

Case Study 1: Individual Heat Metering in Multi-family Buildings

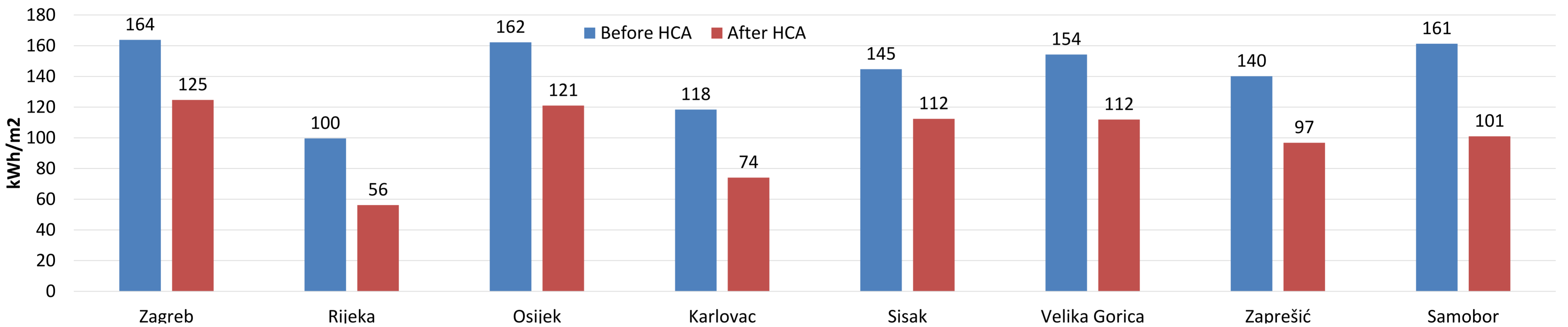
- The Croatian legislature has embedded Article 9(3) of the Energy Efficiency Directive (2012/27/EU) related to individual heat metering in the Heat Market Act and Energy Efficiency Act.
- To facilitate the fulfilment of this legal obligation, a measure "Introduction of individual heat metering" was formulated in the 3rd NEEAP (2014) and incorporated in the Programme for Energy Renovation of Multi-family Buildings.
- In the 2014-2016 period, grants were provided for installation of individual heat meters or heat cost allocators. The Croatian Environmental Protection and Energy Efficiency Fund announced a public call in 2014 based on which the building managers, on behalf of dwelling owners, could apply for co-financing up to 40% of eligible costs, for the purchase of individual heat meters or heat cost allocators.

A building in Osijek, Croatia where heat cost allocators were successfully implemented

EPATEE



Specific heat consumption before and after the implementation of heat cost allocators in Croatian towns



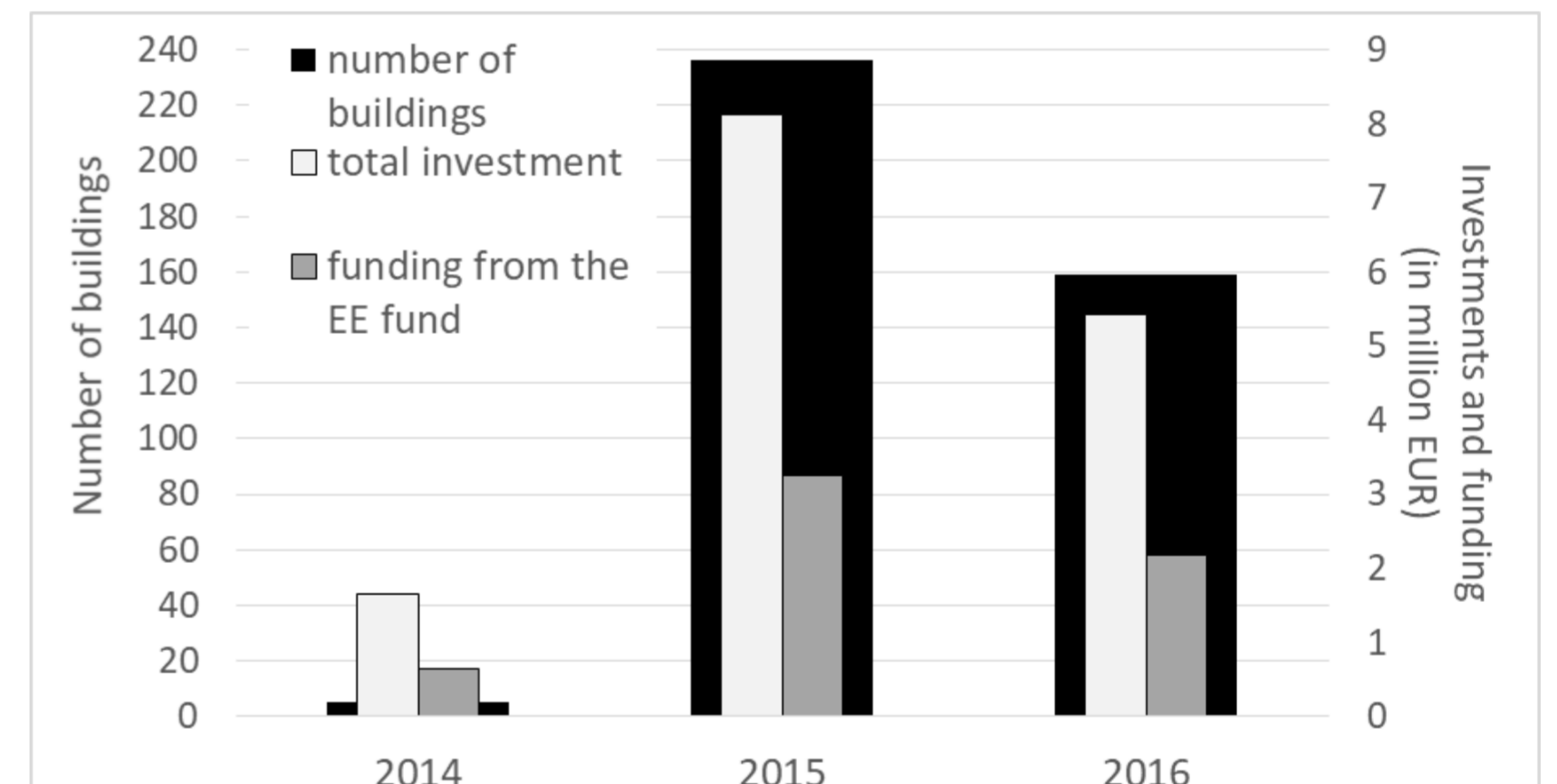
Case Study 2: Energy Renovation Programme for Public Sector Buildings

- The Energy Renovation Programme for Public Sector Buildings from 2014 to 2015 (with a following programme from 2016 to 2020) aimed at reducing total energy consumption of public sector buildings by 30-60% (corresponding to approximately 150 kWh/m²) for 200 public sector buildings with approx. 420,000 m² of usable floor area through increase of energy efficiency and a higher renewable energy ratio.
- Further goals are to reduce CO₂ emissions by 20,500 tonnes per year, foster investments for the amount of HRK 400 million (approx. € 53 million) and support the development of the ESCo market.

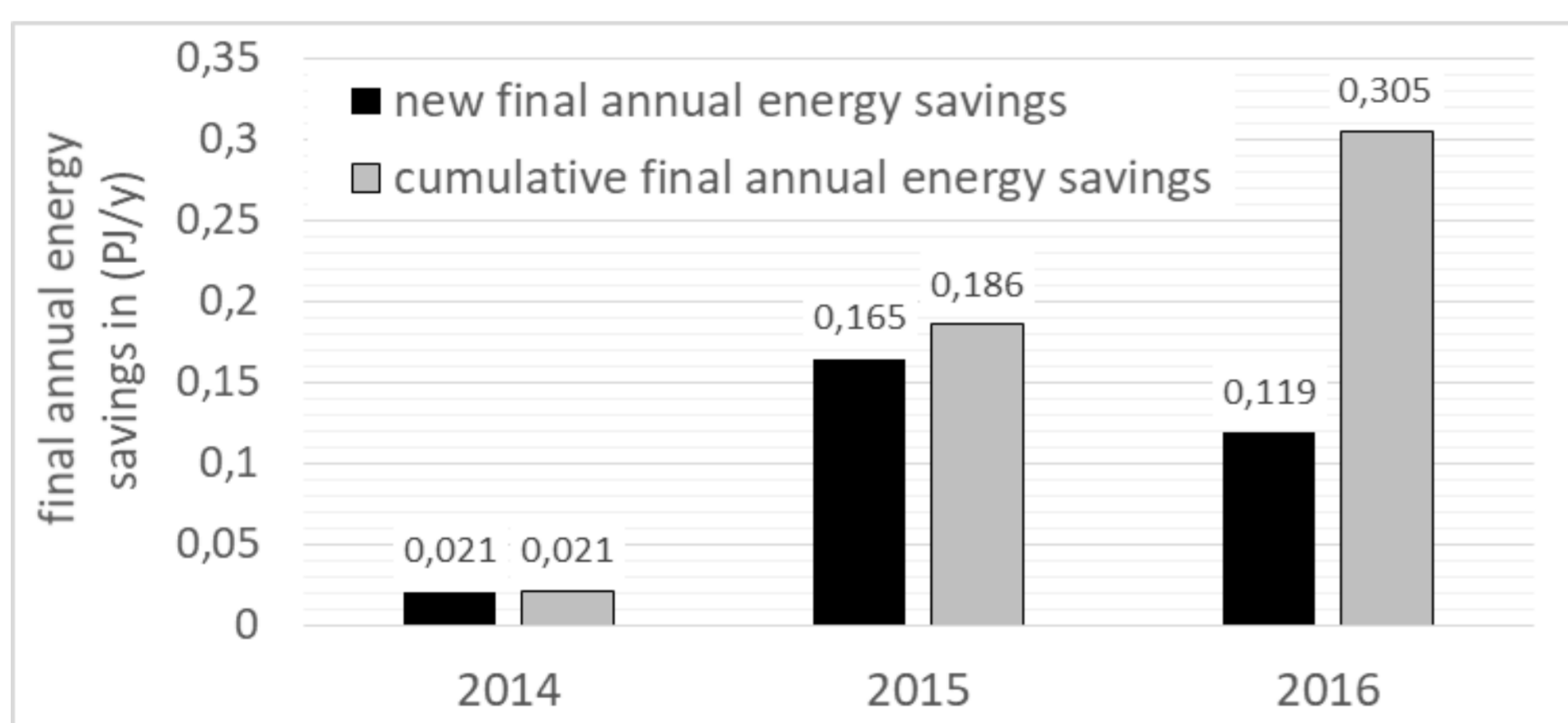
The Programme is implemented in the following 5 stages:

- introduction of a public sector building into the Programme,
- preparation of tender documentation,
- public procurement procedure,
- implementation (through an ESCo company) and
- monitoring of programme results.

Number of buildings and investments for the years 2014 to 2016



New and cumulative final annual energy savings (PJ/y) over 2014-2016



- The Programme is administered by the Agency for Transaction and Mediation in Immovable Properties (APN) through Energy Performance Contracting (EPC) and co-financed by the Environmental Protection and Energy Efficiency Fund (FZOEU).
- FZOEU provided funds for co-financing the implementation of the Energy Renovation Programme for Public Sector Buildings of Croatia for the period 2014-2015, by granting financial assistance in the total amount of up to HRK195 million (€26 million) or 40% of eligible costs for the period until 31 December 2018.
- Contracts were being signed in 2016 due to further availability of subventions.
- Any public body was eligible based on a selection of parameters (relative and absolute energy savings, investment to annual energy savings ratio, CO₂ reduction, investment to annual CO₂ reduction ratio, period of construction and total investment).

Future potential evaluation projects may facilitate the merger of the ex-ante SMiV and ex-post ISGE results

System for monitoring, measuring and verifying energy savings, the Croatian M&V system, a tool defined by legislature as obligatory for public sector, energy service providers and subsidies providers



Croatian energy management information system (ISGE), where actual energy consumption in public sector buildings is being monitored

