Propositions

accompanying the dissertation

Enhancing urban energy applications through semantic 3D city models and open data

The case of the Netherlands

by

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1. Any improvement of a system relies on a deep comprehension of its mechanisms, as optimization and meaningful changes are unattainable without this knowledge.

2. The use of semantic 3D city models for Urban Building Energy Modelling (UBEM), can positively influence energy planning at urban level, and policy-making decisions for the implementation of initiatives to enhance energy efficiency of the building stock, such as green infrastructure or climate change adaptations. [This proposition pertains to this dissertation]

3. The process of automatically classifying the building stock into building archetypes, as of today, cannot be solved by computational models and AI [This proposition pertains to this dissertation]

4. Having an accurate and reliable characterisation of the energy performance of the building stock, is essential to define sustainable refurbishment scenarios from building- to city- level, towards the effective implementation of Positive Energy Districts (PET). [This proposition pertains to this dissertation]

5. Hexagons tiles have more opportunities than having fun with friends while exploring new territories and trading cards for resources

6. Achieving all the possible awards does not mean one is a genius. It only shows how well one knows the system

7. Knowing a concept does not mean that one knows what it means

8. Many individuals take pride in their tolerance, yet when confronted with something or someone markedly different from themselves, they often react with discomfort and avoid the situation

9. While the implementation of open data initiatives adhering to open standards is widely recognised as essential for advancing research projects–by enabling transparent access to geospatial data and fostering collaborative, reproducible workflows–its practical effectiveness hinges on resolving persistent challenges such as data quality inconsistencies, interoperability gaps, and long-term sustainability of these initiatives. [This proposition pertains to this dissertation]

10. There is no need to learn Dutch because almost everyone in the Netherlands speaks English, except when it comes to emergency numbers, the health system, groceries shopping, and (of course) your neighbours.

These propositions are regarded as opposable and defendable, and have been approved as such by the promotor Prof. dr. J. Stoter and the copromotor Dr. G. Agugiaro.