

Fair open realtime distributed Power quality control for low voltage grids

Publieke samenvatting / Public summary

Aanleiding

A Farmer located at the end of a low voltage feeder had suffered from unwanted loss of PV generation due to over-voltage congestion related to his location on the feeder-line. Grid codes dictates that inverters should cease generation if the voltage rise or drop would exceed its limitations and this situation had occurred. The voltage rise at his location was due to the addition of a PV installation and the long cable connection between his farm and the low voltage distribution transformer.

Doelstelling

The aim of the system is to control (group) generation by PV's in rural and farming areas where hosting capacity is scarce thus limiting renewable energy generation. By smart coordination of inverters on the same low voltage distribution feeder, fairness between renewable energy producers can be guaranteed and power quality issues such as congestion (over-voltage, under-voltage) are mitigated.

Korte omschrijving

1. Current situation analysis and use cases 2. Requirements and architecture 3. Development and modeling of advanced control solutions 4. Design and implementation 5. Field trials, experimentation and validation 6. Reporting and dissemination of results

Resultaat

The results of this project will enable the utilization

Projectinformatie / Project information

Projectnummer / Project number
TEUE419004

Subsidiebedrag / Grant amount
€ 952.239,00

Algemene informatie / General information

Penvoerder / Secretariat
Smart State Technology B.V.

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of distribution grid capacity to its full potential, resulting in increased hosting capacity for renewable energy, especially in rural areas. Furthermore the overall generated energy will be optimized in order to ensure that all energy producers benefit from a return on their investment, including those PV owners that cannot profit because their system exceed cable limits or they regularly have to shut down their inverters because of over-voltage congestion and regulations.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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