

From Concept to Action Project Development with EUCF Support



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Warsaw





Building a Smart City: Warsaw's Digital Transformation Policy

- city governed in a smart manner,
- taking advantage of digital and telecommunications technologies,
- improve the efficiency of its networks and services,
- enhance the quality of life,
- ensure sustainable development.

/arsaw

- Infrastructure Department:
- roads
- energy
- water and wastewater



Energy Management System

- Since 2011 Thermal Energy Management System for schools in Śródmieście (40) & Targówek (37)
- 2022 pilot project of Energy Management System (EMS) in 10 schools
- **2023** migration of Thermal Energy Management System for Schools in Śródmieście & Targówek to EMS
 - EMS cuts energy use by ~30%, optimizes contracted power, and lowers fixed costs
 - This depends on the building's technical conditions and users behavior regarding energy use
 - In some cases, savings are significantly higher—up to 50%





Timeline for Concept Development and Implementation





Energy Management System

Key Energy-Saving Functions:

- Heating and hot water system parameters
- Operation of the heating substation
- Ventilation system control
- Electricity system monitoring, including solar panel production
- Control of ordered electrical power (power guard)
- Gas and water consumption
- Weather conditions
- Indoor environmental parameters



Final energy consumption before the implementation of the investment project	595,63	GWh/year
Expected final energy consumption after the implementation of the investment project	416,67	GWh/year



Approach and Insights

Process We Followed

- Used technical guidelines and expert input to shape our EMS concept
- Included proposed technical solutions early in the design
- Engaged with key stakeholders to understand needs and barriers

Main Challenges

- High investment costs tough for public buildings
- Limited awareness and technical knowledge among staff
- Integrating EMS with old infrastructure
- Every building is different requires a custom approach

What Helped Most

- Clear documentation and technical guidelines
- External experts and peer consultations
- Early identification of challenges





temperature distribution in rooms (ground floor)



Thank you for your attention!

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