

VACANCY PhD

Operational Life Cycle Sustainability Assessment Methodology Supporting Decisions Towards a Circular Economy

Job title: PhD student (keuzelijst)

Department: Green Chemistry and Technology

Occupation: full time

Type contract:

Deadline for applications: 15/08/2020

Diploma: master in bioscience engineering, environmental engineering, or similar

Job description

We welcome candidates for a full time appointment as PhD student at the research group Sustainable Systems Engineering (Prof. J. Dewulf), Faculty of Bioscience Engineering at Ghent University. The PhD student will be appointed within the framework of the EU Horizon 2020 project ORIENTING: Operational Life Cycle Sustainability Assessment Methodology Supporting Decisions Towards a Circular Economy. This project runs with an international consortium, including TecNALIA (Sp), VTT (Fi), Fraunhofer (De), Pre Consultants (NI), ecoinvent (CH), BASF, and several other institutes.

Summary of the project:

Sustainable development and circular economy require balancing between environmental, economic and social benefits and de-coupling the economic growth from resource use. The European New Green Deal highlights the need for reliable, comparable and verifiable sustainability information. Existing sustainability assessment approaches suffer from lack of comprehensiveness, consistency and practical tools for implementation. This results in fragmented and hardly comparable information on product sustainability performance.

The ORIENTING project takes up this challenge and develops a robust and operational methodology for the life cycle sustainability assessment (LCSA) of products and services. The novelty value of the project relates to an approach that considers environmental, social and economic impacts in an integrated way. The ambition is to develop a methodology that can assess goods produced under linear as well as circular business models, allowing practitioners to understand and manage possible trade-offs.

ORIENTING contributes to the development of a future Product Sustainability Footprint at European level, evolving existing PEF and designing new indicators for the evaluation of material criticality and product circularity. New tools will be developed to support and simplify the methodology application in business and policy development. Tools include guidance and training materials, data and software specifications and a hands-on LCSA IT tool. The LCSA methodology and its enabling tools are demonstrated in five industrial case studies. The consortium works in close cooperation with various stakeholders (industry associations and clusters, SMEs, consumer organisations, as well as governmental and standardisation bodies). The project outcomes will enable informed business

decisions and contribute to the development of a levelled playing field – a single market – for products based on robust (i.e. transparent and verifiable) sustainability information.

Your role will be in identifying and selecting the best available (and/or promising) methods and tools to be considered in ORIENTING, as the basis to assess sustainability from a life-cycle perspective. Specific objectives herewith are (1) to define of a criteria-based scheme for the evaluation of different methods and tools aligned with the UNEP/SETAC framework and the EU circular economy strategy; (2) to evaluate and classify existing approaches according to the criteria-based scheme. A particular focus will be on (1) criteria selection for the evaluation of existing methods and tools for the analysis of sustainability domains, including material criticality, circularity and their integration; (2) a sustainability integration framework approach; (3) operational indicators, aligned with the LCSA methodology, which can provide information on circularity and criticality issues for different stakeholders, regarding the (raw) materials involved in the assessment; (4) case study development.

Given the multidisciplinary character of the research, collaboration and exchange with the other partners in the project will be key. The scientific findings should lead to publications in international peer reviewed journals and into a PhD manuscript

The start date is planned as end of 2020.

Profile of the candidate

Candidates should have background and/or affinity with sustainable systems engineering and should be familiar with the sustainability assessment toolbox, including life cycle analysis. We are looking for candidates with a critical and analytical attitude and eager to take initiative.

Other expectations:

- You hold a Master degree in environmental engineering, bioscience engineering, or similar.
- You have interest in scientific research in order to obtain a PhD degree.
- You have good writing and presentation skills.
- You master the English language, written and orally, in an academic context.
- You can operate both independently and in a multidisciplinary team.
- You have organisational skills and are highly motivated.
- Having experience with quantitative and/or qualitative research.
- In case you have experience with project management: very welcome.

How to apply

Send an email to Prof. Dr. Ir. Jo Dewulf (Jo.Dewulf@ugent.be) before August 15th, 2020, with subject 'application for ORIENTING' and include:

CV, study results in a file with name '*CV surname*'

Motivation letter in a file with name '*Motivation letter surname*'

Contact details (name, phone email) of at least one reference one reference person

Selection will be based on competences, independent from gender, religion, ethnicity, age, sexual orientation or physical disability.

For more information, please contact Prof. Dr. Ir. Jo Dewulf (jo.dewulf@ugent.be) or Dr. Rodrigo Alvarenga (rodrigo.alvarenga@ugent.be)