



MICA

Minerals Intelligence Capacity Analysis

LINKSHEET

Resource Efficiency

Resource efficiency is a policy oriented concept. Resource efficiency means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment. It allows us to create more with less and to deliver greater value with less input (definition EU). It is a concept linked to « decoupling » : a continued economic development while reducing environmental pressure. It has been adopted internationally as a development direction, by the UN, the OECD and the EU. It is also a concept that is embraced by national governments, as well as by businesses. There is a strong link with the concept of eco-efficiency.

Scope

Indicators for resource-efficiency are manifold and have strong links to eco-efficiency and decoupling. Most commonly resource-efficiency indicators put resource use indicators in relation to the economic output, such as GDP, value added etc. Resource efficiency indicators can be provided at the macro-, meso and micro-level, both from a life cycle perspective as well as from a regional/territorial perspective. A distinction is made in resource productivity indicators (showing how much value/functionality is created from resources) and its reciprocal resource efficiency indicators (showing how much resources are used to create a functional unit). The EU has adopted GDP/DMC as its core indicator of resource productivity. The environmental impacts dimension is then equalled to the use of resources.

Contexts of use, application fields

-> contexts (e.g., environmental, economic, social assessment)
 -> which types of stakeholder questions are concerned?
 -> link to published studies that implement the method

▶ Not applicable

Input parameters

-> which parameters are needed to run the method

▶ Not applicable

Type(s) of related input data or knowledge needed and their possible source(s)

-> which types of data are needed to run the method, from which sources could they come...
 -> could be qualitative data or quantitative data, and also tacit knowledge, hybrid, etc.

▶ Not applicable

Model used (if any, geological mathematical, heuristic...)

-> e.g., geological model for mapping
 -> e.g., mathematical model such as mass balancing, matrix inversion, can be stepwise such as agent-based models, dynamic including time or quasidynamic specifying time series...
 -> can also be a scenario

▶ Not applicable

System and/or parameters considered

-> **the system can be described by its boundaries.** These can refer to a geographic location, like a country, or a city, the time period involved, products, materials, processes etc. involved, like flows and stocks of copper, or the cradle-to-grave chain of a cell phone, or the car fleet, or the construction sector, or the whole economy...

-> **parameters** could possibly refer to geographic co-ordinates, scale, commodities considered, genesis of ore deposits and others...

▶ Not applicable

Time / Space / Resolution / Accuracy / Plausibility...

-> to which spatio-temporal domain it applies, with which resolution and/or accuracy (e.g., near future, EU 28, 1 year, country/regional/local level...)

-> for foresight methods can also be plausibility, legitimacy and credibility...

▶ Not applicable

Indicators / Outputs / Units

-> this refers to what the method is actually meant for. Units are an important part but that is most of the time not sufficient to express the meaning. For example, **the indicators used in LCA express the cradle-to-grave environmental impacts of a product or service.** This can be expressed in kg CO₂-equivalent. But also in €. Or in millipoints. Or in m²year land use.

-> for foresight methods the outputs are products or processes

► Not applicable

Treatment of uncertainty,
verification, validation

-> evaluation of the uncertainty related to this method, how it can be calculated/estimated

► Not applicable

Main publications / references

-> e.g. , ILCD handbook on LCA, standards (e.g. , ISO)

-> can include reference to websites/pages

-> references to be entered with their DOI

http://ec.europa.eu/environment/resource_efficiency/

http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0571&from=EN>

<http://www.oecd.org/environment/resourceefficiency.htm>

<https://www.unenvironment.org/explore-topics/resource-efficiency>

<https://www.wbcsd.org/>

Related methods

-> List of comparable methods, their particularities...

-> link to one or several other existing fact sheet(s)

► Not applicable

Some examples of operational tools (CAUTION, this list is not exhaustive)

-> e.g., software... Only give a listing and a reference (publication, website/page...)

-> **should be provided only if ALL main actors are properly cited**

► Not applicable

Key relevant contacts

-> list of relevant **types** of organisations that could provide further expertise and help with the methods described above.

▶ Not applicable

**Glossary of acronyms
/abbreviations used**

-> Definition