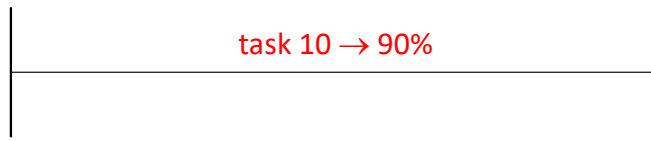# Battery optimization:
Peak reduction, flattening residual load

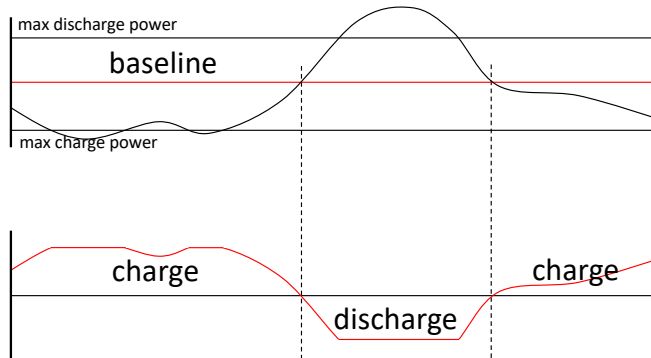**1**

task 10 → 90%

Given is the task to (dis)charge, e.g. from 10 to 90%, over a certain time period.
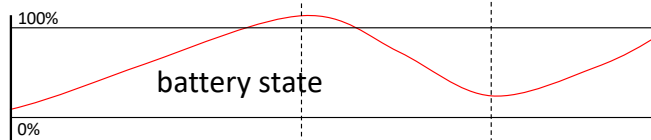
residual load curve

Given is also a residual load curve. The absolute level is irrelevant.

2

max discharge power

baseline
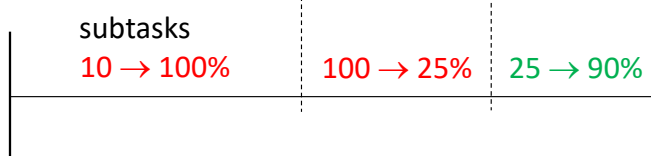
max charge power

charge   charge

discharge

Now we determine a baseline, such the battery takes up (charges on) what is above and feeds in (discharges on) what is below, capped by maximum charge and discharge power. It requires an approach method to determine the level of the baseline.

3

100%

battery state

0%

However, battery capacity might get under 0% or, as is the case here, above 100%.

4

subtasks
10 → 100%   100 → 25%   25 → 90%

Still, it yields information about how to slice the task into subtasks. These can be fed into the algorithm again, until all conditions are met. Here, the third one is done.