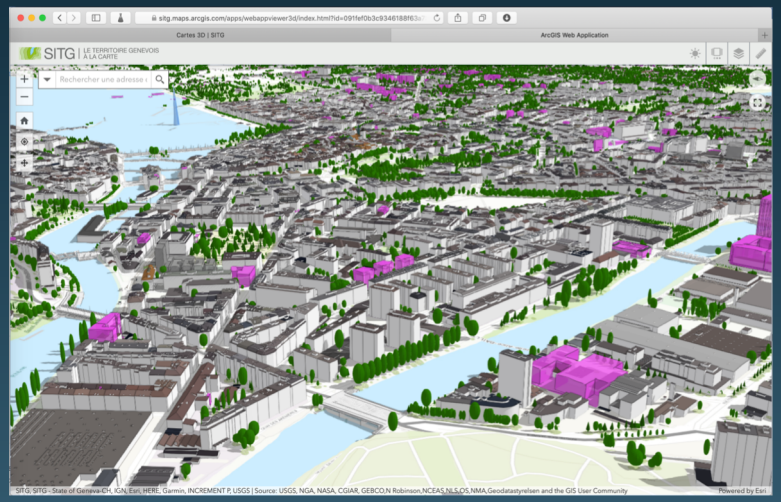
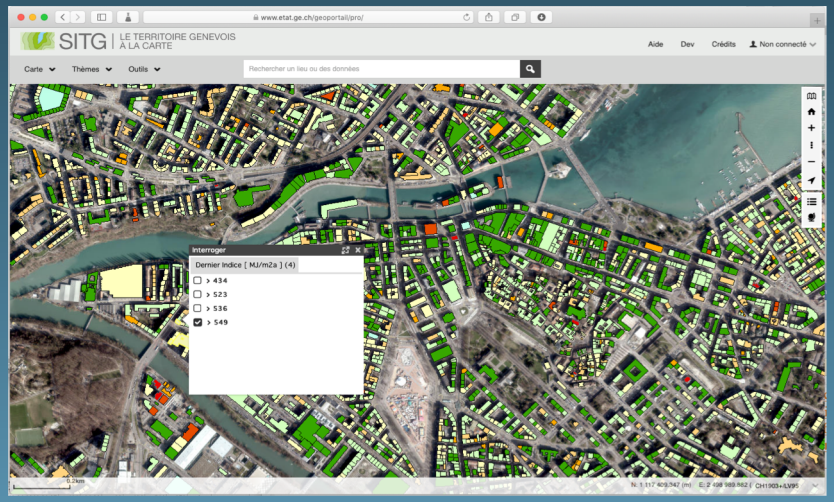
Possible strategies and obstacles in the pathway towards energy transition of residential building stocks in Switzerland.

Flourentzos Flourentzou

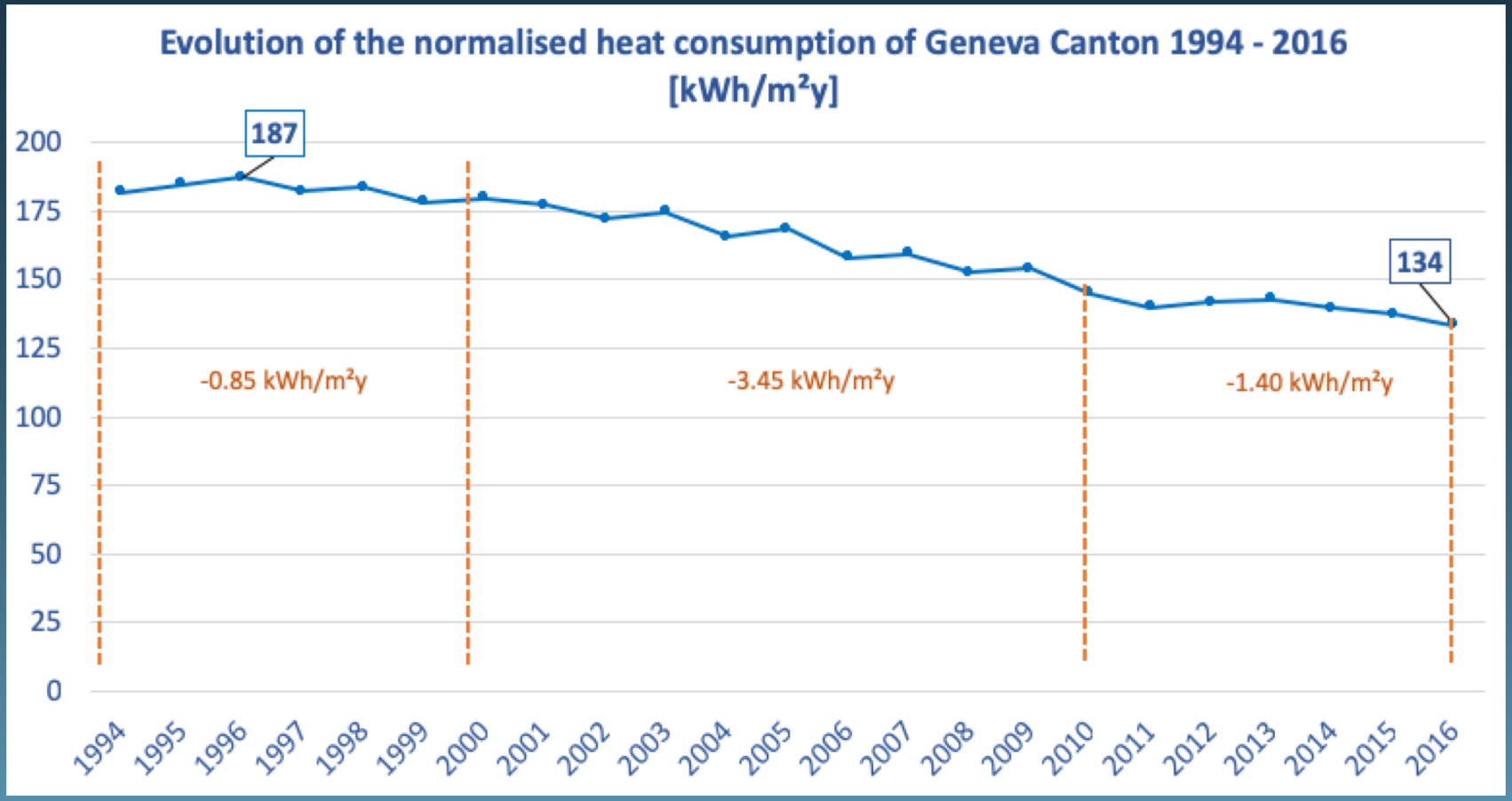
Estia

Geneva Canton: an incredible energy database

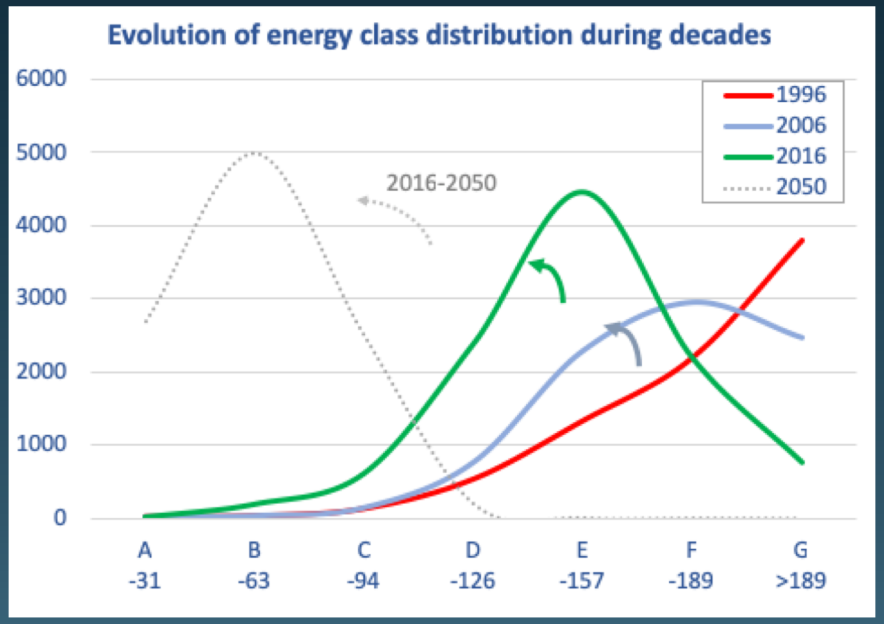


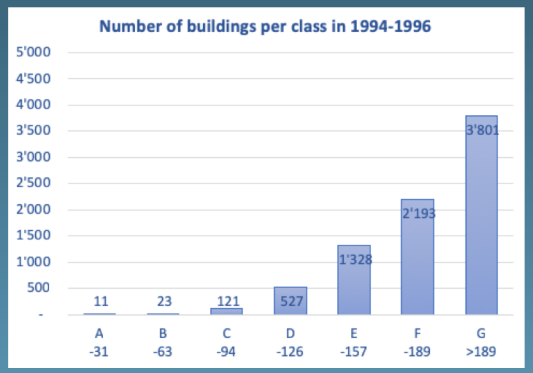


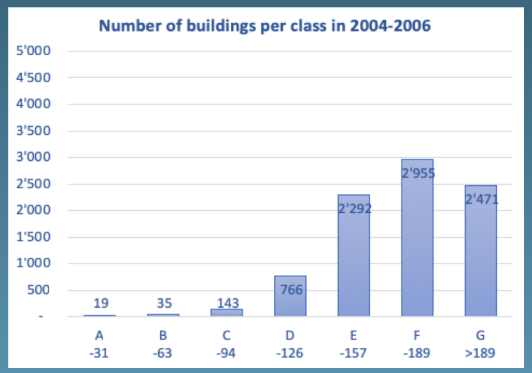
3 out of 5 steps towards 2000W society in Geneva

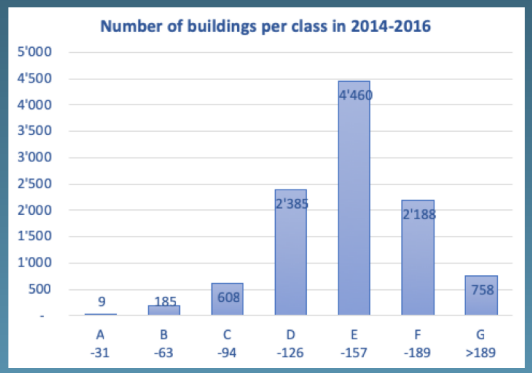


The 2 remaining steps are the most expensive

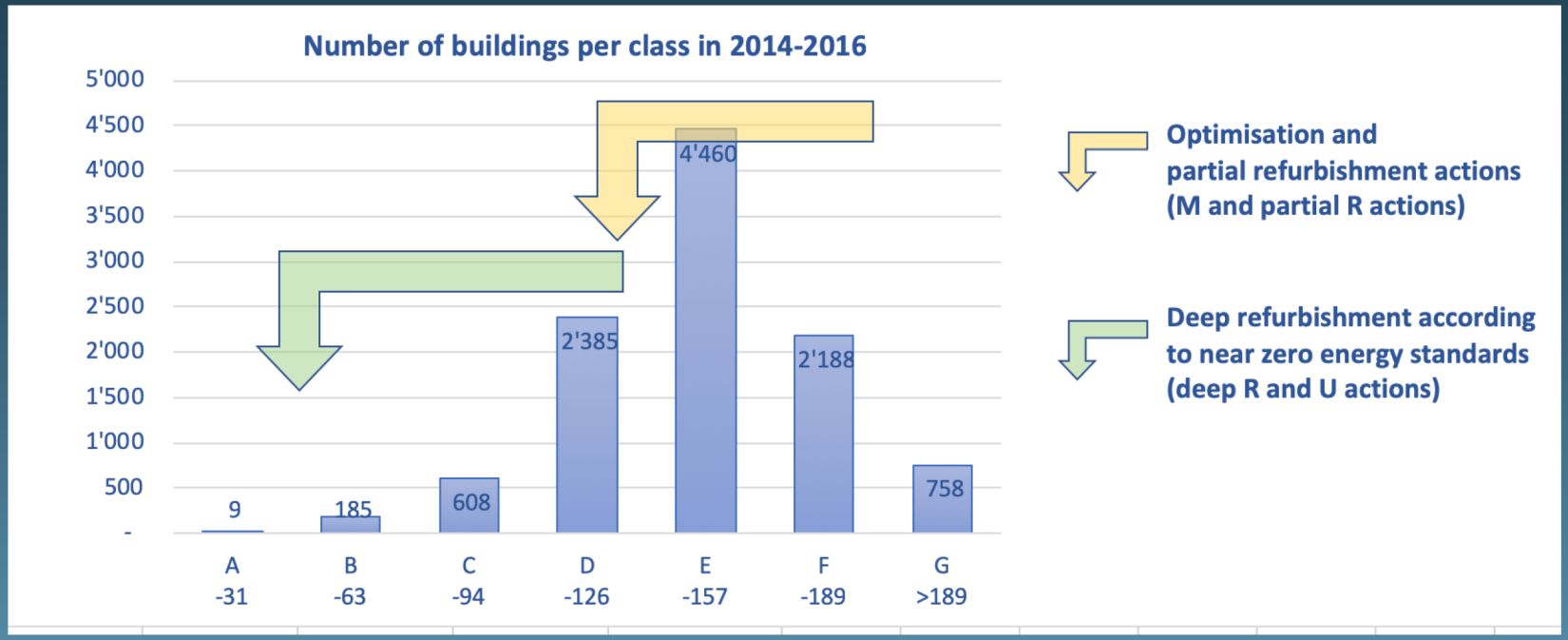




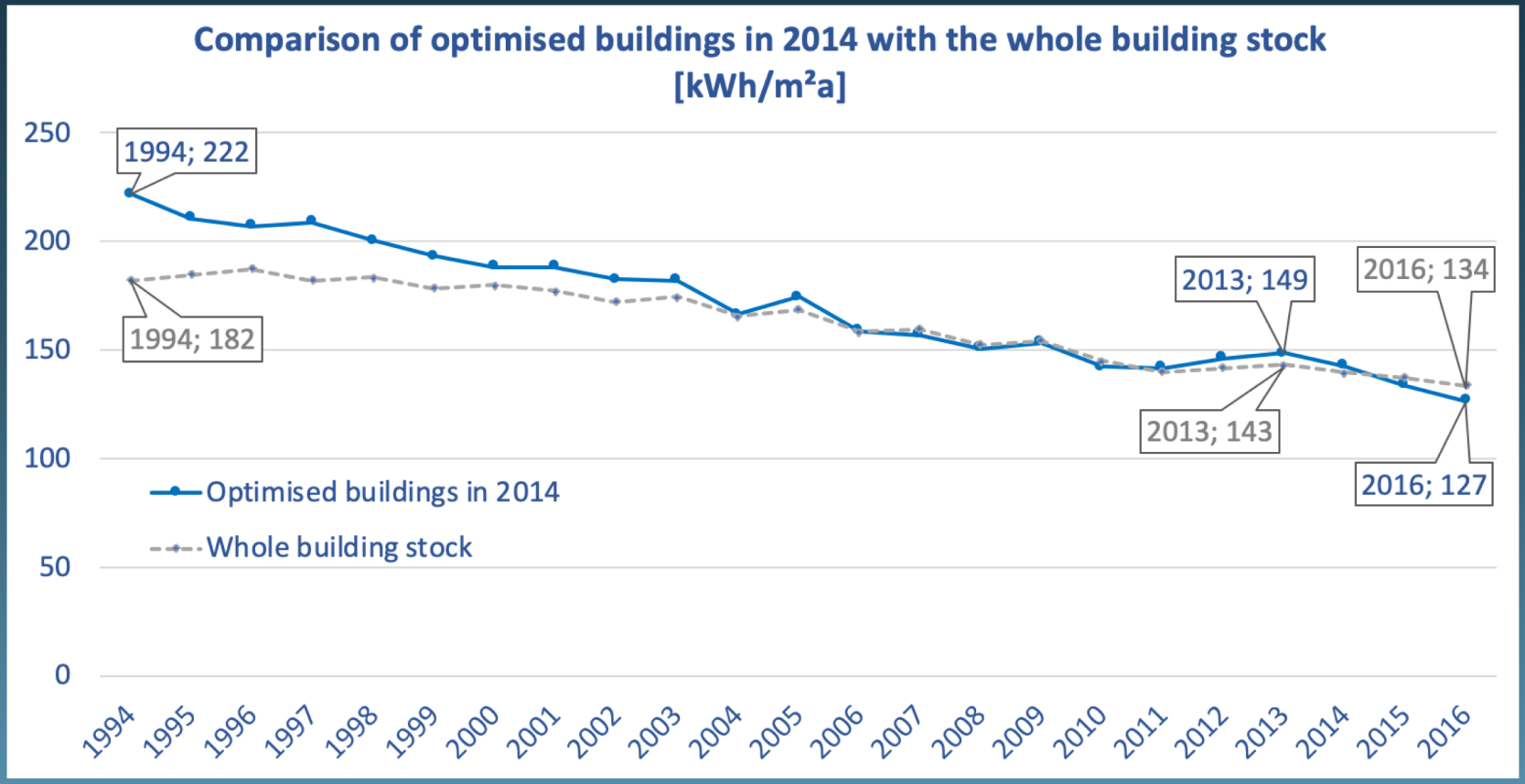




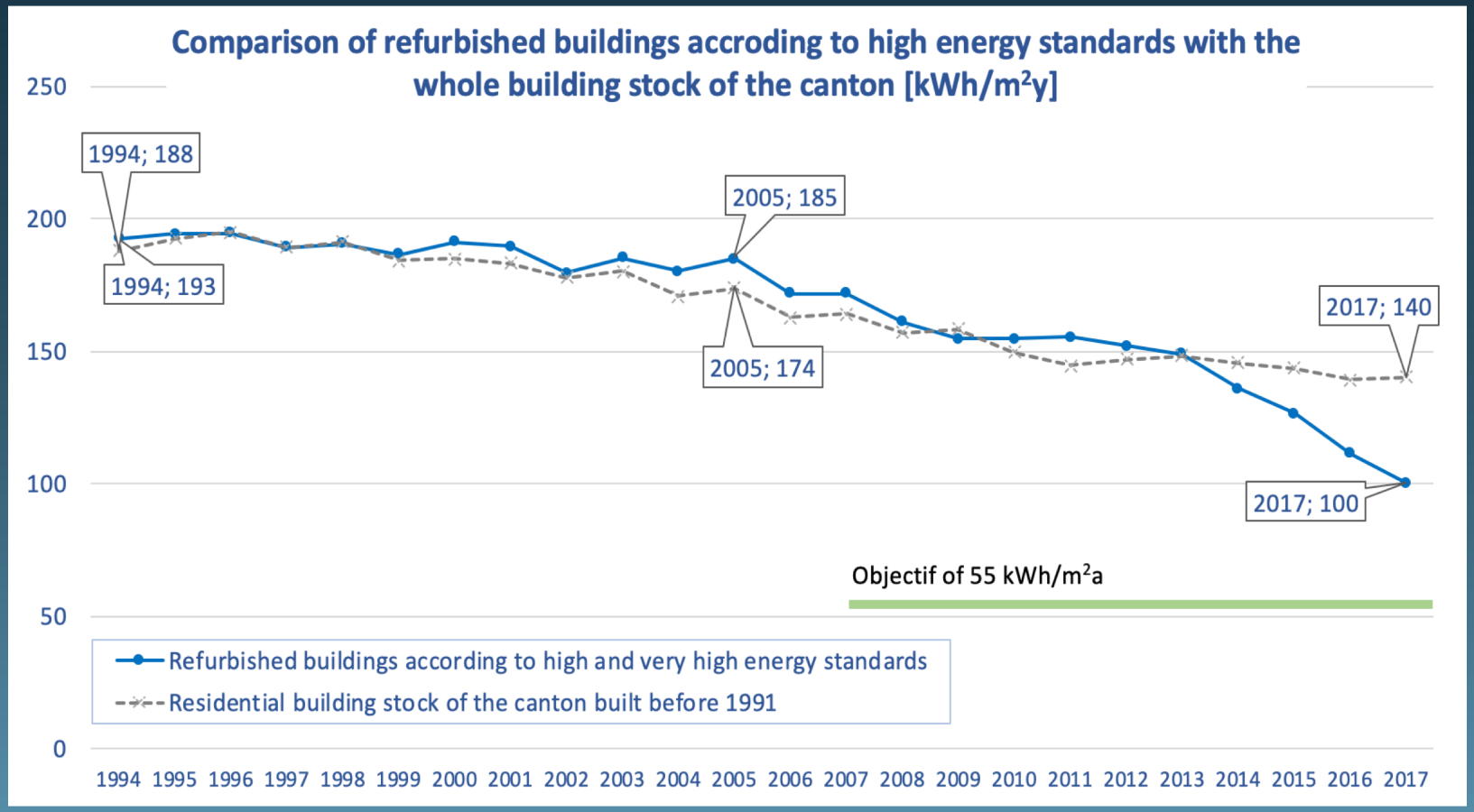
Deep and partial refurbishment strategies



Optimisation of 75 buildings after 2014

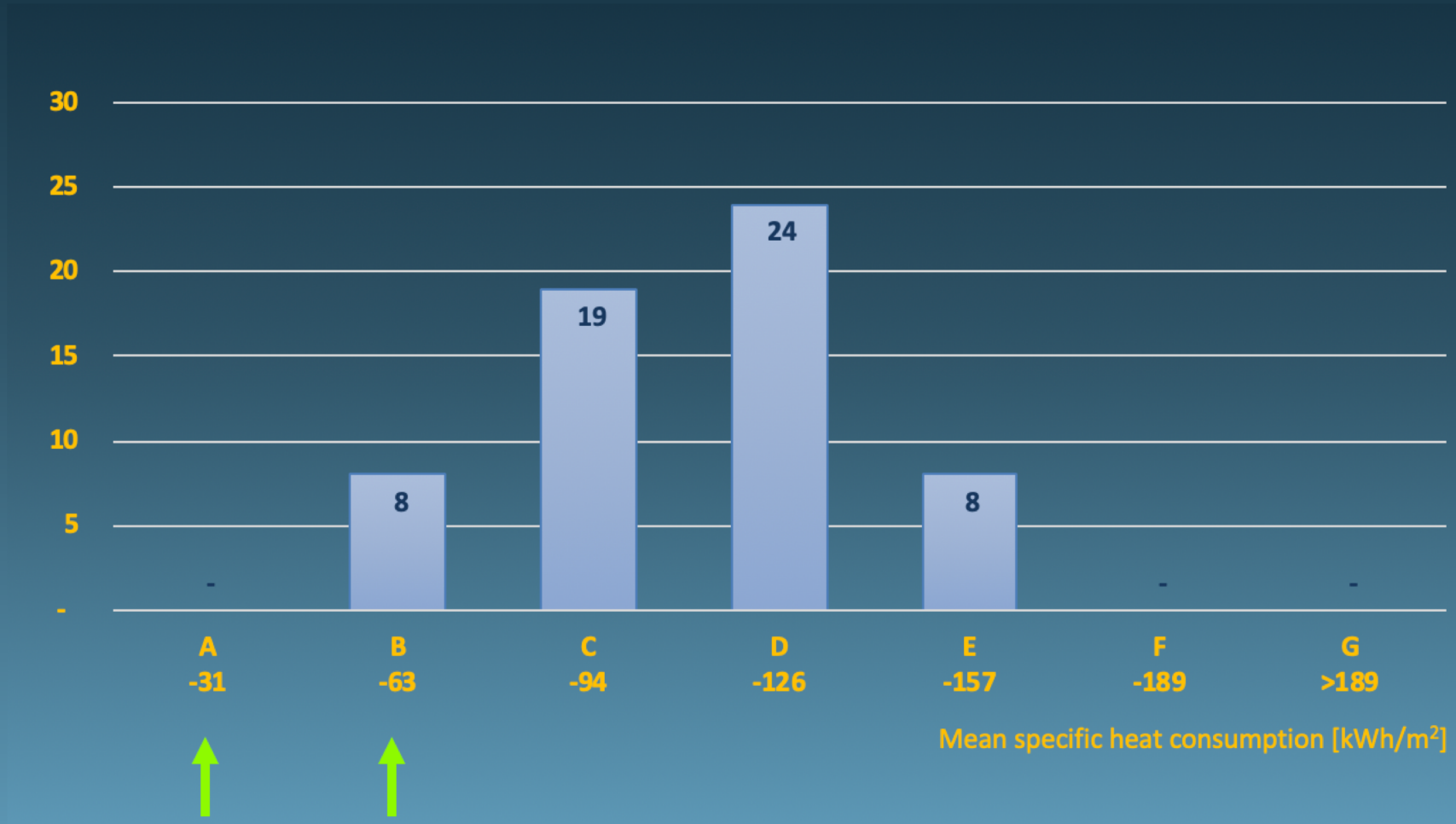


51 deeply refurbished buildings

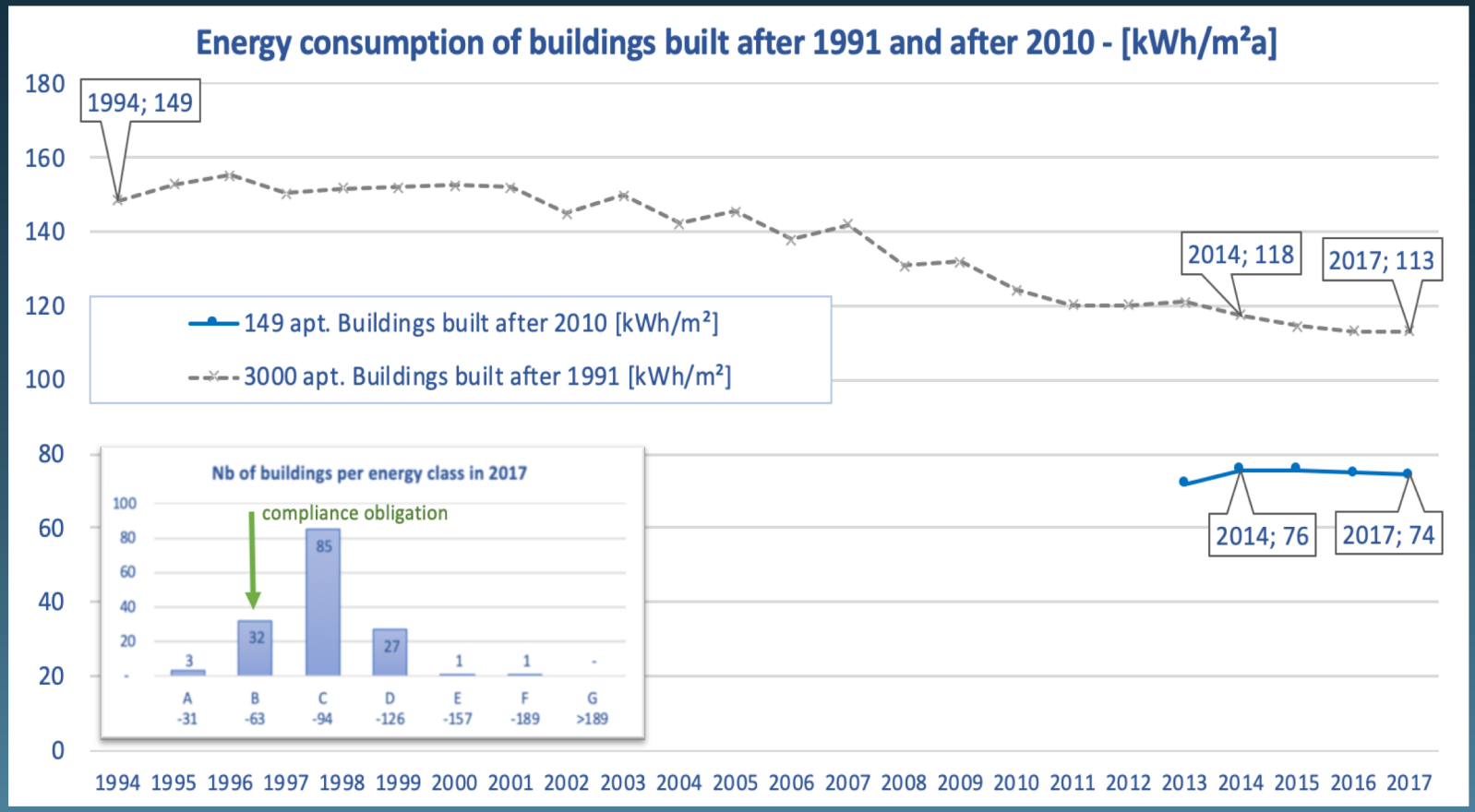


51 Minergie and 8 Minergie P renovated buildings between 2007 and 2017 in Geneva

(mean specific heat consumption 100 kWh/m²)

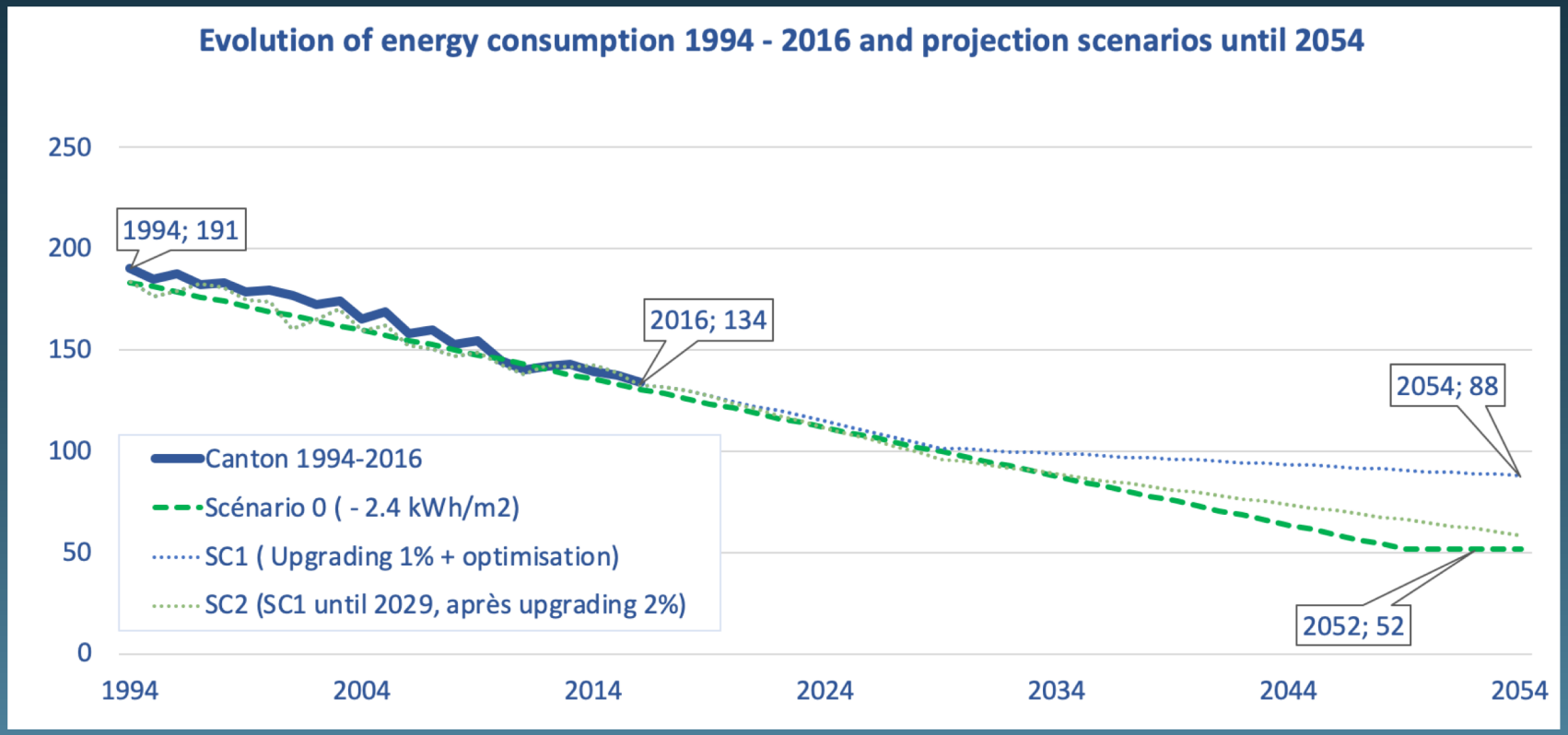


Performance GAP concerns all energy efficient buildings



Performance gap: gap from the designers intentions or gap from the target of the society?

Possible evolution scenarios until 2050



Conclusions

- The first 3 steps towards 2000W society meet the global objective for energy consumption reduction (-2.6 kWh/m^{2}y)
- The global target is abstained (- 57 kWh/m^{2}y, -30% in 30 years) but there is a clear deceleration during the last decade.
- There are 2 main obstacles to the way towards 2000W society:
  - The low deep refurbishment rate (1% instead of 2%)
  - The performance gap for deep refurbishment. (182% performance gap leads to a 3600 W society).
- A combination of deep and partial refurbishment for the next decade may catch up the low of deep refurbishment rate.