**Vacancy for a research position or secondment:**

**The role of financial risks in the development of low temperature heat grids**

**Introduction**

The development of ultra-low heat grids is picking up in the Netherlands although the contemporary deployment rate is still very low. With the availability of vast amount of waste heat of e.g. datacenters and use for aquathermia, the value of these grids can be of significant importance for decarbonizing for the urban environment. However, the deployment of these grids suffer many barriers being a new technology, but mainly due to the alignment of stakeholders and investment decisions and the role of financial risk.

AMS Institute is participating in the project ‘Digitale Warmte in the MRA’, aimed *to develop* (by Firan B.V.) *a low temperature heat grid in Amstel III*, an urban (re)development area in Amsterdam South East. The area is rich of datacenters and new urban housing is under development. The project aims to provide waste heat of the datacenters to the new built homes. The project serves as a demonstration project to comfort real estate developers about the usage of such grids and to stimulate the future deployment of these grids.

**Research project, research questions and expected project outcome.**

This project is a first when providing datacentre waste heat to new urban housing in The Netherlands. Therefore, parallel to the loading risk (dutch: vollooprisico) that heat grid developers face in the existing built environment (where sufficient citizens need to make the choice for a connection to the grid or not), project developers need to choose whether or not to develop housing in line with a (future) low temperature heat grid. The interdependencies of both parties and asynchronous timelines lead to a perceived paradox.

The aim of larger project ‘Digiwarmte in the MRA’ is to demonstrate that the grid is sustainable, and that once such projects are and can be realized (1) urban (re)development can more easily connect to the realised grid and (2) future grids in the Metropolitan Area will not suffer from this challenge as real estate developers are familiar with the solution and the impact on their developments.

In this research AMS Institute researches the outlined paradox in new low temperature heat grids. The key tasks and deliverables in this work will be to:

* Understand and evaluate the costs and benefits and their distribution over the stakeholders involved by the development of data center heat grids in the urban development Amstel III.
* Monitor and evaluate the on boarding of project developers, the (change) in attitude and risk perception, prior and post decision making.
* Asses (in collaboration with TU Delft) how the development of 5th generation district heating grids impacts financial risks of stakeholders.
* Develop a guideline for local governments in the MRA how to deal with the chicken-egg dilemma and facilitate sustainable data center heat projects.

**Profile and requirements**

The project is looking for an experienced researcher, preferably regarding real estate development. You have an academic background (minimal PhD, or MSc with multiple years of professional experience) in real estate economics, financial risks for infrastructure development, financial risk perception or urban/real estate development. You have the capacity to develop, execute and analyse a constructive but critic interview process with project stakeholders. You are are highly sensitive to the interests of collaborative project partners, and can operate independently in order to collect important information for analysis. You are familiar with data collection for both quantified and qualitative risk analysis and investor attitude analysis. In order to have results be easy to use for practitioners, you are able to present your results attractive and to the point.

**Conditions**

* You will be working at the forefront of (scientific) innovation in a dynamic and growing community of innovators and city changemakers
* The project is looking for a part-time (0,5 fte /) researcher (Post-doc/UD) for the period of 12 months. Duration and range of working hours is negotiable.
* Availability: as soon as possible
* Supervision: you are able to work independently, additional academic supervision is possible dependent on level of qualification.
* You are able to work one day a week at AMS Institute in Amsterdam
* Travel expenses are covered.
* Salary: CAO-VSNU scale 11/12, possibility for a temporary secondment as part of existing employment

 **About Amsterdam Institute for Advanced Metropolitan Solutions**

AMS Institute is an internationally leading institute where talent is educated and engineers, designers, and both natural and social scientists jointly develop and valorize integrated metropolitan solutions. Our mission is to develop a deep understanding of the city – sense the city – to design solutions for its challenges and integrate these into the city of Amsterdam. We do this through three main activities: research & valorization, education and data. AMS Institute works on finding interdisciplinary metropolitan solutions. In close collaboration with both public & private partners and citizens, we valorize our research in practice, using the city of Amsterdam as a living lab.

At AMS Institute, the Urban Energy group is focusing on concrete large scale challenges for the energy transition of the metropolitan area. Research is done on large scale building retrofitting, mitigating electric peaks on the distribution grids, on ways for an inclusive and participatory energy transition and how to get sustainable heat accessible. Crucial in this is the Urban Energy Lab South East (<https://www.energielabzuidoost.nl/>). In close collaboration with the Municipality of Amsterdam we integrate and validate novel approaches in the energy transition in South East.

**Additional information**

For more information and application, please contact Paul Voskuilen, Program Developer, paul.voskuilen@ams-institute.org, T: +31 (0)6 39 27 59 18.

**Application procedure**

Are you interested in this vacancy? Please apply before March 29th , 2022, by sharing your motivation and resumé with: Martijn van Beersum (HR Officer), martijn.vanbeersum@ams-institute.org.

***AMS Institute is at the heart of our society and strives for the diversity of our society to be reflected in our organization.***