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Project Acronym: EFENIS

Deliverable no.: 5.4

Title of the deliverable: Start-up of implemented improvement measures (Public summary)

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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	**X**

In D5.3 the application of the improved methods and tools has revealed an additional potential of X kW_{PE}. In deliverable D5.4 the feasibility and profitability of those measures of D5.3 have been further evaluated. The results of these investigations have been discussed intensively with the plant team of the total site and an improvement plan has been agreed. The achieved savings will be documented after startup.

1 Evaluation of improvements measures

The saving potentials of all measures analysed in D5.3 needed to be additionally evaluated in terms of economic efficiency and technical feasibility. For the economic efficiency the saving potential, which has already been determined, has to be contrasted with the investment costs. The investment costs include the price for the equipment, Process Control System (PCS), mounting, piping and possibly also engineering. The estimation of the investment costs is usually achieved by experience of past investment projects and additional requests for proposal by different vendors.

After the economic efficiency has been determined, a feasibility check for the improvement suggestions has been carried out considering safety, environmental, technical, quality and operational aspects. All this aspects has been intensively discussed with the plant team, which consisted of the plant manager, process experts for all units, PCS engineer, shift supervisor & the plant energy officer.

Each improvement suggestion has been sorted in one of the following 3 categories regarding their feasibility:

A.: Likely feasible (e. g. proven technology, no obvious concerns)

B.: Needs further evaluation beyond this project (e. g. plant tests, more detailed investigation to determine feasibility)

C.: technically not feasible and/or not economic efficient

With determining the category for each measure, the following matrix can be set up (Figure 1). In this matrix each project can be approximately placed in respective to its economic efficiency and the technical feasibility and gives a good visual overview for all measures. It can also be a help to prioritize each measure to form engineering projects & implement the measures at the end.

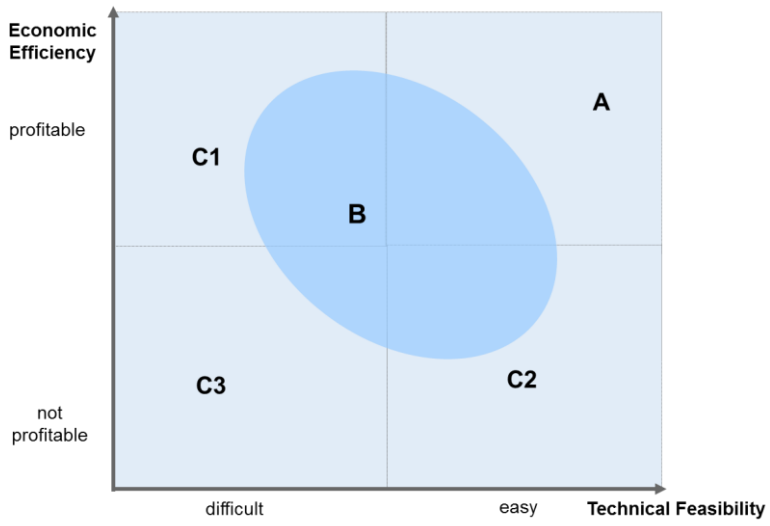

Figure 1: Evaluation Matrix for all projects in terms of technical feasibility & economic efficiency

With these criteria in mind, a number of options have been evaluated.

The evaluated improvement measures have resulted in one A measure and one B measure. For each improvement measure the level of energy intensification will increase. Additionally, 3 C measures have been identified.