Postdoctoral Researcher position – Mapping pathways for decarbonization in re-manufacturing

We seek a highly motivated postdoctoral researcher to help **lead research** on a portion of the project entitled "Remanufacturing - A manufacturing paradigm shift for deep decarbonization in a sustainable economy." This researcher will be supervised by Dr. Sarah Burch (Faculty of Environment University of Waterloo), and the project is led by Dr. Hamid Motlagh (Faculty of Engineering, University of Waterloo. This position will be 55% time for a period of approximately 18 months.

Every stage of manufacturing, from raw materials extraction, refinement, and processing to part manufacturing contributes immensely to greenhouse gas (GHG) emissions. A shift toward re-manufacturing, where worn products or component parts are returned to like-new condition, will dramatically reduce anthropogenic GHG emissions caused by material production and distribution, help industries achieve stringent environmental mandates (net zero GHG by 2050), and contribute directly to a circular economy.

This project connects expertise across mechanical and environmental engineering, computer science, supply chain and logistics, and climate change governance and sustainability to drive advances in the technologies needed for part assessment and remanufacturing, and generate data needed to build understanding and predictive models that capture the benefits of a remanufacturing-based decarbonization strategy and how it will impact policy.

In close collaboration with colleagues leading other objectives in the project, the postdoctoral researcher will carry out the following tasks:

1. Mapping of the actors, policies and incentives to support remanufacturing
2. Identification of barriers to decarbonization in this sector
3. Explore alignment of remanufacturing with Canada's net zero commitments
4. Prepare policy recommendations to accelerate decarbonization

The start date for this position will be **February 1st, 2024** and will end on **August 31st, 2026.** Anticipated salary is 55% of $70,000/annum (plus reasonable research/dissemination expenses).

Qualifications:

- Ph.D. degree, field open, although candidate must have strong skills in empirical social scientific research related to the environment, in particular policy analysis and qualitative methods (such as content and thematic

analysis, interviews etc)
- Extensive knowledge in some combination of: governance, sustainability, transformations/transitions, climate change mitigation, public policy, industrial decarbonization.
- Excellent written and oral communication skills; fluency in English required.
- Excellent organizational skills, including the demonstrated capacity to work with a team
- Proven ability (ie in progress or established track record) of rapidly and rigorously mobilizing data to craft excellent peer-reviewed publications.
- Experience with interdisciplinary environmental research (e.g., incorporating philosophy, sociology, political science) or transdisciplinary research (e.g., working with diverse stakeholders to develop research outcomes of local relevance) would be valuable.
- Ability to self-motivate and to work semi-independently on a research project through to publication (evidenced in letters of reference and by publication record).

To apply:

Please send the following materials to Dr. Sarah Burch (sburch@uwaterloo.ca) by **January 15, 2025.**

- A letter of interest outlining your experience and fit for the position
- Curriculum vitae
- Contact information for two academic referees
- Two recent publications that you feel are relevant to this position (ie methodologically, theoretically, etc)

For more information on the Faculty of Environment and the Department of Geography and Environmental Studies at the University of Waterloo, see www.environment.uwaterloo.ca.

More information about Dr. Sarah Burch can be found here: https://uwaterloo.ca/geography-environmental-management/people-profiles/sarah-burch.