

# Parametric Open Data for Life Cycle Assessment (POD | LCA)

ARPA-E Award No. DE-AR0001624

UNIVERSITY of WASHINGTON

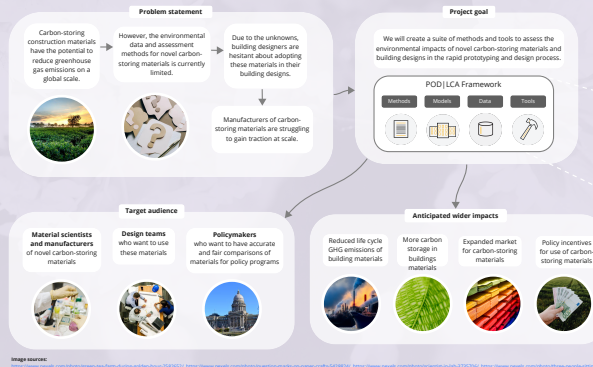


## Funding opportunity from ARPA-E

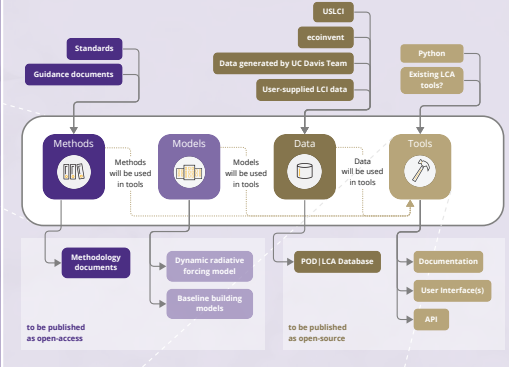
**U.S. Department of Energy Announces \$39 Million for Research and Development to Turn Buildings into Carbon Storage Structures**

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## Problem statement, project goal, target audience, and impacts



## POD|LCA Framework



## Collaborators

HESTIA Teams			
Project name (shortened)	Lead	Partners	
1. Insulation Panels from Bio-Based Feedstocks	U of Buffalo	U of Maryland, NEEL, CPNL, Clearline	Insulation composite teams
2. High Performance Carbon Negative Building Insulation	Agropur Products Group	Saint Gobain	
3. Cellulose-Calcium Hydroxide Composite	NREL, Alaska	U of Alaska, VTT Finland, USDA Forest Products Lab	
4. Ugnis-Serviel Carbon Storing Panels	UT Knoxville, SUNY ESF	Clark Atlanta University, UC Riverside	
5. CO2-sorbent Carbon Nanocomposite + Biomass Composite Panels	Skyline	Enduser Composite, UT Knoxville	Other composite teams
6. CO2-Calcium Cement Composite	OSU, Woodfly, LLC	Purdue, U of Maine, Spangher, Humphreys & Partners Architects	
7. Carbon-Negative Concrete from Biofuel Feedstocks	NREL, Colorado	Carbon Upgrading Technologies, CU Boulder, Colorado School of Mines, SARTRE Renewables, LLC	Concrete/composite teams
8. Photosynthetic Carbon-Negative Cement	CU Boulder	Mosaic Materials, NREL, U of North Carolina Wilmington	
9. Carbon-Negative Concrete through Direct Air Capture	U of Wisconsin	Penn State, U of Illinois Chicago	Wooden teams
10. Bamboo-Wood Hybrid Wall System	Somero		
11. Living Wood (wood + microbes)	Purdue	Michigan State University	Building design teams
12. Circular Home: Reusable Residence	PNEL	Green Canary Node, HGU	
13. Mass Timber Floor System	Clemson U		
14. Hempcrete 3D-Printed Buildings	Texas A&M		
15. AC208: CLT Diaphragms + Steel Buildings	Northeastern U	Simpson, Gumpertz & Heger, UMass Amherst, Searchmore, CPAL	
16. 3D-Printed Particulate Systems	Sphero	Karim Timberlake, CUNY Tech	

**UC Davis Team**

**UC Berkeley**

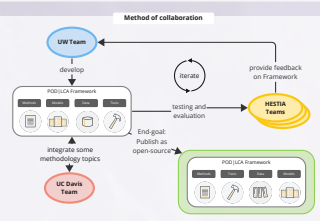
**Lawrence Berkeley National Lab**

**UC DAVIS UNIVERSITY OF CALIFORNIA**

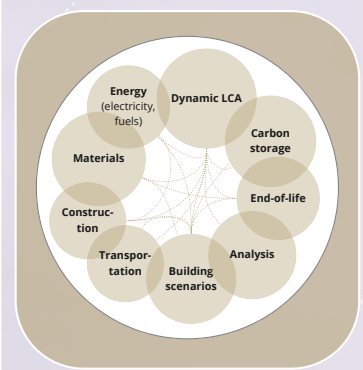
**BERKELEY LAB**  
Berkeley National Laboratory

Project name: Carbon-Negative Buildings Assessment and Tool (CaNBAT)

Project goal: The UC Davis team will develop novel frameworks to analyze and guide life-cycle environmental assessment of novel building materials with the aim to sequester GHG.



## POD|LCA tool modules



## Project team

- Kathrina Simonen (PI)
  - Stephane Carlisle (Co-I)
  - Francesca Pierobon (Co-I)
  - Indroneel Ganguly (Co-I)
  - Tomas Mendez Echeverriguena (Co-I)
  - Christopher Meek (Co-I)
  - Monica Huang (Research Engineer)
  - Teresa Monasterio (Post-Doc)
  - Ethan Ellington (Research Engineer)
  - Mel Chafart (Research Engineer)
  - Ankur Rana (Post-Doc)
  - Linke Ursoy (Graduate RA)
  - Meng-Yen Lin (Graduate RA)
  - Makhsa Torabi (Visiting Scholar)
  - Christina Ryeven (Graduate RA)
  - Mohammad Tabatabaee Manesh (Graduate RA)
- Key:**  
PI = Principal Investigator  
Co-I = Co-Investigator  
RA = Research Assistant  
Gray text = past team member

## Contact

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