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High-Level Review of
Proposed Changes to Utility Retail Tariffs

Review completed: December 2008

Final Report issued: 6th January 2009

Audit . Tax . Consulting . Corporate Finance .

Contents

Section Page

Glossary

Enemalta	Enemalta Corporation
The Corporation	Enemalta Corporation
kwh	Kilo watt hours
kVah	Kilovolt-Ampere Hour
MRA	Malta Resources Authority
MT	Metric Tonnes
PSO	Public Service Obligation
WSC	Water Services Corporation
Model	KPMG Financial Model

Introduction and Scope of review

Terms of reference

We were commissioned by the Malta Resources Authority to assist it with the performance of a review of Enemalta Corporation's request for an increase in electricity tariffs.

Enemalta's claim was based on a Report and a Financial Model prepared by KPMG, as updated by changes introduced as part of the consultation process.

Scope of work performed

In view of the urgent nature and the particular complexities of the assignment, it was agreed with the Malta Resources Authority that initially we should limit the scope of our work to:

1. Obtaining a clear understanding of the approach and methodology adopted in the model used to calculate the proposed new tariffs;
2. Obtaining a clear understanding of the key assumptions and the sources of input variables applied in the model;
3. Testing the arithmetical accuracy of outputs generated by the KPMG model;
4. Performing high-level testing of the model in order to substantiate that the input variables have been correctly extracted from the indicated sources; and
5. Identifying issues which we feel that MRA should be addressing in its Regulatory capacity.

Sources of information and key discussions

The following were the main sources of information, which we used as a basis of the Review:

1. KPMG Report dated 1 October 2008 - 'First Report'
2. KPMG Report dated 3 November 2008 – 'Second Report'
3. The Draft Legal Notice, as finally amended – 'Draft Legal Notice'

As part of the review process we also held explanatory and clarification meetings / discussions with:

1. Partners and staff from KPMG;
2. Mr. Pippo Pandolfino, the Financial Controller of Enemalta Corporation; and
3. Various senior member of Malta Resources Authority, who together with representatives of the Deloitte engagement team, were actively involved in the review process.

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1. Chronology of Events

January 2005 - Introduction of fuel surcharge mechanism

- Surcharge calculations were based on the fluctuations in fuel and gas oil prices over pre-determined thresholds
- Surcharge capping was afforded to:
  - Hotels and guesthouses; and
  - Factories

2005

OCTOBER 2008

KPMG were commissioned to develop financial model applications which could be used to assist the tariff revision process.

1. The KPMG model assumed a cost plus approach to determining the target revenue that Enemalta required.
2. The model provided alternative ways of how the 'targeted revenue' could be translated into a new tariff structure
3. The initial model assumed:
   - Oil prices at 1 - 26 September 2008 levels;
   - Overheads at historic levels plus inflation; and
   - A return on capital employed of 6.61%

23 October 2008 – MITC publish 'New electricity tariffs' on website ('MITC Report')

- The published tariffs were based on Proposal 5 of the KPMG report as adjusted for:
  - Reduced fuel costs of Euro 52.2m (based on crude oil prices between 1 and 24 October 2008 less a further reduction of Euro 30m);
  - The introduction of a Euro7.8m Public Service Obligation

NOVEMBER 2008

1 November 2008 – Enemalta publish a second report prepared by KPMG

- The cost profile was the same as that used in the MITC Report except that fuel costs were reduced by a further Euro14K
- An eco-reduction mechanism was introduced for residential accounts
- Differential tariffs were introduced for certain non-residential accounts depending on category and consumption. The rates differentiation was phased out over a 3 year period by 2011

28 November 2008 – Government presents Draft Legal Notice (Enemalta Act Chap. 272 - Electricity Supply (Amendment) (No. 2) Regulations, 2008) to MRA

2.1 Overview of Cost-Plus Model

The financial model used to establish Enemalta's 'Target Revenue' was based on a 'cost-plus' model comprising the summation of projected fuel costs, wages and overheads plus a return on capital employed of 6.61%* less the costs of inefficiencies and PSOs as follows:

FUEL COSTS	+	WAGES	+	OVERHEADS	+	ROCE [6.61%]*	-	COSTS OF INEFFICIENCIES	-	PSOs
Euro 223m		Euro 34.4m		Euro 34.3m		Euro 24.4m		Euro 3.1m		Euro 7.8m

=

TARGET REVENUE
Euro 305.2m

The above costs were used as the basis for the computation of the proposed tariffs in the Second KPMG report. For the purpose of the said computation, fuel costs were based on oil market prices prevailing between 1-24th October 2008 less a further reduction of Euro30 million.

* Capital Employed was calculated as total assets less trade creditors and based on the unaudited management accounts for the year ended 30 September 2006

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2.2 Overview of Historic Fuel Costs

On the basis of the unaudited financial statements of the Enemalta Corporation it transpires that in the three-year period between 2006 and 2008, actual fuel costs incurred by the Corporation increased from Euro188.7m in 2006 to Euro230.6m in 2008 as follows:

	2006 (unaudited) (Euro)	2007 (unaudited) (Euro)	2008 * (unaudited) (Euro)	As per First Report (Euro)	As per Second Report (Euro)
Fuel oil	165.4 m	146 m	191 m	224 m	207 m
Gas oil	23.3 m	18.1 m	39. 6m	50 m	45 m
TOTAL	188.7 m	164.1 m	230.6 m	274 m	252 m

•The 2008 figures are based on the Corporation's management accounts as at 30 June 2008 (9 months) extrapolated for a full 12-month period.

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2.3 Overview of Projected Fuel Costs

- Fuel costs projections used in the financial models were based on the following basic assumptions:

  - An estimated annual consumption of 568K MT of fuel oil and 75K MT of gas oil;
  - ‘Tonne to barrel’ conversion factors of 6.45 for fuel oil and 7.41 for gas oil;
  - A ‘price conversion factor’ for crude oil prices to fuel oil price of 0.85;
  - A ‘price conversion factor’ for crude oil prices to gas oil prices of 1.25;

- Projected annual fuel consumption costs were calculated and updated as follows:

  - Euro274 million in the first report – Based on oil prices between 1-24 September 2008
  - Euro253 million in the second report – Based on oil prices between 1-24 October 2008
  - Euro223 million in the second report – Based on oil prices between 1-24 October 2008 less a further reduction of Euro30 million

- Although the above figures remain ‘best-estimates’ made at the time the proposed tariffs were being discussed, the final projected fuel cost of Euro 223 million bears a high degree of correlation with what the figure would have been if it were computed on the basis of market prices prevailing at the time the Draft Legal Notice was published as adjusted for the impact of hedge agreements in place at the same time.

- Historically, the impact of hedge agreements have been taken into consideration when computing the impact of changing market prices on electricity tariff revisions.

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2.3 Overview of Projected Fuel Costs

	Consumption (MT)	Tonne to barrels conversion	Price ratio to crude oil price	First report Fuel cost at 1 - 26 Sept. prices (Euro)	Second Report Fuel cost at 1 - 24 Oct. prices (Euro)
FUEL OIL	568 K	6.45	0.85	224 m	207 m
GAS OIL	75 K	7.41	1.25	50 m	44 m
TOTAL				274 m	253 m
REDUCTION				NIL	(30 m)
TOTAL				274 m	223 m
		Reduction applied by Government to total fuel cost		Fuel cost as per First Report	Fuel cost as per Second Report

At this stage no opinion has been formed as to whether the significantly reduced 'estimated cost of fuel' figure used in the final workings is reflective of what actual fuel costs will actually be. Such an opinion is not necessary as the MRA has already taken the decision that the impact of any variances between projected and actual fuel costs will be compensated for in the mechanism to be established for future tariff revisions.

2.4 Overview of Wages and Overheads

- The following table illustrates the total cost for wages and overheads included in the 'cost plus' model and compares these to the actual historical costs incurred in the previous three financial periods.

	2006 (unaudited) (Euro)	2007 (unaudited) (Euro)	2008 * (unaudited) (Euro)	As per Reports (Euro)
Wages	28 m	29.1 m	30.6 m	34.4 m
Overheads				
Depreciation	23. 1 m	23.5 m	23.5 m	23.1 m
Other costs	8.3 m	14.5 m	12 m	10.2 m
	31.4 m	38 m	35.5	33.3 m
TOTAL	59.4 m	67.1 m	66.1 m	67.7 m

* The 2008 figures are based on the Corporation's management accounts as at 30 June 2008 (9 months) extrapolated for a full 12-month period.

2.5 Overview of Other Variables

Return on capital employed ('ROCE')

- A ROCE of 6.61% was computed on the basis of the EU Commission's benchmark set in 2002 (5.12%) as adjusted for the change in the EURIBOR 6-month rate between 2002 and 2008
- The Corporation's assumed Capital Employed was calculated on the basis of total assets less trade creditors as reported in the unaudited management accounts for the year ended 30 September 2006

Cost of inefficiencies

- The figure for cost of inefficiencies' of Euro3 million was based on the conclusions of the Enemalta prepared report:
  "Analysis of work practices reports by MEU and Enemalta" which takes into consideration the reports prepared by the Management Efficiency Unit in September 2005.
- This assumed cost of inefficiencies was deducted from target revenue and will thus effectively be absorbed by Enemalta

Public Service Obligations ('PSO')

- A further deduction for Public Service Obligations of Euro7.8m was incorporated into the revised model
- The PSO have been deducted from target revenue as represent income to be received by Enemalta from Government to cover part of the costs incurred
- We have not been furnished with backing workings to substantiate how this figure was computed

3.1 Overview of Revenue Cycle

- The estimated revenue figure of Euro305.6m computed in the Second Report represents the summation of all
  - variable revenue - actual consumption;
  - fixed revenue - meter rentals; and
  - revenue from new installations
- Estimated revenue based on the published rates is Euro7.8m lower as a result of last minute revisions to:
  - Eco-reduction parameters and rates for residential variable revenue; and
  - Differential rates parameters for non-residential variable revenue

	Second Report (Euro millions)	Draft Legal Notice (Euro millions)	Difference (Euro millions)
Target revenue	305.2	305.2	0
Application of rates			
Residential revenue			
Variable	102.4	98.7	-3.7
Fixed	15.5	15.5	0
Installation	2.5	2.5	0
Non-residential revenue			
Variable	174.6	170.5	-4.1
Fixed	10.1	10.1	0
Installation	0.5	0.5	0
Estimated revenue	305.6	297.8	-7.8

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3.2 Overview of Variable Revenue - Residential

- Residential variable revenue reflects average consumption multiplied by the proposed rates and reduced by the applicable eco-reduction rates.
- Eco-reduction rates vary depending on whether the residential account is in the name of a ‘zero’ person household (NOP=0), a one person household (NOP=1) or a household with more than one person (NOP>1).
- Provided that a household falls within the stipulated minimum consumption levels, a reduction to the total tariff charge is applied depending on the household category.
- At this stage we have not yet made any attempt to differentiate between primary or secondary residences.
- The legal notice has omitted the NOP=0 category from the eco-reduction mechanism and changed the parameters applicable to other categories

AVERAGE CONSUMPTION *

X

RATES (Appendix 1)

X

APPLICABLE ECO-REDUCTION RATES

X

NUMBER OF ACCOUNTS *

RESIDENTIAL VARIABLE REVENUE

* Extracted from billing data between April 2006 and December 2007

Eco– reduction mechanism

	Second Report	Draft Legal Notice
NOP = 0	20% < 1000kwh	n/a
NOP = 1	20% < 1500kwh	25% < 2000kwh
	10% < 2000kwh	n/a
NOP > 1	25% < 1000kwh pp	25% < 1000kwh pp
	15% < 1500kwh pp	15% < 1750kwh pp

NOP – Number of persons
PP – Per person

Changes between Second Report and Draft Legal Notice resulted in a reduction of Euro 3.7m in revenue.

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3.3 Overview of Variable Revenue - Non-Residential

- Non-residential variable revenue reflects average consumption multiplied by the proposed rates
- Differential rates are applied to different accounts which fall within the pre-defined criteria as shown below

AVERAGE CONSUMPTION *

✖

RATES (Appendix 1)

✖

NUMBER OF ACCOUNTS *

NON-RESIDENTIAL VARIABLE REVENUE

Consumption required to benefit from reduced rates

kwh

	Second Report	Draft Legal Notice
Commerial	n/a	n/a
Hotels	> 200000 kwh	ALL
Industrial	> 800000 kwh	> 1200000 kwh
WSC	n/a	ALL

kVah

	Second Report	Draft Legal Notice
Commerial	n/a	n/a
Hotels	> 200000 kVah	ALL
Industrial	> 800000 kVah	> 1300000 kVah
WSC	n/a	ALL

The estimated cost of the above reductions has been estimated at Euro4.1m. This reduction was initially going to be loaded on to other consumers but under the final proposals was absorbed fully by Enemalta.

* Extracted from billing data between April 2006 and December 2007

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3.4 Overview of Fixed and Installation Revenue

Fixed revenue is generated through meter rents whilst installation revenue is the result of new installations and has been computed as follows:

FIXED	INSTALLATION
Number of estimated existing installations (ratio of existing single phase installations to triple phase installations assumed to be 90:10 and is not based on empirical evidence)	Number of estimated new installations based on 2007 data
×	×
Single / triple phase fixed meter charge (Appendix 1)	Single / triple phase installation charge (Appendix 1)

4.1 Work Done and Preliminary Conclusions

Work done

As part of this review assignment we:

1. Developed a clear understanding of the approach and methodology adopted in the model used to calculate the proposed new tariffs;
2. Identified the key assumptions used in the model;
3. Reviewed the said assumptions for reasonableness and appropriateness;
4. Established the sources of input variables applied in the model;
5. Tested the arithmetical accuracy of outputs generated by the KPMG model;
6. Performed high-level testing to substantiate that the input variables have been correctly extracted from the indicated sources; and
7. Identified issues which we feel that MRA may wish or has already agreed to address in due course.

4.1 Work Done and Preliminary Conclusions

Preliminary conclusions

On the basis of the work undertaken we have concluded that:

- The KPMG Model would appear to have been correctly configured to cater for the dynamics of Enemalta's operating cost and billing structures and would appear to be a reliable basis for the purpose of computing 'target revenue' on the basis of the assumed cost base and proposed tariffs.

- The key assumptions, applied in the model, accurately tie in to the assumptions laid out in the KPMG Reports as amended by other official announcements;

- The key assumptions incorporated into the model would appear reasonable for the purpose of the exercise undertaken; and

- The resultant outputs generated by the final KPMG Report as amended by subsequent changes agreed with the constituted bodies have been correctly transposed into the Draft Legal Notice.

4.2 Work in Progress

At the date of the issuance of this report the following matters were still being addressed by representatives of Deloitte and / or the Malta Resources Authority:

1. Testing and verification of the accuracy of 'source data' used in the model, including testing of:

    - Historic billing / consumption data
    - Data relating to number of persons per household
    - Information reported in accounts and used as a basis for inclusion of costs in the model
    - Cost of inefficiencies
    - Public Service Obligations
    - Return on Capital Employed computations

2. Assessing the potential impact, which any existing hedge agreements may have on the actual cost of fuel.

3. Assessing the appropriateness or otherwise of the differential tariff mechanism levied on non-residential consumers.

4. Testing the effectiveness of the 'eco reduction mechanism' and quantifying the number of households which will actually benefit from the 'eco reductions'.

4.3 Way Forward

In the light of the outcome and conclusions of the preliminary review, the participants in the review process feel that the way forward is for the MRA to:

- Formulate a firm Policy Decision as to whether the future revision mechanism would be based on the ‘actual’ cost of fuel incurred by Enemalta (inclusive of the impact of any hedge agreements in place) or on the basis of official CIF market prices for Fuel Oil and Gas Oil converted into Euros;
- Formulate a firm Policy Decision as to what would constitute a fair and reasonable ROCE;
- Formulate a firm Policy Decision to establish equitable and reasonable guidelines which would trigger a revision in future rates and how this revision process would unfold;
- Undertake a detailed review of the most recent financial statements of Enemalta Corporation in order to ensure that the costs included in the model accurately reflect the current operating cost base of the Corporation and that the said cost base does not include any costs which should not be absorbed into the cost base model;
- Formulate a firm Policy Decision as to the basis of what should constitute normal operational inefficiencies and how ‘abnormal’ inefficiencies should be treated;
- Undertake a specific international benchmarking exercise to determine the acceptability or otherwise of differential rates within different non-residential categories;
- Undertake further testing on the accuracy of the source data used in the model and the resulting tariff structure; and
- Secure a detailed and accurate make-up of the Euro7.8m Public Service Obligation deduction.