



# Verena Göswein

## PhD in Civil Engineering

By training I am a civil engineer but I have a strong interest in interdisciplinary questions of the built environment. I believe that we can only mitigate climate change through social change. A big part of this are sustainable buildings for all. My expertise is dynamic modeling across scales, from construction material to cities. I have lived in Germany, Switzerland, the United States, and Portugal.

### PERSONAL

#### Email address

ninevg@web.de

#### Telephone number

(+351) 916080727

#### Address

Rua de S. Domingos No. 89  
5. Andar  
1200-833 Lisbon, Portugal

#### Date of birth

26.03.1989

#### Place of birth

Wiesbaden, Germany

#### Gender

Female

#### Nationality

German

#### Marital status

Single

#### LinkedIn

<https://www.linkedin.com/in/verenagoeswein/>

### SKILLS

|                   |            |
|-------------------|------------|
| MS Office Suite   | ██████████ |
| SimaPro           | ██████████ |
| MATLAB            | ██████████ |
| ArcGIS            | ██████████ |
| Adobe Illustrator | ██████████ |
| Adobe InDesign    | ██████████ |
| Rhinoceros3D      | ██████████ |

### WORK EXPERIENCE

#### Senior Consultant

Oct 2020 - Present

3drivers - Engineering, Innovation and Environment, Lda., Lisbon, Portugal

I am working on projects related to the circular economy and sustainable construction. My tasks include project management, research and consultancy.

#### Post-doctoral Researcher – Part-time

Dec 2020 - Present

ETH Zurich, Department of Civil and Environmental Engineering, Chair of Sustainable Construction, Zurich, Switzerland

I am researching territorial applications of alternative and bio-based construction materials. My tasks include original research and the supervision of students.

#### Research Assistant

Sep 2015 - Aug 2016

ETH Zurich, Department of Civil and Environmental Engineering, Chair of Sustainable Construction, Zurich, Switzerland

I researched different topics, including: future construction activities in Johannesburg, the feasibility of earth construction in Zurich, and post-disaster reconstruction in Nepal.

#### Internship/working student

Sep 2014 - Feb 2015

pom+ Consulting AG, Zurich, Switzerland

I supported sustainability consulting of public and private real estate owners, developers and project investors.

#### Internship/working student

Jun 2013 - Aug 2014

Helbling Consulting + Construction Planning AG, Zurich, Switzerland

I supported requests for tenders, writing of project manuals and project management, ranging from small local to large national infrastructure projects.

## LANGUAGES

### German

Native

### English

Level C1 (IELTS score 7.5)

### Portuguese

Level B2 (DIPLE passed with "Bom")

## EDUCATION

### PhD in Civil Engineering

Sep 2016 - Sep 2020

Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal

I concluded my PhD with Distinction and Honor ("summa cum laude").

The title of my thesis was "Dynamic assessment of building stocks – Material selection at the urban scale". I was awarded a four years PhD scholarship by the Portuguese Fundação para a Ciência e a Tecnologia (FCT) within the PhD Program "Eco Construction and Rehabilitation".

### Master of Science in Civil Engineering

Sep 2013 - Sep 2015

Swiss Federal Institute of Technology (ETH Zurich), Zurich, Switzerland

Grade 5.44 out of 6

My two specialisations were "Construction and Maintenance Management" and "Transport Systems". I did extensive coursework on subjects related to sustainable construction and spatial planning. It is a 120 ECTS program.

### Summer School on Design and Innovation for Sustainable Cities

Jul 2015 - Aug 2015

University of California, Berkeley, Berkeley, CA, USA

I participated in the five-week summer program offered by the College of Environmental Design. The program consisted of different modules for human-centered design of urban spaces.

### Visiting Master student

Feb 2015 - Jun 2015

Massachusetts Institute of Technology, Cambridge, MA, USA

I was a visiting student at the Building Technology Program at the Department of Architecture. During my time at MIT, I developed my Master thesis, titled "Material flows of Residential Buildings in South African Cities", under the supervision of Prof. John E. Fernández.

### Bachelor of Science in Civil Engineering

Sep 2009 - Oct 2013

Swiss Federal Institute of Technology (ETH Zurich), Zurich, Switzerland

Grade 4.51 out of 6

The curriculum includes the fundamentals of mathematics and natural sciences, and a basic knowledge of engineering. I concluded the degree with my Bachelor's thesis "Execution planning of an urban residential building in Zurich". It is a 180 ECTS program.

## SELECTED PUBLICATIONS

- Göswein, V.**, J. Reichmann, G. Habert, and F. Pittau. **2021**. Land availability in Europe for a radical shift toward bio-based construction. *Sustainable Cities and Society* 70: 102929.
- Göswein, V.**, J.D. Silvestre, C. Sousa Monteiro, G. Habert, F. Freire, and F. Pittau. **2021**. Influence of material choice, renovation rate, and electricity grid to achieve a Paris Agreement-compatible building stock: A Portuguese case study. *Building and Environment* 195: 107773.
- Göswein, V.**, J.D. Silvestre, S. Lamb, A.B. Gonçalves, F. Pittau, F. Freire, D. Oosthuizen, A. Lord, and G. Habert. **2021**. Invasive alien plants as an alternative resource for concrete production – multi-scale optimization including carbon compensation, cleared land and saved water runoff in South Africa. *Resources, Conservation and Recycling* 167: 105361.
- Göswein, V.**, F. Pittau, J.D. Silvestre, F. Freire, and G. Habert. **2020**. Dynamic life cycle assessment of straw-based renovation: A case study from a Portuguese neighbourhood. *IOP Conference Series: Earth and Environmental Science* 588: 042054.
- Göswein, V.**, Rodrigues, C., Silvestre, J.D., Freire, F., Habert, G. and J. König. **2020**. Using anticipatory Life Cycle Assessment to enable future sustainable construction. *Journal of Industrial Ecology* 24 (1): 178–92.
- Celentano, G., **Göswein, V.**, Magyar, J. and G. Habert. **2020**. The Informal City as a Socio-Technical System: Construction Management and Money Distribution in the Informal and Upgraded Communities of Bangkok. *Journal of Cleaner Production*.
- Göswein, V.**, J.D. Silvestre, F. Freire, and G. Habert. **2019**. Fleet-based LCA applied to the building sector – Environmental and economic analysis of retrofit strategies. *IOP Conference Series: Earth and Environmental Science* 323: 012172.
- Celentano, G., Zea Escamilla, E., **Göswein, V.** and G. Habert. **2019**. A matter of speed: The impact of material choice in post-disaster reconstruction. *International Journal of Disaster Risk Reduction* 34: 34-44.
- Göswein, V.**, Silvestre, J.D., Habert, G. and F. Freire. **2019**. Dynamic Assessment of Construction Materials in Urban Building Stocks: A Critical Review. *Environmental Science & Technology* 53 (17): 9992-10006.
- Göswein, V.**, Krones J., Celentano, G., Fernández, J.E. and G. Habert. **2018**. Embodied GHGs in a Fast Growing City: Looking at the Evolution of a Dwelling Stock Using Structural Element Breakdown and Policy Scenarios. *Journal of Industrial Ecology* 22 (6): 1339–51.
- Göswein, V.**, Gonçalves, A.B., Silvestre, J.D., Freire, F., Habert, G., and R. Kurda. **2018**. Transportation matters – Does it? GIS-based comparative environmental assessment of concrete mixes with cement, fly ash, natural and recycled aggregates. *Resources, Conservation and Recycling* 137 (October): 1–10.