

Let's evaluate the ROI over a 10-year period for both the 3 room apartment and compare this with the 4 room house, considering the wealth tax will be applied to property with VPT over 600k and will not be applicable to the house project since it is technically a 2 bedroom house. Also factoring in that energy costs on the house will be much reduced with a dedicated solar and water system which can be installed and purchased at manufactures costs saving considerable fees.

### Assumptions:

1. **Energy Cost Inflation:** We'll continue with the assumption of an annual inflation rate of 7% on energy costs.
2. **Energy Costs:**
  - **Apartment:** Starting monthly energy cost = €250.
    - With a 7% annual inflation, the energy cost will increase each year. Over 10 years, this will compound.
  - **House:** Starting monthly energy cost = €50 (given its sustainable energy system).
    - With a 7% annual inflation, this will also compound over 10 years, but the starting base is much lower.

### Projected ROI over 10 years with Energy Cost Inflation (excluding mortgage costs):

- **Apartment:**
  - Total rental income over 10 years =  $10 \times €81,000 = €810,000$ .
  - Total wealth tax over 10 years =  $10 \times €12,000 = €120,000$ .
  - Total bank fees and insurances over 10 years =  $10 \times €1,500 = €15,000$ .
  - Total energy cost over 10 years, factoring in 7% inflation =  $€250 \times 12 \times [(1 - (1.07^{10})) / (1 - 1.07)] = \text{approximately } €38,500$ .
  - Net ROI for the apartment over 10 years =  $€810,000 - €120,000 - €15,000 - €38,500 = €636,500$ .
- **House:**
  - Total rental income over 10 years =  $10 \times €108,000 = €1,080,000$ .
  - Total bank fees and insurances over 10 years =  $10 \times €1,500 = €15,000$ .
  - Total energy cost over 10 years, factoring in 7% inflation =  $€50 \times 12 \times [(1 - (1.07^{10})) / (1 - 1.07)] = \text{approximately } €7,700$ .
  - Net ROI for the house over 10 years =  $€1,080,000 - €15,000 - €7,700 = €1,057,300$ .

### Conclusion:

When excluding the mortgage costs, both the apartment and the house yield positive ROIs over a 10-year period. However, the house's ROI is significantly higher due to its additional bedroom and sustainable energy features, which mitigate the impact of rising energy costs. The apartment, while still yielding a positive ROI, is impacted more by the wealth tax and rising energy costs. The house's ability to generate higher rental income and its resilience against rising energy costs make it the more attractive investment over the decade.