

EPOS WP 3 - EPOS tool development

Lead: EPFL

EPOS toolbox and IS tool

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Summary

This report accompanies the delivery of the upgraded EPOS toolbox. The toolbox is built on the calculation engine of Osmose, developed in the IPESE laboratory at EPFL which uses mixed-integer linear programming optimisation methods to identify optimal solution sets from a superstructure of defined technologies. Included in the superstructure is a model base of cross-sectoral and generic technologies developed under the lead of Korona and generic sector profiles from the EPOS industrial partners which represent a typical operation in each sector of cement, minerals, steel and chemicals. The toolbox also incorporates a wide range of key performance indicators (KPIs) which include traditional items such as project payback period and energy efficiency but also calculations of greenhouse gas emissions, job creation and many others which are often neglected.

The toolbox is presented with a user-friendly and functional interface which permits the inclusion or exclusion of various technologies in the superstructure, modification of key plant settings and selection of KPIs. The toolbox also presents a comprehensive and comprehensible approach to presenting the results of optimisation scenarios and the exploration of potential industrial symbiosis solutions which are generated.