

EUKI Academy Web Seminar Report

Digitalization for a Greener Future: Data Management in Smart Cities

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Throughout the EU the green and digital transition are increasingly being seen as complimenting each other. At the same time, cities and municipalities are highly relevant in mitigating carbon emissions. Therefore, the [EUKI Academy](#) invited Andrei Covatariu from Romania ([United Nations Economic Commission for Europe](#)), Sarah Giest from The Netherlands ([Leiden University](#)) and Dragomir Tzanev from Bulgaria ([EnEffect](#)) to discuss how efficient data management systems can help cities and municipalities implement smart solutions with means of reducing emissions, specifically in the building and energy sector.

Digital Solutions - Reducing Emissions in Cities and Municipalities

Currently cities are responsible for up to 72% of the worlds emissions and are quickly growing. They therefore need to be redesigned for us to stand a chance against the climate crisis. Cross-sectorial systemic changes are needed to accelerate the energy transition process, to decarbonize our economies and to reach the goals set by the EU. One crucial element here being the digitalization of energy systems and their interconnections, since this creates new digital processes, technologies and ecosystems which can help mitigate emissions. Moreover, it is important to point out that digitalization brings with itself great benefits such as economic growth and value creation, an increase in renewables and clean energy, system reliability and resilience, as well as service affordability and people centricity.

The Importance of Data and Technology Governance

- There is a general assumption that there is value in having more data. However, it is important to point out that cities face an information puzzle made up of three different layers:
 1. The institutional, legal, and political context: municipalities and national governments are bound by the frameworks and practices on data sharing and how they are implemented in the country. Moreover, there must be a willingness and trust to share data among different organizations and with the government or municipality.
 2. Various stakeholders: technologies (that collect data) are operated by different stakeholders - both private and public. Among them there are also differences in domain and data expertise.
 3. Data infrastructure: digital infrastructure which promotes data sharing and consumption.
- There are benefits in creating data ecosystems since they can identify interdependencies among different stakeholders and pinpoint key stakeholders, ergo data suppliers, data intermediaries and data users. Herewith stakeholders know which data they need from others and which data to share, greatly simplifying the process of data sharing.

Practical Experiences: Challenges and Suggestions

- The key hurdle for designing straightforward projects is the data gap which exists in many municipalities. In the building sector, public buildings would be the easiest access point for project implementers to acquire needed data, however the data is often missing.
- Recurrently the needed data is either scattered throughout different stakeholders, or project implementers do not know who owns it and how to access it.

- A further problem which often arises is the lack of compatibility and coherence data sets (some of them derived from legacy system issues) from different stakeholders have, making data sharing in cases the data is present difficult.
- The EU, national and regional governments are responsible for setting up efficient data sharing frameworks and standards. Money and human resources should be invested now, to facilitate the digital and green transformation.
- The widespread beliefs that data cannot be grasped in numbers and that the digital transformation is extremely costly needs to be combated. The investment in data is not only commonly lower than perceived, it can also be tied to a set figure which allows a cost-benefit analysis to be performed.
- Private and public actors need to realize the massive benefits there are in data sharing and be more trusting and willing to share the data they own.
- Being as that municipalities which are addressing the data gap issue while simultaneously applying data management systems have proven to be more successful in accessing financing and implementing their local energy and climate plans. An example being recent initiatives such as EU City Facility and the 100 climate neutral and smart cities by 2030 mission of the EC.