REPUBLIC OF MOLDOVA

APA CANAL CHISINAU

CHISINAU WATER SUPPLY & SEWAGE TREATMENT - FEASIBILITY STUDY

TARIFF STUDY AND FINANCIAL ANALYSIS

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LIST OF ABBREVIATIONS AND ACRONYMS

ACC	Apa Canal Chisinau
ANRE	National Energy Regulation Agency
CAPEX	Capital Expenses
DSCR	Debt Service Coverage Ratio
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
IMF	International Monetary Fund
Kfw	Kreditanstalt für Wiederaufbau
KPI	Key Performance Indicators
MCC	Municipal Council of Chisinau
NA	Non Available
NIF	Neighborhood Investment Fund
LTIP	Long-Term Investment Programme
O&M	Operation and Maintenance
OPEX	Operation Expenses
PIP	Priority Investment Programme
RAB	Remuneration Asset Based
ToR	Terms of Reference
VAT	Value-Added Tax
WWTP	Wastewater treatment plant

TECHNICAL ABBREVIATION

EUR or €	Euro
M	Million
m3	Cubic metres
MDL	Moldovan Leu
USD	U.S. dollar or American dollar

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1.   INTRODUCTION

1.1.   BACKGROUND & PURPOSE OF THE REPORT

As the entity ultimately responsible for the water and wastewater service, the Municipality of Chisinau has commenced a programme of works intended to rehabilitate the city's water supply and wastewater collection and treatment systems.

The EBRD extended in 1997 US$ 22.8m loan to ACC to finance improvements in the water and wastewater service assets. In the framework of the EU Neighbourhood Initiative, EBRD and its co-funders consider to further support ACC in its efforts to improve its operations through a new large scale phased investment.

In order to prepare the Programme, Seureca, in association with their local Moldovan partners, has been appointed to prepare a Feasibility Study. It started in November 2012.

The analysis of the financial situation of ACC has been performed during the first phase of the Project (Phase A) and is presented in the inception report.

It is now important to complete it in order to assess the financial feasibility of the Priority Investment Programme (PIP) that has been defined and agreed in Phase B. We must evaluate the global capacity of ACC to support this PIP according to international criteria and indicators. For that purpose, a financial model has been built. The impact of the PIP on the tariff has been analysed as well. Prior the presentation of the financial model, it is important to explain how the tariffs are calculated today, to describe the processes in use (tariff calculation and tariffs approval), to identified the issues and weakness of tariff setting and finally to propose some tracks for improvement.

The present financial report includes both a tariff study and a financial analysis aiming at:

- Reviewing the current tariff structure, how tariff changes are decided and what are the issues and the tracks of improvement;

- Assessing the global capacity of ACC to support, in this environment, the Priority Investment Programme in order to guarantee financial sustainability.

In addition, further to the stakeholder meeting held on February 2012 and to the Workshop II held on April 2012, some discussions were engaged with EBRD regarding key financial indicators, in particular the Debt Service Coverage Ratio (or DSCR) and the current ratio. A section of the report is dedicated to this (chapter 3.4).

1.2.   TARIFF study

The current process for calculating and setting tariffs appears to be subjective and highly dependent on the political environment. As we will demonstrate in the report, the main risk with tariff setting is not the methodology itself but the non-implementation of the methodology for the annual revision of tariff levels, which threatens the financial sustainability of ACC.

1.3.   FINANCIAL ANALYSIS

The financial analysis of ACC activities or the year 2010 has been carried out during the inception stage. The results are presented in the Inception Report and reminded in Appendix 2.

In this current report, we will firstly describe the financial model that has been built in order to assess the capacity of ACC to support the Priority Investment Programme (PIP) that has been defined in the Phase B of the Project. It is worth reminding that the PIP can be considered as a short term programme (5 years) and aims to meet the first and most urgent needs of ACC. The total cost of the proposed PIP, which has been tailored to mainly solve the major issue of sludge disposal at WWTP site and to make significant energy savings, is 59.7 M€.

Then, we will provide clarifications regarding the methodology used by ACC to calculate the financial indicators that are required to evaluate the financial condition of the Company.

2.   TARIFF SETTING

2.1.   TARIFF LEVELS & CROSS-SUBSIDIES

2.1.1.   CURRENT TARIFF LEVELS

Tariffs applied in Chisinau for drinking water and wastewater are based on price by cubic meter.

The tariff is a flat rate, which means that the cost of a unit of water (a cubic meter) is constant for all consumers in a category, and water bills increase linearly with volumes consumed (no change of unit price per cubic meter whatever the volumes billed).

However the tariff is different according to the customer category: domestic (population) and non-domestic (budget organization, commercial and industrial entities).

Today, global tariffs for water and wastewater services delivered by ACC, without VAT, are as follows:

- 9.19 MDL/m^3 for the domestic customers;

- 22.96 MDL/m^3 for the non-domestic customers.
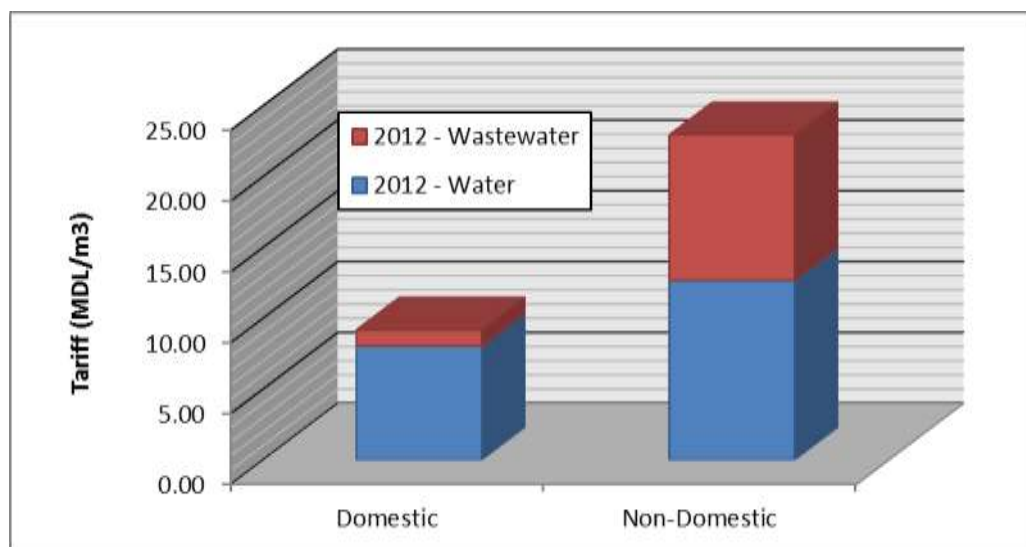
Figure 1: Current Tariffs in Chisinau

The tariff is lower than the tariff in Romanian cities as shown in the table hereafter. But the level of investment in those cities is much higher (20% of the turnover in average is spent in investments in those Romanian cities).

Table 1: Benchmarking on tariff level (in EUR/m^3 with VAT)

	Chisinau	Bucharest	Ploesti
Domestic customers	0.59	1.31	0.98

2.1.2.   CROSS-SUBSIDIES

As shown on the Figure 1, non-domestic customers pay more for 1 cubic meter of water than domestic customers; i.e. they are "subsidizing" the cost of water of the domestic customers.

Today this ratio of cross-subsidies is around 2.5, which is quite high and evidences the significant political factor in the current tariffs setting. However, it is worth pointing out that this ratio has decreased over the last decade: it was more than 5 in 2001 and about 4 in 2007.

The removal, or at least the reduction, of cross-subsidies, is promoted by EBRD in order to secure the financial stability and sustainability of the company (domestic consumption is usually more stable than non-domestic). This should be taken into consideration in the re-composition process for tariff structure in Chisinau.

2.1.3.   TARIFF EVOLUTION FOR THE PERIOD 2001-2012

Between 2001 and 2012, the tariffs have been revised only 3 times, twice in 2007 and once in 2009; while the increase of the operating costs was continuous (the inflation rate ranges between 5.5% and 8% per year and energy costs have increased even faster than the inflation).

From 2001 to 2007, the increases in tariffs proposed by ACC have been systematically refused by the Municipal Council.

In 2007, a minor increase has been approved. The same year (2007), the Republic of Moldova and the IMF signed some agreements, which may explain this favorable decision. A second increase, more significant, was done in 2009 in order to restore the economic balance of ACC.

This is illustrated by the following figure.
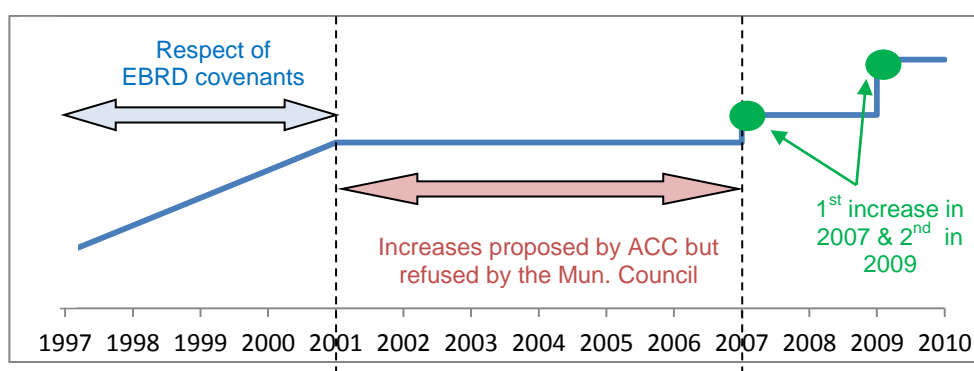
Figure 2: Tariff Evolution (scheme explaining the trend only)

The graphs below show the tariff increases over the last 10 years for both domestic and non-domestic customers.

The increase for water and wastewater services affected domestic and non-domestic customers in 2007 in the same extent. The increase in 2009 focused on the domestic customers, because the non-domestic tariffs had reached a level where further increase was difficult to implement.
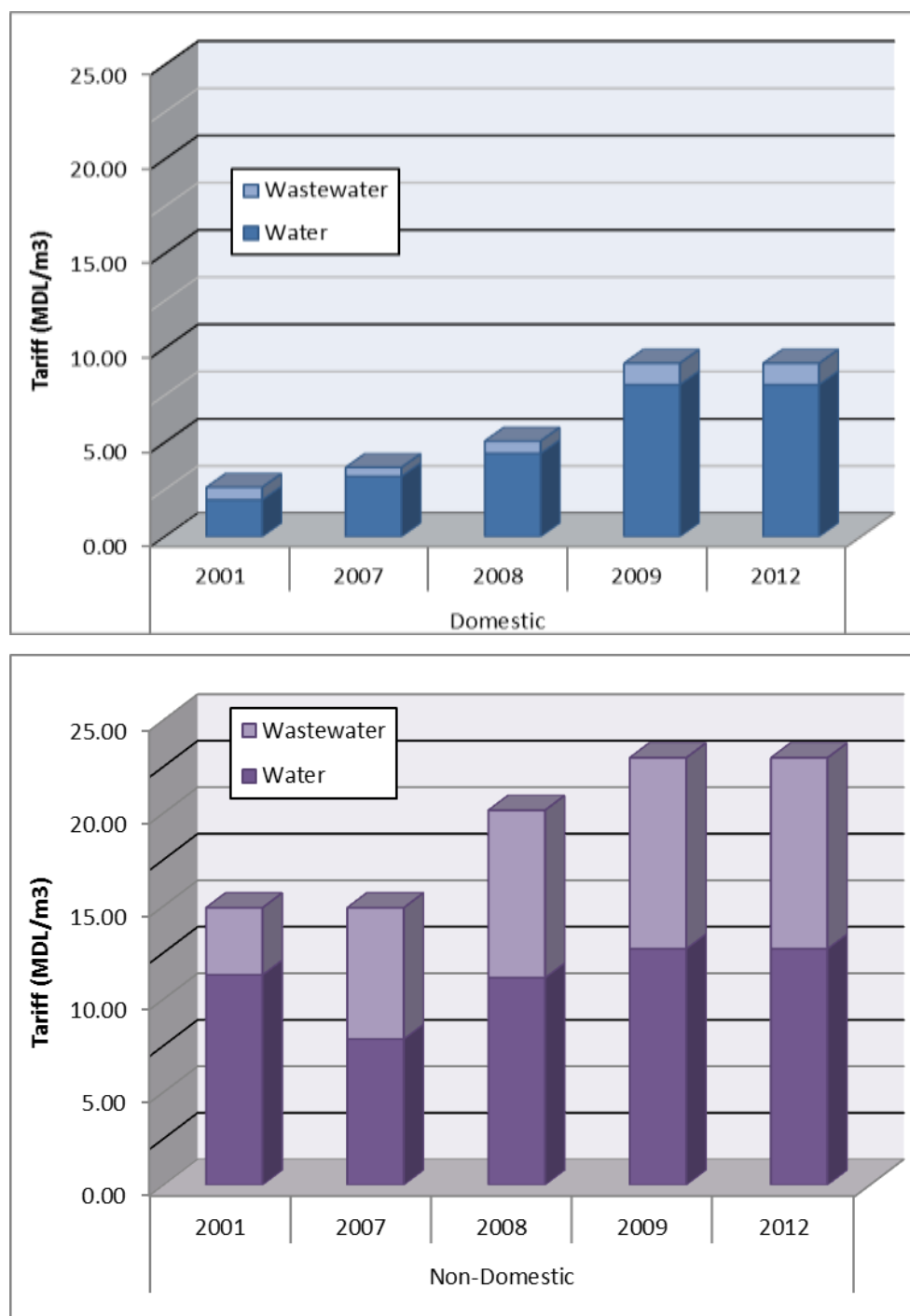
Figure 3: Tariff levels in 2001, 2007, 2008, 2009 and 2012

2.2.   THE TARIFF SETTING METHODOLOGY

2.2.1.   CURRENT TARIFF SETTING MECHANISM

Some EBRD loan covenants (1997) refer to the tariff calculations (for drinking water and sewerage). Based on the EBRD recommendations and methodology, ACC should determine and adjust the tariff on a quarterly basis.

Starting from 2001, the Municipal Council of Chisinau has refused to approve the tariffs calculated according to the EBRD methodology. Instead of this methodology, the calculation of the tariffs based on a "Cost + Fee" calculation, supported by estimations of yearly budgets and volumes, has been approved. As developed further in the chapter 2.3, the MCC constitutes, with ANRE, the main key player in tariff setting approval.

Calculations are established separately for the water service, the wastewater service and the technological[1] service. The tariff per cubic meter is calculated as follows:

Average Tariff = (cost + fee + adjustment) / volume billed

There is no fixed charge. The [cost + fee + adjustment] represents the targeted turnover that the tariff should provide to ACC.

2.2.1.1. The cost component

The operating expenses are directly included in the tariff calculation in the cost component.

The investments are also taken into account through the depreciation of assets. In contrast to the operating expenses, the envisaged cost of investment is not included as such in the tariff. The available funding will indeed correspond to the annual depreciation of the existing assets which may be completely disconnected from the cost of the actual investment plan. However, there will be a full recovery of the cost over the depreciation period.

If the investments are funded with a loan:

- The reimbursement of the loan is supposed to be covered partly by the annual depreciation of the assets but also from the profit since the schedule of reimbursement of the loan may not be in line with the schedule of depreciation which may create cash flow difficulties. The profit is calculated on the remaining asset value which has been financed by ACC. The profit may also be used to compensate higher than expected operating costs, or lower collected revenues

- The payment of the interest is regarded as a justified direct cost taking into consideration in the tariffs calculation.

2.2.1.2. The fee component

The fee component is based on a profit rate applied to the net value of the assets related to the service (fee = profit rate * net asset value). The profit rates are established by the approving authorities for different categories of assets.

A special rate, which cannot be higher than 10%, applies to the assets which have been created prior to 2004. For the assets later than 2004, the one-year rate for the Moldovan treasury bonds is used if the assets have been financed by the internal cash-flow of ACC, and the average long term bank interest rate + 5% is used if they have been financed with bank credits.

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[1] The technological water consists in the water treated to an Industrial Water Standard and supplied via a separate network to certain industrial clients for use in their industrial processes.

2.2.1.3. **The adjustment component**

In addition to the cost + fee, an adjustment component can also be taken into account to balance some unexpected evolutions which may have affected the previous tariff calculations.

The cost, fee, adjustment and volume billed are calculated by ACC based on the best estimate of the numbers of the previous year.

2.2.2. THE LATEST REVISION OF 2009

To illustrate the current mechanism used by ACC to set the tariffs, the latest revision made in 2009 is presented and commented in Appendix.

The supporting documentation (calculation grid) for this tariff increase (September 2009) is public and directly available on ACC website.

It is worth pointing out that the revision process in 2009 took nearly 7 months. This is typical of a lengthy, very administrative and uncertain process of decision:

- ACC transmitted the documents to the ANRE at the date of 05/03/2009, and to the municipal Commission of Economy, Reforms and Assets management on 13/03/2009

- The ANRE informed the Municipal Council about the technological tariff revision on 20/05/2009.

- ACC received the approval of the Municipal Commissions on 21/05/2009, and submitted the documents to the Municipal Council on 25/05/2009.

- Eventually, the decision of the Municipal Council was taken on 15/09/2009 for the water and wastewater tariff, and by the ANRE on 18/09/2009 for the technological water.

2.2.3. ISSUES REGARDING THE CALCULATION OF THE TARIFF & RECOMMENDATIONS

As said before, when revised, the tariff is calculated according to the cost + fee mechanism. It shall ensure ACC a target turnover which is built so as to cover the operating expenses, finance the investments, and give a reasonable profit.

The general opinion of ACC on existing tariff setting mechanism is that the Methodology is good, but some comments can be made:

- The Methodology can be described as being too general. This allows subjective decisions in tariff calculation;

- Based on a "cost+fee" mechanism, the Methodology does not allow any revolving remuneration of the Company or stakeholders for savings achieved; it does not stimulate the improvement of company efficiency through incentive, just through arbitrary constraints regarding some lines of the budget;

- One of the weaknesses of the tariff setting method currently in use comes from its inability to incorporate investment financing on a long-term forecast. Indeed, this yearly-oriented mechanism prevents ACC from considering future increases of costs beyond the next year, even if these costs are already identified, which may generate obstacles to smooth tariff increases over years;

- The current methodology for calculating tariffs does not permit ACC to include some necessary costs in the water and sewerage charges such as the cost of fixing meters, for example;

- Constraints created by agreements with IFIs, and especially the covenants of loans, can generate distortions in the implementation of Tariff Setting regulations, and potential defaults of compliance with Moldovan legislation and rules.

We also notice that the current construction of the tariff presents some significant anomalies that may affect the financial balance of ACC. They are detailed hereafter.

2.2.3.1.   The unpaid bills of the municipal housing companies

Most of the blocks of Chisinau are owned by the Municipality and managed by 3 municipal housing companies.

The billing for the domestic customers living in these blocks is based on the consumption registered by a block meter. The bill, which corresponds to the consumption of the whole block, is sent to the relevant municipal housing companies. In parallel, the households who live in the block are billed individually on the basis of apartment meters by a separate company, and the payments are handed over to ACC.

It appears that there is a large difference between the consumption of the blocks and the corresponding total individual billing. The difference represented every year a loss of approximately 6.5 million m^3 of billing, or at the current tariff approximately 60 million lei, or 10% of the target turnover.

These unpaid amounts constitute a cumulating debt due by three housing municipal companies in charge of most of Chisinau's blocks.

In a cost + fee mechanism, it is commonly observed that unpaid bills are not taken into account in the tariff. The objective is to provide a very strong incentive for a company to improve the commercial performance in terms of collection rate.

As a consequence, it can be said that ACC was wrongly penalized by this situation which creates a very serious threats on the finance of the company.

This situation has been corrected since the Municipality allowed since the 1st of January 2012 ACC to charge directly the final users based on the block readings. That decision should improve significantly the cash situation of ACC but for the time being is applied partly to the recoverable volume (around 40%).

The responsibility of the payment of the outstanding amounts still relies entirely on the Municipality which could pay from the municipal budget. Such practice would be equivalent to a direct subsidy to the households living in the municipal blocks.

2.2.3.2.   Risk on the exchange rate for the reimbursement of the loans

In the case of a loan contracted in a foreign currency, the reimbursement of the loan corresponds to installments which are paid in a foreign currency. The corresponding amount in the local currency is directly affected by the foreign exchange rate.

In contrast, the depreciation of the corresponding assets which provides the resource to reimburse the loan is based on the depreciation in lei and will be fixed.

As a consequence, the depreciation mechanism may not any longer correspond to the full recovery of the reimbursement cost. A strong depreciation of the local currency would create a serious risk regarding the reimbursement capacity of ACC.

It is worth pointing out that EBRD loan can be either in USD or in in euro, but not in MDL. The following graphic shows the variations of the exchange rates of the dollar vs MDL and the euro vs MDL over the last 10 years.
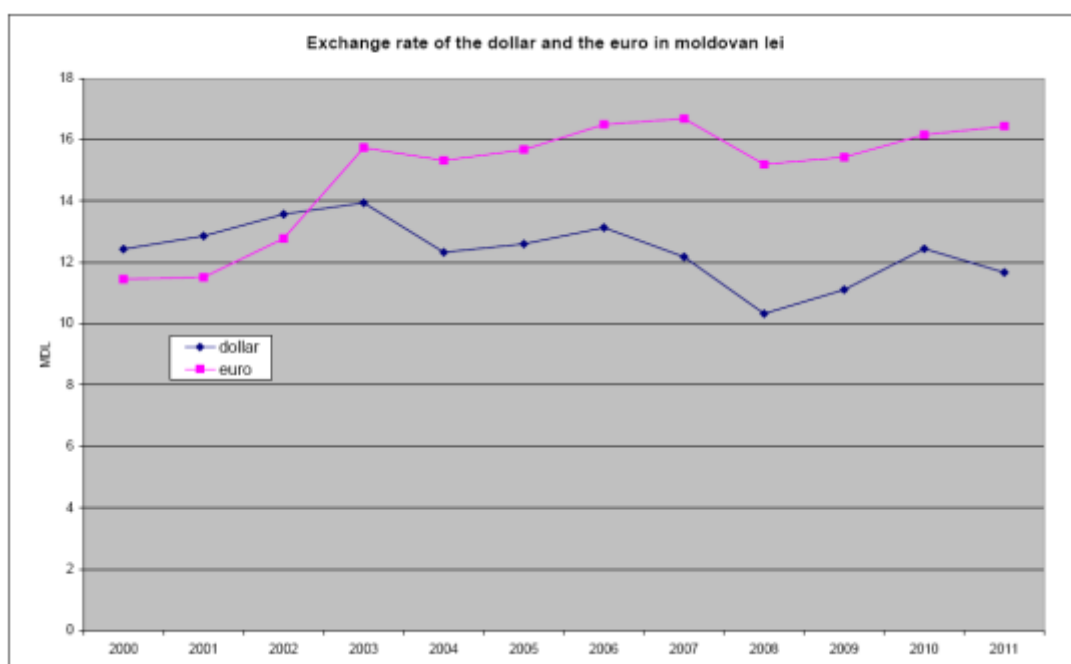
Figure 4: Exchange rates of the dollar against the Moldovan lei and the euro against the Moldovan lei from 200à to 2011

The MDL has been quite stable against the dollar in the last 10 years. It has also been the case with the Euro, with the exception of the 2001-2003 period which corresponds to the rapid rise of the euro against the dollar.

The risk of exchange rate did not become a reality in the last 10 years, as the MDL remained inside a reasonable range of evolution against the dollar and the euro. However, the cumulative inflation difference between Moldova and the US and the euro zone is significant, which suggests that a strong devaluation of the MDL could occur in the next years.

It should be noted that the payment of the interest of a loan contracted in a foreign currency would not be covered against a foreign exchange risk because the corresponding cost is integrated directly in the tariff. For the same reason, it is also not concerned by a variable loan rate risk.

Specificity of the 1997 EBRD Loan

ACC contracted a loan in US dollars with the EBRD in 1997. The repayment of principal for the EBRD loan is included in the list of justified costs for tariff setting. This is a consequence of interpretation of article 1.5 in the tariff setting methodology issued by ANRE (the national regulator) in 2004, which states that international financial engagements, provided that they have been approved by the Government and the National Assembly, supersede the national regulations, and as a consequence the corresponding costs must be included in the justified costs for tariff calculation. The 1997 loan agreement with EBRD complies with these requirements.

The positive side of this provision is that it gives a solution to the problems of depreciation schedule and foreign exchange risk.

However, such provision goes clearly against the rules of the methodology. In addition, the depreciation of the assets financed by the loan is also taken into account in the depreciation which is integrated to the cost component. As a consequence, the cost of these assets is counted twice in the calculation of the tariff which can obviously be criticized.

Better solutions could be introduced, such as:

- The existing mechanism could be maintained, but the depreciation of the assets financed by the loan should not be integrated in the cost component of the tariff. Such coherent provision is unlikely to be accepted by a regulation authority.

- The principal could be covered by the depreciation and also by the profit which is calculated on the basis of the invested asset value. The loan interests are deemed to be included in the tariff calculation.

- The assets financed by the loan could be transferred to an external public body, like the Municipality. The use of these assets would be given to ACC in exchange for the payment of a lease which would correspond to the reimbursement of the loan and the payment of the interest. Such lease would rightfully be integrated in the cost component of the tariff. As the assets financed by the loan would not be the property of ACC, their depreciation would rightfully not be integrated is the cost component.

The second option has been considered in the financial calculations which are presented later on.

2.2.3.3. Other issues

Value of the cost, fee and adjustment components

The value of the costs and assets involved in the tariff calculations are an estimation made by ACC on the basis of the previous year data. It appears however that some numbers are not consistent with the official data presented in the financial statements of the company.

Indeed, as seen in the latest tariff revision of 2009, the value for operating costs taken into account for the 2009 tariff is significantly smaller than the value observed in 2008 and 2009, apparently due to the underestimation of the salary cost. As a consequence, the

tariff for 2009 covers 80 million lei of salaries while the actual cost is 130 million lei which leaves a gap of 50 million lei.

Regarding the assets, the profit rate applies to a net value of 566 million lei while data presented in the 2009 financial statement is 842 million lei. With a profit rate of 10%, the prejudice for ACC represents about 30 million lei.

To balance, an adjustment cost was introduced at the benefit of ACC. It represents 60 million lei but no details were given in the available set of documents regarding its calculation and it seems that there is no corresponding data in the financial statements.

VAT on water services

The VAT applies for the water, wastewater and technological water services but only for the non-domestic customers with a rate of 20%.

There is no VAT rate for the water and wastewater services for the population in the existing legal framework.

Having no VAT differs from having a 0% VAT rate on the tariff. Indeed it is very prejudicial for ACC because the VAT which is paid by ACC on the materials and services used to deliver the services to the population is not integrated in the VAT balance and it is not reimbursed to ACC, as it should normally be.

The costs which are subject to 20% VAT rate represented 230 million lei in 2009 (electricity + other operational costs) for domestic and non-domestic customers. The non-reimbursed VAT related to services to the population is around 30 million lei.

The situation could get worse in the future if the envisaged investments financed by international organizations are submitted to VAT. The part of the VAT which concerns the investment related to the domestic services may not be reimbursed to ACC, which could represent a very significant financial loss for ACC.

Non periodic and systematic revision of the tariff

The methodology makes provision that the tariff could be revised every year. A second revision can even occur in a same year in case of an extraordinary increase of the costs.

However, as observed earlier, the tariffs were only revised in 2007 and 2009 since 2001. In particular, the present tariff in 2012 was calculated with a forecast of the 2009 costs and volumes, based on the actual 2008 costs and volumes. Since 2008, the evolution of the costs and the reduction of the billed volume have not been taken into account.

Regarding the cost, a significant effort of productivity was made by ACC in 2009 with respect to 2008, which led to a significant reduction. However, this reduction, which was taken into account in the 2009 tariff revision, has been more than offset by the inflation in 2010.

The evolution of volumes billed is shown in the graph below:
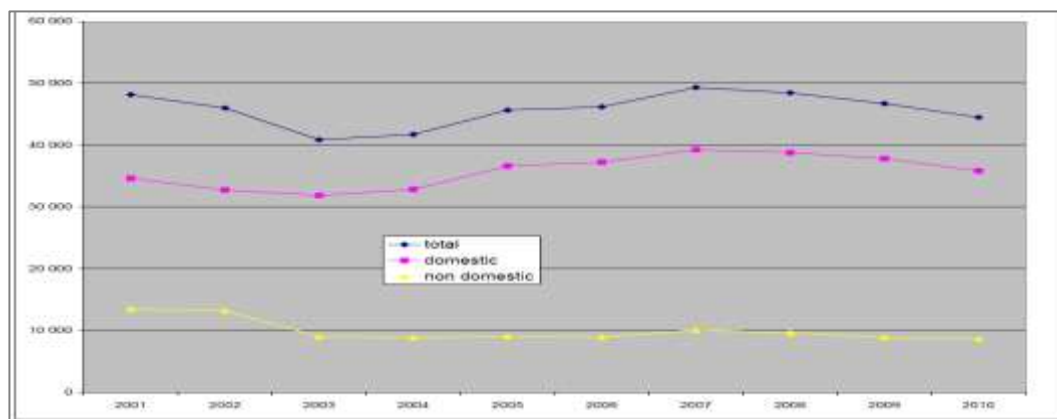
Figure 5: Evolution of the volume billed for water services

The reduction of the billed volumes has a negative impact on the revenue of ACC because the tariff is not systematically revised. Should the tariffs be revised on a yearly basis, the evolution of volumes billed would be transparent.

The following graph shows the deficit of volume billed in 2009 and 20010 compared with what was forecasted in the 2009 tariff revision:

Table 2: Volume billed in 2009 and 2010 - forecast and actual numbers

	2009	2010
water		
forecast in the tariff	48 205	48 205
actual	46 701	44 470
deficit	-1 504	-3 735
deficit in % of the forecast	-3,1%	-7,7%
wastewater		
forecast in the tariff	46 370	46 370
actual	43 897	42 319
deficit	-2 473	-4 051
deficit in % of the forecast	-5,3%	-8,7%
technologic water		
forecast in the tariff	2 545	2 545
actual	1 950	1 818
deficit	-595	-727
deficit in % of the forecast	-23,4%	-28,6%

volume billed 1000m3

As no revision was made in 2010, the reduction of volume represents a loss of financial resources of around 8% compared with what was allocated to the company in the tariff revision of 2009. The objective of the calculation was to provide a target turnover of around 600 million lei to ACC. The deficit due to the reduction of the volume is around 8% of this target turnover and represents a financial loss of around 60 million lei in 2010 for ACC.

2.3.   TARIFF SETTING PROCESS

2.3.1.   KEY PLAYERS

The key players in the tariff revision process are:

- ACC;

- the Municipal Council of Chisinau;

- the Municipal Commissions;

- the Specialized Commissions and;

- ANRE, which is the National Energy Regulation Agency (ANRE has written the methodology used for water tariffs setting).

2.3.2.   PROCEDURE

2.3.2.1.   General

ACC applies a tariff for 3 different services:

- (Drinking) water;

- Wastewater and;

- Technological water.

The approving authority on water and wastewater services tariff is the Municipal Council. The ANRE is the approving authority regarding the technological tariff. In addition, the ANRE is consulted on the water and wastewater tariffs and gives advice to the Municipal Council on this matter.

The tariff revision can be initiated by ACC or the approving authorities. A revision can be solicited every year, and once during the year if an extraordinary increase of ACC's operating cost occurs.

There is no obligation that the tariff for water and wastewater and the tariff for technological water are revised according to the same schedule.

The common observed practice is that ACC asks periodically for a revision of the 3 tariffs, but not systematically every year.

2.3.2.2.   Documents provided for tariff revision

For the revision of the tariff, ACC must provide the following documents to the approving authorities:

- The calculation of the future requested tariffs for the 3 services regarding water, wastewater and technological water in accordance with the established methodology - At this stage, the tariffs for water and wastewater services are

average tariffs for all customers, domestic and non-domestic - Specific tariffs for those 2 categories will be established once the average tariff is approved

- The financial statements, the audit report and any other documents giving the justification of the set of data used in the calculation of the tariffs

- The calculation of the volume of water lost in the network, according to the established methodology

- The information notice on the economic reasons which have conducted ACC to ask for a revision of the tariffs.

2.3.2.3. Water and Wastewater

Regarding the water and wastewater services, the Municipal Council approves average tariffs which are subsequently split in a tariff for the domestic customers and a tariff for the non-domestic customers, according to the Municipal Council's decision.

The documents are transmitted to ANRE for consultation and to the relevant Municipal Commissions for approval. The ANRE gives recommendations regarding the request of revision, but the decision is under the sole responsibility of the Municipal Commissions.

After approval by the Municipal Commissions, ACC is authorized to present the request to the Municipal Council. For this purpose, the documents must be transmitted to the Specialized Commissions to examine the request and present their opinions to the Municipal Council.

If the Municipal Council approves the request, the tariffs for domestic customers and non-domestic customers are established on the basis of the average approved tariff.

2.3.2.4. Technological Water

The technological water is only available for the non-domestic customers and only one tariff applies.

The documents are transmitted to the ANRE for approval. The ANRE informs the Municipal Commissions and the Municipal Council about the request of revision regarding the technological water. The approval of ANRE can be given after the coordination of all tariffs revisions in the Municipal Council.

2.3.2.5. Conclusion

The current tariff setting process which involves many players (see figure below) is unclear and highly political.

The table on the right side of the figure reads:

1 Transmission of the documents to the Municipal Commissions regarding the water and wastewater tariffs
2 Transmission of the documents to the ANRE regarding the technological water tariff and the water and wastewater tariffs
3 Transmission of the recommendation of the ANRE regarding the water and wastewater tariffs
4 Approval of the water and wastewater tariffs
5 Transmission of the documents to the Specialized Commissions regarding the water and wastewater tariffs
6 Transmission of the documents to the Municipal Counceil regarding the water and wastewater tariffs
7 Coordination with the Municpal Council regading the technological tariff
8 Opinion of the Specialized Commissions
9 Decision regarding the water and wastewater tariffs
10 Decision regarding the technological tariffs

Figure 6: Administrative process for the revision of tariffs

Indeed, the approval of the Municipal Commissions, the opinions of the Specialized Commissions and the final decision of the Municipal Council are likely to involve many subjective and non-economic factors. Getting through the approval and opinions of so many bodies with different and sometimes conflicting agendas is more similar to a pure bargaining game than a rational regulation process.

In addition, the involved municipal bodies have very little experience in economic studies and they are not able to provide a proper assessment on the technical aspects of the documents.

In contrast, the ANRE is a specialized body with relevant skills in finance and economics. However, it is very much focused on energy regulation and can dedicate only limited resources to the tariff setting in the water and wastewater services.

It is worth pointing out that discussions are being held to transfer the responsibility on tariff from the City Council to ANRE. This is mainly motivated by the fact that today the tariff level is highly dependent on the political environment. The main risk with tariff setting is not the methodology itself but the non- application of the methodology for the annual revision of tariff levels.

2.4. SUMMARY OF THE ISSUES AND RECOMMENDATIONS

The issues identified in the documents are summarized in the following table:

Table 3: Summary of the identified issues

Issues	Consequence	financial impact for ACC	comments - proposed solution
The administrative procedure is complex, lengthy and subject to political bargaining	The tariff is not only based on economic consideration but it includes many subjective and political factors - In addition, the complexity of the procedure and the uncertain result are such that ACC may be discouraged to ask for legitimate annual revisions of the tariff	This situation is responsible, to a large extent, for the issues listed below	The approving authority on the tariff should be given to an independent regulator, which could be the ANRE
Unpaid bills of the municipal housing companies	The incoming cash flow is directly affected and ACC cannot be blamed for it	17% of the domestic billing - negative impact of 35 million in 2009 and 60 million lei for ACC in 2010	1. Since the 1/01/12 the Municipality decided to allow ACC for billing the final users based on block reading. 2. The settlement of the unpaid amounts (before 2012) has to be agreed with ACC probably through a compensation from the City Budget (as part of the City grant in the PIP for instance)
The value of the cost, fee and adjustment components	The numbers used in the tariff calculation are not in line with the data presented in the financial statements	in 2009: - negative impact of 50 million lei on the cost (salaries) - negative impact of 30 million lei on the fee - positive impact of 60 million lei on the adjustment	The manner of taking into account the cost in the tariff should be clarified - The numbers should be consistent with what is indicated in the financial statements and the budget of ACC. The rate which applies to the profit level should be agreed with the administration responsible for tariff approval since it conditions the capacity to refund the loan.
Lack of VAT on the services to the population	The VAT which is paid by ACC on the materials and services used to deliver the services to the population is not reimbursed to ACC	negative impact of 30 million lei in 2009	A 0% VAT rate should be introduced for the services to the population - In this manner, the VAT paid by ACC would be integrated in the VAT balance and would be reimbursed
A VAT cost is integrated in the cost component of the tariff	This cost has no correspondence in the financial statements and can be questioned	positive impact of 26 million lei in 2009	This cost, if not in line with the financial statement data, should not be used in the tariff revision
non-periodic and systematic revision of the tariff	The tariff, if not revised after a one-year period, may not be adapted to the new conditions of operation of ACC	negative impact of 60 million lei in 2010, due lower billed volumes	The tariff should be revised every year. Alternatively, an average tariff could be proposed during the loan maturity period – at least on a five year basis – with an escalation formula to take into account the official cost price index.

3.   FINANCIAL MODELING

3.1.   OVERALL OBJECTIVE

The global capacity of the water authority ACC to support the PIP has been assessed, as well as the relevant funding mechanisms. This is the purpose of the chapter.

This assessment is mainly based on a model (under Excel®) gathering and connecting the main variables determining the evolution of technical, economical and financial drivers describing the situation of the Company and its evolution over a long period. These variables are interconnected as they have mutual interactions (e.g. the budget for repairs, the resulting reduction of water losses, then the reduction of energy consumption, and decrease of energy budget over the period).

This includes the main elements discussed through the present study, and particularly:

- The investments identified under the Priority Investment Plan, and complementary investment programme

- The impact of PIP on the operation and maintenance costs, especially energy and leak repairs

- Estimated gains regarding technical efficiency

- The funding structure for supporting PIP, and more generally all investments

- The resulting tariff grids, and the affordability for the population of Chisinau

- The projected financial statements and key evaluation ratios

The Excel model has been provided to both EBRD and ACC. It includes the following spreadsheets:

- List of hypotheses and key performance indicators (KPI)

- Breakdown of investments (PIP & LTIP) with financing conditions

- Calculation of assets depreciation

- Water demand

- Breakdown of billing and revenue collection

- Energy consumption (and impact of the PIP)

- Tariff calculations based on the cost + profit (RAB) methodology

- Affordability for payment

- Profit & Loss, Balance Sheet and cash flow situation

- Sensitivity factors (inflation, exchange rate, collection rate, productivity,…)

This section describes key elements of the financial analysis, including the main assumptions, and the main results of analysis

3.2.   HYPOTHESES

3.2.1.   PROJECTION PERIOD

The projection period for the financial analysis covers a period from 2013 to 2037 (25 years); past years 2010 and 2011, as well as current year 2012 are also included for ensuring the full consistency of future evolution modeling with the existing and past evolution of technical and financial elements describing ACC activities.

The model has been built based on the data (financial, operating, and technical) provided by ACC for the 2010-2011 period.

3.2.2.   INVESTMENT POLICY AND FINANCING

The PIP (**59.4 MEUR**) will take place during the 4 first years of the programme, i.e. from 2014 to 2018.

Funding of this programme is based on a balanced repartition of loans agreed with EBRD, EIB and KfW, as follows:

- EBRD: 15.1 MEUR (25.42%);

- EIB: 15.1 MEUR (25.42%)

- KfW: 15.1 MEUR (25.42%)

In addition of these loans, grants are expected to be received from:

- NIF (EU):   11.1 MEUR (18.68%)

- The City of Chisinau: 3 MEUR (5.05%)

Additional investments from ACC own cash flow are estimated to be as follows:

- 1.4 MEUR over 2014-2018 and 18.5 MEUR over 2019-2028 to finance complementary capital investments

Detailed conditions of loans have been detailed as follows in the model:

- Loan taken in foreign currency with a grace period (3 years) and maturity (10 years for the EBRD and 15 years for the EIB and KfW).

- The interest rates considered are: 5.6 for EBRD loan and 4.1% for KfW and EIB loans.

3.2.3.   OTHER HYPOTHESES

All the hypotheses considered in the financial model are fully detailed in the Phase B Report, Chapter 3.14. It mainly concerns:

- Macroeconomic assumptions;

- Water and wastewater coverage;

- Water consumption and wastewater discharge.

It is worth pointing out that:

- The volume used for calculating the average tariff is the <u>billed</u> volume unlike today where the volume used for calculation is: Production – Normative Losses (40%). However for ACC the normative losses are close to the actual losses.

- The tariff setting assumes that the cost + profit level applies from 2013 for <u>any</u> customer where all the costs reflect the costs incurred by ACC (last increase was in 2009).

3.2.4.   BASE SCENARIO:

The base scenario considered in the odel is based on the following set of hypotheses:

- Real wage growth (above inflation):

2012	2013	2014	2015	2016	2017	2018	2019	2020
5%	5%	5%	5%	5%	5%	3%	3%	3%

- Energy cost (above inflation): +5%/year;

- Consumption in blocks (l/day/cap):

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
0	1	2	3	4	5	6	7	8	9	10
140	136	133	130	126	122	118	114	110	111	112

- Productivity (staff/1000 connected population):

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
0	1	2	3	4	5	6	7	8	9	10
2,7	2,6	2,5	2,4	2,3	2,2	2,1	2,0	1,9	1,8	1,7

- Cross-subsidy ratios close to the level observed in 2012:

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
0	1	2	3	4	5	6	7	8	9	10
2,96	2,96	2,96	2,95	2,94	2,93	2,92	2,91	2,90	2,90	2,89

- Average revenue per household: 365 EUR/month in 2012 (or 165 EUR/capita/month);

- Revenue for the 10% poorest households: 104 EUR/month/household in 2012 (or 48 EUR/capita/month);

- Remuneration rate in the RAB methodology: 10% (of the net asset value financed by the water company through loans or free cash flow).

3.3.   RESULTS OF THE FINANCIAL MODEL

The sustainability of the PIP has been challenged through the following calculation cycle:

- Investments included in the PIP are implemented, and are funded by the corresponding loans to be contracted;

- Operation costs (including savings resulting from improvement of infrastructure allowed by the PIP) and depreciation are estimated by the model, as well as volumes produced and billed, and are entered into a calculation of yearly justified tariff grids, according to the tariff setting methodology defined by the national regulator

- Estimate of billing collection efficiency and working capital needs define the evolution of cash position of ACC;

- If the cash position is positive by the end of year, then this situation is used as the cash starting point for next year; if the position becomes negative, then a short-term loan is activated, generating addition debt service on following year.

The aim of this model is to make sure that the PIP scenario remains sustainable for ACC without excessive recourse to short-term debts.

Global sustainability is estimated, in addition, through classical ratios such as Debt Service Current Ratio (DSCR), reflecting the capacity of ACC to face its financial commitments (debt service) with a sufficient margin of security, and Current Ratio.

3.3.1.   IMPACT OF THE PIP ON THE TARIFF LEVELS

First of all, there is a need to catch up the lack of increase since 2009 and for the reasons described in the above sections which affected negatively the financial situation as described in the earlier sections.

The tariff should first be increased to 12.2 MDL/m^3 in 2013.

Then the impact of the PIP on tariff increase is around 1.5%/year (above inflation) in average for the period 2014-2023.

Table 4: Tariff levels for <u>domestic</u> customers with and without inflation recommended until 2023

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
w/o inflation	9.19	9.19	9.19	11.15	11.60	12.58	13.51	13.68	13.69	13.75	12.23	12.02	11.94	11.93
With inflation	9.19	9.19	9.19	12.23	13.03	14.46	15.95	16.49	16.93	17.47	16.41	16.70	17.20	17.84

Table 5: Tariff levels for non-domestic customers with and without inflation recommended until 2023

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
w/o inflation	27.55	27.55	27.55	33.00	34.33	37.22	39.83	40.19	40.09	40.14	35.59	34.90	34.60	34.53
With inflation	27.55	27.55	27.55	36.20	38.56	42.77	47.04	48.46	49.60	51.02	47.75	48.50	49.85	51.62

The increase of tariff is moderate for the following reasons:

- The assets before 2004 are assumed to be fully depreciated;

- The energy costs are kept at a steady level because the increase of energy cost is balanced by the reduction in energy consumption (energy efficiency and energy recovery in the PIP).

The justification for the tariff increase is illustrated by the graph below which provides the breakdown of cost + profit used in the calculation. The main item responsible for tariff increase is the asset value (due to the new assets) which is considered in the depreciation and in the RAB profit level. The RAB profit level is less sensitive to the new assets since only the proportion financed by ACC (i.e. from the loan representing 76% of the PIP) is considered in the profit level unlike the depreciation which considers all the assets.

The increase in cost for electricity is moderate despite the higher energy growth due to the energy savings achieved with the Priority Investments. The increase of energy expenditures observed during the last period comes from the commissioning of the new facilities to treat Nitrogen and Phosphorus according to the EU standards.
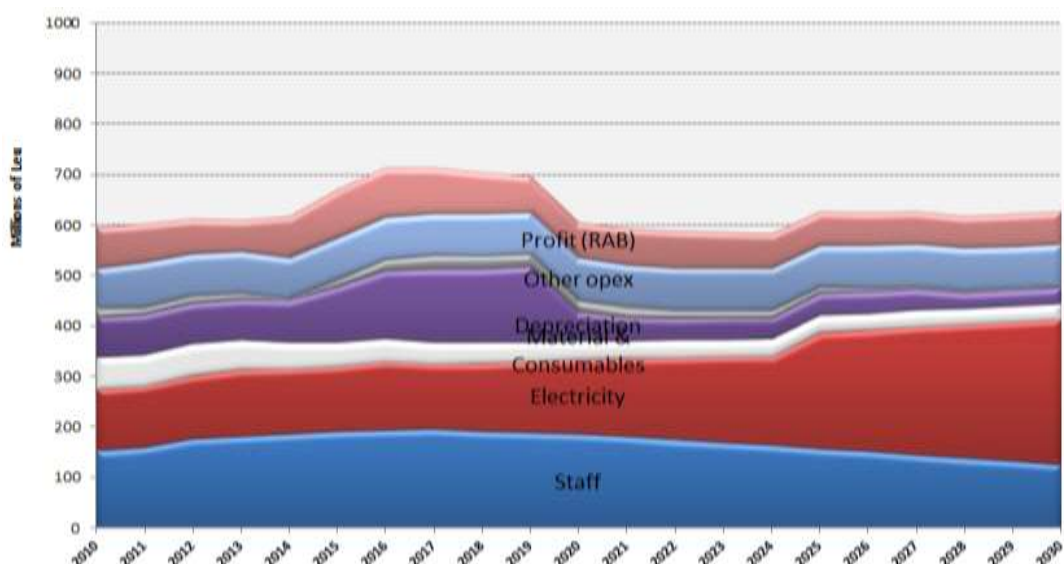
Figure 7: Breakdown of costs in the tariff calculation

The tariffs start decreasing in 2020. This is mainly due to the fact that 25% of the assets of the PIP have been fully depreciated by then as shown in the graph below.
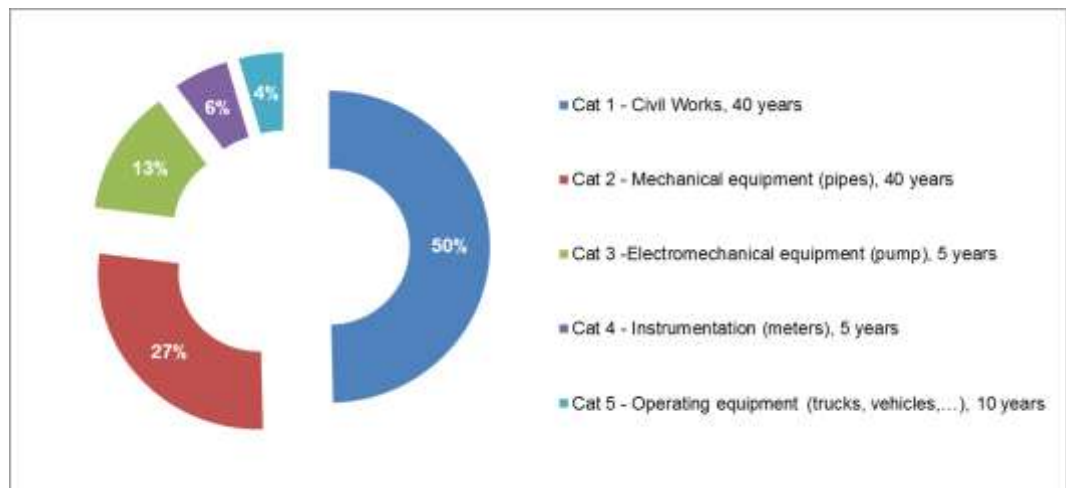
Figure 8: Breakdown of the PIP per category of depreciation

The labor cost decreases moderately since the model assumes a gradual and slight reduction in staff level (-22% by 2020 compared to 2012 level) to reach the level of Bucharest by 2030.

The next tariff increase in 2025 is due to the modernization of the WWTP which will need to be upgraded for treating Nitrogen and Phosphorus according to the EU standards. Consequently, the increase of energy consumption as a result in the change of process will increase the cost of service (environmental cost). However this period is indicative only.

The tariff increase has no negative impact on the average affordability for payment of the population in Chisinau since the growth of revenues compensates the increase in tariff levels (the salary growth is higher than the inflation).
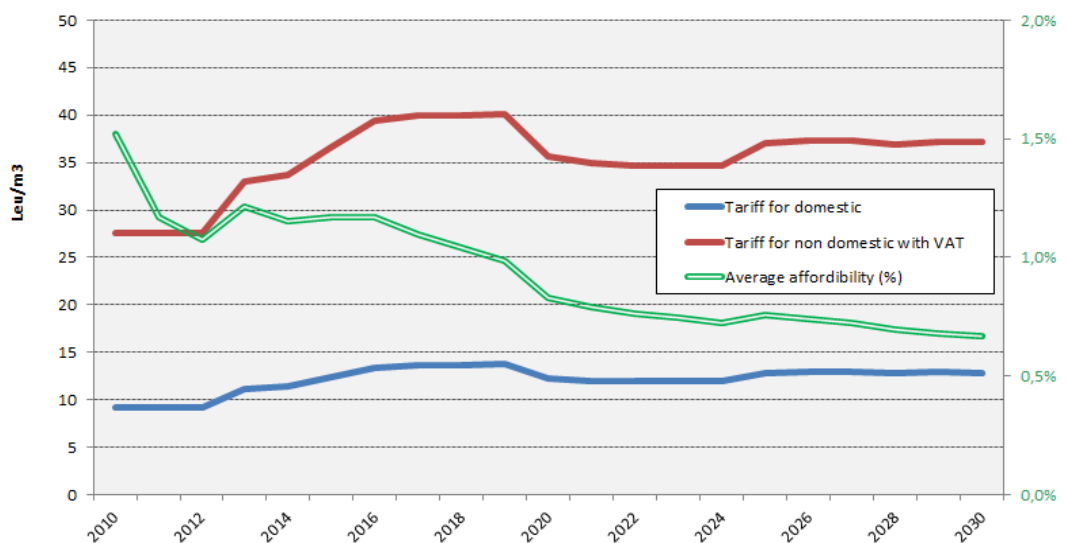
Figure 9: Simulation of the tariff levels -with VAT but exclusive of inflation- based on the cost + profit (RAB) methodology

3.3.2.   AFFORDABILITY

It is essential to measure the capacity for the population to face the evolution of tariff, and corresponding yearly bill.

As shown in the former graphs, the affordability does not exceed 1.5% in average of the revenues of the households in Chisinau which is below the International standards (3%).

The affordability level for the poorest households remains under the 5% limit recommended by the same standards.
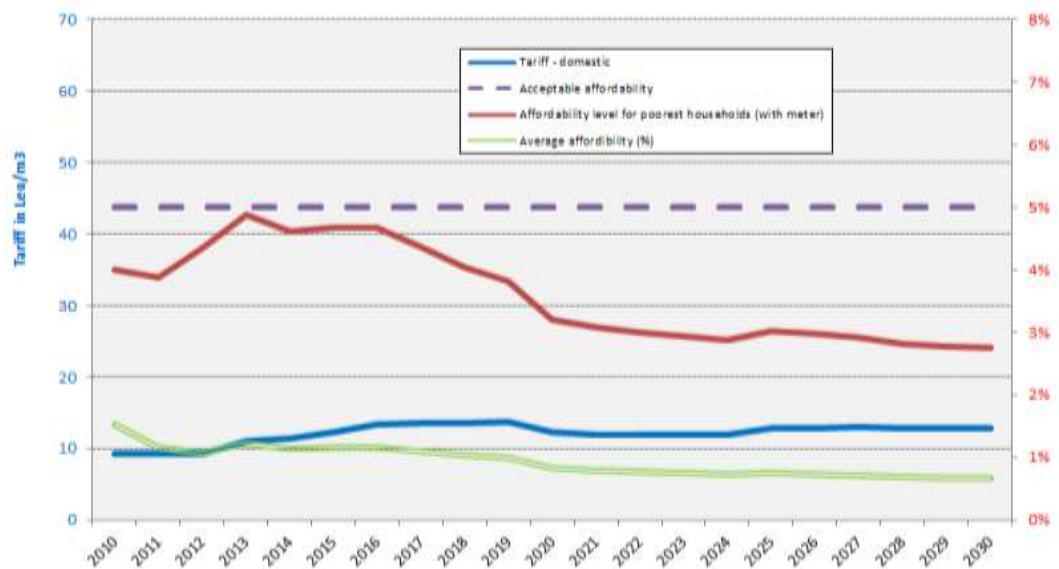
Figure 10: Affordability levels for the poorest households in Chisinau

The sensitivity analysis referred in the above sections shows that each factor (inflation, exchange rate, productivity,…) taken separately can have a negative but rather moderate impact on the tariff levels and affordability for payment. However if all those factors are combined the impact becomes significant: the simulation shows under the worst scenario that the affordability is close to the maximum recommended limit.
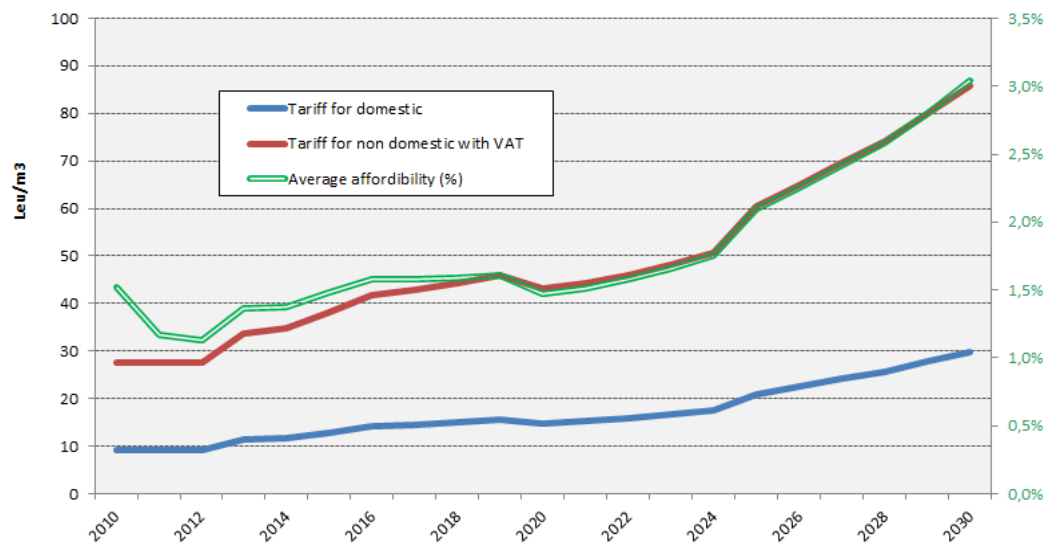
Figure 11: Water and wastewater tariff

3.3.3. BANKABILITY

Assuming that the tariffs will follow the cost+profit methodology, the financial indicators, namely the debt service coverage ratio and the current ratios meet the Bank requirements, as shown in the following table.

Table 6: Evolution of key financial ratios: DSCR & CR

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Ref value (min)
DSCR	0.3	0.6	0.2	2.6	5.3	10.4	9.5	2.8	2.8	2.9	2.1	1.2
CR	1.0	1.4	1.2	2.1	2.8	3.5	4.3	5.2	6.1	7.0	7.7	1.0

The Internal Return Rate of the PIP has been calculated to **10.5%.**

The payback period is **10** years.
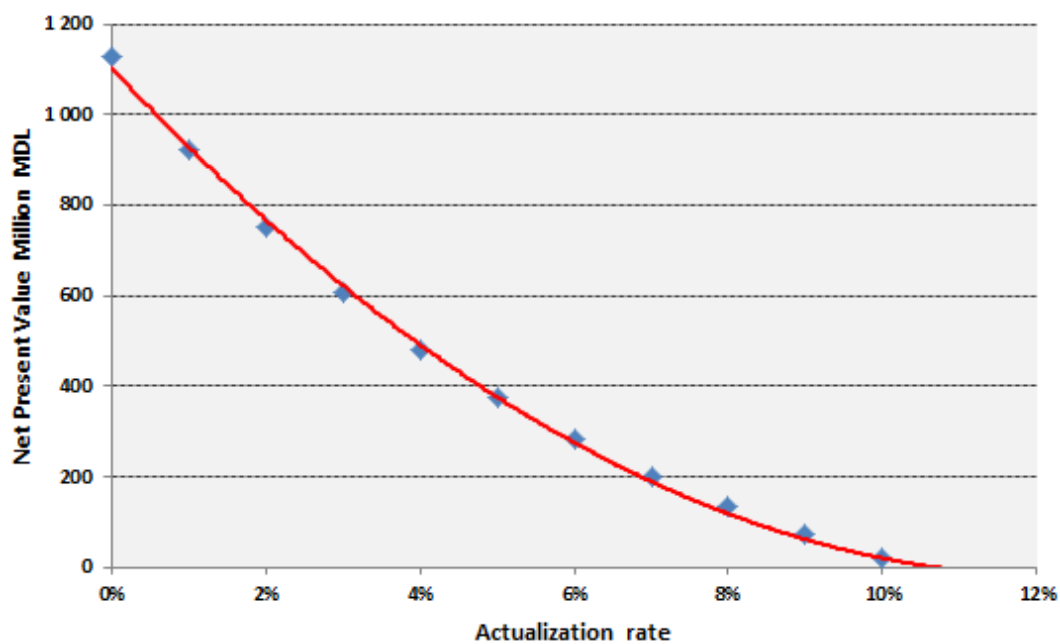
Figure 12: Net Present Value versus actualization rate

However it must be said that those indicators highly depend on the remuneration rate considered in the RAB profit level (10%).

This is evidenced by the figure below.
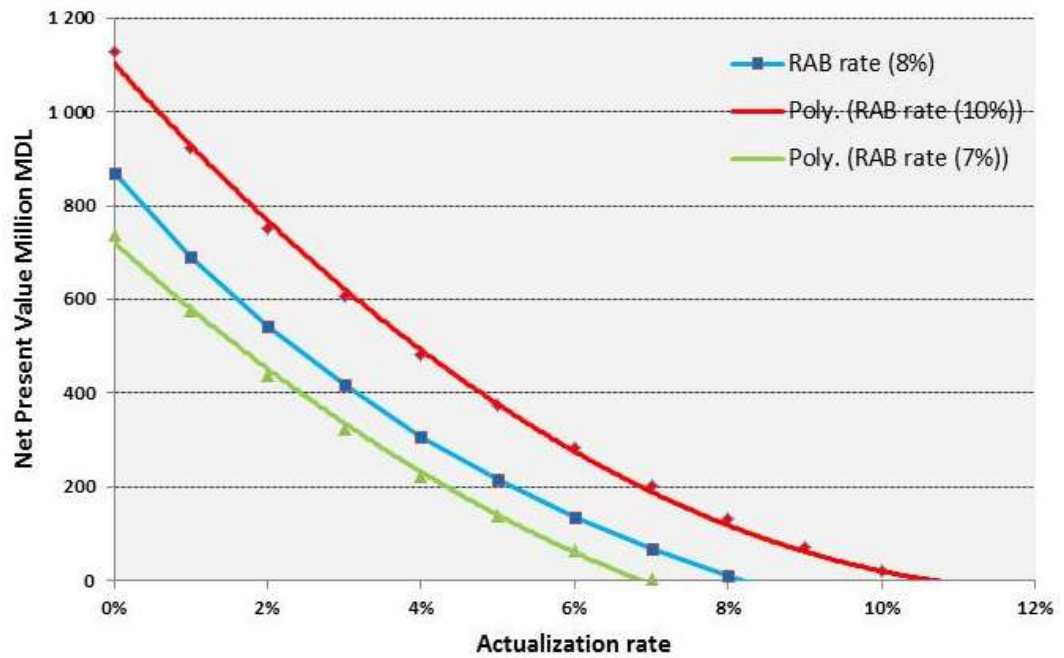
Figure 13: Net Present Value versus actualization rate

The main risk for the investor is that the tariff is not implemented as expected for political motivations or that the remuneration rate used in the RAB profit level is fixed at a lower level. For these reasons, it is highly recommended to implement a flat tariff scenario on a 5 years period with an annual revision/adjustment of the tariff based on the forecasts for inflation.

3.3.3.1.   Impact of the bill collection on the financial situation

3 scenarios have been considered for bill collection:

Table 7: Collection rate for population

Collection rate for population	SCENARIO	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Poor collection performance	1	87%	93%	92%	92%	91%	91%	91%	92%	92%	93%
Good performance	2	87%	94%	94%	95%	95%	96%	96%	97%	97%	98%
Very Poor collection performance	3	87%	90%	89%	88%	87%	86%	85%	86%	87%	88%

It must be noted that the improvement expected in 2012 is due to the recent decision taken by the Municipality of Chisinau to allow ACC for billing the final users based on the block meter.

The impact on the DSCR as shown on the graph here after is moderate: +/- 0.4 representing up to 20% variation. The bill collection enters into the calculation of the working capital in the DSCR: any decrease in bill collection results in a lower working capital leading to a smaller DSCR.
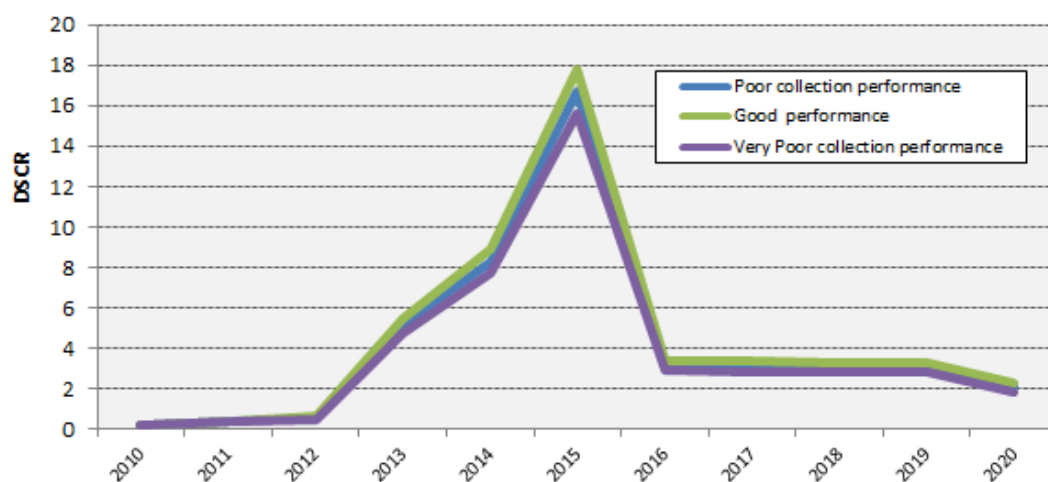
Figure 14: Impact of the bill collection rate on the DSCR - Graph 1

Considering the grace period of 3 years which is supposed to end in 2016, the DSCR observed in that period is not relevant.
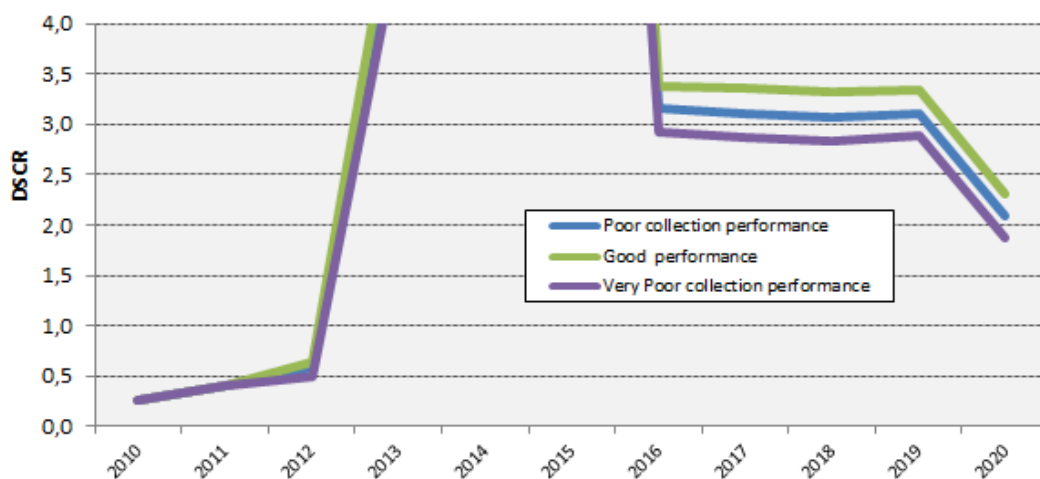
Figure 15: Impact of the bill collection rate on the DSCR - Graph 2

3.3.3.2.   Impact of the exchange rate on the financial situation

The scenarios of exchange rates proposed by the Bank lead to a variation of +/- 0.6 in the DSCR by 2020. The financial indicator is sensitive to exchange rate fluctuation since part of the losses cannot be transferred into the tariff.

Table 8: Sensitivity to exchange rate (MDL/EURO)

	SCENARIO	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sensitivity to exchange rate (MDL/EURO)											
Base Scenario	1	16,4	17	17	16	16	16	16	16	16	15
Pessimistic Scenario	2	16,4	20	20	20	22	22	22	23	23	23
Optimistic scenario	3	16,4	17	17	16	16	16	16	15	15	15

With an exchange rate of more than 25 MDL/EUR could lead to a DSCR level smaller than the expected covenant value (1.2).
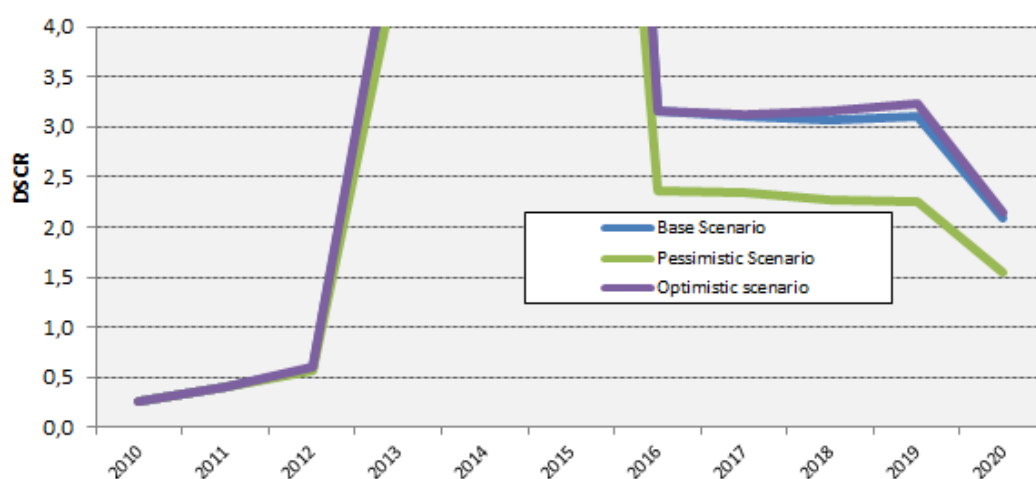
Figure 16: Impact of the exchange rate on the DSCR

3.3.4.   ANALYSIS OF SENSITIVITY FACTORS ON THE FINANCIAL MODEL

The models can simulate different scenarios for the following factors:

- Real wage growth (base/pessimistic/optimistic as proposed by the Bank)

- Real energy cost (base/pessimistic/optimistic as proposed by the Bank)

- Exchange rate

- Per capita consumption for the population living in apartments

- Productivity (staff/1,000 inhabitants)

- Cross subsidy ratios

3.3.4.1.   Real wage growth

Table 9: Scenario available

SCENARIO		2012	2013	2014	2015	2016	2017	2018	2019	2020
Base Scenario	1	5%	5%	5%	5%	5%	5%	3%	3%	3%
No inflation	2	0%	0%	0%	0%	0%	0%	0%	0%	0%
High Scenario	3	10%	10%	10%	10%	10%	10%	10%	5%	5%
Low Scenario	4	2%	2%	2%	2%	2%	2%	2%	0%	0%

The real wage growth directly impacts on the affordability level and also on the staff cost of the Company.

The tariff for domestic varies up to +/- 1.8 MDL/m^3 (representing a maximum variation of 15% in 2020) according to the scenarios.

However if we assume the level of staff remains at the level of 2012 (unlike the base scenario which assumes a gradual decrease by 22%), the impact of real wage growth is stronger: The tariff for domestic varies up to +/- 2.5 MDL/m^3 (representing a maximum variation of 18% in 2020)
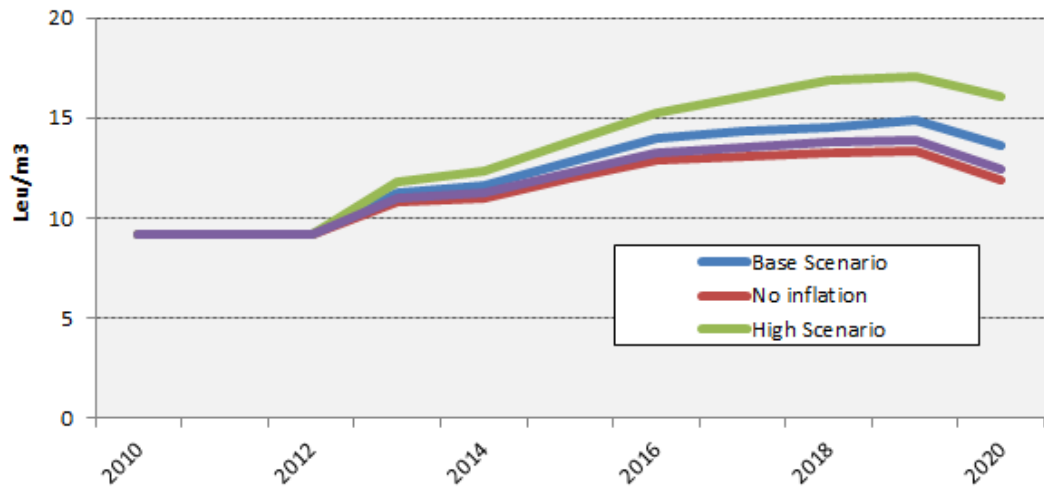
Figure 17: Impact of real wage growth on the tariff for domestic customers, constant staff

As shown in the graph below, the labor cost accounts for 26% in 2012 and might increase up to 31% in 2020 if the staff levels are not reduced and the real wage growth follows the high scenario.
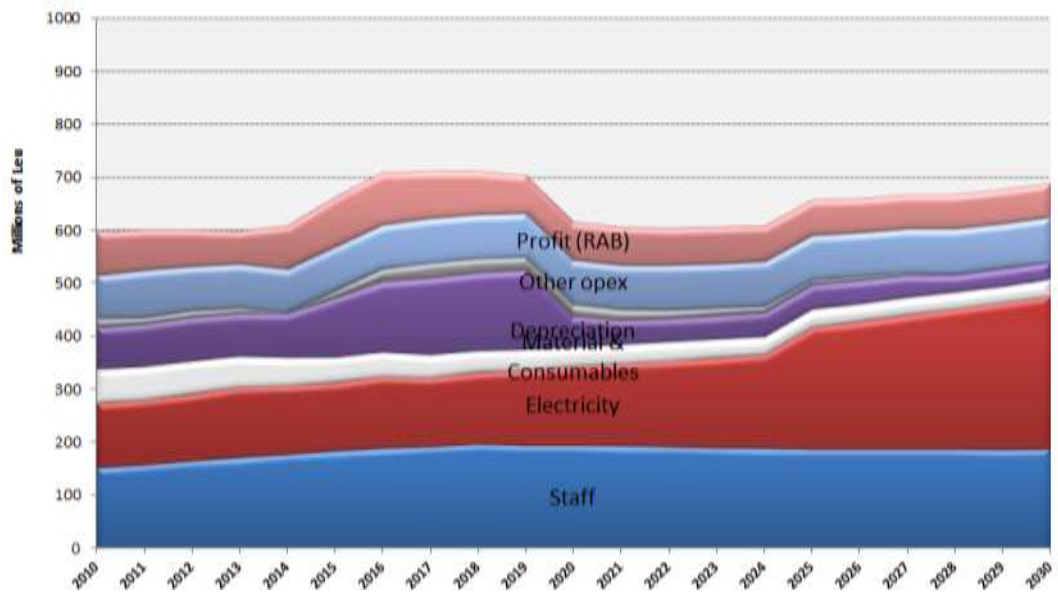
Figure 18: Breakdown of tariff setting

Although the impact is negative on the tariff levels, the real wage growth affects positively the affordability for payment which depends on the increase of revenues for the population. In the end the lowest scenario (no increase in wages against cost price index) is the most critical scenario for the project. Consequently, this factor shows that if the tariff would benefit from a reduction in staff level the real wage growth does not jeopardize the project implementation.
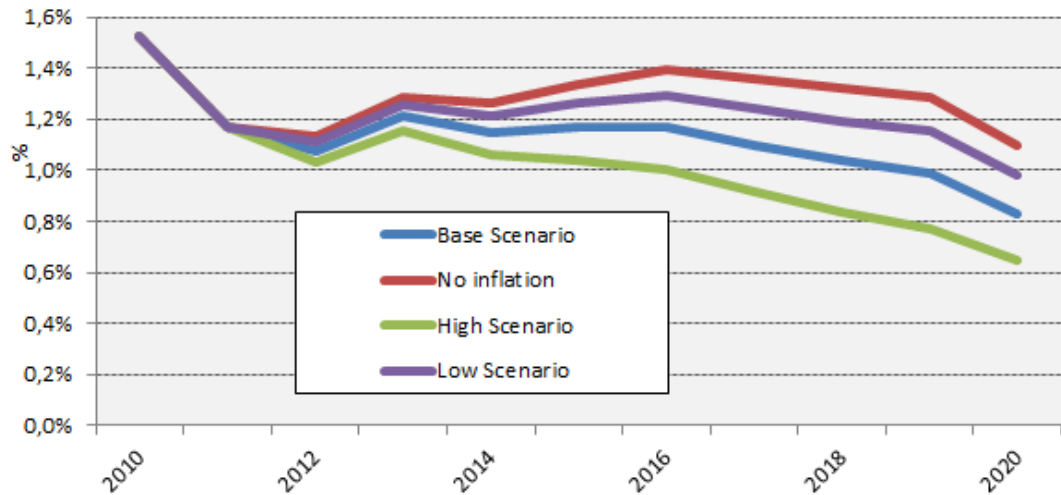
Figure 19: Impact of the real wage growth on the affordability for payment

3.3.4.2.   Real energy cost

The scenarios presented hereafter shows a variation up to 4 MDL/m^3 by 2020 according to the scenario (+37% from the flat scenario) since the energy cost is assumed to be reflected in the final tariff

Table 10: Scenario

SCENARIO		2012	2013	2014	2015	2016	2017	2018	2019	2020
Base Scenario (+5%/year)	1	1 481	1 556	1 633	1 715	1 801	1 891	1 985	2 085	2 189
Conservative scenario (+12%/year)	2	1 686	1 888	2 114	2 368	2 652	2 971	3 327	3 726	4 174
Flat scenario (0%)	3	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344
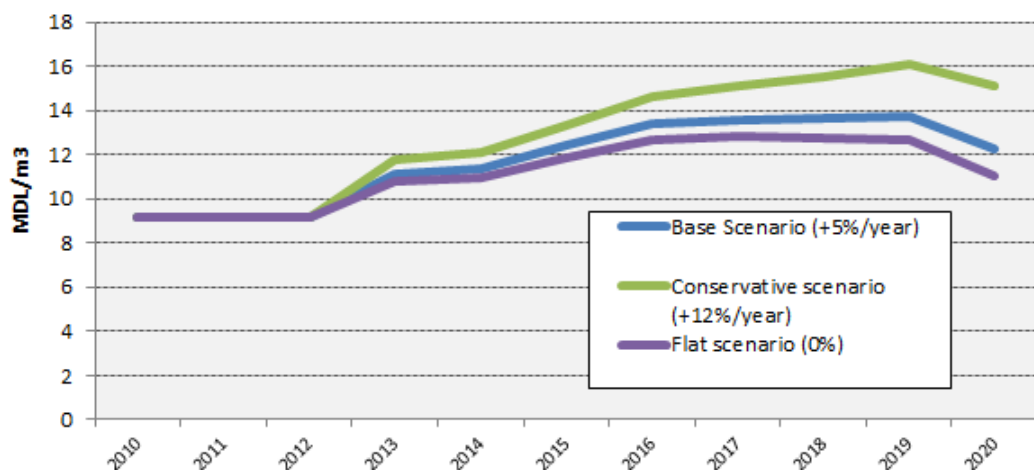
Figure 20: Impact of the real energy growth on tariff for domestic customers

The reduction of energy consumption due to the Priority Investment Program balances the expected real energy growth by 5% per annum: the energy cost under the base scenario represents 20% of the total cost (including profit) in average over the period 2013-2020 which is the same level observed in 2010.

However the impact on the affordability is still limited because the weight of energy cost in the tariff is rather small (20% base scenario, 27% high scenario in average during the 2013-2020).
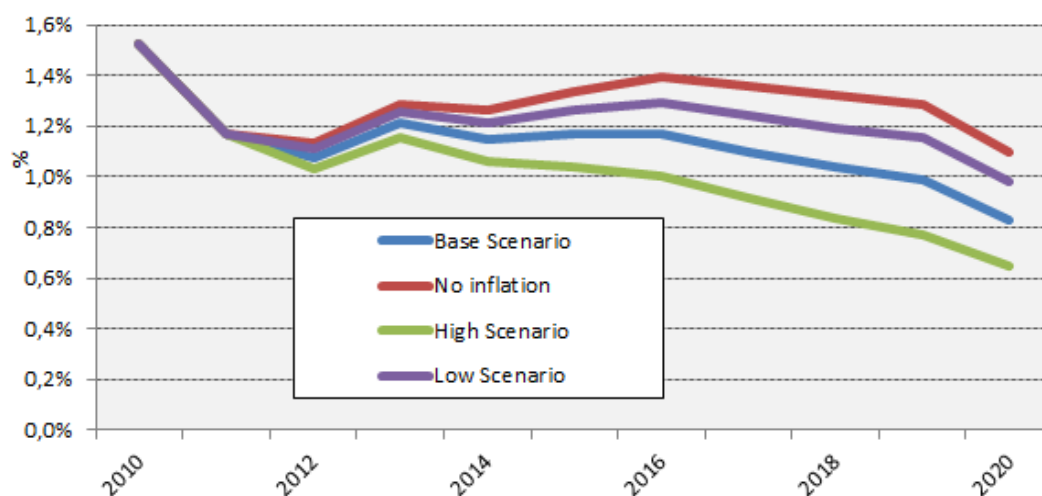
Figure 21: Impact of the real energy growth on the affordability for payment

In the end, the above scenarios do not impact significantly the affordability for payment.

3.3.4.3.   Exchange rate

The scenarios presented hereafter shows a very small variation which does not exceed 0.23 MDL/m^3 by 2020 according to the scenario (+1.8% from the flat scenario). However the scenarios defined by the Bank provide little difference (+/-20%).

Table 11: Sensitivity to exchange rate (MDL/EURO)

SCENARIO		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sensitivity to exchange rate (MDL/EURO)											
Base Scenario	1	16,4	17	17	16	16	16	16	16	16	15
Pessimistic Scenario	2	16,4	20	20	20	22	22	22	23	23	23
Optimistic scenario	3	16,4	17	17	16	16	16	16	15	15	15

The impact on the tariff is moderate since only the interests are included in the tariff setting. The depreciation is a fixed amount which does not depend on the exchange rate once it has been procured. The losses on exchange rate cannot be included in the tariff setting. Saying that, the impact of the exchange rate further impacts the cash situation of ACC.

3.3.4.4.   Per capita consumption for the population living in apartments

Most of the domestic customers in Chisinau are equipped with water meters. The scenarios here analyze the sensitivity of per capita consumption on the model.

Table 12: Sensitivity to domestic consumption (l/day/capita)

Sensitivity to domestic consumption (l/day/capita)	SCENARIO	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Base Scenario	1	146	140	136	133	130	126	122	118	114	110
Conservative scenario (base scenario -	2	146	119	116	113	111	107	104	100	97	94
Flat scenario (unchanged rate)	3	146	146	146	146	146	146	146	146	146	146

The per capita consumption impacts the tariff levels: +/- 2.5 MDL/m^3 according to scenario leading to 24% of difference in tariff levels. However there is no major impact for the affordability since the increase in consumption is mechanically balanced by the decrease in tariff.
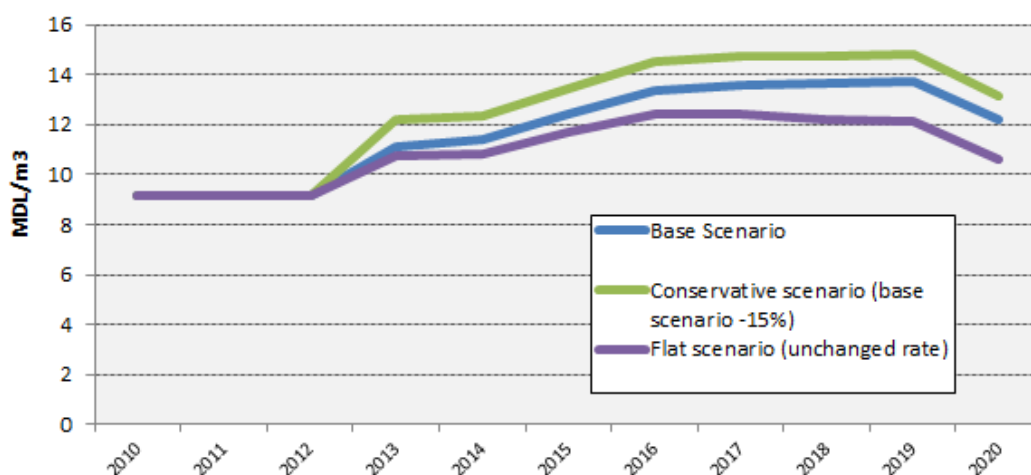
Figure 22: Impact of the per capital consumption for domestic customers in blocks on the tariff

However should the tariff be defined for a 10 year period, then the revision of tariff might be considered to "protect" the operator against any significant variations in the consumption that could affect its revenues.

3.3.4.5. Staff productivity

The different scenarios refer to the convergence with the situation observed in Bucharest today:

Table 13: Number of staff/1000 connected population

Number of staff / 1,000 connected population	SCENARIO	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bucharest ratio by 2030	1	2,7	2,7	2,6	2,5	2,4	2,3	2,2	2,1	2,0	1,9
Bucharest ratio by 2020	2	2,7	2,7	2,4	2,2	2,0	1,8	1,6	1,4	1,2	1
Flat evolution	3	2,7	2,7	2,7	2,7	2,7	2,7	2,7	2,7	2,7	2,7

The scenarios presented hereafter shows a variation up to 3.26 MDL/m^3 by 2020 according to the scenario (+23% from the flat scenario) since the reduction of staff levels would result in a reduction of the tariff.

As mentioned earlier, the labor cost represents 26% of the total cost –including profit level- which enters into the tariff calculation today. That cost is sensitive to the real wage growth
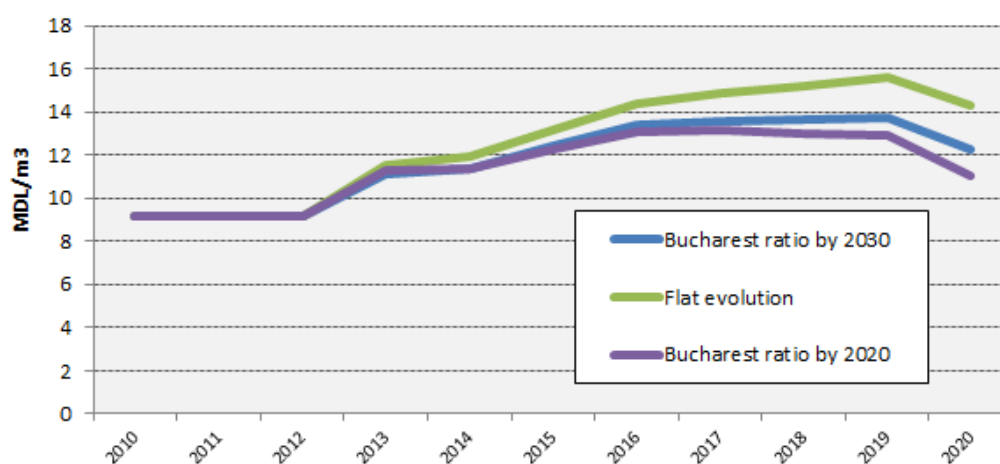
Figure 23: Impact of the staff productivity on tariff for domestic customers

3.3.4.6.   Cross subsidies

The base scenario assumes that cross subsidies remain at their today's level which means that that the ratio between domestic and non-domestic tariff levels is unchanged.

However different scenarios are presented here after:

- Tariff exclusive of inflation are frozen for the non-domestic customers. The tariffs for domestic customers are those calculated under the base scenario presented above.

Table 14: Tariff for domestic

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
w/o inflation	9.19	9.19	9.19	11.15	11.60	12.58	13.51	13.68	13.69	13.75	12.23	12.02	11.94	11.93
With inflation	9.19	9.19	9.19	12.23	13.03	14.46	15.95	16.49	16.93	17.47	16.41	16.70	17.20	17.84

Table 15: Tariff for non-domestic & Cross-subsidy ratio

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
w/o inflation	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55	27.55
With inflation	27.55	27.55	27.55	28.93	30.38	31.90	33.49	35.16	36.22	37.31	38.43	39.58	40.77	41.99
Cross subsidy ratio	3.0	3.0	3.0	2.37	2.33	2.21	**2.10**	2.13	2.14	2.14	2.34	2.37	2.37	2.37

The cross-subsidy ratio decreases until 2016 when it reaches the value of 2.10. After 2016, the tariff increase being less than the inflation, the non-domestic tariff tends to increase more than the domestic one resulting in a higher cross subsidy ratio.

As shown in the graph below, the DSCR is close to its minimum covenant level (1.3) in the second period of the loan maturity. The reason is that the tariff for non-domestic customers is lower if it is inflated annually (41.99 MDL/m^3 in 2023) than under the base scenario (51.62). The loss of revenues directly impacts the free cash flow of the Company.

Table 16: Evolution of key financial ratios: DSCR & CR

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Ref value (min)
DSCR	0.3	0.6	0.2	0.9	1.0	1.8	5.1	1.8	1.9	1.9	1.3	1.2
DSCR (base scenario)	0.3	0.6	0.2	2.6	5.3	10.4	9.5	2.8	2.8	2.9	2.1	1.2
CR	1.0	1.4	1.2	1.6	1.7	2.0	2.9	3.4	3.8	4.3	4.3	1.0
CR (base scenario)	1.0	1.4	1.2	2.1	2.8	3.5	4.3	5.2	6.1	7.0	7.7	1.0

- Another scenario has been considered with a tariff convergence by 2020, exclusive of VAT, which means a ratio of 1.20 taking into account that no VAT applies for the domestic.

The calculations show that the tariff for domestic customers should reach 17 MDL/m^3 in 2020. The tariffs for non-domestic customers would decrease -at constant price- over the same period.
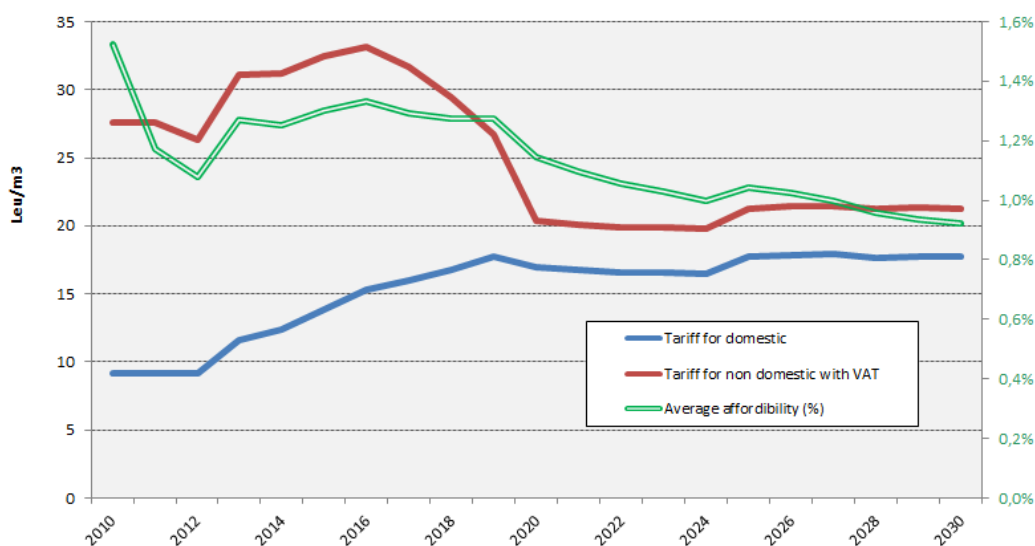
Figure 24: Water and Wastewater Tariff

- Scenario -exclusive of inflation- with elimination of cross-subsidy (w/o VAT) by 2020.

Taking into account the inflation –current price-, the tariffs for non-domestic customers in 2020 (27.35 MDL/m^3) would be close to the level observed in 2012 (26.34 MDL/m^3) which means that a tariff freeze -inclusive of inflation- for non-domestic between 2012 and 2020 would lead to the elimination of cross subsidies.
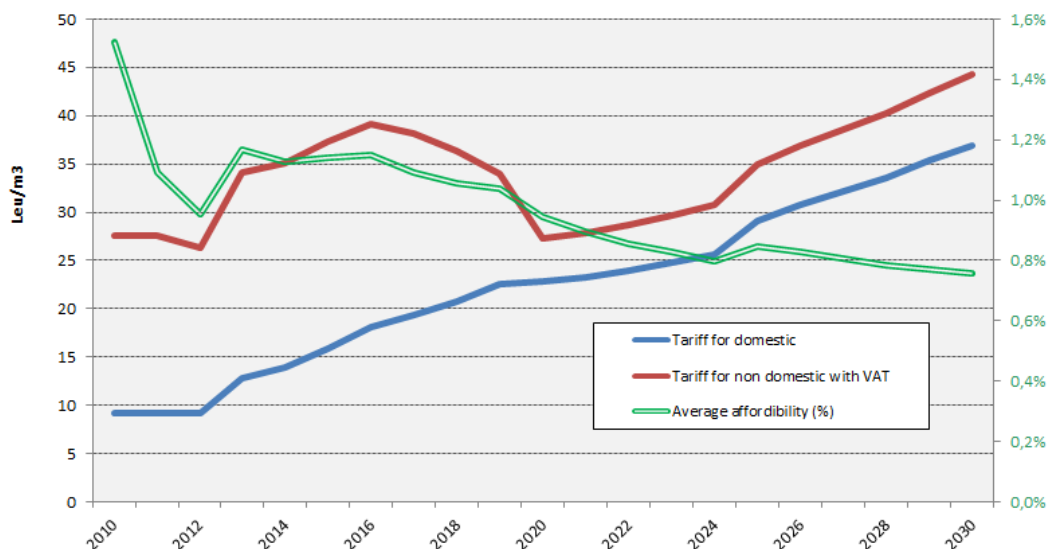
Figure 25: Water and Wastewater Tariff

The average weight of water bill in the household revenue would still be below the affordability limit as shown in the graph above.

The financial indicators would remain at an acceptable level as shown in the following table:

Table 17: Evolution of DSCR & CR

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
DSCR	0.3	0.7	0.1	2.1	5.0	10.2	9.3	2.8	2.8	2.8	2.0	2.1	2.2	2.3
WR (w/o VAT)	1.0	1.4	1.1	1.9	2.7	3.4	4.2	5.1	6.0	6.8	7.5	7.7	8.0	8.3

3.3.5. FLAT TARIFF SCENARIO DURING THE MATURITY PERIOD

The flat tariff scenario is a scenario without inflation. This means that even under the flat scenario, the tariff are expected to be adjusted on an annual basis with the observed inflation (cost price index).

The flat scenario is defined as the average tariff levels for the domestic customers during the 2014-2025 period (expected loan maturity period).

Based on the set of assumption presented in the previous section, the resulting average level for tariff to domestic customers is 14 MDL/m^3 for water and wastewater.
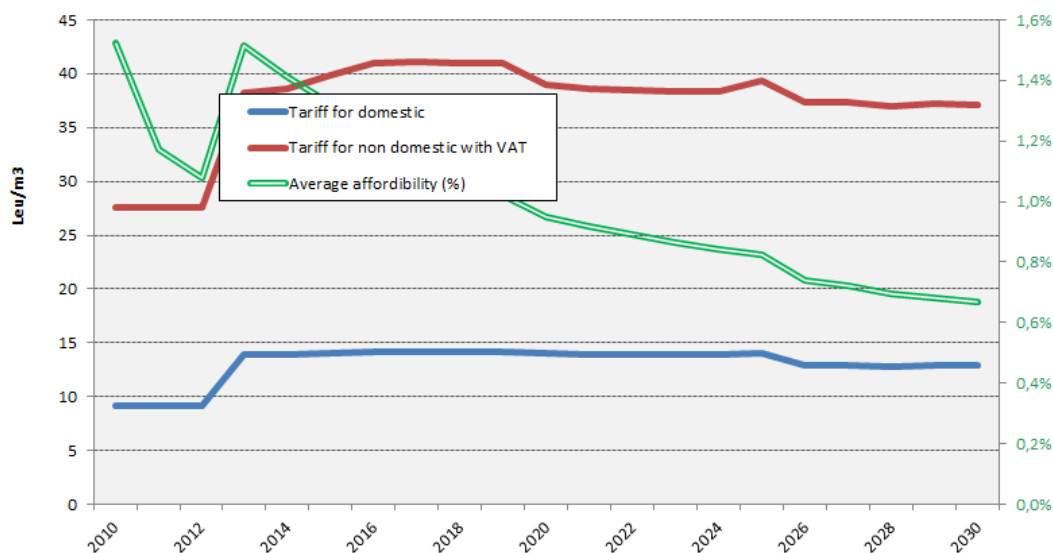
Figure 26: Simulation of a flat tariff level for domestic customers –with VAT but exclusive of inflation- based on the cost + profit (RAB) methodology

The flat tariff scenario does not affect the financial indicators as shown in the table below. The reason is that the flat scenario provides higher tariff in the first years of the project (than for the basic scenario) which improves the cash situation of the Company (higher financial incomes).

Table 18: Evolution of the DSCR depending on the scenario

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Ref value (min)
DSCR basic scenario	0.3	0.6	0.2	2.6	5.3	10.4	9.5	2.8	2.8	2.9	2.1	**1.2**
DSCR flat scenario	0.3	0.6	0.2	6.7	7.1	10.1	7.6	2.1	2.1	1.8	1.4	**1.2**

The implementation of the flat tariff could be a condition of effectiveness of the project in order to reduce the risk for non-tariff increase which unfortunately is often faced with international funded projects, in particular during the first EBRD project (1997).

3.4.   FOCUS ON KEY FINANCIAL INDICTORS: DSCR & CURRENT RATIO

3.4.1.   SOURCE OF INFORMATION

ACC provides Financial Statements which are established by the financial department on a quarterly basis and according to the national regulation and methodology.

The loan agreement between ACC and the EBRD signed in 1997 makes a condition that Financial Statements "audited in accordance with internationally accepted auditing principles and standards, consistently applied by independent auditors acceptable to the Bank" are made available.

For this purpose, independent auditors are selected annually by ACC through a tender process as required by the local regulation. Grant Thornton was chosen for the Financial Year 2010 and provided annual audited accounts in accordance with international standards on auditing. Two sets of data have been established, according the national accounting standards on one hand, and according the international accounting standards on the other hand.

As a consequence, 3 different sets of document are available to perform a financial analysis of ACC:

- The Financial Statements established by ACC on a quarterly basis;

- The Financial Statements established by the auditors according to the national accounting standards on an annual basis;

- The Financial Statements established by the auditors according to the international accounting standards on an annual basis.

The analysis under this Section is based on the financial statements audited according to the national accounting standards for the Years 2010 and 2011. It also considered the financial statements prepared by the auditor (Grant Thornton) according to IFRS for the Year 2010.

3.4.2.   FINANCIAL INDICATORS

Key financial indicators, in particular the Debt Service Coverage Ratio (or DSCR) and the current ratio are expected to be included as covenants in the loan agreement.

Discrepancies in the calculation of those ratios have been observed between the figures provided by the financial auditor (for the Year 2010) and the figures provided by the accounting department of ACC.

3.4.2.1.   Methodology for calculating the DSCR

The methodology which must be used to calculate the DSCR is established in the section 4.03 of the existing loan agreement:

"The Borrower shall, during in any 6-month period, maintain, on a consolidated basis, a debt service coverage ratio, calculated as the ratio of the Borrower's free cash flow during

such period to the interest and principal due and payable during such period on any debt of the Borrower, of no less than 1.35. For the purpose of this section, free cash flow means earnings before depreciation, interest and tax, less tax paid, plus or minus any change in working capital (other than cash) minus any mandatory capital investment requirement as set out in the Asset Management Rehabilitation Program plus any asset sales."

After verification with the finance department of ACC, it appears that this definition of the DSCR was not correctly applied. The versions of the loan agreement in Russian and Romanian were wrongly interpreted, regarding in particular the calculation of the free cash flow. Indeed, the interpretation of the depreciation of the assets and the calculation of the working capital was a source of difficulty. In addition, there was a specific calculation error which affected significantly the second 6-month period calculation of the DSCR.

The evaluation of the debt service (interest and principal) is also an issue, as it seems that all loans have not been taken into account. As a consequence, the DSCR provided by ACC have not been established in accordance to the loan agreement and had to be recalculated for 2010 and 2011.

3.4.2.2.   Calculation of the DSCR

The calculation is based on the Financial Statements established by ACC for 2010 and 2011 and on the discussions conducted with the financial department of ACC. The numbers are given for the 12-month period, as the 6-month period is intended to provide a monitoring of the indicator which does not make sense in a retrospective analysis.

Determination of the free cash flow

The free cash flow corresponds to the EBITDA corrected by the change of the working capital, the tax and investment requirement.

The calculation of the EBITDA for 2010 and 2011 is presented in the following table:

Table 19: Calculation of the EBITDA for 2010 and 2011

	2010	2011
Operating Income	581,791,108	576,217,900
Operating expenditures	426,327,249	468,778,995
Materials	*63,168,511*	*71,067,180*
Power	*122,685,053*	*120,665,620*
External	*38,807,468*	*46,606,968*
Salaries and social insurance	*153,068,989*	*159,370,827*
Bad debt expenses	*0*	*0*
Other	*48,597,228*	*71,068,400*
EBITDA	**155,463,859**	**107,438,905**

Numbers in MDL

The calculation of the change of the working capital is presented in the following table:

Table 20: Working Capital for 2009, 2010 and 2011

	2009	**2010**	**2011**
Current Assets	474,828,040	562,106,679	612,983,606
Stock	*39,908,163*	*40,399,156*	*35,967,274*
Trade Accounts Receivable	*397,393,909*	*468,334,410*	*539,920,688*
Receivables from the budget	*2,249,072*	*1,401,301*	*446,432*
Receivables from employees	*637,726*	*620,570*	*547,365*
Other receivables	*32,529,198*	*49,185,057*	*34,092,396*
Other current assets	*2,109,972*	*2,166,185*	*2,009,451*
Current Liabilities	103,872,239	68,476,897	81,211,872
Trade accounts payable	*40,588,814*	*36,192,102*	*46,937,254*
Payable to the employees	*9,995,884*	*10,555,839*	*9,546,184*
Payable to the budget	*12,260,845*	*3,613,366*	*8,289,140*
Social insurance payable	*2,525,185*	*2,438,189*	*2,288,590*
Other Creditors	*38,501,511*	*15,677,401*	*14,150,704*
working capital	**370,955,801**	**493,629,782**	**531,771,734**
change of working capital		122,673,981	38,141,952

Numbers in MDL

In the calculation of the working capital, the short term bank loans have not been taken into consideration. In the same manner, the so-called "payable to the founders" which appears in the Balance Sheet as a current liability is excluded from the calculation. This line represents the value of assets transferred from the Municipality to ACC, mainly networks, which should indeed not be taken into consideration.

In 2010 and in 2011, ACC paid no tax, and no <u>mandatory</u> capital investment was required. The free cash flow is presented in the following table:

Table 21: Free cash flow for 2010 and 2011

	2010	**2011**
EBITDA	155,463,859	107,438,905
minus change in working capital	-122,673,981	-38,141,952
minus tax paid	0	0
minus capital investment requirement	0	0
free cash flow	**32,789,878**	**69,296,953**

Numbers in MDL

Determination of the debt service

The debt situation of ACC, the principal payable and the interest payable are presented in the table below:

Table 22: Debt service in 2010, 2011 and 2012

	Debt situation beginning of the year (1st January)	Annual principal payable	Annual interest payable	Annual debt service payable
2010				
EBRD	97.0	20.0		
Banca Sociala	18.6	18.6		
Banca Economia	13.4	13.4		
Moldindconbank	36.6	27.0		
Total	**165.6**	**79.0**	**17.0**	**96.0**
2011				
EBRD	77.4	20.0		
Banca Sociala	17.4	0		
Banca Economia	22.2	16.8		
Moldindconbank	54.2	54.2		
Total	**171.2**	**91.0**	**12.0**	**103.0**
2011				
EBRD	56.0	20.0		
Banca Sociala	17.4	4.3		
Banca Economia	5.4	5.4		
Moldindconbank	60.0	51.0		
Total	**138.8**	**80.7**	**NA**	**NA**

Numbers in million MDL

The loan situation of ACC is rather complex and needs indeed to be studied carefully.

The EBRD provided a long term loan which corresponds to annual reimbursement of 20 million MDL until 2014.

Other loans are contracted for periods ranging from 1 to 5 years. The 1-year loans have been frequently renewed. For example, the debt of 54.2 million MDL to the Moldindconbank as per 01/01/2011 has been fully repaid in July 2011 thanks to a new loan of 60 million MDL contracted to the same bank in July 2011 with a 6-month grace period.

Calculation of the Debt Service Coverage Ratio

The calculation of the DSCR is indicated in the table below:

Table 23: Calculation of the DSCR

	2010	2011
free cash flow (in MDL)	32,789,878	69,296,953
debt service (in MDL)	96,000,000	103,000,000
DSCR	**0.34**	**0.67**

This calculation which is based on the Financial Statements established by ACC gives the same ratio as Grant Thornton for 2010. The ratio for 2011 is 0.67 is provisional and shall be confirmed by the audited 2011 accounts which they are available (presumably July 2012).

In 2010 and 2011, the ratio is positive but well below the minimum level of 1.35 required in the EBRD loan covenant.

As the tariff will not increase in 2012 while inflation stands at 5 to 10%, it is likely that the situation will deteriorate in 2012.

3.4.2.3.   Calculation of the current ratio

In the section 4.04 of the loan agreement, it is stated that "the Borrower shall maintain at all times a Current Ratio of not less than 1.25. For this purpose, the current ratio means the ratio of all current assets (including cash) over all current liabilities."

Calculation by ACC

ACC takes into consideration the current assets and the current liabilities as registered in the Financial Statements established by ACC. However, the current assets are corrected by an annual provision of bad debts which does not appear in their accounts. In this calculation, the estimation of the current assets is overvalued. Indeed, the provision which is taken into consideration corresponds to the current year and does not impair the previous years.

The current liabilities also appear to be too high, because it takes into consideration the so-called "Payable to the founders" which corresponds to a transfer of assets which is not supposed to be reimbursed by the company at any time.

Table 24: ACC calculation of the current ratio for 2011

gross current assets	*625*
provision for bad debts	*-38*
current assets (a)	587
current liabilities (b)	262
Including "Payable to the Founders"	*151*
current ratio (a)/(b)	**2.24**

assets and liabilities in million MDL

Calculation by Grant Thornton

The calculation is only available for 2010.

Table 25: Grant Thornton calculation of the current ratio for 2010

inventories	*28*
trade receivables	*43*
other assets	*92*
current assets (a)	163
short term portion of long term loans	*77*
trade payables	*37*
other liabilities	*42*
current liabilities (b)	156
current ratio (a)/(b)	**1.04**

assets and liabilities in million MDL

Current ratio in 2011

The calculation of the current ratio raises the important issue of the evaluation of the trade receivables registered in the balance sheet. It represents 539 million MDL in ACC's 2011 accounts and has never been depreciated in the recent years. In contrast, Grant Thornton almost fully depreciated this line with a cumulated provision of 386 million MDL in 2010.

The calculation of ACC for 2011 should be adjusted by the provision established by Grant Thornton in 2010. Also, the "payable to founders" should not be taken into consideration in the current liabilities. In addition, a line considered by ACC as a short term receivable was rescheduled and is actually a long term receivable which should not be taken into consideration in the current assets.

Table 26: Adjusted Calculation of the ratio for 2011

gross current assets	*625*
provision for bad debts	*-38*
provision Grant Thornton	*-386*
long term receivable	*-40*
current assets (a)	161
current liabilities (b)	111
Including "Payable to the Founders"	*151*
current ratio (a)/(b)	**1.45**

assets and liabilities in million MDL

The same methodology applied to 2010 gives a ratio of 1.35, to be compared with the ratio of 1.04 obtained by Grant Thornton. All numbers should be confirmed by the 2011 audited Financial Statements.

3.4.3.   CONCLUSION

The recalculation of the DSCR of 2010 based on the Financial Statements provided by ACC gives the same result as Grant Thornton. It confirms a value of 0.34 for 2010.

For 2011, the provisional calculation based on the Financial Statements provided by ACC gives a value of 0.67. This value must be confirmed by the audited accounts.

In 2010 and 2011, the DSCR appears to be lower than the minimum level of 1.35 required by the loan agreement. As the tariff does not increase in 2012, the situation is very much likely to be the same in 2012. In this context of a tariff which did not increase since 2009, the financial situation of the company deteriorates progressively. ACC must resort to roll over the loans which have been contracted, as the company does not have enough free cash flow to reimburse according to the schedule.

It should also be noted that the Company is not able to make significant investment. The cash flow and the new rolled-over loans are fully used to reimburse the existing loans. No financial resource is left to finance the investment.

The situation regarding the current ratio is less critical. As the current assets are widely overestimated because ACC does not take into consideration any provision for bad debt, the current ratio provided by ACC is not reliable. The impact of the correction regarding the provision for bad debt is however balanced by another correction regarding the overestimation by ACC of the current liabilities ("payables to the founders").

The recalculation for 2011 of the current ratio gives a result which is significantly lower but near the minimum level set in the loan agreement. It should be confirmed by the audited accounts.

As a conclusion, it appears that the financial capacity of ACC must be raised and consolidated by new and regular/annual tariff increase in order to repay the loans instead of rolling them over, and to finance the large investment program necessary to improve the quality of the service. Any new increase of tariff will have significant positive impact on the DSCR and on the current ratio.

Annexes

LIST OF ANNEXES

Annex 1   The latest revision of tariffs in 2009

The cost

The following table indicates the cost taken into account for the revision of the tariff in 2009 for all services and the corresponding cost given in the financial statements of 2008 and 2009:

Table 27: The cost in the revision of the tariff in 2009 and the corresponding costs in FS 2008 and 2009

	Tariff 2009	FS 2008	FS 2009	FS 2010
salaries	81	143	136	153
electricity	102	97	99	119
other operating costs	130	150	123	154
depreciation of assets	99	111	106	79
payment of interest	23	21	25	16
reimbursement of EBRD loan	17	16	17	20
VAT	26			

million lei

The estimation of the cost to be covered by the tariff made by ACC on the basis of the actual 2008 cost proved to be correct at the very notable exception of the salaries.

The salaries cost was 143 million lei in 2008, and, yet, was taken into account for only 81 million lei in the tariff calculation, to be compared with the actual 2009 figure of 136 million lei. Such discrepancy is not explained in the available set of documents. It introduced a cost gap of 55 million lei, which is partly covered by a VAT line of 26 million lei which has no correspondence in the ACC financial statements.

The fee

The fee is based on the net value of the assets and a profit rate as indicated in the following table:

Table 28: Calculation of the fee for the revision of the tariff in 2009

	net asset value	profit rate	fee
assets prior to 2004			
water	356	10,0%	36
wastewater	19	3,0%	1
technological water	110	10,0%	11
assets later than 2004			
water	50	18,4%	9
wastewater	3	18,4%	1
technological water	28	18,4%	5
Total	566	11,1%	63

million lei

The profit rate used for the assets prior to 2004 is 3% for the technological related assets, and 10% for the others. For the assets later than 2004, the profit rate is 18.4%.

The net value of the assets used in this calculation is 566 million lei while to net value in the balance of ACC is 842 million lei. Such discrepancy is not explained in the available set of documents.

The adjustment

The adjustment, which operates as an additional cost, was 60 millions lei in the revision of 2009. This very significant amount is however not justified.

The volume billed

The volume billed is an estimation provided on ACC, based on historical data. The following table presents the volume used for the tariff revision in 2009, and the actual volume in 2008, 2009, and 2010.

Table 29: The volume billed used for the tariff revision and the actual numbers for 2008, 2009 and 2010

	tariff 2009	2008	2008	2010
water	48 205	48 428	46 701	44 470
wastewater	46 370	48 348	43 897	42 319
technological water	2 545	2 465	1 950	1 818

volume in m3

The estimation of the volume for 2009 proved to be significantly higher than what was observed in 2009 and 2010.

The calculation of the tariff

The following table gives a synthetic presentation of the calculation of the tariff in 2009 for the 3 services:

Table 30: Calculation of the tariff in 2009 for the 3 services

	water	technological water	wastewater	Total
salaries	44	2	35	81
electricity	77	4	21	102
other operating costs	86	4	40	130
depreciation of assets	66	4	29	99
payment of interest	15	0	8	23
reimbursement of EBTD loan	17	0	0	17
VAT	19	1	6	26
Total cost	324	15	139	478
fee on assets prior to 2004	36	1	11	48
fee on assets later than 2004	9	1	5	15
Total fee	45	2	16	63
adjustments	60	0	0	60
cost + fee + adjustment	429	17	155	601
volume billed	48 205	2 545	46 370	
tariff / m3	8,98	6,69	3,31	

costs in million lei   numbers are rounded
volume in thousand m3

The tariff is intended to provide a target turnover (cost + fee + adjustment) of 601 million lei to ACC.

Annex 2   Financial Analysis of ACC for the year 2010

Accounting issues for ACC

Financial Overview of the Company

The Yearly Accounting Statement for 2010 has not been officially issued at the time of preparation of the Inception Report. The yearly accounts are prepared in cooperation with an official accounting auditor, selected every year through public tender. Since 2003, Soverina Audit has been repeatedly selected.

Our evaluation of the financial and economical condition of ACC has been based on figures made available to us, mainly the situation by the end of third quarter of 2010, and for some elements, figures for the whole year 2010.

Table 31: Yearly Profits and Losses accounts for 2008, 2009 & part 2010

in Current MLD	2008	2009	9 months 2010
Revenue from sales(turnover)			
VAT and duty exclusive	**441 169 343**	**447 550 287**	**428 499 464**
Service rendering	440 947 398	447 334 251	428 323 801
water supply	*303 052 195*	*310 731 954*	*307 039 906*
wastewater treatment and discharge	*122 316 954*	*115 177 102*	*99 457 198*
[thermal energy generation and supply)	*5 392 523*	*8 280 702*	*10 225 911*
-other services	*10 185 726*	*13 144 493*	*11 600 786*
Income from leasing	221 945	216 036	175 663
Costs and expenses—Total	**522 100 316**	**490 201 127**	**388 789 696**
Material costs and expenses	**170 774 526**	**150 067 709**	**135 788 518**
Raw materials, materials, spare parts	30 724 755	22 728 055	29 693 115
combustible—total, *inclusive*	22 980 630	17 895 721	15 094 078
Purchase electricity	97 031 854	98 958 393	86 699 991
Costs/expenses, services rendered by third parties	**33 855 734**	**34 179 053**	**31 227 229**
Long term assets depreciation	**111 261 869**	**106 875 521**	**61 430 716**
Wages	**113 663 562**	**108 773 375**	**91 083 760**
Social insurance and mandatory health insurance	**29 293 717**	**27 444 739**	**23 030 637**
Other operational costs and expenses	**63 250 908**	**62 860 730**	**46 228 836**
Interests on loans and borrowings	21 072 691	24 476 082	12 919 133
Taxes and charges included in expenses	30 588 230	29 685 160	28 206 885
Other expenses	10 678 625	8 188 368	4 290 977
Net profit(loss)	**-53 696 406**	**-29 077 713**	**38 418 367**
as% of turn-over	-12,2%	-6,5%	9,0%

The Analysis of the structure and dynamics of income presented in Table 31, show a positive trend in revenues in 2009 compared to 2008, and for the first nine months of 2010 compared with the similar period last year.

The positive trend is due to the significant tariff increase that occurred by the 2009 year end.

"Water and Wastewater Services" represent, logically, the main part of revenues, while revenues from "Heating Services" are limited to 1% to 1.5% of turn-over, equivalent to revenues from "Other Services".

Main operating costs in 2010 are, (in ascending cost):

1. Electrical energy (20%);

2. Depreciation (22%), and

3. Wages and related taxes (27%).

The net result, after significant losses in 2008 and 2009 of -12.2% and -6.5%, respectively appear to be steadily positive in 2010. Turnover for 2010 is +9% up to the end of September. The trend will probably be eroded in 2011, as no tariff revision has been planned in 2010, or for the beginning of 2011.

Balance Sheet

Table 32The following table is the Balance Sheet for the period 2007 to 2010.

Table 32: ACC Balance Sheet for 2007 to 2010

BALANCE SHEET

in current MLD	2007	2008	2009	2010
Total Assets	**1 368 678 395**	**1 335 868 919**	**1 317 634 442**	**1 383 103 382**
Long term Assets	**978 638 665**	**903 016 072**	**841 948 312**	**820 488 570**
Tangible fixed assets	973 626 615	902 517 218	841 541 956	820 080 952
Intangibles	305 535	487 504	395 006	396 268
Current Assets	**390 039 730**	**432 852 847**	**475 686 130**	**562 614 812**
Stock	33 764 151	40 177 357	39 908 163	40 399 156
Trade Account Receivable	317 410 865	355 645 117	398 418 433	470 003 214
Other Receivables	32 912 220	31 892 618	31 504 673	47 516 252
Cash	1 344 813	1 275 755	858 090	508 133
Other current assets	1 971 669	2 457 099	2 109 972	2 129 186
Liabilities	**1 368 678 396**	**1 335 868 919**	**1 317 634 442**	**1 383 103 382**
Equity	**993 393 095**	**950 082 097**	**925 033 694**	**1 004 183 360**
Share Capital	553 745 129	553 745 129	553 745 129	566 745 129
Reserves	201 426 004	165 966 792	148 192 033	128 930 596
Revaluation reserve	321 144 991	320 810 480	320 945 382	320 586 343
Retained earnings (previous years)	-135 955 020	-100 495 809	-140 741 561	-151259481
Retained earnings (current year)	-15 000 001	-57 465 390	-29 077 713	68 065 044
Grants-Subsidies	68 031 992	67 520 895	71 970 425	71 115 729
Long term Liabilities	**131 782 893**	**156 255 325**	**138 068 600**	**175 504 420**
EBRD	126 208 729	147 503 886	134 623 981	171 437 490
Other	5 574 163	8 751 439	3 444 619	4 066 930
Current Liabilities	**243 502 408**	**229 531 497**	**254 532 148**	**203 415 602**
Short term credit	72 942 765	44 547 962	31 975 000	4 000 000
Other short term financial liabilities	12 028 722	11 665 321	10 606 092	5 977 426
Trade accounts payables	21 957 660	28 229 594	40 588 814	36 192 101
Payable to the employees	9 883 166	9 240 831	9 995 884	10 555 833
Payable to the budget	55 824	8 274 419	12 260 845	3 613 366
Social insurance payable	3 308 389	2 955 032	2 525 185	2 438 189
Payable to the founders	88 918 353	91 328 854	108 078 816	129 028 210
Other Creditors	34 407 529	33 289 484	38 501 512	11 610 477

Asset Valuation

The reevaluation of assets was performed in 2007 on request of the Municipality. The evaluation resulted in a net asset valuation of around 250 Million MLD, i.e. 30% of their former valuation, according to collected figures.

The opinion of ACC is that this revaluation was not perfectly achieved, and it would be necessary to implement again this exercise. The understanding of the Consultant is that, as ACC plan to move its accounting system towards IFRS requirements by 2013, this evolution will require a new valuation of assets, and will therefore solve the problem.

Within Section **Erreur ! Source du renvoi introuvable.**[2], we have discussed the issues of ownership of assets by ACC. We will consider further within Phase B, the implication for the financial Balance Sheet of ACC, should the water sector assets be returned to the Municipality and the local authorities.

Receivables

By the end of 2010, trade receivables amounted to 470M MLD; the breakdown by age and by categories of customers is presented in Table 33.

Table 33: Receivables by Age and Customer Category

Breakdown of Receivables	Debt at 01.01.2011	Including quantities billed in year:						
		2010	2009	2008	2007	2006	2005	<2005
TOTAL	**100,0%**	**26,4%**	**11,2%**	**11,3%**	**7,0%**	**3,9%**	**5,8%**	**34,4%**
1 DOMESTIC CUSTOMERS	**77,8%**	**84,1%**	**92,8%**	**88,9%**	**92,8%**	**96,2%**	**85,9%**	**57,9%**
IMGFL Chisinau	54,1%	47,0%	66,4%	64,5%	69,9%	74,7%	65,6%	44,6%
IMGFL outside Chisinau	0,9%	1,2%	1,2%	1,0%	0,6%	0,8%	0,4%	0,6%
APLP	17,6%	20,8%	21,1%	20,3%	20,3%	18,8%	18,5%	12,3%
CCL	2,5%	7,4%	1,9%	1,8%	0,5%	0,6%	0,7%	
Department houses	0,8%	1,6%	0,7%	0,6%	0,4%	0,8%	0,6%	0,3%
State owned	0,1%	0,2%						
Private sector - houses	1,5%	5,1%	0,7%	0,3%	0,2%	0,1%	0,0%	0,0%
Apartments	0,5%	1,1%	0,7%	0,5%	0,9%	0,5%	0,0%	0,0%
2 PUBLIC INSTITUTIONS	**0,7%**	**2,7%**	**0,1%**	**0,1%**	**0,0%**	**0,0%**	**0,0%**	**0,0%**
State budget	0,2%	0,9%	0,0%					
Municipal budget	0,4%	1,7%						
Local budget - towns, villages	0,0%	0,1%	0,1%	0,1%	0,0%	0,0%	0,0%	0,0%
3 COMPANIES	**21,5%**	**13,2%**	**7,0%**	**11,1%**	**7,1%**	**3,8%**	**14,1%**	**42,1%**
Energy complex	14,0%	5,9%	5,7%	6,5%	6,4%	3,2%	13,7%	28,2%
Termocom	4,6%	3,9%	5,7%	6,5%	6,4%	3,2%	2,7%	4,4%
CET 1	4,0%	0,6%					10,9%	9,2%
CET 2	5,4%	1,4%						14,6%
Moldcarton	5,0%		0,1%	3,9%				13,2%
Others	2,5%	7,3%	1,3%	0,7%	0,8%	0,7%	0,4%	0,7%

The table includes the debt related to the water meter difference. An alternative calculation, without this specific debt, will be developed further in the course of the project, but will necessitate the precise identification of such unpaid amounts in past years.

It should be pointed out that the performance is obscured by the inclusion of challenged debt. The indicator "*the average duration of collection of the bills*", including the non-due debts (meter differences) would provide a more positive picture. Nevertheless, these challenged bills are considered as legally due by ACC and should therefore be included.

As one of the most noticeable fact resulting from the review of the Balance of ACC, the importance of Receivables, compared with payables and stocks, must be stressed, as it

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[2] It would seem that the assets are owned by ACC, in contravention of the Law on privatisation of public property, 2007.

results from years of commercial difficulties, and has a direct and strong impact on the Working Capital requirements of the company, and consequently upon the day-to-day management of ACC.

One of the most noticeable elements in the breakdown of receivables is the important weight of oldest receivables, i.e. older than 2005, with more than one-third of total amount.

Regarding the global cumulated receivables, domestic customers represent more than three-quarters of total, between 85% and 90% for recent years, and mainly within the Municipality owned IMGFL accommodation blocks. We understand that the debt is not with the customers who live within the blocks but with the IMGFL who mange the blocks. The debt arises from the responsibility for the disputed variation between the meter reading on the incoming supply and the sum of the individual client meters.

The debt of industrial customers, which mainly consists of the three heating companies, is occurring from before year 2005. Recent periods appear as being kept relatively under control. Thermocom is owned only at 70% by the Municipality, while CET I and CET II are not municipal companies but states structures.

Another relevant indication for receivables is the conversion of monetary amounts into days of turn-over[3]. The conversion can be made for each category of customers, related to the category turn-over generated in year 2010, Table 34.

Table 34: Receivables as "Turn–Over Days"

Customers	Debt at the beginning of the period	Debt at the end of the period	debt end of period as days of turnover
1	2	7	
TOTAL	388 127	458 159	282
1 DOMESTIC CUSTOMERS	291 164	356 369	396
IMGFL Chisinau	199 230	247 785	634
IMGFL outside Chisinau	3 946	3 974	367
APLP	63 801	80 708	436
CCL	8 639	11 283	126
Department houses	6 924	3 581	49
State owned	148	266	8
Private sector - houses	5 733	6 748	51
Apartments	2 892	2 291	115
2 PUBLIC INSTITUTIONS	4 273	3 366	18
State budget	922	1 134	13
Municipal budget	3 217	2 019	20
Local budget - towns, villages	134	213	381
3 COMPANIES	92 690	98 424	183

[3] i.e. is the receivables are equivalent to one year of turn-over, then it represents 365 days

Customers	Debt at the beginning of the period	Debt at the end of the period	debt end of period as days of turnover
Energy complex	63 002	64 072	**798**
Termocom	16 519	21 189	**1196**
CET 1	19 140	18 200	**2897**
CET 2	27 343	24 683	**438**
Moldcarton	22 837	22 837	
Others	6 851	11 516	**25**

It is noticeable that, while the global level of receivables represents 282 days of turn-over, that for domestics amounts to more than one year (396 days), among which nearly 2 years (634 days) were for the IMGFL accommodation blocks and 436 days for the APLP blocks.

Within the industrial sector, the main problem occurs with the three Municipal local heating companies. Other companies have a much better performance. The figures confirm that the communal housing structures, as well as heating companies, bear the largest responsibility for the poor financial condition of ACC. The large amount of receivables of these two Municipal owned client sectors causes the excessive cash needs of ACC.

Solving, or at least improving, this situation can come only from the Municipality.

Value Added Tax

In accordance with tax legislation in Moldova Republic, services delivered to domestic customers is exempted from VAT tax, while those delivered to other customers (budget & industries) is subject to a 20% VAT rate.

Reduced rates are applied for food products (8%) or gas purchase (6%).

As a logical consequences, the VAT paid by ACC on the proportional part of goods and services used for the production of such services to domestic customers cannot be balanced with VAT collected, and reimbursed by the State.

Only the paid VAT corresponding to costs occurred for services to budget and industries can be balanced.

In case a 0% VAT rate would be applied for domestic invoices, enabling reimbursement, the corresponding savings are estimated around 25 Million MLD per year, or 5.4% of production costs for domestics.

It must be noted that a 0% VAT mechanism has been implemented in 1997 for domestic consumptions on energy (electricity and gas), resulting from an active lobbying of the related operators. Such lobbying has has been considered by ACC - ACC appeals for the amendment of the FC were addressed in 2004 - as it could represent a valuable opportunity, especially if supported by IFIs involved in water development projects in Chisinau, or more generally in Moldova.

EBRD loan

Existing situation:

A loan was contracted by ACC in 1997, initially for the amount of 30 Million USD, amended in 1999 with a reduction to 22.8[4] Million USD. This loan had a sovereign guarantee from the Government of Moldova.

ACC faced difficulties during the first years to face its reimbursement obligations, but it seems to have improved until now, except for the fulfilment of some of the covenants e.g. profitability ratios.

Reimbursements are running on until end of 2014, with semester payments of US $796 426.36 each, for principal.

Forecast for EBRD loan repayment for the period April 2011 — October 2014 is as follows,

Table 35: EBRD Loan Repayment

Due date	Loan rate (USD)	Interest rate forecast (USD)
23rd April 2011	796 426.36	45 137.62
23rd October 2011	796 426.36	23 901.07
23rd April 2012	796 426.36	20 486.63
23rd October 2012	796 426.36	28 211.01
23rd April 2013	796 426.36	24 106.28
23rd October 2013	796 426.36	19 145.43
23rd April 2014	796 426.36	21 462.15
23rd October 2014	796 426.34	18 923.97
Total	**7 167 837.22**	**201 374.18**

*At the time of analysis the amount of interest for the payment date 23rd October 2010 was actually paid, which means that this amount is not projected.

EBRD Debt service for 2009 and 2010

The following cash movements occurred in ACC accounts during these two years:

Table 36: EBRD Debt Service 2009 & 2010

Period	Reimbursement according contract conditions		Actual reimbursement		Interest calculated and paid	
	Data	Amount (USD)	Data	Amount (USD)	Data	Amound (USD)
2009	23/04/09	796 426.36	28/05/09	796 426.36	28/05/09	227 087.70
	23/10/09	796 426.36	16-19.10.09	574 572.36	02/11/09	118 041.85
			02/11/09	221 854.00		
2010	23/04/10	796 426.36	02/03/10	155 625.11	22/04/10	63 818.09
			07/04/10	640 801.25		
	23/10/10	796 426.36	07-21.10.10	796 426.36	21/10/10	54 239.12
TOTAL		**3 185 705.44**		**3 185 705.44**		**463 186.76**

USD

According to the data from the above table, in 2009 SA "Apa-Canal Chisinau" did not strictly fulfill the terms of repayment of the main part of the loan in the 2nd and 4th quarters, as well as accrued interest, which led to the accrual and payment of fine amounting to US $6 241.65 (equivalent to 69 876.94 MDL), US $5 934.38 in 2009 and US$307.27 USD in April 2010.

Annex 3   Analysis of the City Budget

Analysis of the Revenues of the City Budget

The revenues of the City mainly depend by more than 55% on the tax on revenues. The transfer from the State budget which used to provide more than 10% of the City resources tends to disappear. Tax from business activities which was nil in 2011 is expected to become a significant resource in 2012 (28%).

In average over the period 2008-2012, the revenues increased with the inflation (7% in average). The revenues for the year 2012 are expected to increase more significantly (+31%) but it comes after a year of election where a large deficit was observed.
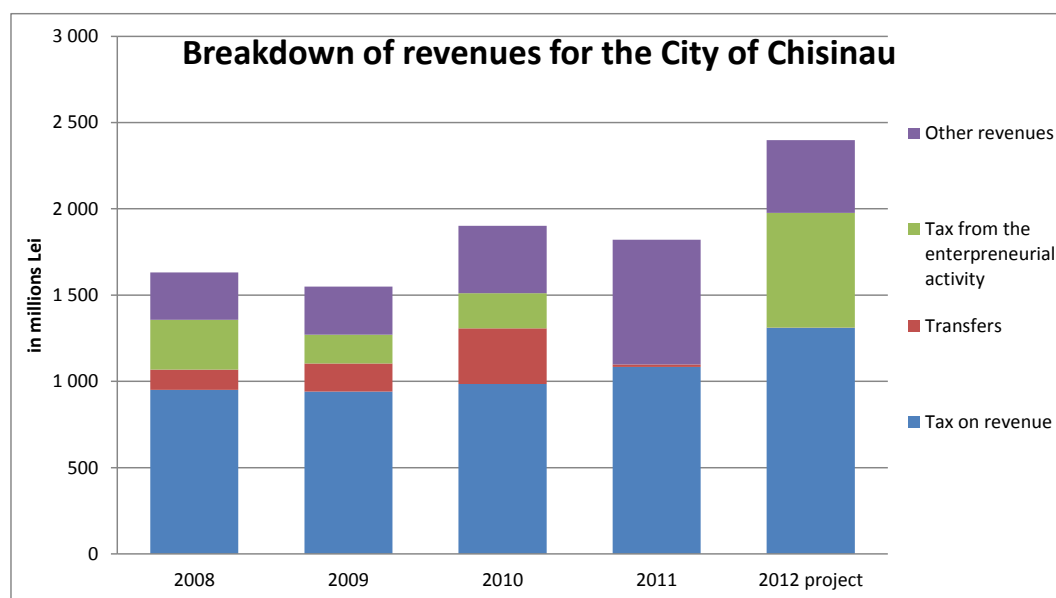

Figure 27: Breakdown of revenues for the City of Chisinau

Expenditures OF the City

The social expenditures represent 50% and 65% of the overall expenditures. Those expenditures increase with the inflation (6.4% in average) like other expenditures. The capital investments increased more recently and now reach 10% of the city expenditures partly as a transfer of investment from the municipal enterprise (like ACC) to the City budget.
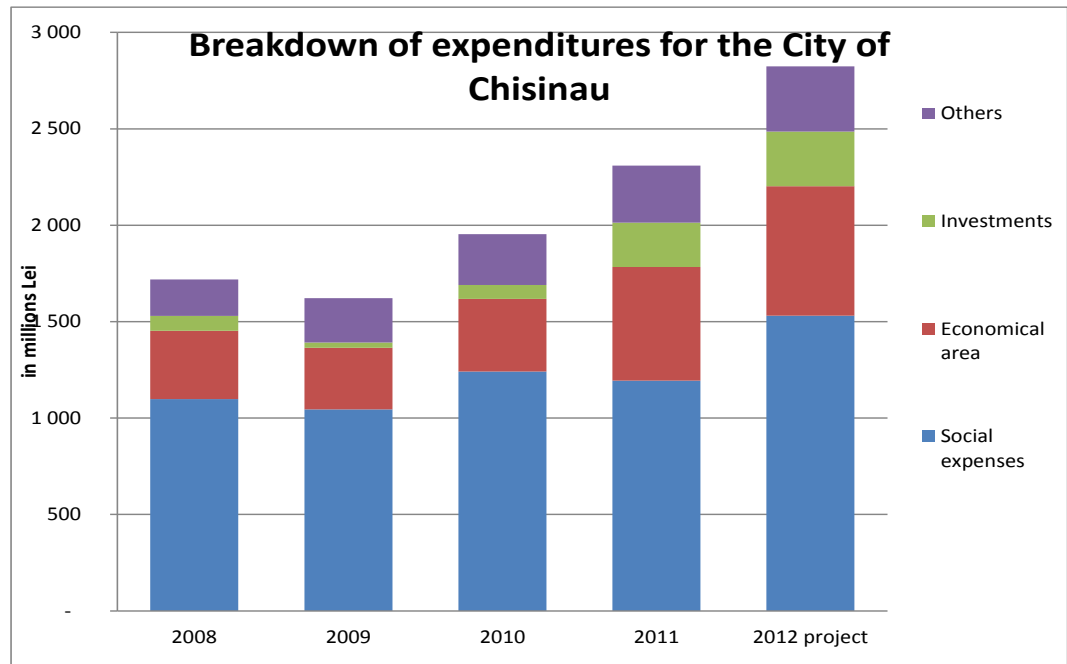
Figure 28: Breakdown of expenditures for the City of Chisinau

Indebtedness

The debt capacity of the City of Chisinau has been assessed considering the loans already contracted (EBRD, IFC, EIB, Turbine real estate,…) and on a potential guarantee of the loans to be contracted by ACC for funding the PIP.

For both categories, the whole debt service (payment of interests, repayment of principal) has been considered together.
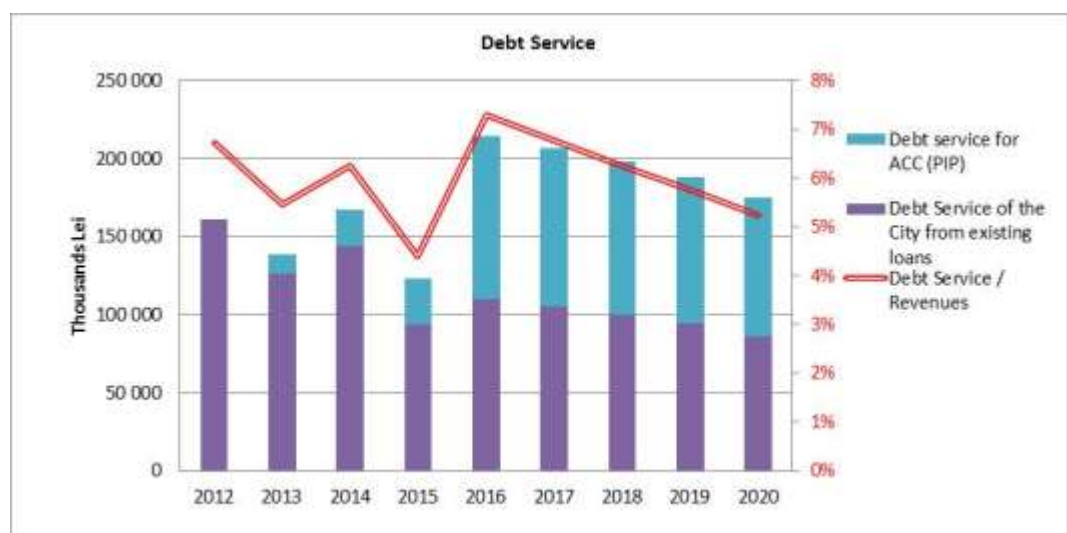

Figure 29: Debt service for the City of Chisinau

According to the Moldovan rules, the debt service and guarantees cannot exceed 20% of annual revenue of the public administration.