Quantifying the multiple impacts of energy efficiency policies

Applying the MICATool to two Czech case studies

SEED MICAT
Support Energy Efficiency Deployment with the Multiple Impacts CAlculation Tool

INTRODUCTION

Two **policy** measures dedicated to Energy Efficiency were selected.

In both cases, an ex-ante assessment was carried out in different scales.

Comprehensive Renovation Projects in Hospitals

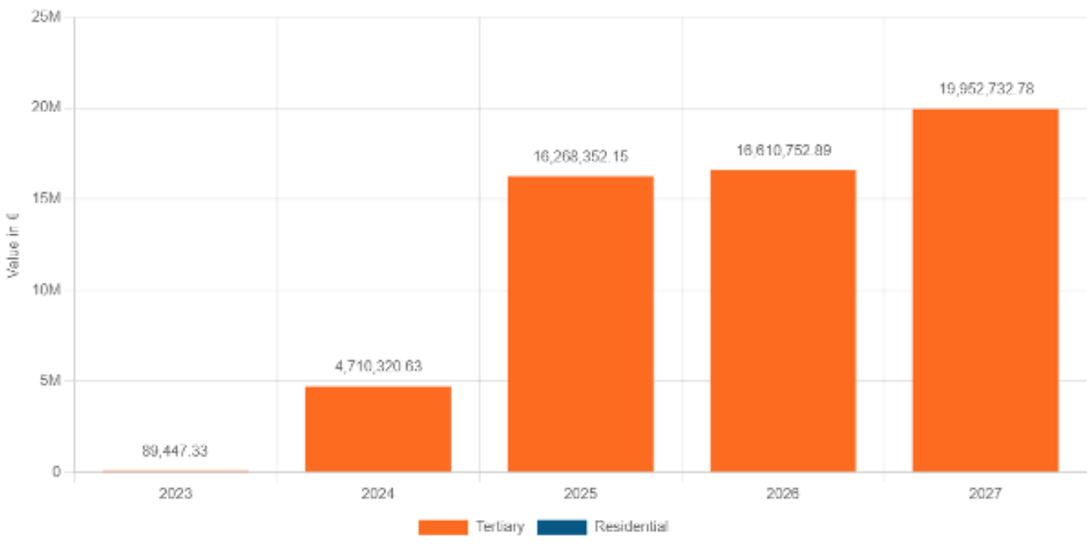
- Hospitals are among the most energy-intensive building typologies in the Czech public sector.
- Operating 24/7 with demanding heating, ventilation, air conditioning (HVAC), and specialised medical equipment requirements, they consume significantly more energy per square meter than commercial facilities.
- According to data from the National Health Information Portal (2023), the five renovated hospitals collectively operate 3,659 beds, representing approximately 4.8% of the nation's total hospital bed capacity.

Analysis of Energy Efficiency Measures Required to Fulfil the Czech Building Stock Targets under the EED and EPBD

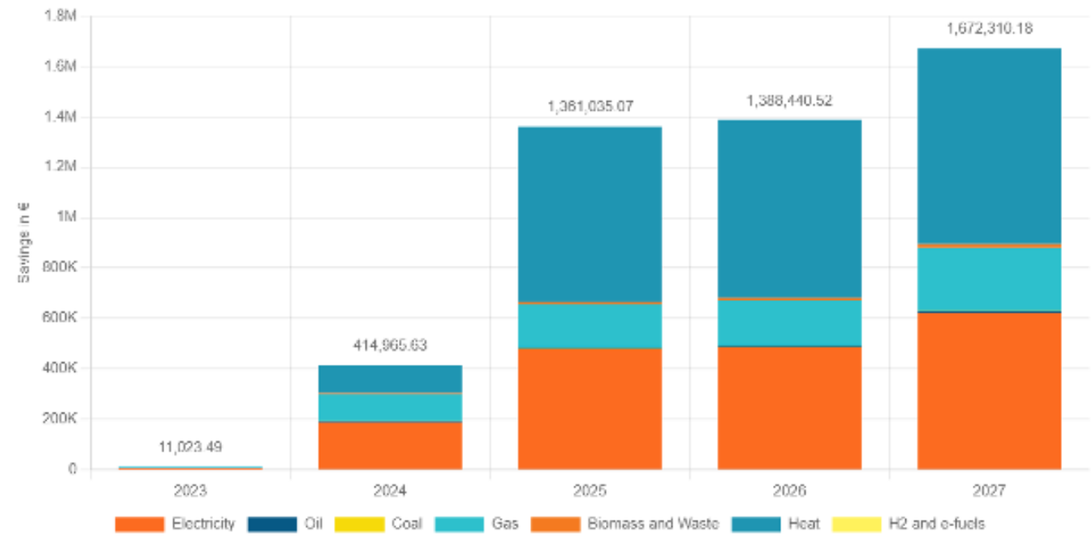
- The project of the Ministry of Finance entitled "Implementing Energy Efficiency Measures Across the Czech Republic's Building Stock" focuses on analysing feasible energy savings across the Czech Republic's building stock and identifying the scope of EE measures required to meet the country's commitments under the EED and the EPBD.
- This comprehensive approach enables Czechia to estimate the measures needed to achieve energy savings in its building stock while fulfilling EPBD stipulations.

MONETISATION OF IMPACTS

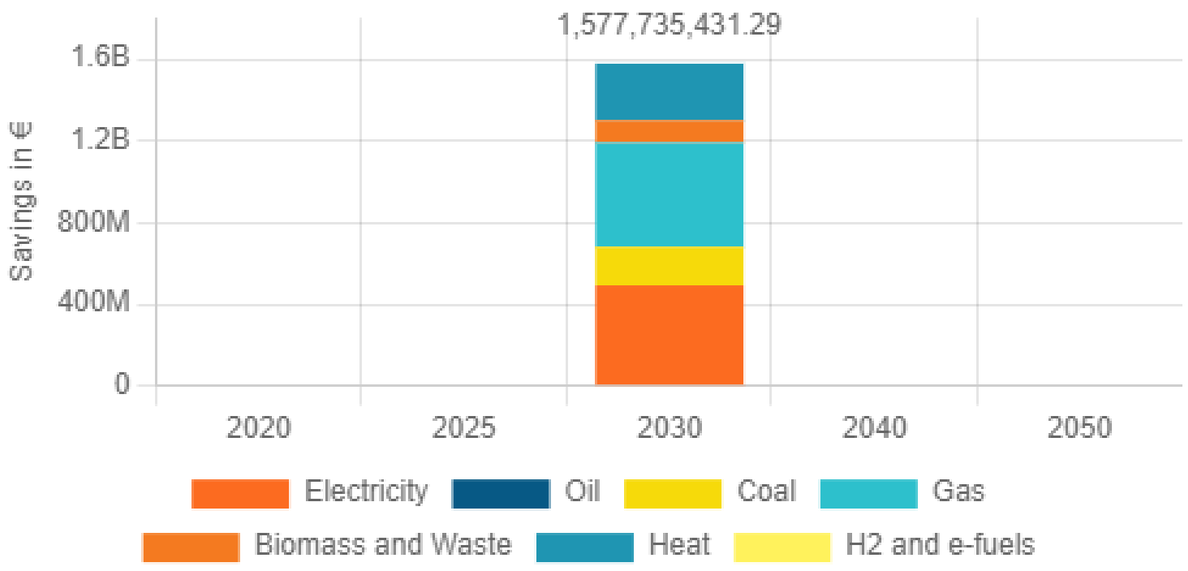
Comprehensive Renovation Projects in Hospitals, Added asset value of buildings - monetisation



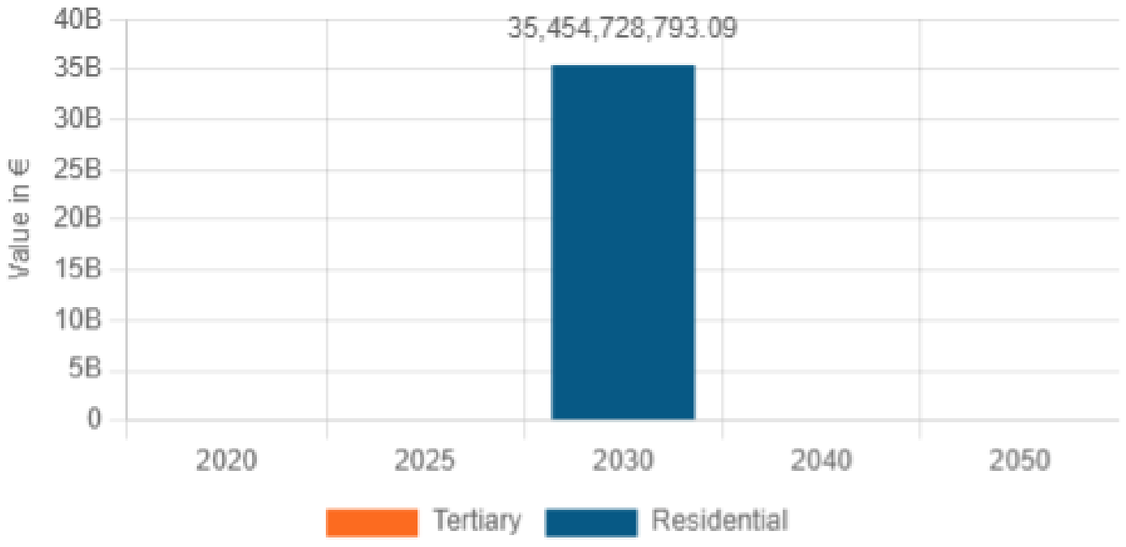
Comprehensive Renovation Projects in Hospitals, Reduction of energy costs - monetisation



Analysis of Energy Efficiency Measures, Reduction of energy costs - monetisation



Analysis of Energy Efficiency Measures, ADDED ASSET VALUE OF BUILDINGS – MONETISATION



LESSONS LEARNED/ ACHIEVEMENTS

- In five selected hospitals, the MICATool enabled rapid calculation of social, economic and environmental benefits, such as 0.015 prevented deaths annually, 460 job-year generation (in 2023), and GDP contribution €30.47 million cumulative, 2.56 ktoe primary energy reduction and 4.74 ktCO_2 greenhouse gas mitigation annually.
- The MICATool addresses a critical lack of capacity and tools for MIs assessment of EE and renewable energy policies in the Czech Republic.
- For broader implementation in the Czech Republic, the use of standardised multiple-impact assessment frameworks could support evidence-based policy design and improve communication of the wider benefits of energy efficiency measures among decision makers, investors, and other stakeholders.

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