



Investment Plan for Financing the Heat Transition in Multi-Family Homes in Germany

MFH Building Archetype

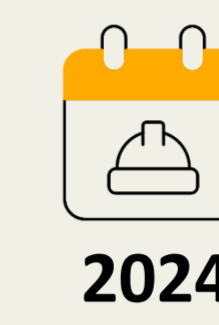
1949-1957
6 Apartments
351m²



- Whole Germany
- All HH are tenants

Pre-Retrofitting Condition

- No Renovation
- Moderate Renovation
- Advanced Renovation



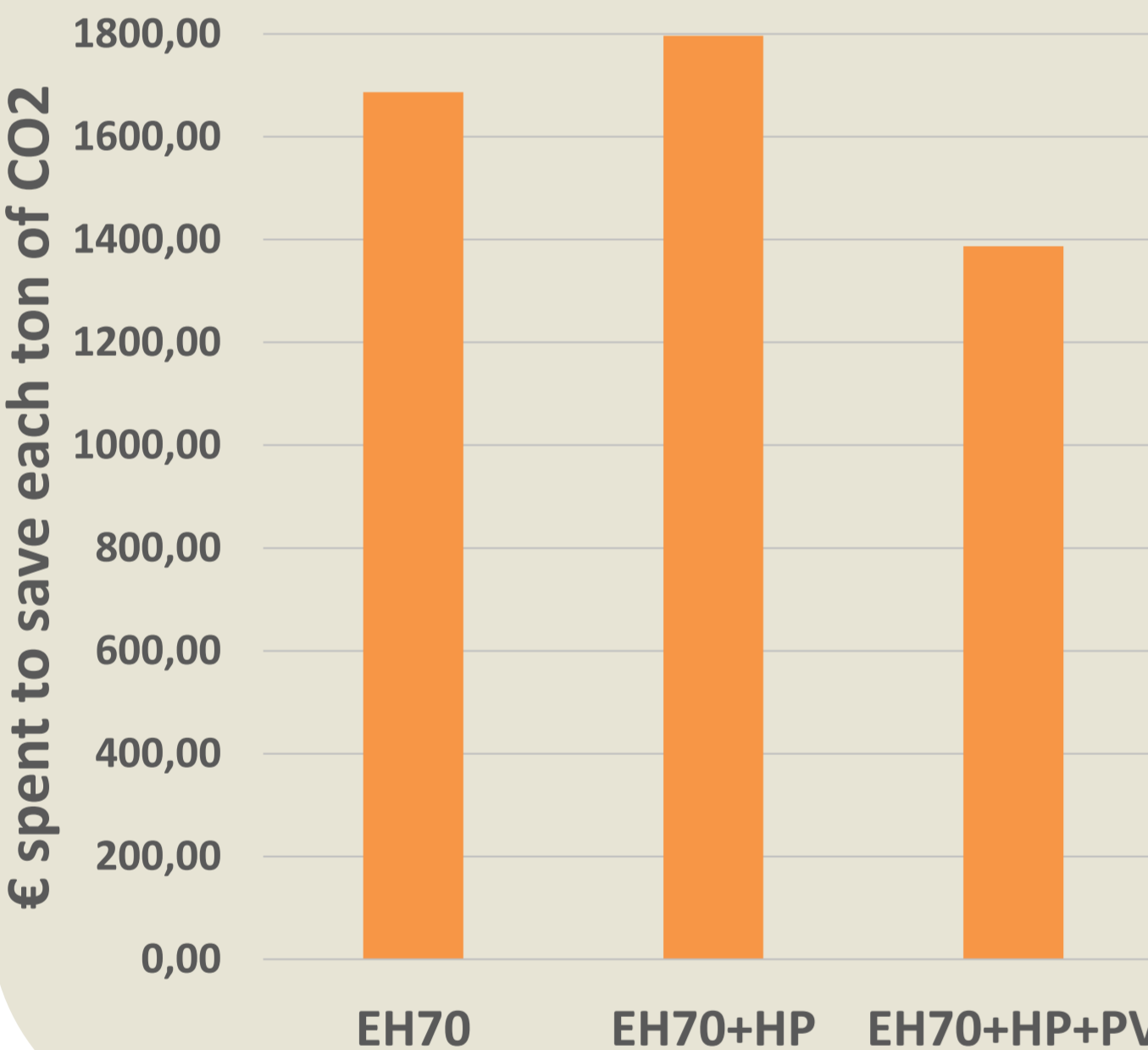
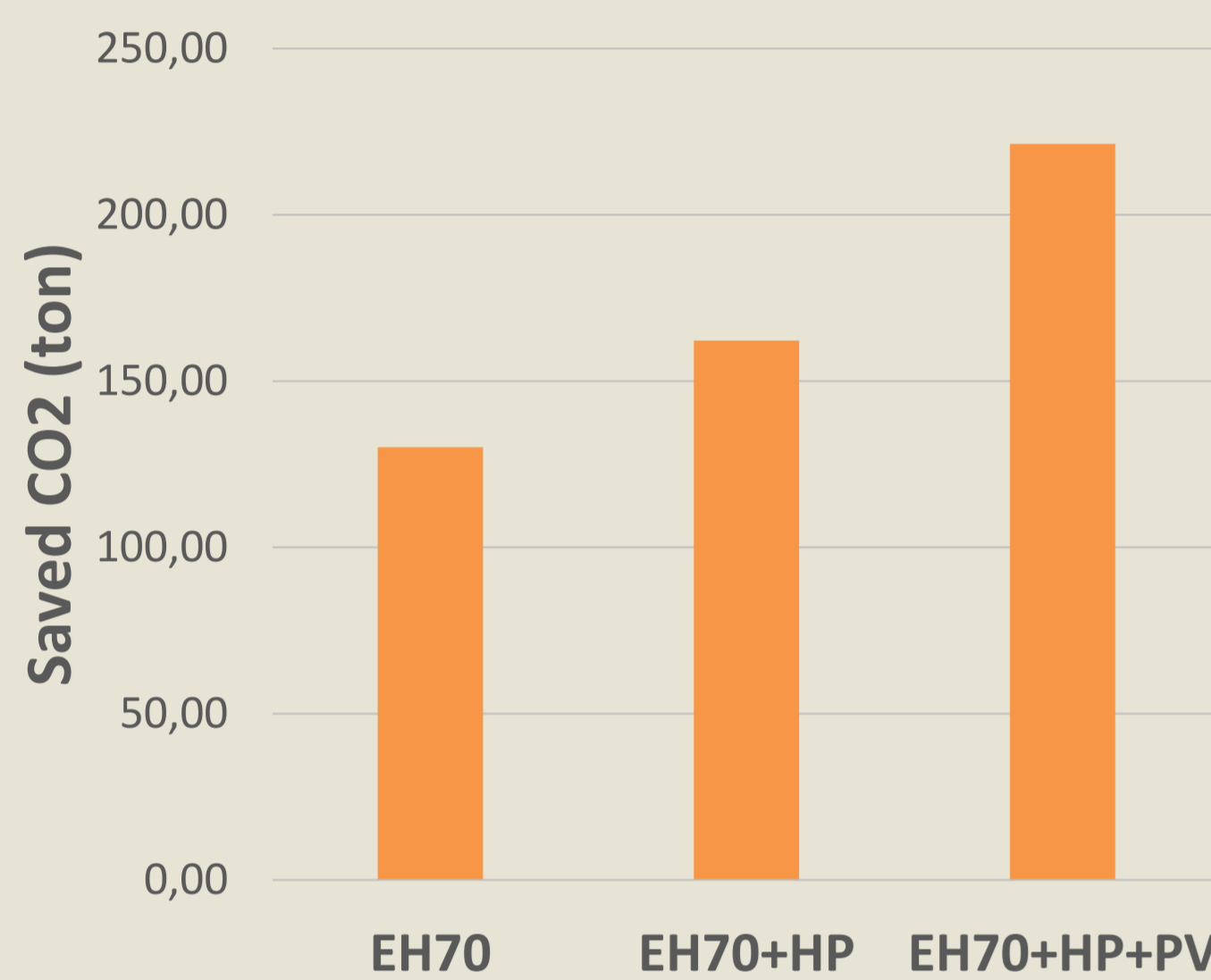
Post-Retrofitting Condition

- EH100
 - EH70
 - EH55
 - EH40
- + HP + PV

Observations

1

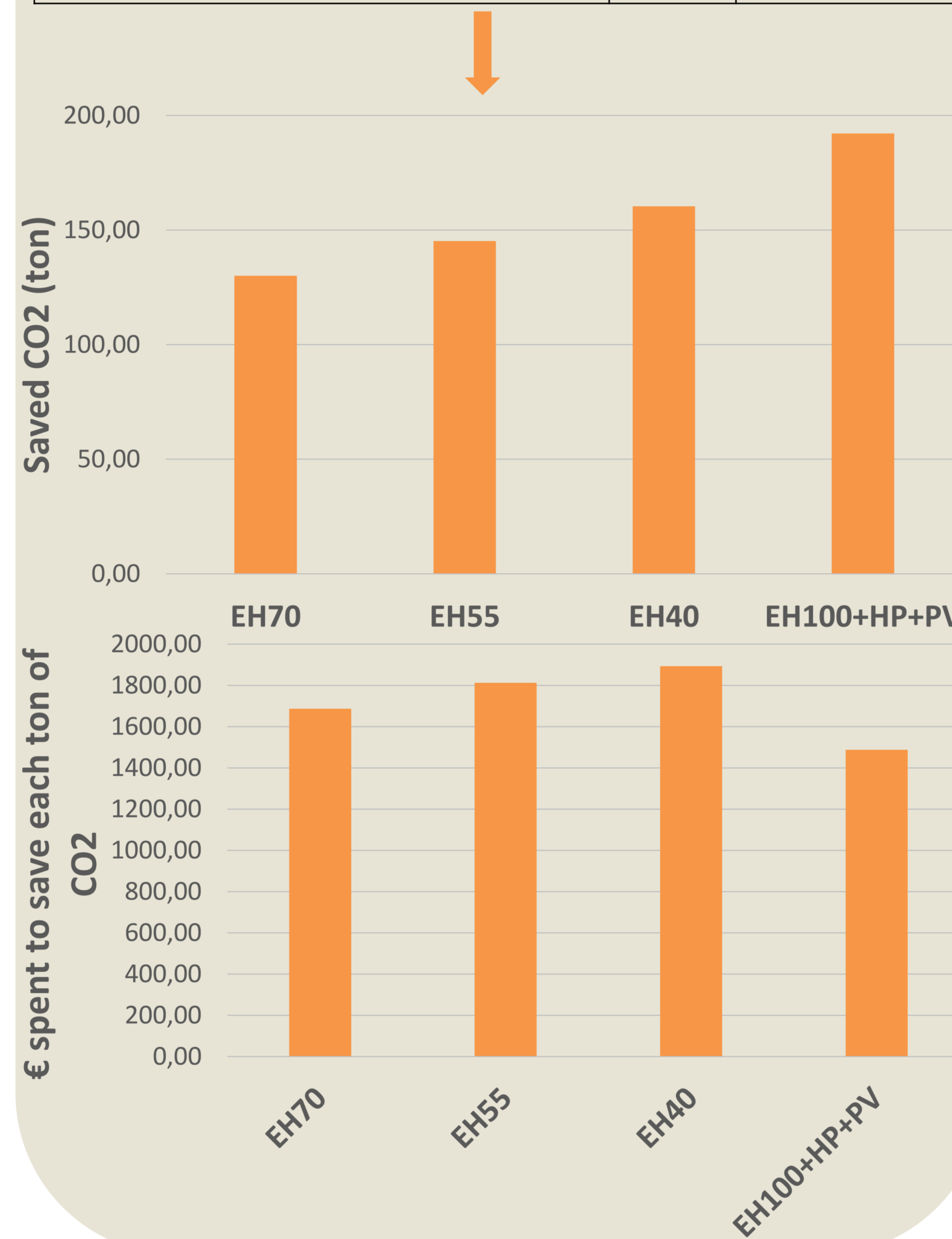
- Incorporating a PV system into cases with heat pump enhances them from both environmental and financial perspectives.



2

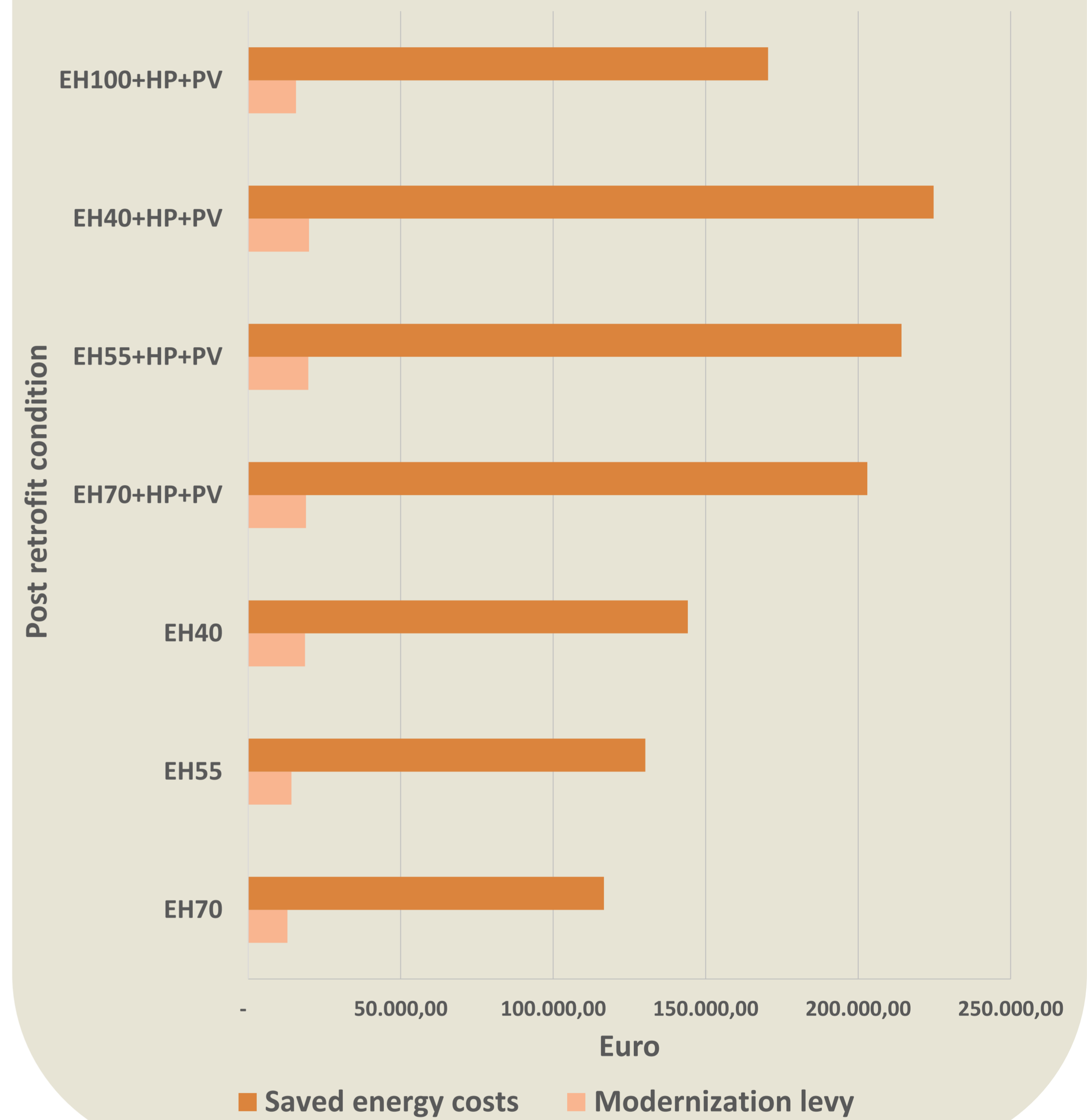
- Despite the differences, the following two scenarios will be eligible for a similar loan scheme.

	EH40	EH100+HP
U-value	0.15	0.26
Net energy needs for heating (kWh/m ² /y)	20	17.65



3

- The tenants living in apartment buildings will be in profit after retrofitting. The energy costs saved is higher than the increase in the rent in the legal framework.

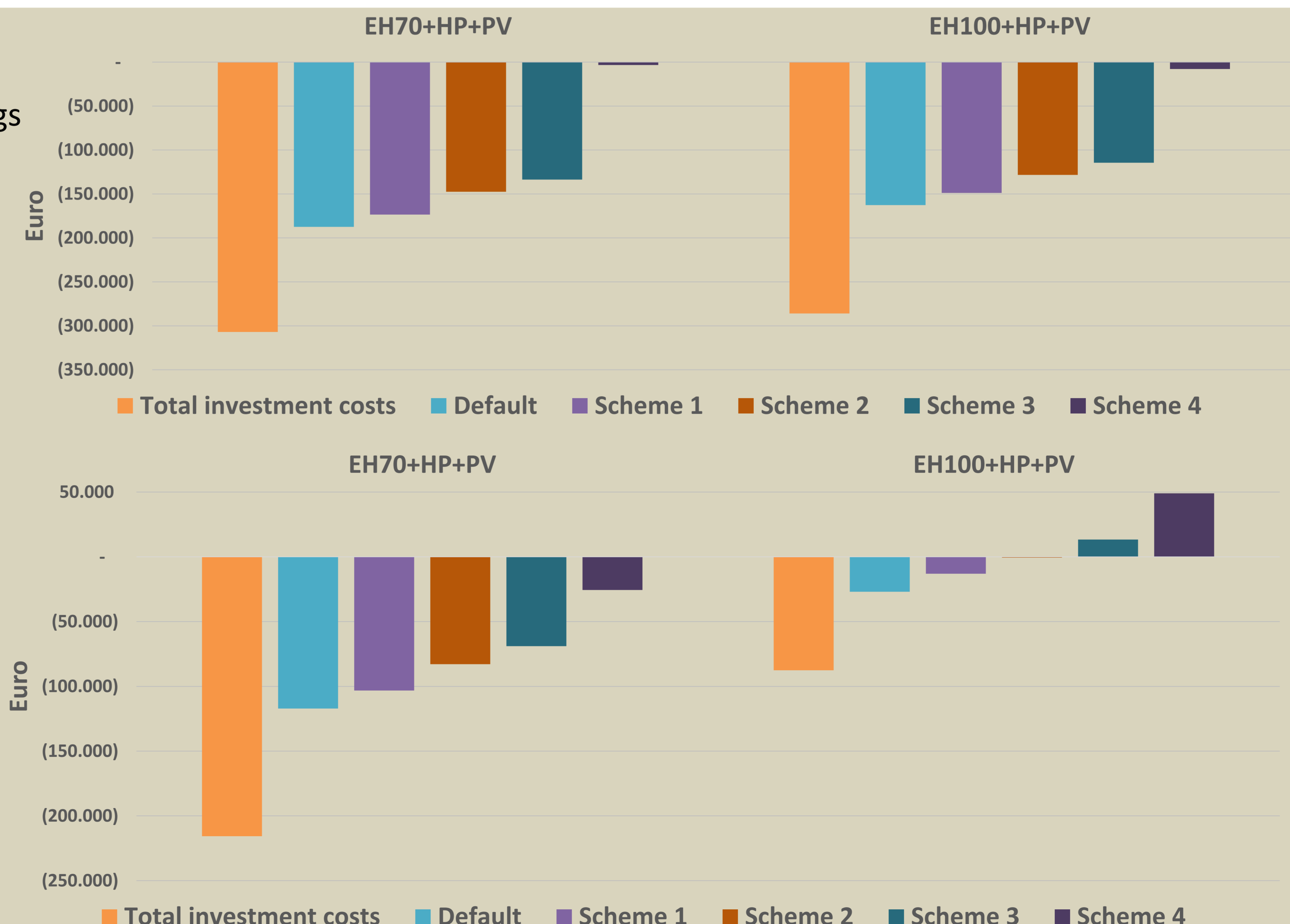


Financial Schemes

Default:

- Post-renovation energy costs savings
- Available subsidies and loans
- CO2 tax savings
- Potential revenue from electricity fed into the grid
- Maintenance reserves (10%)
- Modernization levy

- Scheme 1:** Increasing maintenance reserve (25%)
- Scheme 2:** Increasing modernization levy
- Scheme 3:** Scheme 1 + 2
- Scheme 4:** Fixed warm rent



Building with no renovation before retrofitting

Building with advance renovation before retrofitting