

# High Voltage Direct Current (HVDC)

## Fact Sheet

High Voltage Direct Current (HVDC) is one of a set of new European codes that have been introduced as part of the European Third Energy Package; this came into law on 3 March 2011, with the aim of enabling a greater penetration of renewables, improving security of supply and enhancing competition. It looks to do this by developing a European internal energy market through the creation of a regulatory framework to support the harmonisation and integration of European Energy Markets.

HVDC is seen as one of the main drivers for creating harmonised solutions and products necessary for an efficient pan-European (and global) market in generator technology. The purpose of the code is to bring forward a set of coherent requirements in order to meet these challenges of the future.

The requirements under HVDC are similar to the existing GB Grid Code for HVDC converters and HVDC systems. The code also introduces specific requirements for Direct Current-connected Power Park Modules.

### What are the timings?

HVDC entered into force as European law on **29 September 2016**. It applies to 'new' HVDC connections, defined as those that are not connected to the system by **8 September 2019** and do not let contracts for main plant items by **29 September 2018**. A 'new' connection must comply with the code from **8 September 2019** onwards (i.e. their connection date).

### Implementation

The Grid Code and Distribution Code workgroups implementing the HVDC requirements were via [GC0100](#) (Banding, Scope and Applicability, Fast Fault Current Injection and Fault Ride Through), [GC0101](#) (Voltage, Reactive and Frequency requirements) and [GC0102](#) (System Management and Compliance).

### For more information

Please read our [European Connection Codes Customer Letter](#) to find out more about the process for notifying National Grid of your purchase contract.

Please watch our [webinar](#) to find out more about some of the new System Management and Compliance requirements resulting from the European Connection Codes.

**Joint European Stakeholder Group (JESG)** - open to any interested parties, this is a single monthly meeting supported by BEIS, Ofgem and National Grid covering all European issues including European Network Code development and implementation.

For more information on either group or to sign-up for the weekly newsletter please contact [europencodes.electricity@nationalgrid.com](mailto:europencodes.electricity@nationalgrid.com).

## Am I affected?

HVDC impacts any 'new' High Voltage connection to the Transmission System — whether an interconnector or a DC-connected Power Park Module. See "What are the timings?" section for the definition of 'new'.

## When?

HVDC entered into force as European law on **29 September 2016**. 'New' connections will need to be compliant from **8 September 2019**.

## How?

GB implementation of HVDC took place through industry workgroups established under the Grid and Distribution Codes. The main task is to align the existing GB codes such that anyone planning to connect to the electricity system can be confident that by satisfying the GB codes they are also fulfilling the requirements of any relevant European legislation. The workgroup set the parameters for the parts of the code which were left to national discretion.

All changes to GB codes were consulted on and approved by Ofgem.