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## Update on State of the Art VSC-HVDC transmission technology in China

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Transmission in China is characterised by very long distances from large generation centres to dense highly industrialised load centres. This poses a significant challenge and as such China has been at the forefront recently of the development of line commutated HVDC to help address this challenge with single link capacities now reaching 11GW. What is less well known is the rapid advancement of VSC-HVDC alongside this as some of the networks in China are reaching saturation with LCC-HVDC, but also as VSC-HVDC is more well suited for networks with high levels of renewables, or where interconnection reinforcement is required between weakly connected areas.

RXPE has been at the forefront of these developments, first with large scale multi-level VSC-MMC Statcom technology to help address the voltage collapse issues, subsequently taking this core technology platform, developing the world first multi-terminal VSC-HVDC system, and then expanding it to achieve the recent type-tested 5GW 800kV VSC-HVDC valve.

This presentation will provide an update on state of the art VSC-HVDC transmission technology in China along with case studies on utility scale power electronics in stabilising and enhancing transmission systems with high levels of renewables. It will also have some discussion on opportunities for Australia to help manage the coming challenges in a dynamically changing energy environment.