EPOS Technology Focus - Wastewater and Other Liquids

Project:
Enhanced energy and resource Efficiency and Performance in process industry Operations via onsite and cross-sectorial Symbiosis

The EPOS project brings together 5 global process industries from 5 key relevant sectors: steel, cement, chemicals, minerals and engineering.

EPOS's main objective is to enable cross-sectorial Industrial Symbiosis (IS) and provide a wide range of technological and organisational options for making business and operations more efficient, more cost-effective, more competitiveand more sustainable across process sectors.

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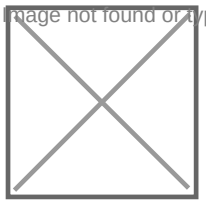

Sector:

Cement

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Ceramics

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Chemicals

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Engineering

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Minerals

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Non-ferrous metails

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Steel

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Water

Summary:

EPOS Technology Focus: Within the scope of the EPOS project, extensive literature and market research reviews were performed in order to identify different technological, organisational, service and management solutions that could be applied to different industrial sites and clusters. The collected information will aid in establishing on-site and/or cross-sectorial industrial symbiosis opportunities; additionally, to enhance overall sustainability, performance and resource efficiency of different process industry sectors. Through the cooperation of project partners, a longlist of different technological options was created. Resource material for this list included: scientific articles, project reports, manufacturer's documentation and datasheets.

Wastewater and other liquids: Similar to heat and electricity, water is a key resource for many process industry activities. Industrial sectors aim to improve efficiency in water consumption and wastewater disposal. Efficient use of water (and other liquids) is achievable through the integration of new/upgraded technological solutions for purification and recycling, implementation of advanced liquid management systems and better utilisation of available wastewater streams.

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Grit separator
Coagulation and flocculation
Sedimentation chamber/settling tank
Flotation
Filtration
Microfiltration and ultrafiltration
Oil-water separation
Hydro-cyclone
Electrocoagulation

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Chemical precipitation	Ion exchange
Crystallisation	Extraction
Chemical oxidation	Pertraction
Nano-filtration and reverse osmosis	Distillation/rectification
Electro-dialysis	Evaporation
Electrolysis	Pervaporation
Adsorption	Stripping

Keywords:
Technology, Industry, Sustainability, Wastewater, Liquid
Type:
Case study
Education/training materials
Other
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