EVS35 OSL2022

Reconsidering the current trends in the Electric Vehicle market: alternatives beyond second-life applications

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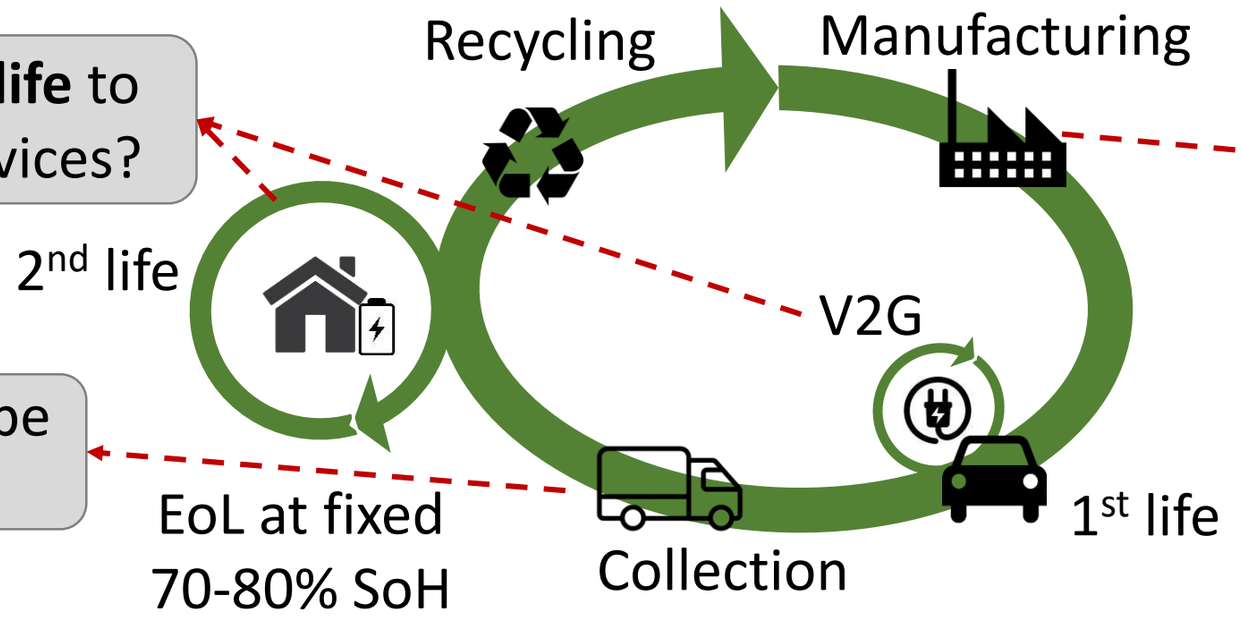
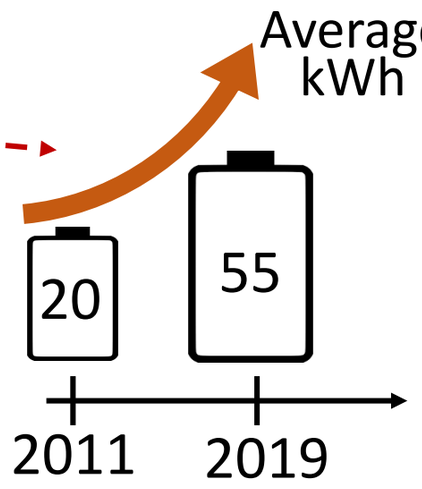
V2G or **Second-life** to provide grid services?

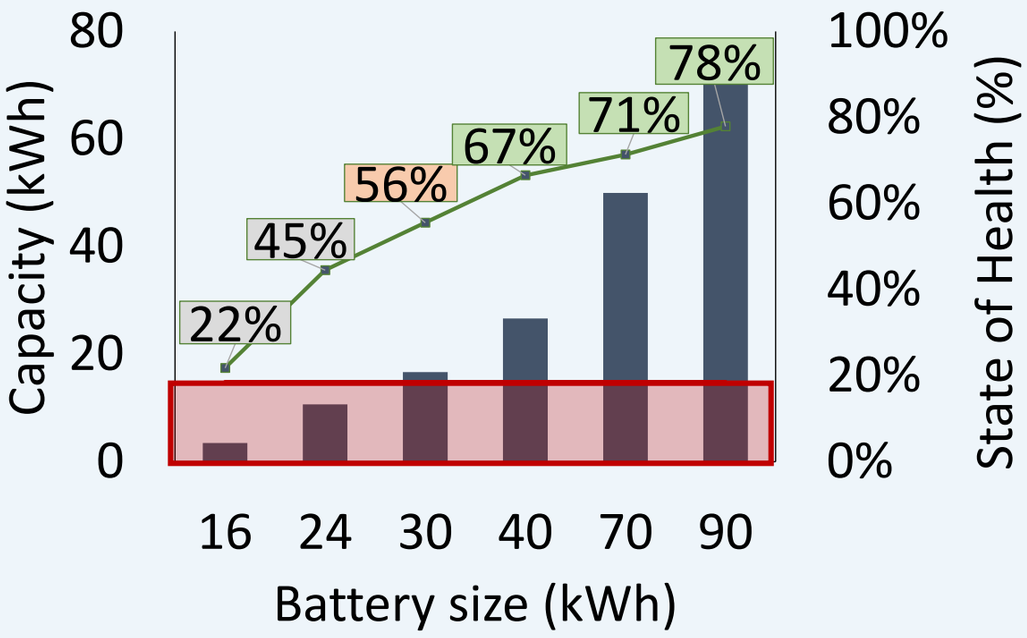
Can the first life be **extended**?



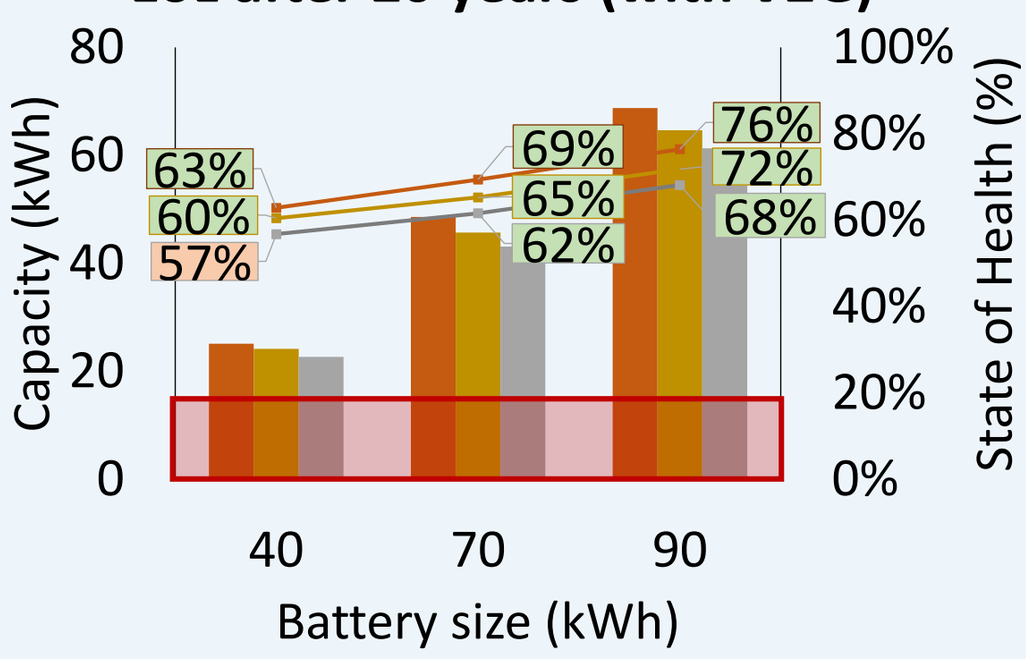


Is the increase in **capacity** needed?

EoL after 20 years (no V2G)



EoL after 20 years (with V2G)



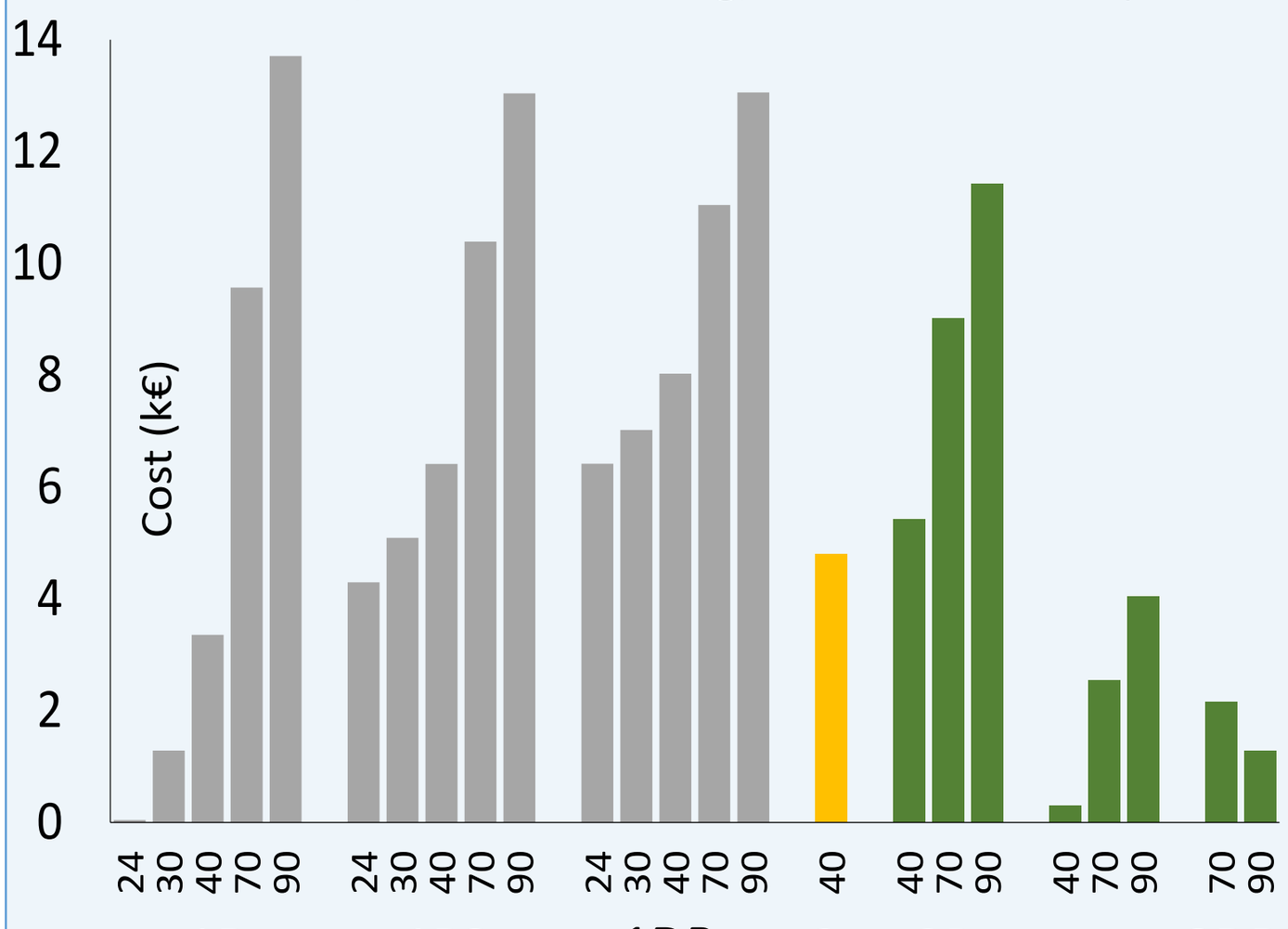
Required* Peak Shaving
Residential Demand Response

*EVs should provide 14.85 kWh

Economic Analysis

1. Fixed EoL threshold + 2nd life*
2. Reduced battery size + functional EoL
3. Functional EoL + V2G*

*R: residential, PS: Peak Shaving, DR: Demand Response



Conclusions

40 kWh is the minimum size to cover 90% of the population trips, larger ones can be used more intensely

Intensive V2G in large batteries (≥40 kWh) generally does not compromise reaching 20 years while being functional

For the same battery size, V2G provides more economic profit than 2nd life applications