Sustainability Contradictions of High-rise Buildings

Proposed summer research project, UiO:Energy and Environment

Supervisors: Professor Tanja Winther (Centre for Global sustainability 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: April – September 2026 (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 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 is seen as a way to densify cities, effectively utilize infrastructures and promote a shift towards sustainable transport. Increased physical density through high-rise development has in many cities become part of the urban sustainability strategy, 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 urban economic vitality. Oslo is no exception, where 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.

However, the sustainability of high-rise development is questioned. Although high-rise development may be designed to promote energy efficiency and contribute positively to the shift towards public transport and walking/cycling in an even more compact city, making it easier to achieve the 15-minute city, 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, often 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 development of a socially sustainable city.

In this project the students will collect data for Oslo, in order to map and investigate the social implications of high-rise development. The research questions are: How are specific buildings designed, organized and financed in ways that have social implications (focusing on micro-segregation and social exclusion)? How do people experience and perceive the social life in such buildings (focusing on social relations between inhabitants, influenced by architectural design, financial aspects, housing tenure and short-term rental, i.e. Airbnb)? What are the perspective and experiences of people and businesses living or operating in the neighborhoods of high-rise buildings?

Both quantitative and qualitative methods will be used, including descriptive statistics, document analysis, observations, and interviews. The research design will be developed in collaboration with the students.