TOWARDS A NEW WATER AND WASTEWATER TARIFF STRATEGY IN LEBANON

Documentation of second meeting:

Key Components and Options for New Tariffs

May 2011

giz

Table of Content

List of Acronyms

BMLWE	Beirut/Mount Lebanon Water Establishment
BWE	Bekaa Water Establishment
EDL	Electricité du Liban
GTZ	German Agency for Technical Cooperation
LBP	Lebanese Pound
LRA	Litani River Authority
MEW	Ministry of Energy and Water
NLWE	North Lebanon Water Establishment
NWSS	National Water Sector Strategy
O&M	Operation and Maintenance
SLWE	South Lebanon Water Establishment
WE	Water Establishment
WWTP	Wastewater Treatment Plant

1. Background

As part of its support to the Water Sector Reform in Lebanon, the German Agency for International Cooperation (GIZ) is currently supporting the Ministry of Energy and Water (MEW) and the four Water Establishments in the development and implementation of a new water and wastewater tariff strategy.

A first meeting took place with decision makers of MEW and WEs in November 2010 where main principles related to water supply and wastewater tariffs were agreed upon. To carry on this activity, a second meeting was organized with the same participants from MEW and WEs (see list of participants under section 2 below) on February 25, 2011, to discuss key components affecting water and wastewater tariffs, and present different tariff options with their impact on revenues. Professional support was provided by Dr. Mark Oelmann on behalf of GIZ.

Main principles related to water tariffs

1. The current lump-sum tariff should be replaced by a consumption-based tariff which includes two components: fixed charges and variable (volumetric) charges.
2. The new tariff should include a relatively high fixed component to cover fixed costs and to guarantee a similar level of income to Water Establishments.
3. The new tariff for domestic customers should have a uniform variable (volumetric) component for regardless of their level of consumption (i.e. block tariffs should not be considered during the initial phase, but may be considered in the future depending on the experience gained with the new consumption-based tariff).
4. The new consumption-based tariff may vary between WEs but should be uniform within the service area of each Establishment.
5. The current lump-sum tariff should be maintained for unmetered customers (until all customers become metered). The new consumption-based tariff should be introduced for connections equipped with customer water meters.
6. The new tariff should be based on a proper cost analysis that includes minimum O&M cost coverage. Different targets for cost-coverage may be applied in different WEs considering the specificities of each Establishment.

Main principles related to wastewater tariffs

1. Current by-laws and regulations are sufficient for the introduction of wastewater tariffs according to the following principles:
   a. It is compulsory to connect all buildings to the sewage network wherever possible.
   b. Wastewater charges are a percentage of the water bill.
   c. The Establishment is responsible to provide the installations from the public sewer network until the boundary of the property.
   d. Each beneficiary pays a charge to connect to the public sewer network based on a technical inspection report prepared by the Establishment.
2. The new wastewater tariff should be based on a proper cost analysis and cover minimum O&M cost at the beginning.
3. The new wastewater tariff (i.e. percentage rate of the water bill) may vary between WEs but should be uniform within the service area of each Establishment.
4. The new wastewater tariff should be introduced as soon as services are provided. The tariff should be applied to all customers connected to a sewer network and to a WWTP. It should be applied regardless of who is funding the operation and maintenance of the systems.

2. Objectives

The main objective of the second round of discussions was to assist MEW and the four Water Establishments to build consensus on a preferred tariff scenario and option for water and wastewater services.

Specific objectives of the meeting were:

(1) Define additional charges to be introduced;

(2) Identify billing and payment frequency, and different payment options;

(3) Discuss the introduction of customer categories;

(4) Present and discuss water and wastewater tariff options for domestic and non-domestic customers.

3. Approach

Similar to the first meeting, the approach consisted of presenting common concepts, principles and options for water and wastewater tariffs then open discussions between main stakeholders guided by key questions to reach a consensus. The principles and options were discussed taking into consideration existing by-laws and specificities of the water and wastewater sector in Lebanon.

The meeting was divided into six main parts, five covering water supply and one covering wastewater as follow:

Water Supply

- Part I: water charges
- Part II: billing and collection
- Part III: tariff system for domestic customers
- Part IV: customer categories
- Part V: tariff system for non-domestic customers

Wastewater

- Part VI: wastewater tariff system

The presentation showing main elements affecting tariffs and different scenarios and options is included under Annex 1 of this report. Section 4 below includes all key questions guiding the discussions.

Participants in the meeting included senior managers at MEW and WEs, supported by the GIZ Water Programme's team. Table 1 below includes the names of participants in the meeting.

Name	Institution
Mr. Mahmoud Baroud	Director General of Exploitation – MEW
Mr. Jamal Krayem	Director General – NLWE
Mr. Maroun Mousallem	Director General – BWE
Mr. Ahmad Nizam	Director General – SLWE
Mr. Joseph Nseir	Director General – BMLWE
Mr. Hussein Abed Al Rahman	Director of Water Oversight – MEW
Mr. Manfred Scheu	Principal Advisor – GIZ
Mr. Nabil Chemaly	Technical Advisor – GIZ
Dr. Mark Oelmann	International tariff specialist – GIZ

It is to be noted that due to the complexity of the topic and the different possible options, some of the key questions remain without final decisions and consensus.

Main results of the second meeting have been verified with all participants on May 4, 2011 and some of the outstanding issues have been discussed. Verifications and remarks have been included in this document.

It was further agreed to continue the discussion with each WE and develop volumetric tariff systems for pilot areas where customer water meters are being installed.

4. Content and Results of the Discussion

Discussion started with an introduction highlighting the main objectives of the meeting and stating that all scenarios and options that will be presented are based on the main principles related to tariffs agreed upon in the first meeting.

Water supply

Part I: Water Charges

This part included a comparison between water charges commonly used at the international level and water charges currently applied in Lebanon. Related key questions and discussions are summarized as follow:

Question 1: Do you think that the current list of "other charges" should be reduced (grouping of items)?

Yes, in general the list of "other charges" should be reduced by grouping them under appropriate items to simplify procedures, mainly in the billing system. However this should be done carefully to make sure all business requirements are met, and overall revenues from "other charges" remain unchanged or higher.

Question 2: Do you agree with the five internationally used charges?

Yes, the five internationally used charges are needed. However, it is difficult to disregard particular items from the list of "other charges". A general approach would be to keep the list of "other charges" as is, and use those that are applicable, or group them and make sure they meet particular requirements of WEs.

Question 3: Do you think additional items should remain in the list? If yes, which ones?

Given that it is preferable to keep all existing items, one possibility is to form sub-categories or introduce an "administrative charge" that would include all charges related to a certain administrative service to customers (such as written certificates, modification of a subscription's name, etc.).

Customer water meters should be installed by WEs and remain the property of WEs. Customers should pay an annual maintenance fee to cover the depreciation (replacement) cost of the meter. This may require increasing maintenance charges.

Water meter testing fees should be included in the maintenance fee. Testing of meters shall be performed by the WE upon request from customers only.

Question 4: Should all items be the same in all WEs?

It is not necessary that all charges are the same in all WEs. If the current list of "other charges" remains unchanged, it would be up to each WE to apply items according to particular requirements.

The by-laws of Water Establishments include a very large number of "other charges". To simplify procedures of billing and collection systems, it would be possible to group these charges. However, it is important to make sure all requirements are met, without any decrease in revenues. Water Establishments are free to use the items they consider important.

Part II: Billing and Collection

Question 1: Do you agree that meter reading and billing frequency should be the same?

Yes, the frequencies of meter reading and billing should be the same, i.e. every issued bill should be associated with a particular meter reading.

For unmetered customers, the current lump-sum charge system will remain. However, there may be several instalments per year. For instance, BMLWE issues all its bills once per year but customers may pay in two equal instalments provided that the first instalment (i.e. 50% of the annual bill) is paid before the end of June.

Question 2: Do you believe billing should remain once a year or should we consider an increase in billing frequency? If yes, how many times?

In BMLWE, BWE, and SLWE, the billing frequency should be increased to twice per year.

NLWE intends to introduce quarterly billing (already applied for commercial customers with water meters in Tripoli).

Question 3: Should this be applied to all customers or to metered customers only?

The number of payments (or instalments) per year should be the same for metered and unmetered customers.

Question 4: Should all WEs apply the same billing frequency?

Not necessarily, but this would be the preferred option.

Question 5: Current IT billing systems require modification to support consumption-based billing. How long do you think this will take?

The modification of billing systems is considered possible after the volumetric tariff system has been agreed upon. It is estimated that the modification of billing systems requires around six months.

Question 6: Do you think additional bill delivery options (such as banks and LibanPost) should be considered? If yes, which options should be investigated?

LibanPost should be avoided due to additional costs for this service (LibanPost was not a good option for EDL). In the future, Water Establishments' web pages could be a good option to inform customers about their bills (good experience with traffic fines).

Question 7: Do you believe that new payment methods should be considered (such as banks, LibanPost, domiciliation, E-payment)? If yes, which payment methods should be investigated?

Payments through banks and domiciliation should be considered and may allow for improved collection rates. BMLWE intends to introduce E-payment.

Question 8: Is it realistic to consider phasing-out cash handling completely?

No. Many customers – particularly in remote areas – do not have other means to pay (e.g. some people have no bank account).

Question 9: Should all WEs apply the same bill delivery systems and payment options? Or should each WE be free to consider different systems?

Every Water Establishment should be free to use its own bill delivery system and payments options. It is not necessary to have the same options in the four Establishments.

For volumetric tariffs, each bill should be linked to a meter reading. The frequency of billing and collection should be increased (two to four bills per year, depending on the preference of the Water Establishment). Billing systems could be modified within six months. Every Water Establishment is free to consider new bill delivery and collection options (mainly automatic bank payment and domiciliation). Payment options and frequency should be the same for metered and unmetered customers.

Part III: Tariff System for Domestic Customers

This part of the meeting included a presentation showing different tariff scenarios and options for all WEs. Unlike other parts summarized above, and due to the complexity of the subject, key questions number 1 through 3 under this part were left without clear answers and consensus.

Question 1: For scenario 1, do you agree with the defined volume per year per household covered by the fixed component of the tariff, as determined for the three options?

Question 2: For scenario 1, should the defined volume per household covered by the fixed component of the tariff be the same in all WEs?

Question 3: Which scenario is the preferred one?

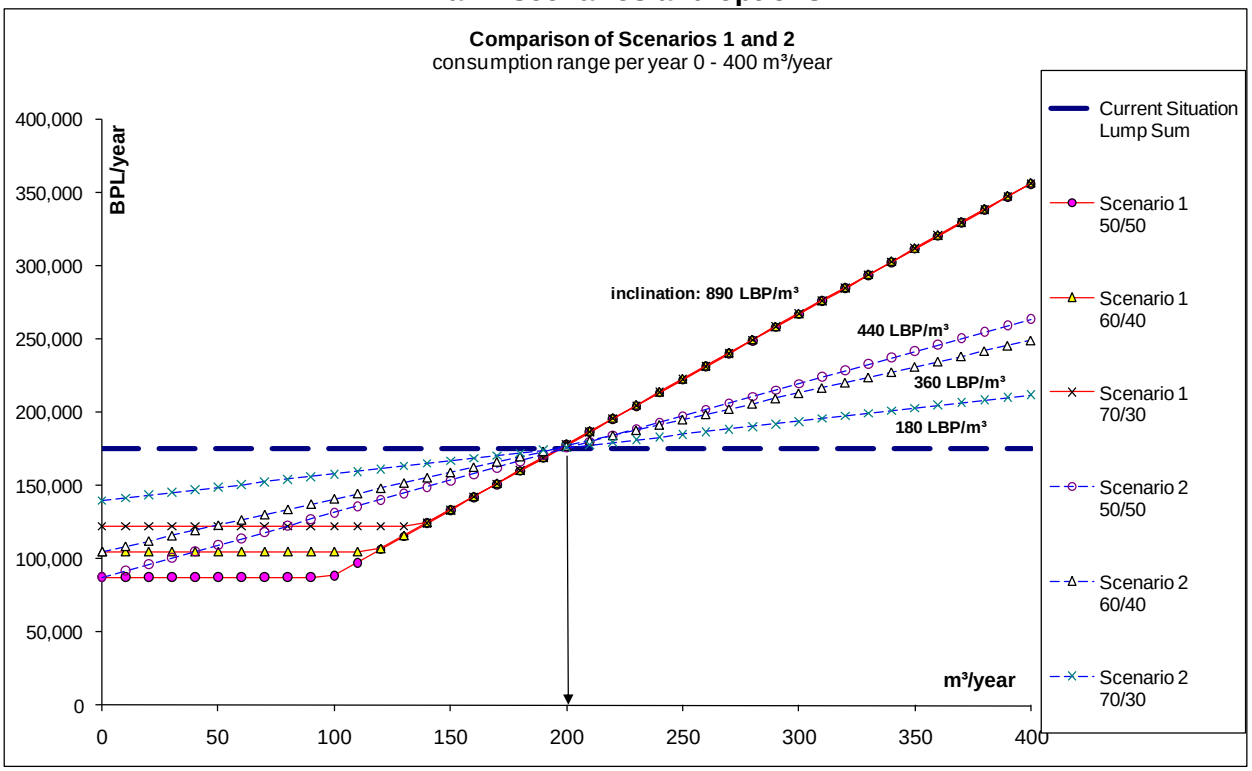
Discussions were mainly related to the advantages and disadvantages of the scenarios and options presented, as well as the results of the case study conducted in a pilot zone in Helaliye, Saida, where calculated average demand based on meter readings is 120 liters/capita/day (or ~200 m^3/year) (more details are included in Annex 1).

In brief, the different tariff scenarios and options were based on the following assumptions:

- *Both scenarios include a fixed and a variable component;*
- *Scenario 1 includes a fixed component which covers a defined volume. Customers who do not consume more than the defined volume are not subject to volumetric fees. The variable component is only applied to consumption above the defined volume covered by the fixed component. Charges are based on metered consumption without considering current contracted volumes according to surface areas of residential units.*
- *Scenario 2 consists of a fixed component based on the current contracted volumes according to surface areas of residential units, and a variable component that is applicable to measured consumption;*
- *In both scenarios, three options were discussed, where fixed and variable components have different percentages of the total water bill (option 1: fixed component 50%, variable component 50%, option 2: fixed component 60%, variable component 40%, option 3: fixed component 70%, variable component 30%).*

Figure 1 below illustrates the different scenarios and options for an annual consumption between 0 to 400 m^3 per customer.

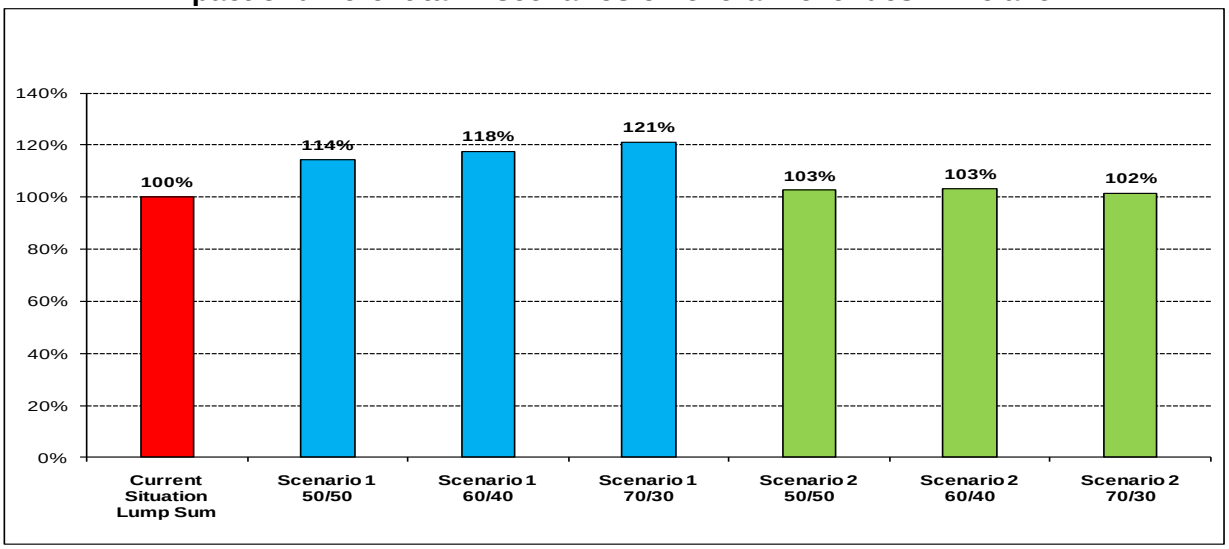
Figure 1
Tariff scenarios and options



Both scenarios and all options consider that overall charges for average customers remain about the same. As shown in Figure 1, customers who consume around 200 m^3 per year (equal to the average water consumption in Helaliye) pay about the same amount in all scenarios and options (similar to the current lump sum system). Following the main principle for volumetric charges, customers who consume less pay less and customers who consume more pay more. However, both scenarios vary considerably if the consumption is more or less than average. This is compared in more details in Annex 1.

For decision makers in WEs, it is crucial that the new volumetric tariff system will at least generate the same revenues as the current lump-sum system. Based on solid data obtained in the pilot area in Helaliye, a comparison between the different scenarios and options is shown in Figure 2.

Figure 2
Impact of different tariff scenarios on overall revenues in Helalieh



Compared to the current lump-sum system, total revenues of scenario 1 would be considerably higher (plus 14 to 21%), whereas total revenues of scenario 2 would remain almost the same (plus 2 to 3 %). Advantages and disadvantages of the two scenarios are described in Annex 1.

Question 4: For the preferred scenario, which option is the preferred one (option 1: 50% fixed and 50% variable, option 2: 60% fixed and 40% variable, and option 3: 70% fixed and 30% variable)?

To reduce risks, all participants favour a high fixed component and a low variable component (i.e. Option 3, 70/30). The variable component may be increased once more reliable data about the impact on revenues become available.

More detailed studies should be conducted for each pilot area (i.e. Tripoli in NLWE, Saida in SLWE, and Keserwan in BMLWE) before deciding on the most suitable scenario/option.

Question 5: Should we have the same combination of fixed and variable components in all WEs?

This would be preferred but may vary in case this is justified.

Participants decided to compare the two scenarios in pilot areas where customer meters are being installed (considering specific requirements and actual demand based on meter readings, as well as modelling techniques). The new volumetric tariff system should at least generate the same revenues than the current lump sum system. To reduce risks the volumetric tariff should include a high fixed component and a low variable component (i.e. Option 3, 70/30). The variable component may be increased once more reliable data about the impact on revenues become available.

Part IV: Customer categories

Question 1: Does everybody agree that Lebanon should have more than one customer category?

Yes, everybody agrees to have more than one customer category. The main reason is to charge non-domestic customers differently.

Question 2: Should we have the same categories in all WEs?

It would be better to have the same categories in all WEs given that they all provide the same services. However, if this is not possible, or if a WE prefers to have specific categories, this would not be a problem.

Question 3: Introducing different customer categories requires a complete review of the customer database in concerned areas BEFORE introducing the new tariff. Do you agree that we should consider introducing customer categories gradually, starting with two categories as suggested - domestic and public institutions and commercial and industrial?

Yes, at least two customer categories (i.e. domestic and non-domestic) should be introduced at the beginning starting in pilot areas. Meanwhile, the customer database should be improved to allow introducing more categories in the future.

WEs will classify different types of customers and take this classification into consideration during the update of customers' registers.

It should be possible to apply lower charges for public schools and public institutions. This should be discussed and decided in the pilot areas considering the particular situation and requirements.

Two customer categories at least (i.e. domestic and non-domestic) should be introduced in the beginning starting in pilot areas. Customer databases should be improved to allow introducing more categories in the future. WEs will classify different types of customers and take this classification into consideration during the update of customers' registers. It should be possible to apply lower charges for public schools and public institutions

Part V: Tariff System for Non-Domestic Customers

Question 1: It is common practice to charge commercial and industrial customers more than domestic customers and public institutions (in the suggested scenarios, variable fees are double those paid by domestic customers). This will encourage them to save water. Do you agree with that?

In general, large non-domestic customers should pay more than domestic customers. This should be discussed and agreed upon in the pilot areas taking into consideration the specificities of each WE.

Question 2: According to WEs' by-laws, small commercial institutions (such as grocery shops, clothing shops, etc.) are obliged to connect to the public water network. Are they currently connected and registered?

Most of the small commercial establishments (such as shops and offices) receive water from domestic customers in the building and are currently not registered.

Question 3: Do you agree that small commercial institutions constitute a big potential of revenue for WEs?

Yes, there is a large potential for additional revenues from small commercial establishments if some incentives are introduced.

Question 4: In scenario 1, which option (A or B) should be adopted?

- Option A: fixed component for commercial and industrial customers is double than domestic, for the same defined yearly volume
- Option B: fixed component for commercial and industrial customers is the same as domestic, for a half defined yearly volume

Due to the lack of time this was not discussed with participants. This should be addressed with individual WEs in pilot areas considering the particular situation and requirements.

Question 5: In scenario 1, should the defined volume covered by the fixed component of the tariff be the same in all WEs?

Same in all WEs would be preferred but is not necessarily required.

Question 6: Should ratios (coefficient of domestic) for variable tariffs, for different customer categories, be the same in all WEs?

Due to the lack of time this was not discussed with participants. This should be addressed with individual WEs in pilot areas considering the particular situation and requirements.

Question 7: Is there an option to increase tariffs before 2015 (deadline set in the NWSS)?

According to by-laws, WEs propose tariff increase according to their own priorities and requirements (e.g. in line with business plan) for approval by MEW. It is then up to MEW to approve or disapprove tariff increase.

In general, large non-domestic customers should pay more than domestic customers. This should be discussed and agreed upon in the pilot areas taking into consideration the specificities of each WE.

There is a large potential to increase the number of customers if incentives are introduced for small commercial establishments.

Wastewater

Part VI: Wastewater Tariff System

Question 1: Do you think wastewater fees set in the NWSS can be applied to your case or not?

Given that no wastewater charges are currently applied, applying wastewater charges that are 25% of the total annual water bill (applicable to households connected to a sewer network and a WWTP) is considered a good start. However, the percentage set in the NWSS is only a recommendation and could be modified by WEs according to their needs and preference.

Question 2: Should WW charges be a percentage of the total water bill including maintenance fees or just water supply charges?

Wastewater charges should be a percentage of the total water bill including only water supply charges, without maintenance.

It was also discussed that people using private wells should pay wastewater charges. However, this has been considered as not realistic in the foreseeable future due to the lack of data.

Question 3: According to the NWSS, wastewater tariffs should be applied to customers connected to a sewage network and a WWTP. Do you have accurate data related to those customers connected to a sewage network and a WWTP?

No, only limited data is available regarding customers connected to the wastewater system.

Question 4: Are you planning to apply wastewater fees in 2011? If yes, when and where?

Wastewater revenues have been included in 2011 budgets in BWE, BMLWE and SLWE. NLWE did not include revenues from wastewater in its 2011 budget given that no WWTP will be operational within its service area. Annual lump-sum

wastewater charges for a contracted water volume of 1 m^3 per day are as follows:

- *BWE: 50,000 LBP/year (Baalbek WWTP);*
- *BMLWE: 10,000 LBP/year (Al Ghadir WWTP and Upper Chouf area where eight small WWTPs are operational);*
- *SLWE: 50,000 LBP/year (Saida WWTP).*

Question 5: Do you agree that water and wastewater charges should be combined in one bill?

BMLWE agrees that water and wastewater should be included in the same bill (showing separate items).

BWE and SLWE prefer to have separate bills.

MEW clarifies that by-laws require that all charges (water supply, wastewater, and irrigation) shall be compiled in the same bill showing separate items.

Question 6: Does your existing billing system support billing wastewater services, in addition to billing potable water services? If not, what will you do in this regard?

In general, customization of billing systems to generate wastewater bills should not be a problem.

Question 7: Should income generated by wastewater fees kept in a separate account to finance O&M of WW facilities after taking-over by WEs?

Given that WEs are obliged to apply the principle of "integrity of annual budgets", wastewater cash revenues cannot be kept in a separate bank account to finance O&M of wastewater facilities.

Wastewater charges of 25% of the total annual water bill without gauge and meter maintenance fee (applicable to households connected to a sewer network and a WWTP) constitute a good start. Very limited information is available regarding households connected to wastewater systems. Wastewater revenues have been included in 2011 budgets of BWE (50,000 LBP/year), BMLWE (10,000 LBP/year) and SLWE (50,000 LBP/year) for a contracted water volume of 1 m^3 per day. Wastewater cash revenues cannot be kept in a separate bank account to finance O&M of wastewater facilities in the future.

5. Next steps

Based on the outcome of this meeting, one-to-one meetings will take place to carry on discussions and provide answers to open questions, and support in the development of appropriate tariff systems taking into consideration management preferences and the

specificities of WEs. The following steps will be undertaken by MEW and WEs, with the support of GIZ:

- Apply results of the first and second meetings for the development of a new volumetric tariff system in different pilot areas (May – December 2011)
- Agree on a joint list of customer categories for updating the customer data base (May – August 2011)
- Assist WEs in customer surveys for updating customer data in pilot areas (considering customer categories) (May 2011 - April 2012)
- Assist WEs in customer water metering procedures as well as in new billing and collection systems in pilot areas (June – December, 2011)
- Assist WEs in conducting information campaigns about new tariff system in pilot areas (July 2011 – April 2012)
- Implement new tariff system in pilot areas (starting in Helalieh – Saida) (January 2012)
- Monitor impacts of new tariff system on revenues in pilot areas (2012).

6. Conclusion

The following agreements were noted under different parts of the presentation:

Water Supply

Part I: Water Charges

- The by-laws of Water Establishments include a very large number of “other charges”
- It would be possible to group these charges to simplify procedures of billing and collection systems. However, it is important to make sure all requirements are met, without any decrease in revenues
- Water Establishments are free to use the items they consider important

Part II: Billing and Collection

- For volumetric tariffs, each bill should be linked to a meter reading
- The frequency of billing and collection should be increased (two to four bills per year, depending on the preference of the Water Establishment)
- Billing systems could be modified within six months
- Every Water Establishment is free to consider new bill delivery and collection options (mainly automatic bank payment and domiciliation)
- Payment options and frequency should be the same for metered and unmetered customers

Part III: Tariff system for domestic customers

- Participants decided to compare the two scenarios in pilot areas where customer meters are being installed (considering specific requirements and actual demand based on meter readings, as well as modelling and comparison of the two scenarios)
- The new volumetric tariff system should at least generate the same revenues than the current lump sum system
- The volumetric tariff should include a high fixed component and a low variable component (i.e. Option 3, 70/30) to reduce risks
- The variable component may be increased once more reliable data about the impact on revenues become available

Part IV: Customer categories

- Water Establishments will classify different types of customers and take this classification into consideration during the update of customers' registers
- Water Establishments will introduce at least two customer categories (i.e. domestic and non-domestic) in the beginning starting in pilot areas
- Customer databases should be improved to allow introducing more categories in the future
- It should be possible to apply lower charges for public schools and public institutions

Part V: Tariff for non-domestic customers

- Large non-domestic customers should pay more than domestic customers
- It is required to discuss rates and decide in pilot areas
- Whenever possible, the tariff system for non-domestic customers should be similar in all WEs
- There is a large potential to increase the number of customers if incentives are introduced for small commercial establishments.

Wastewater

Part VI: Wastewater tariff system

- Wastewater charges of 25% of the total annual water bill, excluding gauge or meter maintenance fee (applicable to households connected to a sewer network and a WWTP) constitute a good start
- Very limited information is available regarding households connected to wastewater systems
- Wastewater revenues have been included in 2011 budgets of BMLWE, BWE and SLWE (lump-sum annual fee for each contracted volume of 1 m^3 per day)
- Wastewater cash revenues cannot be kept in a separate bank account to finance O&M of wastewater facilities

Annex 1: Presentation and Key Questions

Towards a New Water and Wastewater Tariff Strategy in Lebanon

2nd Discussion of Key Components for New Tariffs

Beirut, 25 February 2011

Outline

Water Supply

- Part I: water charges
- Part II: billing and collection
- Part III: tariff system for domestic customers
- Part IV: customer categories
- Part V: tariff system for non-domestic customers

Wastewater

- Part VI: wastewater tariff system

Water Supply

Part I
Water Charges

Water Charges

Internationally

Commonly used charges
Consumption charges
Connection fee
Reconnection fee
Metering/gauge installation fee
Fines for delayed payments and violation

The by-laws in Lebanon include a range of charges WEs collect “whenever applicable”

Yearly charges
Subscription/consumption charge
Maintenance - meter
Maintenance – gauge
Charge for additional consumption (metered connections)
Automation (BMLWE only)

Other charges
Connection fee
Price of meter/gauge
Cancellation
Inspection
Changing connection status (temporary to permanent)
Certificate
Disconnection
Reconnection fee
Transfer of ownership
Rearrangement of connection
Metering/gauge Installation fee
Box for meter / gauges
Water testing
Fines for delayed payments and violation
Other works

- These charges are listed as items in the by-laws
- If not applicable, they are not used
- Amounts associated with each charge are left to be decided by each Water Establishment and approved by MEW
- By-laws allow for an extensive list of other charges. This is uncommon internationally
- Importance of other charges in revenues vary considerably between WEs (9% of total revenues in BMLWE, 7% of total revenues in NLWE and 3% of total revenues in SLWE)

Key questions for discussion
Additional charges

1. Do you think that the current list of “other charges” should be reduced (grouping of items)?
2. Do you agree with the five internationally used charges?
3. Do you think additional items should remain in the list? If yes, which ones?
4. Should all items be the same in all WEs?

Part II
Billing and collection

Billing and Collection
Current situation

	BMLWE	NLWE	SLWE	BWE
Billing frequency	Once a year			
Bill delivery options	- Delivery through collectors - Customers collect bill from cashiers in branch offices			
Payment options	- Cash to collectors - Cash to cashiers in branch offices - Cheques to collectors and cashiers	- Cash to collectors - Cash to cashiers in branch offices - Cheques to collectors and cashiers		
	- Domiciliation (any bank)			
Most common payment practice	Cash payment to collectors or cashiers			
Automated billing and collection system	Available, but requires modification for consumption based tariffs	Available, but requires configuration for consumption based tariffs		Not available
Assistance to customers	No, but instalments allowed for accumulated unpaid bills			

Payment options in other utilities in Lebanon

Telephone (OGERO)

- Cash at Points of Sale (no collectors)
- Bank domiciliation
- Through LibanPost
- Through OMT (Online Money Transfer)

Electricity (EDL)

- Cash to collectors
- Cash at Points of Sale
- Bank domiciliation

Cell phone

- MTC Touch offices
- Electronic payment
- Bank Direct Debit
- Cash payment through banks
- Cash through LibanPost and OMT
- Cash through Certified Outlets
- Cash to collectors (upon request, against fee)

Cell phone

- Alfa Offices
- Bank Direct Debit
- Cash payment through banks
- Cash through LibanPost and OMT
- Cash through Certified Outlets
- Cash to collectors (upon request, against fee)

Key questions for discussion
Billing and Collection

1. Do you agree that meter reading and billing frequency should be the same?
2. Do you believe billing should remain once a year or should we consider an increase in billing frequency? If yes, how many times?
3. Should this be applied to all customers or for metered customers only?
4. Should all WEs apply the same billing frequency?
5. Current IT billing systems require modification to support consumption-based billing. How long do you think this will take?
6. Do you think additional bill delivery options (such as banks and LibanPost) should be considered? If yes, which options should be investigated?
7. Do you believe that new payment methods should be considered (such as banks, LibanPost, domiciliation, E-payment)? If yes, which payment methods should be investigated?
8. Is it realistic to consider phasing-out cash handling completely?
9. Should all WEs apply the same bill delivery systems and payment options? Or should each WE be free to consider different systems?

Part III
Tariff system for domestic customers

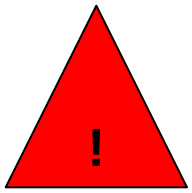
Context during transition phase from old to new tariff system

- According to the NWSS, no tariff increase should take place before 2015. Increase should be considered in 2015, to achieve full O&M cost-coverage following investments for improvement of services
- Customers' databases are not accurate and customer surveys are required to determine customers' categories
- According to the NWSS, gradual installation of customer water meters should take place (25% by 2012, and 75% by 2015)
- Customer water meter reading to measure real consumption will be limited to pilot zones in early stages, and will gradually increase
- Billing systems require modification to support consumption-based tariffs
- Lack of data related to volumes produced and distributed, and associated costs

Assumptions for tariff scenarios

Domestic customers

	Scenario 1	Scenario 2
General	• No tariff increase for domestic customers will take place; annual water supply charges for average domestic customers remain about the same • Total bill is divided in 2 components: fixed and variable • Average domestic customers' demand is estimated at **120 liters/capita/day (or ~200 m^3/household/year)**, based on meter reading in a metered urban pilot area. This demand is lower than the assumptions of the NWSS (i.e. 180 liters/capita/day in BMLWE and 160 liters/capita/day in BWE, NLWE and SLWE) and the current assumed consumption of 365 m^3/year (or ~ 222 l/c/d)	
Fixed component	• Lump-sum that covers a defined volume of water. Customers who do not consume more than this volume are not subject to volumetric charges • Is the same for all domestic customers	• Lump-sum not linked to consumption • Varies according to current contracted volumes based on surface area
Variable component	• Only applied to consumption above the defined volume covered by the fixed component • Unit price is based on the current yearly tariff and average demand (120 liters/capita/day or ~ 200 m^3/household/year)	• Applied to total measured consumption • Adjusted unit price to keep total bill for average customers unchanged. Lower than scenario 1



- Average consumption is likely to be lower than demand assumptions according to NWSS. Adjustments have been made based on meter reading in a pilot area to limit the risk of reduction in revenues
- The new tariff system requires revisions in 2015 based on real data and actual O&M expenses

Scenario 1 -Tariff options
Domestic customers

Current situation:

For 1 m³ contract

Fixed component:100%
Variable component: 0%

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

~100 m³ /year covered by FC - 100,000 LBP
~100 m³ /year considered by VC-100,000 LBP

Unit price (LBP/m³)*	1,000	875	900	700

Option 1:

Fixed component:50%
Variable component: 50%

Defined volume (FC) – up to (m³/HH/year)	100	100	100	100
Fixed component (LBP/year)	100,000	87,500	90,000	70,000
Variable component per year (LBP/year)	100,000	87,500	90,000	70,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Option 2:

Fixed component:60%
Variable component: 40%

Defined volume (FC) – up to (m³/HH/year)	120	120	120	120
Fixed component (LBP/year)	120,000	105,000	108,000	84,000
Variable component per year (LBP/year)	80,000	70,000	72,000	56,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Option 3:

Fixed component:70%
Variable component: 30%

Defined volume (FC) – up to (m³/HH/year)	140	140	140	140
Fixed component (LBP/year)	140,000	122,500	126,000	98,000
Variable component per year (LBP/year)	60,000	52,500	54,000	42,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

*** Based on average consumption (120 l/c/d, ~ 200 m³/HH/year) generated by meter reading in an urban pilot area**

Scenario 2 -Tariff options
Domestic customers (1/2)

Current situation:

For 1 m³ contract

Fixed component:100%
Variable component: 0%

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

Option 1:

Fixed component:50%
Variable component: 50%

Fixed component (LBP/year)	100,000	87,500	90,000	70,000
Unit price (LBP/m³)*	500	438	450	350
Variable component per year (LBP/year)	100,000	87,500	90,000	70,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Option 2:

Fixed component:60%
Variable component: 40%

Fixed component (LBP/year)	120,000	105,000	108,000	84,000
Unit price (LBP/m³)*	400	350	360	280
Variable component per year (LBP/year)	80,000	70,000	72,000	56,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Option 3:

Fixed component:70%
Variable component: 30%

Fixed component (LBP/year)	140,000	122,500	126,000	98,000
Unit price (LBP/m³)*	300	263	270	210
Variable component per year (LBP/year)	60,000	52,500	54,000	42,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

*** Based on average consumption (120 l/c/d, ~ 200 m³/HH/year) generated by meter reading in an urban pilot area**

Scenario 2 -Tariff options
Domestic customers (2/2)

Current situation:

For 2 m³ contract

Fixed component:100%
Variable component: 0%

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	400,000	350,000	360,000	280,000
Variable component (LBP/year)	0	0	0	0

Option 1:

Fixed component:50%
Variable component: 50%

Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Unit price (LBP/m³)*	500	438	450	350
Variable component per year (LBP/year)	200,000	175,000	180,000	140,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

Option 2:

Fixed component:60%
Variable component: 40%

Fixed component (LBP/year)	240,000	210,000	216,000	168,000
Unit price (LBP/m³)*	400	350	360	280
Variable component per year (LBP/year)	160,000	140,000	144,000	112,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

Option 3:

Fixed component:70%
Variable component: 30%

Fixed component (LBP/year)	280,000	245,000	252,000	196,000
Unit price (LBP/m³)*	300	263	270	210
Variable component per year (LBP/year)	120,000	105,000	108,000	84,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

*** Based on average consumption (120 l/c/d, ~ 200 m³/HH/year) generated by meter reading in an urban pilot area**

Impact of tariff scenarios on billing
The case of Helaliye – SLWE (1/2)

Characteristics

Pilot area: Helaliye – South Lebanon Water Establishment

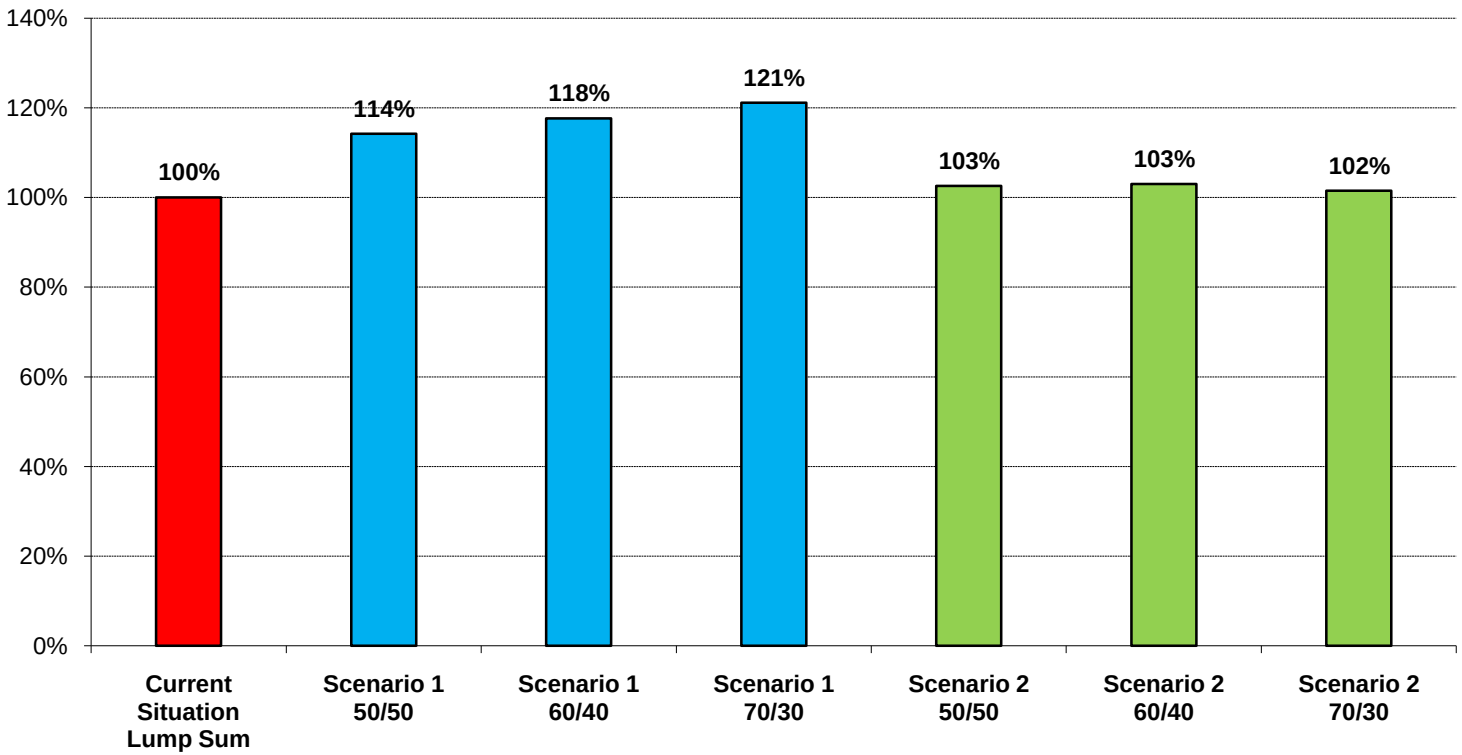
- Urban area
- Mainly residential, with multi-story buildings
- Middle-income residents
- Good water supply service, ~24 hours/day

The sample

- Number of metered domestic subscribers: 704
- Contracted volumes: 705 m^3/day
- Total number of subscribers with zero consumption: 36
- Number of excluded domestic subscribers due to consumption higher than 2 m^3/day: 45
- **Average consumption: 127 liters/capita/day**

Impact of tariff scenarios on billing
The case of Helaliye – SLWE (2/2)

Impact of scenarios on total billing



Conclusions

1. Compared to the current situation, both scenarios (1 and 2, including a volumetric tariff) allow increasing revenues → volumetric tariffs are more beneficial
2. In both scenarios, the total bill for average customers remains unchanged. However, scenario 1 is more to the advantage of the Establishments due to higher prices per cubic meter consumed
3. In scenario 1, revenues are slightly higher in case the fixed component is higher
4. Safety margin in scenario 2 is not enough unless unit prices for the variable component are increased to compensate for the decrease in consumption following the installation of meters and introduction of consumption-based tariffs

Advantages and disadvantages of Scenarios 1 and 2

Domestic customers

	Advantages	Disadvantages
Scenario 1 Defined volume covered by Fixed Component	• Ensures fairness • Fixed component is the same for all customers (disconnected from contracted volumes and surface areas) • Secures income to WEs • Provides incentives for water conservation • Unit prices are based on average consumption calculated after meter reading (higher unit prices than scenario 2 and current situation) • Allows time to improve customer databases	• More difficult than scenario 2 to be understood by customers • Decrease in revenues if average demand is too low • Lower income from seasonal customers
Scenario 2 Fixed component based on contracted volumes and surface areas	• Easy to be understood by customers • Secures income to WEs • Allows time to improve customer databases	• Difficult to apply due to different rates of fixed components (based on surface areas and contracted volumes) • Risk of cheating due to surface areas • Provides limited incentives for water conservation

Key questions for discussion
New tariff for Domestic Customers

1. For scenario 1, do you agree with the defined volume per year per household covered by the fixed component of the tariff, as determined for the three options?
   - Option 1: 50% fixed – 50% variable: 100 m^3/HH/year or 60 liters/capita/day
   - Option 2: 60% fixed – 40% variable: 120 m^3/HH/year or 70 liters/capita/day
   - Option 3: 70% fixed – 30% variable: 140 m^3/HH/year or 85 liters/capita/day
2. For scenario 1, should the defined volume per household covered by the fixed component of the tariff be the same in all WEs?
3. Which scenario is the preferred one?
4. For your preferred scenario, which option is the preferred one (option 1: 50% fixed and 50% variable, option 2: 60% fixed and 40% variable, Option 3: 70% fixed, 30% variable)?
5. Should we have the same combination of fixed and variable components in all WEs?

Part IV
Customer categories

Introduction of different customer categories

It is common to have different customer categories. This allows different charges for different categories. (2-4 categories is common practice)

Tariff categories commonly used…

Domestic customers

Households, permanent and temporary occupancy

Commercial

Shops, supermarkets, offices, hotels, clubs…

Industries

Manufacturing, processing…

Public institutions

schools, universities, mosques, churches, municipalities…

Limitations to the adoption of customer categories in the Lebanese context

- Customer databases are not complete and accurate enough to adopt customer categories
- The update of customer databases requires surveys that will take time
- Given the lack of metering, data related to real consumption for different categories is not available
- It is internationally common that public institutions pay similar rates than domestic. Accordingly, domestic customers and public institutions can be grouped in one category for simplicity
- It is internationally common that commercial and industrial customers pay higher rates than domestic. Given the difficulty to distinguish between commercial and industrial customers, they can be grouped in one category for simplicity
- Most of the small commercial customers (such as grocery shops, clothing shops, etc.) consume small quantities of water, therefore have limited incentives to connect to the public water network

Suggestion for two customer categories

1. **Domestic and Public Institutions**
2. **Commercial and Industrial Customers**

Key questions for discussion
Introduction of different customer categories

1. Does everybody agree that Lebanon should have more than one customer category?
2. Should we have the same categories in all WEs?
3. Introducing different customer categories requires a complete review of the customer database in concerned areas BEFORE introducing the new tariff. Do you agree that we should consider introducing customer categories gradually, starting with two categories as suggested - **domestic and public institutions** and **commercial and industrial**?

Part V
Tariff system for non-domestic customers

Assumptions for tariff scenarios

Non-domestic customers

	Scenario 1	Scenario 2
General	• Two categories will be adopted: **domestic and public institutions** and **commercial and industrial** • Public institutions pay the same as domestic customers • Charges for commercial and industrial customers are higher than charges for domestic customers and public institutions • Total bill is divided in 2 components: fixed and variable • For public institutions, commercial, and industrial customers, the new tariff system is based on a demand of **~200 m³/customer/year**, similar to the consumption of average domestic customers	
Fixed component	• Lump-sum that covers a defined volume of water Option A: FC for commercial and industrial customers is double than domestic , for the same defined yearly volume covered by FC Option B: FC for commercial and industrial customers is the same as domestic, for a half defined yearly volume covered by FC	• Lump-sum similar to domestic customers and not linked to consumption • Varies according to current contracted volumes
Variable component	• Only applied to consumption above the defined volume covered by FC • Unit price for commercial and industrial customers is double the unit price applied to domestic customers and public institutions	• Applied to total measured consumption • Unit price for commercial and industrial customers is double the unit price applied to domestic customers and public institutions

! Higher tariffs for commercial and industrial customers help reducing the risk of decrease in revenues

Scenario 1 – Tariff option 1: 50% fixed, 50% variable
Non-domestic customers

Current situation

All categories

For 1 m³ contract

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

Public Institutions (as domestic)

Unit price (LBP/m³)	1,000	875	900	700
Defined volume (FC)–up to (m³/cust./year) (liter/cust./day)	100 270	100 270	100 270	100 270
Fixed component (LBP/year)	100,000	87,500	90,000	70,000
Variable component per year (LBP/year)	100,000	87,500	90,000	70,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

A

Commercial and Industrial

Unit price (LBP/m³)	2,000	1,750	1,800	1,400
Defined volume (FC)–up to (m³/cust./year) (liters/cust./day)	100 270	100 270	100 270	100 270
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component per year (LBP/year)	200,000	175,000	180,000	140,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

B

Commercial and Industrial

Defined volume (FC)-up to (m³/cust./year) (liters/cust./day)	50 135	50 135	50 135	50 135
Fixed component (LBP/year)	100,000	87,500	90,000	70,000
Variable component per year (LBP/year)	300,000	262,500	270,000	210,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

Scenario 1 – Tariff option 2: 60% fixed, 40% variable
Non-domestic customers

Current situation

All categories

For 1 m³ contract

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

Public Institutions (as domestic)

Unit price (LBP/m³)	1,000	875	900	700
Defined volume (FC)–up to (m³/cust./year) (liter/cust./day)	120 315	120 315	120 315	120 315
Fixed component (LBP/year)	120,000	105,000	108,000	84,000
Variable component per year (LBP/year)	80,000	70,000	72,000	56,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

A

Commercial and Industrial

Unit price (LBP/m³)	2,000	1,750	1,800	1,400
Defined volume (FC)–up to (m³/cust./year) (liters/cust./day)	120 315	120 315	120 315	120 315
Fixed component (LBP/year)	240,000	210,000	216,000	168,000
Variable component per year (LBP/year)	160,000	140,000	144,000	112,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

B

Commercial and Industrial

Defined volume (FC)-up to (m³/cust./year) (liters/cust./day)	60 157	60 157	60 157	60 157
Fixed component (LBP/year)	120,000	105,000	108,000	84,000
Variable component per year (LBP/year)	280,000	245,000	252,000	196,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

Scenario 1 – Tariff option 3: 70% fixed, 30% variable
Non-domestic customers

Current situation

All categories

For 1 m³ contract

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

Public Institutions (as domestic)

Unit price (LBP/m³)	1,000	875	900	700
Defined volume (FC)–up to (m³/cust./year) (liter/cust./day)	140 380	140 380	140 380	140 380
Fixed component (LBP/year)	140,000	122,500	126,000	98,000
Variable component per year (LBP/year)	60,000	52,500	54,000	42,000
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

A

Commercial and Industrial

Unit price (LBP/m³)	2,000	1,750	1,800	1,400
Defined volume (FC)–up to (m³/cust./year) (liters/cust./day)	140 380	140 380	140 380	140 380
Fixed component (LBP/year)	280,000	245,000	252,000	196,000
Variable component per year (LBP/year)	120,000	105,000	108,000	84,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

B

Commercial and Industrial

Defined volume (FC)-up to (m³/cust./year) (liters/cust./day)	70 190	70 190	70 190	70 190
Fixed component (LBP/year)	140,000	122,500	126,000	98,000
Variable component per year (LBP/year)	260,000	227,500	234,000	182,000
Total annual bill (LBP/year)	**400,000**	**350,000**	**360,000**	**280,000**

Scenario 2 – Tariff options 1, 2 and 3
Non-domestic customers

Current situation

All categories

For 1 m³ contract

	BMLWE	SLWE	NLWE	BWE
Fixed component (LBP/year)	200,000	175,000	180,000	140,000
Variable component (LBP/year)	0	0	0	0

1 50% fixed, 50% variable

Fixed component (LBP/year)	100,000	87,500	90,000	70,000
Unit price (LBP/m³)	500	438	450	350
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Public Institutions (as domestic)

Unit price (LBP/m³)	1,000	875	900	700
Total annual bill (LBP/year)	**300,000**	**262,500**	**270,000**	**210,000**

Commercial and Industrial

2 60% fixed, 40% variable

Fixed component (LBP/year)	120,000	105,00	108,000	84,000
Unit price (LBP/m³)	400	350	360	280
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Public Institutions (as domestic)

Unit price (LBP/m³)	800	700	720	560
Total annual bill (LBP/year)	**280,000**	**245,000**	**252,000**	**196,000**

Commercial and Industrial

3 70% fixed, 30% variable

Fixed component (LBP/year)	140,000	122,500	126,000	98,000
Unit price (LBP/m³)	300	263	270	210
Total annual bill (LBP/year)	**200,000**	**175,000**	**180,000**	**140,000**

Public Institutions (as domestic)

Unit price (LBP/m³)	600	525	540	420
Total annual bill (LBP/year)	**260,000**	**227,500**	**234,000**	**182,000**

Commercial and Industrial

Advantages and disadvantages of Scenarios 1 and 2

Non-domestic customers

	Advantages	Disadvantages
Scenario 1 Defined volume covered by Fixed Component	• Ensures fairness • Option B provides incentives for small commercial customers to connect • Fixed component is disconnected from contracted volumes • Secures income to WEs • Provides incentives for water conservation (in particular for industries) • Higher charges for different commercial and industrial customers allow increasing revenues (more than scenario 2) • Allows time to improve customer databases	• More difficult than scenario 2 to be understood by customers
Scenario 2 Fixed component based on contracted volumes and surface areas	• Easy to be understood by customers • Secures income to WEs • Higher charges for different commercial and industrial customers allow increasing revenues (less than scenario 1) • Provides incentives for water conservation (less than scenario 1) • Allows time to improve customer databases	• Difficult to apply due to different rates of fixed components (based on type of customer and contracted volumes) • Risk of less income from large customers • Risk of cheating to reduce contracted volumes • Provides limited incentives for water conservation

New tariff system and cost coverage

It is difficult to calculate the impact of the new tariff on cost-coverage with reasonable accuracy due to the following reasons:

- Lack of data related to real consumption
- Inaccuracy of customer databases, making the adoption of different customer categories and the application of different tariffs difficult

Options to improve cost-coverage:

- Improve collection efficiency
- Increase the number of customers through customer surveys and elimination of illegal connections
- Introduce customer categories and charge commercial and industrial customers higher (fixed and variable) rates

- **Increase tariffs in 2015**

Key questions for discussion
Introduction of different customers' categories

1. It is common practice to charge commercial and industrial customers more than domestic customers and public institutions (in the suggested scenarios, variable fees are double those paid by domestic customers). This will encourage them to save water. Do you agree with that?
2. According to WEs' by-laws, small commercial institutions (such as grocery shops, clothing shops, etc.) are obliged to connect to the public water network. Are they currently connected and registered?
3. Do you agree that small commercial institutions constitute a big potential of revenue for WEs?
4. In scenario 1, which option (A or B) should be adopted?
   - Option A: fixed component for commercial and industrial customers is double than domestic , for the same defined yearly volume
   - Option B: fixed component for commercial and industrial customers is the same as domestic, for a half defined yearly volume
5. In scenario 1, should the defined volume covered by the fixed component of the tariff be the same in all WEs?
6. Should ratios (coefficient of domestic) for variable tariffs, for different customer categories, be the same in all WEs?
7. Is there an option to increase tariffs before 2015 (deadline set in the NWSS)?

Wastewater

Part VI
Wastewater tariff system

Present situation

- Wastewater fees are not applied yet
- WEs' by-laws allow the introduction of a wastewater fee that is a percentage of the water bill
- Percentage to be determined by individual WEs
- Starting 2011, NWSS calls for the introduction of a charge of 150 LBP/m^3 (25% of water supply charges) for customers connected to a sewer network and a WWTP
- NWSS calls for the increase of WW fees gradually in the following years to achieve O&M cost recovery in 2020
- According to a study conducted by GTZ in 2009, it is estimated that the required average WW tariff should be around 90,000 LBP/household/year to achieve O&M cost recovery (i.e. around 300 LBP/m^3)

Wastewater fees Scenario 1
2011

150 LBP/m³ or 25% of water fees

Lump-sum tariff
For 1 m³ contract

Wastewater tariff (LBP/year)	BMLWE	SLWE	NLWE	BWE
All categories	50,000	43,750	45,000	35,000

Option 1:

50% fixed
50% variable

Domestic / Public Institutions	50,000	43,750	45,000	35,000
A. Commercial / Industrial	100,000	87,500	90,000	70,000
B. Commercial / Industrial	100,000	87,500	90,000	70,000

Option 2:

60% fixed
40% variable

Domestic / Public Institutions	50,000	43,750	45,000	35,000
A. Commercial / Industrial	100,000	87,500	90,000	70,000
B. Commercial / Industrial	100,000	87,500	90,000	70,000

Option 3:

70% fixed
30% variable

Domestic / Public Institutions	50,000	43,750	45,000	35,000
A. Commercial / Industrial	100,000	87,500	90,000	70,000
B. Commercial / Industrial	100,000	87,500	90,000	70,000

Note: Industrial clients generating wastewater with special quality parameters are subject to pre-treatment and other charges according to by-laws

Wastewater fees Scenario 2
2011

150 LBP/m³ or 25% of water fees

Lump-sum tariff
For 1 m³ contract

Wastewater tariff (LBP/year)	BMLWE	SLWE	NLWE	BWE
All categories	50,000	43,750	45,000	35,000

Option 1:

50% fixed
50% variable

Domestic/Public Institutions	50,000	43,750	45,000	35,000
Commercial/Industrial	75,000	66,000	67,500	52,500

Option 2:

60% fixed
40% variable

Domestic/Public Institutions	50,000	43,750	45,000	35,000
Commercial/Industrial	70,000	63,000	62,500	49,000

Option 3:

70% fixed
30% variable

Domestic/Public Institutions	50,000	43,750	45,000	35,000
Commercial/Industrial	65,000	57,000	58,500	45,500

Note: Industrial clients generating wastewater with special quality parameters are subject to pre-treatment and other charges according to by-laws

Key questions for discussion
Wastewater tariff

1. Do you think wastewater charges set in the NWSS can be applied to your case or not?
2. Should WW charges be a percentage of the total water bill including maintenance fees or just water supply charges?
3. According to the NWSS, wastewater tariffs should be applied to customers connected to a sewage network and a WWTP. Do you have accurate data related to those customers connected to a sewage network and a WWTP?
4. Are you planning to apply wastewater fees in 2011? If yes, when and where?
5. Do you agree that water and wastewater charges should be combined in one bill?
6. Does your existing billing system support billing wastewater services, in addition to billing potable water services? If not, what will you do in this regard?
7. Should income generated by wastewater fees kept in a separate account to finance O&M of WW facilities after taking-over by WEs?

Next Steps

Activity	Schedule
2nd meeting with key stakeholders (based on main principles agreed in 1st meeting): - Preparation of different tariff options and discussion with MEW/WEs - Analysis of specific issues related to tariffs (categories, billing/collection frequency, etc.) - Development of preferred tariff system	25 February 2011
Documentation of results of 2nd meeting and distribution to stakeholders	March 2011
Development of individual tariff systems for each WE	March – June 2011
- Development of implementation plans - Introduction of the new tariff system in each WE (including customer surveys, meter reading, billing systems, etc.)	April - December 2011
Assistance to individual WEs during the introduction of the new tariff system in pilot areas	Until December 2011

Comparison of tariff Scenarios 1 and 2
Domestic customers

Example of BMLWE
Current tariff: 200,000 LBP/year for 1 m³/day

Scenario 1
Real consumption: 2 m³/day
Unit price: 1,000 LBP/m³

Option 1:
FC:50%
VC: 50%

Defined volume (FC) – up to (m³/HH/year)	100
Fixed component (LBP/year)	100,000
Variable component per year (LBP/year)	630,000
Total annual bill (LBP/year)	**730,000**

Option 3:
FC:70%
VC: 30%

Defined volume (FC) – up to (m³/HH/year)	140
Fixed component (LBP/year)	140,000
Variable component per year (LBP/year)	590,000
Total annual bill (LBP/year)	**730,000**

Scenario 2
Contracted volume: 1 m³/day
Real consumption: 2 m³/day

Option 1:
FC:50%
VC: 50%

Fixed component (LBP/year)	100,000
Unit price (LBP/m³)	500
Variable component per year (LBP/year)	365,000
Total annual bill (LBP/year)	**465,000**

Option 3:
FC:70%
VC: 30%

Fixed component (LBP/year)	140,000
Unit price (LBP/m³)	300
Variable component per year (LBP/year)	219,000
Total annual bill (LBP/year)	**359,000**

Scenario 2
Contracted volume: 2 m³/day
Real consumption: 2 m³/day

Option 1:
FC:50%
VC: 50%

Fixed component (LBP/year)	200,000
Unit price (LBP/m³)	500
Variable component per year (LBP/year)	365,000
Total annual bill (LBP/year)	**565,000**

Option 3:
FC:70%
VC: 30%

Fixed component (LBP/year)	280,000
Unit price (LBP/m³)	300
Variable component per year (LBP/year)	219,000
Total annual bill (LBP/year)	**499,000**