

Tutorial 1: Synchronous Condensers as Enablers of Renewable Integration and Grid Stability: Lessons from the Island of Madeira

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Abstract:

SynCons as enablers of renewable integration and grid stability: examining the dynamic stability limits of high-penetration renewable systems using the Madeira grid as a case study. Covering from the physical gaps BESS and inverter-based resources cannot fill, the presentation will trace EEM's phased grid stabilization strategy through to the commissioning of a dedicated 15 MVA synchronous condenser with external flywheel. Key commissioning challenges and transferable design decisions are covered.