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Status Final

Hollandse Kust (west) VIII and Nederwiek (noord) Investigation Areas

Integrated Ground Model

Annex 5 - Starting Points and Assumptions

Colophon

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1 Introduction

This document provides the starting points and assumptions for the Hollandse Kust (west) VIII and Nederwiek (noord) Investigation Areas. The starting points and assumptions are to be used by contractors when executing investigations, studies or likewise commissioned by one of the following organisations:

- The Ministry of Economic Affairs and Climate Policy
- The Ministry of Infrastructure and Water Management
- Netherlands Enterprise Agency (RVO)
- Rijkswaterstaat
- TenneT TSO B.V.

This document is part of the QA/QC process for these studies.

Please note:

- This is a living document; before use check if you have the latest version available (to be confirmed by your client)

If you have any queries, please contact your CLIENT.

2 General introduction to the offshore wind energy in the Netherlands

2.1 Existing offshore wind farms

The Netherlands' existing offshore wind farms have a combined capacity of approximately 3,500 MW (May 2023). This will be 4,700 MW by the end of 2023.

Table 1 Wind Farms in the Dutch North Sea (operational or under construction) May 2023

Windfarm	Sites	Distance of the coast	Year of commissioning	Turbines	Owner
Offshore Wind Farm Egmond aan Zee (OWEZ)		10-18 km	2008	36 Vestas 3 MW	Noordzeewind (joint venture NUON and Shell)
Prinses Amalia Wind Farm		23 km (12 NM)	2009	60 Vestas 2 MW	Eneco
Luchterduinen		23 km (12 NM)	2015	43 Vestas 3 MW	joint venture Eneco and Mitsubishi Corporation
Gemini		85 km	2017	150 Siemens 4 MW	Northland Power, Siemens, Van Oord and HVC
Borssele	I - II	22 km	2020	94 Siemens 8 MW	Ørsted
	III - IV		2020	77 Vestas 9,5 MW	Blauwwind
	V		2021	2 Vestas 9,5 MW	Two Towers
Hollandse Kust (zuid)	I - IV	18 km	Under Construction	140 Siemens 11 MW	Vattenfall
Hollandse Kust (noord)	V	18,5 km	Under Construction	69 11 MW	Crosswind

2.2 The roadmap 2030 & 2030+ towards 21 GW offshore wind power

As part of its climate goals, the Dutch Government aimed to have 49 TWh/a of offshore wind energy feeding into the grid by 2030. This equals around 40% of the current Dutch electricity consumption. The roadmap to achieve this goal sets out a schedule of tenders, with each tender offering 700 MW up to 2,000 MW of development in the period 2015 – 2025. Last year the Dutch Government has raised the goal to have 55 TWh/a of offshore wind energy feeding into the grid by 2030 under the same roadmap and legislation. The Dutch government has created the offshore wind roadmaps 2030 and 2030+ to set out a schedule of tenders for wind farm permits (see Figure 1 and Figure 2).

The wind farms will be built in designated Wind Farm Zones. Wind farms outside these Wind Farm Zones are prohibited. Within the designated Wind Farm Zones, the government defines the specific sites where wind farms can be constructed using a so-called Wind Farm Site Decision ('Kavelbesluit'). This Wind Farm Site Decision contains all conditions for building and operating a wind farm on that specific site.

Developers can apply in tenders for the permits to build and operate a wind farm according to a Wind Farm Site Decision. Winners of these permit tenders will be granted a permit and a grid connection to the mainland.

The Dutch Government provides comprehensive site data and Dutch transmission system operator TenneT is responsible for grid connection. RVO is responsible for the site data, which can be used for the preparation of bids for these tenders.

Table 2 Wind Farm Zones in the Dutch North Sea

Wind Farm Zones in the Dutch North Sea				
Wind Farm Zone	Wind Farm Site	Tender	Capacity	Owner
Borssele	I and II	2015	752 MW	Ørsted Borssele 1 B.V.
	III and IV	2016	731 MW	Blauwwind II C.V. (Shell, Van Oord, Eneco, Diamond Generating Europe)
	V	2016	19 MW	Two Towers
Hollandse Kust (zuid)	I and II	2017	740 MW	Chinook (Vattenfall)
Hollandse Kust (zuid)	III and IV	2018	760 MW	Vattenfall
Hollandse Kust (noord)	V	2019	759MW	Crosswind
Hollandse Kust (west)	VI and VII	2022	2 x ≥700 MW	Oranje windpower, Ecowende
IJmuiden Ver	I and II	Q4 2023	≥ 2 x 1,000 MW	t.b.d.
	III and IV	Q4 2023	≥ 2 x 1,000 MW	t.b.d.
	V and VI	Q2 2025	≥ 2 x 1,000 MW	t.b.d.
Nederwiek	I	Q2 2025	≥2,000 MW	t.b.d.
	II	2026	≥2,000 MW	t.b.d.
	III	2026	≥2,000 MW	t.b.d.
Hollandse Kust (west)	VIII	2026/2027	≥700 MW	t.b.d.
Ten noorden van de Waddeneilanden	I	2026/2027	≥700 MW	t.b.d.
Doordewind	I	2027	≥2,000 MW	t.b.d.
	II	2027	≥2,000 MW	t.b.d.

An overview for the Roadmap 2030 is provided in Figure 1.

In the beginning of 2022, the Dutch Government announced three new Wind Farm Zones called Lagelander, Nederwiek (Nederwiek zuid site I and Nederwiek (noord) site II and III) and Doordewind (Figure 2). The development of Hollandse Kust (west) Site VIII and the IJmuiden Ver Wind Farm Sites V-VI in the IJmuiden Ver Wind Farm Zone was also confirmed. Together this is expected to be sufficient for an additional 10,7 GW.

Offshore Wind Energy Roadmap

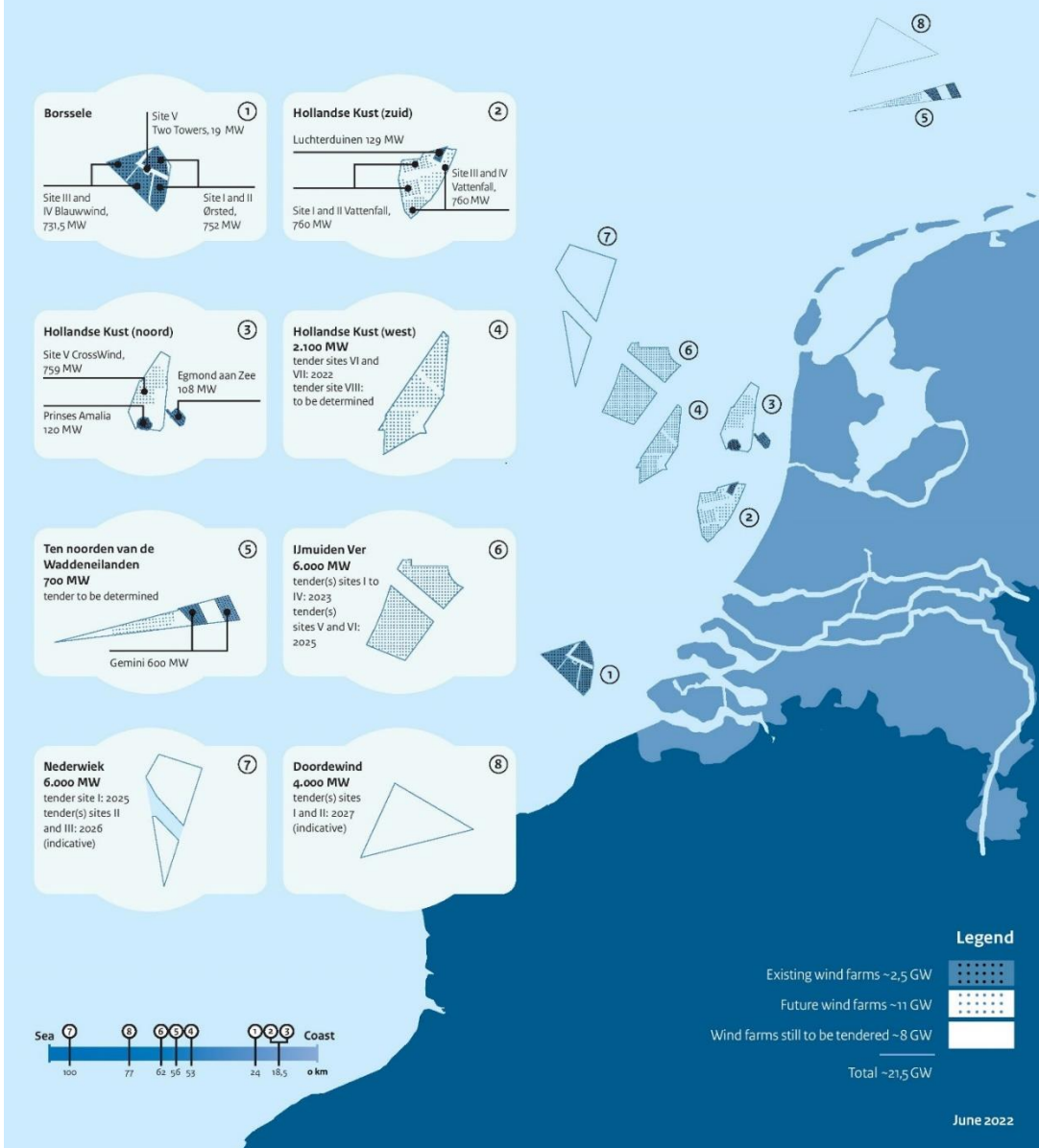


Figure 1 Dutch Offshore Wind Farm Zones overview for road map 2030



Figure 2 Newly announced Dutch Offshore Wind Farm Zones (Roadmap 2030+)

3 General introduction Wind Farm Zone's (WFZ)

3.1 Layout & coordinates

The Hollandse Kust (west) VIII Investigation Area (HKWVIII IA) is located approximately 60 kilometres off the west coast of the Netherlands.

The Nederwiek (noord) Investigation Area (NWN IA) is located approximately 100 kilometres off the west coast of the Netherlands.

The HKWVIII IA is planned to contain a total capacity of 700 MW divided over 1 site. The wind farm permit tender is scheduled to be granted in 2026/2027.

The NWN IA is planned to contain a total capacity of 4,000 MW divided over 2 sites of 2,000 MW each. The wind farm permit tender is divided in two phases, scheduled to be granted in 2026.

General characteristics of the IA are shown in Table 3 and Table 4, coordinates of IA boundaries are respectively show in Table 5 and Table 6. Figure 3 and Figure 4 show the indicational maps of the WFZ and investigation area's (IA). The investigation area for the ground model (contract) is bigger than the WFZ area, the reason for this is, the border area's might be off interest to some future developers or developments. Detailed GIS information can be extracted from Appendix B (the ".mpk" files).

Other related and detailed site information of interest can be found on the RVO website:

<https://offshorewind.rvo.nl/>

Table 3 Characteristics of the Investigation Area HKWVIII

Characteristics HKWVIII	
Water depth	Approximately 19 - 30m LAT
Distance from shore	Approximately 65 km
Total Wind Farm Zone area	Approximately 80 km ²
Total Investigation area GM project	Approximately 118 km ²

Table 4 Characteristics of the NWN Investigation Area

Characteristics NWN	
Water depth	Approximately 24 - 34m LAT
Distance from shore	Approximately 100 km
Total Wind Farm Zone area	Approximately 673 km ²
Total Investigation area GM project	Approximately 728 km ²

Table 5 Coordinates of the HKWVIII IA

Hollandse Kust (west) VIII Investigation Area coordinates		
Point No.	Easting	Northing
IA_01	535465.50	5815290.40
IA_02	537288.50	5826952.90
IA_03	539758.00	5829911.40
IA_04	548918.20	5829178.10
IA_05	548918.20	5826667.40
IA_06	548410.30	5826457.00
IA_07	547934.70	5826181.00
IA_08	547500.10	5825844.20
IA_09	547114.10	5825452.70

Hollandse Kust (west) VIII Investigation Area coordinates		
IA_10	546783.50	5825013.30
IA_11	546514.10	5824534.00
IA_12	546310.90	5824023.10
IA_13	546177.30	5823489.80
IA_14	546115.70	5822943.40
IA_15	546127.20	5822393.70
IA_16	546211.70	5821850.40
IA_17	546367.60	5821323.10
IA_18	546592.20	5820821.20
IA_19	546881.40	5820353.60
IA_20	545689.20	5820245.50
Coordinate system: ETRS_1989_UTM_Zone_31N		
WKID: 25831 Authority: EPSG		

Table 6 Coordinates of the Nederwiek (noord) IA

Nederwiek (noord) Investigation Area coordinates		
Point No.	Easting	Northing
IA_01	522709.80	5894356.00
IA_02	522141.30	5894225.40
IA_03	506622.80	5911208.80
IA_04	501346.00	5921814.40
IA_05	502898.60	5925735.60
IA_06	508096.30	5935303.90
IA_07	532515.80	5927346.30
Coordinate system: ETRS_1989_UTM_Zone_31N		
WKID: 25831 Authority: EPSG		

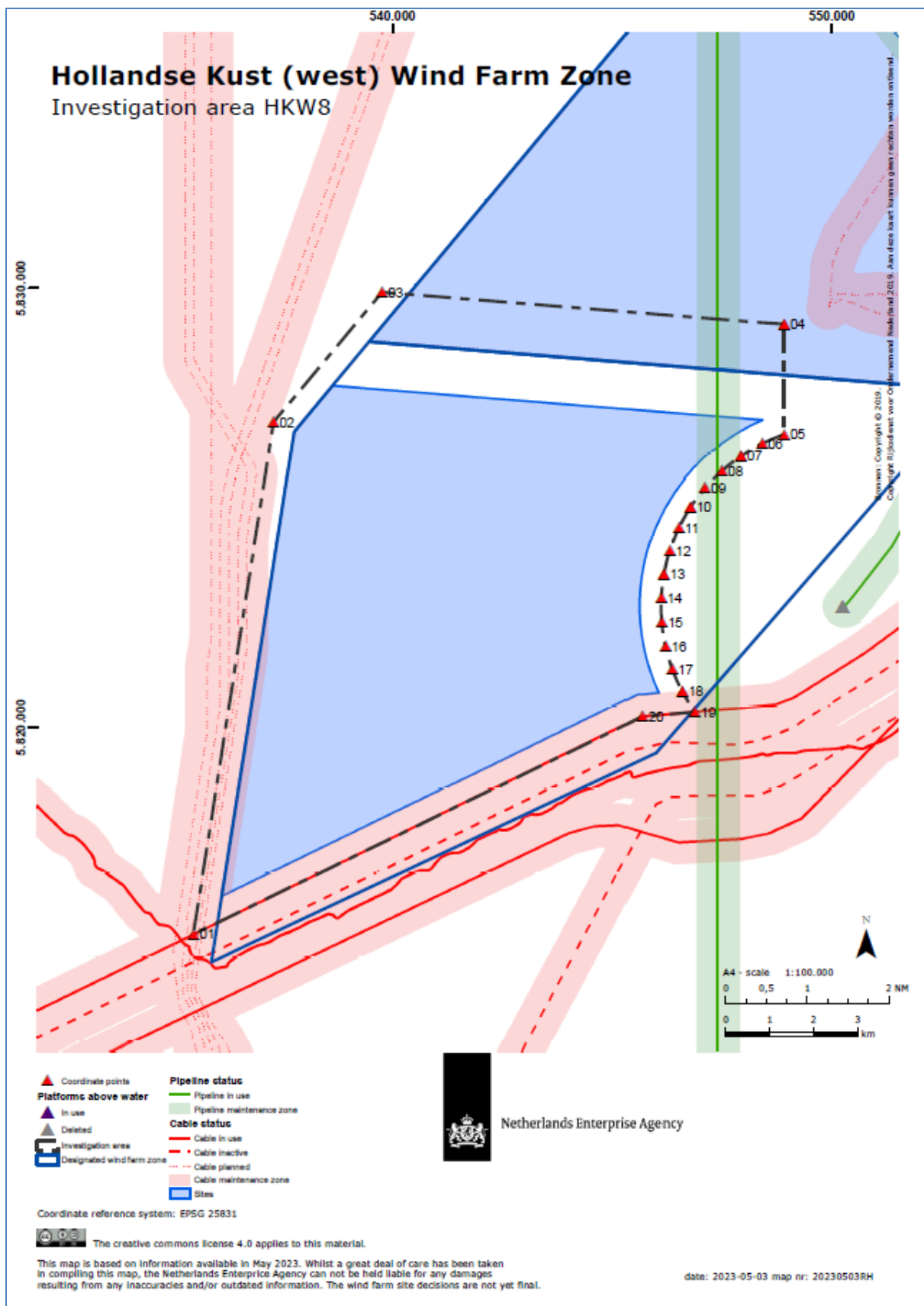


Figure 3 Map of the HKWVIII Investigation Area

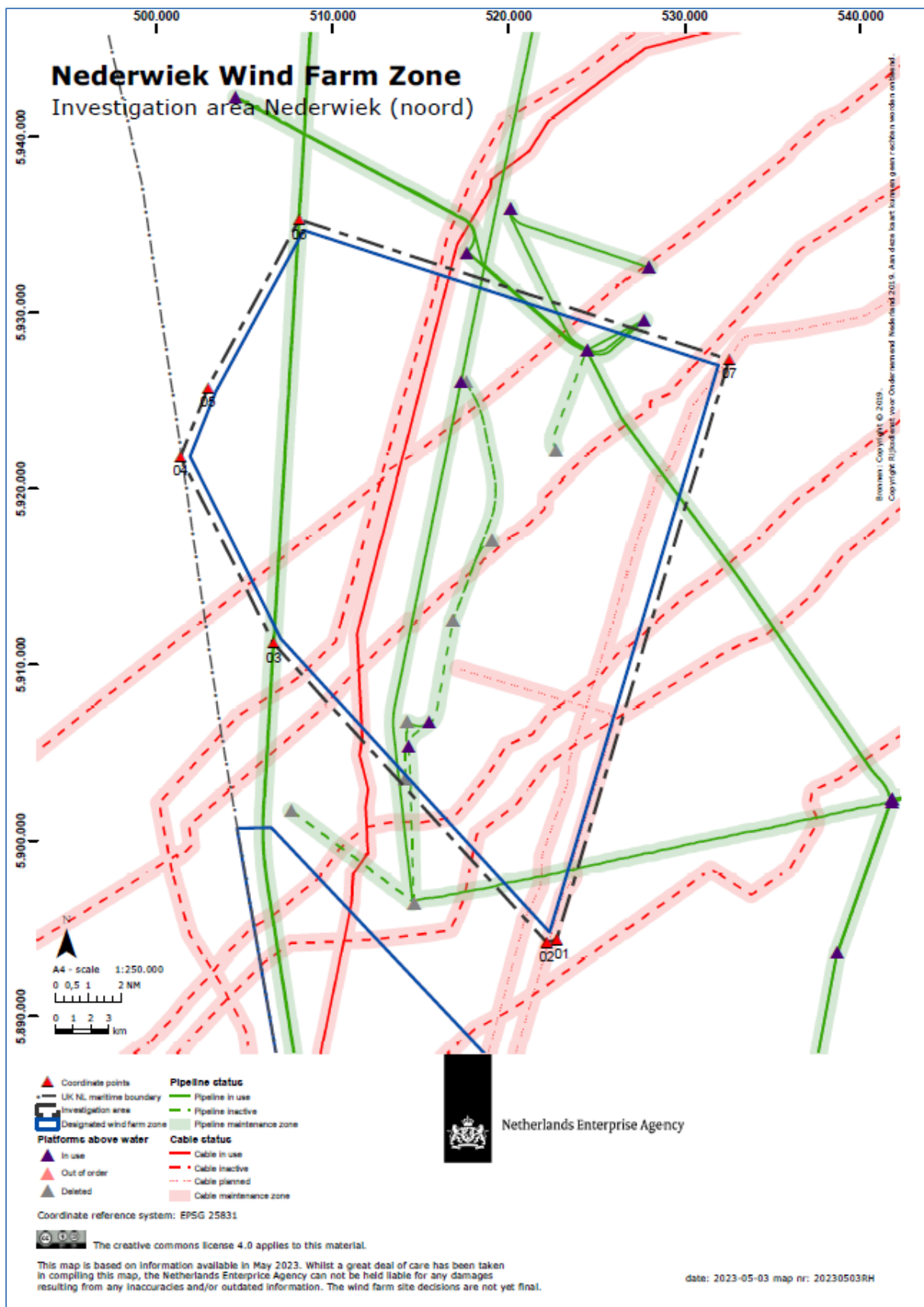


Figure 4 Map of the Nederwiek (noord) Investigation Area

3.2 Cables and pipelines within the Wind Farm Zone

Several operational and abandoned cables and pipelines cross the Investigation Area, as shown in Figure 3 and Figure 4 and from Table 7 to Table 10.

Table 7 Characteristics of cables in the HKWVIII IA

Name	Operator	Trace	Diameter [in]	Type	Status
KB0029	Alcatel Submarine Networks Ltd	Lowesoft (GB) to Egmond (NL)	N/A	Fiber Optic	Active
KB0123	TenneT	IJmuiden Ver Gamma to Maasvlakte	N/A	Copper	Future
KB0124	TenneT	Nederwiek 1 to Borssele	N/A	Copper	Future
KB0125	TenneT	Nederwiek 2 to Maasvlakte	N/A	Copper	Future

Table 8 Characteristics of pipelines in the HKWVIII IA

Name	Operator	Trace	Diameter [in]	Type	Status
PL0085_HS	Wintershall Noordzee B.V.	P12-SW to P6-A	3	Pipe	Active
PL0085_PR	Wintershall Noordzee B.V.	P12-SW to P6-A	12	Pipe	Active

Table 9 Characteristics of cables in the NWN IA

Name	Operator	Trace	Diameter [in]	Type	Status
KB0061	T Systems International / Deutsch Telekom	Oostende (B) to Norden (D)	N/A	Optical Fiber	Active
KB0025	Unknown	Winterton (GB) to Romo (DK)	N/A	Coaxial	Abandoned
KB0035	Unknown	Winterton (GB) to Fano (DK)	N/A	Coaxial	Abandoned
KB0010	Unknown	Winterton (GB) to Borkum (D)	N/A	Unknown	Abandoned
KB0069	British Telecom	Winterton (GB) to Juist (D)	N/A	Optical Fiber	Abandoned
KB0014	Unknown	Winterton (GB) to Spiekeroog (D)	N/A	Coaxial	Abandoned
KB0110	NeuConnect Britain Limited	Isle of Grain (UK) to Wilhelmshaven	N/A	Copper	Future
KB0125	TenneT	Nederwiek 2 to Maasvlakte	N/A	Copper	Future

Table 10 Characteristics of pipelines in the NWN IA

Name	Operator	Trace	Diameter [in]	Type	Status
PL0007_PR	Nederlandse Aardolie Maatschappij B.V.	N/A	24	Pipe	Active
PL0186_PR	Statoil ASA	Sleipner (N) to Zeebrugge (B)	40	Pipe	Active
PL0111_PR	Wintershall Noordzee B.V.	K10-V to J6-A \ K13-A	10	Pipe	Active
PL0187_PR	Statoil ASA	Draupner (N) to Duinkerken (F)	42	Pipe	Active
PL0098_PR	Wintershall Noordzee B.V.	N/A	24	Pipe	Active
PL0017_PR	Wintershall Noordzee B.V.	K13-D to K13-C	10	Pipe	Abandoned
PL0023_PR	Nederlandse Aardolie Maatschappij B.V.	K7-FA-1P to K8-FA-1	18	Pipe	Active
PL0072_PR	Wintershall Noordzee B.V.	K13-CP of K13-CW to Sidetap K13C	20	Pipe	Active
PL0019_PR	Wintershall Noordzee B.V.	Sidetap K13C#2 to K13-AP of K13-AW	20	Pipe	Abandoned
BK030_UM	Nederlandse Aardolie Maatschappij B.V.	N/A	4	Umbilical	Active
PL0017_HS	Wintershall Noordzee B.V.	K13-D to K13-C	2	Pipe	Abandoned
PL0136_PR	Nederlandse Aardolie Maatschappij B.V.	K7-FD-1 to K8-FA-1	12	Pipe	Active
PL0111_HS	Wintershall Noordzee B.V.	K10-V to J6-A \ K13-A	2	Pipe	Active
PL0027_HS	Wintershall Noordzee B.V.	K10-C to K10-B	2	Pipe	Abandoned
PL0136_UM	Nederlandse Aardolie Maatschappij B.V.	K7-FD-1 to K8-FA-1	3.6	Umbilical	Active
PL0076_PR	Nederlandse Aardolie Maatschappij B.V.	K8-FA-2 to K8-FA-1	10	Pipe	Active
PL0076_UM	Nederlandse Aardolie Maatschappij B.V.	N/A	4.5	Umbilical	Active
PL0137_PR	Nederlandse Aardolie Maatschappij B.V.	K8-FA-1AP of K8-FA-1P to K14-FA-1C	24	Pipe	Active
PL0018_PR	Wintershall Noordzee B.V.	N/A	20	Pipe	Abandoned

Name	Operator	Trace	Diameter [in]	Type	Status
PL0110_HS	Wintershall Noordzee B.V.	K10-V to K10-C	2	Pipe	Abandoned
PL0027_PR	Wintershall Noordzee B.V.	K10-C to K10-B	10	Pipe	Abandoned
PL0028_PR	Wintershall Noordzee B.V.	K10-B to K13-C	20	Pipe	Abandoned
PL0004_PR	Wintershall Noordzee B.V.	K13-AP	36	Pipe	Active
PL0014_PR	Nederlandse Aardolie Maatschappij B.V.	K11-FA-1 to K8-FA-1	6.625	Pipe	Abandoned
PL0015_PR	Nederlandse Aardolie Maatschappij B.V.	K8-FA-2 to K8-FA-1	10.75	Pipe	Active
PL0110_PR	Wintershall Noordzee B.V.	K10-V to K10-C	10	Pipe	Abandoned

3.3 Units

SI units (ISO/IEC 8000) are applicable for any activities carried out at the Wind Farm Zone.

3.4 Vertical and horizontal datum

The chart datum is Lowest Astronomical Tide (LAT).

All positioning data shall be collected in the European Terrestrial Reference System 1989 (ETRS89) and projected using ETRS89 Transverse Mercator Coordinate Reference System (UTM Zone 31N). The reference for this system is EPSG Projection code 25831 - ETRS89 / UTM zone 31N.

4 Quality and data requirements

This chapter describes quality requirements including data model and GIS data deliveries. During the process and delivery of the data you can always contact RVO for further information or explanations.

As RVO will make this data publicly available the metadata needs to be in line with the GDPR (AVG) requirements.

4.1 Spatial data

All created data in the study will be delivered by the supplier in GIS format. The supplier will need to comply with the data requirements set out by RVO and provide an inventory list of the deliverables supplied. The inventory should include project name, name of contractor and responsible person, survey date, product medium (i.e. hard drive, web service, etc.), folder structure and description of data contents.

- All the data is required to be delivered in the geodetic system European Terrestrial Reference System 1989 (ETRS89) ETRS89 UTM ZONE 31 N - EPSG code: 25831 <http://www.epsg-registry.org/>.
- The data should be delivered in one or more of the following formats: Value / Parameter Encoded Raster, TIFF and ESRI Shapefile (.shp). Should another format be used, this can only be delivered after consulting with RVO.
- In addition to the above, an ESRI file Geodatabase deliverable is required in a standard structured format, preferably following IOGP standards. (<https://www.iogp.org/bookstore/product/guideline-for-the-delivery-of-the-seabed-survey-data-model/>)
- Both input data and interpreted data along with any relevant GIS package (*.ppkx / *.mpk) are required and should also include the associated reports and charts.
- All GIS data shall be provided with Metadata describing specific details and origin regarding the spatial data. The requirements regarding the metadata are included in Appendix A.

4.2 Taxonomy

All contractors must use the taxonomy as presented in the taxonomy list, which is available online at:

https://offshorewind.rvo.nl/files/view/dff880d4-9494-4e6d-b398-8fd1f097957e/162642502520210714_taxonomy%20list%20offshore%20wind%20energy_dutch-english.xlsx

4.3 GIS Metadata requirements

The requirements for GIS metadata which all Contractors shall comply with is shown in Appendix A of this document.

4.4 Mandatory data delivery BRO

RVO as a government agency is obligated by law to provide subsurface data to the central 'subsurface register' in the Netherlands. The specifics on the mandatory delivery to the "Basisregistratie Ondergrond (BRO)" is provided in the Scope of Work document whenever applicable.

4.5 Document control requirements

The naming of the documents shall be standardized in order to facilitate the document control during the whole project. The following naming code is required for all documents produced within the project:

NWN_Date_Organization_Name document_Author_Version_Status

HKW8_Date_Organization_Name document_Author_Version_Status

- NWN: Nederwiek (noord)
- HKWVIII: Hollandse Kust (west) VIII
- Date: yyyyymmdd, e.g. 20230713
- Organization: Name of the organization e.g.
 - "RVO" for all internal and general documents produced by the Netherlands Enterprise Agency (RVO).
 - Consultant or Contractor name (shortened).
- Name document: Make sure the name clearly explains the content, include here the original name if from external party.
- Author: Abbreviation of the author if an internal document. Author shall be removed for final documents.
- Version: Revision number or date, respectively V01 till V0x_D or 20200101_F.
- Status: (D) for draft documents, (F) for signed and approved documents.

4.6 Standards, formats, templates

All reports will be written in English and include an English and Dutch management summary.

Contractors provide for each completed study a publishable summary for the Project and Site description. Maximum 2 A4 including some high-resolution pictures or graphs.

All reports must use the terminology as specified in the online taxonomy list: https://offshorewind.rvo.nl/files/view/dff880d4-9494-4e6d-b398-8fd1f097957e/162642502520210714_taxonomy%20list%20offshore%20wind%20energy_dutch-english.xlsx

All reports must use the terminology as specified in Appendix A of the Starting points and assumptions. For your convenience this dictionary is also available as XLSX file.

Reports and deliverables will be delivered by contractors in pdf and original, regular, formats (docx; xlsx; pptx; etc).

Final reports will have a cover according to the corporate identity of the Netherlands Enterprise Agency, with the following text:

- *Front:*
Offshore wind energy Netherlands
Site data (Nederwiek North) (Hollandse Kust West VIII) Wind Farm Zone
Name document

- *Back:*

A colophon with the following content:

The creative commons license 4.0 apply to this material. (including a Creative Commons logo and hyperlink to the relevant Creative Commons website page: <https://creativecommons.org/licenses/by/4.0/>)

- The (investigation) (report) was carried out by <<name contractor>>, commissioned by RVO, an agency of the Ministry of Economic Affairs and Climate Policy. Whilst a great deal of care has been taken in compiling the contents of this document and the mentioned investigations, Netherlands Enterprise Agency (RVO) cannot be held liable for any damages resulting from any inaccuracies and/or outdated information.

- *Contact*

Netherlands Enterprise Agency (RVO)
Graad van Roggenweg 200 | 3531 AH | Utrecht | The Netherlands
P.O. box 8242 | 3503 RE | Utrecht | The Netherlands
www.rvo.nl / <http://english.rvo.nl>

- Netherlands Enterprise Agency (RVO) | Date of publication

4.7 Other data

In the case of collected data: primary data must be delivered in regular formats.

4.8 Deliverables (results / maps)

All maps (in GIS and PDF) will unless otherwise agreed show the WFZ including Investigation Areas for the specific Wind Farm Sites.

4.9 Storage of data (electronic / hardcopy)

The Netherlands Enterprise Agency will store all reports and other relevant documents for at least five years both electronically and hardcopy.

5 Communication

5.1 Confidentiality

All information provided to contractors/suppliers by the Ministry of Economic Affairs and Climate Policy and/or the Netherlands Enterprise Agency and/or the Ministry of Infrastructure and Water Management and/or Rijkswaterstaat and/or TenneT must be regarded confidential.

All deliverables produced by contractors/suppliers remain confidential until a deliverable has been made public by the Ministry of Economic Affairs and Climate Policy and/or the Netherlands Enterprise Agency and/or the Ministry of Infrastructure and Water Management and/or Rijkswaterstaat and/or TenneT.

5.2 Accessibility public information

- Site investigations: <https://offshorewind.rvo.nl/>
- General Wind at Sea information: <https://www.rvo.nl/onderwerpen/windenergie-op-zee>
- General Wind at Sea information: <https://windopzee.nl/>

5.3 Authorities

Wind Farm Site Decision ('Kavelbesluit'):

Ministry of Economic Affairs and Climate Policy

Laura Jansen

E l.e.jansen@minezk.nl

T +31 (0)6-29645189

Rijkswaterstaat

Raoul Syrier

E raoul.syrier@rws.nl

T +31 (0)6 11072554

Site data:

Netherlands Enterprise Agency

Matté Brijder

E matte.brijder@rvo.nl

T + 31 (0)6 27878952

Grid connection ('Transmissiesysteem op zee'):

TenneT TSO BV

Johan Dekkers

E johan.dekkers@tennet.eu

T +31 (0)6 29360328

5.4 Media

All media contacts will be coordinated by the Ministry of Economic Affairs and Climate Policy. If a supplier is approached by press representatives than he/she should refer to the spokesman of the Ministry only.

Ministry of Economic Affairs and Climate Policy

Caspar Itz

c.itz@minez.nl

+ 31 610551061

5.5 Email

All emails related to the site investigations must be send in CC to the project mailbox: VSA@RVO.nl

The subject of an email related to Hollandse Kust (west) VIII Investigation Area needs to start with the date and the abbreviation HKW8. Then also it needs to be followed by an abbreviation of the type of site survey. E.g.: HKWVIII_202209223_GM for the Integrated Ground Model for HKWVIII IA.

The subject of an email related to Nederwiek (Noord) Investigation Area needs to start with the date and the abbreviation NWN. Then also it needs to be followed by an abbreviation of the type of site survey. E.g.: NWN_202209223_GM for the Integrated Ground Model for NWN IA.

5.6 Emergency Response

In case of an emergency suppliers are obliged to inform the Netherlands Enterprise Agency immediately.

Appendix A - GIS Metadata requirements

The goal of these metadata requirements is to make sure the future users of this data can use this data in the appropriate way and discover the data's usage constraints from the metadata.

Format

All data collected by third parties, either in the field or as part of a desktop study, must be provided with metadata. Data is preferably collected in an ArcGIS file geodatabase (ArcGIS pro version 2.9 or lower). In this case, metadata is stored within the data in the database. In case of a shapefile, GML or GRID metadata must be provided in pure XML-format as separate files.

Metadata must be compliant with the Dutch standard for metadata ISO 19115 version 2.1.0⁰ (or any version available at the time of creating the data), in addition the column names of all data records. More information on the standard can be found here:

<https://www.geonovum.nl/geo-standaarden/metadata/nederlands-metadataprofiel-op-iso-19115-geografie>

To validate your metadata a validator is available from the website of Geonovum:

<https://validatie.geostandaarden.nl/etf-webapp/testruns/create-direct?testProjectId=3dd218a5-2ba3-3f1c-98fb-10e923839a3c>

Manufacture options

Creating metadata should preferably done when the data is acquired or created and checked and finalised before delivering the data. If necessary, a valid example can be provided.

More information can also be found at:

https://github.com/Geonovum/Metadata-ISO19115/blob/master/Voorbeeld_Metadata_Dataset_2019_max.xml.

An XML editor which allows you to sort the metadata into an XML tree can also be helpful.

Preferred option:

Organisations that use Esri software can use the GeoSticker application to create and edit metadata: <http://www.esri.nl/geosticker>.

Other options:

The Metadatamaker offered by the RWS can also be used to make the metadata and can be found at <http://rws.metainfomaker.nl/>.

The Nationaal Georegister (NGR) allows meta data to be made, to do this a guest account is required. This can be requested by mailing to RVO Data Department (data@rvo.nl)

Other options are possible as long as the data will be validated by the metadata validator for ISO 19115 version 2.1.0.0 (or newer version available at the time of creating the data) at the website of Geonovum

Other options are possible as long as the data will be validated by the metadata validator for ISO 19115 version 2.1.0.0 (or newer version available at the time of creating the data) at the website of Geonovum.

A General Overview Metadata Elements with some Explanation:

Contact Information

1. Contact:

As this information will be made publicly available personal information should be avoided and generic contact details should be provided. If personal email addresses are provided, that person should have given consent to use their e-mail address.

At least one contact information of client and/or creator and/or point of contact is mandatory and it should include Name organisation, role organisation (owner, processor, point of contact, administrator, provider, creator), and a generic email address of contact department.

If website is available, name of contact and role of contact.

Due to the General Data Protection Regulation (GDPR) personal information in the data is no longer advisable, a general email instead of a personal one and a function title instead of a person's name is preferable.

CI_Responsible Party:

Individual Name: ...

Organisation Name: ...

Telephone: ...

Address: ...

Online Resource (website): ...

Date

2. dateStamp

When was the metadata made?

Identification (identificationInfo)

3. File title

Real name of the Title (abbreviations are acceptable)

4. Alternate Title:

No abbreviations, complete title of the dataset covering the content of the dataset.

5. date & dateType:

creation YYYY-MM-DD

publication YYYY-MM-DD (date of approval by RVO)

revision YYYY-MM-DD

6. Abstract

Short description of the content of the dataset.

7. Purpose of production:

Concise description of the original aim of the dataset

8. Status:

According to a standard list:

completed; historicalArchive; obsolete; onGoing; planned; required; underDevelopment.

9. ResourceMaintenance: Maintenance and update frequency:

N/A

10. ResourceMaintenance: Date of Next Update:

N/A

11. Graphic Overview

This can include a link to an example image online.

12. Keywords:

Keywords describing the dataset taken from the GEMET Thesaurus
<https://www.eionet.europa.eu/gemet/en/themes/>

13. Resource Constraints

a. useLimitation:

Applications for which the data set is not to be used. I.e., Not to be used for navigation. Not to be used on a scale larger than 1:50.000

b. accessConstraints:

None, data will be published in the public domain.

c. useConstraints:

The creative commons license 4.0 apply to this material. See hyperlink:

<https://creativecommons.org/licenses/by/4.0/>

This investigation was carried out by ..., commissioned by RVO, an agency of the Ministry of Economic Affairs and Climate Policy. Whilst a great deal of care has been taken in compiling the contents of this investigation, RVO cannot be held liable for any damages resulting from any inaccuracies and/or outdated information.

d. otherConstraints:

Other restriction(s) if any.

14. Spatial Representation Type

https://standards.iso.org/iso/19139/resources/gmxCodelists.xml#MD_SpatialRepresentationTypeCode

eg vector, grid, textTable, tin, stereoModel

15. Spatial Resolution: Equivalent Scale (for vector data)

Denominator: Scale on which the dataset can be used

16. Spatial Resolution: MD_Resolution (grid data)

Distance: eg uom="meter">1.0 Note Only fill in the distance for grid data

17. Language

Language that the data is in eg dut (Dutch), eng (English)

18. Topic Category:

Define the key topic(s) of the dataset eg geoscientificInformation, oceans,elevation

[Nederlands metadata profiel op ISO 19115 voor geografie versie 2.1.0 \(geostandaarden.nl\)](#)

19. Extent

Geographical bounding box in WGS84 with North and East in positive values eg 52.50. There is also a placeholder to fill in the SpatialTemporalExtent (beginPosition and endPosition) and the VerticalExtent (minimumValue and maximumValue)

Distribution Info

dataQualityInfo

20. Scope

https://standards.iso.org/iso/19139/resources/gmxCodelists.xml#MD_ScopeCode
eg dataset

Metadata requirements

The goal of these metadata requirements is to make sure that future users can use this data in an appropriate way and discover the data's usage constraints from the metadata.

ContentInfo

1. FeatureCatalogueDescription

Attribute information: Description of all attributes, including - if applicable – all possible values and its measurement.

Distribution Info

2. distributorContact

The organisation responsible for the distribution of the dataset

3. contactInfo

Includes organisational email woz@rvo and link to Offshorewind RVO

dataQualityInfo

4. Scope

https://standards.iso.org/iso/19139/resources/gmxCodelists.xml#MD_ScopeCode
eg dataset

5. Lineage: Statement

General description (statement of when, how and where the data was created / collected.

6. Lineage: ProcessStep

Processing of data (if applicable): If the data has been processed, then a description of each step is required i.e., transformation or generalisation.

7. Lineage: Source

Source datasets (if applicable): A description of used source datasets (if any). Is the dataset complete? If not, a description of the incompleteness is necessary.

Appendix B - MPK files of WFZ and IA