AURORA
Renewables&
BatterySummit
BERLIN 2024

Eva Zimmermann

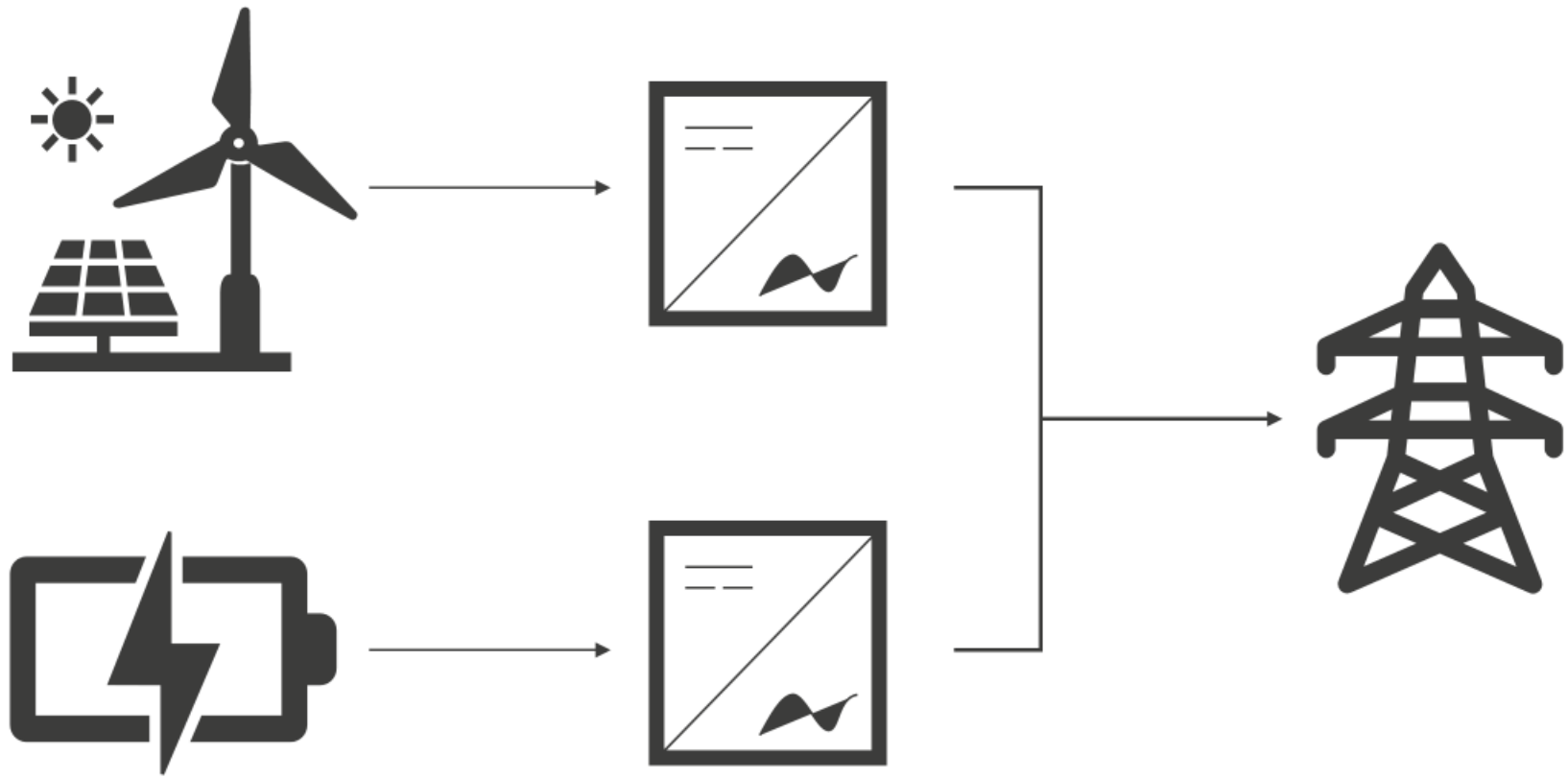
Associate,
Aurora

AURORA KEYNOTE

RENEWABLES & BATTERIES IN EUROPE: A DREAM TEAM HINDERED BY GERMAN REGULATIONS?

Co-location is the strategic combination of two or more distinct technologies such as solar, wind and storage

Example of physically co-located solar and battery storage assets (AC connected)



Source: Aurora Energy Research

Co-locating renewables and storage projects offers benefits for individual projects as well as for the power system

AURORA

Co-location reduces risks for renewables projects….

1 Hedge against capture price cannibalisation 

2 Revenue diversification 

3 Avoiding Imbalance cost 

4 Generation shifting 

…but can also add benefits to the battery business case…

5 Cost savings 

6 Faster grid connection 

…and can have an overall positive impact on the power system.

7 Reduced grid congestion 

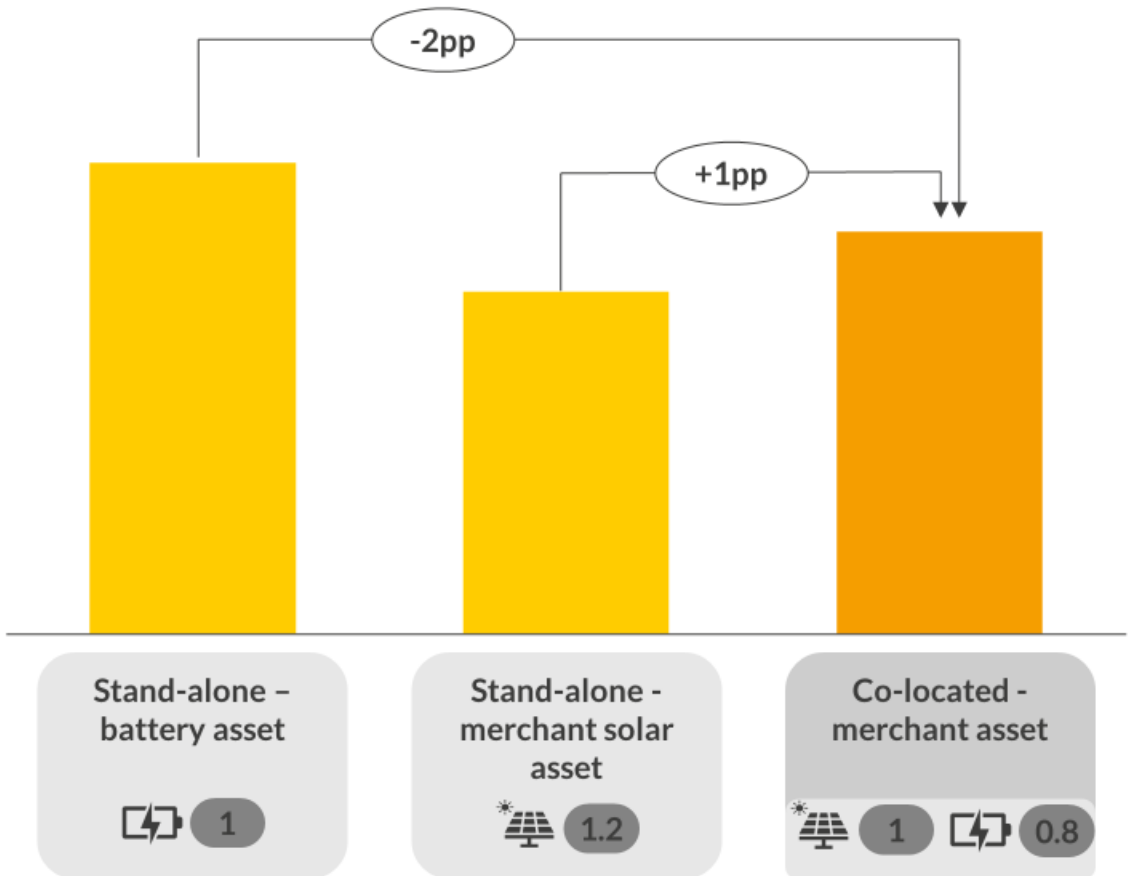
8 Avoided curtailment 

9 Better use of scarce grid resources 

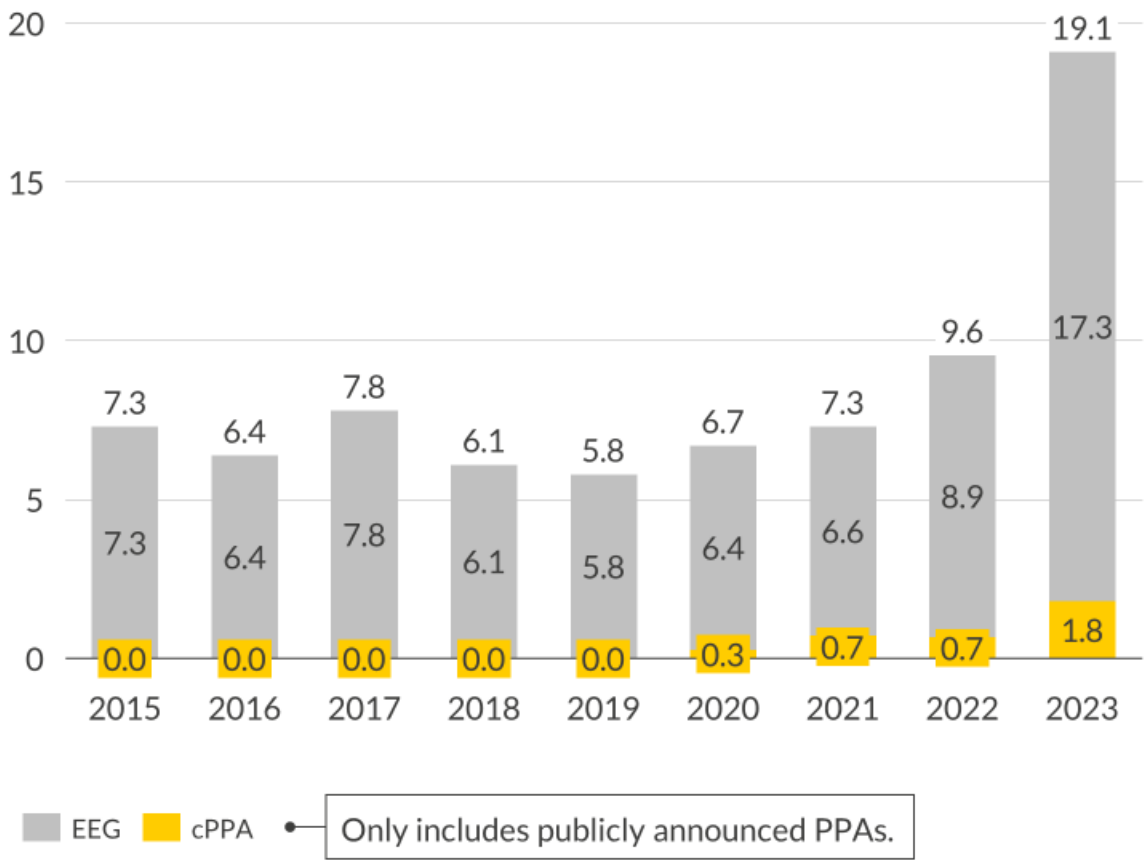
Source: Aurora Energy Research

Co-location is improving merchant solar business case, but most capacity in Germany is build out under EEG or PPAs

Internal rate of return for assets COD 2027, with 1 MW grid connection
Percentage points, pre-tax



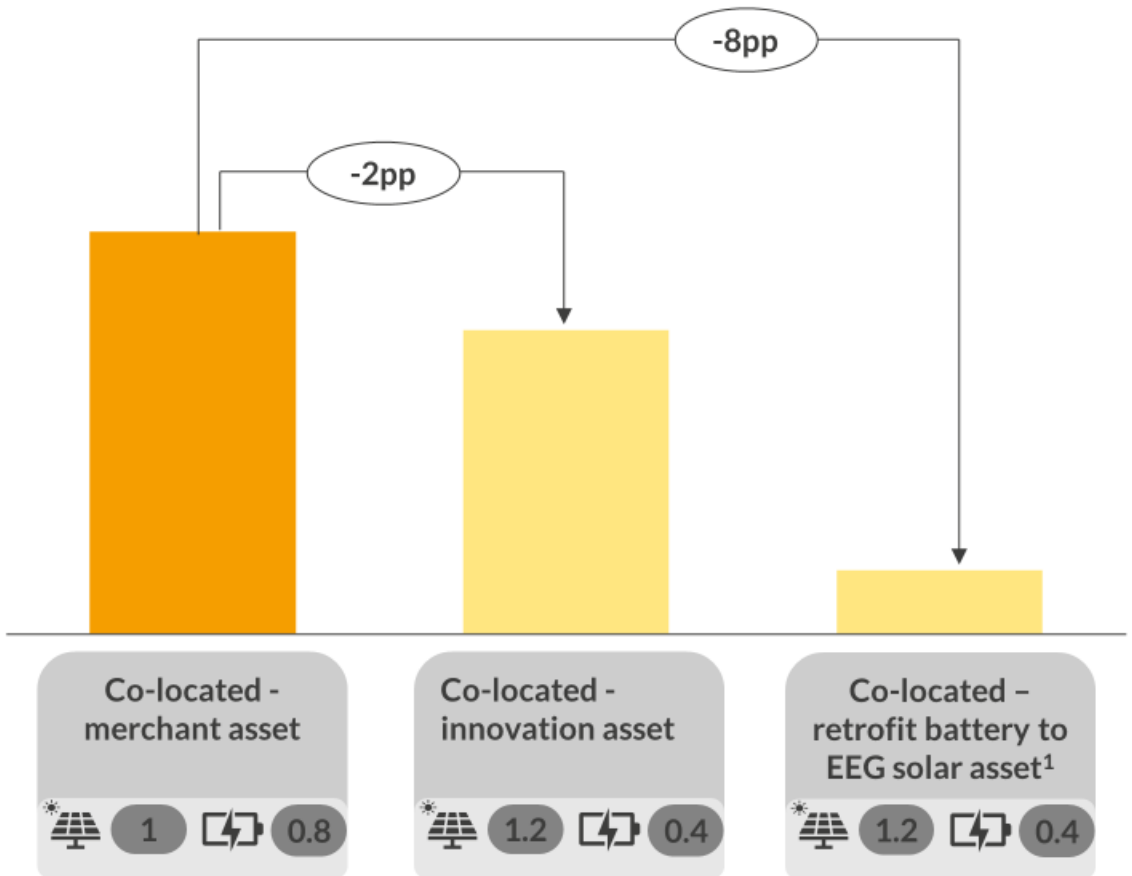
Wind and solar net capacity additions in Germany
GW



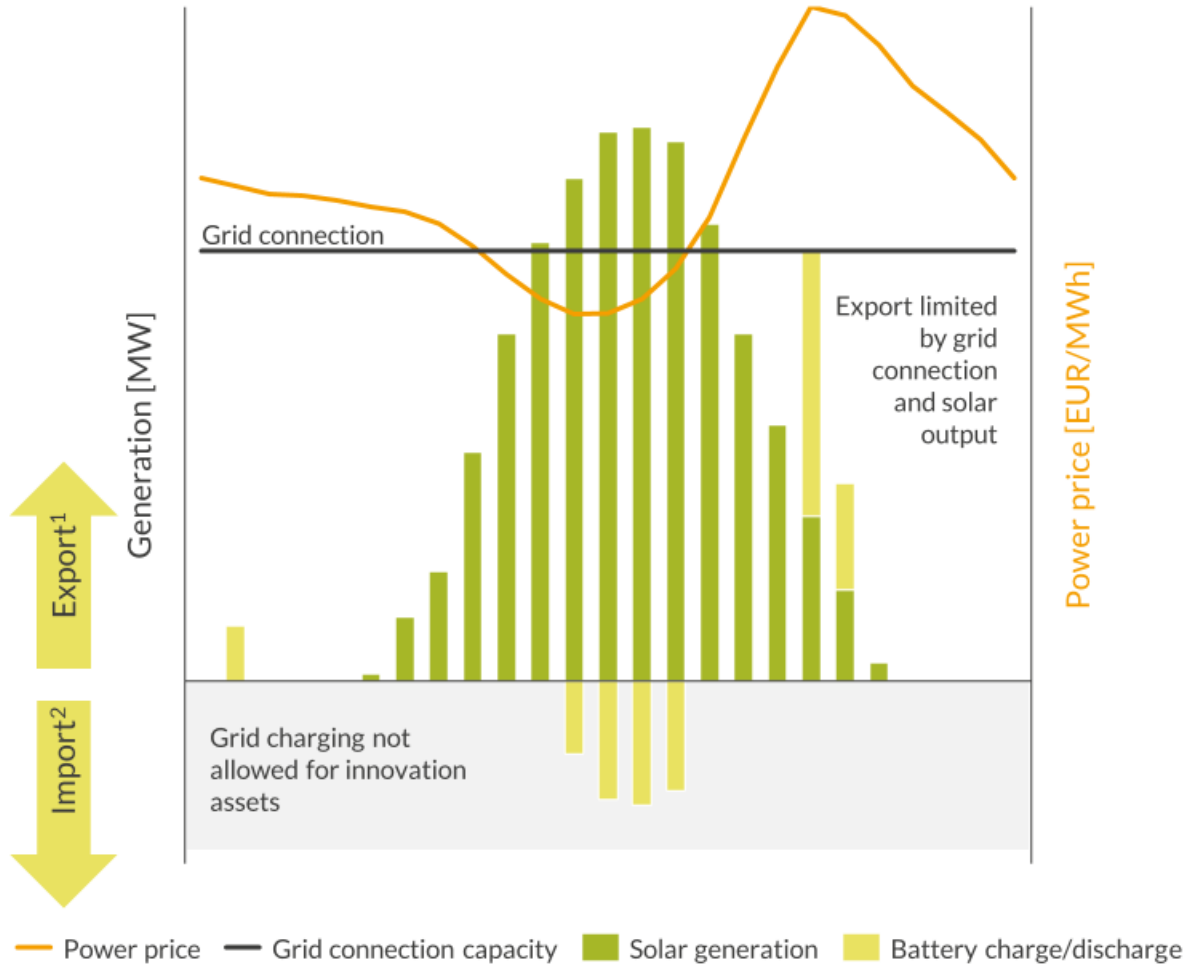
Source: Aurora Energy Research

Co-located EEG-assets face restrictions, hence the business case is worse than the merchant business case of co-located plants

Internal rate of return for assets COD 2027, with 1 MW grid connection
Percentage points, pre-tax



Illustrative battery cycle with grid connection and co-location constraints



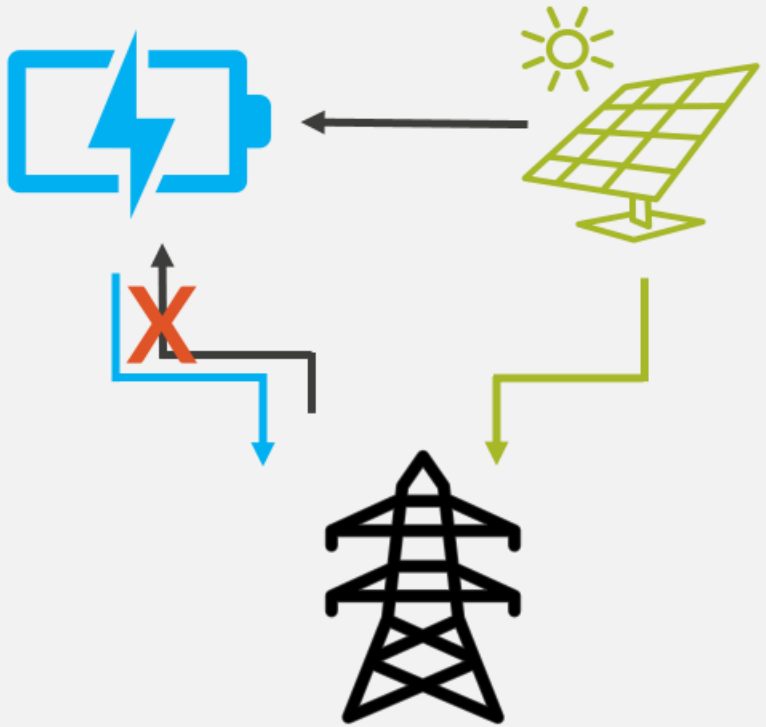
1) IRR Only for battery add-on

Source: Aurora Energy Research

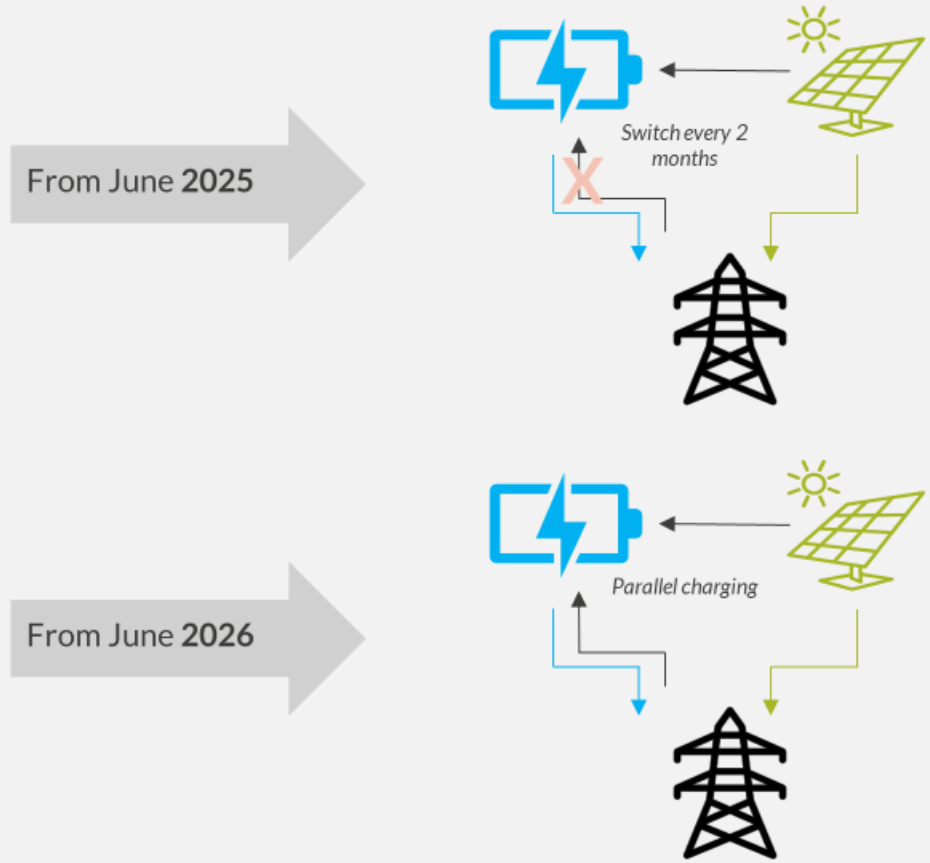
The solar package introduces legislative changes which allow co-located asset within the EEG to charge from the grid

AURORA

Regulation before the solar package



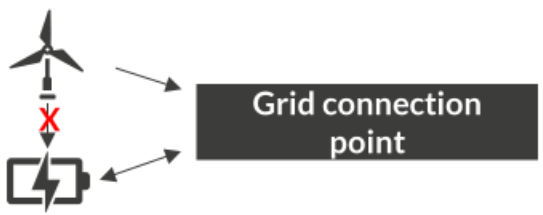
Regulation after the solar package



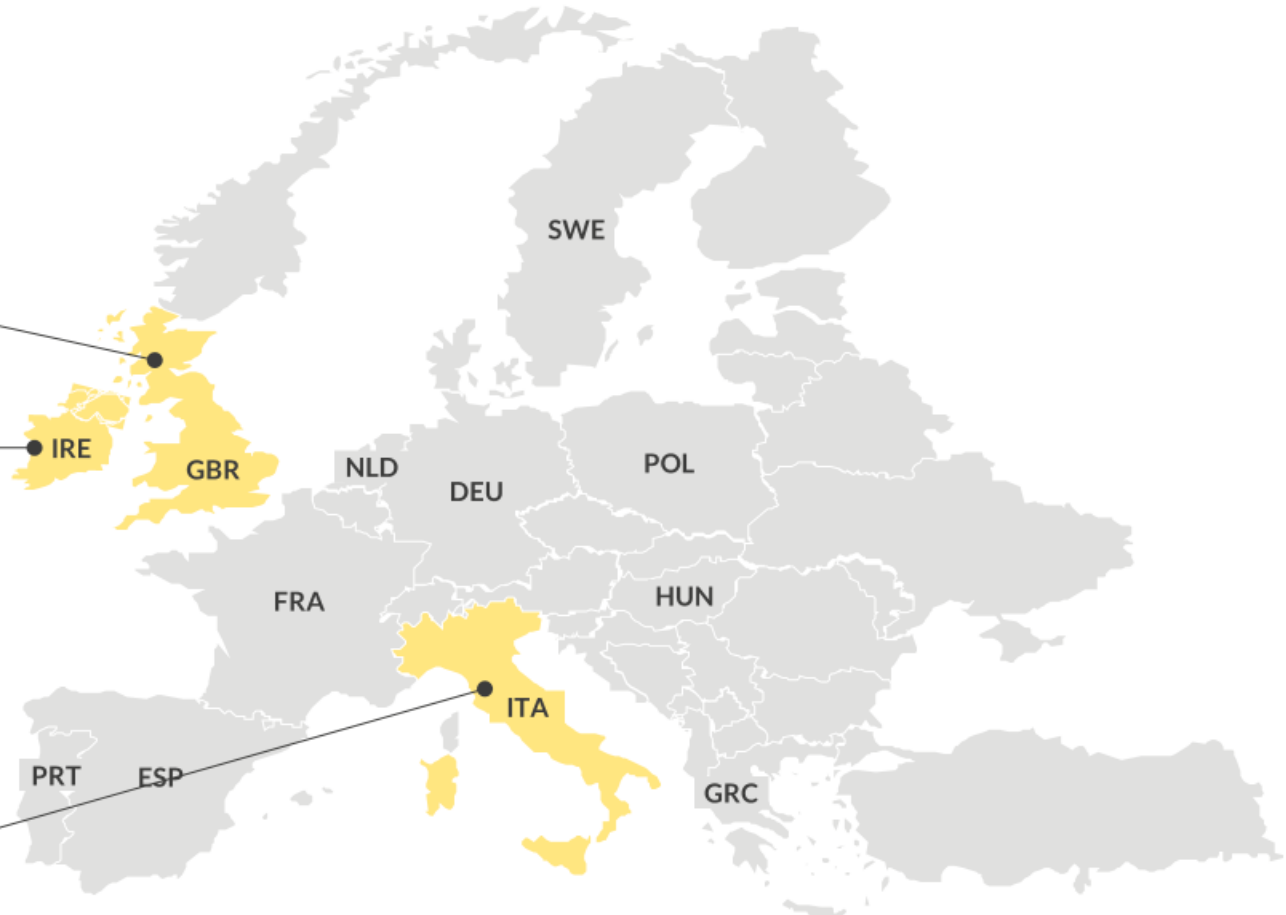
Few European countries allow grid charging for co-located projects under subsidy schemes

Metering requirements for **CfD subsidy** access can vary so long as net generation produced solely from the RES capacity under subsidy can be measured sufficiently.

In I-SEM, renewables can keep their subsidy if batteries **only** charge from the grid.



Co-located RES may apply for subsidy under the **FERX scheme** given correct metering configurations.



Source: Aurora Energy Research


AURORA
ENERGY RESEARCH