

LIFE CYCLE ANALYSIS (LCA)

Definition

Life Cycle Analysis (also called Life Cycle Assessment) is a technique to assess environmental impacts associated with all the stages of an asset's life, from cradle to grave, from raw material extraction, materials processing, manufacture, distribution, use and landscape context, repair and maintenance, and disposal or recycling.

LCA provides a wider consideration of environmental issues by:

- Compiling an inventory of relevant energy and material inputs, and environmental gains and losses;
- Evaluating the potential impacts associated with identified inputs and losses;
- Interpreting the results to help make a more informed decision.

Examples of relevance to COST RELY are: (i) the timescale required to balance the energy to produce photovoltaic systems and the energy saved through their use; (ii) assessing the carbon budgets of wind farms on peatlands.

Related terms

Sustainable renewable energy production, Energy conscious design, Environmental Impact Assessment

Keywords

Ecobalance, Amortization, Energy production, Energy recovery

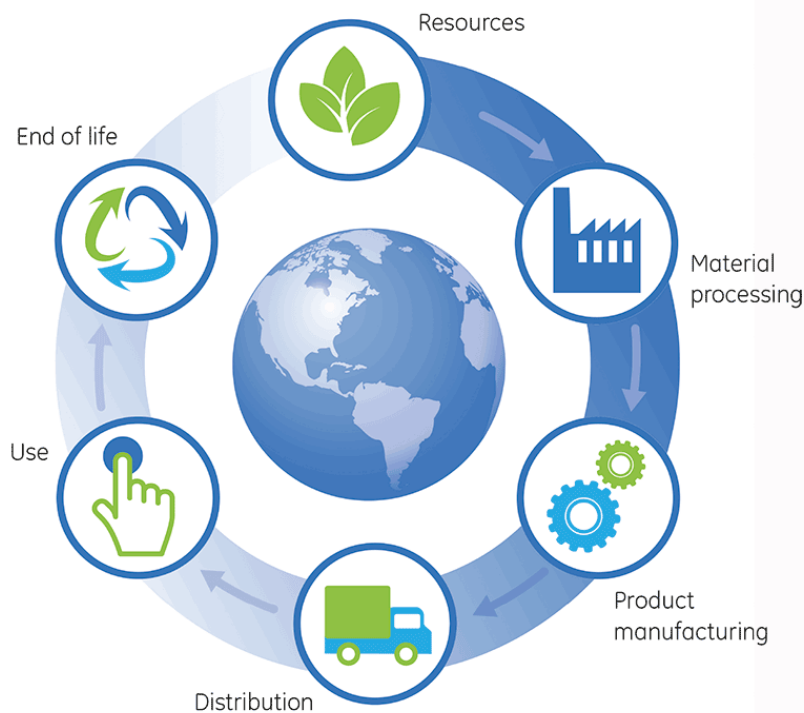


Figure 38 Product/asset life cycle. (Source: GE Healthcare Life Sciences, <http47>)

Source

Bowe S. 2010: A gate-to-gate life-cycle inventory of solid hardwood flooring in the Eastern US. Wood and Fiber Science, March 2010. Society of Wood Science and Technology, Madison.

Nayak D.R., Miller D.R., Nolan A.J., Smith P., Smith J.U. 2010: Calculation carbon budgets of wind farm on Scottish peatlands. Mires and Peat, 4: 1–23.

http48: <https://www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/aktuelle-fakten-zur-photovoltaik-in-deutschland.pdf>

Translations

Bosnia and Herzegovina Analiza životnog ciklusa
Bulgarian Анализ на жезнения цикъл
Croatian Analiza životnog ciklusa
Czech Analýza životního cyklu
Danish Livscyklus analyse
Dutch Kringloop
Esperanto Analizo de ciklo de la vivo
Estonian Elutsüklianalüüs
Finish Elinkaarianalyysi
French Analyse du cycle de (la) vie
German Ökobilanz
Greek Ανάλυση Κύκλου Ζωής
Hebrew חיים מחזור הערכת

Hungarian Eletciklus-elemzés
Italian Analisi del ciclo di vita
Islandic Vistferilsgreining; lífsferilsgreining
Latvian Dzīves cikla analīze
Lithuanian Gyvavimo ciklo analizė
Montenegrin Analiza životnog ciklusa
Polish Analiza cyklu życia
Portuguese Análise de ciclo de vida
Romanian Analiza ciclului de viață
Russian Анализ жизненного цикла
Slovenian Konflikt med rabami zemljišč
Serbian Анализа животног циклуса
Spanish Análisis de ciclos de vida
Swedish Livscykelanalys