

# Method for cost benefit analysis of batteries in distribution grids

*It will be crucial for the grid operators to be able to include batteries in their planning procedures in a proper way, whether they are allowed to install batteries themselves or will rely on other actors to provide grid services.*

## Challenge

Batteries can be deployed at strategic locations in the grid and perform active and reactive power control for better utilization of the grid, as an alternative to reinforcements.

The lack of established computational methods for including batteries in grid planning is a barrier for taking research-based models into practice.

## Solution

We have established a general framework suited for grid planning incorporating batteries. Recommendations are given for specific considerations that must be taken when assessing batteries as alternative to grid upgrades.

## Potential

The proposed methodology is the first step towards a holistic planning approach for grids where batteries can help mitigate congestions and other problems.

## Reference in CINELDI

The method is developed in cooperation with EERA Joint Program on Smart Grids.

I. B. Sperstad, M. Korpås, et al. Methods for cost benefit analysis of batteries in distribution grids, EERA JP Smart Grids - SP Energy Storage, Working paper, 2019, <http://dx.doi.org/10.6084/m9.figshare.9917945> .

Innovation type:  
Analysis framework

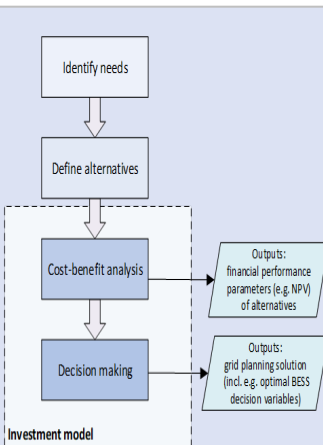
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Contact:  
Magnus Korpås  
[magnus.korpas@ntnu.no](mailto:magnus.korpas@ntnu.no)

Target group:

Actor/ purpose	X
DSO, TSO	X
Technology provider	
Member organisation	
Market operator	
Research/ Consultancy	X
Teaching	X



General process for long-term planning of power grids