REGULATORY REPORT

Determination of Maximum Allowed Revenues for District Heating Termokos JSC.   
Heating Season 2021/2022

*/Draft for Public Consultation/*

Pristina, October 2021

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# Introduction

According to primary legislation- Articles 47 and 48 of the Law on Energy Regulator, Energy Regulatory Office (ERO) is responsible for determination of tariff methodology and approval of tariffs in the regulated energy sector; therein is a set of broad principles such as justification and non-discriminatory principles under which energy enterprises should recover all justified costs including the reasonable return on their investments. Also, Articles 18 and 19 of the Law on Thermal Energy determine that the supplier charged with public service carries out the supply of thermal energy with regulated tariffs.

District heating sector in Kosovo in transmission and distribution of heat is classified as a natural monopoly, while no competition exists for the time being in heat production and supply. Therefore, the district heating tariffs, containing all the above mentioned components, are subject to approval by ERO.

In line with its legal obligations and powers, Energy Regulatory Office issued Thermal Energy Pricing Rule. This rule sets the procedures for submission, review of tariff application and approval of tariffs as well as Methodology on Calculation of Allowed Revenues and Tariffs.

For determination of allowed revenues for the heating season 2021/2022 have been considered the following:

- Information provided by DH Termokos in its application for tariffs and prices for the heating season 2021/2022;

- Information provided by DH Termokos in its regulatory reporting of realizations- expenses and revenues, assets/investments, as well as technical and customer information, that has actually taken place in the heating season 2020/2021 and in the previous seasons.

Procedure of tariff review process:

* **02 July 2021** –ERO issued a notice letter on commencement of tariff review for DH Termokos for heating season 2021/2022; this was followed by ERO's request for data and information, which described in detail the data and information that DH Termokos should submit for the tariff review, as well as the Plan and Schedule;
* **09 August 2021** – DH Termokos submitted by e-mail the partial tariff application with some of the data and information required for tariff review;
* **16 August 2021 -** DH Termokos submitted additional data, information and documentation within the tariff application for the 2021/2022 season;
* **08 September 2021-** Following the analysis and evaluation of data and information submitted by DH Termokos, ERO has sent written comments, specifying the requirements for correction, improvement and completion of the initial application;
* **17 September 2021 –** DH Termokos re-submitted the application with some of the corrections, improvements and additions required in ERO comments, as well as responses to ERO comments.

# [Principles](file:///C:\Users\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\2X7CP1LE\TE%20ARDHURAT%20E%20LEJUARA%20për%20NQ%20TERMOKOS_SEZONI%202012-13_v1_Shqip.doc) and Formulation of Tariff Methodology

For the purpose of determination of allowed revenues and thermal energy tariffs for 2021/2022 heating season, the Methodology determined in Thermal Energy Pricing Rule is applied.

Principles

The basic principle of this methodology is that tariffs of utilities providing public services shall cover all justifiable costs - operational and capital, so that in one hand the customers should not pay excessively over the cost incurred for their service, while on the other hand the utility should recover all reasonable and justifiable costs plus a reasonable rate of return of its capital investment. Final price of service is usually defined to include all operational expenses of utilities providing public services i.e. to recover cost of production, distribution and supply (operation and maintenance, fuel, salaries, network losses costs, common costs, administrative costs etc.) plus a reasonable return on its investments devoted to the public service provision.

Given that in some cases such a regulation does not provide incentives for enterprises to increase operating efficiency and cost saving and on contrary may give incentive to over-invest in assets and also considering the obligation of the Regulator to protect customers, it is required from the enterprise not only have to prove the declared “justifiable costs” but also to demonstrate increasing operational and cost efficiency. Such measures form the basis for reconciliation of tariffs at the beginning of the new tariff season, in which the Regulator rewards or penalizes the enterprise for increasing or decreasing the efficiency and cost control.

**Formulation**

For the purpose of calculation of Allowed Revenues and for final tariff calculation, Thermal Energy Pricing Rule (Annexes 1, 2, 3 and 6) provides the detailed formulation of Tariff Methodology. However, for consistency reasons, the formulation shall be shortly presented in this report.

Schematically, the Tariff Methodology can be shown as below. The costs which the enterprise should recover are built up from its operational costs, depreciation representing the ability of the enterprise to replace its assets, costs of network losses and the return on the Regulatory Asset Base (RAB), which in fact represents the profit for the company.



*equal to the*

Allowed revenues



*minus*

Subsidies



*plus*

Allowed profit

(return on investments)



*plus*

Depreciation



Operational costs



*Divided by*

the lifetime of assets



Regulatory Asset Base (RAB)



*plus*

New investments



*minus*

Cumulative Depreciation



Opening RAB

*multiplied by*

WACC(RoR)

Regulatory Asset Base (RAB

f

)

*plus*

New self-financing   
investments

*Figure 1: Allowed Revenues Calculation Scheme*

Basic Regulation Formulas:

Allowed Revenues are calculated according to the formula:

**MAR = OPM + DEP + RTN + LOS + ADJ**

Where:

**MAR** Maximum Allowed Revenues;

**OPM** Operating and Maintenance Costs;

**DEP** Annual Allowed Depreciation;

**RTN** Allowed Return on Assets;

**LOS** Cost of Network Losses;

**ADJ** Revenues Adjustment.

The allowed revenues represent the annual cost of the enterprise and consist of: i) operational costs, which are “justifiable”; ii) annual depreciation; iii) cost of network losses; and iv) allowed return on Regulatory Asset Base (RAB).

Operational Costs consists of the sum of the fixed and variable costs as follows:

**OC = OCF +OCv**

Operational costs represent the total yearly estimated justified costs, including: i) costs of fuel, costs of thermal energy purchase and other costs such as electricity, water treatment chemicals, spare parts; ii) other system operation costs, repairs and maintenance; and iii) personnel costs and common costs. Allowed operational costs do not include: i) subsidies; ii) costs rejected by tax authorities and costs of setting aside and distributing reserves; and iii) lease payments for items not kept in the bookkeeping, financial or other unjustified costs.

Regulatory Asset Base is calculated according to the formula:

**RABt end = RABnstart + INVn + WCn – DEPn-1 - DISn-1**

The Regulatory Asset Base (RAB) represents the enterprise assets considered to be used and useful in the provision of public service, that include: i) starting Regulatory Asset Base (RABt start ), which actually represents the final RAB executed in the previous season 2017/18 (n-1), new investments when they are planned and approved by the Regulator (INVn); iii)sufficient working capital of the company to perform its activities (WCn); Depreciation of assets carried out in the previous season 2017/18 (n-1) (DEPn-1)and iv) Disposed Assets (DIS n-1)

ERO will take as a Rate of Return the value of WACC (Weighted Average Cost of Capital). WACC (%) is the sum of weighted average of the equity cost and debt cost, and is calculated according to the formula:

**WACC = [(D/V) \* kd] + [(E/V) \* ke]**

Where:

**D/V**- Debt Share of the total capital base

**E/V** - Equity Share of the total capital base

**V** - Total capital base, which is the total of equity and debt

**kd -** Cost of debt

**ke -** Cost of equity

# [Determination](file:///C:\Users\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\2X7CP1LE\TE%20ARDHURAT%20E%20LEJUARA%20për%20NQ%20TERMOKOS_SEZONI%202012-13_v1_Shqip.doc) of Allowed Revenues

For determination of Allowed Revenues of DH Termokos JSC. for heating season 20212022, according to Thermal Energy Pricing Rule, ERO has undertaken the following:

1. Evaluation and determination of allowed operational costs;
2. Evaluation and determination of depreciation;
3. Determination of Allowed Return on RAB (return on investments), which includes:

a) determination of RAB – evaluation and approval of company assets, verification and approval of planned investments and working capital; and

* 1. Calculation of the allowed Rate of Return (RoR)/ WACC;

1. Evaluation and determination of the allowed cost for network losses.

In determining the Allowed Revenues, ERO has taken into consideration the following:

- Information provided by DH Termokos in its tariff application for the 2021/2022 heating season- information regarding estimated revenues from heat sale and other related services, total forecasted costs, planned investments and assets, forecasted heat production and supply, as well as forecasted heating area;

* Information provided by DH Termokos in its regulatory reporting- expenses and revenues, assets/investment, as well as technical and customers information, that has actually taken place in the previous season 2020/2021;
* Information that ERO possesses from tariff reviews and monitoring of realizations and performance of previous seasons/years.

Knowing that forecasted information is the key to determination of allowed revenues, it should be reliable and realistic. Generally, in forecasting/planning the business a realistic approach should be applied, followed by a comprehensive assessment of multiple factors affecting the business; i.e assessment of the market and forecasting the expansion of customer base, assessment of production/supply capabilities and financial capabilities of the company. Naturally, the proper forecasting/planning has to be based on the data that the company has realized during a certain period in the past.

It must be noted here that DH Termokos’ tariff application was quite detailed and complete. However, in some of the data and information were noted inaccuracies, noncompliance and inconsistencies which were improved, explained and supplemented following ERO’s comments and common meetings between ERO and DH Termokos.

In fact, as far as forecasted information is concerned ( as stipulated in Annex 4 of Thermal Energy Pricing Rule), DH Termokos has submitted to ERO, the statements/spreadsheet consisting of forecasted incomes and costs, technical and customer data, operational assets and forecasted investments for one year period covering full district heating season- period : 15 October 2021 – 14 October 2022. While as support documents it has submitted: i) Audit Report, as well as statutory and financial statements for 2020; ii) metering of consumption registered in the last season based on the list of substations- data on the heating area and respective capacities, as well as other technical data, ii) list of assets- detailed data on fixed assets where the initial value (purchase value) is provided, the cumulative depreciation and the current value of assets (submitted in regular annual/seasonal reporting); iii) planning of investments for one year period which includes 2021/2022 season iv) planning for new connections for 2021/2022 season v) planning for customer billing based on metered supply/consumption and vi) registered measurements for thermal energy produced from cogeneration (submitted in regular annual/seasonal reporting; and vii) projected data for customer billing 2021/2022, based on realizations - consumption metering and heating area of customers in the previous season 2021/2022, as well as planning of new connections respectively expansion of the heating area of customers.

ERO has made efforts and has engaged the available expertise to make a realistic evaluation of the forecasted information submitted by Termokos. A comprehensive analysis was carried out and evaluation of the information presented, followed by a comparison of respective data from previous seasons, in order to make an accurate determination (forecasting) of allowed revenues for the coming season 2019/2020.

## 3.1 Evaluation and determination of allowed operational costs

Operational costs plannings submitted by DH Termokos for the period 15 October 2021-14 October 22, a period covering full district heating season 2021/2022, are structured as variable and fixed costs, a division which is mainly in compliance with provisions of Thermal Energy Pricing Rule as well as advanced accounting principles and Kosovo Accounting Standards.

This section presents in table all forecasted costs presented by DH Termokos and the allowed operational costs approved by ERO (Table 1). The table is followed with the analytical explanation of each item of operational costs.

*Table 1: Costs presented by DH Termokos JSC. and allowed by ERO (in €)*

**Proposed by**

**Allowed by**

**DH Termokos**

**ERO**

**Variable costs**

1

Own cogeneration

498,400

319,500

2

Energy purchase from cogeneration – variable comp.

409,825

409,825

3

Water treatment chemicals

15,054

15,054

4

Water

118,130

118,130

5

Electricity  (prod. & subst. Distr.)

557,370

557,370

6

Personnel costs (direct labour)

1,338,808

908,266

7

Annual license fee

0

1,364

8

Allowed bad debt

360,613

9

**Total variable cost**

**2,937,587**

**2,690,122**

**Fixed costs**

10

Materials, services

210,000

210,000

11

Repair and maintenance

266,441

85,000

12

Energy purchases from cogeneration- fixed comp.

893,027

893,027

13

Administration expenses

156,550

82,000

14

Personnel expenses (different from direct labour)

1,410,610

805,889

15

Sales and other administrative costs

600,547

165,889

16

**Total fixed costs**

**3,537,175**

**2,241,805**

17

**Total operational costs**

**6,474,762**

**4,931,927**

**Operational costs DH Termokos - 2021/2022 season**

*Figure 2: Schematic presentation of main costs (in €) proposed by DH Termokos and allowed by ERO for the heating season 2019/2020*

[Analytical](file:///C:\Users\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\2X7CP1LE\TE%20ARDHURAT%20E%20LEJUARA%20për%20NQ%20TERMOKOS_SEZONI%202012-13_v1_Shqip.doc) explanation

Detailed explanations and justifications for determination/allowance of each group of costs, namely for the main positions of operational costs, are provided below.

[Variable costs:](file:///C:\Users\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\2X7CP1LE\TE%20ARDHURAT%20E%20LEJUARA%20për%20NQ%20TERMOKOS_SEZONI%202012-13_v1_Shqip.doc)

* **Cost of thermal energy purchase from cogeneration in TPP Kosovo B- payment component for thermal energy amount:**
* DH Termokos proposed the total cost of thermal energy purchase from cogeneration in the amount of 1,302,852 €. This cost is based on: the reserved capacity according to energy balance planning and planned amount of thermal energy, as well as based on respective prices for capacity and the amount of thermal energy, calculated in accordance with thermal energy purchase agreement KEK Generation- DH Termokos

Concretely, the variable component for the amount of thermal energy is based on the planned amount of 280, 702 MWhT and the price of 1.36 €/MWhT  .

* Evaluation –The proposal of DH Termokos is evaluated to be mainly real and well-grounded. It must be emphasized that it also includes the payment component for the annual licensing tax which is calculated based on the annual tax of licenses for thermal energy production, set by the Rule on Taxes issued by ERO. The calculations are as follows:
* Payment component for the amount of thermal energy: 381,755 €, and
* Payment component for annual licensing tax: 28, 070 €.

The above mentioned components give the result of the payment component for the amount of thermal energy from cogeneration in TPP Kosovo B, in the amount of **409, 825 €** which is allowed for 2021/2022 season.

* It is worth mentioning that the overall cost of thermal energy purchase from cogeneration in TPP Kosovo B – including the reserved capacity component and the component for the amount of thermal energy - is **1, 302,852 €**.

* **Fuel cost – heavy fuel oil:** 
  + The cost of heavy fuel oil proposed by Termokos is based on the estimated amount of heavy fuel oil consumption of 710 ton and the purchase price of 700 €/ton as well as the cost of € 1,200 for oil used for preserving boilers and the cost for heavy fuel oil quality analysis;
  + Evaluation –Upon the functioning of cogeneration project, the boilers of thermal energy production are a reserve capacity to be activated only during unplanned interruptions of TPP Kosova B. Therefore, their eventual usage would last for short periods until the necessary repairs are done. Considering that the average daily consumption, based on historical data (14 years) is estimated to be around 70 ton/day, then it is evaluated that the estimated quantity of 710 ton is sufficient to produce thermal energy for a period of ten days. With respect to the purchase price, it must be emphasized that the heavy fuel oil supply price is comprised of the current market price and the premium to cover the supplier’s expenses. However, taking into account that the amount of heavy fuel oil is a reserve from the amounts purchased years ago, then the average purchase price at that time was calculated (450 €/ton). Based on the above, ERO allows the **cost of heavy fuel oil** in the amount of **€ 319,500**. As for the cost for oil of € 1,200, it should be noted that the preservation of boilers belongs to maintenance and therefore this cost is not categorized in the cost of fuel but in the maintenance cost.

In relation to the cost of heavy fuel oil for own generation of thermal energy, it shall be emphasized that despite that it was not presented by DH Termokos as a separate category, ERO has also added the annual licensing tax payment. This payment is calculated in an amount of **1,364 €,** based on the estimated thermal energy production from heavy fuel oil in the amount of 6, 820 MWh and annual licensing tax of 0.20€/MWh (based on Rule on Taxes, issued by ERO)

* + - **Cost of water for (re)filling of heating system**
* DH Termokos has proposed the amount of 118,130 € for the estimated amount of water of 85,321m3 for replenishment of the distribution system (primary network) as well as the cost for replenishment of thermal energy transportation network from cogeneration and the cost for water consumption in substations;
* Evaluation –ERO carried out its evaluations based on the estimated consumption and realization of this cost in the previous seasons- concretely in the 2020-2021 season the realized cost of water was 112,436 €. The evaluations have also taken into account the forecast amount of water for replenishment of the primary distribution network (85,321 m3 – consumption higher than in the previous season due to network expansion), as well as other water costs for cogeneration network and substations. Consequently, based on the respective calculations that also take into account the current tariffs of water services for RWC Pristina- for water supply service: 0.69 €/m3 and for the waste water service: 0.11 €/m3, evaluates that the proposed cost of water of **118,130 €**, is estimated as real and sufficient for 2021/2022 season.

* + - **Cost of water treatment chemicals** 
      * DH Termokos has proposed the cost of water treatment chemicals for water treatment in the amount of 15,054 €, which represents an increase of only 721 € compared to the realization of this cost in the previous season 2019/2020 (14,333 €) which reflects a planned increase of the amount of water for replenishment of the system.
      * Evaluation- considering the amount of water that shall be treated, water flows (losses) and the planned increase of heating area, ERO evaluates that the amount of **15, 054 €** is sufficient to cover the cost of water treatment chemicals.
        + **Cost of electricity**

DH Termokos has proposed the amount of 557,370 € for the cost of electricity; this cost takes into account electricity consumption in system power plants and substations. It must be emphasized that the proposed value of electricity cost represents an increase of around 5% compared to the value executed in the last season 2020/2021 (530,871 €). Such increase was justified mainly with the increase of the number of substations due to the increase of customer base, namely the increase of heating area and new equipment.

Evaluation – ERO evaluates that the planning of electricity cost is well-grounded and real and that the increase of 5% is related to the increase in the number of substations, namely the heating area. Consequently, the presented electricity cost in an amount of **557,370 €** is real and sufficient to cover the entire consumption of electricity for the period in question, including additional expenses due to the increase of heating area and installation of additional equipment (new).

* + - * + **Personnel cost (“direct labour”)**

DH Termokos presented staff cost- “direct labor” in the amount of **1,338,808** **€**, which represents an increase of 54.78 % compared to the value realized in previous season (865,015 €). Some details were provided for this forecast, which were requested in the written comments of ERO, and was justified by the planned increase in the number of staff according to the Regulation on the organization and systematization of jobs issued by the Board of PE Termokos at the end of 2019. According to this Regulation, among other things, it is foreseen to increase the number of employees (from currently 203 to 248), as well as the addition of some new organizational units, such as the Legal Department and the Department for Capital Investment and Development, which are expected to have 24 employees. According to the new organizational chart, an increase in the number of employees in the Distribution Department is foreseen due to the expansion of the network in other districts (neighbourhoods) of the city, within the projects that are ongoing or planned. Regarding the planned increase in the number of employees, it should be noted that, according to information from PE Termokos, new positions have not yet been filled in both existing and new departments. Also PE Termokos has not offered any recruitment plan for new staff to fill new positions.

Evaluation- Without wanting to provide estimations for the significant increase of the number of employees planned in line with the new Regulation, which is the exclusive competence of the Board of PE Termokos, ERO emphasizes that the addition of new positions should be a process that reflects the significant increase of enterprise operations, as well as considering cost-effectiveness and related benefits.

Based on the review of the information provided and the Regulation in question, it is estimated that, according to the new organization, no significant increase is foreseen in the number of employees in Production/Cogeneration and in the Distribution Department, and emphasizes the fact that so far there have been no additions of relevant positions. Taking into account these facts and considering that the filling of new positions is a process that requires time for the recruitment of professional staff and that should be undertaken in accordance with the gradual expansion of the enterprise operations, ERO considers that the proposed increase is not realistic and allows a 5% increase in this cost compared to allowances for the previous 2020/2021 season; this increase reflects the gradual recruitment of staff in line with the increase in the operations of the enterprise. From what was said above consequently ERO allows the Cost of staff - ‘Direct Labour’ in the amount of **€ 908,266**.

* + - * + **Bad Debt Cost and Annual Licensing Tax**
* DH Termokos did not present the cost of bad debts under the variable costs, while for the licensing tax for production of thermal energy from heavy fuel oil production plants in the heating plant, was presented the joint amount for the tax of self-production and production from cogeneration.
* Evaluation - Pursuant to provisions of Thermal Energy Pricing Rule, bad debt cost is calculated as a justifiable share of the enterprise revenues (i.e. the billing value from heating sale). This “justifiable share” shall be appointed in a manner to stimulate the enterprise for increasing their efforts in enhancing the share of payment collection from customers but at the same time taking into consideration the fact that a considerable amount cannot objectively be collected, therefore it shall remain a debt that actually will not be realized. From what was stated above, ERO’s opinion is that the share of 5% of the bad debt is justifiable and therefore allows the cost of bad debt in the amount of **360,613 €.** With respect to the licensing tax, it has been calculated based on the planned amount of own-generation 6,820 MWhTH and the annual tax of 0.20 €/MWhTH, which results in the amount of **1,364 €.**

From what was said above, it results that **variable costs** allowed by ERO are determined in a value of **2,690,122 €.**

Fixed costs

* **Cost: Repairs and Maintenance;**
* DH Termokos, for the cost of maintenance and repairs has planned an amount of 266,441 **€**- which is an increase much higher compared to the realization of this cost in the previous season 2020/2021 (77,385 €). Also, this proposed value is approximately 3 times higher than the value allowed in the previous review 2020/2021 (85,000 €). For this increase, DH Termokos has given a short justification where mainly the planned increase of this cost is justified by the increase of maintenance and repair works due to network expansion.
* Evaluation - ERO evaluates that the realizations in the previous seasons have been considerably lower for the category “repairs and maintenance”, and also the increase in maintenance cost is disproportionate to the increase in expected works related to network expansion. ERO considers that the proposed value is not reasonable and does not reflect the usual repair and maintenance costs incurred to the enterprise. However, taking into account in part the above reasoning, as well as the need to ensure sustainable operation of facilities, equipment and network that enables a quality supply, ERO estimates a reasonable increase of about 10% from the realization of last season, and for the **cost of repairs and maintenance** allows the value of **85,000 €**.
* **Cost: Materials and Services**
* For this category, from DH Termokos is proposed the value of € 210,000; this value is approximately equal to the realization in the previous season (€ 215,404);
* Evaluation –Taking into consideration that this cost is closely related to the repairs and maintenance cost, as well as based on the above comparisons, it is evaluated that the value proposed by DH Termokos is real and therefore, ERO allows the cost **“Materials and Services”**, in an amount of **210,000 €**.
* **Cost of thermal energy purchase from cogeneration in TPP Kosova B- fixed payment component for reserved capacity**
* The payment component for reserved capacity proposed by DH Termokos is based on the reserved electric capacity: 42,790 MWhEL/h and the respective pre-calculated charge (price): 20.87 €/MWhEL/h;
* Evaluation–The proposal of DH Termokos for the reserved capacity is evaluated as real and based on Energy Balances; therefore, from the calculations it results that the **payment component for the reserved capacity** is **893,027 €;**
  + - **Administration costs:**
* DH Termokos proposed administration cost in the amount of 156, 550€ providing respective details. The proposed amount shows an increase over 100% compared to the amount realized in the previous period (77.048€).
* Evaluation –Based on what was stated above and in order to allow the improvement of services of the enterprise, especially customer service, ERO decided to allow a small increase (around 7%) compared to the realization in the previous period and allows the amount of **82,000€** for this category.
  + - **Personnel cost (different from “direct labor”)**
* DH Termokos has proposed an amount of 1,410,610 € for the cost of the staff engaged in administration and other supporting services, a proposal increased by 47% compared to the realization of this cost in the previous season (€ 956,601), while it is also an increase of about 84% compared to the value allowed for this cost in the review of last season (€ 767,513). Same as for the personnel cost ‘direct labour’, this increase is justified by the planned increase in the number of staff according to the Regulation on Organization and Settlement of Jobs issued by the Board of PE Termokos at the end of 2019. According to this Regulation, among others, the number of employees is expected to increase (from currently 203 to 248), as well as the addition of some new organizational units, such as the Legal Department and the Department for Capital Development and Investment, which is expected to have 24 employees. According to the new organizational chart, an increase in the number of employees in the Distribution Department is foreseen due to the expansion of the network in other districts (neighbourhoods) of the city, within the projects that are ongoing or planned. Regarding the planned increase in the number of employees, it should be noted that, according to information from PE Termokos, new positions have not yet been filled in both existing and new departments. Also PE Termokos has not offered any recruitment plan for new staff to fill new positions.

* Evaluation – ERO, without wanting to give estimations for the significant increase in the number of employees planned by the new Regulation, which is the exclusive competence of the Board of PE Termokos, emphasizes that the addition of new jobs should be a process that reflects the significant increase of the enterprise operations, as well as considering the cost-effectiveness and related benefits.

From the review of the information provided and the Regulation in question it is estimated that, according to the new organization, it is foreseen the establishment of 2 new departments (each with 12 positions) which have not yet been filled - so the relevant staff has not been recruited, same as other positions planned with the new organizational chart have not been filled. Taking into account these facts and considering that the filling of new jobs is a process that requires time for the recruitment of professional staff and that should be undertaken in accordance with the gradual expansion of the enterprise operations, considers that the proposed increase is not realistic and allows a 5% increase in this cost compared to value allowed for the previous 2020/2021 season; this increase reflects the gradual recruitment of staff, in line with the increase in the operations of the enterprise. From what was said above consequently ERO allows the Personnel cost - ‘different from direct labour’ in the amount of € 805,889.

* **Sales and other administrative costs**
* This cost is proposed by DH Termokos in a high amount of 600,547 €; from the provided details it is noticed that this category includes the sub-categories, such as "Pension contributions (employer)" in the amount of € 137,471, "Health insurance expenses" in the amount of € 77,040, and "Loan interest expenses" in the amount of from € 220,146.
* Evaluation– Given that the sub-categories "Pension contributions (employer)" and "Health insurance costs" are allocated to the Personnel Cost, these sub-categories cannot be included under sales and other administrative costs. Whereas for the sub-component “Loan interest expenses” it should be noted that, based on the tariff methodology, the loan payment, including interest, is addressed in the Allowed Return, where for investments planned with self-financing (which includes loans) a reasonable return is allowed in accordance with the Weighted Average Cost of Capital (WACC). Therefore, this sub-category as well cannot be included in Sales and other Administrative Costs.
  + From what was stated above, ERO assigned the amount of **165, 889 €** , which does not include the above-mentioned components, as an amount allowed for “Sales and other administrative costs”

From what was stated above, it results that **Fixed Costs** allowed by ERO are determined in the amount of **2, 241, 805 €.**

- Total allowed operational costs for 2021/2022 season;

Allowed operational costs consist of the sum of the fixed and variable costs and are calculated according to the formula written below:

**OC= Variable costs + Fixed costs**

From the formula it is calculated that:

**Allowed operational costs** are in the amount of **4,931,927 €.**

## 

## 3.2 Determination of the Regulatory Asset Base (RAB)

Determination of RAB is the main factor for calculating the Annual Depreciation and Allowed Return on Assets, which in fact represents the allowed profit from the regulated business activity.

The Regulatory Asset Base- RAB, pursuant to Annex 2 of Thermal Energy Pricing Rule, is calculated according to the following formula:

**RABt end = RABnstart + INVn + WCn-– DEPn-1 - DISn-1**

Where:

**RABt end**  - presents the assets planned for 2021/2022 season (‘n)

**RABnstart** - The Regulatory Asset Base of initial assets, which actually represents ending RAB realized in the previous season 2020/21 (n-1);

**INVn -** New investments, planned and approved by the Regulator for one-year period which includes the heating season 2021/2022;

**WCn-** Sufficient Working Capital for the company to carry out its activities;

**DEPn-1 –** Depreciation of assets realized in previous season 2020/21 (n-1); and

**DISn-1**  - Assets disposed in previous season 2020/2021 (n-1)

3.2.1 Determination of Starting Regulatory Asset Base (RABnstart)

RABnstart represents the initial basis for the determination of RAB planned for ‘n’- 2021/22 season, which, as emphasized above, is actually the ending RAB, executed in the previous season ‘n-1’- 2020/21.

From the regular monitoring of realizations, where the focus is mainly in monitoring the execution of investments in relation to the planned ones, (Monitoring Report of realizations for the 2020/2021 season) the realized values are concluded, from which the final RAB realized in season ‘n-1’ – 2020/21 in an amount of 45,841,697 € is calculated, which at the same time represents the starting RAB for ‘n’ -2021/22 season.

### **Determination of allowed new investments**

### Regarding new investments planned for the tariff review period October 2021- October 2022, it must initially be emphasized that these investments mainly belong to the rehabilitation of the network and substations and network expansion and new substations; DH Termokos presented the total value of planned new investments in an amount of **17,449,000 €**; this amount includes the investments from donations and self-financing investments.

Investments from donations

Investments within the projects of international donors such as KfW and MCC are presented in a total amount of **14,000,000 €** - therefore these projects are mainly planned to be funded from donations, whereas a small amount from self-financing, details as follows:

- **KfW project:** Rehabilitation of the network and substations, as well as expansion of the network and new thermal substations is planned in a total amount of about 14 million €, of which during the period 2018/19 was realized the value of 1.5 mil€ for the rehabilitation of some network segments. This project includes components:

* Rehabilitation of the network and thermal substations;
* Expansion of the network and new thermal substations;
* Construction of heat reservoirs, as well as chemical water treatment equipment.

For the components described above, some preliminary details are given, where it should be noted that currently the realization of the rehabilitation and expansion component of the network has started, while for the other component of modernization of substations and new substations, the tendering process is underway for selection of contractors for execution of works.

DH Termokos, during the tariff review process, has planned the realizations of works in an amount of **€ 8 mil**.

- **MCC Project**: Installation of thermal energy meters- This project is foreseen in an amount of €10.9 mil, as a donation from MCC- USA, and contains:

* Installation of individual meters of thermal energy, namely heat allocators;
* Installation of thermostatic valves and circulating pumps;
* Development of the software for billing and reading of thermal energy consumption;
* Assistance on improvement of billing services based on metered consumption.

DH Termokos has planned that during the tariff review period, the works shall be realized in an amount of **6 mil €**.

Self-financing Investments

As mentioned above, DH Termokos is planning self-financing investments in an amount of 3, 449,000 €; of these self-financing investments, a part of them is within the rehabilitating projects mentioned above whereas the remaining part is from individual investments – details as follows:

- Rehabilitation of the network and respective equipment in an amount of 425,000 €;

- Equipment of production plants, respectively stations of extraction and reception of thermal energy (HES and HRS) in the amount of € 659,000;

-Construction of the facility of the Directorate and Administration in an amount of 2,320,000 €; and

-Computer equipment and computer software in an amount of 45,000€.

Summary of ERO evaluations on allowed new investments

**Investments from donations**

ERO has continuously followed the development of these investment projects and within the cooperation with the parties involved in these projects was informed precisely on the details of these projects. It should also be emphasized that all the presented projects have also been included in the Development Plan 2019-2029 of DH Termokos, which is approved by ERO.

A number of these projects, especially the projects from donators have a duration of over a year, therefore it was required the evaluation of the works that are planned to be realized during the tariff review period, which is evaluated to have been based mainly in the dynamic plans of realizations of these projects. In this regard, it should be mentioned that these two projects (of KfW and MCC) have been proposed and allowed in the last tariff review for the 2020 - '21 season in the values: 5.5 mil € respectively 1.5 mil €. However, during the monitoring of the realization of investments of the 2020 / '21 season, it was found that the level of realization of these investments was very low - the realization of investments of the KfW project was 15.82% whereas of the MCC project 0% - mainly due to of delays in the tendering process for the selection of contractors for carrying out the works.  
  
Specifically for the KfW project - the component of rehabilitation and expansion of the distribution network at an estimated value of 4.6 mil € - the contractor has been selected and the execution of works has started in the neighbourhood Mati 1, while for the component of modernization of existing substations and new substations the tendering process is ongoing.

Regarding the MCC project, the tendering process for the selection of the contractor for supply of equipment and carrying out the installation works has not been finalized yet. It should also be noted that the value of (equipment) assets and installation works is not specified, and the issue of ownership of these assets remains controversial as a significant part of the assets planned for investment are considered as assets of customers (allocators, individual meters in apartments) and a clear definition of potential asset ownership arrangements is needed.

Therefore, ERO for the tariff review period (October 2021 - October 2022) estimates as follows:

- recognizes the amount of **€ 5,500,000** for the KfW project based on the updated implementation plan and the current status of the project described above.

-recognizes the amount of € **1,500,000** for the MCC project according to the updated implementation plan by MCC and the current status of the project.

**New self-financing investments**

From the data and information provided by DH Termokos, ERO has estimated that the new investments planned with self-financing are mainly realistic plans based on the continuous improvement of operations and sustainable supply, excluding the investment value for the Directorate and Administration facility. Evaluations as follows:

* Planned investments in the distribution network include network rehabilitation - which specifically includes pipelines and associated equipment. Among other things, the new investments envisage modular substations and valves DN500 and DN600 (as co-financing with donor projects). As such, investments in the distribution network are fully accepted. Consequently, from the above, self-investments in the distribution network are allowed in the amount of **€ 425,000**.
* Planned investments in thermal power plants, respectively in cogeneration plants - HES and HRS, are part of regular investments to maintain the level of cogeneration operation and ensure quality supply of thermal energy. Therefore, ERO allows the presented amount of investments of **€ 659,000**.
* Among other new self-financing investments, the construction of the Central Administrative Office Building of DH Termokos is also planned. The presented value of this investment is € 2,200,000 for execution of works and € 120,000 for supervising the execution of works. Regarding this investment, it should be noted that initially for the construction of the facility was presented the amount of 530,000 €, a value also included in the long-term Development Plan. Specifically, in the tariff review for the 2019/2020 season, ERO has recognized the investment for the construction of the facility in the amount of 530,000, of which only 67,980 € (12.83%) were realized for the drafting of the Feasibility Study: Assessment of the situation and facilities of PE Termokos” JSC and the drafting of the detailed construction project. While in the review for the last season 2020/2021, the value of € 482,000 was allowed which was not realized at all during this period, due to delays in the tendering process.

Regarding the value of the investment, it should be noted that with the drafting of the detailed project has changed the concept of construction of the facility by significantly increasing the size of the building and storeys, which of course has resulted in a significantly higher value than the initial value. It should also be highlighted a phenomenon that continuously from season to season there is an increase in the estimated value for the construction of the facility - from the initial value of € 550,000, in previous season the value of € 1,350,000 is projected, while in this season the projected value has reached € 2,320,000. In this regard, ERO would like to emphasize that any changes should be reflected in the update of the Development Plan which also means the approval of ERO, which has not been done by DH Termokos. Furthermore, the relevant pre-approved investment changes must be well reasoned and argued. Taking into account the above, ERO decides to transfer the allowed investment amount in the previous review of € 482,000 to the current tariff review for the 2021/2022 season. Consequently, for this one-year tariff review period, it allows the investment value for the construction of the new facility of **€ 482,000**.

In the framework of new investments with information technology equipment, ERO recognizes the proposed amount of **€ 45,000.**

Based on the estimations presented above, ERO recognizes, namely allows planned new investments in the total amount of **€ 8,611,000**.

**Division by financing manner**

Referring to the financing details described above, the division of allowed new investments by financing manner is as below:

* (Allowed new investments )DONATION = 7,000,000 €; and
* (Allowed new investments) SELF-FINANCING. = 1,611,000 €.

### **3.2.3 *Determination of Working Capital***

According to respective provisions of Thermal Energy Pricing Rule-Annex 2, Working Capital is usually determined to allow circulating monetary means for a period no longer than a month, respectively the amount of average monthly revenues. Consequently, ERO determines the ratio 1/12 in the revenues from the sale of heat realized in season 2020/2021 and allows the working capital in the amount of 601,022 €.

* + 1. *Annual Depreciation of Assets- realized in previous season 2020/21 (n-1)*

Annual depreciation for season ‘n-1’- 2020/21 is calculated based on Regulatory Asset Base (RAB) realized in that season and the weighted average depreciation rate, concretely, from the RAB Value realized in 2020/21 (45,841,697€) is deducted the value of realized Working Capital (531,817€) and the sum (45,309,880) is multiplied with the weighted average depreciation rate (3.34%). Therefore, the Annual Depreciation realized in season 2020/21 is calculated in the amount of 1,515,240 €.

### **3.2.5 Disposals**

Disposal means the assets that the regulated enterprise has removed from usage- the assets that have been damaged to the extent that cannot be repaired in order to be reused again, the assets that eventually have been sold/leased (when they were evaluated as unusable) etc; According to the formula given at the beginning of chapter 3.2, the value of disposed assets is subtracted (deducted). Given that for this tariff review no disposal of assets was reported, the value for disposals is 0€.

Summary of the determination of RAB and RABf

The following table presents the summarized integral components and respective amounts of Regulatory Asset Base (RAB) and the Regulatory Base of Self-financed Assets (RABf)

*Table 2: RAB and its components - DH Termokos, heating season 2021/2022*

|  |  |  |
| --- | --- | --- |
| **Regulatory Asset Base (RAB) - DH TERMOKOS** | | **Allowed by ERO  [€]** |
| **Heating season 2021-2022** | |
| 3.2.1 | Starting Regulatory Asset Base (RABnstart) | 45,841,697 |
|
| 3.2.2 | New investments (INVn) | 8,611,000 |
|
| 3.2.3 | Working Capital (WCn) | 601,022 |
|
| 3.2.4 | Annual Depreciation of Assets- realized in season 2019/20 (DEPn-1) | - 1,515,240 |
| 3.2.5 | Asset Disposal- in season 2019/20 (DISn-1) | 0 |
|  | **Regulatory Asset Base (RAB)** | **53,538,478** |

In relation with the Regulatory Asset Base of self-financing assets (RABf), it should be emphasized the same formulations as for general RAB are applied, but in this case the values of self-financing assets are considered; details as follows:

*Table 3: RABf and its components - DH TERMOKOS , heating season 2021/2022*

|  |  |  |
| --- | --- | --- |
| **Regulatory Base of Self-financed Assets (RABf)- DH TERMOKOS** | | **Allowed by ERO  [€]** |
| **Heating Season 2021-2022** | |
| 3.2.1 | Regulatory Asset Base of self-financed assets- starting (RABf-n start ) | **9,832,735** |
|
| 3.2.2 | New investments (self-financed- without donations) (INV f-n) | **1,611,000** |
|
| 3.2.3 | Working Capital (WCn) | **601,022** |
|
| 3.2.4 | Annual Depreciation of self-financed assets- realized in season 2019/20 (DEPf-n-1) | **-265,741** |
|  | Disposal of self-financed assets –in season 2018/19 (DISn-1) | **0** |
|  | **Regulatory Base of Self-financed Assets (RABf)** | **11,779,016** |

## 3.3 Evaluation and Determination of Annual Depreciation

The Determination of Annual Depreciation for season 2021/22 (‘n’) is based on the total RAB value determined in table 2 (chapter ‘3.2’) and in the weighted average of the depreciation rate based on the asset categorization, presented in the following table ‘4’ and respective values provided in table 2. Table 4 presents a summary of RAB categorization according to asset categories, respective lifespan, namely the depreciation rate for each asset category, as well as the weighted average depreciation rate.

***Table 4: Categorization of RAB and weighted average depreciation rate***

|  |  |  |  |
| --- | --- | --- | --- |
| **Depreciation Rate/ Weighted Average Depreciation Rate- New Investments** | | | |
| Land | Assets Lifespan | Years | N/A |
| Depreciation Rate | % | 0 |
| Buildings | Assets Lifespan | Years | 35 |
| Depreciation Rate | % | 2.86% |
|  |  |  |  |
| Plants, electro-mechanical installations and equipment | Assets Lifespan | Years | 25 |
| Depreciation Rate | % | 4.00% |
| Grid – Pipes, fitting and integral equipment | Assets Lifespan | Years | 35 |
| Depreciation Rate | % | 2.86% |
| IT equipment, Cont. syst. equipment., and office mini inventory | Assets Lifespan | Years | 5 |
| Depreciation Rate | % | 20.00% |
| Total New Investments | Assets Lifespan | Years | N/A |
| **Weighted Average Depreciation Rate** | **%** | **2.86%** |
| **Weighted Average Depreciation Rate (Existing Operational Assets + New Investments)** | | **%** | **3.26%** |

As it can be seen from the table above, the weighted average depreciation rate (NZHMP) is calculated 3.26%. Based on the total value (RAB minus Working Capital) and weighted average depreciation rate, the annual allowed depreciation is calculated, as follows:

**Allowed annual depreciation (DEPn)** = (Total RAB-WCn) \* NZHMP = 52,937,456 € \* 3.26 % = **1,726,946 €**

## 3.4 Determination of Allowed Return on RAB (Allowed profit)

As previously mentioned, calculation/determination of Allowed Return is calculated based on the Regulatory Base of Self-financed Assets (RABf)and Rate of Return (RoR), therefore, it includes the following two components:

* Determination of Regulatory Base of Self-financed Assets (RABf) ; and
* Calculation of allowed Rate of Return (RoR), determined in the WACC value.

The first component - RABf is calculated in chapter 3.2 – table ‘3’, whereas the calculation of the second component- RoR is determined in the following chapter:

### **3.4.1 Calculation of Allowed Rate of Return (RoR)**

The objective of a reasonable Rate of Return (RoR) on the Regulatory Asset Base (RAB) is to provide a guarantee for the district heating enterprises for a profit that allows to continue the investment in their assets, in order to be able to rehabilitate and expand them.

A reasonable RoR is considered to be the rate of the “Weighted Average Cost of Capital” (WACC), which is calculated in the components of capital base, taking into account the weights of the sums of these capital components. In other words, WACC is the sum of weighted average cost of equity and cost of debt.

For the cost of equity, ERO applied the internationally recognized methodology called “ Capital Asset Pricing Model” (CAPM). The CAPM expresses the expected cost of equity as the risk-free rate (rf) plus an equity risk premium (ERP). We can define ERP as the difference between the equity market risk- i.e. the return expected on the well-developed market- and the risk-free rate of return, expressed in the formula below:

**ERP = (rm - rf)**

The rate of ERP depends on the risk of investing in the particular country’s market.

Value of pre-tax WACC can be calculated according to the following formula:

WACCpre-tax = [(D/V)\*kd] + [(E/V)\*ke]

where:

**D/V** Debt share of the total capital base (as a percentage)

**E/V** Equity share of the total capital base (as a percentage)

**V** Total capital base, which is the total of equity and debt

**kd** Cost of debt

**ke** Cost of equity

**The cost of Debt (kd)** is a contractual commitment and the interest rate the enterprise pays in actual loans (credits) :

Cost of equity **(ke) is calculated as follows:**

**ke = rf +** **βe \*( rm - rf)**

Where:

**rf** risk-free rate and it is derived from the estimates on Government bonds return

**βe** “Beta”: risk measure for the respective company

**(rm - rf)** Equity market risk premium minus risk-free rate of return

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

Below we estimate/calculate the cost of debt and the cost of equity for the district heating enterprises in Kosovo in order to come to a pre-tax WACC.

#### 

Cost of Debt

For this district heating season and the following ones, ERO decides to have a D/V ratio in the value of 60/100 (60% debt and 40% equity). This 60% ratio should be used in the estimations/calculations of commercial pre-tax WACC for district heating season 2019 – 2020 and for the following seasons, if no significant change is noticed.

Currently, DH Termokos has a loan from KfW with the interest rate of 8.79% for investments in the cogeneration project. With respect to this, it shall be emphasized that that the majority of investments of the cogeneration project was funded by donations (German Government, European Commission and central and local institutions); whereas the amount of 5,000,000 € is a loan from KfW with an annual interest rate of 8.97% and return term of 11 years. Consequently, the cost of debt shall reflect the current loan and is fixed in the amount of 8.79%.

Therefore, cost of debt is:

**kd = 8.79 %**

Cost of Equity

The cost of equity is expressed with the following formula:

**ke = rf +** **βe \*( rm - rf)**

where:

**(rm - rf) = ERP- Equity Risk Premium**

Risk Free Rate (**rf** )is currently evaluated in the range from 1.1 up to 3.0 %, based on the local and international financial trends of governmental bonds (treasure bonds). The low limit presents the level of interests for Kosovo long-term treasury bonds, whereas the high limit represents the 10-year average of interest from Hungary’s treasury bonds- which represent the riskiest emitter of the long-term traded debt among regional comparators. Based on this, ERO fixed the **Risk Free Rate** in an amount of **2.3%.**

Recent regulatory authority decisions estimate the equity risk premium in a range from 3.5 to 5%. Given that DH Termokos is a public enterprise it is considered that the equity risk is minimal and consequently it is assumed that the **value of ERP is equal to 4.5%.**

The average asset beta for EU electricity networks and integrated utilities is 0.42 compared to 0.54 - 0.63 for stand-alone generation and supply utilities in the EU and USA. Given the small size of the Kosovo district heating industry, it seems reasonable to assume that demand growth – which is the main driver of revenue growth – will be more unpredictable than the GDP growth – which is the main driver of stock market growth – than in developed and larger countries. The addition of a single major customer in the district heating will mean an increase in district heating demand compared to previous demand, while the impact on GDP may be much lower. In order to take into account the potentially more volatile nature of the revenues of district heating enterprises compared to GDP growth, we consider that the cost of equity is above the average set by the EU regulators and we consider that a reasonable “βe“for district heating companies in Kosovo is as below: **βe = 1**

Post-tax cost of equity is as follows:

**ke post tax = 2.3% + (1 \* 4.5 %) = 6.80%**

Pre-tax cost of equity is found by multiplying the above figure of the post-tax cost of equity with the tax wedge, as below:

**Tax wedge = 1/(1-t)**

Where:

**t** Tax rate on corporate profit

The corporate tax (t) in Kosovo is 10% and the tax wedge is:

**1/(1-0.10)= 1.11**

Pre-tax cost of equity is:

**ke pre-tax = 6.80% \* 1.11 = 7.55 %**

As a consequence of the above calculations, it is calculated the pre-tax WACC – rounded to two decimals – as below:

**WACCpre-tax= [8.79% \* 0.6 ] + [7.55% \* 0.4 ] = 8.30%**

Calculation of Allowed Return on RABf (Allowed Profit) for DH Termokos

Based on the calculated WACCpre-tax of 8.30 % as mentioned in 3.4.1, we are now able to calculate the Allowed Return or Allowed Profit for DH TERMOKOS, according to the formula below:

**RET = RoR x RABf**

**Therefore, the Allowed Return on RABf is equal to 11,779,016 € \* 8.30% = 977,213 €.**

*Table 5:* Allowed Return (Allowed Profit) in RABf for DH TERMOKOS for the heating season 2021 – 2022

|  |  |  |
| --- | --- | --- |
|  | | **Allowed by ERO[€]** |
| **Allowed Return (Allowed Profit) on RABf for DH TERMOKOS** | |
| **RABf** | **Regulatory Asset Base – self-financed** | **11,779,016** |
| **RoR** | **Rate of Return at WACC level** | **8.30%** |
|  | **Allowed Return or Allowed Profit** | **977,213** |

## 3.5 Determination of Network Losses Cost

The allowed cost of network losses is used to cover the enterprise costs caused due to the loss of thermal energy during transmission and distribution. In accordance with Article 1 of Thermal Energy Pricing Rule, this cost is calculated as the quotient of the amount of network losses and generation of thermal energy that enters the network (share of overall network losses), multiplied by generation total variable cost.

From what was said above, ERO has carried out the Thermal Energy Balance for DH Termokos for heating season 2021/2022, through which it determined the amount of network losses **of 27,538 MWh,** being the amount of transmission network losses TPP Kosova B- DH Termokos (5,614 MWh) and the amount of distribution network losses (21,924 MWh). Expressed in percentage, the total share of network losses is 9.80%- the share of transmission network losses 2.0% and share of distribution network losses 7.80%. Also, from the Thermal Energy Balance is derived the amount of net production (generation) and net purchases of thermal energy – in a total amount of 281,083 MWh.

Based on the above mentioned values and variable operational cost (2,690, 122 €), the **cost of losses** in the amount of **263,559 €** is calculated**.**

## 3.6 Adjustment

Adjustment is used to correct eventual changes between the planning for the tariff review for the period (season) ‘n-1’ and realizations that have actually occurred during that period (season) and those changes are included (corrected) in the next review.

Concretely, adjustment includes the change between planning and actual realization of these components: i) Revenues; Operational Costs; Annual Depreciation; and return on RABf.

The total adjustment value for the previous season 2020/21 is calculated: **-128,738 €**. Therefore, the total adjustment value of **-128,738€** is deducted from the value of allowed revenues for season 2021/22.

## ****3.7 Calculation of Allowed Revenues - Summary****

Total Allowed Revenues are calculated with the following formula:

**MAR = OC + DEP + RTN + LOS +/- ADJ**

# First of all, it should be noted that in calculation of Maximum Allowed Revenues are considered the operating costs deducted for the allowed cost of losses (so-called net operating costs in the amount of € 4,668,368)

Consequently, the value of MAR is equal to **€ 7,507,349** as presented in detail in Table 6.

*Table 6: Allowed Revenues for DH Termokos for heating season 2021-2022*

|  |  |  |
| --- | --- | --- |
|  | | **Allowed by ERO  [€]** |
| **Allowed Revenues for DH Termokos for heating season 2021-2022** | |
| **OC** | **Allowed Operational Costs (net)** | **4,668,368** |
| **DEP** | **Annual Depreciation** | **1,726,946** |
| **RTN** | **Allowed Return on RABf** | **977,213** |
| **LOS** | **Allowed Cost of Losses** | **263,559** |
| **ADJ** | **Adjustment- the difference between allowance and realizations** | **-128,738** |
| **MAR** | **Maximum Allowed Revenues** | **7,507,349** |
|

In order to be in compliance with the tariff structure which estimates the division in thermal capacity component (fixed component) and thermal energy amount component (variable component), the split of MAR is made according to the share: fixed part 15% and variable part 85%. Consequently, split of MAR in fixed part and variable part for heating season 2020/2021 is as follows:

**Fixed part of Maximum Allowed Revenues (MARF) 1,126,102 €**; and

**Variable part of Maximum Allowed Revenues (MARv) 6,381,247 €.**

# 4. Thermal Energy Balance

Thermal energy balance is a significant component of tariff review because it determines the projections for production/purchases of thermal energy, network losses and finally customer supply. This is why projections of the Balance are influential in the planning of respective costs and consequently influence the determination of allowed revenues and tariffs.

The summarized components of Thermal Energy Balance for DH Termokos for heating season 2021/2022 in tabular and graphical form are presented below:

***Table 7: Summary of Thermal Energy Balance***

|  |  |  |  |
| --- | --- | --- | --- |
| **Thermal Energy Balance - DH Termokos sea. 2021/2022** | | **Proposed by DH Termokos** | **Allowed by ERO** |
| Thermal Energy Gross Production | MWh | 6,820 | 6,820 |
| Gross purchase of thermal energy. (entry in Distr. Trans.) | MWh | 280,702 | 280,702 |
| Net Purchases of Thermal Energy. (Exit from Dist. Trans) | MWh | 275,088 | 275,088 |
| Amount of Losses in Transmission Network | MWh | 5,614 | 5,614 |
| Share of Losses in Transmission Network | % | 2.00% | 2.00% |
| Gross production + Gross purchases of Thermal Energy | MWh | 287,522 | 287,522 |
| Amount of Losses in Trans. Net + Own-consumption | MWh | 6,439 | 6,439 |
| Net production + Net purchases of thermal energy (Entry in Dist. Net.) | MWh | 281,083 | 281,083 |
| Amount of losses in Distribution Network | MWh | 21,924 | 21,924 |
| Share of losses in Distribution Network | % | 7.80% | 7.80% |
| **Supply/ Consumption of thermal energy** | **MWh** | **259,159** | **259,159** |