



## Innovative Tools for Offshore Wind and DC Grids

### Deliverable 3.4 – Work Package 3

#### Protection of hybrid AC/DC grids: feasible and implementable approaches

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## Introduction

Work Package 3 focuses on Hybrid AC/DC grids covering topics on interactions between AC & DC grids. This document summarises Work Package 3's work to achieve Deliverable 3.4.

## Deliverable 3.4

The topic is *Protection of hybrid AC/DC grids: feasible and implementable approaches*, set with a delivery format 'other'. Research was conducted on protection of hybrid AC/DC grids; feasible and implementable approaches were investigated and completed. Two presentation & paper titles summarise the main research outcomes:

- (1) Wei Liu's paper **Protection of Single-Phase Fault at the Transformer Valve-Side of FB-MMC Based Bipolar HVDC Systems** was accepted by *IEEE Transactions on Industrial Electronics* in October 2019. DOI: 10.1109/TIE.2019.2947853. [Research Gate Link](#). [IEEE early access PDF Link](#).

Wei Liu will present the paper at the InnoDC spring assembly meeting, Cardiff (Wales), 23-27 March 2020.

He explains the work in this PowerPoint video presentation, publicly available on YouTube: <https://www.youtube.com/watch?v=ayk0kybIxuk&t=45s>.

- (2) The 15<sup>th</sup> IET International Conference on Developments in Power System Protection (DPSP) has accepted for publication Emily Maggioli's paper **Impact of Voltage Source Converter (VSC) Based HVDC Interconnection on AC Power System Energy Transmission Wide-area Disturbances** which she will present at the conference in Liverpool (England), 9-12 March 2020. [Conference Link](#).

Her PowerPoint video presentation will be publicly available on the InnoDC YouTube channel <https://www.youtube.com/channel/UCLrfBzz3SExZZgxPEhyX89Q> after the DPSP 2020 conference.

## Work package members

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