



# Postdoctoral Fellow in Carbon Footprints of European Cities

## About the position

The Industrial Ecology Program ([IndEcol](#)) is seeking a postdoctoral researcher with competence in quantitative sustainability modelling to work on modelling carbon footprint reduction opportunities at the city and state level.

The Industrial Ecology Program is an interdisciplinary research and teaching program managing its own International MSc program and PhD program. IndEcol is well recognized for its work in the areas of input-output analysis, life-cycle assessment, and material flow analysis for environmental assessments.

IndEcol is well integrated in the international research community through the participation in EU projects and the participation in professional societies such as the International Society for Industrial Ecology and International Input-Output Association. Key faculty members currently serve as lead authors of the IPCC. There is a long tradition in IndEcol of working on fundamental model development, in addition to having industrial and policy applications through case studies and tool development.

The Head of Department is Professor Terese Løvås. The position's supervision is by Professor Richard Wood. Co-supervisor is Senior Researcher Dan Moran.

## Main duties and responsibilities

The new BYMARKA project (<http://citycarbonfootprints.info>), which this position is part of, aims to deliver high-detail models of carbon footprint assessments for cities across Europe, and, aspirationally, worldwide, as well as offer model-based guidance and tools that cities can use to prioritize steps they can take to reduce the footprint their residents generate. The project aims to map out the distribution of regional carbon footprints, globally, in high detail. With the results of this research it will be possible to zoom in on the geodemographic hotspots driving a region's carbon footprint.

The primary aim of this research project is to build a spatially explicit model of consumption, with city and state boundaries, and link it to existing global supply chain models.

The central question of the research project is: Are there patterns in the spatial and socioeconomic distribution of carbon footprints that can help in setting smart carbon footprint mitigation policies at the regional scale?

The project is conducted in collaboration with the Potsdam Institute for Climate, RIHN in Kyoto, and UNSW in Sydney. There should be an opportunity to publish in high-impact and field specific journals (and scientific publication throughout the post-doc is expected), as well as to collaborate with leading experts in the field. The candidate will take responsibility for leading papers. The postdoc position will have opportunities to interact and ideally collaborate with other input-output based projects led by Professor Richard Wood and Professor Edgar Hertwich in IndEcol.

## Qualification requirements

A Postdoctoral Research Fellowship is a qualification position in which the main objective is qualification for work in academic positions.

### Essential qualifications

- Completion of a Norwegian doctoral degree in Industrial Ecology, Economics or related quantitative field or corresponding foreign doctoral degree recognized as equivalent to a Norwegian doctoral degree
- Excellent communication and collaborative skills
- Fluent English language skills (written and oral)
- The ideal candidate will either have demonstrated (a) quantitative modelling skills, or (b) strong English writing, policy analysis, and analytic skills, or, ideally, both
- The candidate with an ideal quantitative modelling profile (a) will have experience with input-output modelling, experience with ArcGIS, GDAL, or other spatial data tools, demonstrated programming skills (preferably Julia, MATLAB, Python, or R), fluency with large datasets, and experience with data visualization, including web presentation
- The candidate with the ideal writing and analysis profile (b) is a person excited about bringing quantitative carbon footprint results to cities. They would be interested in, and preferably have demonstrated experience with, outreach and communication to cities and local governments, writing high-level scientific publications centered on policy analysis, recommendations, and policy-relevant analyses

### Desirable qualifications

- Experience building spatially explicit quantitative models

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and [national guidelines for appointment as PhD, postdoctor and research assistant](#).

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, in terms of the qualification requirements specified in the advertisement. NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

## We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)

## Salary and conditions

Postdoctoral candidates are remunerated in code 1352, and are normally remunerated from NOK 523 200 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund. The period of employment is 2 years.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criterias in the latter law will be prohibited from recruitment to NTNU.

After the appointment you must assume that there may be changes in the area of work.

## General information

### [Working at NTNU](#)

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

About the application:

For further information please contact the project PI, Dan Moran ([daniel.moran@ntnu.no](mailto:daniel.moran@ntnu.no)).

Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application. Joint works will be considered. If it is difficult to identify the individual applicant's contribution to joint works, the applicant must include a brief description of his or her contribution.

Please submit your application electronically via [jobbnorge.no](http://jobbnorge.no) with your CV, diplomas and certificates. Applications submitted elsewhere will not be considered. It is necessary to include a [Diploma Supplement](#) with European Masters Diplomas from outside Norway. Chinese applicants are required to provide confirmation of Masters Diplomas from [China Credentials Verification \(CHSI\)](#).

Applicants invited for interview must include certified copies of transcripts and reference letters.

Please refer to the application number IV-205/19 when applying.

Application deadline: 23.08.2019

## NTNU - knowledge for a better world

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

### Department of Energy and Process Engineering

We conduct research and teaching covering the entire energy chain, from resources to the end-user. We look at how energy is produced and used by humans and machines in a sustainable way with regard to health, climate change and the resource base. [The Department of Energy and Process Engineering](#) is one of eight departments in the [Faculty of Engineering](#).

Jobbnorge-ID: 172826, Søknadsfrist: Avsluttet