A User-Friendly Tool to Assess the Environmental Footprint of PV Systems and Modules

A. Barrou[1], S. Kandiyoti Eskenazi[1] , J. Levrat[1], B. Paviet-Salomon[1], C. Ballif[1,2] | Corresponding authors: abb@csem.ch, ske@csem.ch

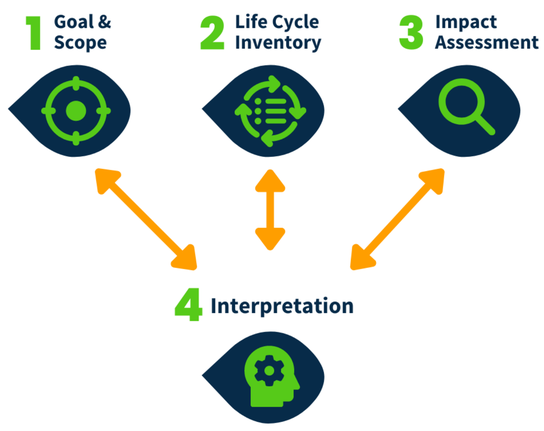
[1]Sustainable Energy Center, CSEM SA, Neuchâtel, Switzerland | [2]EPFL PV-Lab, Neuchâtel, Switzerland

"CSEM's LCA tool revolutionizes environmental footprint assessment for PV systems, enabling accelerated assessments and development of customized eco-design strategies."

Why LCA matters ?

LCA matters for sustainability

- **Life Cycle Assessment (LCA) provides a** comprehensive understanding of **a product's environmental impact** based on its function and life cycle.
- This **knowledge** enables informed **decisions** and strategic **improvements** for **sustainable product developments.**



LCA bottlenecks

- **Difficulty** to collect **reliable primary data.**
- **Low flexibility** offered by market-dominant **LCA softwares.**
- **Time consuming** and need **LCA expertise.**

CSEM's strengths

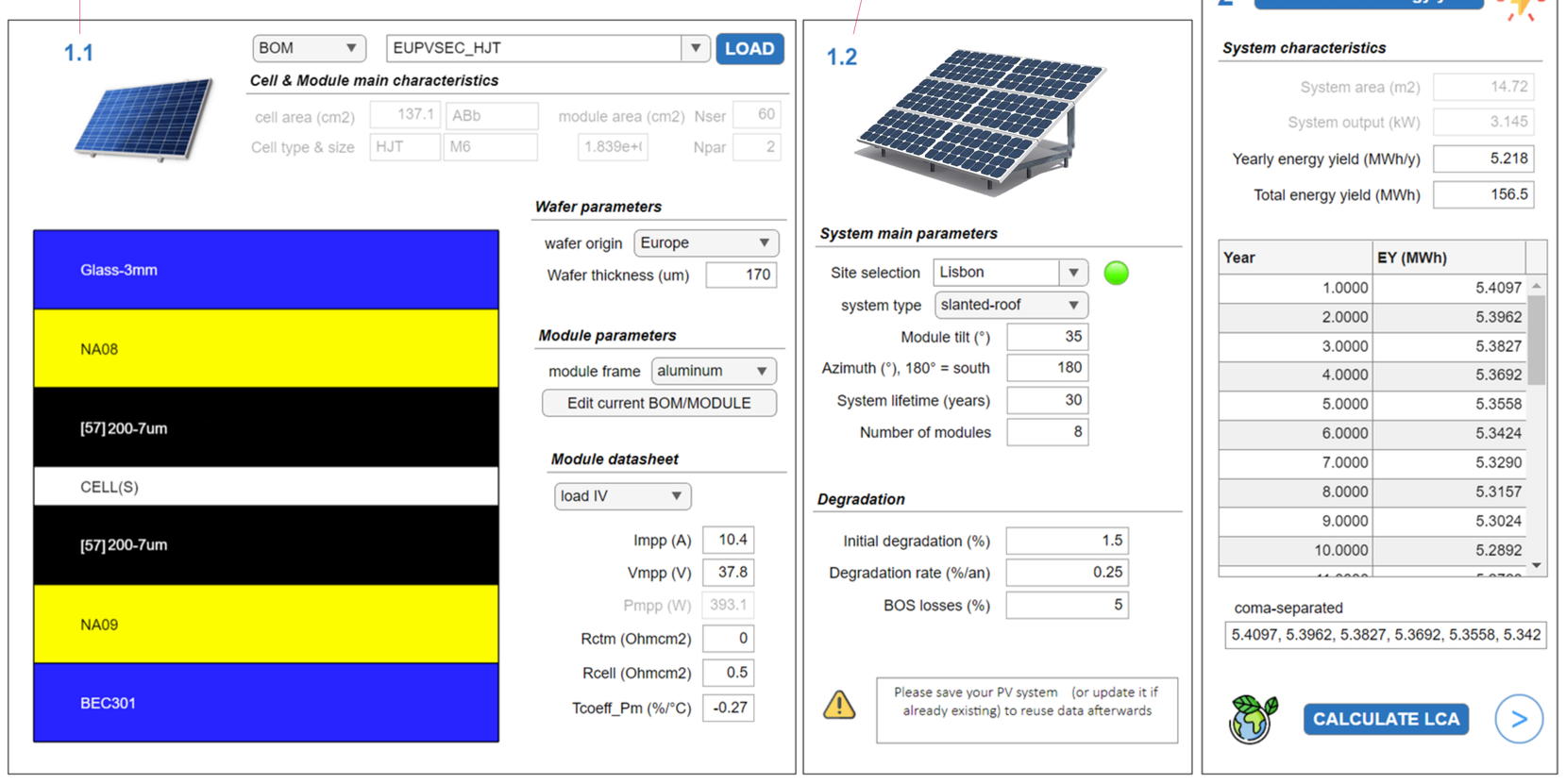
- **Strong knowledge** in **PV technologies.**
- **Internal database** to monitor **cell & module** production.

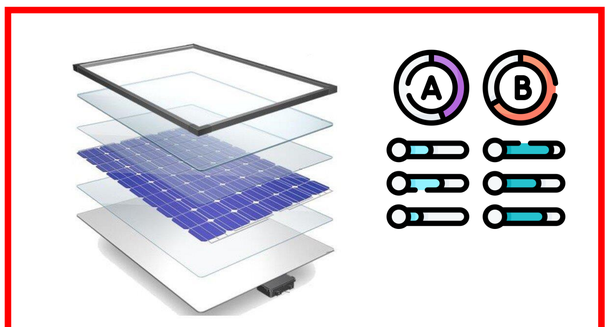
Our solution: a fast, accurate, flexible & user-friendly LCA tool adapted for PV products

Specify module details and parameters from CSEM's module database. It can be any type of module: lightweight, colored, tiles, glass-backsheet, etc…

Input key system parameters (site selection, system type, module orientation, degradation rates).

PV system power output estimation using HETSIM software.





COMPARE MATERIALS' LCA

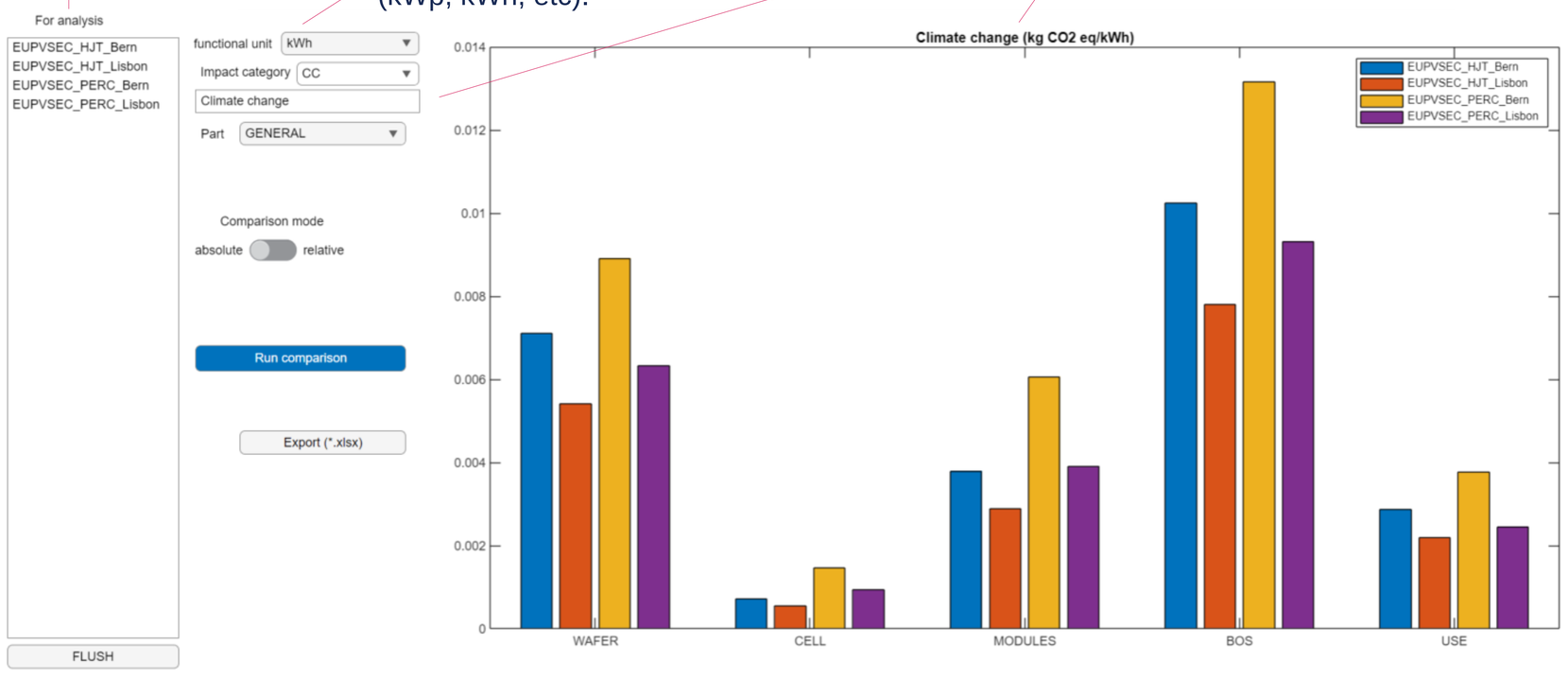
CALCULATE LCA OF PV SYSTEM

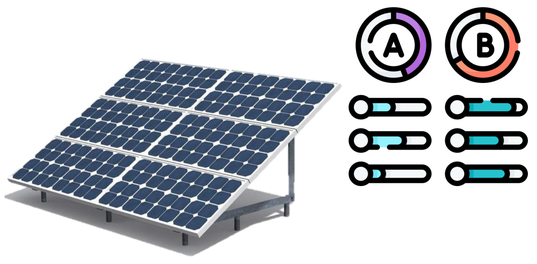
CO_2 & COSTS SAVINGS OF PV SYSTEM

PV systems list.

Different functional units are available (kWp, kWh, etc).

Different LCA impact categories are available.





COMPARE LCA OF PV SYSTEMS

Contact us now

info@csem.ch

www.csem.ch