

## Agneta Ghose

Born 20 June 1988, Indian citizen

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### Profile

I am an environmental sustainability researcher specialising in life cycle assessment (LCA) of buildings, construction materials, and emerging bio-based systems. My research focuses on advancing methodological robustness, transparency, and reproducibility in LCA, with particular emphasis on FAIR and open data practices. I am currently working on several European research projects. I have also been involved in proposal development of successful grants. My work sits at the intersection of LCA methodology, data infrastructure, and sustainability transition, contributing to more reliable and policy-relevant assessments. In parallel, I am actively engaged in teaching and supervising across bachelor, master, and PhD levels, and contribute to international collaboration and capacity building in life cycle assessment and sustainability assessment.

### Work Experience

- **2022 – Present, Assistant Professor**, Department of Sustainability and Planning, Aalborg University, Denmark
- **2019 –2022, Post Doctoral candidate**, Department of Sustainability and Planning, Aalborg University, Denmark
- **2018 (5 months), Research trainee**, Directorate D, Sustainable Resources, European Commission, Joint Research Centre
- **2014 – 2018, Doctoral researcher**, New Zealand Life Cycle Management Centre, Massey University, New Zealand
- **2011 – 2013, Research Assistant**, Paper and Fibre Research Institute, Trondheim, Norway
- **2012 (3 months), LCA analyst**, MiSA, Trondheim, Norway,
- **2010 (3 months), Research assistant**, Indian Statistical Institute, Kolkata, India

### Career Breaks

I was on maternal and parental leave in conjunction with the birth of my two children

- 1st Child – 14.10.2020 – 24.05.2021(32 weeks)
- 2nd Child - 10.09.2024 - 28.06.2025 (42 weeks)

### Educational qualifications

- 2014— 2018 **PhD degree Life Cycle Management**; Massey University (NZ)  
**Thesis title:** Environmental evaluation of energy-efficiency refurbishment in New Zealand's commercial office buildings
- 2010— 2012 **MSc/Industrial Ecology**; Norwegian University of Science and Technology (NO)  
**Thesis title:** Life Cycle Assessment of an Active House: Sustainability concepts by integrating energy, environment and well-being
- 2006— 2009 **BSc/Zoology and Biotechnology**, Stella Maris College (IN)

## Research Projects

My research portfolio involves both externally funded and internally funded projects. I was actively involved in the collaborative grant writing phase of the Horizon Europe projects that I am involved in.

- **ASCENT** - Active storage of captured CO<sub>2</sub> in net zero construction products(2024 -2027). *Role* – work package leader (involved in grant writing process), *Contribution* – involved in research and co-supervision of PhD student Ewa Lagdozka, development of LCA training material and organizing staff mobility in collaboration with University of Zagreb. *Funding* - Twinning Horizon Europe. *Budget* – 200K euro.
- **LCA4BIO** - Harmonised Life Cycle Assessment methods for sustainable and circular BIO based systems (2024 – 2027). *Role*- project researcher. *Contribution* - involved in research and co-supervision of PhD student Kira Lancz and in the data management plan for the project. *Funding*- Horizon Europe. *Budget*- 500K euro.
- **FunSea** - Functional processing of cultivated seaweeds for novel food products (2024 -2027). *Role* – project researcher. *Contribution*– involved in the research and co-supervision of PhD student Ravalnath Shikhare. *Funding* - Horizon 2020 programme of the European Commission, and Innovation Fund Denmark. *Budget* – 300K euro.
- **FAIR Impact** support for FAIRness assessment challenge (2023). *Role* – Principal researcher (involved in grant writing process). *Contribution* - Assess the use of models to benchmark data sharing practice and identify pathways to ensure the implementation of FAIR guidelines for data sharing. *Funding*- European Open Science Cloud *Budget* - 2.5K euro.
- **ALIGNED** - Aligning Life Cycle Assessment methods and bio-based sectors for improved environmental performance (2022- 2025). *Role* – researcher (contributed to grant writing process). *Contribution*– Develop scientific modelling framework to assess bio- based industries, particularly in the pulp and paper sector. Project wide data curation and data management. *Funding*- Horizon Europe. *Budget* 3.4 Meuro.
- **ODA** - Open Data for Sustainability Assessment (2019 -2022). *Role* – researcher. *Contribution*- Development of a comprehensive ontology for industrial ecology and associated relevant data. Funded by Aalborg University.

## Publications

- Can LCA be FAIR? Assessing the status quo and opportunities for FAIR data sharing. **Ghose, A.** Journal article: [The International Journal of Life Cycle Assessment](#), 2024
- Same product, different score: how methodological differences affect EPD results. Konradsen, F; Hansen, K; **Ghose, A**; Pizzol, M. Journal article: [The International Journal of Life Cycle Assessment](#), 2024
- Assessing life cycle impacts from toxic substance emissions in major crop production systems in Thailand. Mankong, P; Fantke, P; **Ghose, A**; Soheilifard, F; Oginah, S A; Phenrat, T; Mungkalasiri, J; Gheewala, S H.; Prapasongsa, T. Journal article: [Sustainable Production and Consumption](#), 2024
- Assessment of eutrophication potential from fertiliser application in agricultural systems in Thailand. Balasuriya, G. B. Thulangi., **Ghose, A.**, Gheewala, H.S., & Prapasongsa, T. Journal article: [Science of The Total Environment](#), 2022
- A core ontology for modelling Life Cycle Sustainability Assessment on the Semantic Web. **Ghose, A**; Lissandrini, M; Hansen, E R; and Weidema, B P. Journal article: [Journal of Industrial Ecology](#), 2021
- What is grown, to be thrown? –Exploring approaches to estimate food waste in EU countries. Caldeira, C; De Laurentiis, V; **Ghose, A**; Corrado, S; Sala, S. Journal article: [Resources, Conservation and Recycling](#), 2021
- Transparent Integration and Sharing of Life Cycle Sustainability Data with Provenance. Hansen, E R; Lissandrini, M; **Ghose, A**; Løkke, S; Thomsen, C; and Hose, K. Conference paper: [The Semantic Web –](#)

### [ISWC 2020](#)

- Comprehensive environmental impact assessment of New Zealand's office building stock. **Ghose, A;** McLaren, J. S; Dowdell, D. Journal article: [Sustainable Cities and Society](#), 2020
- Life cycle environmental impact of refurbished office buildings: identifying priorities for impact reductions **Ghose, A;** Pizzol, M, McLaren, J. S; Phipps, R; Dowdell, D. Journal article: [International Journal of Life cycle Assessment](#), 2019
- Consequential LCA modelling of office building refurbishment in New Zealand: an evaluation of resource and waste management scenarios. **Ghose, A;** Pizzol, M, McLaren, J. S. Journal article in: [Journal of Cleaner Production](#), 2017
- Environmental assessment of deep energy refurbishment for energy efficiency- case study of an office building in New Zealand. **Ghose, A;** McLaren, J. S; Dowdell, D; Phipps, R. Journal article in: [Building and Environment](#), 2017,
- Environmental aspects of Norwegian production of pulp fibres and printing paper. **Ghose, A;** Chingacarrasco, G. Journal article in: [Journal of Cleaner Production](#), 2013

Scopus H index – 10, citations – 425

Google Scholar H index - 12, citations – 685

### Reports

- [EOSC Denmark Coordination Forum - Activities and reflections 2025](#). European open science cloud-Denmark's 2025 report. Fink, A. S., Boerman, S., Belso, R., **Ghose, A.**, Perchutkaite, B., Petersen, J. B. & Rahbek-Damm, A., 2025
- [Report for stakeholders: pulp and paper sector-wide recommendations](#), ALIGNED Project deliverable. **Ghose, A.**, Pizzol, M. 2025
- ALIGNED [Data management Plans](#) (M6, M18 and M36), Project deliverables, **Ghose, A.** 2022 -2025
- LCA4BIO [Data Management Plans](#) (M6 and M18), Project deliverables, **Ghose, A.** 2024 -2025
- Description of scientific methods - Task 1.2 Framework for foreground life cycle inventory of bio-based sectors - [Constraints to biomass availability](#). ALIGNED project deliverable. Pizzol, M., **Ghose, A.** & Bollesen, K. N. 2024
- Description of scientific methods - Task 1.2 Framework for foreground life cycle inventory of bio-based sectors - [LCI data template](#). ALIGNED project deliverable, Pizzol, M., **Ghose, A.** & Lancz, K. 2024
- [Description of scientific methods: Overview of deliverable and associated documents](#). Pizzol, M., **Ghose, A.**, Løkke, S., Lancz, K., Watanabe, M. D., Cherubini, F., Rinke Dias de Souza, N., Hamelin, L., Javourez, U., Arbault, D., Tschulkow, M. & Van Passel, S. 2024

### Working Publications

- Composing a marginal mix via Almost Ideal Demand System (AIDS) Modelling. Shikhare, R; An, N; **Ghose, A** & Pizzol, M. Submitted to International Journal of Life cycle Assessment. *Under review*
- Extension and validation of forest carbon flux model for dynamic Life Cycle Assessment. Lancz, K; **Ghose, A** & Pizzol, M Submitted to International Journal of Life cycle Assessment. *Under review*
- Harmonization of LCA methods to assess novel biobased materials. In preparation to be submitted in journal for Biofuels, Bioproducts and Biorefining (working output from ALIGNED project).
- Environmental Assessment of Net Zero Carbon Calcined Clay products – A prototype case study. In preparation to be submitted in Journal of Building and Environment (working output from

ASCENT project).

- GenAI as PBL teaching tool – A case study in teaching LCA in small and large groups. *In preparation* to be submitted in International Journal of Life Cycle Assessment (working output from ASCENT project).
- Book on Data Management in Life Cycle Assessment. In preparation (author and editing. interested publisher – Wiley)

### Fundraising Experience

I have been actively involved in grant writing process to accrue external funds in collaboration with research groups across European institutions. We have successfully received funding for the following projects:

- **ALIGNED** - Horizon Europe. Budget 3.4Meuro. 2022- 2025
- **ASSCENT** - Twinning Horizon Europe. Budget 200Keuro. 2024 -2027
- **FAIR IMPACT** – European Open Science Cloud. Budget- 2.5K euro. The small budget covered the hours to attend workshops on understanding FAIR data tools and supported networking across domains.

I have also applied to Marie Curie Doctoral Network Call 2025 and the HORIZON-CL5-2026-02 call recently.

### Conference presentation

- Data sharing - challenges and opportunities for LCA, **Ghose, A.** & Pizzol, M. Platform presentation at [Setac LCA Symposium](#), Lisbon, Portugal. 2024
- Combined Environmental Impact Assessment and Life Cycle Assessment of 250 MW EXOWAVE wave energy farm. Margheritini, L., **Ghose, A.**, Iversen, S. K. & Ferri, F., Platform presentation at [European Wave and Tidal Energy Conference](#). Bilbao, Spain, 2023
- Investigating harmonization challenges in the EPD system: A Focus on EPDs Used in the Danish Building Sector. Konradsen, F., Holse Hansen, K. S., **Ghose, A.** & Pizzol, M., Platform presentation. [The 11th International Conference on Life Cycle Management](#), Lille, France. 2023
- The Future of Industry Production is Biobased, Circular - and Sustainable. Løkke, S., Pizzol, M. & **Ghose, A.**, [The 11th International Conference on Life Cycle Management](#), Lille, France. 2023
- Assessing the FAIRness of LCA data using FAIR tools. Ghose, A. Platform presentation at [DeiC Konferencen](#), Kolding, Denmark, 2023
- Can LCA be FAIR? **Ghose, A.** Platform presentation at [SETAC Europe 33rd Annual Meeting: Data-driven environmental decision-making](#). Dublin, Ireland. 2023
- FAIRification of LCA data using the semantic web. **Ghose, A.** Online Platform Presentation at [BrightCon 2020](#).
- Modelling LCA data on Semantic Web. **Ghose, A.** Online Platform Presentation at [12th International Conference on LCA Food](#)
- Fostering the transition to a circular bio-economy: a systematized framework for identifying the potential for food waste valorization at the macro-scale. **Ghose A**; Corrado S; Caldeira C; Sala S. Platform presentation at [27th European Biomass conference](#), Lisbon, Portugal. 2019.
- Application of hybrid LCA for environmental foot printing- insights on use of Exiobase v3. **Ghose, A**; Webinar for Life Cycle Association of New Zealand , Palmerston North 2018
- Achieving New Zealand’s Target 2050 with energy efficient buildings **Ghose, A**; Platform Presentation for IELab / ALCAS Conference, Queensland 2017
- Do energy efficient buildings help cut emissions? **Ghose, A**; Platform Presentation for Global Climate Change Week- Massey University, 2017

- Implications of resource management for building refurbishments in New Zealand. **Ghose, A**; Platform presentation at: LCM and Industrial Ecology Symposium, Auckland 2017
- The potential of LCM to mainstream bottom-up eco-innovation and alternative thinking. De Rosa, M; **Ghose, A**; Oral presentation at: [LCM 2015, Bordeaux](#)

### Conference posters

- Assessing methodological choices in wood-based biorefinery LCA literature. Lancz, K; Ghose, A & Pizzol, M. Poster presentation at SETAC Europe 34<sup>th</sup> Annual Meeting, Sevilla, Spain
- ALIGNED: A framework for the LCA of bio-based products. Pizzol, M., Løkke, S., **Ghose, A.**, Bollesen, K. N., Spekreijse, J., Reumerman, P., Van Passel, S., Tschulkow, M., Hamelin, L., Watanabe, M. D., Souza, N. R. & Cherubini, F., Poster presentation at SETAC 33<sup>rd</sup> Annual Meeting, Dublin, Ireland May 2023.
- Is your LCA FAIR? Data management in practice. **Ghose, A.** [Spotlight Poster presentation at SETAC-32nd Annual Meeting](#), Copenhagen, Denmark, May 2022
- An Open Source Dataset and Ontology for Product Foot printing. **Ghose A**; Hose K; Lissandrini M; and Weidema B P. Poster presentation at [Extended Semantic Web Conference](#), Slovenia 2019. (Received the Best poster award)
- Opportunities to apply Life Cycle Management in current refurbishment trends of commercial buildings in New Zealand. **Ghose, A**; McLaren, S; Dowdell, D; Poster presented at: [LCM 2015, Bordeaux](#)

### Other dissemination activities

I am actively involved in organizing workshops and co-chairing sessions at conferences to disseminate research and identify networking opportunities

#### Workshops

- IT camps for unge kvinder – ”Using LCA tools to assess environmental impacts” to be held 7.-9. May 2026 in Aalborg
- Co -organizer of [IDA workshop](#) on understanding LCA modelling in the construction sector for civil engineers and architects, Aalborg 2025
- Co- organizer of [Life Cycle Innovation Conference workshop](#) with Treyer, K. Making a difference: Need of the hour is LCA that creates impact. Berlin, Sept 2024
- BONSAI hackathon – Organizer and participant. Key role in development of BONSAI ontology with Lissandrini, M and Weidema, B, 2019
- Data management 2-day workshop for researcher in Section D – organizer with CLAAUDIA. Topics covered: Data Management Plans and tools in AAU, Understanding Semantic web - Linked Data, FAIR data. 2020

#### Conference session co-chair

- 36<sup>th</sup> Setac Europe annual meeting, session co-chair with Navarrete, T; Heather, L; & Didier, B. P: Increasing Access to Life Cycle Data: Bridging Transparent, Inclusive, and Reproducible Sustainability Knowledge. Maastricht, Netherlands 2026
- [33rd Setac Europe Annual meeting](#), Session Co- chair with Unger, N & Ekvall, T. LCA as an Effective Tool in Decision-making, Dublin, Ireland 2023
- [BrightCon RoundTable](#) with Boje, C and Didier, B. P- Semantic technologies in LCA, Luxembourg, 2022
- [32nd Setac Europe Annual meeting](#), Topical discussion organizer with Ekvall, T & Pizzol, M: should we strive towards a single, common LCA approach? Copenhagen, Denmark 2022

#### Media

- [Putting sustainability first](#) – interviewed by Chaudhury, S for the Assam Tribune, Indian media, 2025
- [Students Identify Grey Area in Legislation: Figures for Buildings' Climate Impact are Inaccurate-](#) Togeby, S. AAU News and communication, 2024
- [FAIRness assessment in the Life Cycle Assessment domain](#) interviewed by Lines, C; for European Open Science Cloud FAIR impact, 2025
- [Towards a FAIRer Future](#) a press release by the Danish centre for e-infrastructure, 2024
- [Greener electricity almost halves office emissions](#) PhD research covered by NZ news media, 2020

### Teaching and Supervision (additional details in the teaching portfolio)

- Teaching at bachelor, master, and PhD levels in LCA
- Actively involved in Supervision of EMSS masters students
- Co-supervision of three PhD students
  1. [Kira Lancz](#)
  2. [Ravalnath Shikhare](#)
  3. [Ewa Lagodzka](#)
- Course Co-ordination – for LCA courses at AAU and SDU Esbjerg
- LCS Group Teaching co-ordinator (2025 – present)

### International Teaching Collaboration

- Hosted two teaching staff from University of Zagreb for training in different levels of LCA courses at AAU, 2025 (Spring and Autumn semester)
- Hosted two PhD researchers from Mahidol University to train in advanced LCA methodologies, 2020 - 2021
- Guest lecturer as a part of Erasmus+ staff mobility for teaching and training at Mahidol University, Bangkok 2020

### Skill Development

I regularly attend professional development courses targeted to strengthen research, pedagogy and project (data) management and stay up to date with the latest developments in research.

- **Life cycle sustainability Assessment Course** – Course provided by Prof. Bo Weidema, International Life Cycle Academy. Topic - combining LCC and LCA to address economic, social, and ecosystem impacts. Duration – 16 hrs+exercises; *Feb – May 2026*
- **Teach GenAI webinars** – Course developed by AU in collaboration with AAU and SDU. Topic- webinars designed to offer teaching staff opportunities to explore Generative AI in their educational context. Attended 9 webinars. *Sept – Nov 2025*
- **Adjunktpædagogikum** - Professional course in AAU on problem-based learning with focus on key aspects of teaching and project supervision. *2020*
- **World Data System – ECR Data Curation and Management Workshop** – organized by Members of the WDS Scientific Committee (WDS-SC), Programme and Technology Offices, and ECR Network presented and discussed methods to ensure how research data remains findable, accessible, interoperable and reuseable. *6–8 November 2019*

### Professional membership and Network

- **BONSAI** – Board member and member of the Big Open Network for Sustainability Assessment Information. The network aims to build a platform for maintaining open data and open source software.

- **ISIE** – Member of International Society for Industrial Ecology. Network to channel communication among scientists, and policymakers, interested in better integrating environmental concerns with economic activities.
- **FSLCI** – Member of Forum for Sustainability through Life Cycle Innovation. Global community to promote life cycle thinking in business, science and policy organizations.
- **WDS** – Member (and previously Co-chair) of World Data System -Early Career Researchers Network. A global scientific community that informs about the initiatives on road maps for scientific data management and data infrastructure.

### **Journal Reviewer**

I have peer reviewed several research articles submitted to the following journals

- International Journal of Life Cycle Assessment
- Journal of Industrial Ecology
- Journal of cleaner production
- Sustainable Production and Consumption
- Nature Communications

### **Additional Software skills**

- Expertise in LCA softwares- BrightWay2, SimaPro; strong grasp in the understanding and use of LCA databases (Ecoinvent, Exiobase).
- Experience with statistical computing in R and Python

### **Awards and recognition**

- Recipient of Best poster at 16th International Semantic Web Conference, ESWC 2019
- Recipient of Doctoral dissemination grant from Massey University
- Recipient of Doctoral scholarship from Building Research Association of New Zealand (BRANZ)
- Recipient of 2 year fully funded Erasmus Mundus Lot13 scholarship for Master's program at NTNU. This was a highly competitive grant for Indian university students. I was 1 of 5 grant recipients among hundreds of applicants.
- Young Scientist Fellowship 2008 –awarded by [Indian Institute of Science](#) (IISc), prestigious scientific research institute to foster research interest among meritorious undergraduates across India to receive hands on research experience with scientists.
- Recipient of best performing student scholarship (2006-2009); Silver medallist in final year from Department of Zoology, Stella Maris College, Madras University

### **Languages spoken**

English (proficient); Bengali (native speaker); Hindi (native speaker); Italian (conversational); Danish (conversational)

### **References**

- **Prof Sarah McLaren**, Director of the New Zealand Life Cycle Management Centre. Massey University (PhD supervisor). [S.McLaren@massey.ac.nz](mailto:S.McLaren@massey.ac.nz)
- **Assoc. Prof. Trakarn Prapasongsa**, Mahidol University, Thailand, [trakarn.pra@mahidol.ac.th](mailto:trakarn.pra@mahidol.ac.th)
- **Assoc. Prof. Marijana Serdar**, University of Zagreb, Croatia, [marijana.serdar@grad.unizg.hr](mailto:marijana.serdar@grad.unizg.hr)
- **Assoc. Prof. Matteo Lissandrini**, University of Verona, Italy, [matteo.lissandrini@univr.it](mailto:matteo.lissandrini@univr.it)