6.3.7.2 Thermal Economic Equivalent (TEE) [%]

Description

Thermal economic equivalent (TEE) corresponds to the economic benefit derived from using alternative fuel by showing the relationship between the fuel costs and the theoretical fuel costs if no alternative fuels were used.

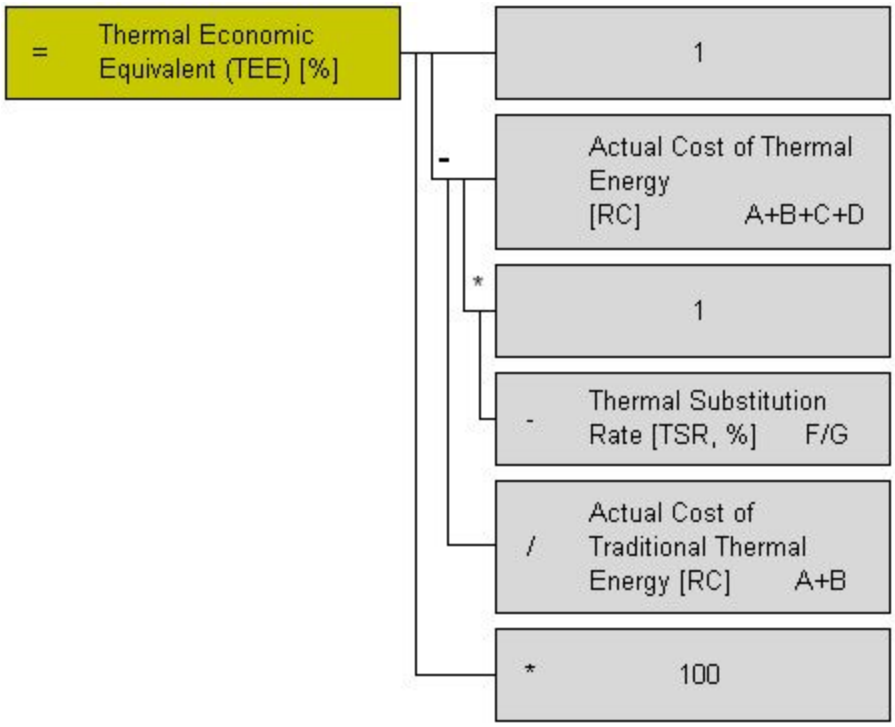
Reference to Process

- Main cost center 'Clinker Production'
- Pre-process cost centers 'Traditional Fuels Preparation and Handling' and 'Alternative Fuels Preparation and Handling' (at plant only)
- Product sub-segment Clinker and Cement

Purpose

To measure the economic benefit of substituting traditional with alternative fuel.

Calculation



Note that A, B, C, D, E, F and G refer to the lines of the table shown in the 'Comments and Examples'.

$$\text{TEE [\%]} = [1 - \frac{\text{Actual Cost of Thermal Energy x (1-TSR)}}{\text{Actual Cost of Traditional Thermal Energy}}] \times 100$$

Depreciation and amortization are not included.

Comments and Examples

TIS data normalization code: ICS Code 400+TEE+CLINKE

This indicator includes the actual costs of the 'Traditional Fuels Preparation and Handling' and 'Alternative Fuels Preparation and Handling' pre-process costs centers (see Definition of pre-process cost centers) and also the compulsory sub-type of costs 'Traditional Fuel' and 'Alternative Fuel' within main cost center 'Clinker Production').

The following table considers five examples of the TEE application:

		Example 1	Example 2	Example 3	Example 4	Example 5
Compulsory Sub-Type of Cost Traditional Fuel [RC]	A	359'176	359'176	179'588	95'095	106'899
Actual Cost of Pre-Process Cost Centers 'Traditional Fuel Preparation and Handling' (RC)	B	18'904	18'904	9'452	5'005	5'626
Actual Cost of Traditional Thermal Energy [RC]	**A+B**	**378'080**	**378'080**	**189'040**	**100'100**	**112'525**
Compulsory Sub-Type of Cost Alternative Fuel [RC]	C	200'000	100'000	180'032	-150'000	-200'000
Actual Cost of Pre-Process Cost Centers 'Alternative Fuel Preparation and Handling' [RC]	D	178'080	89'040	103'528	50'000	31'212
Actual Cost of Alternative Thermal Energy [RC]	C+D	378'080	189'040	283'560	-100'000	-168'788
Actual Cost of Thermal Energy [RC]	**A+B+ C+D**	**756'160**	**567'120**	**472'600**	**100**	**-56'263**
Traditional Thermal Energy Consumption in the Kiln System [MJ]	E	216'046	216'046	108'023	57'200	64'300
Alternative Thermal Energy Consumption in the Kiln System [MJ]	F	216'046	216'046	324'069	200'000	192'900
Total Thermal Energy Consumption in the Kiln System [MJ]	G= E+F	432'092	432'092	432'092	257'200	257'200
Thermal Substitution Rate, TSR [%]	**F/G**	**50.00%**	**50.00%**	**75.00%**	**77.76%**	**75.00%**
Thermal Economic Equivalent, TEE [%] 1- ((A+B+C+D)* (1-F/G)/(A+B))		**0.00%**	**25.00%**	**37.50%**	**99.98%**	**112.50%**

If TEE is 100% the total fuel costs are equal to zero.

Reporting Requirements

The indicator is reported in SAP FC.