

## Temporary Instruction 0\_05\_2007 on the Principles of Calculation of Tariffs and Prices in the District Heating Sector in Kosovo for the Heating Season 2007/2008

### Annex 1

#### **Calculation of the Rate of Return (RoR) on Regulatory Asset Base (RAB)**

The objective of a reasonable Rate of Return on the Regulatory Asset Base (RAB), is to provide a guarantee for the district heating enterprise to continue to invest in its Assets, both in order to replace them and to expand them.

RoR is calculated on the components of the capital base, taking into account the weights comprised of the amounts of these capital components. In other words ROR is the sum of the Weighted Average of the cost of Equity and the cost of Debt, more simply called ‘Weighted Average Cost of Capital’ (WACC).

For the cost of Equity, ERO is following an internationally acclaimed methodology the so-called “Capital Asset Pricing Model” (CAPM). The CAPM expresses the expected cost of Equity as the risk-free ( $r_f$ ) rate plus a risk premium ( $r_m - r_f$ ) that depends on the risk of investing in the particular country’s market.

It is useful to mention that the cost of Debt is reduced by the tax rate, because interest on Debt is included in allowable costs against tax, and therefore acts as a tax shield.

Value of WACC after tax:

$$\text{WACC} = (D/V)k_d(1-t) + (E/V)k_e$$

Where:

<b>D/V</b>	Debt share of the total capital base
<b>E/V</b>	Equity share of the total capital base
<b>V</b>	Total capital base, which is the total of Equity and Debt
<b>k<sub>d</sub></b>	Cost of Debt
<b>k<sub>e</sub></b>	Cost of Equity
<b>t</b>	Tax rate on corporate profit: 20% in Kosovo

The cost of Debt ( $k_d$ ) is a contractual commitment and is the rate the enterprise will pay on future debt issues.

The cost of Equity ( $k_e$ ) can be calculated as:

$$k_e = r_f + \beta_e * (r_m - r_f)$$

Where:

**$r_f$**  Risk free rate: it is possible to derive an estimate from the return available on Government Bonds and conventional gilts.

**$(r_m - r_f)$**  Equity market risk premium: i.e. the return expected on the market well diversified portfolio minus the risk-free rate of return.

**B** “Beta”: risk-measure for the specific company.

“The risk premium” of any Asset is determined by its “beta” and by the expected market risk premium that investors will demand from the market as a whole. The “beta” factor measures the volatility of an individual company’s return relative to the stock market as a whole.

**It is common practice to determine one WACC for the whole District Heating Sector / Utility Sector in Kosovo.**