The Sustainability of High-rise Buildings

Proposed summer research project, UiO:Energy and Environment

Supervisors: Professor Tanja Winther (at Centre for Development and the Environment at UiO) and Professor Per Gunnar Røe (Department of Sociology and Human Geography at UiO)

Preferred background of candidates: Human geography and similar social science disciplines (including sociology, anthropology and political science), as well as master candidates in Development, Environment and Cultural Change. Students must have proficiency in a Scandinavian language, to be able to read documents and web pages in Norwegian.

Number of available projects: 2

Project period: June – September 2025 (tentative)

Outline of project work:

High-rise buildings and skyscrapers have long been the ultimate expression of urbanism, with North-American cities like Chicago and more recently Asian cities like Dubai and Singapore, as promoted examples. In many European cities and towns there has been a reluctance towards high-rise development, until the post-industrial shift towards entrepreneurial and competitive economic policies and the emergence of the compact city policy, where the proliferation of multistorey buildings are seen as a way to densify both large cities and small towns, effectively utilize infrastructures and promote a shift towards sustainable transport. Increased physical density through high-rise development has become part of sustainability strategies, despite resistance from for example architectural heritage institutions and citizens neighboring new high-rise developments. High-rise development is also highly profitable for real estate developers and builders, because of the increased utilization of space. In addition, spectacular high-rise buildings may serve as a symbolic expression of economic vitality. In Oslo the municipality has developed a strategy for high-rise development in designated areas, and where developers are actively suggesting and promoting new multistorey buildings for living, work and leisure. But high-rise projects are also abundant in smaller cities and towns, where the controversies may even be stronger.

Increasingly, the sustainability of high-rise developments is questioned. Although high-rise development may contribute positively to the shift towards public transport and walking/cycling in an even more compact city or town, there are other implications that need to be scrutinized. One issue is the direct and indirect energy use caused by the construction and use of high-rise buildings, compared to other forms of compact city developments. Another issue is the social implications of high-rise developments. The development of high-rise buildings (especially condominiums), in many cases constructed for the elites, may create micro-segregation (horizontally and vertically) and may prioritize secluded social activities (indoors in semi-public securitized spaces, or outdoors on terraces and rooftops), in ways that counters the aim to develop socially sustainable places.

In this project the students will collect data for selected cases, in order to investigate these developments. The research questions are: What are the characteristics of high-rise developments, and what arguments are used to promote them? What are the energy implications of specific high-rise developments, and how are specific buildings designed in ways that have social implications (micro-segregation, social exclusion, etc.)? The project will mainly be based on mainly qualitative methods, including descriptive mapping, document analysis, observations, and possibly interviews. The research design will be developed in collaboration with the candidates.