

## Part 0.e FORMULA FOR ECONOMIC MODEL CALCULATION

# PUBLIC CONTRACT

### "Modernization of WtE SAKO Brno"

over-the-limit utilities contract for construction works awarded in a negotiated procedure with prior publication pursuant to the provisions of Section 60 of the PPA,



**SAKO Brno, a.s.**

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## Part 0 - Procurement documentation

### Part 0.e - Formula for economic model calculation

This calculation formula is intended to evaluate the overall financial advantageousness of tenders using the NPV indicator (the total net present value of all cash flows related to the project) in relation to the Economic model (part 0.d to the Procurement documentation).

The model evaluates overall advantageousness of the offered solution over a period of 25 years from the start of commercial operation according to the Contract terms and conditions in the form of net present value. Assumptions used in the evaluation take into account the annual availability of 8,000 hours and nominal operation, i.e., 132,000 tons of processed waste with a calorific value of 10 MJ/kg. The economic assumptions are based on the contracting authority's unit prices and a discount rate of 3% with a year-on-year inflation rate.

This general formula will calculate the net present value as the sum of points 1) to 3) listed below once data filled in by the participant in accordance with part 0.d Binding form of the economic model:

1) Negative value of the total tender Contract Amount taking into account the selectable options for negotiation in the sense of Section 3.1 (b) and Section 3.9. of the procurement documentation<sup>1</sup> (item 1.1.8 according to part 0.d of the Binding economic model) including the required options according to Appendix part III, A.21, the value of discount for EU financing and any possible additional benefit given by shorter construction period than the maximum expected period;

ad 1) [-CAPEX]; and

Summary of the set of cash flows of the future operation: the difference between [sums of heat, electricity, and processed waste commodities multiplied by [electricity, heat sales prices and gate-fee] and the sum of OPEX multiplied by [unit prices of OPEX and externalities] converted to the present value of cash using a discount rate, all this over a period of 25 years (the considered evaluation period);

$$\text{ad 2) in total } \sum_{i=0}^n \frac{\left[ \frac{\sum (\text{Energy outputs}) * (\text{Energy outputs prices}) - \sum (\text{OPEX}) * (\text{OPEX unit prices}) + (\text{Externality}) * (\text{Externality unit prices})}{(1+W)^i} \right]_i}{(1+W)^i},$$

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<sup>1</sup>It applies to the final tenders only if the contracting authority decides on a technical solution corresponding to option D2 according to Section 3.1 (b) of the procurement documentation.

## Part 0 - Procurement documentation

The overall calculation formula of the Economic model is as follows:

$$NPV = -[CAPEX] + \sum_{i=0}^n \frac{\left[ \sum (Revenues) * (Revenues\ prices) - \sum (OPEX) * (OPEX\ unit\ prices) + (Externality) * (Externality\ unit\ prices) \right]_i}{[(1 + WACC)^i]}$$

"NPV" - net present value (evaluated parameter)

"CAPEX" - the total tender Contract Amount (including options for negotiations<sup>1</sup> and options required by the contracting authority according to Appendix part III A.21 including any additional benefit given a shorter construction period than the maximum expected period and the value of discount for EU financing

"Revenues" – the volume of heat and electricity produced and the volume of processed waste

"Revenues prices" - unit prices according to the type of commodity

„OPEX“ – operating expenses

"OPEX unit prices" - unit prices according to the type of operating expenses

"Externalities" – determined production of selected emissions

"Externality unit prices" – unit prices of selected emissions

"WACC" - discount rate set by the contracting authority for evaluation purposes

"n" - period used for evaluation purposes (number of years)

An additional criterion that the contracting authority can use when deciding on the next steps (choice between the OHB II and D2 options) following the submission of indicative tenders <sup>2</sup> can be the profitability index with the computational formula based on the Economic model being the following:

$$Index\ profitability = 1 + \frac{NPV}{CAPEX}$$

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<sup>2</sup>This additional criterion will not be used for the evaluation of final tenders which will only be submitted for one technical solution.