

# Activity Browser

– planning the future together –

## Roundtable

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Brightcon – 20 Oct 2020



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# Activity Browser LCA software

## Key features

- Python layer (brightway2)
- GUI layer (AB)
- Advanced framework good for non-standard LCA (e.g. prospective, modular, parameterized...)
- Fast, flexible, extendable (open source)

The screenshot displays the Activity Browser (AB) software interface. The left pane shows the 'Datasets' table for the 'biosphere3' database, listing various chemical activities and their environmental impact categories. The right pane shows the 'Welcome to the Activity Browser!' screen, which includes a brief description of the software and a list of key features.

**Project:** default

**Databases:** New Database Import Database Select a database (double-click on table).

Name	Records	Read-only	Depends	Modif
1 biosphere3	4079	<input checked="" type="checkbox"/>		a year ago

**Datasets (biosphere3)** Filter by search AND Filter by search Reset

	name	categories	type	unit	
0	1,3-Dioxolan-2...	('water',)	emission	kilogram	('biosp...
1	1,4-Butanediol	('air', 'lower stra...	emission	kilogram	('biosp...
2	1,4-Butanediol	('water', 'groun...	emission	kilogram	('biosp...
3	1,4-Butanediol	('water', 'ocean')	emission	kilogram	('biosp...
4	1,4-Butanediol	('water', 'surfac...	emission	kilogram	('biosp...
5	1,4-Butanediol	('air', 'low popu...	emission	kilogram	('biosp...
6	1,4-Butanediol	('water', 'groun...	emission	kilogram	('biosp...
7	1,4-Butanediol	('water',)	emission	kilogram	('biosp...
8	1,4-Butanediol	('air',)	emission	kilogram	('biosp...
9	1,4-Butanediol	('air', 'non-urba...	emission	kilogram	('biosp...
10	1,4-Butanediol	('air', 'urban air ...	emission	kilogram	('biosp...
11	1-Pentanol	('water',)	emission	kilogram	('biosp...
12	1-Pentanol	('air', 'lower stra...	emission	kilogram	('biosp...
13	1-Pentanol	('water', 'groun...	emission	kilogram	('biosp...
14	1-Pentanol	('air',)	emission	kilogram	('biosp...
15	1-Pentanol	('air', 'low popu...	emission	kilogram	('biosp...
16	1-Pentanol	('water', 'groun...	emission	kilogram	('biosp...
17	1-Pentanol	('air', 'non-urba...	emission	kilogram	('biosp...
18	1-Pentanol	('water', 'surfac...	emission	kilogram	('biosp...
19	1-Pentanol	('water', 'ocean')	emission	kilogram	('biosp...
20	1-Pentanol	('air', 'urban air ...	emission	kilogram	('biosp...
21	1-Pentene	('air', 'non-urba...	emission	kilogram	('biosp...
22	1-Pentene	('air', 'lower stra...	emission	kilogram	('biosp...

**Welcome to the Activity Browser !**

The Activity Browser is an open source graphical user interface designed to increase the productivity when working with the Brightway2 advanced life cycle assessment framework.

**Key features:**

- Manage brightway2 projects, databases and activities (Increasing your productivity with brightway)
- Calculate fast LCA results (use "calculation setups" to calculate LCA results for several activities and LCIA methods at once)
- Easily plot and export your LCA results (contribution analyses, Monte Carlo simulations)
- Visualize your results in Sankey diagrams or explore your database with the Graph Explorer

**Examples**

**LCA results overview**

**Monte Carlo simulation**

**Sankey diagrams**

<https://github.com/LCA-ActivityBrowser/activity-browser>

# Brightway2 + Activity Browser

## brightway2

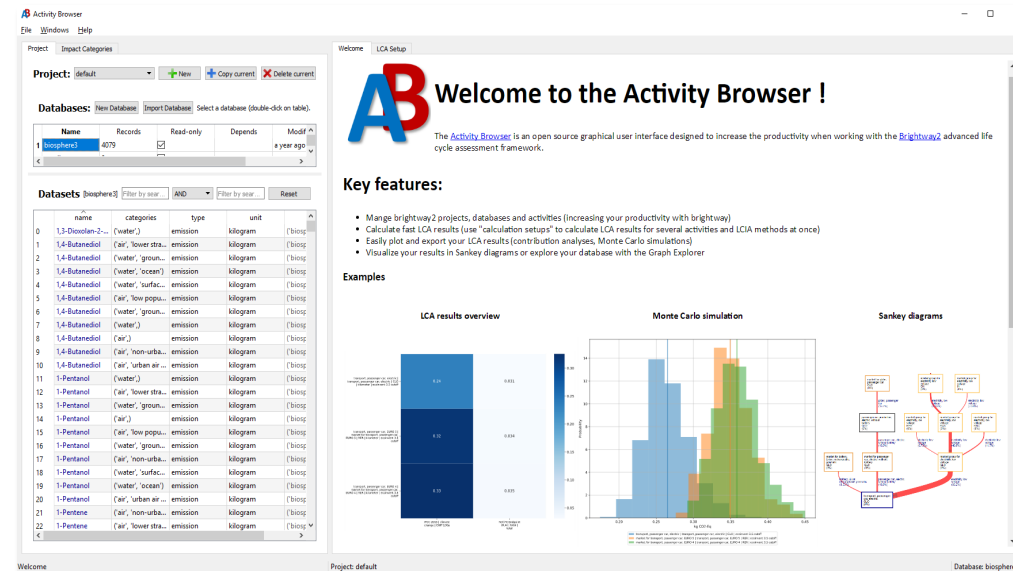
- Advanced LCA framework (python)



Open source, extendable, community driven.

## Activity Browser

- GUI and productivity tool for bw



**Paper** (Steubing et al. 2020):

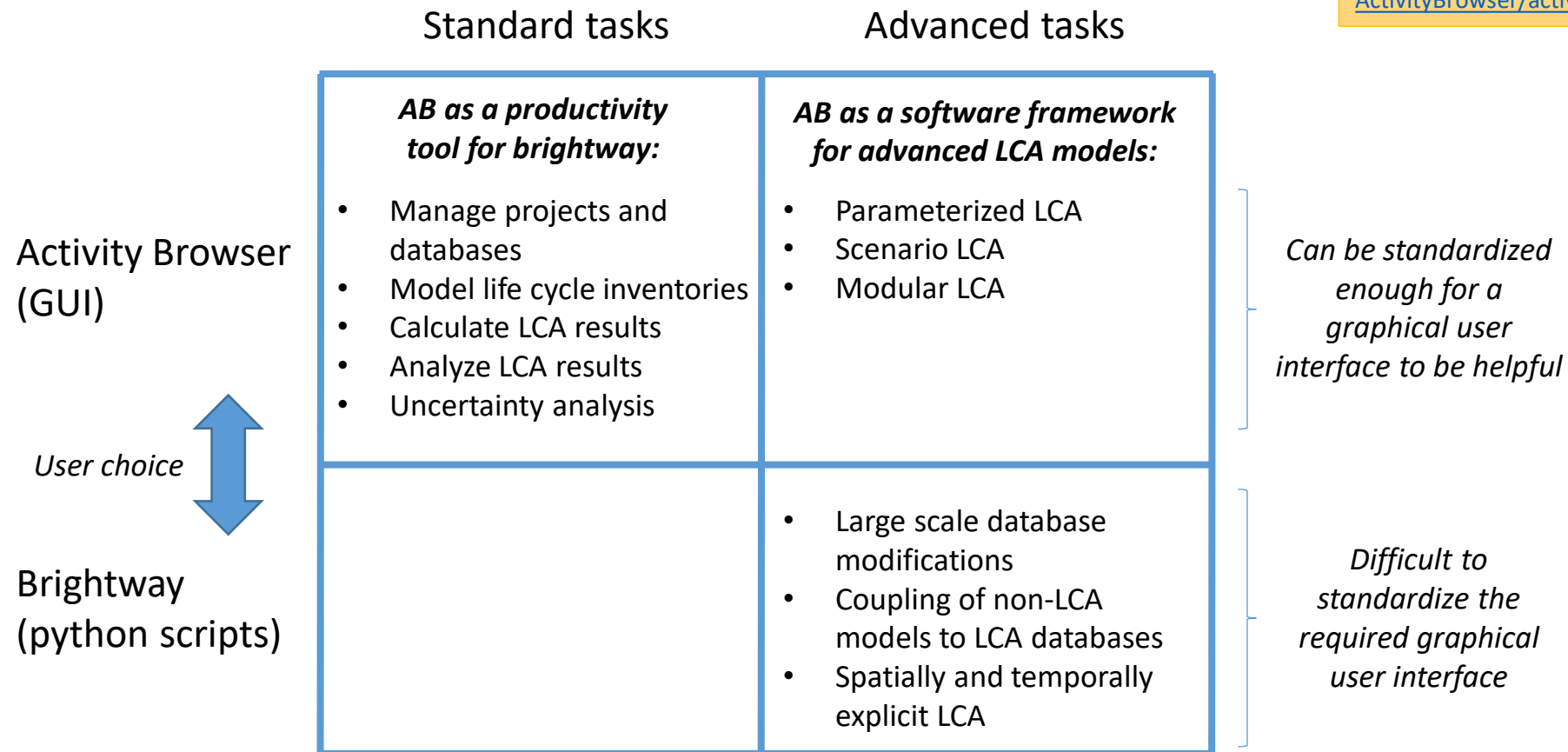
<https://www.sciencedirect.com/science/article/pii/S2665963819300120>

**Installation** from GitHub:

<https://github.com/LCA-ActivityBrowser/activity-browser>

→ Ideal combination for productivity with brightway or implementing new LCA approaches

# When to use the AB?



**Paper** (Steubing et al. 2020):

<https://www.sciencedirect.com/science/article/pii/S2665963819300120>

**Installation** from GitHub:

<https://github.com/LCA-ActivityBrowser/activity-browser>

# Vision and plans


## Vision

- Brightway and the AB become an even stronger backbone for cutting-edge LCA research
- the LCA community engages even more strongly in developing these tools jointly

## Plans

- Improvements
  - Data sharing (imports/exports)
  - Parametrization
  - Scenario modeling
  - General revisions in the spirit of bw2.5 (more modular, robust, flexible)
- New
  - User guidance: within AB, Wiki, youtube videos... (let us know what you need)
  - Support for multi-functional processes (talk later)
  - Modular LCA (?) <https://github.com/bsteubing/modular-lca>






# Youtube tutorials for standard AB tasks



**AB** LCA Activity Browser  
1 subscriber

HOME VIDEOS PLAYLISTS CHANNELS DISCUSSION ABOUT

Uploads ▶ PLAY ALL

#5	#4	#3	#2	#1
Analyzing LCA results	Inventory modeling	Installing databases	Installing the AB	What is the Activity Browser?
 Brightway 6:44	 Brightway 6:10	 Brightway 3:42	 Brightway 3:23	 Brightway 1:56
05 Analyzing LCA results 5 views • 1 day ago	04 Inventory modeling 7 views • 1 day ago	03 Installing databases 6 views • 1 day ago	02 Installing the AB 7 views • 1 day ago	01 What is the Activity Browser 8 views • 1 day ago

<https://www.youtube.com/channel/UCsyySKrzEMsRFsWW1Oz-6aA>

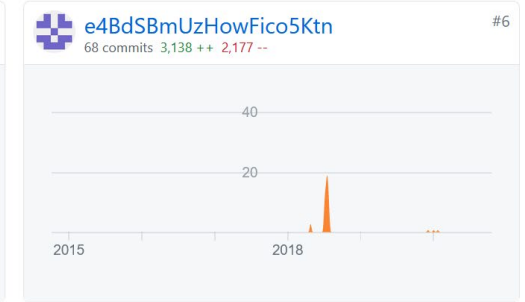
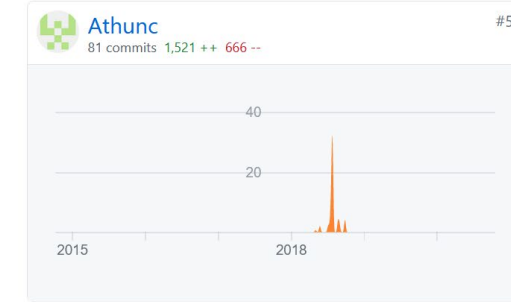
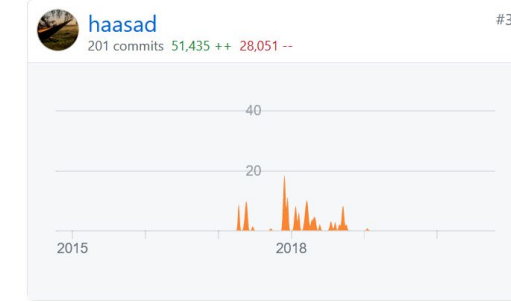
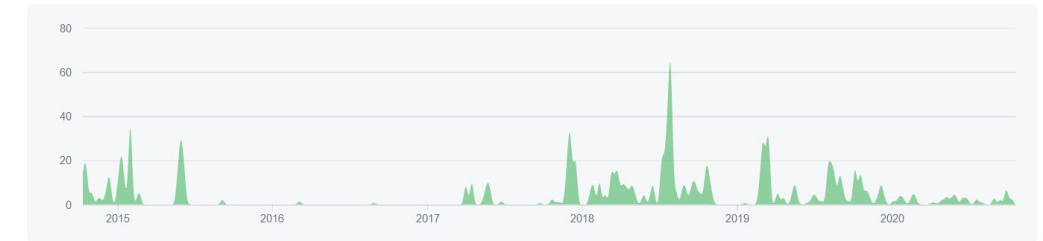
# Contributors

The AB is a community project!  
Everyone is welcome to  
contribute!  
It is also a way making your new approaches  
available to a wider audience.

Oct 12, 2014 – Oct 19, 2020

Contributions: Commits ▾

Contributions to master, excluding merge commits



## How can I contribute?

- Contributions in code (pull requests)
- Raising issues on GitHub (e.g. for bugs or feature requests/ideas)
- Get in touch with Bernhard, Daniel, Chris ...



# What are your needs?

Poll, then roundtable

# Questions? Ideas?

**Funded amongst others by:**



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# Reserve slides

# Interactive questions

- I use the AB (barchart)
  - Never
  - Sometimes, in addition to brightway
  - Often, in addition to brightway
  - I actually work much more in the AB than directly in brightway
- When I use brightway / the AB, I spend most time using
  - Bw vs. AB (slider)
- Which part of AB should most urgently be improved
  - Inventory modeling
  - Graph Explorer
  - LCA results: types of analyses
  - LCA results: figures
  - Parametrization
  - ...
- Which features should be improved at the highest priority (3 words)
- Which features are you missing most in the AB?