



# arvi

Material Value Chains

## Open LCA data – a chance for open research and sustainable business

Jáchym Judl, Kaisa Manninen, Susanna Sironen and Tuuli Myllymaa

In ARVI, pioneering steps towards open LCA data and transparent research were taken. Example ARVI-results were published in a LCA programm and in a database.

Products and materials flow in a chain, in which each company and individual form a link. With their behavior they define the functionality and success of circular economy. This success is supported by an open database, created in ARVI, which disseminates information on the life cycle of each material in different environments.

### Regional data needed for environmental assessments in waste management

Life-cycle data helps in assessing the environmental performance of products and services. The waste management processes are region specific and average data from central Europe doesn't absolutely represent Finnish conditions. In ARVI research program it was studied how and where the Finnish life cycle information should be published and shared. The target was to develop a tool and create a database on waste treatment processes studied in ARVI

### OpenLCA and Metadata portal solutions for open data

Several databases and LCA programmes were compared. International OpenLCA application was concluded of being a suitable platform for releasing the Finnish life cycle information. Public Metadata portal for research data, [metatieto.ymparisto.fi/geoportal](http://metatieto.ymparisto.fi/geoportal), was chosen as parallel solution. Metadata portal is maintained by Finnish Environment Institute. Both of these platforms fulfill the main demands – they were publicly available and free of charge.

Two datasets from ARVI results were processed and entered into databases: Finnish waste incineration process and a study on manufacturing composite board from recycled plastic and wood fibers. From the composite product, a full life cycle assessment data was published, which is exceptional. Data covers all information from the use of energy to the manufacture of chemicals and transport.

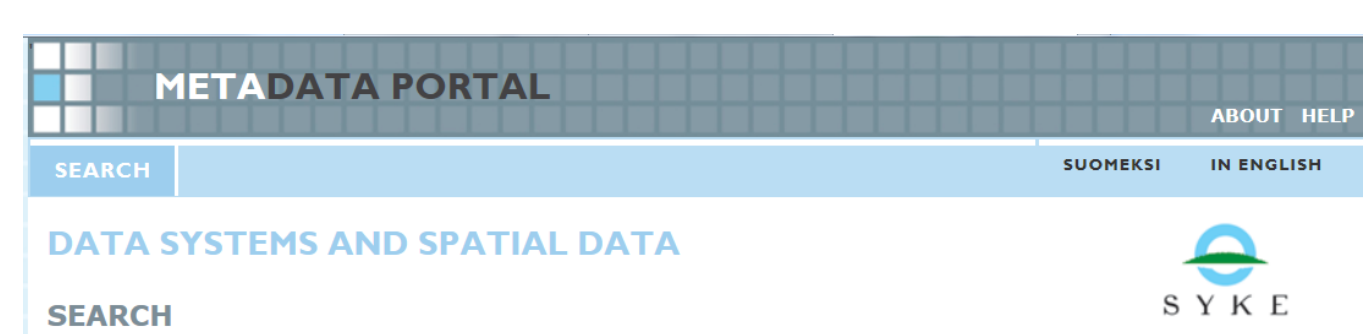
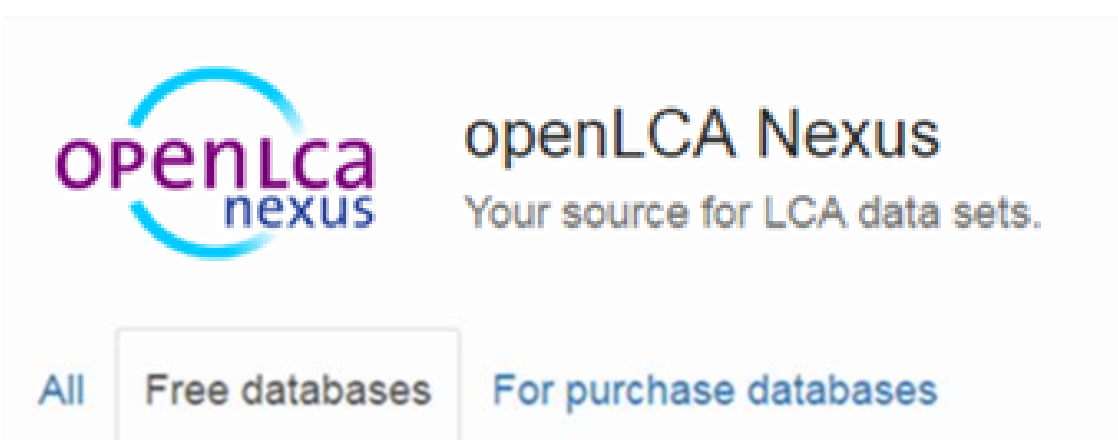
### Open LCA data has a potential to grow from research tool to a future competitive edge for business

One of the main aims of the ARVI project was to serve the business potential of waste management companies. Business potential for new LCA/open data services was recognized, but the markets are still unsure and so far the open data has more potential for research than making business.

As the awareness and preminent atmosphere for sustainable consumption expand, open LCA data could be the tool for convincing demanding customers and companies seeking for sustainable procurement.

In ARVI a large, pioneering step towards open Finnish life cycle inventory and analysis data and more transparent research data has been taken. Results and applications created in ARVI project serve as a good example and bellwether and encourage companies and research organisations to share their life cycle data. In the long term, the target should be to publish all LCAs in database level to enable true data reliability comparison and analysis.

In the future, companies and research organizations may provide their data to the LCI database of the Metadata portal.



Solution Architect for Global Bioeconomy & Cleantech Opportunities