Project Sheet

Upgrade Meeden - Diele

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Key Information

Cross Border Project
AC transmission line
New

Under Construction

Description

Increase of the interconnection capacity between The Netherlands and Germany by adding one new phase shifting transformer and apply dynamic line rating on the existing 380 kV double circuit tie line between Meeden and Diele.

Project promoters

TENNET-NL
TenneT DE

Countries

Germany
Netherlands

National development plan(s)

Samenvatting KCD 2017 (The Netherlands) page 19

Additional information on the project

https://www.tennet.eu/news/detail/tennet-starts-expansion-of-the-meeden-diele-interconnector-between-the-netherlands-and-germany/

Project sheet backlog

6 Nov. 2020 - Publication as part of the draft TYNDP 2020 package for consultation

Project Description & Context

Project Investments

Main investment(s): Increase of the interconnection capacity between The Netherlands and Germany by adding one new phase shifting transformer and apply dynamic line rating on the existing 380 kV double circuit tie line between Meeden and Diele.

Type of element	Total route length (km)	From substation 1	To substation 2	Present status	Commissioning year	Progress of the investment	Explanation in case of delay or reclustering
AC transmission line	27	Meeden [NL]	Diele [DE]	Under Construction	2021	Investment on time	

Is the project in the reference grid?

Yes

System Needs addressed by the project

Project promoter(s) selected up to 4 system needs that are addressed by their project in a predefined list. Available needs ranged from reduction of price differentials between countries, improvement of system flexibility and stability, enabling cost-efficient connection of high volumes of RES, improvement of voltage stability...
As part of the TYNDP 2020, ENTSO-E released a study investigating cross-border system needs in the 2030 and 2040 horizons.

Need		How the project addresses each need (explanation provided by the project promoter(s))
	Infrastructure to reduce price differentials between EU and/or non-EU countries	This project helps increase the cross-border capacity between Netherlands and Belgium. This will help reduce the price differentials between these different bidding zones
	Infrastructure to facilitate and accommodate future scenarios, cross-border flows or loop flows.	This project increases phase shifting transformer capabilities helping reduce loop flows and distributing cross-border flows better
	Contribution to the power system's operational flexibility by controlling power flows and optimizing use of existing infrastructure	Project increases phase shifting transformer capabilities which increases controlability of the power flows and optimizes further use of existing grid infrastructure

Need		How the project addresses each need (explanation provided by the project promoter(s))
	Infrastructure designed to enable cost-efficient grid connection of high volumes of RES and/or reduce RES curtailment	Optimized use of existing internal and cross-border infrastructure to better accommodate high volumes of RES and reduce RES curtailment

Interconnection targets

In 2017, the Interconnection Target Expert Group proposed alternative indicators to the 15% interconnection criteria for every country and electrified island with a new methodology developed collaboratively between the European Commission, ENTSO-E, ENTSOG, industry, universities and other experts. The methodology is based on three indicators:
1. Price differential between EU countries, with an objective to reduce it below 2 EUR/MWh
2. Ratio between nominal transmission capacity and installed RES capacity, with a target of past 30%
3. Ratio between nominal transmission capacity and peak load, with a target of past 30%

The following maps show the ITEG methodology applied to the TYNDP 2030 scenarios, with the 2020 grid.

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Project Assessment

Transfer capacity increase (National Trends 2025)

	Border	A B	B A
Transfer capacity increase (in MW)	Germany - The Netherlands	300	300

CBA results

ENTSO-E has assessed the benefits delivered by each project in 2025 (scenario National Trends 2025) and in 2030 (three scenarios: National Trends, Distributed Energy and Global Ambition). Indicators B1 to B6 were computed by ENTSO-E, while promoters had the possibility to compute and submit so-called project-level benefits (B7 to B10). The benefits must be understood as benefits for Europe as a whole, not for the promoters of the project.
Results are presented per scenario.

This project chose not to request a cost-benefit analysis in the TYNDP 2020. The possibility to opt out of the CBA was offered to projects under construction or to very long-term project commissioning after 2035.

Non scenario-dependent indicator(s)

B8.0 Stability (Transient, Voltage and Frequency Stability)	Transient stability	Voltage stability	Frequency stability	
Upgrade Meeden - Diele (AC line dynamic line rating)	-	-	0	Qualitative assessment by ENTSO-E based on information on the project technology provided by the project promoter(s). This indicator is not dependent on scenarios or time horizons.

Residual impact

Information on the residual impact of the project was provided by the project promoter(s).

Project Costs

The project costs were provided by the project promoter(s).

	CAPEX (Meuro)	Uncertainty range (%)	OPEX
1246. Upgrade Meeden - Diele	38	+/- 10%	0.4
Total	38		0.4

Explanation provided by the project promoter on the CAPEX uncertainty range:

1246

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