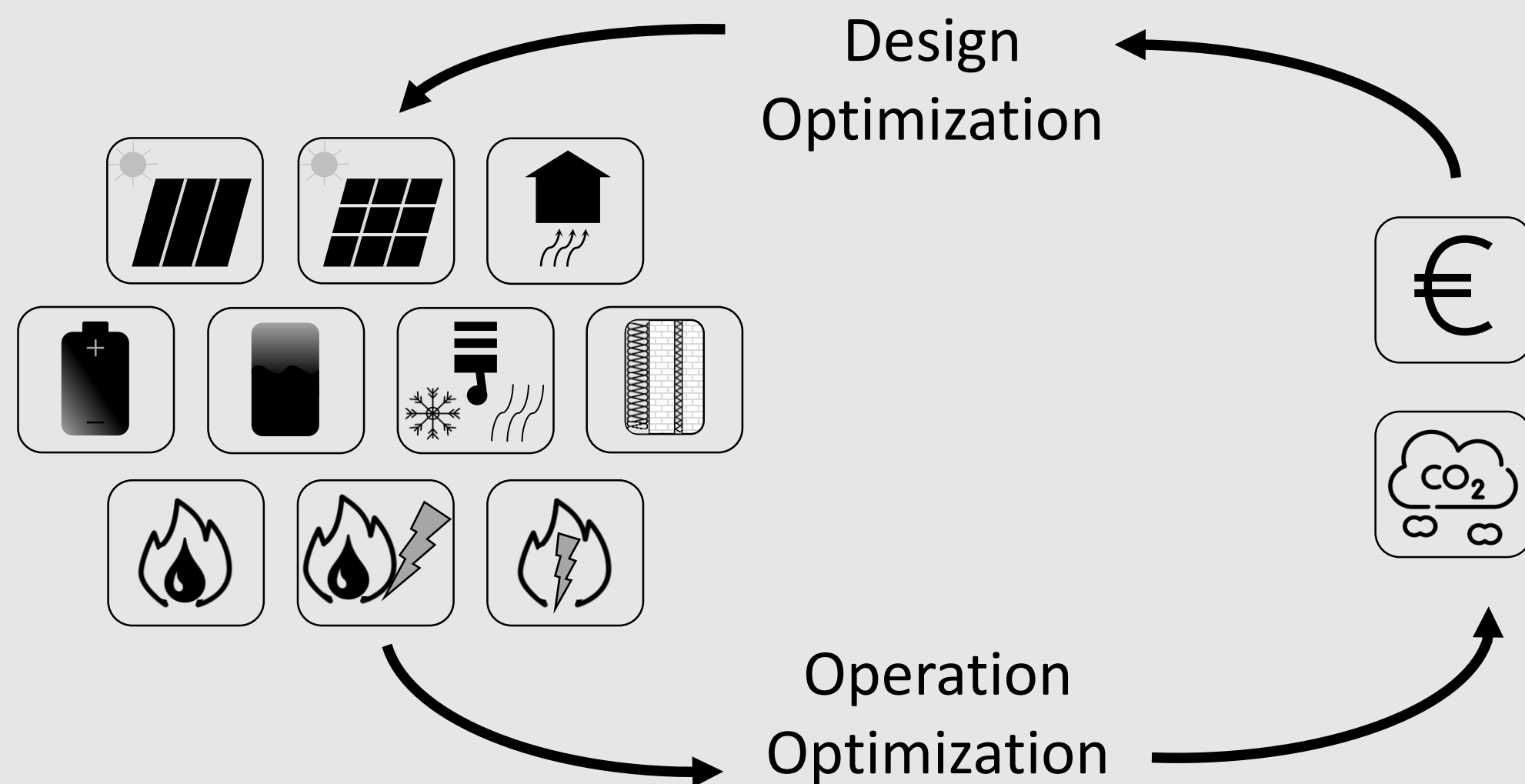


# Optimization of the refurbishment of German single family homes based on construction era

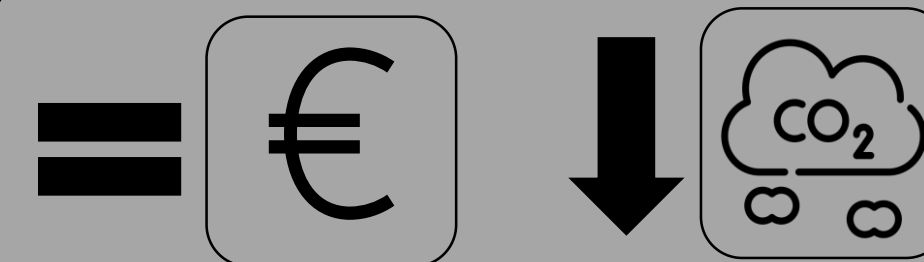
Consider a new approach to the *refurbishment* of German single family homes by focusing on the *construction era*



Optimize the sizes of the building envelope and household energy systems



Compare the annual cost and carbon emissions of each run



Provide a recommended solution that is era dependent and signifies lower emissions and the same costs as the Business as Usual case

**16 t/yr**

1950 is the era with the greatest refurbishment potential in annual emissions saved per household with 16 ton/yr

**25% Better**

The recommended solutions represent a 25% improvement from the current German subsidy strategies