LCA Commons Fact Sheet
February, 2021

FEDERAL LCA COMMONS

www.lcacommons.gov

Collaboration between Federal Agencies to Advance Environmental Life Cycle Analysis to Provide Transparent and Publicly Accessible Data and Methods to inform Decision-making

Transparent, publicly accessible, and trusted Federal data is needed to tackle numerous environmental challenges, especially the climate crisis. The Federal LCA Commons is a coordinated interagency team of over 20 national experts across 12 Agencies and Federally Funded National Laboratories working to advance the development and application of Life Cycle Assessment (LCA).

LCA capacity has developed independently over the last 25 years in many areas across the government as a tool to support agency missions. The Federal LCA Commons has been coordinating as an interagency community-of-practice since 2012 to align the government's diverse LCA capacity.

A 5-year memorandum of understanding (MOU) was established in 2018 between three initial supporting agencies (USDA Research, Education, and Economics, US EPA Office of Research and Development, and the US DOE) to formalize their commitment and document their shared LCA goals:

1. Advance Federal LCA data, research, and information systems by leveraging multi-Agency resources and expertise,
2. Improve consistency in LCA methods developed by each Agency to generate LCA results for decision-making and public disclosure
3. Enhance public and Agency access to Federal LCA data in a standardized, searchable format.

LCA is a modeling approach that quantifies the environmental impacts of products or production practices. It accounts for all impacts from raw material acquisition to final product use and end of life management and can be a powerful tool for people to make better decisions to improve and protect the environment. LCA was originally codified by the International Standards Organization in the late 1990's (ISO 14000 series).

The LCA Commons now includes 12 agencies covering a wide range of federal missions beyond the original MOU.

Federal LCA Commons Supporting Agencies

- Department of Agriculture (USDA), National Agricultural Library
- USDA, Agricultural Research Service
- USDA, U.S. Forest Service
- Department of Commerce, National Institute of Standards and Technology
- Department of Energy (DOE)
- DOE, Argonne National Laboratory
- DOE, Lawrence Livermore National Laboratory
- DOE, Pacific Northwest Laboratory
- DOE, National Energy Technology Laboratory
- DOE, National Renewable Energy Laboratory
- Department of Transportation, Federal Aviation Administration
- Department of Transportation, Federal Highway Administration
- Environmental Protection Agency, Office of Research and Development

Expertise, Impact, and Accomplishments

The LCA Commons can influence a wide range of applications, including agriculture, energy, climate change mitigation, plastics, recycling, green public procurement, circular economy, environmental product declarations (EPDs), transportation, and sustainable infrastructure.

Federal LCA Commons Team expertise:

Model and Data development

- Energy supply chains
- Energy generation and transmission
- Transportation systems
- Waste management
- Environmental impacts
- Construction materials
- Carbon capture and storage
- Agricultural production chain, farm scale management, rural communities, soil carbon

Knowledge Management

- Whole building LCA analysis tools
- Open access data repositories and publication workflows
- Tools and resources for interoperability and data reuse

LCA Deployment and Policy Support

- Use of LCA in pavement design and procurement through **FHWA LCA PAVE** tool
- Guidance and technical reviews of LCA in support of Internal Revenue Service **45Q** tax credit
- Conduct LCAs for DOE, Loan Program Office greenhouse gas analysis loan requirements

LCA Commons Influence and Impact:

Supporting the use of Life Cycle Assessment at national and global level, for example:

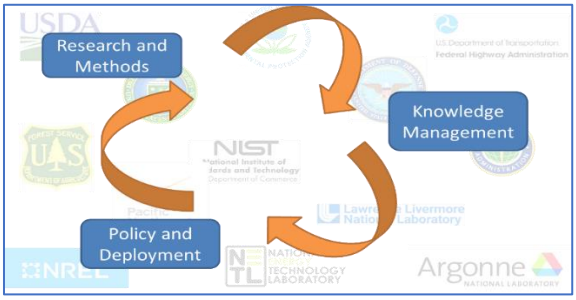
- FHWA Sustainable Pavement Program
- NETL Carbon Dioxide Utilization program (**CO2U**)
- Global Life Cycle Data Access (**GLAD**), UN Open Data initiative
- American Center for Life Cycle Assessment (ACLCA), PCR and EPD guidelines
- ASTM International Committee E60 on Sustainability
- ISO TAG 14000 series (international standards for LCA)

Collaboratively developed products:

US Electricity Baseline: open source electricity generation and consumption model suitable for a wide range of LCA applications.

Federal Elementary Flow List: Authoritative list of resources and releases for Life Cycle Impact Assessment, facilitates data interoperability.

www.lcacommons.gov : Open source repository and publication workflow for federally funded and federally produced LCA data. Direct integration with powerful LCA modeling software, **openLCA**.



The LCA Commons brings together the federal research and policy communities through knowledge management, open data, and interagency collaboration

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