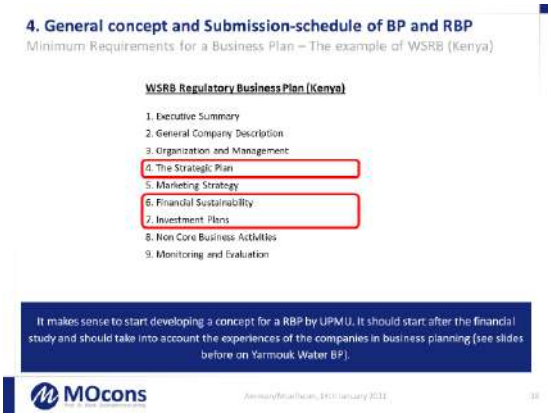
- With which **activities** does the utility intent …
- … to achieve which **strategic goals** (KPI targets).



Incentivising mandatory RBP information

Funding requirements:

➔ What **financial impact** (revenue needs) is needed to achieve the strategic goals.



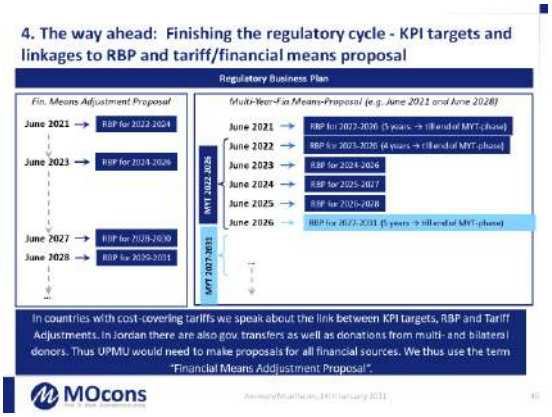
Minimum requirements for a business plan

- Strategic plan
- Financial sustainability
- Investment plans

Development of a RBP

- First financial study
- Consider experiences of company's business planning

2. The way ahead: Finishing the regulatory cycle - KPI targets and linkages to RBP and tariff/financial means proposal



Countries with cost covering tariffs

- Link between
  - ➔ KPI targets
  - ➔ RBP
  - ➔ Tariff Adjustments

Jordan: Governmental transfers and donations instead of cost covering tariffs

- ➔ Thus, UPMU would need to make proposals for all financial sources

In following presentation, the gap to finishing the regulatory cycle will be closed by going into detail into the topic of performance targets. After that binding up everything in an operational planning for a whole calendar year….

1.2.9 Setting Performance Targets _to UPMU presentation (28th January 2021)

Summary of Key Messages

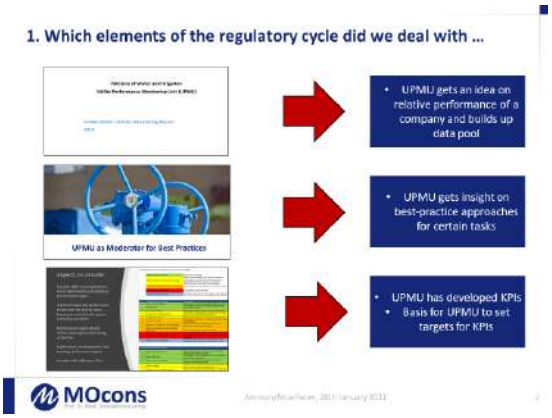
Workshop "Displaying Processes on Performance Target Setting"

Prof. Dr. Mark Oelmann

MOcons

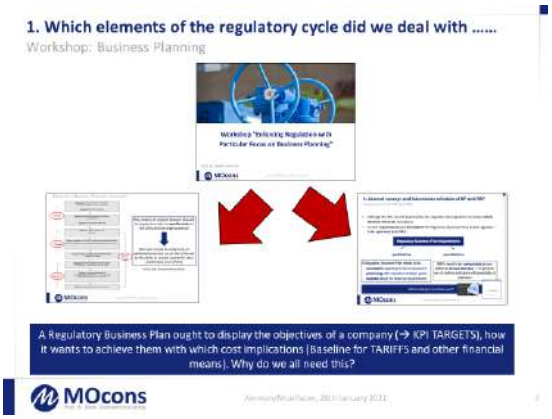
Amman/Muelheim, 28th January 2021

1. Which elements of the regulatory cycle did we deal with …



First steps – already discussed:

- Getting an overview of relative performances and building up a data pool
- Getting an overview of best practice approaches for certain tasks
- Development of KPIs

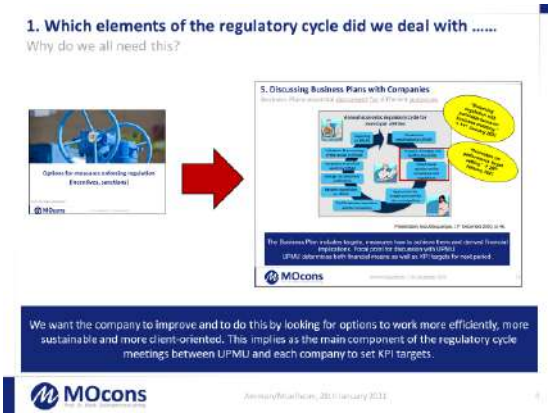


Role of business planning – already discussed:

Business plan displays:

- Objectives of companies (KPI targets)
- How to achieve objectives
- Cost implications

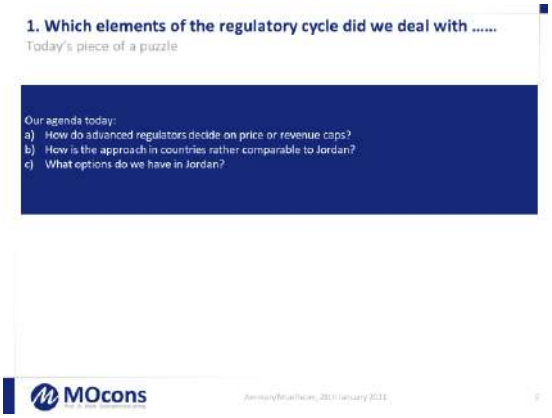
➔ Baseline for Tariffs (Proposals to Minister)



Overall goal of regulation:

Companies should improve and therefore (figure out themselves how to) become more efficient, more sustainable and more client-oriented.

Therefore, KPI Targets are essential!

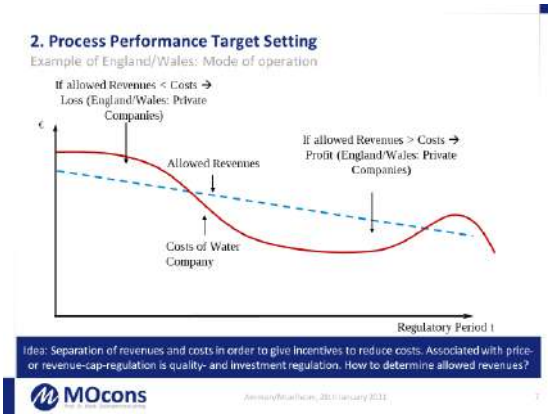


Content:

- Means to decide on price or revenue cap
- Approach of comparable countries to Jordan
- Options for Jordan

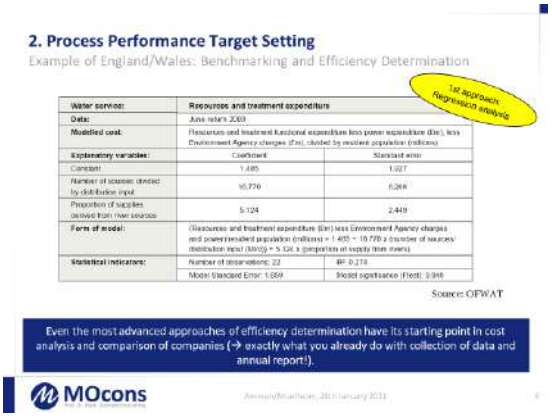
2. Process of Performance Target Setting and Formulation of Cost Allowances

2.1 Competition by Regulation (ex. England/Wales)



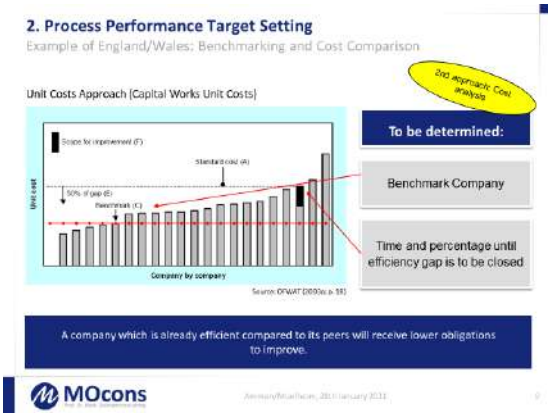
Revenue-cap regulation:

- Determine allowed revenues
- Separation of revenue and cost
- Set incentive to reduce cost
- Additional investment- and quality regulation is needed



Two ways to determine allowed revenues

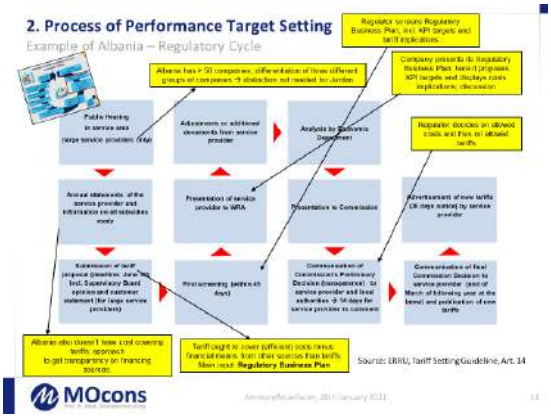
A) Regression analysis
➔ Jordan: Already on the right track with data collection and annual report



B) Cost analysis

But generally: A relatively efficient company will receive lower obligations to improve than a company starting out being relatively inefficient.

2.2 Approach in rather comparable countries to Jordan (ex. Albania)

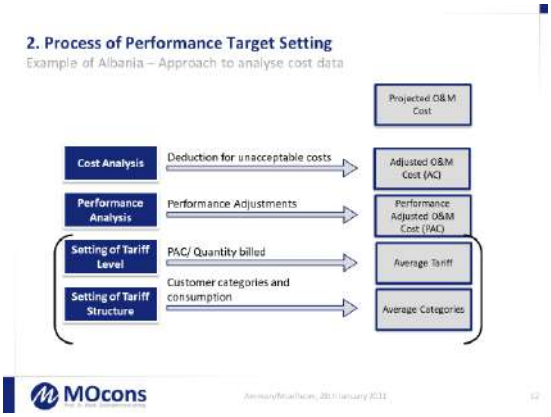


Comparison between Jordan and Albania:

- Albania has more companies
- Both: No cost covering tariffs

The price-setting cycle:

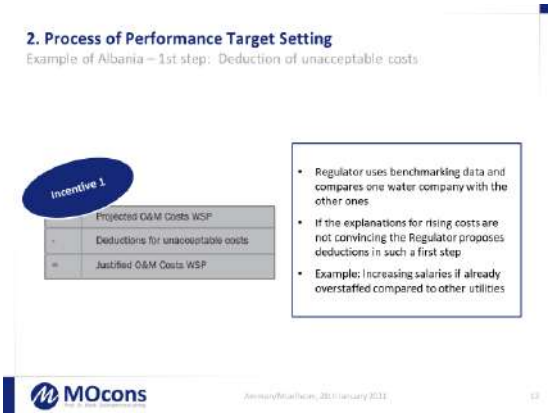
- Companies present business plan
- Tariffs derived from business plan
- Regulator screens business plan, incl. KPI Targets and tariff implications
- Regulator decides on allowed costs and thus on allowed tariffs



The following charts show the way from cost calculation to setting tariffs.

Adjusting cost data by comparison

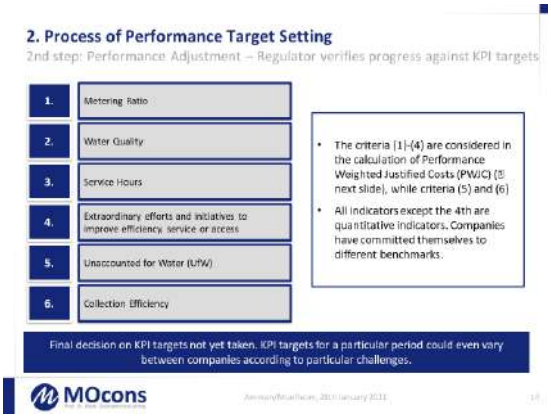
- Adjust cost by unacceptable items
- Adjust performance analysis
- Compare average tariffs for respective average categories



1st step: Deduction of unacceptable cost

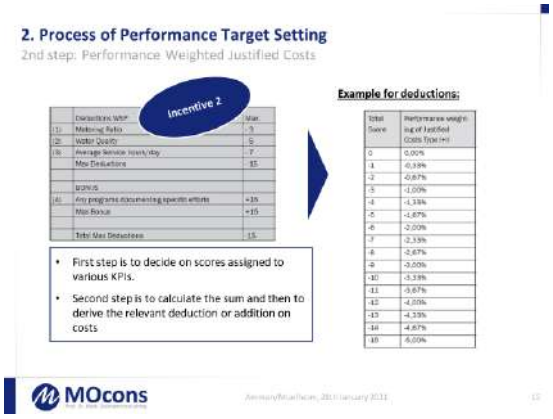
- Regulator uses benchmarking data and compares companies
- If explanations for relatively higher costs are not convincing, regulator proposes deduction

➔ Incentive to reduce unacceptable cost



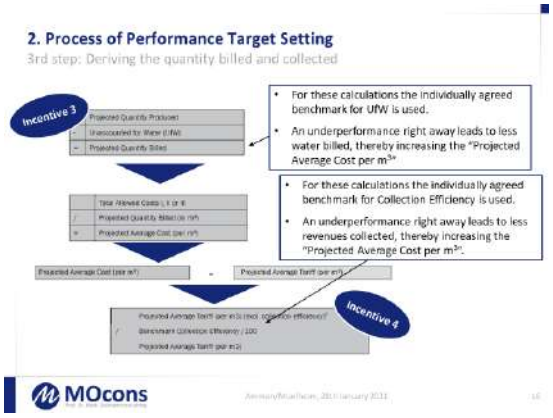
2nd step: Performance adjustment

- Regulator verifies progress against KPI targets
- Companies have committed themselves to different benchmarks according to particular challenges
- Mainly quantitative indicators



- Assign scores to various KPIs
- Derive relevant deduction or addition to cost

➔ Incentive to have a relatively good performance, otherwise cost being deducted



3rd step: Deriving the quantity billed and collected

- Projected quantity billed is adjusted by agreed benchmark for NRW

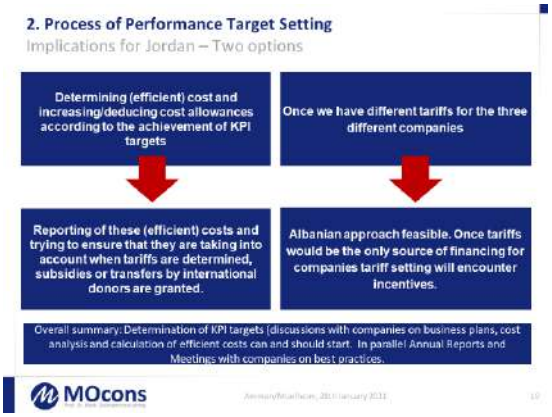
➔ Incentive to bill water; otherwise WC looses earnings

- Projected average Tariff is adjusted by agreed benchmark for collection efficiency

➔ Incentive to increase billing efficiency; otherwise WC looses earnings right away

2.3 Implications for Jordan

- KPI targets are an element of the business plan
- KPIs finally decided by UPMU
- Achievements of KPI targets imply certain cost
- Cost need to be scrutinized by UPMU
- (Efficient) cost are then used to determine tariffs → UPMU can inform Minister on financing needs if KPI targets shall be reached

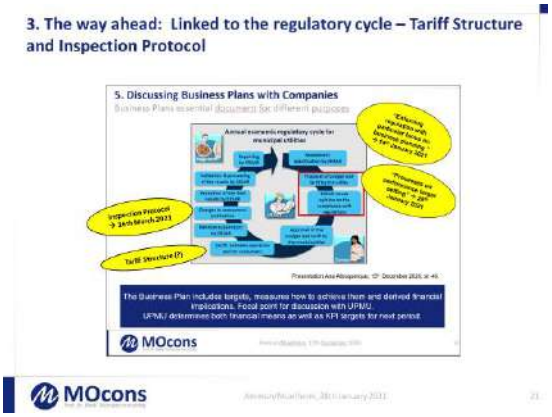


Two options for Jordan

- Different tariffs for companies
  - Albania approach feasible
  - When tariffs are the only way of financing, incentives will be effective
- Cost allowances according to achievement of KPIs
  - Subsidies are granted due to KPI achievements

One way or another, next step KPI targets!

3.The way ahead: Linked to the regulatory cycle – Tariff Structure and Inspection Protocol



This final slide already made a preview on the next workshops. Determination of KPI targets:

- **Discussion with companies on business plans → Next step**
- Cost analysis and calculation of efficient cost can start
- In parallel annual reports and meetings with companies on best practices

1.2.10 Input Tariff Structure_ to UPMU (9th February 2021)

Summary of Key Messages

Introducing tariff setting and showing Jordanian Context

Prof. Dr. Mark Oelmann

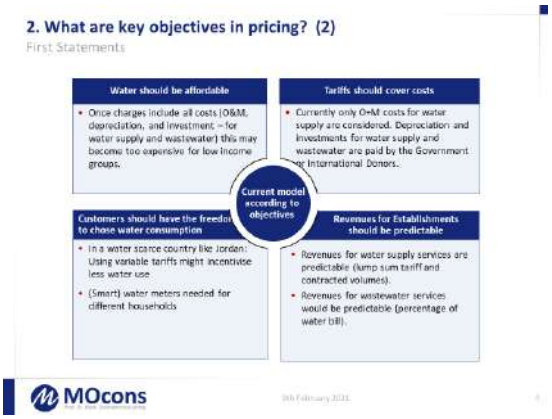
MOcons

9th February 2021

1. What are key objectives in pricing?

These slides were developed for a particular workshop with the Minstry, WorldBank etc.
Starting point are the key objectives of pricing:

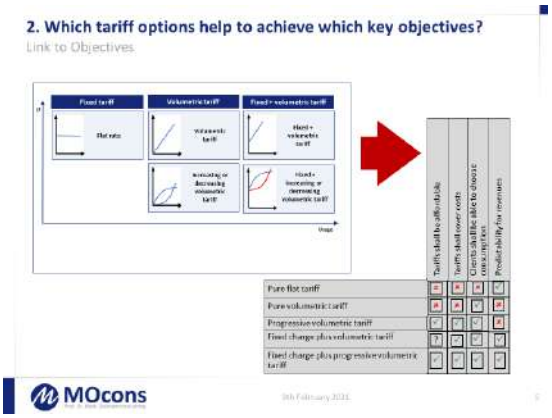
- Affordability
- Cost covering
- Customer pay according to actual consumption and wastewater quantities
- Revenues should be predictable



Current model according to objectives

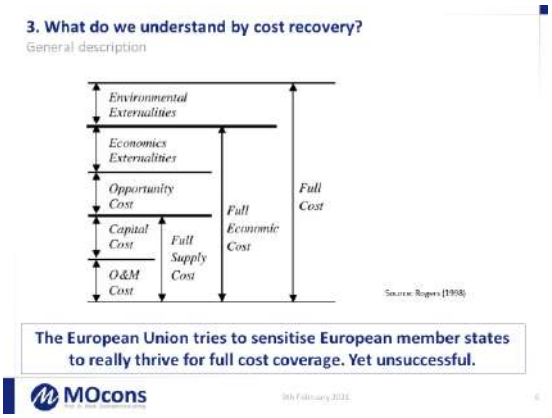
- Only O+M cost for supply are considered; wastewater costs are paid by other resources
- Affordability might compete with cost covering approach
- Pay due to consumption demands meters
- Revenues are predictable

2. Which tariff options help to achieve which key objectives?



With fixed charges plus progressive volumetric tariffs all key objectives can be achieved.

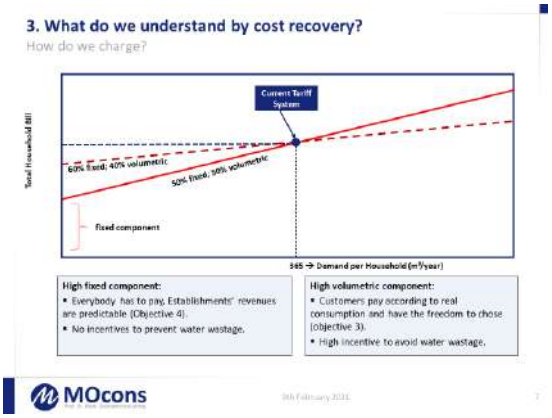
3. What do we understand by cost recovery?



We have different categories of cost recovery. According to European Directives should cover far more costs than only O&M and capital cost.

Full cost recovery may mean:

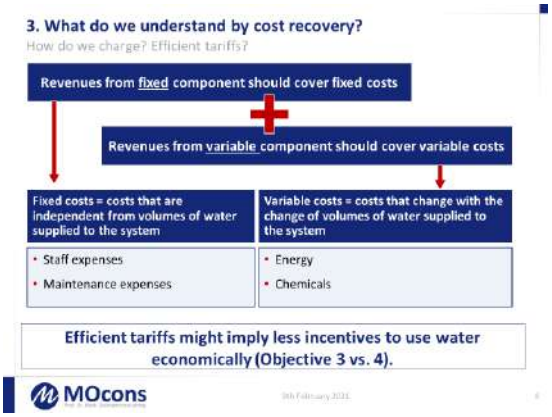
- O+M cost
- Capital cost
- Opportunity cost
- Economic Externalities
- Environmental Externalities



There are different options to charge. On the least complex sphere it is a combination of fixed and volumetric component.

High fixed component
- Predictable
- No incentive to prevent water wastage

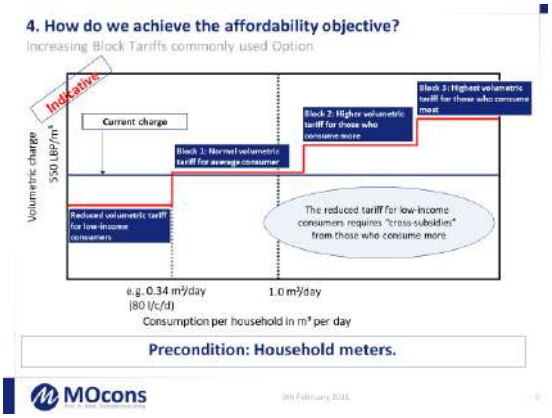
High volumetric component
- Customer pays according to real consumption
- High incentive to avoid water



The term "Efficient tariff" is important:

- Fixed components should cover fixed cost
  - Staff expenses
  - Maintenance expenses
- Variable components should cover variable cost
  - Energy
  - Chemicals

4. How do we achieve the affordability objective?



Increasing prices often raise the question of affordability.

Increasing block tariffs are able to achieve affordability goal

➔ The reduced tariff for low-income consumers required "cross-subsidies" from those who consume more.

➔ Precondition: Household meters

In case no direct subsidy is provided to low-income consumers:

- Volumetric tariff for basic needs (i.e. first consumption block) for everybody
- Lower than normal volumetric tariff
- Subsidised by those who consume more or from other consumer categories

5. Does it help to introduce client groups?

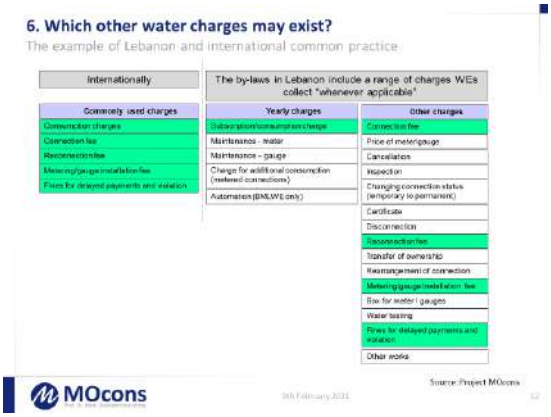
Different tariffs can be applied for different categories

- Domestic
- Commercial
- Industrial
- Public Institutions

➔ Cross subsidisation in order to finance e.g. lifeline tariff

I have seen particular tariffs for bakeries or gardeners 😉. Overall this does not make sense.

6. Which other water charges may exist?

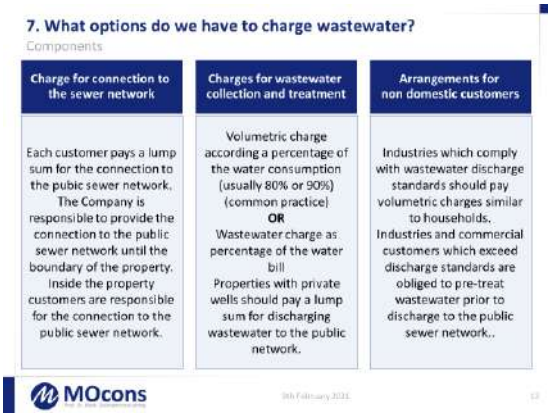


Commonly used additional charges:

- Consumption charges
- (Re-) Connection fee
- Metering installation fee
- Fees for delayed payments and violations

➔ Charges can be a useful instrument however, too many charges cause the feeling of arbitrariness

7. What options do we have to charge wastewater?

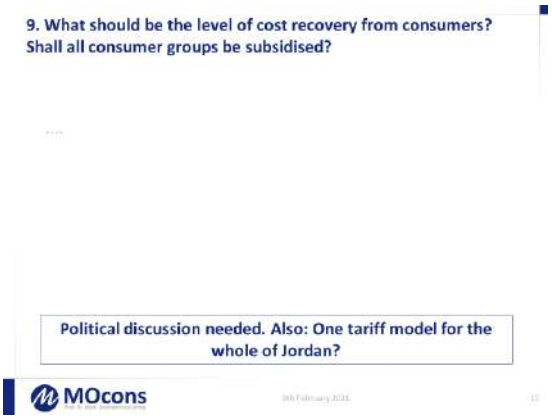


- Charge for connection to the sewer network (lump sum till boundary of property)
- Charges for wastewater collection and treatment (volumetric charge of water consumption or percentage of water bill)
- Arrangements for non-domestic customers (as the circumstances require pre-treatment)

8. Which options do customers have to receive and to pay their bills?

- Different possibilities for billing frequency
- Bill delivery or collection
- Payment options (cash, cheques, digital)
- Assistance to customers

9. What should be the level of cost recovery from consumers? Shall all consumer groups be subsidised?

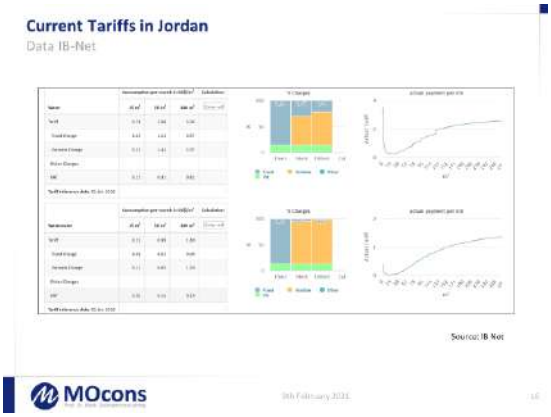


Political discussion on …

- ➔ … cost recovery from consumer tariffs (vs. subsidy) …
- ➔ … and one tariff model for whole Jordan …

… are needed.

Overall my personal opinion is that Jordan should reach cost covering tariffs as quickly as possible. Incentivising companies and the predictability for companies will strongly increase.



Current tariffs in Jordan – this slide was foreseen as an invitation to enter into discussion which then followed…

IB-Net from the WorldBank is a good source to compare the different approaches of the various countries.

1.3 Inspection reports and presentations (WASREB- Kenyans Water Services Regulator Board)

1.3.1 Agenda for the session on inspections (16th March 2021)

Agenda for the session on inspections

- Brief round of introduction
- Short presentation by Dirk Sheafer
- Richard / WASREB speaks for a few minutes and addresses some or all of the questions (without presentation, Dirk will take notes)
- Q&A between WASREB and UPMU

16th March 2021 from 11:00 – 13:00 through MS Team

1.3.2 Inspections and Enforcement (16th March 2021)

Why Inspect

- Verification of the correctness and coherence of submitted data for the IMPACT report, tariff adjustments, ...
- Assessment of compliance to minimum service level standards
- Assessment of compliance to record keeping and financial systems
- Investigation of the treatment and follow up of complaints
- Verification of payment of regulatory levy
- Stand as witnesses on cases of non-compliance by WSPs which Wasreb takes to court.
- Mandate of Wasreb under Water Act 2016 to monitor and regulate licencees and to enforce licence conditions.

What to inspect?

- License and SPA Conditions
- Quality of Service Standards
- Approved Tariff Conditions
- Customer Relations – Service charter and Complaints resolution
- Adherence to Corporate Governance Guideline
- Adherence to Human Resource Guideline
- Financial Probity
- Economic and Efficient utilization of Resources

Mode of inspections

Internal inspectors

External inspectors

Concept of external inspectors

- Wasreb has not enough internal staff to inspect 88 WSPs per year (46 very large or large WSps).
- Engagement of external experts as inspectors cshall increase the number of inspections per year.
- A team of external inspectors consists of a technial and a financial expert on a part-time basis contracted for three years.
- Inspectors receive a training and are following an inspection checklist and guidelines provided by Wasreb.

Conclusions

- Inspections are needed to enforce licence conditions and to ensure correct data for reporting and tariff adjustments.
- The piloting of external (part-time) inspectors has been a success and will be scaled up.

THANK YOU

WASREB
Water Services Regulatory Board

www.wasreb.go.ke

1.3.3 Inspections online training Session notes (16th March 2021)

UPMU online session on inspections

Experience shared by Richard Cheruiyot, Director Monitoring and Enforcement at the Water Services Regulatory Board, Kenya

Date: 16th March 2021

General overview of WASREB

The Water Services Regulatory Board (WASREB) has been in existence since 18 years

10 Years ago, Kenya adopted a devolved system, with 47 County Governments responsible for water service provision

Currently there are 88 urban water utilities licensed by WASREB, 85 public utilities, 3 (smaller) private utilities

WASREB has 38 staff of which 20 are technical and 18 support staff

WASREB's inspections look at compliance with service provision standards, service commitments, performance targets and tariff conditions, which complement the tariff setting process.

Inspections are carried out by teams which can comprise WASREB's own staff as well as trained, external part-time inspectors

Questions related to inspections

1. How relevant are inspections for WASREB and why?

Inspections are critical to assess the situation on the ground and to ensure that utilities are progressing in realizing the Human Right to Water and Sanitation

2. Is WASREB allowed to do inspections without prior notification? If yes, what are the sequences?

Yes, WASREB can carry out inspections without prior notice (unscheduled inspections) in case the regulator becomes aware of any serious issues. However, generally inspections are scheduled and 7-day notice is given to ensure that all necessary documents for the inspection are ready and that the core management of the utility is present.

In principal, WASREB's target would be to inspect each utility once per year. In practice, given the high number of utilities, WASREB does not have the capacity to do so.

Currently, WASREB carries out 24 scheduled inspections per year and focusses primarily on the large and very large utilities, because the impact of any failure of these utilities is proportionately higher, than for smaller utilities. Kenya has 4 categories of utilities based on their number of connections. In addition, WASREB carries out an average of 8 inspections per year linked to tariff applications.

3. Are all inspections the same or are they informed by any prior history or analysis?

Inspections are informed by prior analysis of reports and other engagements with the respective utility.

4. Are always the same inspectors inspecting the same utility?

WASREB prepares an annual inspections programme and forms a team for each inspection based on the particular issues that require inspection. Through its own staff and external part-time-inspectors, WASREB can assign technical (e.g. engineers, water quality experts), commercial, financial, ICT, HR or legal experts. Generally, not the same teams will carry out repeated inspections at the same utilities.

5. How many inspectors conduct one inspection?

This depends on the issues that need to be assessed, but generally 3 to 4 inspectors.

6. Are there any measures put in place to minimize the risk of collusion between inspectors and utilities?

Collusion has not been an issue in the past but is not impossible. Inspectors report directly to the Director Monitoring and Enforcement and given the more than 15 years of experience, WASREB has a good understanding of what to expect as outcomes from inspections. In addition, WASREB conducts an annual assessment of its part-time-inspectors.

7. How long does an inspection usually take?

2 to 5 days

8. What is the most difficult information to verify?

NRW would be amongst the most difficult to verify if utilities do not have sufficient functioning meters in their system. However, if this is the case, WASREB can include improvement of metering in the licence conditions of the respective utility.

9. How is WASREB doing the “assessment of compliance to record keeping and financial systems” and is a specific check list prepared in advance?

The financial analysis is primarily based on the audit reports each utility has to obtain from the Auditor General. There can be slight differences between the structure of the Audit Report and the way WASREB requires its data and WASREB is working on ways to harmonize this.

10. If a service provider did not fulfil the minimum requirements, what kind of measures/penalties are taken and are those measures taken by the owner or by WASREB?

WASREB applies its enforcement strategy and does not immediately aim for escalation in case of non-compliance. The first steps after non-compliance is discovered will always be trying to educate the respective utility. Only then would WASREB consider stronger prevention and enforcement measures. WASREB can send a directive of order, stipulating a timeline for when the breach of a regulation has to be resolved.

If this requirement Is not met, WASREB announces penalties. In the past, penalties were generally too low to always provide an incentive for utilities to change their behaviour. After a recent increase, utilities now have to pay an equivalent of USD 100 per day per non-compliance. This penalty is taken from a performance guarantee paid by utilities to obtain the licence. The size of the performance guarantee depends on the size of the utility.

The highest escalation WASREB has triggered so far was the threat of prosecution. This threat, however, has so far caused the respective utilities to change their behaviour and to ensure compliance.

In escalation, WASREB also takes the capacity of each utility into consideration. High capacity utilities might need less education, therefore the timelines WASREB sets to correct non-compliance can be stricter for stronger utilities than for weaker ones.

11. What happens after an inspection, e.g.?

a) How are results/findings from inspections processed at WASREB?

b) Who receives the reports from inspectors?

c) Who is in charge of any follow-up or for triggering any measures resulting from inspection results?

d) Do utilities receive feedback regardless of any critical findings?

Inspector have 7 days to submit their report to the Director Monitoring and Enforcement. After the report has been checked, it is forwarded to the Managing Director of the Utility and to the County Government as the owner of the utility.

Reports can include directives and specific time-frames. In case the inspection had revealed any serious issues, those would already have been raised during the exit meeting of the inspection.

Certain issues raised in the inspection report might require policy action from the County Government, e.g. issues related to the Board of Directors, in other cases it might be the responsibility of the Board of Directors to act upon concerns raised in the inspection report.

For WASREB itself it has been challenging to systematically follow up on issues raised in the inspection report. They have been thinking about defining regions and to allocate regional responsibilities for follow up within the organization.

12. Can you give an example of an important discovery made during an inspection?

Utilities have to give one-month notice to their customers before applying a new tariff, since this has financial implications, for both the customers and the utility. One inspection found that a utility had skipped this one-month period and immediately implemented the tariff after its approval.

In another case with one of the largest utilities, the inspection found that NRW had been wrongly calculated and eventually NRW had to be corrected from 38% to 52%.

13. To what extent does WASREB get involved in complaints resolution?

In their annual reporting, utilities have to report a number of complaints received vs. number of complaints resolved. With support from a development partner a software had been developed that would have allowed utilities and WASREB to monitor complaints resolution. This software was, however, not accepted by many utilities and therefore not fully implemented.

14. Is there any coordination with other regulators on inspections, e.g. environmental regulators?

Such cooperation did not happen in the past. But WASREB is extending its regulatory activities into rural areas. The large number of rural operators and their remote location will require better cooperation with the regulators e.g. for water resources and environment.

Notes from the discussion

Does WASREB really have the power to enforce

WASREB does have the power to enforce and to implement its enforcement strategy. It's powers even include the withdrawal of the licence. However, there are practical limits for this strongest measure of enforcement since it would be challenging to find another entity to which the licence could be transferred.

What powers does WASREB have to handle emergencies

WASREB's approach is more of pro-active nature, e.g. by requiring utilities to prepare water safety plans. Many emergencies would also affect other areas, e.g. public health, for which other agencies bear responsibility.

Additional remarks

WASREB requires utilities to carry out customer satisfaction surveys every two years. WASREB receives and analyses these reports and asks utilities about follow-up.

90% of WASREB's budget are financed from levies. Currently 4% regulatory levy is added to each water bill.

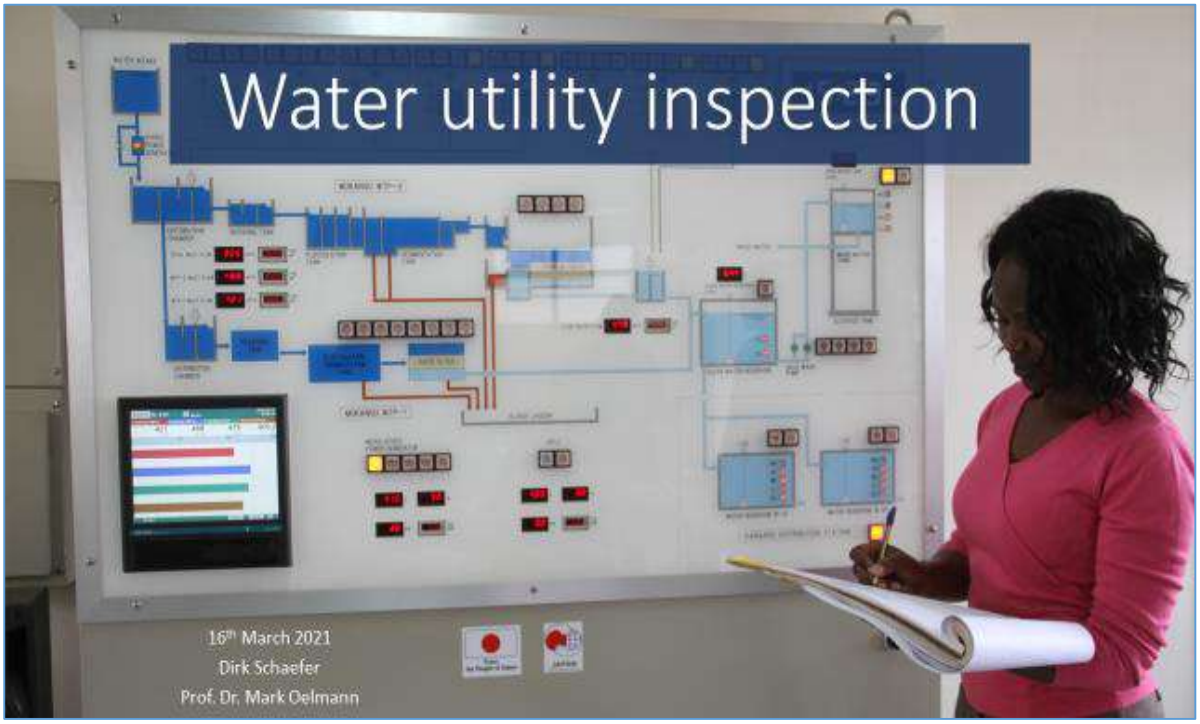
Counties as owners of utilities also have a legal obligation to monitor performance of their utilities.

The composition of the Board of Directors of a utility is defined by law.

For utilities who do not yet cover their costs from revenues, WASREB provides for a certain level of subsidy from County Governments. Ideally, this subsidy should be performance based. This, however, is not always adhered to.

Notes taken by: Dirk Schaefer

1.3.4 Water utility inspection presentation (16th March 2021)



Why inspect?

Development phase

- Establish dialogue between UPMU and utilities
- Make utilities feel regulation in practice
- Develop UPMU's in-depth understanding of operation and specific environment of each utility

Routine regulatory practice

- Verify correctness of data submitted e.g. in Excel-Tool
- Assess compliance with standards developed by UPMU
- Assess compliance with other standards and requirements
- Assess achievement of performance targets

What to inspect?

- Performance target achievement
- Compliance with standards developed by UPMU
- Compliance with Assignment Agreement or License
- Adherence to financial and accounting standards
- Adherence to corporate governance requirements
- Adherence to workplace safety requirements
- Condition of plants
- Customer relations, e.g. handling of customer complaints, existence of and adherence to service charter
- Internal data management
- Water and effluent quality
- ...

Tailored to specific regulatory mandate, existing regulatory or legal framework and specific sector or utility challenges

WASREB's mode of inspection

1.3.5 Questions for WASREB_UPMU session on inspections

Background information on the Utility Performance Monitoring Unit (UPMU) in Jordan

- UPMU was established in 2019 within the Ministry of Water to assume certain regulatory functions (e.g. performance target setting, standard setting, performance monitoring and reporting, inspection) – it is not an autonomous regulator
- UPMU's mandate does not include tariff setting but potentially providing an opinion on tariffs and other financial matters
- UPMU's mandate covers three corporatized, regional utilities
- UPMU has prepared the first quarterly and annual performance report but has so far not developed any standards, guidelines or performance targets

Questions related to inspections

15. How relevant are inspections for WASREB and why?
16. Is WASREB allowed to do inspection without prior notification? If yes, what are the sequences?
17. Are all inspections the same or are they informed by any prior history or analysis?
18. Are always the same inspectors inspecting the same utility?
19. How many inspectors conduct one inspection?
20. Are there any measures put in place to minimize the risk of collusion between inspectors and utilities?
21. How long does an inspection usually take?
22. What is the most difficult information to verify?

23. How is WASREB doing the “assessment of compliance to record keeping and financial systems” and is a specific check list prepared in advance?
24. Can you give an example of an important discovery made during an inspection?
25. What happens after an inspection, e.g.?

    a) How are results/findings from inspections processed at WASREB?

    b) Who receives the reports from inspectors?

    c) Who is in charge of any follow-up or for triggering any measures resulting from inspection results?

    d) Do utilities receive feedback regardless of any critical findings?
26. If a service provider did not fulfil the minimum requirements, what kind of measures/penalties are taken and are those measures taken by the owner or by WASREB?
27. To what extent does WASREB get involved in complaints resolution?
28. Is there any coordination with other regulators, e.g. environmental regulators?

1.3.6 Compliance and environment strategy report

COMPLIANCE AND ENFORCEMENT STRATEGY

August 2020

Table of Contents

Definitions

In these guidelines, except where the context otherwise requires –
"Act" means the Water Act 2016 (Act No. 43 of 2016);

"Cabinet Secretary" means the Cabinet Secretary responsible for matters relating to water;

"County government" means a County Government as provided for under Chapter 11 of the Constitution of Kenya;

"County executive committee member" means the county executive committee member responsible for matters relating to water;

"Customer" means a person or persons who is or are the buyer or recipient and end user of water services;

"Director" means the County Director of Water Services;

"Inspector" means a person appointed by the Regulatory Board to exercise the powers of an inspector under the Act

"License" means a license in force under the Act;

"Licensee" means a water services provider licensed by the Regulatory Board under the Act;

"Ministry" means the Ministry responsible for water affairs;

"Regulatory Board" means the Water Services Regulatory Board established under section 70 of the Act;

"Sewerage services" means the development and management of infrastructure for transport, storage, treatment of waste water originating from centralized and decentralized systems but shall not include household sanitation facilities;

"Water services" means any services of or incidental to the supply or storage of water and includes the provision of sanitation services;

"Water services provider" means an entity established in accordance with Section 77 of the Act;

"WASREB" means the Water Services Regulatory Board established under section 70 of the Act;

"Water Strategy" means the Integrated National Water Services Strategy formulated by the Cabinet Secretary in Section 64 of the Act;

1. PREAMBLE

1.1 Introduction

The constitution has created two levels of government at national and county. In distributing functions to these levels, the national government is assigned the role of consumer protection while County governments are assigned the role of managing county public services which include water and sanitation services. Articles 21 (2) of the Constitution obliges the State to take legislative, policy and other measures, including the setting of standards, to achieve the progressive realisation of the rights guaranteed under Article 43, including the right to clean water in adequate quantities and to reasonable standards of sanitation.

In advancing the progressive realization of this right, synergy is required from various players at policy, regulatory and county levels. The national government sets a target of ensuring water and improved sanitation to all by the year 2030. Since the provision of water services is a devolved function, the responsibility of ensuring efficient and economical water services delivery is allocated to county governments.

1.2 Functions of the Regulator

The Water Services Regulatory Board (WASREB) is the national regulator of water and sewerage services, having been established under the Water Act 2002, and her functions and mandate retained under section 72 of the Water Act, 2016. WASREB is the economic and quality of service regulator in the water and sewerage provision with the main mandate of protecting the interest and rights of consumers in provision of water services. The regulator discharges this mandate through issuing of licenses to the water service providers and determining applicable tariffs for water and sewerage services.

The mandate of the regulator as spelled out under the Water Act 2016, can be summarized as follows:

- Licensing water service providers;
- Determining standards for water service provision (asset development, water works, access levels, tariff levels, minimum service levels;

- Monitoring compliance with standards set;
- Enforcing the standards;
- Reporting (information database, policy advisory, public reporting); and
- Information, public engagement, and consumer redress

1.3 Function of County Governments in Water and Sanitation Services

Part 2 of the Fourth Schedule of the Constitution of Kenya provides for the functions of the County Governments to include among others county public works including water and sanitation services. County governments are also required to implement specific national government policies on natural resources and environmental conservation including soil and water conservation, and forestry. Thus, counties have a direct role in the establishment and management of structures (utilities) and systems that facilitate the provision of water services.

1.4 Purpose of the Compliance and Enforcement Strategy

Art. 191(3) of the constitution emphasizes the need for uniform standards and policies across the country to safeguard the gains made on water services reform on right to water and provisions of quality services and consumer protection under article 46. Considering that the provision of water services is a natural monopoly, licensees have to be monitored to ensure that services provided are efficient, affordable and sustainable.

In the discharge of its functions a licensee is accountable to various external actors with different functions which include the following:

a) National and County Governments – The two levels of government are responsible for policy-making. This entails the setting of principles and rules that guides the management of a given service and or organization. The county government is also an owner of the utility.
b) Regulator – This involves setting, monitoring, enforcing service standards as well as chargers for services provided.

c) Financiers. These provide financial resources both in debt and equity. The function is normally shared by customers and governments, and sometimes with private investors and donor agencies.
d) Customers – This group demands for Service. This role lies with the customers of the utility and also with the owner.

The degree of accountability to any actor depends on the ability of the actor to sanction for bad performance.

Through the application of this strategy, the regulator seeks to ensure that compliance and enforcement is conducted properly and fairly. The strategy describes:

a) the objectives of the board's compliance and enforcement activities;
b) the regulator's approach in encouraging compliance with legislation as per the Water Act 2016;
c) the process of determining appropriate compliance and enforcement actions; and
d) the application of a risk-based approach to compliance and enforcement activities.

In addition to protecting consumer interests, compliance and enforcement activities will aim to:

a) Raise awareness of the benefits of complying with the legislation, and the potential consequences of non-compliance;
b) Assist and enhance stakeholders' ability and commitment to complying with the legislation;
c) Remove barriers to compliance (e.g. improve knowledge of on legislation or how to comply); and
d) Overcome factors that encourage non-compliance (e.g. lack of public support, allowing non-compliance to go unchecked, or misunderstanding legislative objectives).

In dealing with non-compliance, WASREB's actions will encompass mechanisms that use a range of administrative and statutory enforcement approaches. Information on the regulator's compliance and enforcement activities and the accompanying

outcomes will be part of the reporting requirements in the annual sector performance report (Impact).

2. OBJECTIVES OF THE COMPLIANCE AND ENFORCEMENT

The objective of the compliance and enforcement strategy is to:

a) Ensure conformity to the Water Act 2016, rules and regulations made there under and guidelines issued by WASREB;
b) Prevent future violations as much as possible through voluntary effort;
c) Improve the standards of water service delivery in a sustainable manner in the whole country;
d) Maintain public confidence in provision of water services and enhance consumer protection; and
e) Enhance consistency and transparency in provision of water services.

To achieve the aforementioned objectives, WASREB will undertake compliance and enforcement activities in a manner which ensures that:

i. Any action taken is **proportionate** to specific, identified, risk or need for intervention;
ii. It is **accountable** for its regulatory activity to all stakeholders;
iii. Its actions are **consistent**, in that it should make similar decisions about activity in similar circumstances, as per its mandate in the Water Act 2016;
iv. Its regulatory actions are **transparent**, by publishing information on its operations to stakeholders;
v. All its activities are **targeted** to a specific identifiable need e.g. Limiting random inspections to specific identified compliance requirements).

3. WASREB'S MANDATE IN COMPLIANCE AND ENFORCEMENT

WASREB powers to ensure compliance and to enforce the law are drawn from the following sections of the Water Act 2016:

Section	Mandate
72	a) Determine and prescribe national standards for the provision of water services and asset development. b) Evaluation, recommendation and imposition of water and sewerage tariffs. c) Set license conditions and accredit water service providers d) Monitor, regulate and enforce license conditions. e) Develop a model memorandum and articles of association to be used by water companies, f) Monitor compliance with standards of facilities for the provision of water services. g) Advise the Cabinet Secretary on the nature, extent and conditions of financial support to be accorded to water companies h) Monitor progress in the implementation of the water strategy and make appropriate recommendations i) Maintain national database and information system on water services. Develop guidelines on the establishment of consumer groups and facilitate their establishment j) Establish a mechanism for handling complaint from consumers k) Develop guidelines on establishment of consumer groups and facilitate their establishment l) Inspect water works and services to ensure they meet prescribed standards

	m) Report annually to the public on issues of water supply and sewerage services and performance of relevant sectors n) Make regulations on water services and asset development o) Advice cabinet secretary on matters in connection with water services p) Make recommendation on how to provide water to marginalized areas.
75	• maintain the register of all licensed water services providers • Develop and publish guidelines to regulate conduct of WSPs
76	Powers to revoke a license
82	Receive and make decisions on complaints against WSPs
85	Issue licenses
88	Performance guarantee or security required from licensee
89	Set license fees
92	Set standards for mechanism to be used in handling consumer complaints by water services provider.
93	Approve public private partnership or public partnerships entered into by a water services provider
95	Vary terms and conditions of a license
97	Permit joint provision of water services by two or more licensees. Permit transfer of a water service or a part of from one licensee to another
98	Vary area of water provision of one or more licensees
99	Direct licensee to provide water outside its jurisdiction
100	Issue bulk water license
101	Impose regulatory regime on defaulting WSP

102	Under special regime the board may: - • Require licensee be under enhanced monitoring and reporting • Remove privileges • Revoke license and appoint special manager
103	Transfer functions of licensee
105	Approve restriction or prohibition of use of water
106	Order county government to take action to enforce regulation
107	Issue consent on construction works affecting a water resource
109	The Regulatory Board may impose a services levy on all water services within the area of licensee
111	The regulatory board shall establish a national monitoring and geo referenced information system on water services.
112	Prepare annual report of activities

4. METHODS TO ENSURE COMPLIANCE

The compliance and enforcement strategy of WASREB is grounded on the following methods:

1. **Education** to foster learning, inducement and self-regulation;
2. **Prevention** through selective and targeted surveillance and a graduated warning approach; and
3. **Enforcement** as a last resort using the traditional methods of coercion and deterrence.

This is because effective compliance is influenced to a large degree by the situations and attitudes of the regulated and therefore different approaches have to be used. The following **fundamental attitudes** toward compliance with the laws have been discerned in the water services sector.

1. WSPs and other water operators want to comply with the law and

regulatory requirements and are actively complying;

2. WSPs and other water operators need more knowledge and understanding of the obligations in the regulations;
3. WSPs are hampered by the current financial situation and human resource constraints in their capacity to comply. For small WSPs in particular, the burden of assimilating and complying with many complex and technical rules can be unreasonable and undermine confidence in WASREB and the regulatory structure. Harsh approaches to enforcement will not improve matters;
4. WSPs and other water operators want to comply but the operating environment makes it difficult for them to comply especially catchment degradation and incomplete implementation of Transfer Plan;
5. Some WSPs and other water operators know the regulatory requirements and choose not to comply nor show any desire to comply; and
6. The benefits of non-compliance outweigh any benefits of compliance to the key management staff.

WASREB will use the following approaches to achieve compliance based on the underlying attitudes described previously.

4.1 Approach One – Informing

WASREB wants WSPs and other water operators and consumers to understand their responsibilities. WASREB will provide:

1. Information in a variety of formats including newsletters, publications, hotlines, front counter services and online information and services. This is where the public relations and communication strategy of WASREB is useful and
2. Information to the public at the regional and local level through those entities having hotlines, online information services, front counter services and publications on water services investment and performance.

4.2 Approach Two – Encouraging

WASREB will undertake a number of activities aimed at encouraging compliance. These include:

1. Targeted campaigns promoting compliance in high risk areas of water safety and infrastructure safety as well as governance;
2. Acknowledgement of compliance with rewards and incentives either built into the tariffs or through media acknowledgement and trophies;
3. Disseminate best practices within the WSPs;
4. Benchmarking of the quality of service and processes within the WSPs;
5. Creating a system of regulatory compliance grading to show which entities have systems that fully comply with the requirements of the Water Act 2002; and
6. Using the media as an avenue to encourage compliance by publicizing the commitments and obligations of the licensees.

WASREB has already started doing this through **IMPACT** and will continue to entrench the method as a system of ensuring compliance.

4.3 Approach Three – Assisting

WASREB will help and support WSPs and other water operators who are endeavoring to comply with regulation. This will include transfer of know-how, change of attitude and values and encourage self-regulation and reporting on non-compliances. WASREB will do this through:

1. Training by own staff or partnering with the Kenya Water Institute and other third parties to offer training;
2. Conduct or invite advisory visits to the WSPs;
3. Hold workshops to disseminate technical information and obtain feedback on compliance;
4. Issue of advisory circulars to the WSPs explaining technical aspects of guidelines.

4.4 Approach Four – Monitoring

WASREB will check whether WSPs are complying with the regulatory obligations. WASREB will use the following methods:

1. Checklists from the license obligations;
2. Proactive inspections in the WSPs targeting;
    a) The larger and sustainable WSPs to ensure systems in those WSPs are well run and there is compliance.
    b) Targeted surveillance on problematic WSPs to entrench compliance or areas.
1. Use of specialized part time inspectors in specialized and technical areas especially infrastructure development, finance and water quality;
2. Investigation of complaints by inquiry under section 101 of the Act, especially where there are complaints of the same nature from a license area and there seems to be no resolution;
3. Analysis of the various reports to WASREB under the license and WARIS system;
4. The position of Inspector is created under the Water Act 2016 and given powers to demand information from WSPs. Therefore, officers in WASREB who are Inspectors must abide by a Code of Conduct to be created and undergo training to deepen their understanding of their powers as stated in section 145 of the Water Act and clause 101 of the water services regulations;
5. Delegating certain aspects of monitoring to the county government as the owners of the WSPs; and
6. Use of the media to encourage the public to report and publicize issues of compliance.

4.5 Approach Five – Warning

Where appropriate after monitoring has been done:

1. WASREB will notify and caution WSPs that are not complying with their obligations and give a time frame within which there should be rectification;
2. WASREB will issue orders prohibiting the doing of particular things with immediate effect and follow through with prosecution if this is not complied with;

3. WASREB will issue cure notices instructing the WSPs to ensure non- compliance is cured within a particular time frame. If the cure notice is not complied with, WASREB will:
    a) fine the licensee;
    b) Use the performance guarantee to cure the problem;
    c) Issue an order which if not complied will be followed by prosecution; and
    d) Issue orders on variations of areas of supply.
4. WASREB will use the media in publicizing warnings against offenders of the Water Act 2016.

4.6 Approach Six – Special Regulatory Regime

Where the first five approaches fail and material non-compliance continue to exist

The WSP shall be put under Special Regulatory Regime (SRR) in line with Section 102 of Water Act 2016 and clause 99 of the water services regulations.

The following modalities shall apply during the duration the SRR:

4.6.1 Appointment of Special Water Manager

A special manager shall be appointed in accordance with section 102 of the Water Act.

The following shall form options of appointing a Special Manager:

i. Direct appointment from the public sector or
ii. Competitive recruitment.

4.6.2 Specifications for the Special Manager

The job specifications of the Special Manager shall be prescribed by WASREB in accordance with the Model HR guidelines for WSPs.

4.6.3 Remuneration of the Special Manager

The remuneration shall be determined by the caretaker committee guided by the

prevailing policies at the utility and guided by sector standards.

4.6.4 Duration of appointment of the Special Manager

The duration of the contract of the special manager shall be six (6) months or until the county government makes a new appointment.

4.6.5 Reporting

The utility shall report to WASREB in a frequency to be determined and on details to be stipulated.

4.7 Approach Seven – Full Force of law

Where the first six approaches fail and depending on the severity of the non-compliance WASREB will have to use the full force of the law- which is the traditional enforcement action in the following manner:

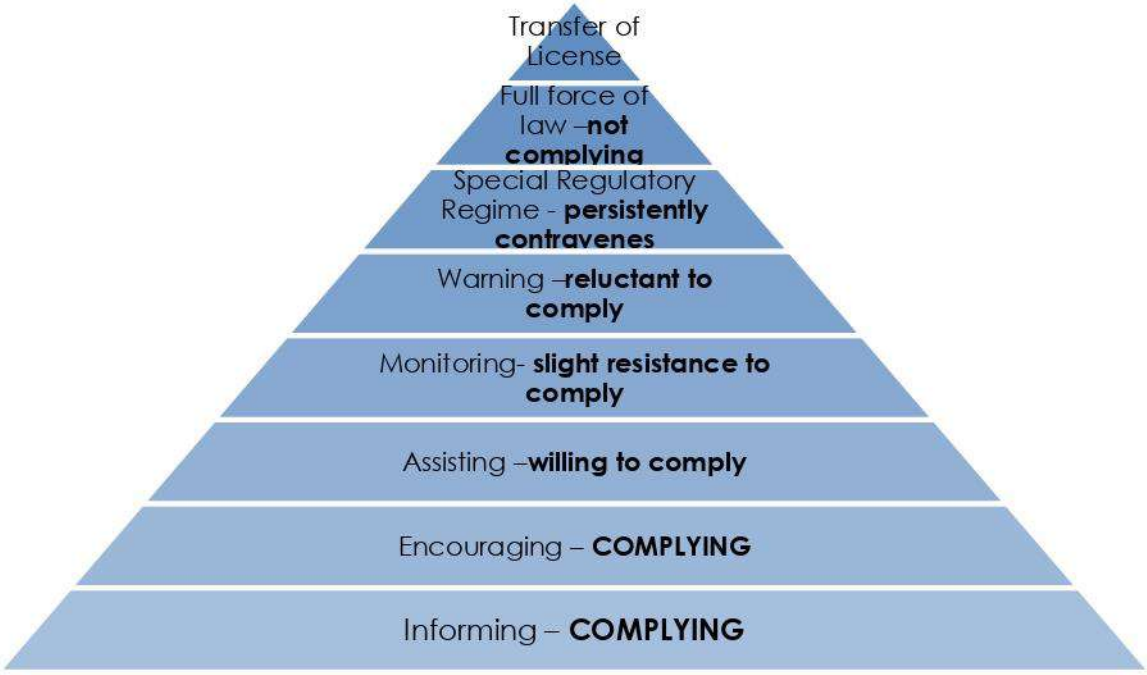
1. Issuing of fines under the license –clause 3.3
2. Ordering the payment of penalties by licensees to third parties aggrieved by the non-action or action of the licensee;
3. Levying of penalties for non-payment of regulatory levy under LN 36 of 2008.
4. Placing the offending WSP under SRR;
5. Prosecution of offences committed by the licensee under the Water Act or recommending of prosecution of culprits to other concerned public agencies if offence is in relation to any other Act;
6. Use of court action in judicial review proceedings;
7. Recommending to the respective county executive the removal of the top management and board of directors of the WSP if Inspection reports are not followed up by licensee; - clause 97 of the water services regulations;
8. Order the removal of top management team of WSP and board of directors under section 101 of the Water Act and clause 97 of the water services regulations;

9. Cancellation of license;
10. Transfer of license to another licensee.

Where full force of the law is used, the sanctions employed by WASREB shall:

1. Aim to change the behaviour of the offender;
2. Aim to eliminate any financial gain or benefit from non-compliance;
3. Be responsive and consider what is appropriate for the particular offender and regulatory issue, which can include punishment and the public stigma that should be associated with a criminal conviction;
4. Be proportionate to the nature of the offence and the harm caused;
5. Aim to restore the harm caused by regulatory non-compliance, where appropriate;
6. Aim to deter future non-compliance; and
7. Board of Directors ratification or resolution will always be sought.

A pictorial description of the graduated strategy is as shown below:



5. APPROACH TO COMPLIANCE AND ENFORCEMENT

WASREB will apply a risk-based approach to compliance, whereby the level of enforcement action in a given situation is proportionate to the level of risk to the provision of water services. The risk assessment will consider the possible impacts of non-compliance to consumers and other stakeholders. The greater the risk, the higher the compliance action to be undertaken. While greater effort may go into encouragement and assistance, escalation of sanctions will apply where necessary. The concentration of activities and resources at the bottom level of the pyramid reflects WASREB's commitment to compliance through education, prevention and cooperation. In most circumstances and depending on risk, WASREB will consider enforcement measures at the middle level of the pyramid once it has been determined that efforts at the first level have been ineffective in achieving compliance. The same principle generally applies as a prerequisite to employing enforcement measures at the top level of the pyramid. While the approach concentrates most resources at the bottom of the pyramid (e.g. prevention and guidance), WASREB is committed to using the tools and processes available at all

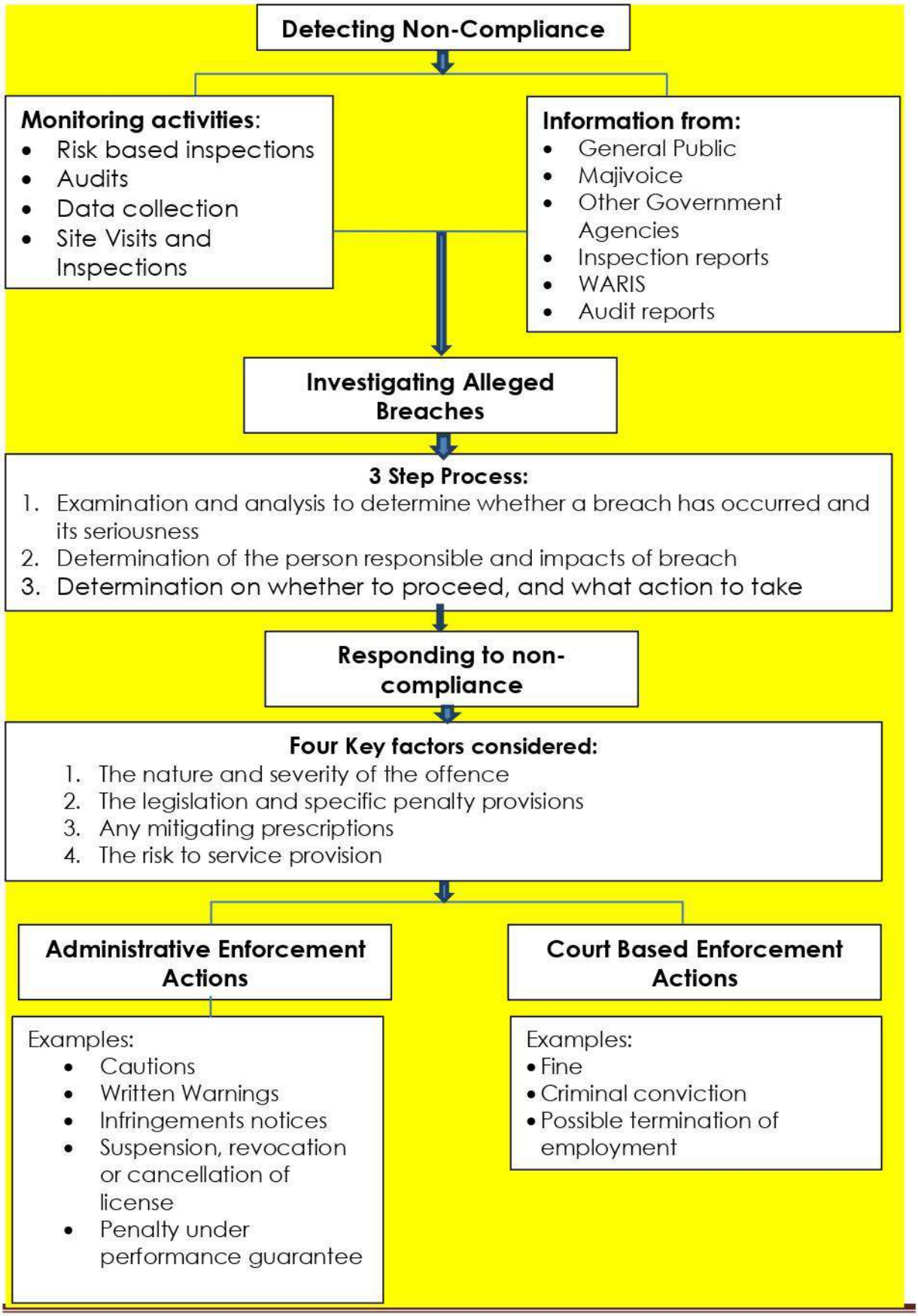
levels of the pyramid when necessary. Depending on the situation and the risk to service provision, offences may not have provisions at the bottom or middle level of the pyramid and enforcement action in the upper level of the pyramid will be undertaken.

6. DETERMINING AN APPROPRIATE COMPLIANCE AND ENFORCEMENT ACTION

WASREB will investigate all detected breaches using a three-step process and then formulate a response after considering **four key factors** outlined in the flow diagram below. Compliance and enforcement decisions will be made on case by case basis and the level and type of response will depend on a number of factors including:

a) The risk posed to the consumers and other stakeholders;
b) The nature of the offence (including the alleged offender's history), the seriousness of the offence and how long it has continued;
c) How effective the enforcement action will be in supporting compliance;
d) Legal precedents, where legislation may require us to proceed directly to higher levels of the compliance pyramid; and
e) Statutory time limits defining the time period within which enforcement action must be initiated;

The following flow diagram illustrates WASREB's compliance and enforcement mechanisms and overall approach.


Detecting Non-Compliance
Monitoring activities:
Risk based inspections
Audits
Data collection
Site Visits and Inspections
Information from:
General Public
Majivoice
Other Government Agencies
Inspection reports
WARIS
Audit reports
Investigating Alleged Breaches
3 Step Process:
1. Examination and analysis to determine whether a breach has occurred and its seriousness
2. Determination of the person responsible and impacts of breach
3. Determination on whether to proceed, and what action to take
Responding to non-compliance
Four Key factors considered:
1. The nature and severity of the offence
2. The legislation and specific penalty provisions
3. Any mitigating prescriptions
4. The risk to service provision
Administrative Enforcement Actions
Examples:
Cautions
Written Warnings
Infringements notices
Suspension, revocation or cancellation of license
Penalty under performance guarantee
Court Based Enforcement Actions
Examples:
Fine
Criminal conviction
Possible termination of employment

7. KEY AREAS IN LICENSE THAT WASREB WILL MONITORING

1. The following are the key areas where WASREB will focus on in ensuring compliance by the WSPs. For each key area before the full force of the law starting with the fines in the license are issued by WASREB the staff in WASREB will have used some or all of the graduated approaches in order to have willful compliance;

2. As more guidelines are formulated these key areas will expand as guidelines according to the license are an integral part of the license;

3. According to section 88 of the Water Act on performance guarantee it may be used to pay the fine in the license or also used by WASREB to cure the non – compliance by the Licensee. The amount currently depends on the turnover of the WSP. This is attached as an **Annex ii.**

Table 1: Key areas of focus

Key Area	What to assess
Utility oversight and supervision	transparency, accountability in the manner the leadership exercises its mandate and public participation in decision making.
Information and control systems	transparency and checks and balances in operational functions and compliance to set organisational systems.
Financial management	compliance to the financial management infrastructure in the water services sector and effectiveness in using the tools to improve performance.
Service standards	effectiveness in serving consumers, and deploying ICT and innovation to communicate with consumers to address their complaints or suggestions.
Human resources	Aadherence to the values in article 10 of the constitution especially inclusivity and adherence to the technical criteria of competence issued by WASREB by LN 137 of 2012
User consultation	whether the community served is involved in the decision-making process and effectiveness of methods of sharing information with consumers.

The details of each of these key areas is presented in **Annex 1.**

8. PROCEDURAL FAIRNESS

In line with the principles of procedural fairness, several opportunities are available to seek review of enforcement actions and/or the decisions leading to them. The methods for appealing these decisions and enforcement actions may include:

- Seeking a review of the decision by WASREB, if it was based on wrong or incomplete information.
- Challenging the action in the water tribunal.

9. JUSTIFICATION AND FURTHER PROCEDURE ON USE OF FULL FORCE OF LAW

9.1 Penalties set out in the License

1. The level of sanctions is a policy issue set by the Board of Directors in the license conditions, and the certainty of sanctions is an issue of the capacities and organizational effectiveness within WASREB.

2. The deterrent effect of sanctions will depend on their certainty, severity, celerity, and uniformity.

3. WASREB will:
    a) Review the monetary penalties (fines) in the license periodically to avoid having fines devalued by inflation.
    b) Set penalties at a senior level after review of all evidence.
    c) Reward good behavior such as rapid correction of problems by setting lower penalties.
    d) Adhere always to the graduated approach, with and warnings and as a first choice and prosecution and transfer of license as a last choice

4. Encouraging voluntary compliance shall always be the first step. WASREB

will support efforts to voluntarily comply, through voluntary disclosure policies especially in the technical areas of asset management and water and effluent quality. If an entity discovers violations of the regulation through the operation of its own internal compliance or self-regulatory system, and reports to WASREB those violations and the corrective action taken, the entity will not be liable for fines and penalties.

5. Voluntary compliance will depend on ensuring that non-compliers do not profit from their non-compliance. Co-operative compliance is contingent upon persuading those of goodwill that their compliance will not be exploited by free riders who will get away with the benefits of noncompliance without being held to account.

6. Deterrent and punitive sanctions will always be available in the background for use by WASREB and will be influenced further by:
   a. The size of the WSP;
   b. The capital and resources of the WSP;
   c. The type and nature of irregularity; and
   d. The compliance history of the WSP

7. In setting price limits for WSPs at a tariff review, WASREB will exclude any direct costs associated with financial penalties imposed under the Water Act 2016 i.e. investors and employees in the WSP will bear the full direct costs of the penalty.

8. Where a penalty has been imposed on a WSP this will be considered when price adjustments are made in relation to any other service-related incentive mechanism such as WASREB's overall performance assessment.

9. In considering any case in which a financial penalty might be imposed, WASREB will need to address the following questions:

   i) The WSP has contravened or is contravening any relevant condition of its appointment or license; or

   ii) The WSP has contravened or is contravening any statutory or other

requirement which is enforceable under the Water Act 2002; or

iii) The WSP has contributed or is contributing to a contravention by another; or

iv) The WSP has failed to achieve any standard of performance prescribed under the service provision agreement.

10. Once satisfied that a contravention or failure of service has occurred or is occurring, WASREB will have to decide whether a financial penalty should be imposed and at what level.

11. When considering whether to impose a penalty, a penalty is more likely where:

i. The contravention or failure has damaged the interests of customers or other market participants or damaged the environment; or

ii. Applying a penalty would be likely to create an incentive to comply and deter future contraventions or failures.

12. A financial penalty will be less likely to be imposed where:

i. The contravention or failure was or is of a trivial nature; or

ii. The contravention or possibility of a contravention would not have been apparent to a diligent licensee or WSP undertaker.

13. To avoid double jeopardy a financial penalty will not be imposed where:

iii. The licensee is being or has been prosecuted in respect of the failure or contravention, although a penalty might be appropriate in respect of different consequences of such a contravention or failure (e.g. for inadequate arrangements for communicating with customers in the event of an environmental or drinking water incident).

iv. WASREB will also take into account any potential prosecutions and will liaise with outside bodies to determine who should take enforcement action.

14. Having considered the broad level of penalty, other factors may be taken into consideration. Aggravating factors tending to lead to a higher penalty than otherwise may include, but would not necessarily be limited to:

i. Repeated contravention or failure;

ii. continuation of contravention or failure or making no attempts to rectify that contravention or failure after either becoming aware of the contravention or failure or becoming aware of the start of the enforcement authority's investigation;

iii. The involvement of senior management in any contravention or failure;

iv. The absence of any evidence of internal mechanisms or procedures intended to prevent contravention or failure;

v. Failure to compensate those affected; and

vi. Any attempt to conceal the contravention or failure from the relevant enforcement authority and if so to what extent.

15. Mitigating factors tending to decrease the level of any penalty will include, but not necessarily be limited to:

i. The extent to which the WSP or licensee had taken steps to avoid contraventions or failures, either specifically or by maintaining an appropriate compliance policy, with suitable management supervision;

ii. Appropriate action to remedy the contravention or failure;

iii. Evidence that the contravention or failure was genuinely accidental or inadvertent or outside management control;

iv. The extent to which the licensee had compensated those affected;

v. Proactive reporting of the contravention or failure to the enforcement authority; and

vi. Co-operation with any investigation.

9.2 Use of civil court action

WASREB will include in its use court action injunctions or compelling undertakings in the WSPs. It will also use court action to recover outstanding debt due to it from

undertaking an enforcement action on behalf of a licensee or recovery of debts from outstanding levies or licensee fees. A resolution of the Board has to be obtained and the merits of the case agreed upon as the only viable method of proceeding before a court action is initiated.

Where WASREB is the defendant the matter will be reported to the Board of Director at the next meeting after WASREB has been sued.

This should be distinguished from the alternative dispute resolution mechanism in the license, which the licensee shall use to appeal an order of WASREB under the license.

9.3 Use of Prosecution

Where an offence is established as against a WSP pursuant to failure by any of those entities to obey a lawful order given by WASREB and or contravening and rules and regulations made under sections 84, 142 the Act, WASREB will prosecute the offender after Board of Directors approval. The maximum penalty under the Water Act is Kshs 1, 000,000 or to a prison term not exceeding two years. (*Ref. section 147 of the Act*)

Annex I: KEY AREAS THAT REQUIRE COMPLIANCE

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
1. FINANCE	Change in outstanding debt	Track payment of regulatory levy to WASREB
	Change in number of distressed WSPs	Monitor operation of revenue account
	No. of WSPs Compliance with benchmark	Monitor Capital Expenditure
	No. of WSPs meeting target	SI 4 Monitor billing for services
		SI 14 Monitor Collection Efficiency
		Monitoring % of operation and maintenance expenditure
		Monitor % of staff costs relative to total O+M costs
		Monitor % of board costs relative to total O+M costs
		Monitor loan repayment and running of contingency fund in license
		Analyse financial statements and integration of systems within the WSP
		Track payment of statutory deductions
2. ENGINEERING Facility / Asset Management according to the Asset Management Guideline	No of WSPs with asset inventory	Ensure facilities inventory in licensee area
	No of WSPs with asset valuation	Ensure facilities valuation in licensee area
	Rating of efficiency in maintenance	Ensure facilities evaluation in licensee area
	Change in No. of WSPs with plans	Ensure that licensees develop and implement water assets management plans
	Change in No. of WSPs with plans	Ensure that licensees develop and implement wastewater assets management plans

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
	Change in No. of WSPS with Schedules	Ensure that licensees develop and implement water assets management / maintenance plans
	Change in No. of WSPS with Schedules	Ensure that licensees develop and implement wastewater assets management / maintenance plans
	No. of patrollers per WSP No. of illegal connections detected	Roll and schedule of water services line patrollers in licensee area
	No of Reports on compliance with standards for all capital works	Monitor and investigate implementation by licensee, of capital works plan to ensure standards of design, construction and operation are complied with.
	No of WSPs with asset planning and development function in the structure	Ensure licensees establish an asset planning and development function in the structure at the correct level
	No of WSPs with NRW function in the structure	Ensure licensees establish an NRW function in the structure at the correct level
	No. of networks mapped and digitized	Monitor and investigate the implementation of the mapping in digitized format of the WSP service areas and network systems of the WWDAs and WSPs
Water Demand Management and conservation guideline	No. of: Events publishing demand management Technologies adopted for demand management	Ensure promotion of water demand management measures in license regulations under section 7e and regulations under section 142 of the Act.

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
3. ECONOMICS Tariff - implementation of tariff guideline and license provisions on tariff.	No. of complete tariffs justifications received by WASREB	Monitor, investigate, design and perform analysis of tariffs
	No. of business plans analysed and amendments made	Analyse, approve and monitor implementation of business plans and service plans from licensee to ensure costs are properly allocated.
	No. of reports on follow-up actions	Monitor compliance with regulatory performance targets related to tariff adjustments.
	No. of reports on provider income and licensee remuneration	Investigation of justification of licensee remuneration and provider remuneration and any subsidies and grants in the licensee.
4. WATER QUALITY Water and Effluent Quality Guidelines	No. of water safety plans	Monitor availability and quality of Water Safety Plans
	No. of licensees in compliance with Water and effluent quality planning requirements	Availability of Sample schedules prepared for the FY based on previous year's volumes
	No. of licensees in Compliance with monthly and quarterly reporting	Availability of monthly and quarterly reports on water and effluent quality.
	No. of licensees in Compliance with annual reporting	Availability of annual reports on water and effluent quality.
	No. of noncompliance incidents self-reported	Report to WASREB for noncompliance by licensee
	No. of approvals per licensee	Monitor approvals issued to disposers of trade effluent by licensee under section 108 of the Act.

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
	No. of offenders per licensee	Monitor records of noncompliance by offenders under section 108
	Register of sludge disposal	Monitor disposal of sludge
5. LEGAL Legalizing Water Services Operators in area	No. of Notices issued	Monitor notice of registration in service area of water operators
	No. of operators captured	Inspect register of water service operators and legal status of each
	Reports of sources and quality per operator	Monitor sources of water identified and production and quality monitored and reported on licensee
	No. of operating licenses issued	Monitor Process of and issue of annual license to very small operators
	No. of public meetings held	Monitor frequent stakeholder meetings and education on clustering.
Corporate Governance Guideline	No. of AGMs held. % of women in leadership positions in WSPs % of stakeholder groups in WSPs BODs	Monitor compliance by WSPs
Customer complaints - according to guideline issued and license provision	No. of available contracts	Ensure customer contracts available
	Customer service policy	Ensure licensee has a customer service policy
	Report of surveys	Ensure customer satisfaction surveys are done by licensee and reports are made public.
	No. of complaints officers	Ensure licensee has complaints officer and department / unit for complaints processing
	% of complaints resolved	Ensure there is a complaint register and resolution rate

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
	No. of hotlines working	Ensure each licensee has a functional hotline or technology for public to report leaks, sewer bursts, vandalism etc.
	No of disputes at WAB or appeals in the High Court	Institute / defend, monitor disputes from customer dissatisfaction in licensee and get advisory opinions
Water Services Regulations - Section 73	No of water cases in magistrates' courts or high court initiated by WWDA under their regulations	Institute / defend / monitor, investigate implementation by licensee of published regulations under section 73 and issue orders to ensure compliance by licensee
6. COMMUNICATION	No. of activities to WWDA, WSPs and public on compliance and enforcement strategy	Publishing of public notices, warnings, workshops, seminars, advisory, radio programmes, leaflets, booklets and annual stakeholder forums held by licensee and WSP under license
7. HUMAN RESOURCES According to guideline	Compliance with LN 137 of 2012.	WASREB to monitor and ensure WSPs adopt the standards and guidelines in a manner that allows them to maintain the required staff rations and have the appropriate resource capacity under LN 137 of 2012.
	Adequacy of training	Monitor % of turnover spent on training as per NWSS
8. ALL Submission of Reports	No. of reports	Annual WARIS Reports

CHECKING COMPLIANCE	INDICATOR	ASPECTS OF COMPLIANCE & ENFORCEMENT
	No. of Reports in License	Annual report under license which has: Licensee achievement report Service obligation and performance report of all the SSSPs in the WSP area Financial report - reflecting levels of tariff revenues, subsidies Capital Works Implementation Report
	No of WSPs with public information officer	Appointment of public information officer by WSP
	No of WSPs undertaking annual dissemination	Dissemination of annual achievement report of licensee to the public within the board area.

1.4 Portuguese Regulation

1.4.1 Workshops Portugal Agenda (9th and 15th December 2020)

Agenda for our meeting mit Ana Teresa Albuquerque, former Executive Board Member at ERSAR (Water and Waste Services Regulation Authority) on 9th and 15th December 2020

9th December 2020 (approximately 2h)

- The water sector in Portugal
- The role of the regulator
- Organisation of Ersar
- The Portuguese regulatory model
- Main ideas on benchmarking as the starting point and Key Perfomance Indicators
- Ensuring validity of data, which are sent from companies to Ersar
- Q&A

15th December 2020 (approximately 2h)

Economic Principles of price regulation and tariff setting

- *The Water Framework Directive 2000/60/EC (WFD)*
- Access to safe drinking water and sanitation as a human right (UN general assembly)

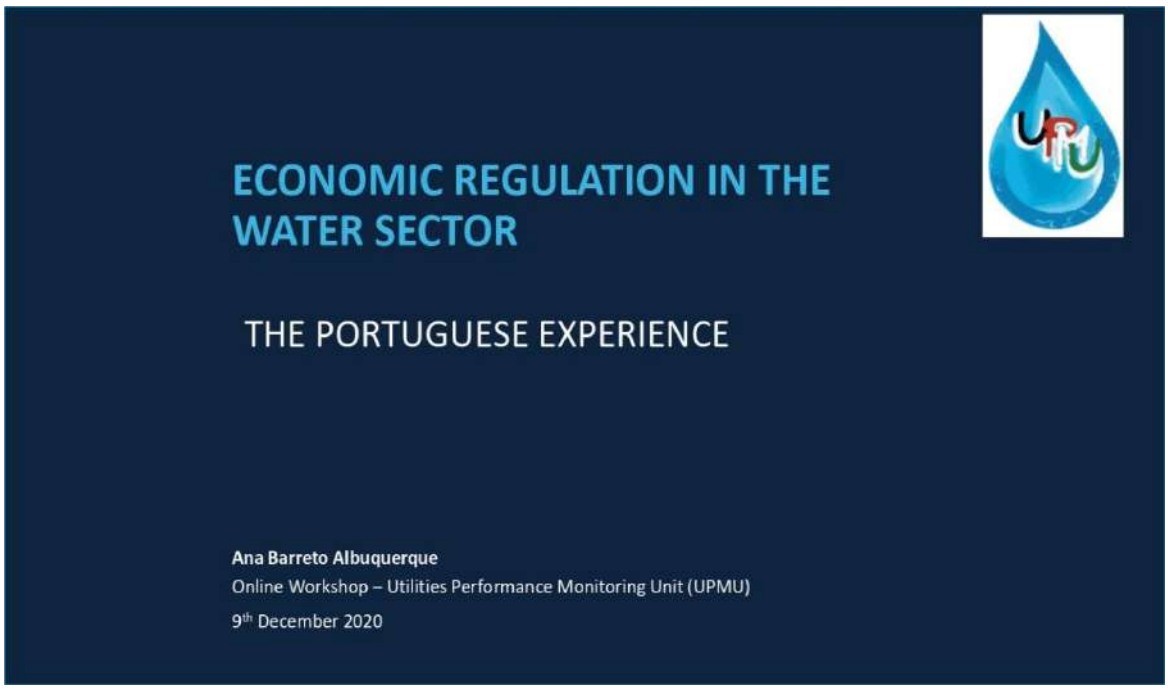
Price regulation methodologies

Tariff Designs

The case of Portugal

- *Economic Regulation - objectives*
- *Price regulation methodologies*
- *In case you are setting KPI targets for companies: How do you decide on them?*
- *Tariff Design*
- *Concepts and criteria to calculation*
- *Other incentives for companies to improve their performance*
- *Maybe: Brief description how Ersar communicates with companies and how it integrates the customer*
- *Q&A*

1.4.2 Workshop 1 (9th December 2020)



The water sector in Portugal

EVOLUTION OF THE WATER SECTOR IN PORTUGAL

ASSESSMENT:

- The situation of the sector before 1993 was unacceptable

MAIN PROBLEMS:

- No clear national strategy
- Services under the responsibility of about 300 municipalities of medium/small size
- Poor quality of services in general
- Lack of infrastructure
- Lack of financial resources
- Lack of skilled human resources
- Difficulty in responding to new challenges (i.e. European standards)

CONCLUSION:

- A global reorganization of the sector was urgently needed

Population with access to public drinking water supply:

80%

Drinking water in compliance with European standards:

50%

Population with access to drainage and treatment of urban wastewater:

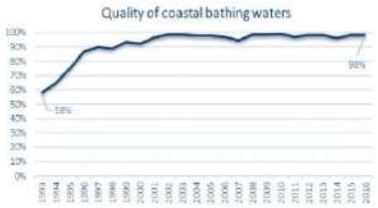
31%

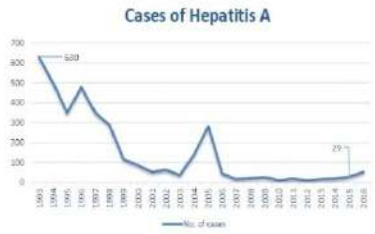
WATER SECTOR REFORM

A program of reforms and strong political commitment have allowed Portugal to rapidly transform the sector

- **The main improvements happened with the definition of global, integrated and stable public policies. The main components are:**
  - Definition of a clear strategy for the sector (Strategic Plans)
  - Creation of a legal framework
  - Definition of the institutional framework (including regulation)
  - Promotion of a territorial reorganisation of the services (economies of scale)
  - Definition of new management models
  - Development of the business sector and introduction of competition
  - Focus on full-cost recovery
  - Definition of quality of service goals and improvement of drinking water quality
  - Protection and raising awareness of users; Making information available
- **Today:**
  - The reform is still ongoing but the country witnessed great improvements
  - There are still areas needing improvement

PORTUGUESE WATER POLICIES RESULTS (1993-2016)



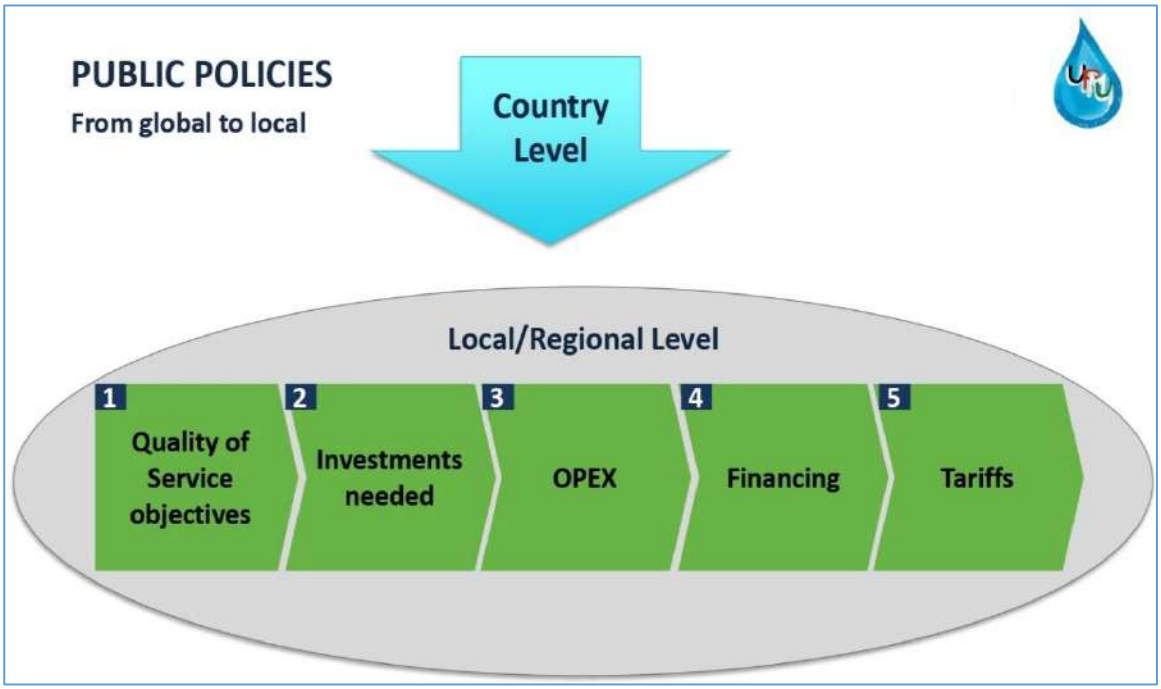


PUBLIC POLICIES - Strategic plans

- Six-year strategic plans guided the implementation of the country's public policy, concomitant with European Union funding under the Cohesion Fund and other programmes.
- These strategic plans have a **global, integrated approach** and address all the aforementioned relevant components of the public policy.
- The strategic plans for the water services are **closely linked to other national strategies** for water.
- Stability in the last 20 years.

PUBLIC POLICIES

From global to local



PUBLIC POLICIES - Strategic plans

Coordination with other policies

It is necessary to ensure the links between the Strategic Plans and other action lines seen as of national interest (eg. Water resources policies; EU directives), as well as the EU funding

The Portuguese Environment Agency (APA) and ERSAR are the bodies responsible for adopting adequate measures, coordinating the follow-up and monitoring of the implementation of the Strategic Plans for water and waste sectors

PUBLIC POLICIES

Institutional framework

Definition of the institutional framework

Clear assignment of responsibilities for the services...:

- Owner of the service
- Operator

... And for supervisory activities:

- Environmental
- Water resources
- **Water services**
- Public Health
- Competition

PUBLIC POLICIES

Legislative framework

Definition of a legislative framework

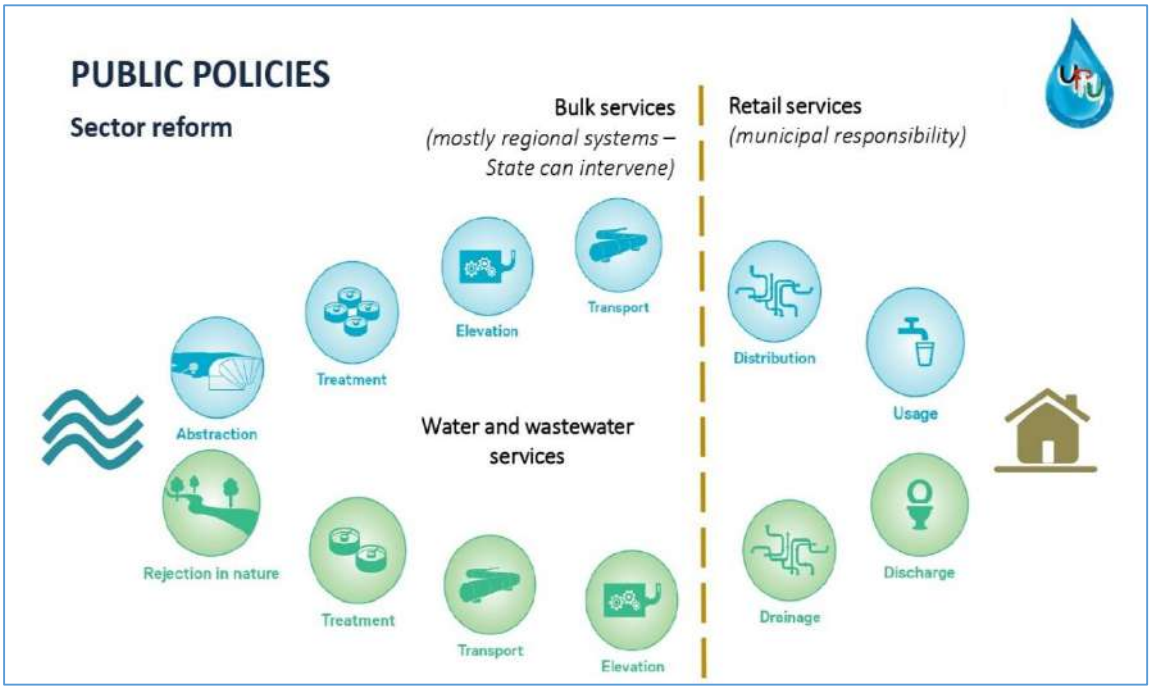
- Clarification of rules governing the sector
- Approving new and modern legislation:
  - Legal framework for State and municipal services and for regulation
  - Legislation for tariffs, quality of service, water quality and technical issues
- Issuing regularly sound recommendations for the sector

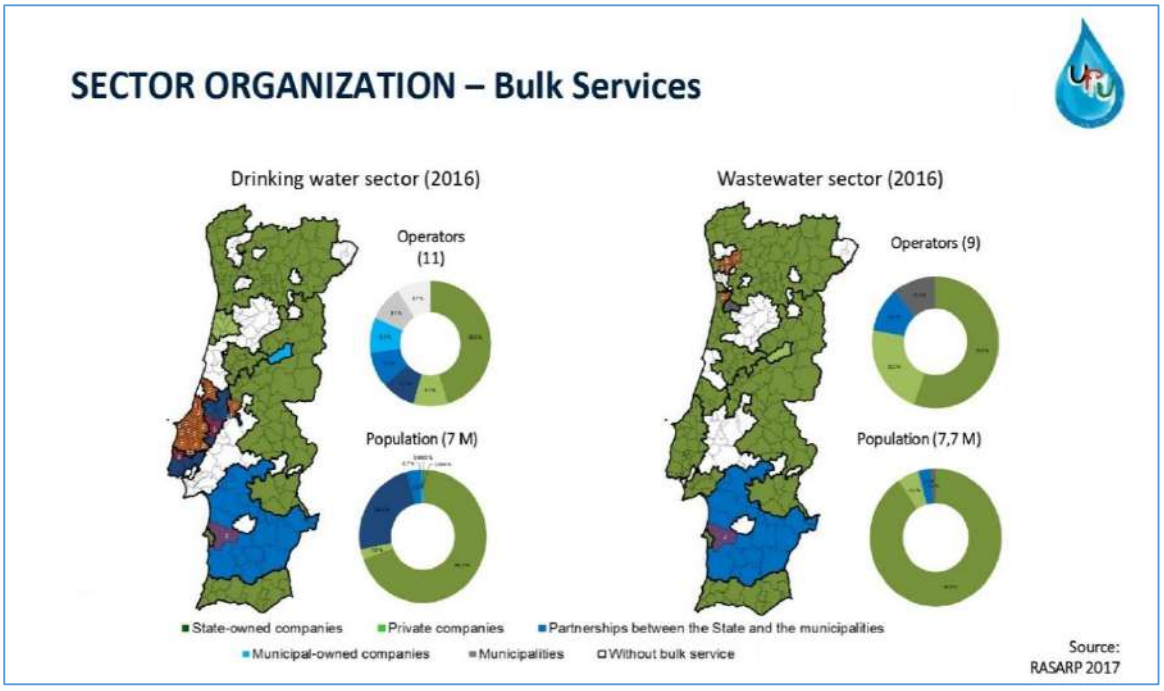
PUBLIC POLICIES

Management models

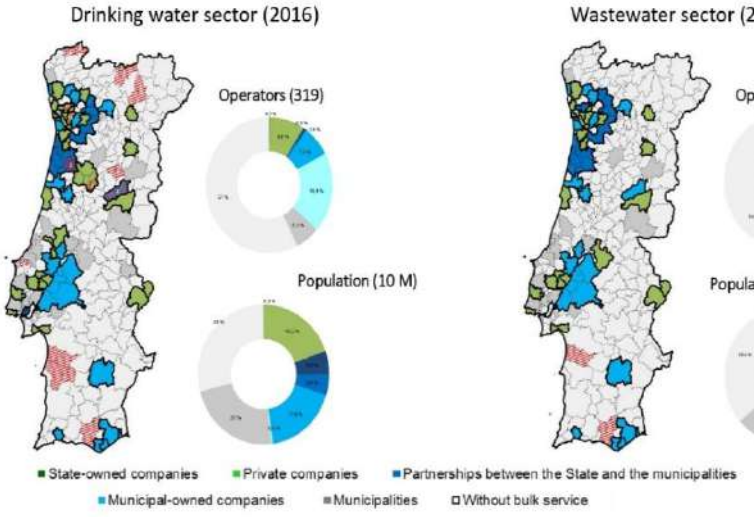
Definition of adequate management models

- Provision of water services is a public responsibility (by the State or municipalities), but these can be operated by public, private or public-private entities
- There is a range of management models available, but the choice must be based on robust viability studies
- "Competition" between different models enacts a strong pressure towards service improvement


PUBLIC POLICIES
Sector reform
Bulk services
(mostly regional systems – State can intervene)
Retail services
(municipal responsibility)
Abstraction
Treatment
Elevation
Transport
Distribution
Usage
Water and wastewater services
Rejection in nature
Treatment
Transport
Elevation
Drainage
Discharge


SECTOR ORGANIZATION – Bulk Services
Drinking water sector (2016)
Operators (11)
Population (7 M)
Wastewater sector (2016)
Operators (9)
Population (7,7 M)
State-owned companies
Private companies
Partnerships between the State and the municipalities
Municipal-owned companies
Municipalities
Without bulk service
Source: RASARP 2017

SECTOR ORGANIZATION – Retail services



Source: RASARP 2017

EXTERNAL ENVIRONMENT OF DIVERSITY

The size and diversity of the regulated operators are vast, spanning state owned companies and numerous municipalities

THE WATER AND WASTE SECTORS IN PORTUGAL

MAIN FIGURES

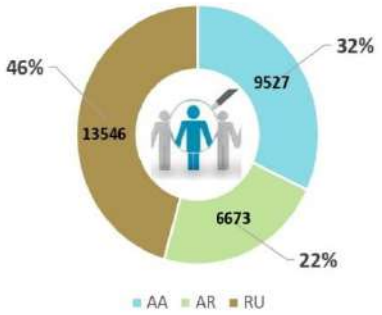
- 111 774 KM of water supply mains
- 192 LITERS, of daily average per capita consumption
- 83% of households served by public wastewater collection and treatment systems
- 1.7 MILLION M^3 of wastewater treated daily
- 4,8 MILLION TONNES of waste/year (1,27 KG/PER CAPITA.DAY)
- ... of which 439 000 TONNES/YEAR are recycled
  43 568 Ecopoints
- 98,72% of safe water
  567 000 analysis performed yearly
- 23,98 EUROS/MONTH is the average consumer charge ($10m^3$/month consumption) – water, wastewater and waste services

Source: RASARP 2018 (2017 data)

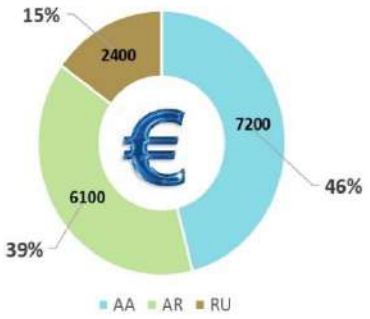
THE WATER ANS WASTE SECTORS IN PORTUGAL

MAIN FIGURES

Human resources: 29 746 workers



Total investment: 15 659 million €



Source: RASARP 2018 (2017 data)

The role of the Regulator

ROLE OF REGULATION

We can approach regulation of the water services in different ways.

In Portugal we decided to implement regulation:

- With an **integrated** (holistic) approach.
- Operating at **national level** (mainland).
- Regulating **all the utilities**, regardless of the governance model (State-owned, municipal-owned and private).
- Adopting a **collaborative and pedagogic regulation**.

ROLE OF REGULATION

GOALS OF REGULATION

Consumer protection	**Protection of user's interests (access to the service, quality of service and pricing)**
Water operator protection	**Contribution to the economic sustainability of the operators and their interests**
Environmental protection	**Contribution to the environmental sustainability (impacts on water, air and land)**

ROLE OF REGULATION

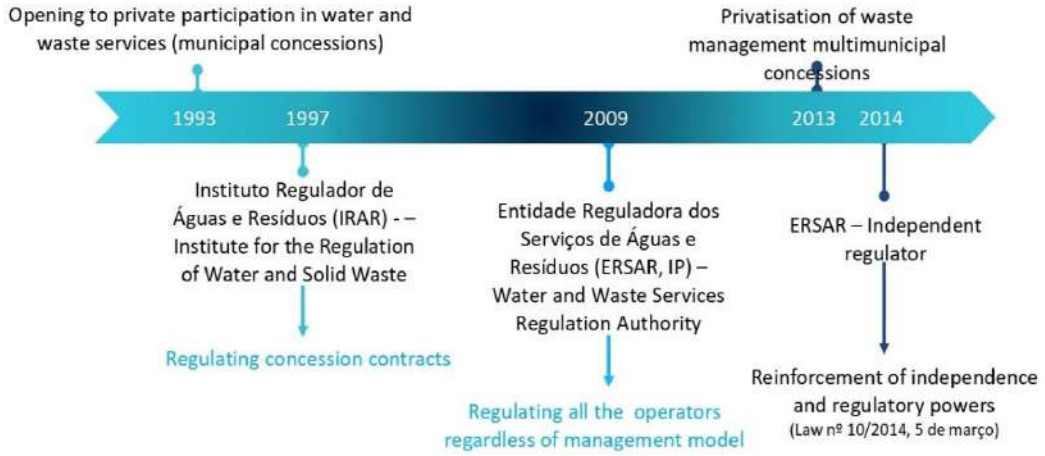
GOALS OF REGULATION

In detail:

- Contribute to the **universal access to water and waste services** with a **good quality and affordable prices**
- Contribute to the **economic efficiency** and **sustainability** of the operators
- Limit the market power of monopolies
- Contribute to a **stable and predictable environment** that enables investment in infrastructure
- Set incentives to share efficiency gains with consumers
- Avoid risks of operators failure to provide the services
- Disclose **acessible information** to consumers and operators
- Protect users (complaint analysis, infractions proceedings, etc.)
- Protect the environment, avoiding negative impacts
- Prevent long-term scarcity of water resources

REGULATION IN PORTUGAL

THE INSTITUTIONAL EVOLUTION OF REGULATION



REGULATION IN PORTUGAL

ERSAR BODIES

3 members appointed for a 6 year term, non-renewable, following a parliamentary hearing

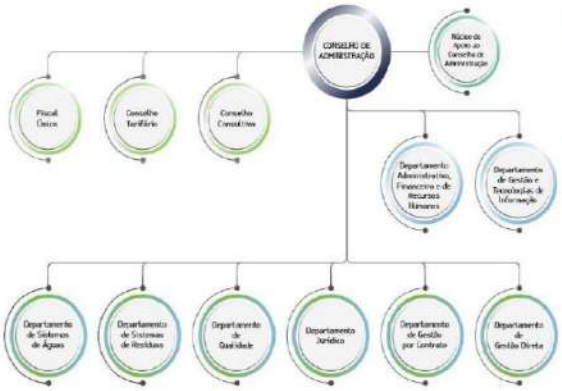
Follows and controls the financial management of ERSAR

2 advisory councils with representatives of all the major stakeholders in the sector:
Advisory Council – analysis and recommendations regarding the main areas of ERSAR's activity (35 members)
Tariff Council – analysis and recommendations regarding economical aspects and tariff regulations (18 members)

- Functional, organic and financial **Independence** from Government
- Strong organizational and technical capacity
- **Small structure** (around 80 employees)

- Budget (less than 8 000 000 €/year)
- Small impact on the tariffs (less than 1 %)
- Applies regulatory taxes based on the volume of activity of the utilities (m^3) and the population covered
- Does not benefit from economic penalties to the utilities

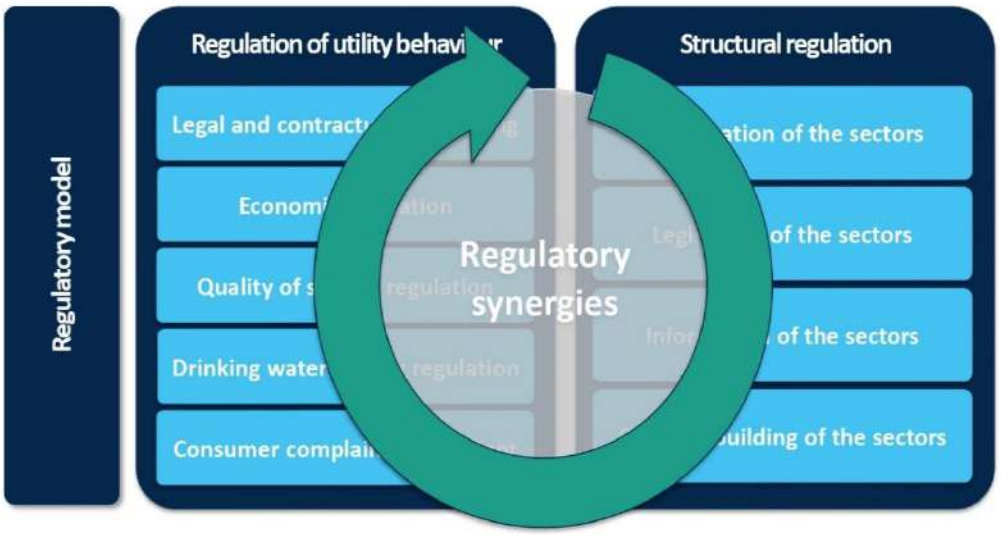
ERSAR's INTERNAL ORGANIZATION (SINCE FEB. 2018)



- Internal and functional organization **focused on the "client"** (consumer and operators), with multidisciplinary units
- **6 operational departments**: Waste Systems Department (multimunicipal concessions), Water Systems Department (multimunicipal concessions), Contract Management Department (municipal delegations and concessions), Direct Management Department (municipalities), Legal Department and Quality Department.
- **3 support departments**: Administration and HR, Technology and Information and support to the management

The Portuguese regulatory model

REGULATORY MODEL



REGULATION CYCLE - Legal and contractual monitoring of the utilities

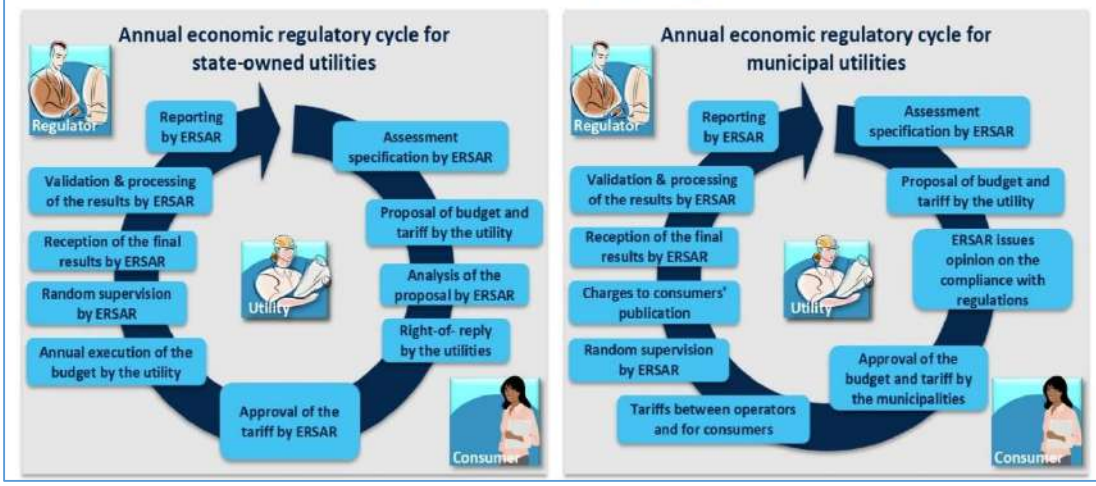
- Tender process and contract specification
- Monitoring legal and contractual compliance
- Contract modification and renegotiation
- Reconfiguration and merger of utilities
- Contract termination
- Conciliation

ECONOMIC REGULATION

Regulation Cycle

- Promotion of **efficient and affordable tariffs**

- Promotion of the **economic & financial sustainability** of the utilities



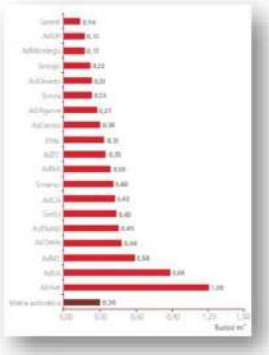
REGULATION CYCLE

Tariff definition is different depending on the management model/service ownership:

- State owned multimunicipal concessions:
  - Tariffs are defined by ERSAR, according to a cost plus model
- Municipally owned direct and delegated management operators:
  - Tariffs are approved by local competent authorities, after obtaining ERSAR's opinion on the tariff proposal, focused on cost recovery levels and compliance with existing rules
- Municipally owned concessions:
  - Tariffs are approved by local competent authorities after obtaining ERSAR's opinion on the compliance with the contract and existing rules

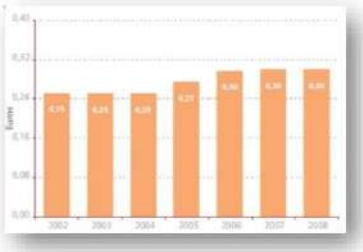
REGULATION CYCLE

Annual assessment of the economic performance for each utility



Annual benchmarking between utilities regarding the economic performance

Assessment of the evolution for the economic performance



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REGULATION CYCLE - Quality of service regulation

Annual report

Website

App ERSAR

Beginning of the cycle
January

Technical guide and files

Data report by the utilities
March and April

Portal ERSAR

Data validation by ERSAR (audits)
May to June

Audits

Data treatment by ERSAR
June to August

Right-of-reply by the utilities
September

Publishing and publicizing
November

Individual assessment sheet

THE PORTUGUESE REGULATORY MODEL

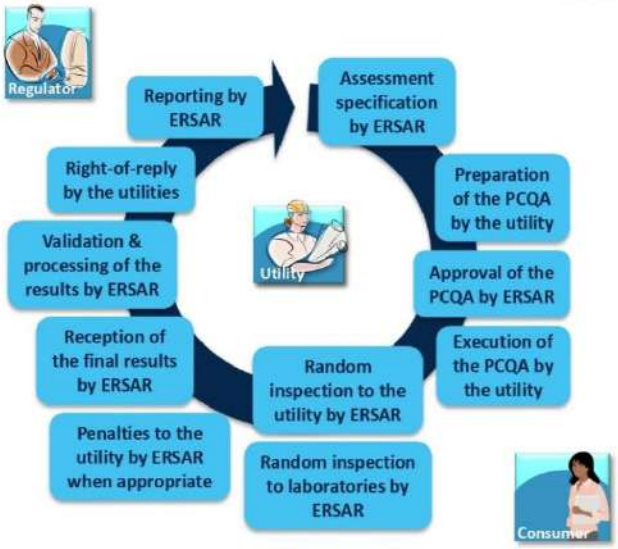
DRINKING WATER QUALITY REGULATION

Annual drinking water quality regulatory cycle for each utility:

- Assess every year 100% of the water supply utilities
- It is an effective, well defined and stable procedure

Legal framework:

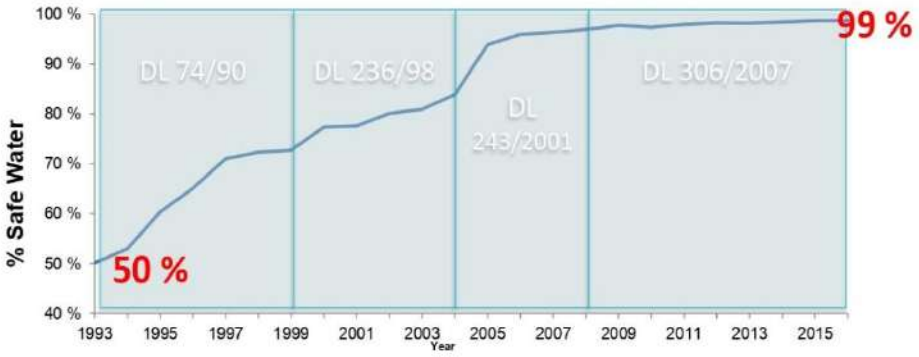
- Decree-Law no. 306/2007, of 27 August; transposition of the Directive 98/83/CE, revised by the Decree-Law no. 152/2017, wich made the transposition of Directive (EU) n.º 2015/1787.
- Decree-Law no. 23/2016, of 3 June, transposition of Directive EURATOM (radioactive substances), also included on the Decree-Law no. 152/2017.



DRINKING WATER QUALITY REGULATION

IMPROVEMENT OF THE DRINKING WATER QUALITY IN PORTUGAL

– The drinking water controlled and with quality according the European requirements improved 49% between 1993 and 2017 (includes all drinking water suppliers and all water supply zones)



THE PORTUGUESE REGULATORY MODEL
DRINKING WATER QUALITY REGULATION

- **The Portuguese drinking water quality regulatory model is:**
  - A process based on the Portuguese drinking water legislation
  - A recognized model by regulators networks (ENDWARE and REGNET)
  - A recognized model by EC
  - Based on a **risk-based approach, throughout the supply chain**:
    - Directive (EU) 2015/1787 transposition→ Water Safety Plans, from source to consumer tap

- **ERSAR promotes:**
  - Technical support and guidelines documents
  - Communication plans to consumer

THE PORTUGUESE REGULATORY MODEL
DRINKING WATER QUALITY REGULATION

- **Operational monitoring**
  - Preventive tool to improve drinking water quality
  - Detects drinking water quality problems avoiding them to reach the consumers' tap
- **Inspections, focused on:**
  - Risk assessment (critical utilities and parameters)
  - Rectification non-compliances process
  - Communication to consumer
  - Operational monitoring
  - Increasing the small WSZ with control (disinfection)
  - Reliability of values reported
  - Reliability of analytical results

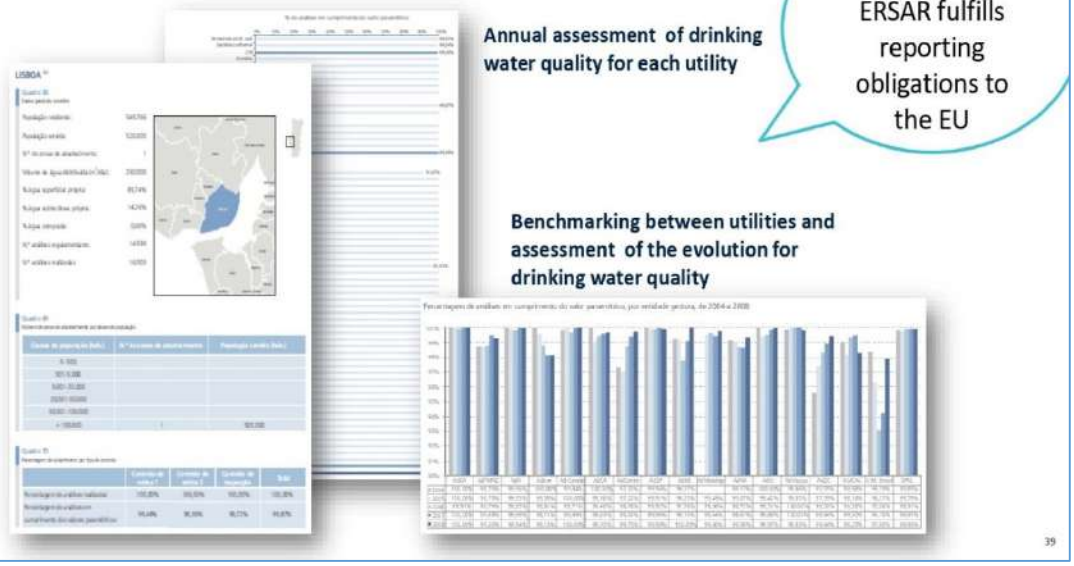
THE PORTUGUESE REGULATORY MODEL

DRINKING WATER QUALITY REGULATION

Strong links between ERSAR and:

- ✓ **Health authorities**
  - **Sanitary surveillance and risk analysis of the non-compliances**
  - *Declaration of National Health Authority (no epidemiologic outbreaks on drinking water)*
- ✓ **Portuguese accreditation body**
  - Laboratories
- ✓ **Laboratories associations**
- ✓ **Agriculture authorities**
  - Definition of pesticides likely to be present in each supply zone
- ✓ **Nuclear and Technological Institute**
  - Questions related with radiological parameters
- ✓ **Portuguese environment agency**
  - Questions related with drinking water sources
- ✓ **Safety food authorities**
  - Private drinking water suppliers and food industries

REGULATION CYCLE



Annual assessment of drinking water quality for each utility

Drinking Water Directive: ERSAR fulfills reporting obligations to the EU

Benchmarking between utilities and assessment of the evolution for drinking water quality

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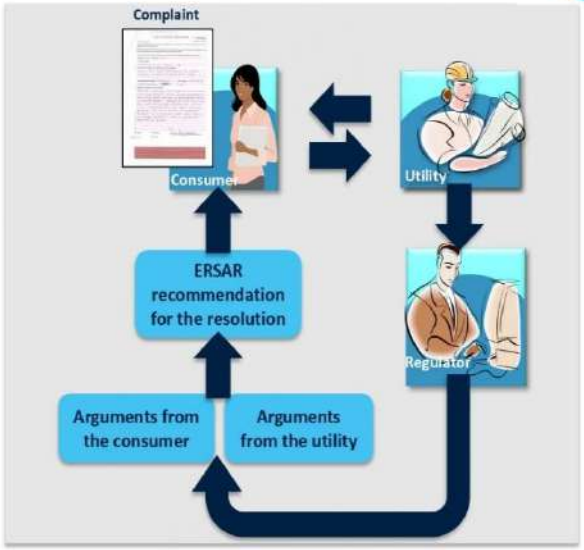
REGULATION CYCLE - Assessment of consumer complaints

- Monitoring complaints and their resolution between utilities and consumers and contributing (when necessary) for their better resolution
- Periodic statistic report (public)
- Access via Internet to status information on complaint



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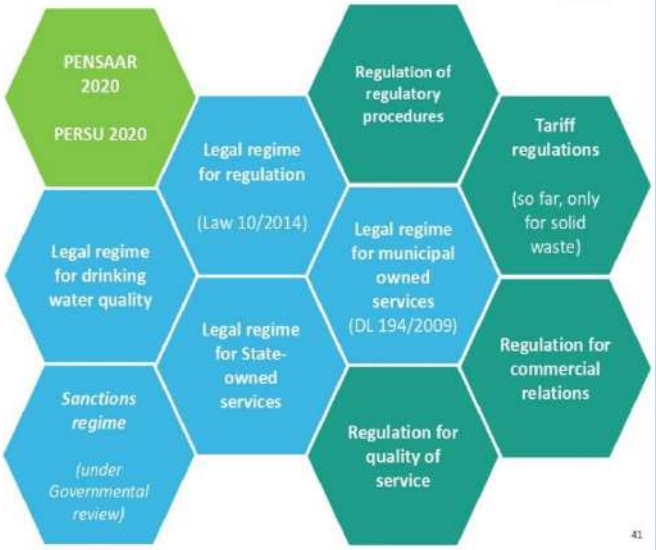
STRUCTURAL REGULATION

- **Monitoring and reporting** on Strategic Plans implementation
- **Contributing** to legislative changes
- **Approval of regulations** for external enforcement
- **Approval of recommendations** on technical aspects



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STRUCTURAL REGULATION

ERSAR's regulation

- Densify and detail existing legislation

Approval procedure

- Public consultation (available on ERSAR's website and directly communicated to main *stakeholders*)
- Hearing of ERSAR's advisory body
- Report analysing all contributions received

Procedural legitimacy mechanisms

AUXILIARY REGULATORY ACTIVITIES

Technical support to the utilities:

- The large number, diversity of size and capabilities of utilities drives ERSAR to promote technical support.
- Technical guides and more than 20 training actions p/year.
- Annual disclosure of sector information based on quality of service and economic performance assessment (ERSAR's annual report - RASARP - is available at its website)

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AUXILIARY REGULATORY ACTIVITIES

Public information

- All information is publicly available both after analysis and as raw data, so that it can be used by researchers and consumers:

Consumer information booklets

ERSAR's website

Smartphone app

AUXILIARY REGULATORY ACTIVITIES

- **ERSAR's Water and Waste Service Quality Awards**
  - Quality Stamps and Awards for the best operators in:
    - Drinking Water Quality
    - Public Water Supply Service
    - Urban Wastewater Management Service
    - Municipal Waste Management Service
    - Efficient Use of Water

  - Rewards best practices and good behavior of utilities towards ERSAR and the consumer
  - Improves consumer awareness of service quality
  - Increases public recognition of ERSAR

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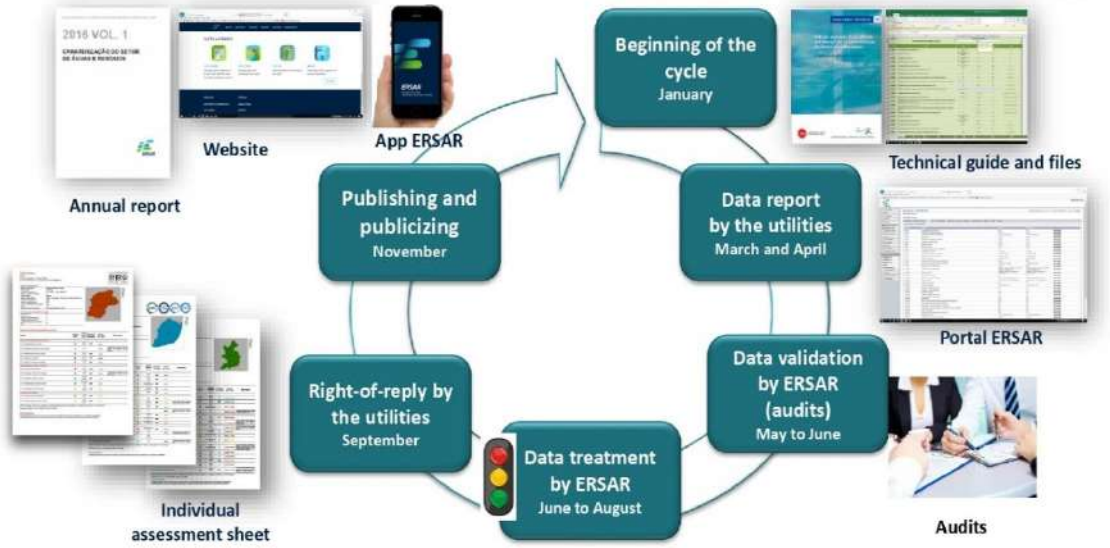
Main ideas on benchmarking as the starting point and Key Perfomance Indicators

Ensuring validity of data, which are sent from companies to ERSAR

REGULATION CYCLE - Quality of service regulation



REGULATION OF WATER AND WASTE SERVICES

Why regulatory benchmarking?

Regulatory benchmarking addresses the main reasons for regulation:

Market failures:

- Natural monopoly → **Creates an artificial competitive environment:** incentives to efficiency and competitive pricing
- Externalities → Protection of natural resources and reduction of pollution
- Asymmetric information → Ensure consumer protection and competition in the markets

Public services obligations → Universal access, Continuity Quality, Affordability, Equity

- In Portugal, KPI information is being used to assess the evolution of the country with the established targets, and for **international reporting** to EU.
- KPI's are also being used as **eligibility criteria to EU funding.**

REGULATION OF WATER AND WASTE SERVICES

Why regulatory benchmarking?

Comparison promotes <u>healthy</u> <u>competition</u>:

- Consumers are responsive to information on prices and quality of service.
- Creates an **incentive for operators to be more efficient** and to perform better. → Incentives to efficiency and competitive pricing
- Leads to more efficient and sustainable prices and services.
- Enables to improve quality of service, environmental monitoring and protection over time. → Protection of natural resources and reduction of pollution

<u>Improves information about the sector</u>, which can be used by:

- Operators, at the management level, to improve in operational terms
- Regulators, to improve regulatory procedures and validation practices.
- Consumers, to better understand the service that is being provided. → Ensure consumer protection and competition in the markets

Continuously <u>monitor public services</u> obligations → Universal access, Continuity, Quality, Affordability, Equity

QUALITY OF SERVICE REGULATION: HOW ?

Clear procedures and definitions

Technical guide for the water and waste services quality of service assessment

- 3rd generation of indicators, inspired by the performance indicators published by IWA regarding the water supply and wastewater management services

Establishes all the definitions of data and indicators required, as well as the minimum precision and accurateness of the information

This manual applies **to every operator** of water and waste services , regardless of the activity scope, nature, management model or size of the operator

QUALITY OF SERVICE ASSESSMENT

3 Generations in 12 years

SERVICE QUALITY ASSESSMENT SYSTEM

Main objectives

- **Assessment** of the service quality provided by the operators → **Protect the users interests** by improving the quality of service
- **Benchmarking** between operators results → **Improve the effectiveness and efficiency** of the service

SERVICE QUALITY INDICATORS, organized in 3 Groups:

1. **Protection of user interests** - to be assessed based on accessibility criteria (physical and economic) and quality of the service provided
2. **Operator sustainability** - based on the economic sustainability of the service, infrastructural sustainability and physical productivity of human resources
3. **Environmental sustainability** - to be assessed according to the criteria of efficiency in the use of environmental resources and prevention of pollution

WATER SUPPLY PERFORMANCE INDICATORS

3rd Generation

WATER SUPPLY INDICATORS

Protection of user interests	**Accessibility of service for users** AA01 – Service coverage AA02 – Affordability of the service **Quality of service provided to users** AA03 – Service interruptions AA04 – Safe water AA05 – Reply to written suggestions and complaints
Service provision sustainability	**Economic sustainability** AA06 – Cost recovery ratio AA07 – Connection to the service AA08 – Non-revenue water **Infrastructural sustainability** AA09 – Mains rehabilitation AA10 – Mains failures **Physical productivity of human resources** AA11 – Adequacy of human resources
Environmental sustainability	**Efficient use of environmental resources** AA12 – Real water losses AA13 – Standardised energy consumption **Efficiency in pollution prevention** AA14 – Proper sludge disposal

Fed by 86 variables

QUALITY OF SERVICE INDICATORS

Adaptable reference values and semaphoric evaluation

Targets to be reached by the operators are **defined through reference values** and a semaphoric evaluation is made for each operator:

Ex 1. AR02b – Affordability of the service (%)

Indicator	Boa	Mediana	Insatisfatória
Acessibilidade económica do serviço	0 - 0,5%	0,5 - 1,0%	1,0% - + ∞

Ex 2. AR01b Physical accessibility to the service(%)

	APR			AMU			APU		
Indicator	Boa	Mediana	Insatisfatória	Boa	Mediana	Insatisfatória	Boa	Mediana	Insatisfatória
Acessibilidade física do serviço	70 - 100%	60 - 70%	0 - 60%	85 - 100%	70 - 85%	0 - 70%	90 - 100%	80 - 90%	0 - 80%

APR – Rural areas; AMU – Periurban areas; APU – Urban areas.

This allows to assess all operators, treating equally what is equal, and differently what is different.

Reference values can be gradually adapted in order to push for improvement.

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WASTEWATER MANAGEMENT PERFORMANCE INDICATORS

3rd Generation

WASTEWATER INDICATORS

Protection of user interests

Accessibility of service for users
- AR01 – Service coverage through sewerage networks
- AR02 – Affordability of the service

Quality of service provided to users
- AR03 – Flooding occurrences
- AR04 – Reply to written suggestions and complaints

Service provision sustainability

Economic sustainability
- AR05 – Cost recovery ratio
- AR06 – Connection to the service

Infrastructural sustainability
- AR07 – Sewer rehabilitation
- AR08 – Sewer collapses

Physical productivity of human resources
- AR09 – Adequacy of human resources

Environmental sustainability

Efficient use of environmental resources
- AR10 – Standardised energy consumption

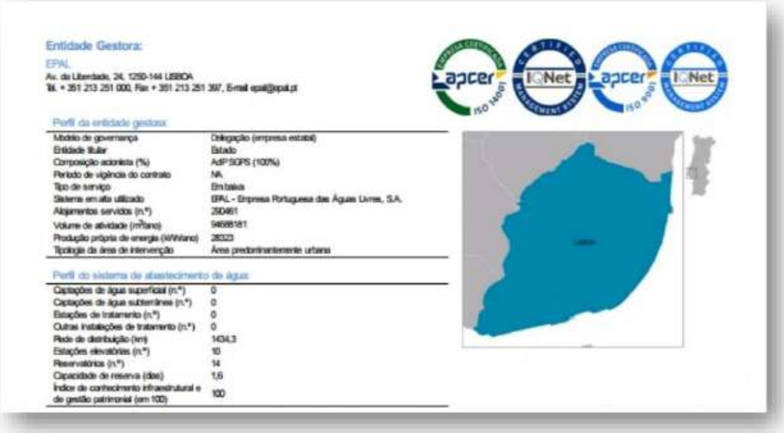
Efficiency in pollution prevention
- AR11 – Accessibility to the wastewater treatment
- AR12 – Control of emergency discharges
- AR13 – Compliance with discharge permit
- AR14 – Proper sludge disposal

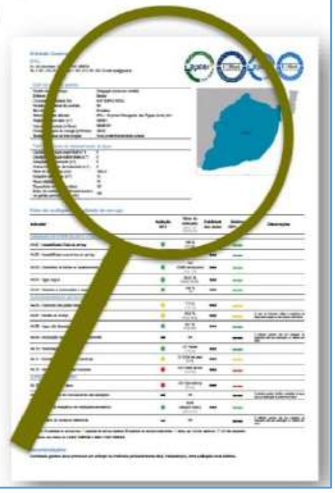
Fed by 85 variables

SERVICE QUALITY ASSESSMENT RESULTS

Characterisation of the operator

Alongside with the individual file for each operator, a section with the main figures associated with the operator is presented to make a global characterisation

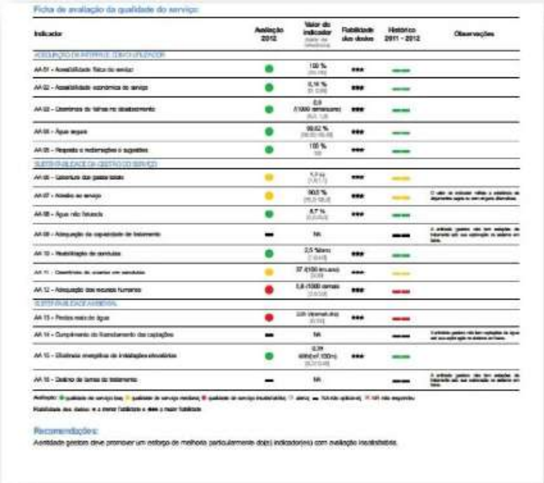


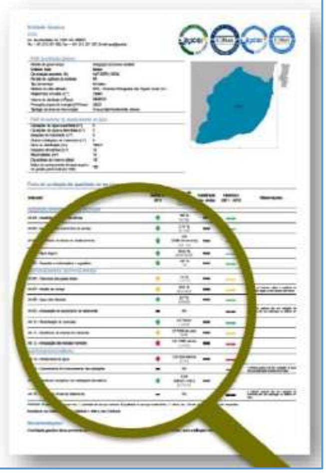


SERVICE QUALITY ASSESSMENT RESULTS

Evaluation of the operator

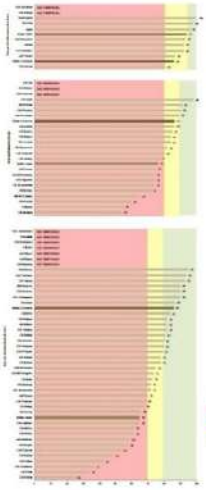
The individual file presents the evaluation of the quality of service for each indicator, and its evolution.



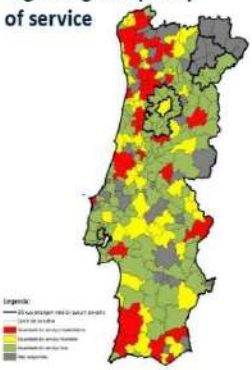


SERVICE QUALITY ASSESSMENT RESULTS

Results presentation and publication

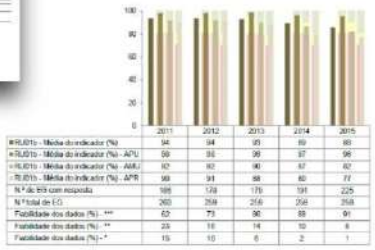


Annual benchmarking between operators regarding the quality of service



Annual assessment of the quality of service for each operator

Assessment of the evolution for each indicator of quality of service



	2011	2012	2013	2014	2015
RLO1b - Média do indicador (%)	94	94	95	89	90
RLO1b - Média do indicador (%) - APU	99	99	99	97	96
RLO1b - Média do indicador (%) - AMU	97	92	90	87	87
RLO1b - Média do indicador (%) - APR	99	91	88	80	77
Nº de EG com resposta	186	188	178	191	225
Nº total de EG	260	258	258	258	258
Fiabilidade dos dados (%) - ***	82	73	90	88	91
Fiabilidade dos dados (%) - **	23	16	14	10	8
Fiabilidade dos dados (%) - *	15	10	6	2	1

SERVICE QUALITY ASSESSMENT

RESULTS – PUBLIC INFORMATION

All information is publicly available after analysis and as raw data to be used by researchers and users

Digital version

ERSAR's website

Smartphone app

INFORMATION MANAGEMENT SYSTEM TO SUPPORT DATA SUBMISSION

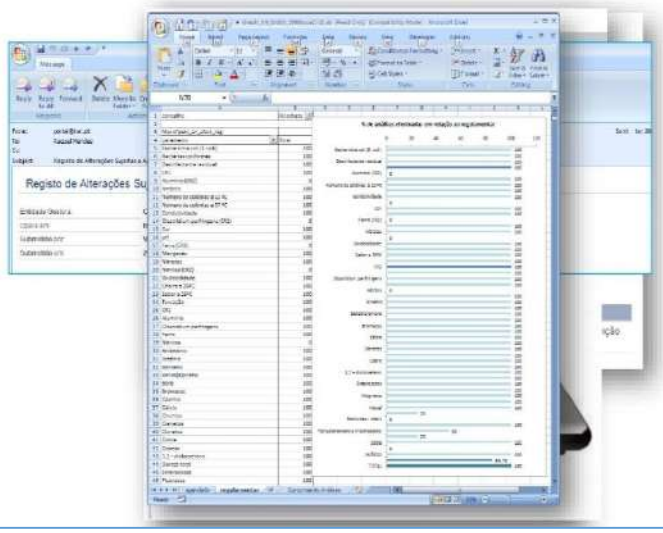
Establishment of an information management system (Portal ERSAR – online platform)

- An advanced and effective national information management system was implemented, linking ERSAR with the water utilities and the water suppliers, and, in future, with the Heath Authorities (Risk Analysis).

INFORMATION MANAGEMENT SYSTEM TO SUPPORT DATA SUBMISSION

Portal ERSAR – online platform

- Uniformization of information
- Data validation
- Configurable E-mail warnings
- Automatic reports
- Easy, fast and traceable communication
- Portable information



Conclusion

Q&A

CONCLUSION

The Portuguese water and waste regulator:

- Operates at **national level** (mainland)
- Regulates **all the utilities**, regardless the governance model (State-owned, municipal-owned and private utilities)
- Regulates with a **holistic approach**, based on a global and integrated regulatory model
- Guaranties **articulation** with other relevant authorities without overlapping:
  - Water resources
  - Public health
  - Competition
- Guaranties **transparency** and **stakeholders** participation (ex. consumers and utilities)

CHALLENGES

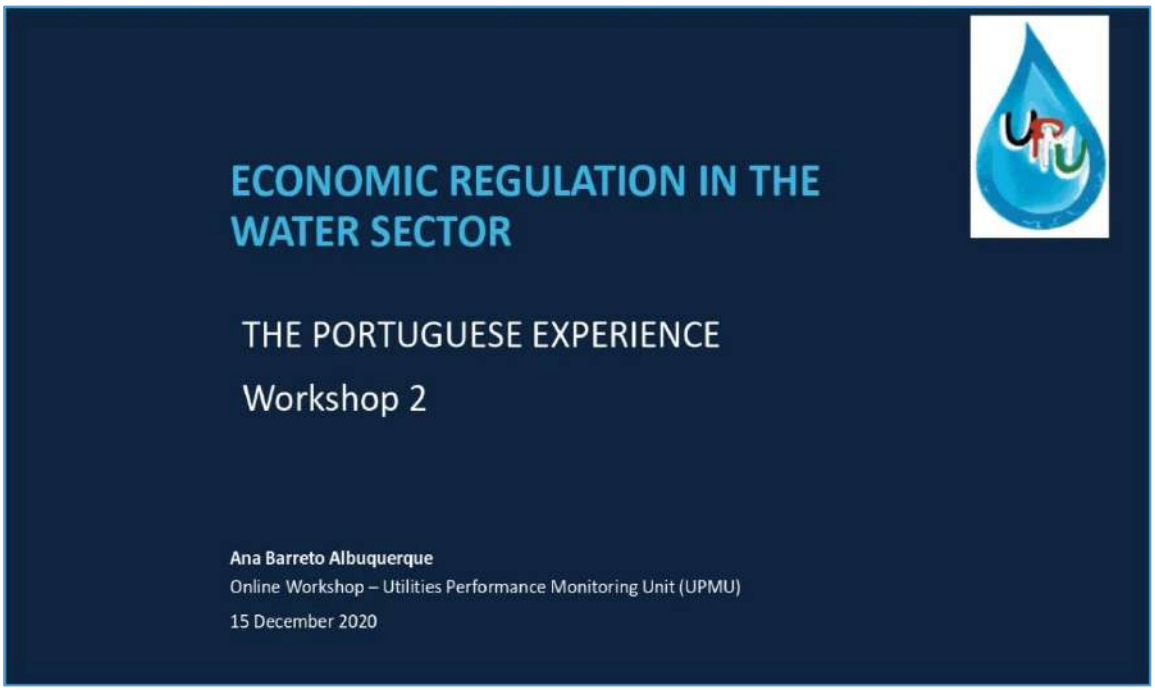
Portugal witnessed a huge evolution but there is a need for improvements in the management of current status:

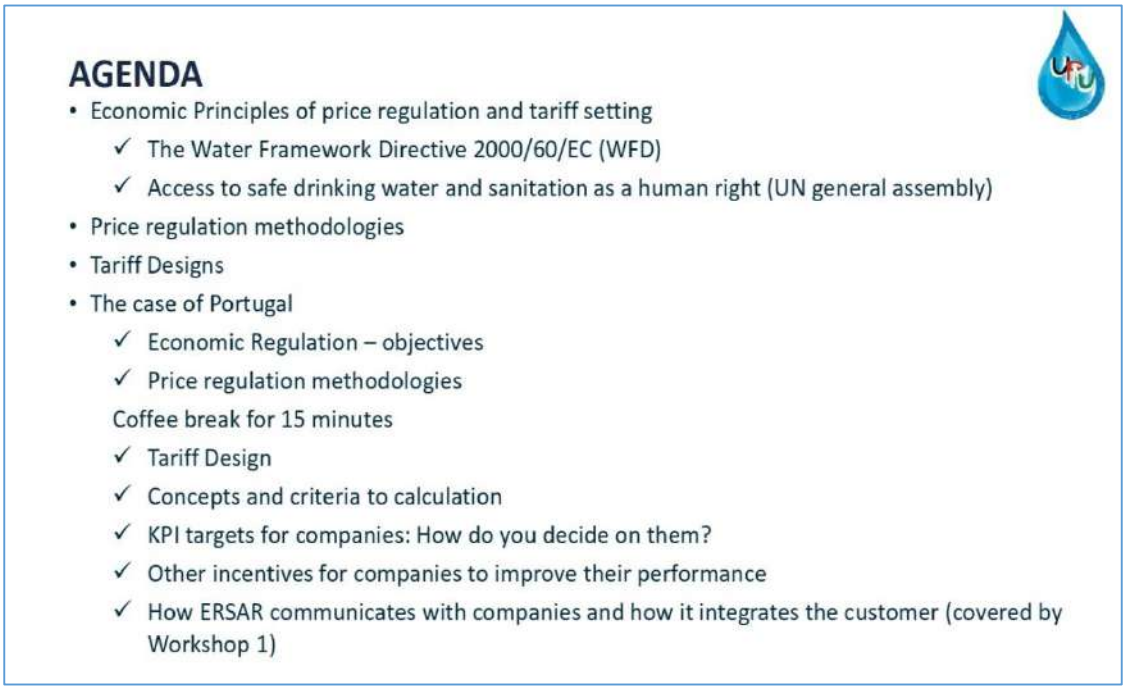
- Ensuring the **adequate maintenance of infrastructures**, through monitoring and incentive programs;
- Improving the "structural efficiency of the sector", in trying to find the **optimal scale of operation**;
- Improving the "operation efficiency of the sector", through **cost reduction and increase in productivity**;
- Ensuring the economical and financial sustainability of the sector and an **adequate cost recovery policy**.

THANK YOU VERY MUCH!

ana_barreto_albuquerque@hotmail.com

1.4.3 Workshop 2 (15th December 2020)





Economic Principles of price regulation and tariff setting

- *The Water Framework Directive 2000/60/EC (WFD)*
- Access to safe drinking water and sanitation as a human right (UN general assembly)

Price regulation methodologies

Tariff Design

ECONOMIC PRINCIPLES OF PRICE REGULATION AND TARIFF SETTING

UN general assembly

- Proclaimed access to safe drinking water and sanitation as a human right

Water Framework Directive 2000/60/EC (WFD)

- Stablished the principles of the new water resources management
- The purpose of this legislation was to became a reference point for the European countries
- Water pricing policies must provide adequate incentive for users to use water resources efficient and thereby contribute to the environmental objectives' of the WFD

Efficiency = Responsible consumtion

Equity

Cost recovery

WATER PRICING

Advantages	Disadvantages
• Provide **incentives for efficient water use and for water quality protection** • Charges send **appropriate price signals to users** about the relationship between water use and water scarcity • Pricing water **provides funds** for necessary infrastructure development and expansion • Water pricing ensures at the medium-long term that water services can be provided to all citizens at an affordable price	• There is **disagreement over the objectives** of water pricing and tariff design • Tariff setting is **a political process rife with controversy** • Tariff setting process is often **not transparent** • Tariff design is a **complex process** that need high volume of data • Water tariffs are often **difficult to understand for consumer**

Water pricing is an important economic instrument for improving water use efficiency, enhancing social equity and securing financial sustainability of water utilities and operators.

WATER PRICING AND SUSTAINABILITY

Water tariffs should be set to achieve:

There is a trade-off between these objectives, and different type of water tariff reaches some objectives better than others

PRICE REGULATION METHODOLOGIES

There are 4 main price regulation models, differing essentially in the focus to achieving their goal and the overall flexibility/risk relationship

Cost of service	Price cap	Revenue cap	Benchmark
➢ Focus on costs to provide service ➢ Usually includes an operator return (hence other names of rate of return and cost plus)	➢ Focus on price per unit of service provided ➢ Price path set for period ➢ Demand risk symmetry	➢ Focus on revenues required to efficiently provide service ➢ Operator more exposed to demand risk	➢ Focus on linking prices to other operators' performance ➢ Emulates competitive market conditions

PRICE REGULATION METHODOLOGIES

Cost based

COST OF SERVICE / COST-PLUS / RATE OF RETURN

- **Tariffs defined on the basis of annual budgets** that include all service provision costs
- **Guaranteed return to operator** included in the tariff, regardless of performance
- Deviation of operational and financing costs are subject to incorporation in tariff reviews – **risk shift to users**

Application

Best suited when **limited efficiency gains are available** and/or the **regulator can obtain sufficiently accurate and detailed information** on costs and demand

Assessment

Pros

- Prices closely reflect approved level of costs (should promote allocative efficiency)
- Capital investment attraction (guaranteed return)

Cons

- Potential for misrepresentation of costs (if information asymmetry between regulator and operator exists)
- Low incentive to efficiency
- Incentive to over-investment

PRICE REGULATION METHODOLOGIES

Cost based type options

Cost pass-through	• Costs are completely passed onto the consumers • Recommended only when costs are outsider operator's control	$P_t = (1 + CPI_t)P_{t-1}$
Sharing expected benefits (productivity improvements)	• Forecast of productivity improvements • Prices decrease regardless of operator productivity results	$P_t = (1 + CPI_t - X)P_{t-1}$
Dependent on quality of service	• To overcome the problems of cost incentive regulation • Based on the quality of service customers are willing to pay for	$P_t = (1 + CPI_t - X + QS)P_{t-1}$

PRICE REGULATION METHODOLOGIES

CAP methodologies

PRICE CAP

- **Tariff path is set** for a regulatory period
- **Costs** with service provision can be, to an extent, **dissociated from tariff** during period
- Basic form of model includes **rules for price path (typically inflation and efficiency adjustments)**
- **Further adjustments for efficiency** can by introduced at **end of period**

Application

Best suited for **sectors where demand can be significantly influenced by operator** and **cost structure of operators is inefficient and largely variable**

Assessment

Pros

- Incentive to improve cost efficiency
- Incentive to foster demand
- Allows more demand and cost risk borne by operator

Cons

- Incentive to lower quality of service
- Control of sub-caps requirement (avoid discrimination)
- Incentive to "cost reduction management" near end of regulatory period

PRICE REGULATION METHODOLOGIES

CAP methodologies

REVENUE CAP

- **Allowed revenues are set** for a regulatory period, the **implicit tariff derived from demand estimates**
- **Costs** with service provision can be, to an extent, **dissociated from tariff** during period
- Basic form of model includes **rules for revenue path (typically inflation and efficiency adjustments)**
- **Further adjustments for efficiency** can by introduced at **end of period**

Application

- Best suited for **maturing or very dynamic (technologically) markets**, where **cost structures are inefficient and largely fixed**

Assessment

Pros

- Incentive to improve cost efficiency
- Revenue is active restriction over price – less demand risk for operator vs price cap
- Can manage complex tariff structures

Cons

- Incentive to lower quality of service and reduce demand
- Incentive to "cost reduction management" near end of regulatory period

PRICE REGULATION METHODOLOGIES

YARDSTICK methodologies

BENCHMARK / YARDSTICK

- Full yardstick competition determines operators' prices on the basis of an **index of the performance of other operators**
- **Productivity gains within the sector are estimated ex-ante** and compared with actual operator performance at end of period – **deviations are reflected on price**

Application

- Best suited to economic landscape where **operators provide similar services** and face equally **similar cost and demand conditions**

Assessment

Pros

- Mimics the workings of competitive markets

Cons

- Substantial information requirements
- Similarity of conditions to operators requirement

PRICE REGULATION METHODOLOGIES

YARDSTICK methodologies

Benchmarking techniques

- Comparison of single cost items
- More sophisticated methods to estimate the *efficient company*
  - *Stochastic Frontier Analysis*
  - *Data Envelopment Analysis*

- Move to the frontier (individual efficiency improvement factor) vs move of the frontier

TARIFF DESIGN

Different approaches

Linear (uniform fixed tariff/ uniform variable tariff / two component)	➢ Simplest approach, facilitates communicating to users ➢ Doesn't discriminate users on income – social equity ➢ Independent from consumption - lacks disincentive to excessive consumption
Increasing Block Tariff	➢ Favours low income households, which are subsidized ➢ Promotes water conservation ➢ Penalizes large family households/shared connections (heavier overall consumption even if per capita is not)
Decreasing Block Tariff	➢ Encourages consumption ➢ Does not penalize heavy users if water is abundant ➢ *Seen as not sustainable from social and environmental standpoints*

!

No consensus on better alternative.

A hands-on approach is recommended as **only field testing can indicate what option works**

LOW INCOME CONSUMERS

Regulatory answers

- **Social tariffs** - a reduction on tariffs to lower income groups (reduction is cross-subsidized by other customers or paid by the municipality)
- **Disconnection ban on water companies** (being tested in Portugal) - operators are allowed to reduce provision to a basic daily amount / reduce pressure)
- **Social Fund on Water** (mechanism applied in Belgium/Walloon Region) - tariffs include a special additional charge which feed the Social Fund. The fund is used to pay the bills of lower income households not able to pay *
- **Subsidies through the General Social System**
- **Progressive tariffs** – tariffs per m^3 consumed increase according to consumption blocks (households consuming less are paying lower unitary rates – usual below cost - as compared to households consuming more – above cost to compensate the difference)

* Portugal has a similar mechanism to deal with large asymmetries on tariff (for specific regions and only for bulk operators).

The case of Portugal

- *Role of Economic Regulation*
- *Price regulation methodologies*
- *Tariff Design*
- *Concepts and criteria to calculation*
- *KPI targets for companies: How do you decide on them?*
- *Other incentives for companies to improve their performance*
- *How ERSAR communicates with companies and how it integrates the customer (covered by Workshop 1)*

ROLE OF REGULATION

GOALS OF REGULATION

Consumer protection	Protection of user's interests (access to the service, quality of service and pricing)
Water operator protection	Contribution to the economic sustainability of the operators and their interests
Environmental protection	Contribution to the environmental sustainability (impacts on water, air and land)

ECONOMIC REGULATION

Objectives

Different regulated operators have different objectives

- Operators whose goal is to improve economic and financial results (**Excessively high tariffs/ reflecting monopoly power**)

vs

- Operators whose goal is to define low tariffs for end-users (**Excessively low tariffs**)

The main goal of a good regulation system is the alignment of the decisions of regulated operators with the best possible decisions from a societal perspective regarding tariffs, and expansion, renovation and maintenance investments

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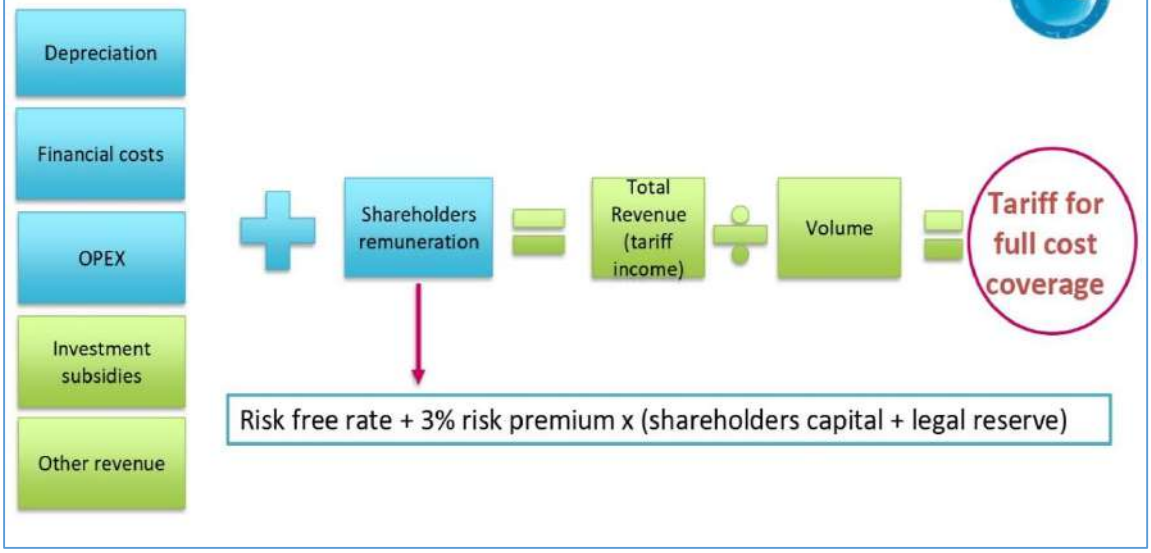
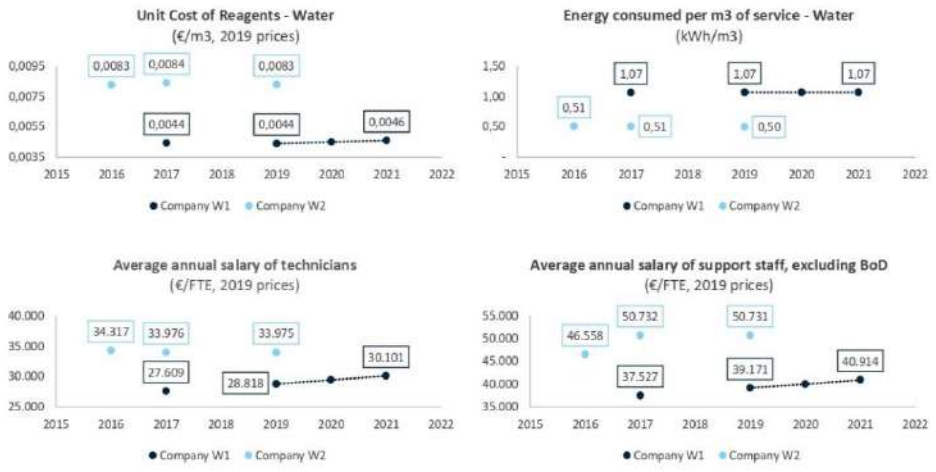
Price regulatory model: Cost of service



Efficient operating costs: mandatory metrics from 2019 onwards – Water



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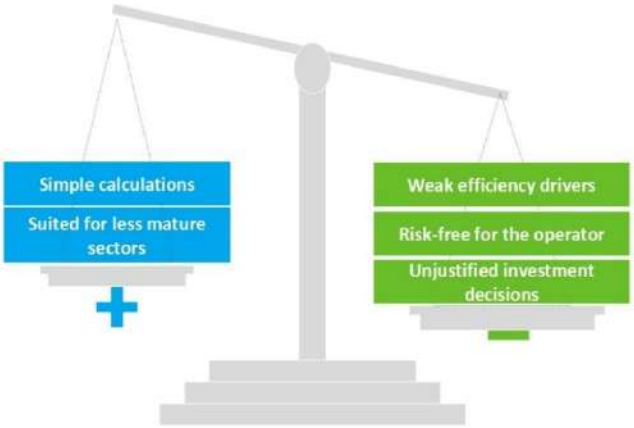
PRICE REGULATION METHODOLOGIES

Evolution of the regulatory model | Cost Plus Model

Key highlights

- Tariffs defined annually on the basis of annual budgets that include all service provision costs
- Deviation of operational and financing costs, and investments included in the tariff (lack of a risk matrix)
- Return on capital guaranteed by contract, regardless of performance (based on share capital interest rate + legal reserve)
- Uneven financing structures and high tariff dispersion

Advantages /Disadvantages



PRICE REGULATION METHODOLOGIES

Evolution of the regulatory model | Revenue Cap Model

Revenue cap

Freedom but more risks

Price cap

PRICE REGULATION METHODOLOGIES

Evolution of the regulatory model| Revenue Cap Hybrid Model

Objectives of the new model

- Efficiency incentives
- Ensure service quality (based on ERSAR's indicators)
- Ensure public service obligations (continuity, etc.)
- Transparency and stability

Tools of the new model

- Price fixing model
- Adequate return on investment rate
- Incentives for meeting the targets set

Cost reduction | Improve financing conditions | Invest

$$Tariffs = \frac{OPEX\ efficient + Incentives + Return\ Rate\ x\ RAB + Depreciation}{Quantities}$$

Incentives for responsible consumption

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PRICE REGULATION METHODOLOGIES

ERSAR's regulatory landscape

Portugal is a melting pot of regulatory applications within the water supply, sanitation and waste management sectors:

Basic Model	Ownership	Operator	Manag. model	Tariff set. method
Cost of service	Public (State)	Public	Concession	Budget & Tariff project (OPT)
	Public (Municipality)	Public	Direct	Tariff formation (FT)
Price cap	Public (Municipality)	Private	Concession	Tariff Review Cycle (CRT)
	Public (Municipality)	Public	Delegation	Tariff Review Cycle (CRT)
Revenue cap	Public (State)	Private (Municipality %)	Concession	Allowed Revenue Cycle (PP)

TARIFF DESIGN

ERSAR's guidelines

ERSAR has long since looked to eliminate disparities between tariff structures, often so complex or dissociated from reality that they are hardly efficient

1	Recommendation 1/2009	Structure Guidelines > Set cost recovery as cornerstone for structure definition > Harmonize structures between operators countrywide
2	Recommendation 2/2010	Calculation Guidelines > Set concepts/criteria essential to harmonize tariff setting > Harmonize translation process to a tariff structure

TARIFF DESIGN

Recommendation 1 | Fundamental aspects of tariff to end-user

What to take into account when designing a tariff structure?

GOALS

- Harmonizing tariff structures
- Caution mechanisms for tariff moderation
- Provide greater understanding by users
- Enable direct comparability of tariffs

GENERAL PRINCIPLES

- Sustainable cost recovery
- Avoid cross-subsidization
- Protection of user interests
- Affordability of the service
- Sustainable use of water resources

TARIFF DESIGN

Recommendation 1 | Cost recover principle

Promote "efficiency" to reduce costs and, therefore, tariffs (important role of regulation)

This option is recommended by the European Directive (user-pays principle), promoting equity and awareness of good water use.

Option to be used when necessary, as it allows to reduce costs to the consumer, although it contradicts the user-pays principle.

Option to be used whenever possible, as it reduces consumer costs (eg EU funds).

The reduction of T1, at the expense of T2 and T3, should be a political decision of the competent authorities, taking into account the need for tariff moderation.

TARIFF DESIGN

Recommendation 1 | Cost recover principle

Construction and operation costs must be covered:

$$Tariffs = \frac{OPEX\ efficient + Incentives + Rate\ of\ Return * Regulated\ asset\ base + Depreciation}{Quantities}$$

Cost recovery enables:

- Operator's sustainability
- Sustain and improve the quality of service
- Expansion and retrofitting of the systems
- Intergenerational responsibility

$$\frac{\text{Total revenue (€/year)}}{\text{Total costs (€/year)}}$$

TARIFF DESIGN

Recommendation 1 | Basic Structure

Ensure an adequate tariff structure:

Various types of tariffs can be used, all of which are capable of generating the necessary revenues to cover the costs.

Tariffs (T1)

- **Only availability tariff** (fixed component) — It does not reflect on the consumer the quantity consumed, encouraging waste and issuing the wrong signal from an environmental point of view
- **Only usage tariff** (variable component) — It does not have an equal impact on costs for all consumers, benefiting those who have more than one dwelling over other single dwellings owners
- **Availability tariff** (fixed component) + **Usage tariff** (variable component) — Fairer solution for consumers

The abolition of the fixed component (≈ 30% of revenue) would lead to an increase in the variable component, in order to financially rebalance the provision of services!

TARIFF DESIGN

Recommendation 1 | Basic Structure | Fixed Component (example)

Consumer A led the company to invest in the infrastructure of a single housing

Consumer A, consuming the volume V1, would pay P1, against the existing tariff

Consumer B forced the company to invest in the infrastructure of three housing units

Consumer B, consuming the volume V2 = V2a + V2b + V2c = V1, would pay P2 <P1, due to progressive blocks

That is, for an equal total consumption, Consumer B, which forced society to invest in the infrastructure of three dwellings, will not pay more, as it should, nor even pay the same, but will pay less than Consumer A, creating a situation of total lack of equity!

The absence of a fixed component in a tariff structure would unfairly benefit 25-30% of households (with more than one housing), subsidized by the remaining (single housing) households.

TARIFF DESIGN

Recommendation 1 | Basic Structure | Structure of costs vs Tariff structure

	Current cost structure	Current tariffs structure
Fixed costs ("Bulk" + "Retail"	75%	33%
Variable costs ("Bulk" + "Retail")	25%	67%
Fixed tariff		6,05 €/ month
Variable tariff		1,19 €/m3

Tariff structure should reflect the cost structure

Sometimes not possible due to environmental reasons

TARIFF DESIGN

Recommendation 1 | Basic structure | Fixed component

	Domestic users	Non-domestic users
Fixed component	➢ Single rate, applicable to connections under 25 mm diameter	➢ 5 rate bands, based on connection diameter ➢ First rate band tariff should be higher than domestic users'

TARIFF DESIGN

Recommendation 1 | Basic structure | Variable component

	Domestic users	Non-domestic users
Variable component	➢ No "zeroed" block tariffs – distorts incentive to conservation by eliminating progressiveness of charge ➢ **1st block (<5 m³/month)** (~25 a 45% of users) — *Social protection* **2nd block (5-15 m³/month)** (~30 a 60% of users) — *Cost recovery* **3rd block (15-25 m³/month)** (~10 a 20% of users) — *Cost recovery* **4th block (>25 m³/month)** (~0 a 10% of users) — *Environment protection*	➢ Single rate, identical to 3rd block of domestic users

TARIFF DESIGN

Recommendation 1 | Variations/Addons

Availability tariff (fixed component) + **Usage tariff** (variable component)

- **Social tariff** for low income families
- **Family tariff** for large families
- **Seasonal tariff** in tourist areas with water shortages

+

- **Prohibition of autonomous collection of activities inherent to the normal provision of services** (water meter, connection lines, etc.)
- **Prohibition of various existing distortions** ("zeroed" blocks, oversized counters, etc.)

TARIFF DESIGN

Recommendation 1 | Variations/Addons

SOCIAL TARIFF

- To promote adequate **support to lower income households**, a social tariff can be put in place
- **Economic accessibility indicator** should determine charge threshold below which tariff is applicable
- **Annual water charges for 120 m^3 consumption should not exceed 0,5% of household income** – if so, applicable families should be beneficiaries
- **Social tariff could translate into**:
  - **Elimination of fixed component** of tariff
  - **Mark-down of variable component** rate
  - **Both** of the above

LARGE FAMILY TARIFF

- To promote **effective equality between households**, the **number of persons using one given connection** should be **factored in the variable block rates**
- Large family tariff should result in the **adjustment of the rates for the various consumption blocks of the tariff structure**, taking into account size of household
- **Potential beneficiaries** of large family tariff should **make proof of household number**, renovating certificate every 3 years

TARIFF DESIGN

Recommendation 1 | Variations/Addons

WATER RESOURCE TAX

- In **recognition of the scarcity** of water as natural resource, **environmental taxes on consumption** can be levied
- By emphasizing the economic cost of water, **conservation measures can be promoted** with this revenue stream
- **In the Portuguese case,** the WRT (or TRH) reflects cost associated with 6 components:
  - Scarcity
  - Pollution
  - Treatment (Innert materials)
  - Area occupied
  - Water volume used (2) (abstraction and distribution)

Assessment

Pros

- Promotes water conservation
- Gathers funding to invest in infrastructure or ensure sustainability of operator model

Cons

- May impose additional barriers to economic accessibility

TARIFF DESIGN

Recommendation 1 | Tariff Structure summary

Type of Tariffs and Type of Users

Tariff Structure		
Tariffs	Fixed tariff	cover subscription costs
	Variable tariff	cover the costs of providing the services
	Auxiliary services	upon request, or breach of contract by the user user must be subject to specific billing
Users	Domestic	residential customers
	Non-domestic	includes local authorities, State, State owned companies and municipally owned companies

TARIFF DESIGN

Recommendation 1 | Tariff Structure summary

Special tariffs (Social and Numerous Families)

Users	Special Tariffs	Observations
Domestic users	Social (low incomes)	Fixed tariff exemption
	Numerous families	Extension of the blocks (WS+WW)
Non-domestic users	Private social solidarity institutions	Must not be lower than tariffs applied to domestic users
	Non-governmental organizations	
	Other entities	

TARIFF STRUCTURE

Recommendation 2 | Concepts and criteria to calculation

- Recommendation n.2 is focused on the clarification of tariff setting aspects and their impact in the development of a simple, sustainable and effective tariff structure
- The two-sided approach can be summarized as follows:

Calculation of the true cost of service

Levels	Services provided by the operator´s					
1º	WATER SERVICES + WASTE SERVICES					OAS
2º	WATER SERVICES			WASTE SERVICES		OAS
3º	WATER SUPPLY	WASTEWATER		WASTE		OAS
4º	WS	WW	RW	W	SC	OAS

OAS – Other activities and services
RW – Rainwater
SC – Street cleaning

Definition of sources of funding

Tariff setting and structure

The case of Portugal

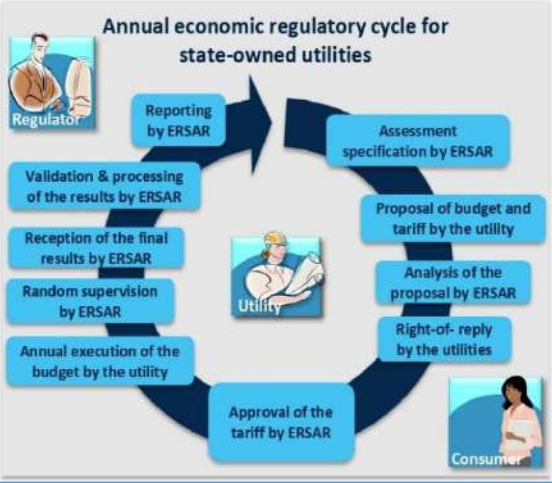
- *Economic regulation cycles*

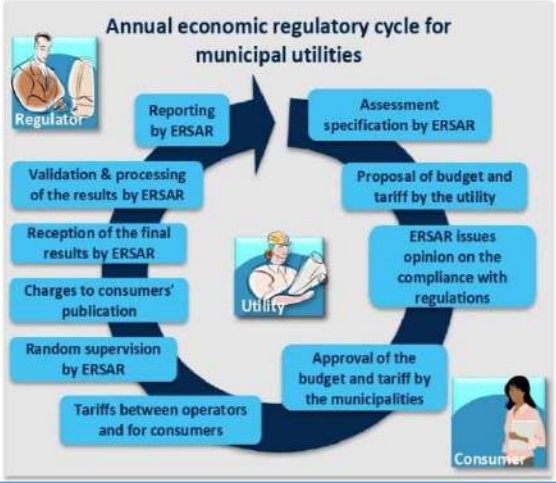
ECONOMIC REGULATION

Regulation Cycle

- Promotion of **efficient and affordable tariffs**

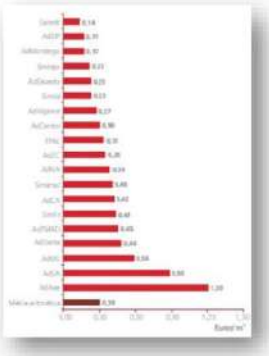
- Promotion of the **economic & financial sust** of the utilities





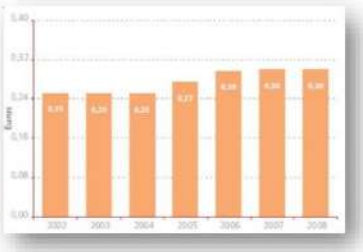
REGULATION CYCLE

Annual assessment of the economic performance for each utility



Annual benchmarking between utilities regarding the economic performance

Assessment of the evolution for the economic performance



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TARIFF REVIEW

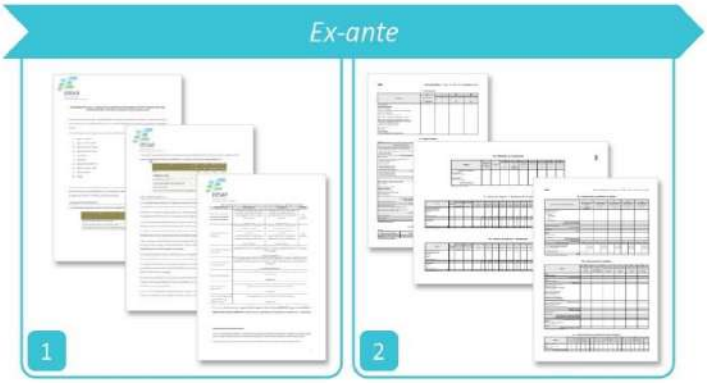
ERSAR's regulatory landscape

Tariff setting method	Regulatory period	Review procedures
OPT Budget & Tariff project	Annual	➢ **Every year the tariff is subject to tariff setting procedures** ➢ **Cases exist** (bulk water supply and sanitation) where **cost recovery is guaranteed** (metrics set by regulator): annual report to ERSAR for analysis/validation – **Costs incorporated in future tariffs**
FT Tariff formation	Annual	➢ **Every year the tariff is subject to tariff setting procedures** ➢ No adjustment to tariff of previous year is considered
CRT Tariff Review Cycle	**5 years** (Delegations) **Contract** (Concessions)	➢ In the case of **delegations**, with the exception of every 4th year (which is tariff path setting year), operator submits tariff proposal to ERSAR for **compliance validation with 5 year path** ➢ In **concessions**, every year operator submits proposal to ERSAR for **compliance validation with contract (RPI or customized index*)**
PP Allowed Revenue Cycle	**3 years** (5 legally possible)	➢ **Every year operator** submits report of **"real regulated accounts"** ➢ **Regulator analyses for compliance** with tariff regulation and **calculates adjustment to previously allowed revenue**

TARIFF SETTING

ERSAR's regulatory landscape | Budget & Tariff Project (OPT)

Operators with tariffs set under the OPT method follow, with few exceptions, a two-step process: one where cost of service is estimated and another where real costs are assessed and deviations evaluated for incorporation in future tariffs



1. ERSAR **publishes key efficiency metrics** that operators take as guidelines to their cost proposals
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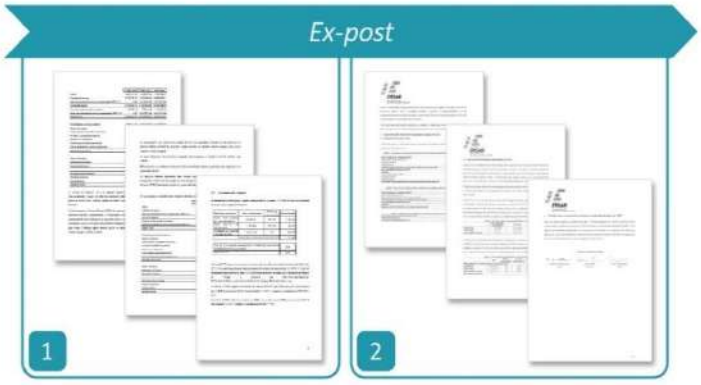
TARIFF SETTING

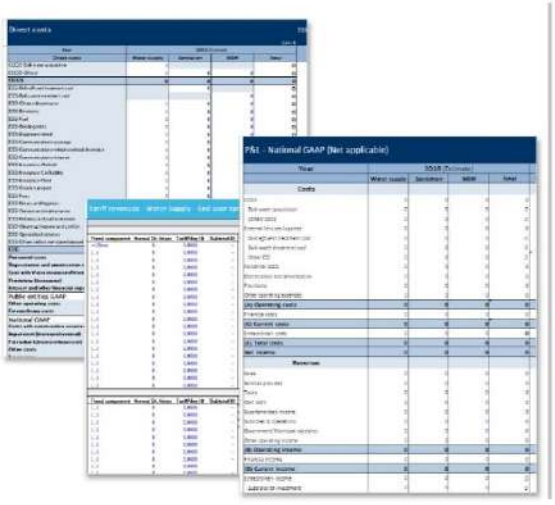
ERSAR's regulatory landscape | Budget & Tariff Project (OPT)



1. Operators submit **annual report along with justified requests to consider specific costs that did not conform to metrics**
2. ERSAR **issues decision on final cost of service** and **calculates incorporation of deviations in subsequent tariffs**

TARIFF SETTING

ERSAR's regulatory landscape | Tariff Formation (FT)



- The Tariff Formation **methodology was developed for the particular case of municipality owned, directly operated services** under ERSAR's regulatory scope
- The **tool developed for operators' reporting looks to**:
  - **Promote analysis competences** within the organizations (complemented with further documentation with reporting guidelines and clarifications)
  - **Provide operators** with an **objective measure of the sustainability** of the tariffs being set
  - **Harmonize tariff structures** among the many operators

TARIFF SETTING

ERSAR's regulatory landscape | Tariff Review Cycle (CRT)

- The Tariff Review Cycle methodology is **applicable to the corporations operating under municipal ownership: both delegations and concessions**
- **Both types** of entity are **supported** in **contract form** as well as by the corresponding **financial model**
- In these cases, **tariff setting reporting does not need to follow a strict structure** – ERSAR analyses all documentation and issues opinion
- **While in concessions** the tariff review **procedure and formula are precisely defined for its duration, delegations** are only **committed to 5 year tariff path**

AFFORDABILITY

Affordability Indicator

$$\frac{\text{Average tariff charges (€/year/120 m}^3\text{)}}{\text{Average income per family (€/year)}}$$

- Good affordability
- Average affordability
- Poor affordability

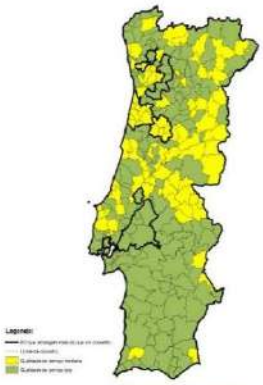
!

Affordability principle
basic water consumption threshold (120m^3) equates to an **annual charge no higher than 0,5% of the household disposable income**

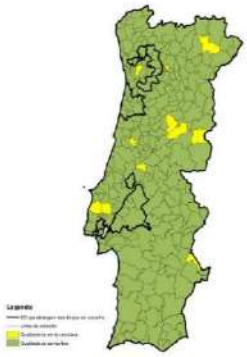
AFFORDABILITY

Current Status Quo

Current levels of affordability allow for an increase in tariffs



Water Supply

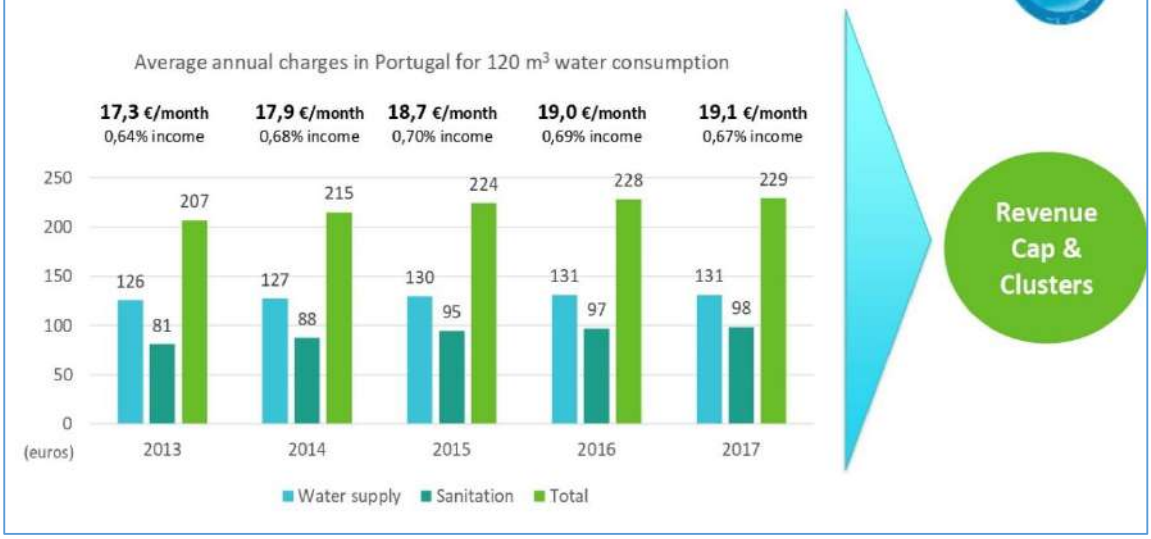


Wastewater Management

AFFORDABILITY

Current Status Quo

Average annual charges in Portugal for 120 m³ water consumption



Revenue Cap & Clusters

Final considerations

- Economic regulation is very important in this sector because tariffs should be efficient, sustainable and affordable
- The economic regulation model should be adapted to the maturity of the sector
- The rules should be clear for all the stakeholders

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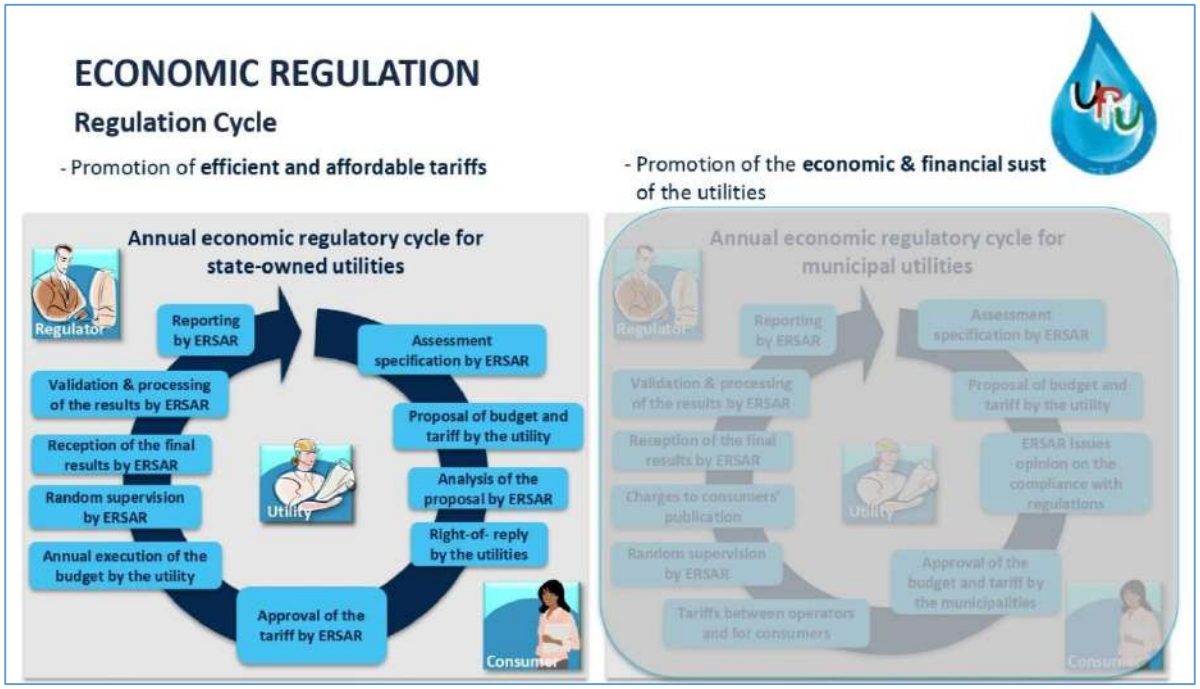
THANK YOU VERY MUCH!

ana_barreto_albuquerque@hotmail.com

1.4.4 Workshop 3 (10th February 2021)



TARIFF SETTING

ERSAR's regulatory landscape | Budget & Tariff Project (OPT)

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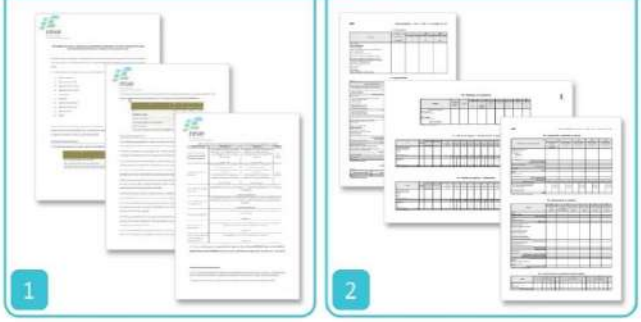
Ex-ante (t-1)



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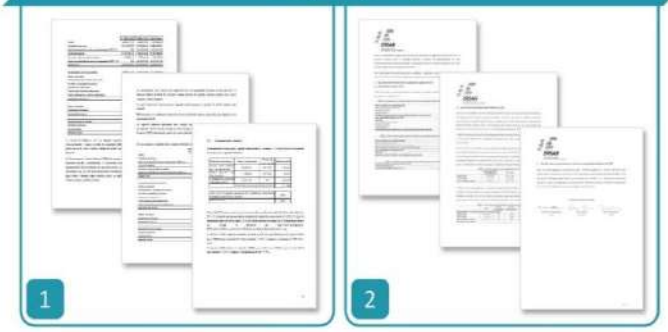
TARIFF SETTING

ERSAR's regulatory landscape | Budget & Tariff Project (OPT)

Ex-post (t+1)



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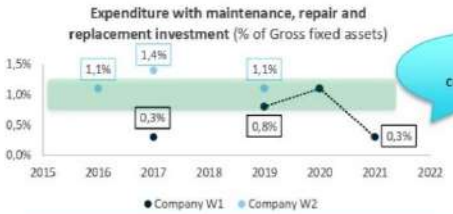
Efficient operating costs: mandatory metrics from 2019 onwards – Water

5

Efficient operating costs: mandatory metrics from 2019 onwards – Water



Operating unit cost not a mandatory efficiency metric but important to keep track of overall operating costs

Non-compliance with efficiency metrics leads to reduction of contractually guaranteed remuneration!

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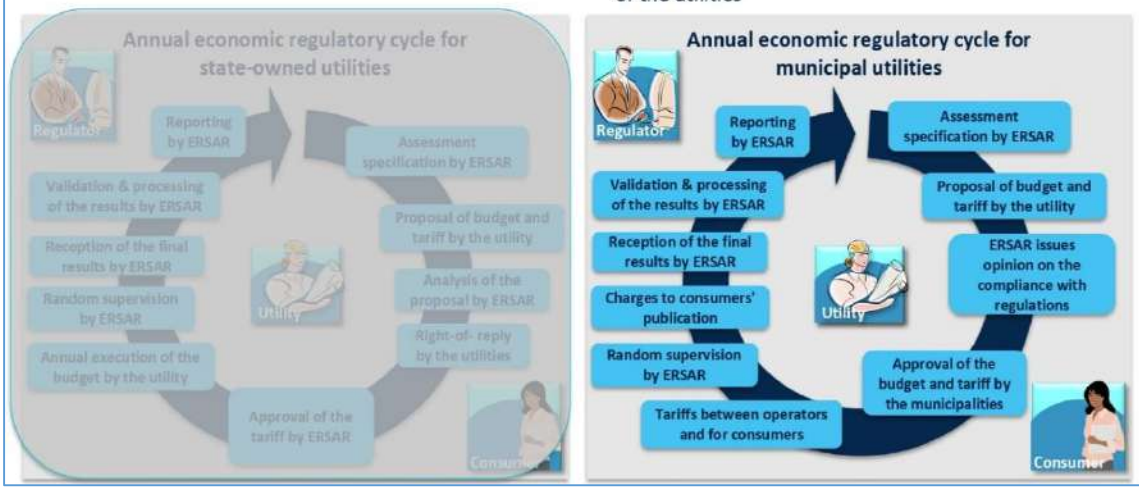
ECONOMIC REGULATION

Regulation Cycle

- Promotion of **efficient and affordable tariffs**

- Promotion of the **economic & financial sust** of the utilities



ECONOMIC REGULATION

Regulation Cycle

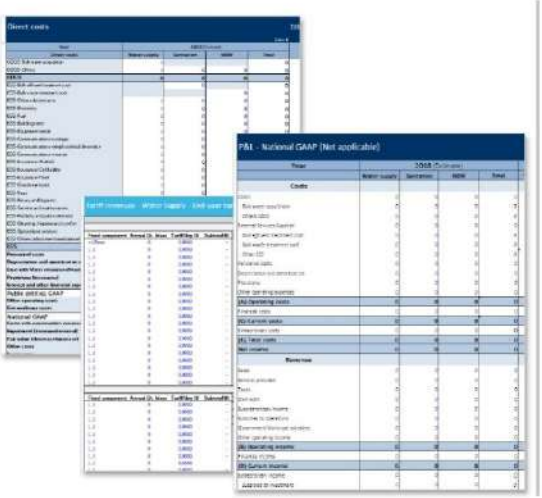
Annual cycle of tariff revision of municipal services (directly managed)

WHO:	WHEN (Ex-ante):	MUST :
Operator	Until October 15 (date established to guarantee the approval of the tariff until the end of the year)	Send the tariff proposal for the following period to ERSAR to issue an opinion
	After ERSAR's opinion, the approval by the municipality of the tariffs for the following period	Send the tariff, together with the resolution approving it, within 15 days

- **Every year the tariff is subject to tariff setting procedures**
- **No adjustment to tariff of previous year is considered**

TARIFF SETTING

ERSAR's regulatory landscape | Tariff Formation (FT)



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  - **Harmonize tariff structures** among the many operators

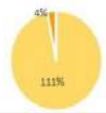
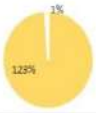
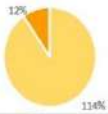
ERSAR'S NON BINDING OPINION MODEL

Cost recovery information

Unit costs

CAPEX

Quality assessment indicators

Sustentabilidade e eficiência	AA	AR	RU
Cobertura dos gastos	115%	124%	126%
Cobertura total dos gastos (por fonte de proveito)			
Cobertura dos gastos por via tarifária			
Cobertura dos gastos por via de outros rendimentos e subsídios ao investimento			
Custos unitários de exploração	0,64 €/m3	0,80 €/m3	120,04 €/t

Necessidades de investimento	AA	AR	RU
Investimento previsto realizar em 2021	403.000 €	345.000 €	363.990 €
em % do Imobilizado bruto 2019	22,73%	46,94%	26,39%
Novos investimentos (em % do investimento previsto)	71%	52%	100%
Investimentos de subs./reabilitação (em % do investimento previsto)	29%	48%	0%
Indicadores AQS 2019			
Acessibilidade física do serviço - AA01b (%)	100		
Ocorrência de falhas no abastecimento - AA03b (n.º/1000 ramais.ano))	0,8		
Água não faturada - AA08b (%)	11,2		
Reabilitação de condutas - AA09b (%/ano)	0,2		
Ocorrência de avarias em condutas - AA10b (n.º/(100 km.ano))	8		
Perdas reais de água - AA12b (l/(ramal.dia))	217		
Acessibilidade física do serviço através de redes fixas - AR01b (%)		100	
Ocorrência de inundações - AR03b (n.º/1000 ramais.ano))		0	
Reabilitação de coletores - AR07b (%/ano)		0,2	
Ocorrência de colapsos estr. em coletores - AR08b (n.º/(100 km.ano))		0,00	
Acessibilidade física ao tratamento - AR11b (%)		100	
Controlo de descargas de emergência - AR12b (%)		10	
Acessibilidade física do serviço - RU01b (%)			82
Renovação do parque de viaturas - RU11b (Kms/viatura)		-	135.470

AFFORDABILITY

Affordability Indicator

Affordability Indicator

Tariff structure alignment with ERSAR's guidelines

Other

Encargos tarifários	AA			AR			RU		
	2020	2021	% var.	2020	2021	% var.	2020	2021	% var.
Encargos anuais consumo 10m³	88,83	88,28 €	-0,6%	126,00 €	105,12 €	-17%	82,03 €	82,45 €	0,5%
Acessibilidade económica	0,23%	0,23%		0,33%	0,28%		0,21%	0,22%	

Conformidade da estrutura tarifária	Recomendações 1/2009 e 2/2010 [1]		Regulamento Tarifário do Serviço de Gestão de RU (RTR)
	AA	AR	RU
Utilizadores domésticos			
Tarifa de disponibilidade			
Tarifa variável			
Utilizadores não domésticos			
Tarifa de disponibilidade			
Tarifa variável			
Serviços auxiliares			

[1] *Dado o carácter não vinculativo das Recomendações a avaliação apresentada para os serviços de AA e AR não constitui incumprimento legal*

Conformidade - outros aspetos	AA	AR	RU
Repercussão de taxas ambientais (TRH - AA e AR; TGR - RU)			
Financiamento do tarifário social			art.º22 do RTR

Legenda:
- Avaliação boa
- Avaliação mediana
- Avaliação insatisfatória
- Não validável, não aplicável ou não respondeu

ECONOMIC REGULATION

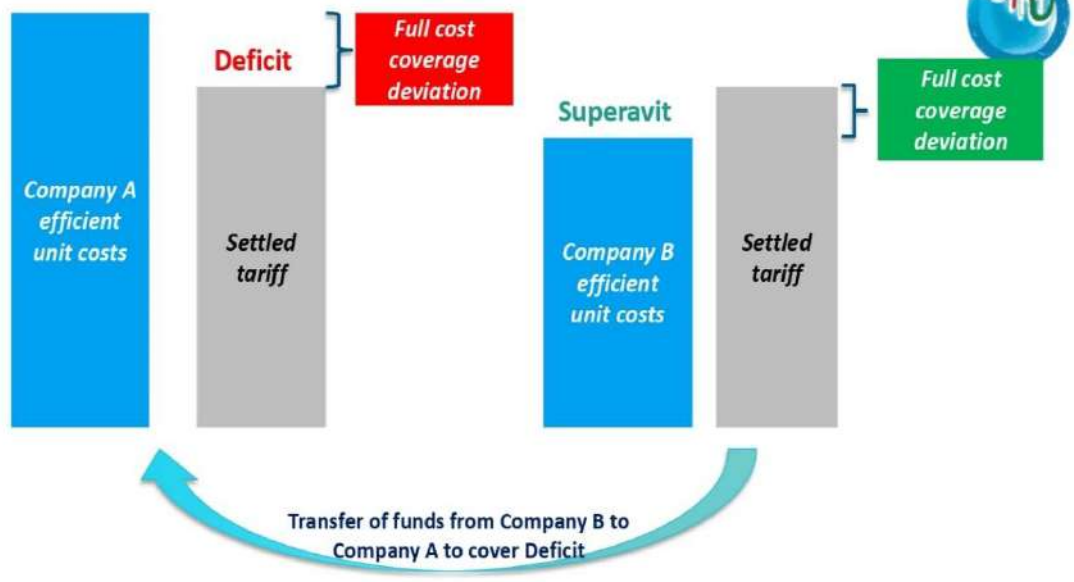
Regulation Cycle

➢ Approval and reporting of accounts (municipal services)

WHO:	WHEN:	MUST:
Operator	Until March 30 (Companies) or April 30 (Municipalities)	Approve the accounts for the previous year
	Until April 30 (all municipal operators)	Report the accounts for the previous year to ERSAR

How to set a "national" tariff in a country with more than one operator and different units costs per m^3?

METHODOLOGY TO SET "NATIONAL" TARIFFS




THANK YOU VERY MUCH!
ana_barreto_albuquerque@hotmail.com

1.5 Training UPMU Experts on monitoring tool by Sascha Stumpe (26th January 2021)

Agenda Workshop UPMU 26.01.2021

1. **Consolidated sheets** (Aqaba, Miyahuna, Yarmouk)
    a. Login and user rights.
    b. Brief overview of main functionalities and structure of the tool.
    c. Quarterly and annual data as entered by the utilities, and sorting of data.
    d. Quarterly and annual indicators (how to navigate, how to export them to Excel for further analysis).
    e. Data validation through comparison of quarterly and annual data.
    f. How to prepare and maintain the sheets (lock/unlock cells, delete cells, hide rows).

2. **Master workbook**
    a. Brief overview of main functionalities and structure of the tool.
    b. How to import data from the consolidated sheets?
    c. Visualization of indicators through charts, how to customize charts in the tool and how to export charts to WORD or PowerPoint.
        - Static analysis (how to navigate, how to switch reporting years)
        - Dynamic analysis (how to use the filter functions, Excel exports, Screenshots)

3. **Q&A**

1.6 UPMU work plan

1.6.1 Organizational Planning workshop

Workshop on Organizational Planning

Towards an Annual Regulation Cycle

Dirk Schäfer, Prof. Dr. Mark Oelmann

MOcons

Amman/Singapore/Muelheim, 31st May 2021

Agenda

1. UPMU mandate and recap of past workshops
2. Annual Regulation Cycle Overview
3. Scheduling the different tasks
4. Annual Regulation Cycle: Questions on sequencing

MOcons

Amman/Singapore/Muelheim, 31st May 2021 1

1. UPMU mandate and commemorating past workshops

Mandate

- **Monitor the performance** of companies owned by WAJ (fully or partially) and **issue performance reports**.
- **Set and develop the KPI** baselines and mechanisms for their calculation, and to **compare and evaluate performance** of companies on their basis.
- **Develop and review** the **needed documentation to establish companies** and their task/ duties development (Development and delegation agreements, Establishment Contract and Internal Bylaw).
- **Issue** the basis and general evidence which outline the frameworks for the development of internal working **guidelines and procedures**, such as the staff guidelines, financial guidelines and others.
- **Review** and **accredit (approve)** company **business plans,** set targets in cooperation with companies and in accordance with water policies.

1. UPMU mandate and recap of past workshops

Past workshops

2. Annual Regulation Cycle Overview

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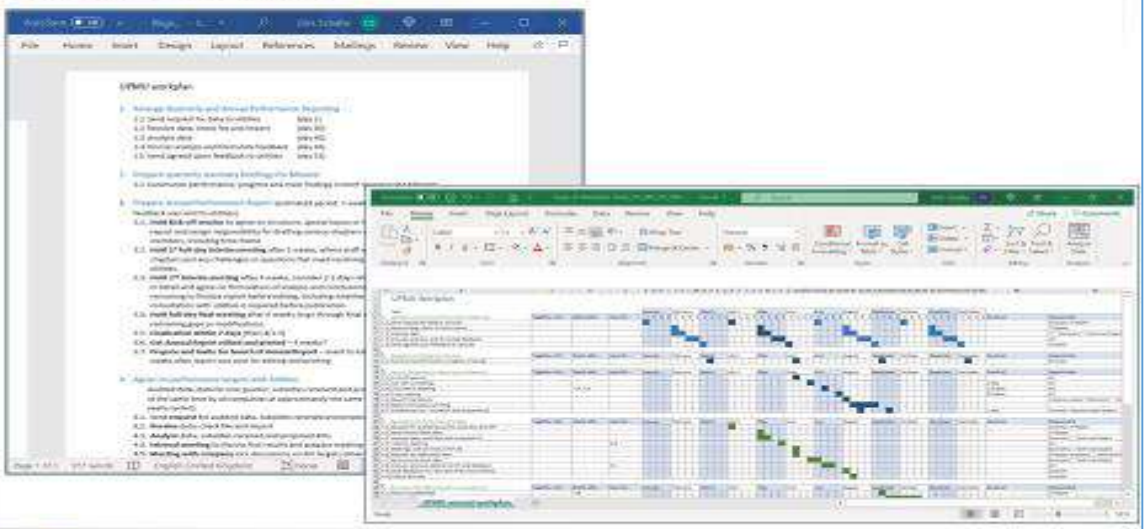
3. Scheduling the different tasks

See Excel and Word-files



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4. Annual Regulation Cycle: Questions for sequencing

Clarify the following topics:

- Are any topics missing?
- Do you agree on the overall sequencing of tasks?
- Do you agree on the time spans allotted to different tasks?
- Do you agree to the interlinkages between different tasks?
- Responsibilities for the different tasks to be verified

Particular questions concerning sequencing

- When can you expect audited accounts?
- When can you expect a statement on subsidies granted to companies?
- Do you have periods during a year when employees are absent?

Further support on operational planning part of next consulting assignment, but could schedule follow-up meeting by mid June if specific questions arise from internal discussions

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1.6.2 UPMU work plan

UPMU work plan

1. Arrange Quarterly and Annual Performance Reporting
   1.1 Send request for data to utilities (day 1)
   1.2 Receive data, check file and import (day 30)
   1.3 Analyse data (day 40)
   1.4 Discuss analysis and formulate feedback (day 45)
   1.5 Send agreed upon feedback to utilities (day 51)

2. Prepare quarterly summary briefings for Minister
   2.1 Summarize performance, progress and main findings in brief report to the Minister

3. Prepare Annual Performance Report (estimated period: 7 weeks plus editing, starting after feedback was sent to utilities)
   3.1. **Hold kick-off session** to agree on structure, special topics or highlights to be covered in the report and assign responsibility for drafting various chapters or sections to individual staff members, including time-frame
   3.2. **Hold 1st full-day interim meeting** after 2 weeks, where staff members present current draft chapters and any challenges or questions that need resolving internally or in discussion with utilities.
   3.3. **Hold 2nd interim meeting** after 4 weeks, consider 2-3 days retreat, to discuss advanced draft in detail and agree on formulation of analysis and conclusions. Agree on work packages remaining to finalize report before editing, including whether any verification or consultation with utilities is required before publication.
   3.4. **Hold full-day final meeting** after 6 weeks to go through final draft report and agree on any remaining gaps or modifications.
   3.5. **Finalization within 7 days** (then 4/1.3)
   3.6. **Get Annual Report edited and printed** – 4 weeks?
   3.7. **Prepare and invite for launch of Annual Report** – event to take place approximately 6 weeks after report was sent for editing and printing

4. Agree on performance targets with Utilities
   Audited data, data for one quarter, subsidies received and proposed KPIs should be delivered at the same time by all companies at approximately the same time (when suitable time in a yearly cycle?):
   4.1. Send **request** for audited data, subsidies received and proposed KPIs to utilities
   4.2. **Receive** data, check file and import
   4.3. **Analyse** data, subsidies received and proposed KPIs
   4.4. **Internal meeting** to discuss first results and prepare meeting with utility
   4.5. **Meeting with company** incl. discussions on KPI targets (Internal meeting on one company; meeting with resp. company; thereafter second and third company)
   4.6. Request for **additional data**
   4.7. **Receive** data, check file and import
   4.8. Discuss final analysis, **determine KPIs** and formulate feedback
   4.9. Send agreed upon **feedback to utility** incl. potentially the need to update Utility Business Plan (Discuss final analyses on one company; formulate feedback to resp. company; thereafter second and third company)
   4.10. **Inform Minister**

5. Evaluate and approve (updated) Utility Business Plans

After "4-Send agreed upon feedback to utility incl. potentially the need to update Utility Business Plan ":

5.1. **Receive** updated Utility Business Plan
5.2. **Analyse** updated Utility Business Plan incl. effects on agreed upon KPIs
5.3. **Internal meeting** to discuss first results and prepare meeting with utility
5.4. **Meeting with company** to discuss updated Utility Business Plan incl. its effects on agreed upon KPIs
5.5. Discuss **final analysis** and formulate **feedback**
5.6. In case of requested additional update: Extension of discussion (max. 30 days until final Utility Business Plan is approved); Otherwise: **Approval** of updated Utility Business Plan
5.7. Information note to **Minister** with implications on tariff development needed to reach agreed upon KPIs for all three companies

Important: Development of a business planning guideline in order to ensure that business plans of utilities can be compared

6. Conduct inspections

6.1. Assign responsibility for preparation of an inspection to a particular member of staff to undertake the following steps:

- Identify, in consultation with UPMU Thematic Experts, areas that require in-depth assessment in addition to routine inspection
- Elaborate inspection schedule
- Coordination of inspection report writing
- Follow-up on actions to be taken by utilities stipulated in the inspection report

6.2. **Provide 7-day notice** to utility before inspection and inform about the need for management to be present and for key documents to be available during the inspection
6.3. **Carry out inspection** (2 to 5 days)
6.4. Carry out **de-briefing with utility** management immediately after the inspection
6.5. Conduct **UPMU-internal de-briefing** on main findings and content to be highlighted in the inspection report
6.6. Write, within 7 days after the inspection, an **inspection report** on main findings and need for action to be taken by the utility, including timelines for such action
6.7. Share inspection report with utility management and emphasize **actions to be taken and respective timelines**
6.8. **Follow-up** on actions to be taken by utility

7. Exchange on best practices

- **Collecting topics** from the three meetings 5.5 with utilities which might be interesting for companies or to be shared by a particular utility (best practice)
- **Planning** four topics for next 12 months, incl. assigning internal responsibility for the different meetings
- For each single topic:
  - **Determine UPMU staff and attendees** from utilities
  - **Invitation** to meeting - either in Amman or at utility – incl. agenda
  - **Holding meeting** – one UPMU employee to take notes; determining **next steps**

- **Prepare minutes** of meeting and share with participants and utility management

Results of the four annual best practice meetings should be part of Annual Report or of another communication activity

8. Communication

- Formulate **communication plan**, incl. the following recurrent topics
  - Annual Conference – presentation of Annual Report Incl. Dissemination of best practice examples
  - Annual Work Plan for UPMU
- Strategy for next year

Important as starting point: Determine stakeholder groups and assign certain communication strategies; define options how to reach these groups and how often should this be done

Important as well: Customer Orientation Guideline

1.6.3 UPMU Work plan table (June 2021 - May 2022)