

## EPOS WP 2 – Sector analysis

**Lead: CEMEX**

Sectorial and cross-sectorial KPIs

D2.1

École Polytechnique Fédérale de Lausanne (EPFL)

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## Summary

A key performance indicator (KPI) is a measurable value that demonstrates how effectively an organisation, process or project is achieving a key objective. For instance, the internal rate of return can be used to measure the effectiveness of a project from an economic perspective, where the objective is profitability. Another example is the CO<sub>2</sub> emissions of an industrial process, which can be calculated to quantify the environmental performance with the objective of mitigating climate change.

Industrial symbiosis (IS) can be defined as the integration of industrial processes from different companies or sectors. The most common example is when industries exchange by-products or waste, including energy. Other examples include the sharing of infrastructure or services by two or more companies. IS can have several benefits for the companies involved, but also for the local community, and even society as a whole. These include aspects of legal, economic, spatial, technical social (LESTS) and environmental benefits. The realisation of those benefits through the implementation of IS needs to be quantified with appropriate KPIs.

The goal of the EPOS project is to implement a decision support toolbox for cross-sectorial IS, providing a wide range of technological and organisational options for making businesses and operations more efficient, more cost-effective, more competitive and more sustainable across various process sectors. The definition of KPIs is a crucial step in the project, as they will allow decision makers to evaluate and compare the solutions proposed by the tool from the different perspectives mentioned.

The first step of the KPIs definition was reported in D1.4 and consisted of constructing a long list of both sectoral and cross-sectoral KPIs. The sectoral KPIs were provided by the four sector industries of the EPOS project, while the cross-sectoral KPIs were suggested by the universities and Quantis as a result of literature review and experience. The next step was to refine that long list by identifying the most useful KPIs to include in the EPOS toolbox. Since the goal of EPOS is to have a generic framework that can apply to multiple industrial sectors, including those outside of the consortium, care was taken to remove KPIs that were sector specific, and only leave in the ones that all industries could relate to and that actually evaluated the IS solutions (i.e. cross-sectoral KPIs).

Deliverable 2.1 of the EPOS project shows a refined list of KPIs to be carried forward in the project. This shortlist presented herein was refined in several levels, including input from the universities, Quantis and the industrial partners in the project and incorporates KPIs from all domains of legal, economic, spatial, technical, social and environmental. The longlist of KPIs presented in D1.4 was reviewed from multiple perspectives and commonly-occurring aspects for industrial symbiosis and commonalities between KPIs from disparate industries were given a priority for inclusion in the continuing development of the project. The KPIs remaining in the list are, or will be, incorporated in the EPOS methodology and toolbox, the prototype version of which is available in month 24 of the project. The technical methodology of the toolbox is described more fully in D3.1 and the prototype in D3.6 but a brief summary of how the KPIs are included in the toolbox is also included in the context of this deliverable.